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ON THE LINK BETWEEN FDI, POLITICAL RISK AND ECONOMIC GROWTH IN SUB-SAHARAN AFRICA: A PANEL VAR APPROACH

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ABSTRACT

This study looks at how foreign direct investment from other countries helps grow economies in Sub-Saharan Africa. But it not just about Foreign direct investment; the quality of institution in those countries also play a big role. We're exploring how foreign direct investment, political risks, and economic growth all connect. Using a Panel Vector Auto-Regressive (PVAR) approach with a sample of 28 sub-Saharan African countries over the period 1996–2016, the empirical results reveal that FDI positively relates to internal conflicts and political stability in Sub-Saharan African countries. However, the effects of economic growth and external conflicts are negative and significant. In addition, FDI and internal and external conflicts affect positively and significantly economic growth. However, the effect of political stability on economic growth is negative and significant. On the other hand, the interaction between foreign direct investment and political stability is negative and insignificant. Finally, the internal and external conflicts are negatively affected by foreign direct investment, yet they are positively influenced by political stability. These findings have important policy implications. If Sub-Saharan Africa is to realize its economic growth agenda, policymakers should promote FDI inflows to sub-Saharan African countries by improving their institutional quality by boosting political stability and reducing internal and external conflicts.

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INTRODUCTION

Foreign direct investment (FDI) is one of the major themes that attracted the attention of researchers, governments, and financial institutions. FDI has experienced a real boost worldwide in recent decades, with the value of the global stocks of FDI more than quadrupled in only ten years (UNCTAD, 2016). This resulted from globalization, which brought about new opportunities for many economies, particularly for Sub-Saharan Africa (SSA) countries, and made considerable efforts to create an environment ripe for attracting investment to foster sustainable economic growth and competitiveness.

A report by the United Nations Conference on Trade and Development (UNCTAD) in 2018 provided a detail about the foreign direct investment (FDI) in Africa. According to the report this region has never been a major recipient compared to other regions. The report highlights that in 1986–1990, the region's proportion of Attracting FDI was 1.8 percent, and in 1999–2000, it was 0.8 percent. In 2001, there was a slight uptick as investment inflows into the area jumped from $9 billion the previous year to $19 billion, boosting the region's slice of worldwide foreign investment to 2.3%. Between 2002 and 2003, the region's portion of global investment inflows increased a bit more, reaching an annual rate of 2.5%.

It should be noted, however, that this figure was, over the same time, 24.5 percentage points lower than the average share for developing countries. The increase in attracting FDI to Africa may have resulted from structural changes such as the privatization of state-owned firms, which stimulated commercial activities and liberal laws, legislation, and policies. Foreign direct investment to Africa subsequently increased to 5.3 percent of global inflow of foreign direct investment (FDI) in 2009 and then declined by 2.9 percent in 2017, while foreign direct investment inflows to other developed economies increased steadily during the 2010–2017 period. For instance, between 2010 and 2016, Sub-Saharan Africa earned 1.87 percent of FDI, especially in comparison to 30.34 percent for Europe, 26.45 percent for East Asia, 17.334 percent for North Africa, and 13.25 percent for the Caribbean and Latin America (ECA et al., 2018).

Furthermore, over the last two decades, Africa's economic growth has been characterized by a failure of creative employment, which has not reduced poverty and inequality. The persistence of political instability and multiple conflicts in many African countries inhibited meaningful progress toward sustainable development (ECA et al., 2018).

International groups, experts, and scholars are progressively focusing on data from countries in Sub-Saharan Africa due to the region's promising economic prospects. Consequently, some previous studies have examined the determinants of FDI in these nations. The increasing volume of FDI inflows has prompted researchers to examine the economic effect of FDI along a variety of dimensions, including, for example Financial Market Development (Desbordes and Wei, 2014; Otchere et al., 2016; Munemo, 2018), natural resources (Chen et al., 2020; Asiedu, 2006; Bokpin et al., 2015; Feulefack and Ngassam. 2020), poverty reduction (Akinlo and Dada, 2021; Gohou and Soumaré, 2012; Klein et al., 2001), human capital (Suliman and Mollick, 2009; Cleeve et al., 2015; Oluwatobi et al., 2016), and institutions (Yeboua, 2021; Asiedu, 2006; Naudé and Krugell, 2007; Cleeve, 2012; Bokpin, 2017).

