

FOREIGN DIRECT INVESTMENT, POLITICAL BUSINESS CYCLES AND WELFARE IN AFRICA

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Abstract: We examine the relation between foreign direct investment (FDI), elections and welfare in Africa using data from 1990 to 2014. Our results show evidence that elections play a positive role in altering the relationship between FDI and welfare as they are considered by investors as risk reduction events. Interestingly, when we split the sample based on the quality of institutions, we find that the interaction between FDI and elections is mostly insignificant in countries with strong institutions. However, the interaction between FDI and elections is positive and significant in countries with weak institutions. © 2019 John Wiley & Sons, Ltd.

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1 INTRODUCTION

Foreign direct investment (FDI) across the world has increased significantly over the past three decades given the liberalisation in the flow of funds in most economies, especially in developing economies (Okamoto, 1994; Basu, Chakraborty, & Reagle, 2003; Chakraborty & Nunnenkamp, 2008). This is likely attributable to the numerous benefits associated with FDI, such as the transfer of technology, provision of capital, availability of advanced management techniques and the possibility of spillover effects to the recipient economy (Kokko, Tansini, & Zejan, 1996; Loungani & Razin, 2001; Zhao & Zhang, 2010). However, most studies have not found a positive effect of FDI on economic growth. Indeed, some studies have found no relationship or a detrimental impact of FDI on economic growth in Africa (e.g. Adjasi, Abor, Osei, & Nyavor-Foli, 2012; Agbloyor, Abor, Adjasi, & Yawson, 2014; Gui-Diby, 2014; Adams & Opoku, 2015; Gui-Diby & Renard, 2015; Agbloyor, Gyeke-Dako, Kuipo, & Abor, 2016). This negative impact is

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due to a number of reasons. First, in countries like Nigeria, it has been argued that FDI has not had a significant impact on growth, because it is concentrated in the oil sector, which has little linkages with the rest of the economy (e.g. