International Journal of Economics and Finance; Vol. 15, No. 12; 2023
ISSN 1916-971X E-ISSN 1916-9728
Published by Canadian Center of Science and Education

FDI and Economic Growth in Côte d'Ivoire: An Empirical Analysis Based on the Service Sector

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Received: October 9, 2023 Accepted: October 26, 2023 Online Published: November 2, 2023

doi:10.5539/ijef.v15n12p1 URL: https://doi.org/10.5539/ijef.v15n12p1

Abstract

This paper analyzes the contribution of FDI to service sector growth in Côte d'Ivoire over the period 1980-2021. The data are extracted from World Development Indicators (World Bank). The econometric test based on the ARDL cointegration approach is used. The results show that FDI has a negative and significant effect on growth in the service sector. These results could be explained by the insufficiency of inward FDI in Côte d'Ivoire in recent years, compared to other sub-Saharan African countries, by the sectoral allocation of inward FDI, which does not take into account the growth sector of the economy, and finally, by the unbalanced geographical distribution of FDI, most of which is heavily concentrated in Abidjan. Our results highlight the importance of boosting investment in the service sector, in order to stimulate activities in this sector in Côte d'Ivoire. Besides aiming at creating a solid national economy and improving living standards, we suggest the mobilization of sufficient domestic savings and raising the level of education, developing infrastructure in sufficient quantity and quality and increasing internal and external trade flows, and finally, preserving the population's purchasing power. We have also proposed measures to improve FDI to promote economic growth in Côte d'Ivoire's service sector.

Keywords: FDI, service growth sector, ARDL cointegration, Côte d'Ivoire

1. Introduction

Achieving the Sustainable Development Goals (SDGs) requires a significant increase in investment (Fiedler, 2020). According to CNUCED (2014), developing countries face an annual investment gap of around 2.5 trillion USD. So, it is particularly urgent to increase investment in sectors that eradicate poverty and hunger and promote growth. In Côte d'Ivoire, the service sector plays a central role in the country's economic and social development. With a share in 1960 of 39% of GDP versus 47.9% and 13.1% for the agricultural and industrial sectors respectively, by 2022 the service sector had contributed 53.7% of the country's GDP versus 16.7% and 22% for the agricultural and industrial sectors respectively (WDI, 2023). Indeed, according to the Banque Mondiale (2019), since the 1980s, the service sector has been modernizing (communications, transport, finance, etc.) and its share of GDP exceeds that of the other two sectors.

Until 2000, the presence of multinational firms carrying foreign direct investment (FDI) was strongest in the service sector. They are mainly to be found in information and communication technologies (ICT), mobile telephony, banking, finance, tourism, hotels, etc. Between 2000 and 2003, the services sector absorbed around 80% of FDI flows into Côte d'Ivoire, before dropping to 75% in 2006. Over this period, telecommunication services accounted for 79% in 2002, and real estate for 23% in 2003 (BCEAO, 2007). According to CNUCED (2019), the sectoral breakdown of net inward FDI flows to Côte d'Ivoire in 2017 (in percentage terms), shows that 39.2% went to the extractive industries, 27.8% to financial intermediaries, 13.7% to telecommunications, 8% to manufacturing industries, 5.3% to hotels and 4.1% to transport. The services sector accounted for more than half of the country's net FDI inflows, i.e., 50.9%.

Since the implementation of the investment code in 2018, Côte d'Ivoire has seen a massive influx of investment (CAPEC, 2021). Indeed, in 2018, CEPICI (Note 1) registered 274 applications for approval, which resulted in an investment of 703 billion franc CFA with the creation of 8767 jobs, up 51% in 2017 (466 billion franc CFA). The

new investment code in 2018 led to an increase in the volume of FDI destined for Côte d'Ivoire from 620.33 million USD in 2018 to 1008.70 million USD in 2019, an increase of 62%. Investments are highest in the agro-industrial sector (27%) and in transport and warehousing (24%). The hotel-restaurant and plastics industries account for 3% and 4% of investments respectively (CAPEC, 2021). Also according to CAPEC (2021), in the first quarter of 2020, cumulative investments stemming from the 2018 code were mainly directed towards agro-industry (103.7 billion franc CFA), energy (76 billion franc CFA), transport and warehousing (65.3 billion franc CFA), BTP services (44.9 billion franc CFA), food industry (32.5 billion franc CFA), hotels and restaurants (21.9 billion franc CFA), glass and ceramics (12 billion franc CFA), cosmetics and hygiene (6.8 billion franc CFA), services (6.6 billion franc CFA) and New Information and Communication Technologies (NICT) (6.05 billion franc CFA).The services sector still records far more net FDI inflows into the country, with a cumulative total of 144.75 billion franc CFA. Since the 2000s, Côte d'Ivoire's service sector has been recording a higher FDI inflows than other sectors. According to a report of BCEAO (2022), this trend continued in 2022 for all UEMOA countries. The question that needs to be asked is whether this massive inflow of FDI into Côte d'Ivoire's services sector has contributed directly to its growth?

Among foreign private capital, FDI is sought for its stability and its ability to promote economic growth in the sector of activity where it is financed (Azeroual, 2016). While some authors (e.g. Esso, 2005; Bouoiyour et al., 2009; Eka & Bouoiyour, 2020; Miah & Majumder, 2022) argue that FDI generally promotes economic growth in host countries, others stress that FDI does not explain a country's economic growth in the same way (see, for example, Koté et al., 2015; Azeroual, 2016). The provenance (origin) and destination (the sectors of activity to which they are directed) of FDI better explain its effect on growth (Nkoa, 2018).

Unlike other papers that have analyzed the effect of FDI on the country's economic growth in aggregate terms, our study breaks down economic growth by sector of activity and analyzes the contribution of FDI to growth in the service sector in Côte d'Ivoire. Although there is a wealth of literature on the FDI-growth relationship, studies focusing exclusively on the contribution of FDI to service sector growth in Côte d'Ivoire, have not been sufficiently addressed.

The aim of this paper is to investigate empirically the nature of the relationship between service sector growth and FDI in Côte d'Ivoire. For us the point is to better appreciate the massive contribution of FDI to the growth of the service sector. Does massive FDI inflows into Côte d'Ivoire's service sector contribute directly to its growth? To address this concern, we use an econometric ARDL cointegration approach to analyze the relationship between FDI inflows and service sector growth over the period 1980-2021. We also include other variables such as trade openness, education, savings, inflation and infrastructure. Our results show that, in both the short and long term, FDI negatively and significantly affects the growth of the country's service sector. There could be three main reasons for these results: the insufficiency of inward FDI in Côte d'Ivoire in recent years, compared with other sub-Saharan African countries, the sectoral allocation of FDI inflows in the country which does not take into account sectors with a higher growth potential, and the unbalanced geographical distribution of FDI in the country which is heavily concentrated in Abidjan. Our results thus highlight the importance of boosting investment in the service sector, in order to boost activities in this sector. In order to create a solid national economy and improve living standards, we suggest the mobilization of sufficient domestic savings, raising the level of education, developing infrastructure in sufficient quantity and quality, increasing internal and external trade flows, and preserving the population's purchasing power.

The rest of this paper is organized as follows: the Section 2 presents a review of the literature on the subject, Section 3 discusses the methodological framework, Section 4 presents our empirical results and Section 5 discusses and concludes the findings.

2. FDI and Economic Growth: A Literature Review

2.1 Some Theoretical Arguments

According to economic theory, FDI can be a catalyst for growth; the inflow of capital can boost production and hence growth (Solow, 1956; Bende-Nabende & Ford, 1998). Foreign capital flows, especially in developing countries (DCs) where domestic savings remain insufficient, make it possible to fill the existing financial gap and develop the host country's financial market (King & Levine, 1993; Ajayi, 2004) and contribute to the accumulation of capital stock (Thompson, 2008; Makiela & Ouattara, 2018). They also help to develop the host country's financial market by improving the efficiency of local financial institutions, thanks to the presence of foreign banks mastering modern credit allocation and risk control techniques (Bellocq & Zlotowski, 2011). Foreign private capital, particularly FDI, is one of the main ways in which developing countries gain access to new technologies, increase demand for workers and contribute to the accumulation of skilled labor and

innovation (Mainguy, 2004; Aghion et al., 2016). They contribute to the transmission of innovation best practices to local companies and numerous positive externalities (Romer, 1990; De Mello, 1997; Borenzstein et al., 1998; Bouoiyour & Toufik, 2007).

2.2 Controversial Empirical Evidence

Although there seems to be a theoretical consensus regarding the positive effect of FDI on economic growth, empirical studies that have attempted to verify this positive effect are generally inconclusive. The positive effect of FDI on economic growth is controversial. For example, several authors confirm that FDI has a positive and significant effect on economic growth (Nelson & Phelps, 1966), acts positively on growth through a diffusion effect of technological innovations (Brana, 1999), stimulates growth by increasing savings and investment and contributing to industrialization (Nkoa, 2016; Eka & Bouoiyour, 2020). FDI positively and significantly affects domestic investment, education, labor and energy consumption (Majumder, 2019), job creation, productivity improvement and export volume growth (Miah & Majumder, 2022; Majumder et al., 2022). Others, on the contrary, argue that FDI inflows have negative effects on the performance of production units and on growth (See, Caceres, 1995; Akinlo, 2004; Artus & Cartapanis, 2008; Bouoiyour et al., 2009; Alege & Ogundipe, 2014; Carbonell & Werner, 2018; Ekodo et al., 2020; Iritié & Tiémélé, 2023). For example, studies by Caceres (1995) in four Central American countries (Costa Rica, Guatemala, Honduras and Salvador) over the period 1971-1985 show that external resources generate financial instabilities that can have a negative effect on growth. A further study carried out in Nigeria by Akinlo (2004) also showed, using an Error Correction Model, that FDI in the extractive and manufacturing sectors did not improve the level of economic growth or the well-being of the country's poor over the period 1970-2001. The work of Artus and Cartapanis (2008) shows that high international capital mobility deprives the economy of any possibility of stabilizing production. For these authors, transfers of external savings can exacerbate macroeconomic dilemmas and induce dynamic instability likely to induce adjustment and slow growth. Similarly, Bouoiyour et al. (2009) using panel data from 63 countries in the Middle East and North Africa over the period 1960-2004, showed that FDI has no impact on productivity and growth in these countries. Alege and Ogundipe (2014) studied the relationship between FDI and growth in ECOWAS using the system generalized method of moments on a panel over the period 1970-2011 and found a non-significant contribution of FDI on growth. Carbonell and Werner (2018) have also verified the effect of FDI on growth in Spain. They observed that over the period 1984-2010, although FDI increased significantly in Spain, it did not stimulate the country's growth. Using the GMM dynamic panel method to analyze the effect of FDI on growth in the countries of the Central African Economic and Monetary Community (CAEMC) over the period 1996-2018, Ekodo et al. (2020) show that FDI, even when combined with corruption control, has no significant effect on economic growth in the zone. In a recent study, Iritié & Tiémélé (2023) use an ARDL and cointegration approach and show that in both the short and long-run, FDI has a negative impact on economic growth in Côte d'Ivoire over the period 1980-2019.

3. Method

3.1 Statistics and Data Analysis

The variables used in this study are macroeconomic data from World Development Indicators (World Bank), covering the period 1980-2021. Data processing is implemented with EVIEWS 9.0 software.

The dependent variable is the value added in services as a percentage of GDP. It is denoted (SVAD) and represents growth in the service sector. With a share of 39% of GDP versus 47.9% for the agricultural sector in 1960, the Ivorian service sector has been growing at a much faster rate than the industrial and agricultural sectors in recent years. In 2022, despite a slight decline, its share of GDP will be 53.7%, compared with 22% for the industrial sector and 16.7% for the agricultural sector (WDI, 2023).

We use six explanatory variables. The variable of interest is the flow of foreign direct investment (FDI), net inflows as a percentage of GDP. We use FDI flow because of the lack of time-series data on FDI in the service sector. The other explanatory variables, which are control variables are domestic savings (SAVE), trade openness (TO), education (EDUC), inflation (INFL) and infrastructure (INFR). The choice of these variables stems from the economic literature and are determinants of economic growth.

The gross domestic savings are calculated as a percentage of GDP. According to economic theory, the financing of healthy and sustainable economic growth, depends on the mobilization of substantial domestic savings (Aglietta, 1991). The trade openness is calculated as the sum of exports and imports of goods and services, relative to GDP. Note that according some authors such as Anyanwu (2011), Mohamed and Yassine (2021), Levine and Renelt (1992), Frankel and Romer (1999), the trade openness is the main determinant of FDI. It increases imports of goods and services and drives economic growth. The education variable is measured by

secondary education attainment as a percentage. It indicates the level and quality of human capital in the country's growth process. Indeed, a high level and better quality of human capital, increases the country's capacity to absorb new technologies and reduces the cost of imitating ideas discovered elsewhere (Nelson & Phelps, 1966). The inflation variable is measured by the consumer price index as an annual percentage. In the economic literature, inflation volatility negatively influences the rate of economic growth (See, Bruno & Musso, 2000). It is used here as a macroeconomic stability variable. Finally, the proxy for the infrastructure variable, is the number of telephone lines connected to a public network per 100 inhabitants. It represents the telecommunications infrastructure that facilitates the transmission of information. Several theoretical and empirical studies agree that adequate infrastructure attracts foreign capital and promotes economic growth (See for example, Barro, 1990; Kinda, 2008).

The descriptions of the variable and the summary statistics are reported in Tables 1 and 2 respectively. We note that Education variable is the most volatile in terms of standard deviation. It is followed by trade openness variable. The infrastructure variable is the least dispersed.

Table 1. Description of variables

Variables	Symbols	Description and measure unit	Data source
Service value added	SVAD	Service value added % of GDP	WDI (World Bank)
Foreign direct investment	FDI	Net investment inflows as % of GDP	WDI (World Bank)
Trade openness	TO	Sum of imports and exports of goods and services as % of GDP	WDI (World Bank)
Domestic savings	SAVE	Total gross domestic savings as % of GDP	WDI (World Bank)
Education	EDUC	Total secondary enrollment rate as a % of all	WDI (World Bank)
Inflation	INFL	Annual rate of increase of the consumer price index	WDI (World Bank)
Infrastructure	INFR	Lines of telephone per 100 inhabitants	WDI (World Bank)

Source: The authors.

Table 2. Summary statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
SVAD	42	44.8458	8.2607	34.0131	56.6375	0.1571	1.3264
FDI	42	1.1483	0.6613	0.1765	3.8741	1.6337	8.0834
SAVE	42	19.2572	3.9502	9.1799	27.3287	-0.6722	3.4691
TO	42	73.5123	12.8217	42.2000	95.0600	-0.2602	2.7720
EDUC	42	67.9039	15.0619	45.5452	92.6793	0.3808	2.1166
INFL	42	4.1939	4.9040	-1.1068	26.0815	2.5717	11.0861
INFR	42	1.0373	0.3993	0.4661	1.8858	0.2463	2.0082

Source: The authors.

3.2 Econometric Model

The aim of our study is to assess the contribution of FDI to growth in the services sector in Côte d'Ivoire. The general model to be estimated is as follows:

$$SVAD_t = b_0 + b_1 FDI_t + b_2 SAVE_t + b_3 TO_t + b_4 EDUC_t + b_5 INFL_t + b_6 INFR_t + e_t \quad (1)$$

with t = 1980, 1981, 1982, … , 2021, for a period of 42 years; e_t is the error term, $e_t \backsim iid(0, \sigma)$.

3.3 Estimation Strategy

3.3.1 Unit Root Test

To analyze the stationarity of our series, we use the classic Augmented Dickey-Fuller (ADF) (1981) and Philipps-Perron (PP) (1988) tests. We also use the Zivot and Andrews (ZA) (1992) unit root test to capture breaks between series. Indeed, ZA's test proposes a unit root test with an endogenous break. The three models adopted by Zivot and Andrews (1992) to test the hypothesis of a single structural break in the series are as follows:

$$\Delta x_t = \alpha + \alpha_{t-1} + bt + cDU_t + \sum_{j=1}^{k} d_j \Delta x_{t-j} + \mu_t \quad (2)$$

$$\Delta x_t = b + bx_{t-1} + ct + bDT_t + \sum_{j=1}^{k} d_j \Delta x_{t-j} + \mu_t \quad (3)$$

$$\Delta x_t = c + cx_{t-1} + ct + dDU_t + dDT_t + \sum_{j=1}^{k} d_j \Delta x_{t-j} + \mu_t \quad (4)$$

In the above equations, the dummy variable is represented by DU_t showing the change in mean occurring at each breakpoint in time, while the trend change variables are represented by DT_t. Thus,

$$DU_t = \begin{cases} 1...if\ t \succ TB \\ 0...if\ t \prec TB \end{cases} \quad and \quad DT_t = \begin{cases} t - TB...if\ t \succ TB \\ 0...if\ t \prec TB \end{cases}$$

The null hypothesis of the unit root break date is $c = 0$, indicating that the series is non-stationary with a derivative having no information on the structural breakpoint while the hypothesis $c \prec 0$ implies that the variable turns out to be trend-stationary with an unknown time break. The unit root test of Zivot and Andrews (1992) fixes all points as potential for a possible temporal break and estimates by regression for all possible break points successively. Then, this unit root test selects this temporal break, which reduces the one-sided t-statistic to test $\hat{c}(= c - 1) = 1$. For Zivot and Andrews (1992), in the presence of endpoints, the asymptotic distribution of the statistic diverges towards the infinity point. It is necessary to choose a region where the sample's end points are excluded.

3.3.2 ARDL Cointegration Test

As far as cointegration tests are concerned, the most commonly used methods are the Engel and Granger test (1987) and the Johansen test (1988), which only apply to variables integrated at the same order. The inability of these traditional tests to apply to series integrated at different orders prompted Pesaran and Shin (1995) and Pesaran et al. (2001) to propose a cointegration test procedure called the ARDL bound test. The ARDL cointegration approach is applicable regardless of whether the variables are I(0), or I(1) as in the present study (see results in Tables 4 and 5). It is an unbiased and efficient cointegration technique that gives good results in small samples, and is applied on the basis of an ARDL cointegration specification (Narayan, 2004). The limit testing procedure assumes the existence of long-term equilibrium relationships. These relationships can be combined with short-term series dynamics in a dynamic unrestricted error correction model (UECM), which takes the following form:

$$\Delta Y_t = \beta_0 + \lambda_1 Y_{t-1} + A' X_{t-1} + \sum_{i=1}^{p} \theta_i \Delta Y_{t-i} + \sum_{i=1}^{p} \varpi_i' \Delta X_{t-i} + \mu_t \quad (5)$$

With Δ the first difference operator, Y_t the dependent variable whose dynamics are being explained, β_0 the intercept; λ_1 is the coefficient associated with the lagged dependent variable. X is a vector of regressors and A an associated parameter vector. θ_i is the vector of parameters associated with ΔY_{t-i}; ϖ is the parameters associated with ΔX_{t-i}; $u_t \sim iid(0, \sigma^2)$ is the error term. Once formulation (5) is applied to equation (1) to be estimated, we obtain the cointegrated dynamic ARDL (*m, n, p, q, r, s, t*) model as shown in equation (6) below:

$$\begin{aligned} \Delta SVAD_t = {} & \alpha_0 + \alpha_1 SVAD_{t-1} + \alpha_2 FDI_{t-1} + \alpha_3 SAVE_{t-1} + \alpha_4 TO_{t-1} + \alpha_5 EDUC_{t-1} + \alpha_6 INFL_{t-1} + \alpha_7 INFR_{t-1} \\ & + \sum_{k=1}^{m} b_{1k} \Delta SVAD_{t-k} + \sum_{k=1}^{n} b_{2k} \Delta FDI_{t-k} + \sum_{k=1}^{p} b_{3k} \Delta SAVE_{t-k} + \sum_{k=1}^{q} b_{4k} \Delta TO_{t-k} + \sum_{k=1}^{r} b_{5k} \Delta EDUC_{t-k} \\ & \sum_{k=1}^{s} b_{6k} \Delta INFL_{t-k} + \sum_{k=1}^{t} b_{7k} \Delta INFR_{t-k} + \varepsilon_t \end{aligned} \quad (6)$$

Where α_0 is the constant term. $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7$ are long-run coefficients. b_1, b_2 b_3, b_4, b_5, b_6, b_7 represent the dynamics of error correction. There are two steps involved in applying the Pesaran et al. (2001) cointegration test. First, we determine the optimal lag. To do this, we select the optimal ARDL model, the model that offers statistically significant results with the least parameters and has the smallest SIC value. Secondly, the Fisher test is used to verify the cointegration relationship between the series. The calculated value of Fisher's F statistic is compared with the critical values forming the upper bound (UB) and lower bound (LB) provided by Pesaran et al. (2001). If the F statistic is greater than the UB, the cointegration exists. There is no cointegration if the F-statistic is below the LB. If the F-statistic lies between the two bounds, the test is inconclusive.

Once long-term cointegration is verified, the error correction term should be examined as specified in equation 7 below:

$$\begin{aligned} \Delta SVAD_t = {} & b_0 + \sum_{k=1}^{m} b_{1k} \Delta SVAD_{t-k} + \sum_{k=1}^{n} b_{2k} \Delta FDI_{t-k} + \sum_{k=1}^{p} b_{3k} \Delta SAVE_{t-k} + \sum_{k=1}^{q} b_{4k} \Delta TO_{t-k} + \sum_{k=1}^{r} b_{5k} \Delta EDUC_{t-k} \\ & + \sum_{k=1}^{s} b_{6k} \Delta INFL_{t-k} + \sum_{k=1}^{t} b_{7k} \Delta INFR_{t-k} + \gamma ECT_{t-1} + \varepsilon_t \end{aligned} \quad (7)$$

where ECTt-1 is the error correction term; γ is the adjustment coefficient which measures the speed at which the variables return to the long-term equilibrium relationship. It must be negative and statistically significant for the correction mechanism to take place.

3.3.3 Diagnostic Tests of the ARDL Model

To validate an ARDL model, the most important tests are the Jarque-Bera normality test, the Breusch-Godfrey autocorrelation test, the White and ARCH heteroskedasticity tests and the Ramsey specification error test. Finally, to test coefficient stability, we use the Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUMSQ) proposed by Brown et al. (1975).

4. Results

4.1 Correlation Test Results

Table 3 shows the results of the correlation matrix.

Table 3. Pearson correlation matrix between variables and Variance Inflator Factors (VIFs)

Variables	[1]	[2]	[3]	[4]	[5]	[6]	[7]	VIF
[1] SVAD	1							
[2] FDI	-0.24	1						1.30
[3] SAVE	0.25	0.22	1					1.54
[4] TO	-0.47	0.08	0.27	1				2.06
[5] EDUC	0.01	0.32	0.27	-0.10	1			2.35
[6] INFL	0.30	0.05	0.23	0.008	-0.35	1		1.44
[7] INFR	-0.59	0.37	0.10	0.47	0.51	-0.33	1	2.76

Source: The authors.

The results show that there is no multi-colinearity between the variables. Indeed, the problem of multi-colinearity may arise when some variables in the prediction model are correlated with others. Table 3 shows no strong link between the explanatory variables, with degrees of association not exceeding 0.80. In addition, the calculation of variance inflation factors (VIFs), proposed by Theil (1971) shows all values below 5 meaning that there is no multi-colinearity.

4.2 Results of Unit Root and Cointegration Tests

The results of the unit root test taking into account the constant and the trend, are shown in tables 4 and 5 below.

Table 4. Results of ADF and PP unit root tests (with constant and trend)

Variable	ADF				PP			
	Level		First difference		Level		First difference	
	t-stat	p-value	t-stat	p-value	t-stat	p-value	t-stat	p-value
SVAD	-1.5	0.7	-6.04***	0.0001	-1.5	0.7	-7.6***	0.00
FDI	-3.5**	0.05	-8.5***	0.0000	-3.5**	0.04	-9.2***	0.00
SAVE	-3.3*	0.07	-5.09***	0.001	-2.8	0.2	-4.9***	0.001
TO	-0.7	0.9	-6.2***	0.0000	-0.7	0.9	-6.2**	0.00
EDUC	-2.8	0.2	-3.2*	0.09	-3,1*	0.1	-7.3***	0.00
INFL	-4.9***	0.001	-6.4***	0.0000	-4.8***	0.001	-11***	0.00
INFR	-1.2	0.8	-7.8***	0.0000	-1.08	0.9	-7.8***	0.00

Source: The authors.

Note. ***, ** and * indicate the significance level at 1%, 5% and 10% respectively.

Table 5. Results of the Zivot-Andrews unit root test

Variable	ZA structural break in both the intercept and trend unit root test			
	Level		First difference	
	t-stat	TB	t-stat	TB
SVAD	-4.33	1996	-6.36**	1997
FDI	-5.08**	1993	-9.23***	2000
SAVE	-6.21**	1994	-4.10	1994
TO	-3.21	2004	-6.14*	1995
EDUC	-3.50	2002	-8.57***	2013
INFL	-5.56**	1994	-9.23***	2000
INFR	-2.98	1998	-9.87***	2004

Source: The authors.

Note. ***, **and * indicate the significance level at 1% ,5% and 10% respectively and TB is the Time break.

With the ADF and ZA tests, the FDI, SAVE and INFL variables are stationary in level I(0) and the SVAD, TO, EDUC and INFR variables are stationary in first difference I(1). With the PP test, the FDI and INFL variables are stationary at I(0) and the other variables stationary at I(1). The I(0) variables provide long-term information, while the I(1) variables provide short-term information. As the variables are not all stationary of the same order, we will study the cointegration of these variables. The ARDL methodology is well suited to estimating this cointegrating relationship between the variables in the study. Table 6 shows the results of the Pesaran et al. (2001) bounds cointegration test. Preliminary analysis of the lag structure selection (see Figure 1) using the Schwartz Bayesian Criterium, shows that the optimal model to estimate is the ARDL (3,4,4,4,4,4) model.

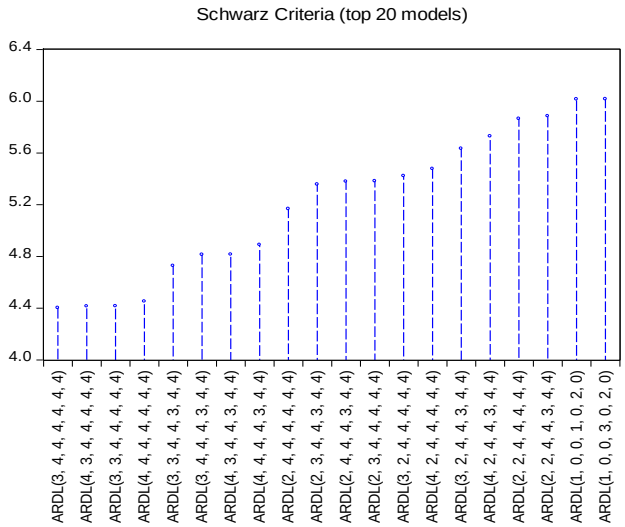

Figure 1. Optimal model with Schwartz Bayesian Criterium

Source: The authors.

The results confirm the existence of a cointegrating relationship between the series, as the calculated F-stat value of 14.23 is greater than the upper bound of 3.99 at the 1% significance level (See Table 6); in other words, we can estimate long-term effects between the variables in the model.

Table 6. Results of the cointegration test by Pesaran et al. (2001)

Model	SVAD =f(FDI, SAVE, TO,EDUC, INFL, INFR)	
F-statistics	14.23	
Level	*Lower bounds*	*Upper bounds*
10%	1.99	2.94
5%	2.27	3.28
1%	2.88	3.99

Source: The authors.

4.3 Estimation Results

The results of the short and the long-run estimations are shown in Table 7 below. The value associated with the adjustment coefficient is negative (-3.2357) and significant at the 1% level. So, there is an error-correction mechanism. Our estimations show that, in both the short and long run, FDI has a negative and significant impact on growth in the country's service sector at the 1% threshold. A 1% increase in FDI inflows leads to a 7.20% reduction in service sector growth in the short term, and an 8.00% reduction in the long term. There are several possible reasons for this result.

Table 7. Results of short-run and long-run estimates

Independent variables	Dependent variable: $SVAD$	
	Coefficient	p-value
	Short-run estimates	
ΔFDI	-7.2015***	0.0001
$\Delta SAVE$	1.5295 ***	0.0002
ΔTO	0.5207***	0.0001
$\Delta EDUC$	-1.0633***	0.0001
$\Delta INFL$	-0.0579	0.2815
$\Delta INFR$	1.0819	0.4566
$ECT(-1)$	-3.2357***	0.0001
	Long-run estimates	
C	33.3409***	0.0000
FDI	-8.0069***	0.0000
$SAVE$	1.1640***	0.0003
TO	-0.0248**	0.0331
$EDUC$	0.4034***	0.0000
$INFL$	-0.5143***	0.0002
$INFR$	-19.7146***	0.0000
R-squared	0.9969	
Adjusted R-squared	0.9721	
S.E of regression	1.3236	
F-statistics	40.1415***	
Prob (F-statistics)		0.001268

Source: The authors.