However, the liaison between FDI and growth has taken the lion's share among researchers. Therefore, economists have a broad consensus that FDI impacts economic growth (Younsi et al., 2021; Balasubramanyam et al., 1996; De Mello, 1997; Gui-Diby, 2014; Acquah and Ibrahim, 2020). On the other hand, the real effect of FDI on growth has generated mixed findings. For example, Borensztein et al. (1998) showed that FDI had a positive impact on growth, while Schneider and Frey (1985), Tsai (1994), Moran (1998), Lipsey et al. (1999), and Ericsson and Irandoust (2001) among others found no such evidence or even no impact on economic growth.

The studies mentioned previously did not look at the role of political factors in the FDI-economic growth nexus, despite an increasing consensus that particular features of the recipient country predispose the influence of FDI on GDP. The failure to emphasize various risks as the transmitter through which FDI influences growth might have contributed to the majority of conflicting and ambiguous findings of the earlier studies.

Some researchers have focused on the institutional and sociopolitical dimensions of FDI. Political risk and stability are two factors that affect whether or not to invest in a certain location (Bandyopadhyay et al., 2021; Moosa and Cardak, 2006; Dunning et al., 2008). Many studies have been conducted to explain the determinants of FDI using elements of country risk. Political risk factors, frequently associated with poor recipient country governance, have been investigated to determine their importance to FDI inflows. A large body of evidence shows that poor institutional quality is to blame for FDI flows into host nations (Fon et al., 2021; Alfaro et al., 2008; Faria and Mauro, 2009; Krifa-Schneider and Matei, 2010; Reinhardt and Dell'Erba, 2013). Political instability, imperfect law enforcement, high regulatory burdens on investment companies, and government instability are all said to play a role in discouraging FDI inflows.

Political risk refers to political acts that disrupt sales or damage property or personnel, such as riots, operational limitations that affect the ability to do particular tasks and governmental property control (Trevino et al., 2002). Previous studies about the effect of country risk on inflows foreign direct investment has produced a wide assortment of findings. Some studies (Yeboua, 2021; Asiedu, 2006; Hayakawa and Matsuura, 2011; Baek and Qian, 2011) contend that political risk deters FDI, while others assert that high-political-risk environments draw FDI (Okafor, 2015; Janeba, 2002). A third category concluded that political risk and FDI have no significant relationship (Wei, 2000; Jadhav, 2012).

In 2006, Asiedu conducted research to identify the elements affecting foreign investment in Africa. The study utilized panel data spanning from 1984 to 2002 and focused on a selection of 22 Sub-Saharan nations (Asiedu, 2006). The results showed that political instability negatively affects FDI inflows in Africa. In their study, Suliman and Mollick (2009) found a negative correlation between conflict risk and foreign investment. Similarly, Amal et al. (2010) in their research, discovered that political stability plays a crucial role in attracting overseas investors, specifically in the Latin American context. They discovered that over the past two decades, lower political risk in Latin America was the cause of the increased FDI inflows.

Political risk factors typically have a negative impact on MNCs' investment choices in a certain nation (Dupasquier and Osajwe, 2006; Dunning et al., 2008). Examining 27 Sub-Saharan African countries, Hashim et al. (2011) argue that political stability seems to have a significant and positive effect on economic performance.

While investigating 22 developed and 94 developing economies, Baek and Qian (2011) found that host countries with serious risks deter FDI inflows. This is due to higher risk, resulting in reduced profitability for foreign investors when political instability is high. Using the 12 components of ICRG's Political Risk Index, they argue that diverse political risk variables impact FDI inflows to emergent countries in various behaviors and that a constant and secure socio-political situation favors FD. As a result, countries may be a focus for FDI by developing and sustaining a stable political system. According to Li (2008), for example, FDI inflows and military conflicts are negatively related. Several empirical studies have found that poor institutions inhibit FDI (Asiedu and Villamil 2000; Asiedu, 2006; Wei, 2000; Aw and Tang, 2010). Countries with good institutions help to attract foreign direct investment addicted to the industrial segment (Mehic et al., 2009).

As indicated earlier, high political risk attracts MNEs. Okafor (2015) observed that the size of foreign direct investment inflows to Sub-Saharan Africa decreases as these nations shift to more solid and successful democratic countries, as a component of political risk. These findings may have been impacted by the dominance of investments from emerging economies that take advantage of the absence of democracy. According to Chen et al. (2005), high political risk causes host-country assets to be devalued to appeal to international investors. According to Janeba (2002), most high-political-risk economies attract FDI due to their cheap factor costs, which work as a reasonable risk trade-off. This means that international enterprises can efficiently manage their operations while reducing operating expenses and increasing competitiveness.

Furthermore, previous research has widely underestimated the cause-effect connection among foreign direct investment (FDI), political factors, and economic growth. On the one hand, while a plethora of studies examined the link between FDI and economic growth with ambiguous findings, there has been scant attempts to examine the three-party relationship between FDI, political factors and growth, on the other hand.

However, the three-party relationship between FDI, growth, and Political risk has received little attention, particularly in SSA countries. This article aims to explain, whenever possible, the dynamic link between FDI, Political risk, and economic growth. To that end, we employ a panel Vector Auto-Regressive methodology, as well as panel impulse response functions, on data reflecting FDI, economic growth, and a variety of political risk indicators.

The PVAR method was adopted in this paper for the following reasons: The PVAR model has distinct advantages over other methods. The PVAR methodology considers all variables as endogenous and interdependent, making it simpler to evaluate their dynamic relationship. Thus, all feedback effects are included explicitly in the model. Panel data, on the other hand, may provide more useful information. We can obtain relatively efficient estimates by using panel data.

METHODOLOGY

Specificity of the Panel VAR

The panel VAR model is used in many contexts to examine empirical issues of interest for macroeconomic policymaking. This approach treats All variables as endogenous and interdependent, and all feedback effects are explicitly included in the equation. Thus, it is a methodology well-suited to the questions that this analysis attempts to study the dynamic connection between FDI- Political risk and economic growth. An overview of panel VAR models is provided by Canova and Ciccarelli (2013). They studied the panel VAR literature, their use, and the estimation strategies. The vector autoregressive (VAR) methodology assumes that all factors are endogenous and reliant on one another in static and dynamic ways. Furthermore, as Ramey and Shapiro (1998) suggested, exogenous variables can be included in the VAR method. The VAR model is represented by the given equation:

$$Z_t = C_0(t) + C(L)Z_{t-1} + \mu_t \quad (1)$$

Where $\mu_t \sim iid(0, \Sigma_\mu)$

Z_t is an (n x 1) vector of endogenous variables, *iid* denotes identically and independently distributed while C(L) is a lag polynomial. To delimit Z_t variance and to make sure $C(L)^{-1}$ exists, restrictions might be imposed on the C_j matrix. Following up on work conducted by Blanchard and Quah (1989), Beveridge and Nelson (1981) and many others, the first equation can be generally divided into short- and long-term variants.

Using the notation that $C_0(t)$ includes all the data deterministic components, we may deduce that specification (1) can contain deterministic elements such as a constant term, seasonal dummy variables, or a time trend. An adjustment of the first equation makes the N variables Z_t a linear purpose of a (predetermined) independent variable set W_t. Thus, the model becomes:

$$Z_t = C_0(t) + C(L)Y_{t-1} + B(L)W_t + \mu_t \quad (2)$$

Ocampo and Rodriguez (2011) presented the Structural Panel VARX Model, which Cushman and Zha (1997) employed in their analysis of the impact of economic shocks in Canada.

VAR models with fixed coefficients and a limited arrangement, as specified by equation (1), can be formalized in different methods. The first standard method can be derived using the World theorem, assuming a linear, invertible representation and stationary processes (Canova, 2007). Under these hypotheses, there are infinite lag orders in VAR illustration (VAR (∞)) for each variable Y_t. The infinite VAR dimension can be truncated using a finite order p (VAR (p)) if we suppose that the contribution of Z_{t-j} in explaining Y_t is small when j is large.

Panel VAR models capture a hybrid framework between panel and VAR models. Panel VAR models and standard VAR models have the same structure. They suppose that all variables are interdependent and endogenous.

However, a cross-sectional component is introduced to VAR demonstration. Condition Z_t is the augmented description of $Z_{i,t}$, the (N) variables used for each unit i, significance $Z_t = (Z_{1t}, Z_{2t}, \dots . Z_{nt})'$. The VAR Panel model can be summarized as follows:

$$Z_{it} = C_{0i}(t) + C_i(L)Z_{it-1} + \mu_{it}$$
$$i = 1, \dots, n \text{ and } t=1,\dots,T \quad (3)$$

Where μ_{it} represent $(N \times 1)$ vector of errors; $C_{0i}(t)$ as well as C_i can depend on the cross-sectional factor i. Then, the VAR-X is presented by the given equation:

$$Z_{it} = C_{0i}(t) + C_i(L)Z_{it-1} + B_i(L)E_{it} + \mu_{it} \quad (4)$$

Where E_t is an exogenous variable matrix shared by every component i. $\mu_t = (\mu_{1t}, \mu_{2t}, \dots, \mu_{nt})' \sim \text{iid}\ (0, \sum_{i=0}^{n}.)$, B_{ij} represent $(n \,.\, m)$ matrix designed for any $lag\ j = 1, \dots\ ,\ z$.