Note. ***and ** indicate the significance level at 1% and 5%.

First, there has been a deficit in FDI inflows to Côte d'Ivoire in recent years compared with other sub-Saharan African countries, although a large proportion has gone into the services sector (BCEAO, 2007 and CNUCED, 2019). For example, over the period 2014-2017, 39.1% of total FDI inflows to Côte d'Ivoire went into the services sector (See table 9 in Appendix A). Indeed, FDI in Côte d'Ivoire remains low compared with sub-Saharan Africa and lower-middle-income countries (Ministère du plan et du développement, 2020). Between 1994 and 1998, Côte d'Ivoire had the highest level of FDI. From 1999, as a result of socio-political instability, FDI fell only to begin a slight recovery later on (CAPEC, 2021). Although developments show an upward trend in FDI in the various countries of sub-Saharan Africa, Ghana has recorded the highest volume of FDI since the socio-political crisis. In 2019, for example, this FDI volume was estimated respectively at 2318.8 million USD for Ghana, 1008.70 million USD for Côte d'Ivoire, 983.33 million USD for Senegal and 781.63 8 million USD for Cameroon (CAPEC, 2021). The level of FDI inflows remains low, both in absolute and relative terms. Estimated at 1.8% of GDP in 2018, it is below what other countries in the region attract and well below the country's potential. The FDI stock represented just under a quarter of GDP in 2018, compared with an average of 38% in Africa and 30% in West Africa (CNUCED, 2019).

Aside from insufficient FDI flows into the country, let's also note that Côte d'Ivoire has the weakest performance in terms of FDI attraction, although it has kept pace with Ghana in terms of volume and progress over the decade. Indeed, between 2005 and 2019, FDI volumes multiplied by 16.0 points for Ghana versus 11.5 for Cameroon, 5.9 for Senegal and 2.9 for Côte d'Ivoire. This result is also in line with the findings of Iritié & Tiémélé (2023). The volume of inward FDI in Côte d'Ivoire is therefore certainly not sufficient to boost its overall economic growth, let alone that of the service sector. Our results can also be explained by the fact that the sectoral allocation of inward FDI in the country does not take into account the growth-generating sector of the economy. According to the Ministère du plan et du développement (2020), beyond the low volume of FDI, we note that its

sectoral allocation is unfavorable to growth-generating sectors of activity when we know that in Côte d'Ivoire, the agricultural sector employs 46% of the country's working population and is a source of income for 2/3 of a population that is 50.3% rural (Banque Mondiale, 2019). For the Ministry of Planning and Development, insufficient FDI certainly explains the low level of investment in the country, but its sectoral allocation is an obstacle to its effectiveness.

Finally, our results could be explained by the unbalanced geographical distribution of FDI in the country. FDI remains heavily concentrated in Abidjan the main place of economic activities, where 90% of formal businesses and jobs are located (Banque Mondiale, 2019). A more balanced geographical distribution of FDI across the territory could foster more inclusive and sustainable growth in the services sector. The results of Alfaro (2003) confirm our findings and show that FDI, unlike the industrial sector, does not appear to have a strong economic impact in the energy, agriculture and services sectors. Similarly, Aykut & Sayek (2007) find an identical result by studying the effect of FDI on GDP growth in industry, agriculture and services in 37 developing countries over the period 1990-2002.

The SAVE variable, representing domestic savings, contributes to the growth of the services sector in both the short and long-run. It is therefore important for Côte d'Ivoire set up mechanisms enabling the country to mobilize sufficient domestic savings to soundly finance the growth of its service sector. Savings play a very important role in any development process, whether urban or rural (Abdelkhalek et al., 2012), and the financing of healthy, sustainable economic growth depends on the mobilization of substantial domestic savings (Aglietta, 1991).

Trade openness has a positive and significant effect on services growth in the short term at the 1% threshold. In the long-run, its effect is negative and significant at the 5% threshold. This means that in the short-run, the country has been able to benefit from the know-how of other nations. But, in the long-run, the negative relationship between foreign trade and the service sector means that foreign trade plays a negligible role in the country's services sector. This result could be explained by the fact that, unlike emerging countries, Côte d'Ivoire's exports are essentially based on agricultural raw materials, in addition to refined petroleum products. The manufacturing sector is relatively weak in sustaining foreign trade, this is not the case in emerging countries where a significant proportion of exports involve manufacturing products and services (CAPEC, 2014).

As for education, its contribution to services growth is negative and significant in the short-run, at the 1% threshold. However, in the long-run, its contribution is significantly positive, at the 1% threshold. In the short-run, the country did not benefit from the know-how and increased level of human capital on the growth of the service sector, due to the fact that during this short period, the level of qualification of the population was not sufficient to capture new technologies. In the long-run, as the service sector requires a highly skilled workforce, increasing the level of human capital has been beneficial for the growth of this sector. Increasing the level of human capital has a positive impact on improving the quality of labor factors, on workers' productive capacities and on the well-being of populations in Côte d'Ivoire (Koné, 2016).

The last two variables, inflation and infrastructure, make a significant negative contribution to long-run growth in services at the 1% threshold. As far as inflation is concerned, this result could be explained by the high level of inflation in recent years in WAEMU countries, linked to the rise in prices of food, transport and housing products and services, the drop in cereal production in the 2019/2020 season and the disruption to distribution channels caused by the Covid-19 pandemic (BCEAO, 2022). The overall year-on-year inflation rate stood at 8.4% in October 2022, a slight acceleration on its September 2022 level, when prices had risen by 8.3% (FMI, 2022). In terms of infrastructure, the result could be explained by the low level of structural infrastructure endowment of the country (BAD, 2018).

4.4 Model Diagnostic Test Results

In Table 8 below, we summarize the tests that validate the estimated ARDL model.

Table 8. ARDL model long-run diagnostic tests

Test diagnostic	**Tests**	**p-value**
Normality	Jarque-Bera	0.76
Serial correlation	Breusch-Godfrey	0.49
Heteroscedasticity	White	0.83
	ARCH	0.26
Functional form	Ramsey (Fisher)	0.96

Source: The authors.

The null hypothesis is accepted for all tests. The model is thus statistically validated. The estimated ARDL (3, 4, 4, 4, 4, 4) model is good overall, and provides a good explanation of the dynamics of service sector growth in Côte d'Ivoire from 1980 to 2021 (See R-squared and Adjusted-R squared). The F-statistic shows that the model is globally significant (See Table 7). Figures 2 and 3 show that the CUSUM and CUSUM Squares test statistics, after introducing a dummy variable to account for the SVAD break in 1997, evolve well within the confidence interval at the 5% threshold. We conclude in favor of parameter stability. The model is therefore structurally and punctually stable.