Therefore, a straightforward examination of (3) and (4) proposes to facilitate a panel VAR has three distinct features. Primary, they enable dynamic interdependencies because the lags of all endogenous variables enter the equations of each unit. Second, "Static interdependencies" could arise, as the errors μ_{it} are correlated across the units. Moreover, given that every unit contains the same variables, there are limitations on the covariance matrix of the shocks. Third, they can feature "cross-sectional heterogeneity" if the coefficients, the intercept, in addition to the difference of shocks μ_{it} possibly will be unit-definite. These features distinguish panel VAR models classically employed for microeconomic thematic from panel VAR models employed for macroeconomic and financial analyses (Benetrix and Lane, 2009; Beetsma and Giuliadori, 2011).

The panel VAR method was used, which mixes the traditional VAR with the panel data methods. Our empirical model can be presented as follows:

$$FDI_{i,t} = \alpha_0 + \alpha_1 FDI_{i,t-1} + \alpha_2 GDP_{i,t-1} +$$
$$\alpha_3 PV_{i,t-1} + \alpha_4 Iconf_{i,t-1} + \alpha_5 Econf_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

Where;

$i = 1, \dots, n$

$t = 1996, \dots, 2016.$

Data

This research aims to determine the dynamic linkage among different variables, including FDI, political stability, internal conflict, external conflict, and economic growth by examining data from 28 SSA countries. All series are annual and range from 1996 to 2016. Table 1 reports the variables used in our investigation.

Table 1. Description of variables and sources.

Name	Description	Source
FDI	Foreign Direct Investment net inflows (% of GDP)	International Monetary Fund (IMF) and World Bank (WB) database
GDP	Real GDP per capita in 2011US$	
PV	Political stability and the absence of violence	"The Worldwide Governance Indicators" (WGI) World Bank
Iconf	Internal Conflict	International Country Risk Guide (ICRG)
Econf	External Conflict	

Real GDP per capita and FDI net inflows (% of GDP) data are sourced from the WB and IMF databases. Political stability and non-violence (PV) data is taken from the World Bank's WGI. The PV Index measures the probability that the political regime might be damaged or toppled by illegal or aggressive means, counting politically forced violence and terror campaigns (Kaufman et al., 2010). Data about external and internal conflicts are sourced from the Political Risk Service (ICRG) (Howell, 2011). The internal conflict index is an indicator of political instability and violence in one country and its real possible effect on the quality of governance. Risk is measured using three sub elements: a threat of civil war, communal disorder, and political aggression. As the country's risk level rises, so does the country's ongoing civil war. For external conflict, this index measures the effects of external intervention on a country's current government. Three factors, such as cross-border divergence, war, and external pressures, determine risk level (Howell, 2011).

RESULTS AND DISCUSSION

Stationarity Tests

In practice, unit root tests such as Im, Pesaran and Shin (Im et al., 2003), Hadri (2000), and Maddala and Wu (1999) are being used to check stationarity. The outcome of the three-unit root tests is shown in Table 2. Based on the ADF and PP statistics, we give four Fisher test statistics: Pm, L*, Z, and P. In addition, we present four IPS test statistics: t-bar, Z-t-bar, t-tilde-bar, and Wt-bar. The unfounded proposition of the Hadri Lagrange multiplier (LM) test is that all series are stationary.

In contrast, the choice proposition is that at least parts of the panels include unit roots Hadri (2000). We see that, except for GDP and PV, the unit root null assumption can be discarded at significant levels for most of the series. According to the findings of the three tests, the null hypothesis for three variables is rejected for at least one unit root. Indeed, FDI, ICONF, and ECONF are stationary in level. We apply the first difference to the two variables, GDP and PV.