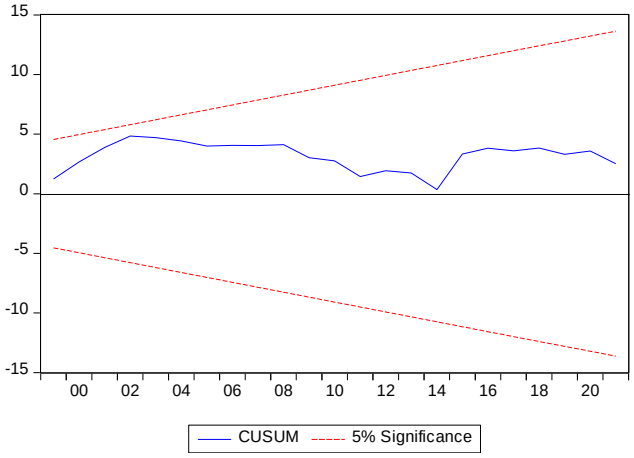

Figure 2. Graph of CUSUM

Note. the straight lines represent critical bounds at 5% significance level.

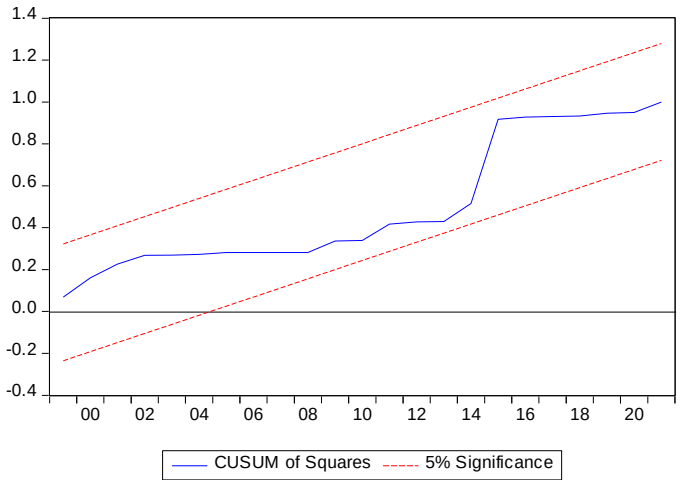

Figure 3. Graph of CUSUM Square

Note. the straight lines represent critical bounds at 5% significance level.

Source: The authors.

5. Discussion

This paper analyzed the contribution of FDI to Côte d'Ivoire's service sector growth using an ARDL cointegration approach. FDI attracted by Côte d'Ivoire did not contribute positively to the growth of its services sector over the period 1980-2021. It had a negative effect on the growth of the service sector in both the short and the long-run. As far as we are concerned, there are three main reasons for these results. Firstly, there has been insufficient FDI inflows to Côte d'Ivoire in recent years compared with other sub-Saharan African countries. Although evolutions show an upward trend in FDI in the various countries of sub-Saharan Africa, the level of FDI inflows in Côte d'Ivoire remains low, both in absolute and relative terms, and the country has the weakest performance in terms of FDI attraction. Whereas over the period 2005-2019, FDI volumes multiplied by

16.0 points for Ghana, 11.5 for Cameroon and 5.9 for Senegal, in Côte d'Ivoire they were at 2.9 points (CAPEC, 2021).

Secondly, the sectoral allocation of inward FDI in the country, which does not take into account the growth-generating sector of the economy, would also explain their negative effect on growth in the services sector. The agricultural sector, bedrock of the Ivorian economy and a driving force behind its growth, although since the 1980s its share of the country's GDP relative to other sectors of activity has declined (Banque Mondiale, 2019), is insufficiently financed (FAO, 2015), whereas we note that a large proportion of FDI goes into the services sector (See table 9 in Appendix A; BCEAO, 2007; CNUCED, 2019). Finally, the unbalanced geographical distribution of FDI in the country, most of which is heavily concentrated in Abidjan, is not conducive to more inclusive and sustainable growth in the services sector.

To correct these observations, we would firstly suggest that the government of Côte d'Ivoire seek to improve the existing investment promotion system in order to increase the volume of foreign investment in the country. Secondly, the Ivorian government must increase the size of the local market, notably by raising the level of real income. This involves improving the skill level of the workforce, developing the service sector, ensuring political and economic stability, and liberalizing trade policies. Finally, a more balanced geographical distribution of FDI in the country could foster more inclusive and sustainable growth in the services sector.

Furthermore, one of the important findings of this paper is that domestic savings and education contribute to the growth of the country's service sector in the long-run. It is therefore important for the country to set up mechanisms to sufficiently mobilize domestic savings ("banking" of the entire population, low rate of bank account opening, etc.) and to further increase the level of its human capital, in order not only to finance its growth soundly, but also and above all to increase its capacity to absorb new technologies by reducing the cost of imitating ideas discovered elsewhere.

Three variables inflation, infrastructure and trade openness - all contribute significantly and negatively to the long-run growth of the service sector. With regard to inflation, we suggest preserving the population's purchasing power through more regular market supplies and an increase in the nominal income distributed in the country. With regard to infrastructure, the result would be explained by the country's poor endowment of structural infrastructure in sufficient quantity and quality (BAD, 2018). The Ivorian government needs to strengthen its infrastructure, to boost the competitiveness of the economy and the efficiency of investments, since the availability and quality of infrastructure, harmoniously distributed, will contribute to improving the competitiveness of the economy. In terms of openness, the Ivorian State must strengthen its trade exchanges through genuine regional integration. This will promote opportunities throughout the country, enable an increase in internal and external trade flows, and improve people's standard of living.

Acknowledgments

The authors would like to thank the researchers of the Laboratory for Law, Economics and Management (LADEG) for very useful comments on earlier versions of this paper. However, any remaining errors or omissions are indebted to the authors.

Authors Contributions

Dr. JBT and Dr. BGJJI were responsible for study design and revising. Dr. JBT was responsible for data collection. Dr. JBT drafted the manuscript and Dr. JBT and Dr. BGJJI revised it. All authors read and approved the final manuscript.

Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Abdelkhalek, T., Arestoff, F., El mekkaaoui de Freitas, N., & Mage-Bertomeu, S. (2012). Les déterminants de l'épargne des ménages au Maroc: Une analyse par milieu géographique. *Région et Développement*, (35), 195-214. Retrieved from https://regionetdeveloppement.univtln.fr/wpcontent/uploads/10ABDELKHALEK.pdf

Aghion, P., Comin, D., Howit, P., & Tecu, I. (2016). When Does Domestic Savings Matter for Economic Growth? *IMF Economic Review*, (64), 318-407. https://doi.org/10.1057/imfer.2015.41

Aglietta, M. (1991). Epargne, innovations financières et croissance. *Revue d'Economie Financière*, (17), 3-31. https://doi.org/10.3406/ecofi.1991.1714

Ajayi, S. M. (2004). The determinants of foreign direct investment in Africa: A survey of the evidences. Paper presented at *the IMF/AERC Special Workshop on the Foreign Direct Investment in Africa*, December 2-3, Nairobi, Kenya.