The Panel VAR results

Equation (5) provides the estimation results presented in the tables below. The optimal number of lagged variables p of the models in level is chosen in the first stage. An identification model is required for the best lag choice for the dependent variables. Brooks (2002) talks about two ways to determine Appropriate lag. The first way depends on the frequency of data, like daily or every few hours, but picking the appropriate lag is not obvious. The second way uses special rules to decide. These rules include Akaike information criteria (AIC), which was proposed by Akaike (1969), BIC (Bayesian information criteria) by Akaike (1981), Schwarz (1978), and Rissanen (1978), and HQIC (Hannan-Quinn Information standards) by Hannan and Quinn (1979). In our methodology, we often use the SBIC criterion to determine the best lag time because it necessitates a more stringent AIC criterion. According to the SBIC criterion, the ideal lag for the group of countries is on the order of one. Table (3) demonstrates how to choose the best lag.

According to Sevestre (2002), traditional econometric approaches such as Ordinary least square (OLS) do not provide appropriate parameter estimates in a dynamic model with the lagged dependent variable as an independent variable. In addition, using OLS to estimate models with random effects is inefficient since entity effects and estimators are correlated (Biondi and Toneto, 2008). Arellano and Bover proposed using a GMM that integrates the differenced equation with the level equation (Arellano and Bover, 1995; Blundell and Bond, 1998)). For this, we suggest using the GMM technique in the system since it solves several difficulties, such as simultaneity bias and reverse causality bias. Table 4 shows the results for the VAR model based on the five variables.

The results in Table 4 suggest that FDI positively relates to internal conflicts and political stability in Sub-Saharan African countries. However, the effects of economic growth and external conflicts are negative and significant. In addition, foreign direct investment internal and external conflicts affect positively and significantly economic growth. However, the effect of political stability on economic growth is negative and significant. On the other hand, the interaction between foreign direct investment and political stability is negative and insignificant. The rest of the variables positively affect political stability. Finally, internal and external conflicts are negatively affected by foreign direct investment. However, they are positively influenced by political stability.

In order to evaluate FDI response to conflict shocks, we employ the panel VAR set up to generate impulse response functions (IRFs). Verifying the model's stability and researching movement alternation is crucial. The IRFs from the panel VAR model for each variable in the system are shown in Figs. 1, 2, and 3, along with their confidence intervals. Based on 1000 Monte Carlo draws from the estimated panel VAR model, the IRF confidence intervals are calculated using the Gaussian approximation.

The results of the study show that the response of a GDP shock to FDI is positive and transitory during one period; it brings the series closer to its average. Eventually, it becomes negative for a long period. In addition, the responses of political stability external and internal conflict shocks to foreign direct investment are negative and permanent for a long period. The effect of the shock keeps the series from its average, and its impact persists over time.

Table 2. Stationarity results

Variables	Fisher-type tests								IPS test				Hadri-LM
	Fisher-ADF statistic				Fisher-PP statistic				t-bar	t-tilde-bar	Z-t-tilde-bar	W-t-bar	
	P	Z	L*	Pm	P	Z	L*	Pm					Z
FDI	241.2812*	-11.2427*	-12.4930*	17.5074*	240.8744*	-9.1380*	-11.6830*	17.4690*	-2.9515*	-2.3159*	-6.2771*	-6.8939*	6.7800*
(p-value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	0.0000	0.0000	0.0000	0.0000
GDP	89.6936*	-1.8322**	-2.0254**	3.1838*	38.0982	5.8144	6.2527	-1.6916	-0.2780	-0.2221	8.0820	5.6493	12.5963
(p-value)	(0.0028)	(0.0335)	(0.0223)	(0.0007)	0.9679	1.0000	1.0000	0.9546	1.0000	1.0000	1.0000	1.0000	0.0000
Δ(GDP)					462.4723	-16.3813	-24.0496	38.4080	-4.2070	-2.8860	-10.2538	-11.9197	
(p-value)					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
PV	171.7533	-8.2635	-8.5849	10.9377	73.8611	-0.8605	-1.1576	1.6877	-1.6257	-1.4733	-0.4986	-2.9195	8.8637
(p-value)	0.0000	0.0000	0.0000	0.0000	0.0551	0.1947	0.1245	0.0457	0.3090	0.3090	0.3090	0.0018	0.0000
Δ (PV)					462.0633	-17.5564	-24.1411	38.3694	-4.3043	-3.0146	-11.1387	-13.5984	
(p-value)					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Econf	296.5908	-11.9827	-14.9465	22.7337	113.6735	-4.2515	-4.4122	5.4496	-1.8665	-1.6556	-1.7490	-6.8784	4.6251
(p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0401	0.0401	0.0401	0.0000	0.0000
Iconf	262.2764	-12.1285	-13.6345	19.4913	134.9447	-5.8136	-6.1554	7.4596	-2.3913	-2.0730	-4.6109	-9.6450	5.7436
(p-value)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: The t-tilde-bar ($\tilde{t} - bar_{NT}$) statistic is similar to the t-bar ($t - bar_{NT}$), statistic except a different error variance estimator of the Dickey-Fuller regression is used. A standardised version of the statistic t-tilde-bar is $-t - tilde - bar(Z_{\tilde{t}-bar})$. In presence of serial correlation, Dickey-Fuller regression is augmented as follow :$\Delta y_{it} = \phi_i y_{i,t-1} + z'_{it}\gamma_i + \sum_{j=1}^{p} \Delta y_{i,t-j} + \epsilon_{i,t}$ where p is the number of lags. Im et al. (2003) propose thus another statistic noted W_{t-bar}which follows an asymptotical standard normal distribution when $T \to \infty$ followed by $N \to \infty$.