Akinlo, A. E. (2004). Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy Modeling, 26*(5), 627-639. https://doi.org/10.1016/j.jpolmod.2004.04.011

Alfaro, L. (2003). Foreign Direct Investment and growth: Does the Sector Matter? *Havard Bisiness School*, 32. Retrieved from https://www.researchgate.net/publication/228966060

Alege, P., & Ogundipe, A. A. (2014). Foreign Direct Investment and Economic Growth in ECOWAS: A System-GMM Approach. *Cevenant Journal of Business and Social Sciences (CJBSS)*, 5(1), 1-22. https://doi.org/10.2139/ssrn.2476365

Anyanwu, J. C. (2011). Determinants of foreign direct investment inflows to Africa, 1980-2007. *African Developmemt Bank Group* (pp. 1-32). Retrieved from http:/www.afdb.org/

Artus, P., & Cartapanis, A. (2008). Globalisation financière et croissance dans les économies émergentes: La sous-estimation des contraintes macro-économiques induites. *Revue Économique, 59*(6), 1145-1158. https://doi.org/10.3917/reco.596.1145

Aykut, D., & Sayek, S. (2007). The role of the Sectoral Composition of Foreign Direct Investment on Growth. *International Business and Management, 22*, 35-59. Retrieved from https://www.researchgate.net/publication/253663868

Azeroual, M. (2016). Investissements directs étrangers au Maroc; Impact sur la productivité totale des facteurs selon le pays d'origine (1980-2012). *Afrique et Development, XLI*(1). 191-213. Retrieved from https://www.jstor.org/stable/90001839

BAD. (2018). *Côte d'Ivoire : document de stratégie pays (DSP 2018-2022) combiné avec la revue de la performance du portefeuille pays 2018*. Banque Africaine de Développement, département économies pays-ECCE direction générale Afrique de l'ouest-RDGW.

Banque Mondiale. (2019). *Au pays du cacao, comment transformer la Côte d'Ivoire*. 9ème rapport sur la situation économique en Côte d'Ivoire.

Barro, R. (1990). Economic growth in a cross section of countries. *Quarterly Journal of Economic, 106*(2), 407-443. https://doi.org/10.2307/2937943

BCEAO. (2022). *Balance des paiements et position extérieure globale régionales de l'UEMOA au titre de l'année 2020*. Rapport, Dakar- Sénégal.

BCEAO. (2007). *Rapport annuel*. Dakar- Sénégal.

Bellocq, F. X., & Zlotowski, Y. (2011). Les pays émergents dans l'après-crise: L'intégration financière en question. *Revue d'Economie Financière*, (101), 273-288. https://doi.org/10.3406/ecofi.2011.6004

Bende-Nabende, A., & Ford, J. L. (1998). FDI, Policy Adjustment and Endogenous Growth: Multiplier Effects from a Small Dynamic Model for Taiwan, 1959-1995. *World Development, 26*(7), 1315-1330. https://doi.org/10.1016/S0305-750X(98)00043-6

Borensztein, E., De Gregorio, J., & Lee, J. (1998). How does foreign investment affect growth? *Journal of International Economics, 45*(1), 115-135. https://doi.org/10.1016/S0022-1996(97)00033-0

Bouoiyour, J., El Mouhoub, M., & Hicham, H. (2009). Investissements Directs Étrangers et productivité: Quelles interactions dans le cas des pays du moyen orient et l'Afrique du Nord? *Revue Économique, 60*(1), 109-131. https://doi.org/10.3917/reco.601.0109

Bouoiyour, J., & Toufik, S. (2007). L'impact des Investissements Directs Étrangers et du capital humain sur la productivité des industries manufacturières Marocaines: *Revue Région et Développement*, (25), 116-136. Retrieved from https://EconPapers.Repec.org/RePEc:tou:journl:*v*:25:y:2007:p:115-136

Brana, S. (1999). Systèmes financiers et croissance en mediterranée: Une analyse comparative. *Revue d'Economie Financiere*, (52), 207-233. https://doi.org/10.3406/ecofi.1999.3539

Brown, R. L., Durbin, J., & Evans, J. M. (1975). Techniques for the constancy of regression relation-ships over time. *Journal of the Royal Statistical Society. Series B(Methodological), 37*(2), 149-192. https://doi.org/10.1111/j.2517-6161.1975.tb01532.x

Bruno, M., & Musso, P. (2000). Volatilité de l'inflation et croissance économique. *Revue Economique, 51*(3),

693-701. https:// doi.org/10.3406/reco.2000.410547

Caceres, L. R. (1995). Capitaux étrangers, épargne intérieure et croissance économique: Le cas de l'Amérique centrale. *Savings and Development, 19*(4), 393-404. Retrieved from https://www.jstor.org/stable/25830555

CAPEC. (2021). *Étude d'impact du code des investissements 2018*. Cellule d'Analyse de Politiques Économiques du CIRESS, Abidjan. Rapport final.

CAPEC. (2014). *Les moteurs de la croissance et l'ouverture commerciale en Côte d'Ivoire*. Cellule d'Analyse de Politiques Économiques du CIRESS, Abidjan.

Carbonell, J. B., & Werner, R. A. (2018). Does Foreign Direct Investment Generate Economic Growth? A new Empirical Approach Applied to Spain. *Economic Geography, 94*(4), 425-456. https://doi.org/10.1080/00130095.2017.1393312

CNUCED. (2019). *Examen de la politique d'investissement en Côte d'Ivoire*. Nations-Unies. Genève.

CNUCED. (2014). *World Investment Report 2014* (p. 265). Investing in the SDGs: An action plan.

De Mello, L. R. (1997). Foreign direct investment in developing countries and growth: A selective survey. *Journal of Development Studies*, (34), 1-34. https://doi.org/10.1080/00220389708422501

Dickey, D. A., & Fuller, W. A. (1981). Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, *49*(4), 1057-1072. https://doi.org/10.2307/1912517

Eka, F., & Bouoiyour, J. (2020). IDE Chinois et croissance économique des pays d'Afrique Sub-saharienne: Approche par la MMGEN données de panel. *Revue Économie, Gestion et Société, 1*(25), 1-31. https://doi.org/10.48382/IMIST.PRSM/regs-v1i25.22422

Ekodo, R., Ndam, M., & Ousmanou, K. (2020). Investissement direct étranger et croissance économique en zone CEMAC: Le rôle du contrôle de la corruption. *Repères et Perspectives Économiques, 4*(2), 1-22. https://doi.org/10.34874/IMIST.PRSM/RPE/21529

Engle, R. F., & Granger, C. W. J (1987). Co-integration and error correction: Representation, estimation, and testing. *Econometrical, 55*(2), 251-276. https://doi.org/10.2307/1913236

Esso, L. J. (2005). *Investissements directs étrangers: Déterminants et influence sur la croissance économique*. Politique Economique et Développement, E. No 117, CAPEC.

FAO. (2015). *Impact des investissements étrangers dans l'agriculture des pays en développement: Résultats d'étude de cas*. Document de travail de la FAO sur les politiques commerciales et les produits de base.

Fiedler, Y. (2020). *Stimuler et pérenniser les investissements des jeunes dans l'agriculture et les systèmes alimentaires. Recommandations politiques basées sur les enseignements tirés de onze pays africains*. Rome, FAO. http://dx.doi.org/10.1060/cb1124fr.

FMI. (2022). *Rapport des services du FMI pour les consultations de 2022 au titre de l'article IV*. Rapport du FMI n°22/205. Washington.

Frankel, J. A., & Romer, D. (1999). Does trade cause growth? *The American Economic Review, 89*(3), 379-399. https://doi.org/10.1257/aer.89.3.379

Iritié, B. G. J. J., & Tiémélé, J. B. (2023). Foreign direct investment and economic growth in Côte d'Ivoire: An application of the bounds testing approach to cointegration. *Cogent Economics & Finance, 11*(1), 2223940. https://doi.org/10.1080/23322039.2033.2223940

Johansen, S. (1988). Statistical analysis of cointegration vectors. *Journal of Economic Dynamics and Control, 12*(2-3), 231-254. https://doi.org/10.1016/0165-1889(88)90041-3

Keho, Y. (2020). Foreign direct investment and import demand in Côte d'Ivoire. *International Journal of Trade, Economics and Finance, 11*(2), 24-31. https://doi.org/10.18178/ijtef.2020.11.2.661

Kinda, T. (2008). Infrastructures et flux de capitaux privés vers les pays en développement. *Revue Économique, 59*(3), 537-549. https://doi.org/10.3917/reco.593.0537

King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *The Quarterly Journal of Economics*, *108*(3), 717-737. https://doi.org/10.2307/2118406

Koné, S. (2016). Développement du capital humain, croissance économique et bien-être en Côte d'Ivoire. *Revue Scientifique EuropEenne 12*(34). https://doi.org/10.19044/esj.2016.v12n34p251

Koté, A., Sorgho, Z., & Ouédraogo, C. (2015). *La mobilité des capitaux en Afrique de l'ouest: Investigation avec*

les pays de la CEDEAO. Document de travail, Réf: T. 2015(06)01. CACID, Centre Africain pour le Commerce International et le Développement. https://doi.org/10.13140/RG.2.1.1033.2323

Levine, R., & Renelt, D. (1992). A sensibility analysis of cross-country growth regressions. *The American Econmic Review, 82*(4), 942-963. Retrieved from https://www.jstor.org/stable/2117352

Mainguy, C. (2004). Impact des investissements directs étrangers sur les économies en développement. *Revue Région et Développement*, (20), 66-89. Retrieved from https://ideas.repec.org/a/tou/journl/v20y2004p65-89.html

Majumber, S. C., & Rahman, M. H. (2020). Impact of Foreign Direct Investment on economic growth of China after economic reform. *Journal of Entrepreneurship, Business and Economic, 8*(2), 120-153. Retrieved from http://scientificia.com/index.php/JEBE/article/view/140

Majumber, S. C., Rahman, M. H., & Martial, A. A. A. (2022). The effects of foreign direct investment on export processing zones in Bangladesh using Generalized method of moments approach. *Social Sciences & Humanities Open, 6*(1), 1-10. https://doi.org/10.1016/j.ssaho.2022.100277

Makiela, K., & Ouattara, B. (2018). Foreign direct investment and economic growth: Exploring the transmission channels. *Economic Modelling*, (72), 296-305. https://doi.org/10.1016/j.econmod.2018.02.007

Miah, M. M., & Majumber, S. C. (2022). Impact of FDI on Exports and Employment in Bangladesh. *Bangladesh Journal of Political Economy, 38*(1), 38-102. https:/doi.org/10.56138/bjpe.jun2206

Ministère du plan et du développement. (2020). *Programme National et Développement 2021-2025, diagnostic stratégique*. Tome 1.

Mohamed, E. D., & Yassine, A. (2021). Gouvernance et investissements directs étrangers dans les pays en développement: Cas des pays africains entre 1985-2015. *International Journal of Accounting, Finance, Auditing, Management & Economics, 2*(2), 439-458. https:/doi.org/10.5281/zenodo.4652921

Narayan, P. K. (2004). *Reformulating critical value for the bounds f-statistics approach to cointegration: An application to the tourism demand model for fiji*. Technical report, Department of Economics Discussion Papers No. 02/04, Monash University, Melbourne, Australia. Retrieved from https://www.researchgate.net/publication/268048533

Nelson, R. R., & Phelps, E. S. (1966). Investment in humans, technological diffusion, and economic growth. The *American Economic Review, 56*(1/2), 69-75. Retrieved from http://www.jstor.org/stable/1821269

Nkoa, B. E. O. (2018). Effets différenciés des IDE sur la croissance économique africaine: Rôle de la finance. *Revue d'économie du développement, 26*, 33-63. https://doi.org/10.3917/edd.323.0033

Nkoa, B. E. O. (2016). Investissements directs étrangers et industrialisation de l'Afrique: Un nouveau regard. *Revue Innovations, 3*(51), 173-196. https://doi.org/10.3917/inno.051.0173

Pesaran, M. H., & Shin, Y. (1995). An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis. *Cambridge Working Papers in Economic 9514*. Faculty of Economics, University of Cambridge. Retrieved from https://EconPapers.repec.org/RePEc:cam:camdae:9514

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relation-ships. *Journal of Applied Econometrics, 16*(3), 289-326. https://doi.org/10.1002/jae.616

Phillips, P. C. B., & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika, 75*(2), 335-346. https://doi.org/10.1093/biomet/75.2.335

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5), 71-102. https://doi.org/10.1086/261725

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics, 70*(1), 65-94. https://doi.org/10.2307/1884513

Thompson, H. (2008). Economic Growth with Foreign Capital. *Review of Development Economics, 12*(4), 694-701. https://doi.org/10.1111/j.1467-9361.2008.00395.x

World Development Indicators WDI. (2023). *Indicateurs du développement dans le monde, Last updated 015/09/2023*. Technical report, Banque Mondiale. Washington.

Zivot, E., & Andrews, D. W. K. (1992). Further evidence on the great crash, the oil price shock and the unit root hypothesis. *Journal of Business and Economic Statistics, 10*, 251-270. https://doi.org/10.1080/07350015.1992.10509904

Note

Note 1. Center for the Promotion of Investments in Côte d'Ivoire born in September 1993. It was restructured in September 2012 by a decree stipulating that it is the One-Stop Shop for Investment in Côte d'Ivoire.

Appendix A

Table 9. Foreign direct investment by sector (as a percentage of total FDI inflows)

Secteurs	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2014-2017*
Agriculture, produits forestiers, pêche	0.0	2.2	0.4	0.0	0.9	0.2	0.4
Secteur extractif	31.8	0.0	35.6	30.9	38.7	37.7	37.7
Secteur manufacturier	49.7	53.6	27.2	16.9	18.7	10.9	18.4
Electricité et gaz	0.0	6.3	5.0	6.4	1.0	2.4	3.7
Construction	0.0	7.3	2.2	2.8	2.0	2.1	2.3
Commerce de gros et de détail	**17.7**	**1.3**	**4.6**	**3.8**	**6.9**	**1.4**	**4.2**
Transport et stockage	**0.0**	**0.4**	**4.6**	**3.4**	**2.8**	**3.4**	**3.5**
Hôtels et restaurants	**0.0**	**0.8**	**0.3**	**0.3**	**2.8**	**4.0**	**1.8**
Communication	**0.0**	**13.7**	**8.3**	**17.9**	**9.9**	**12.9**	**12.2**
Finance et assurance	**0.1**	**14.2**	**11.3**	**17.4**	**15.7**	**24.5**	**17.2**
Immobiliers et services	**0.3**	**0.0**	**0.1**	**0.1**	**0.1**	**0.4**	**0.2**
Autres	0.4	0.2	0.5	0.1	0.5	0.0	0.3
Total secteur des services	**18.1**	**30.4**	**30.2**	**42.9**	**38.2**	**46.6**	**39.1**
Total	100	100	100	100	100	100	100

Source: Adapted from Keho (2020).