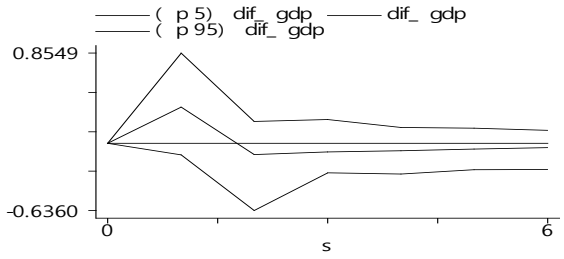
Table 3. The optimal lag choice.

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-7584.367	NA	3.56e+08	33.88110	33.92691	33.89916
1	-5640.829	3835.016	67970.08	25.31620	25.59107*	25.42456
2	-5593.781	91.78558	61601.15	25.21777	25.72171	25.41643*
3	-5552.418	79.77084	57267.63	25.14472	25.87772	25.43368
4	-5516.974	67.56527	54669.28	25.09810	26.06016	25.47735
5	-5471.207	86.22139*	49844.20*	25.00539*	26.19651	25.47494

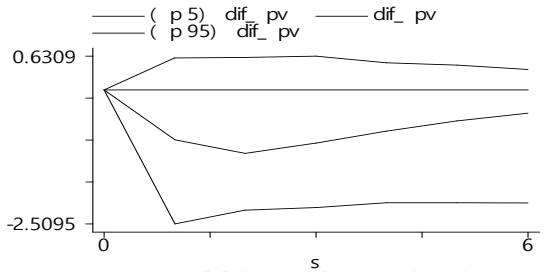
Table 4. Empirical results from PVAR modeling

response of	response on				
	FDI (t-1)	Δ (GDP) (t-1)	Δ (PV) (t-1)	ECONF (t-1)	ICONF(t-1)
FDI (t)	0.1009	-2.8857	0.0050*	-0.0022**	0.0130**
	(0.3298)	(7.0610)	(0.0059)	(0.0143)	(0.0133)
Δ (GDP) (t)	0.0008*	-0.10999	-0.0001*	9.369e-06*	0.0002*
	(0.0005)	(0.1374)	(0.0001)	(0.0003)	(0.0000)
Δ (PV)	-1.6501	40.4407	0.0993	0.4022	0.5390
	2.5358	95.4042	0.0776	0.1435	0.1601
ECONF (t)	-3.1214	0.379102	0.0602	0.6856	0.0729
	2.3222	132.5382	0.0718	0.1541	0.2050
ICONF (t)	-2.5669	-11.5860	0.0429	-0.0244	0.7629
	2.0367	104.8546	0.0504	0.1180	0.1234

Note: *, ** and *** denote the significance at 1%, 5% and 10%; N= 588 observations.



Response of FDI to Δ.GDP shock



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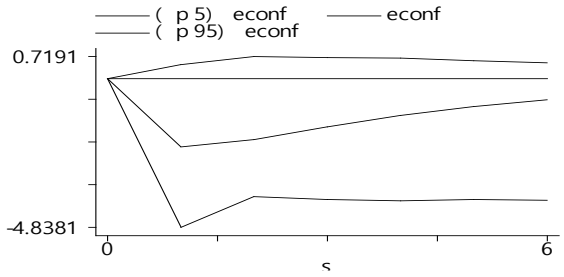
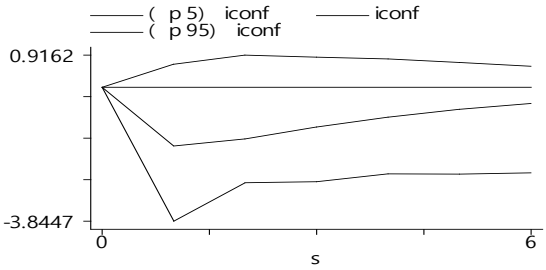
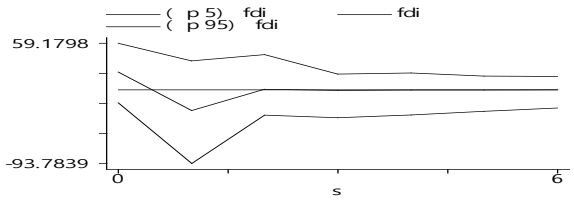


Response of FDI to ECONF shock

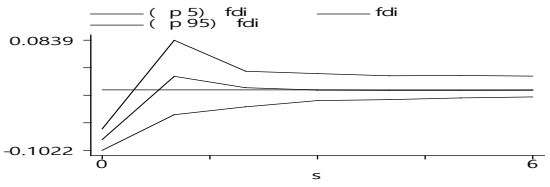


Response of FDI to ICONF shock

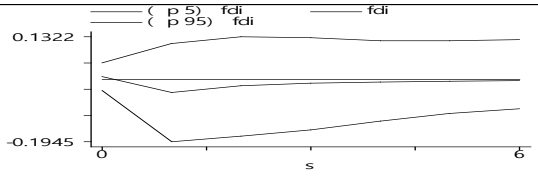
Figure 1. Impulse response functions IRFs: Response of FDI to each variable shock.; Errors are 5% on each side generated by Monte-Carlo with 1000 reps.



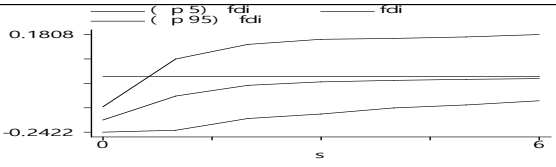
Response of d.GDP to FDI shock



Response of d.PV to FDI shock



Response of ECONF to FDI shock



Response of ICONF to FDI shock

Figure 2. Impulse response functions IRFs: Response of each variable to FDI shock.; Errors are 5% on each side generated by Monte-Carlo with 1000 reps.

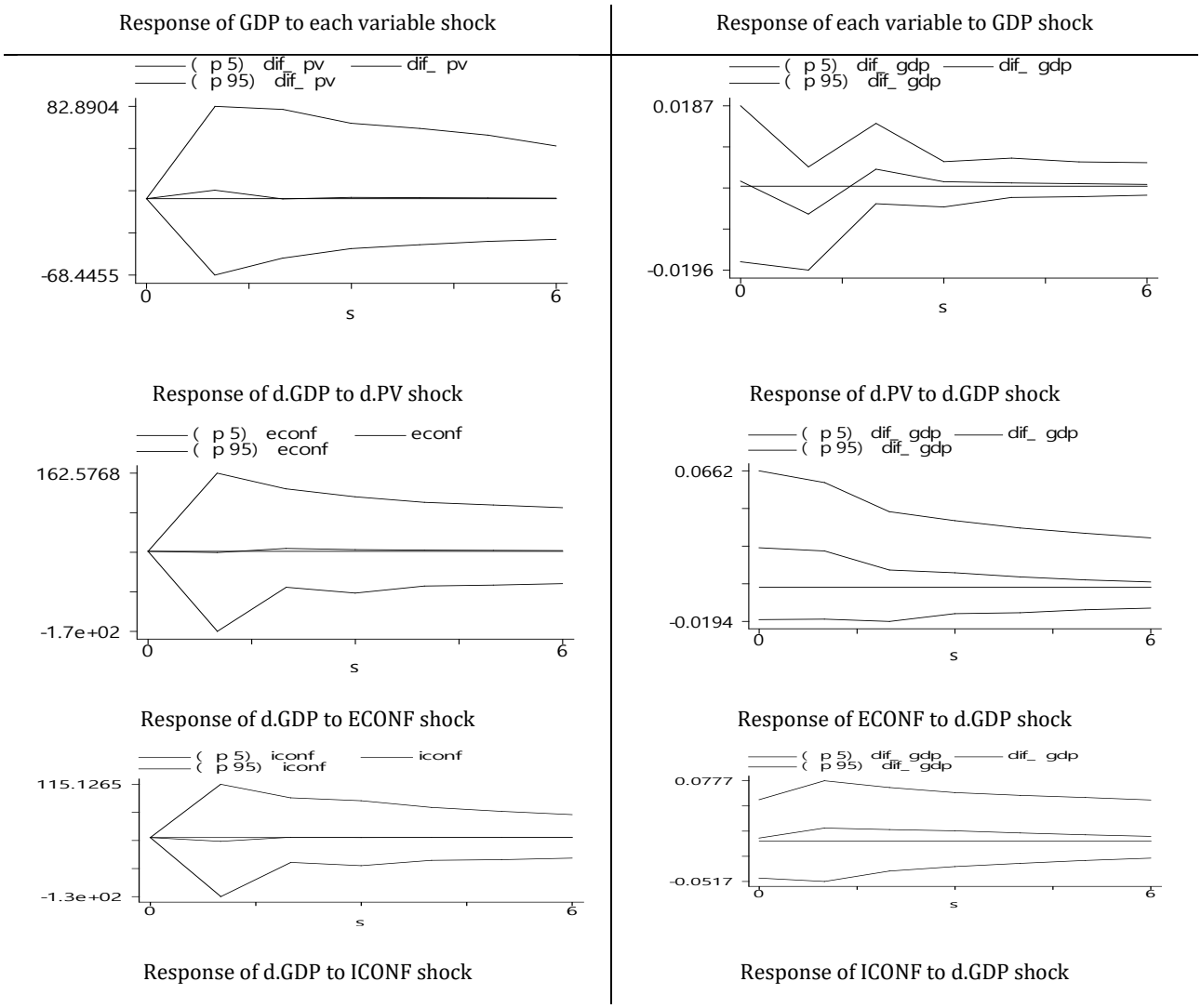


Figure 3. Impulse response functions IRFs: Response of/to GDP shock.; Errors are 5% on each side generated by Monte-Carlo with 1000 reps.

CONCLUSIONS

The research article empirically investigated the dynamic relationship between FDI, some components of political risk, and economic growth. To address this question, this study used the PVAR model. As previously mentioned, this model identifies all variables as endogenous and interdependent, and all feedback effects are explicitly incorporated into the equation. The results of the regression model reveal that FDI positively relates to internal conflicts and political stability in Sub-Saharan African countries. However, the impact of economic growth and external conflicts is negative and significant. In addition, FDI internal and external conflicts affect positively and significantly economic growth. However, the impact of political stability on economic growth is found to be negative and significant. On the other hand, the interaction between foreign direct investment and political stability is negative and insignificant. Finally, internal and external conflicts are negatively affected by foreign direct investment. However, they are positively influenced by political stability. As for the nature of shock, the results reveal that the impulse response of socks from each variable is permanent and transitory in nature. As highlighted in the literature, researchers have taken a keen interest in the determinants of FDI. The reported results have been mixed. According to a report by the Economic Intelligence Unit, High political risk does not prevent FDI. Foreign investors' location choices are based on macroeconomic conditions rather than political risk, contrary to common belief (EIU, 2007). Natural resources, for example, have an important influence on total FDI attractiveness and decision-making. Some studies (Asiedu and Esfahani, 2001; Asiedu, 2006; Dupasquier and Osajwe, 2006) suggest that Africa's richest countries in terms of natural resources attract more FDI.

Foreign direct investment is becoming a major source of helping to boost the financing for economic diversification in SSA countries. The presence of business opportunities in the extractive sector, the relocation of light manufacturing from emerging countries such as China, the establishment of special economic zones, and better investment policy regimes are among the drivers of FDI inflows to Africa. Africa has great growth potential but is still not tapped yet. Labor and natural resource endowments in Africa are insufficient to attract financial capital. Other endowments are considered. Low public capital (e.g., poor infrastructure such as transport energy), low human capital (e.g., healthy labor force, the deficit of skills), and low institutional capital (poor regulatory

authorities and standards, poor property rights, and poor security and judicial systems) are all critical. Consequently, a considerable improvement in these capitals increases the productivity of physical and financial capital and lowers the cost of doing business. When they are given directly by investors, they serve as taxes on investment returns.

Our study admits that each SSA country is unique and should be treated on its own merits. Then, using the time-series approach to determine this relationship may provide us with more robust policy suggestions in this important study field. This remains an important research challenge in the future.

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Appendix A. The impulse response functions.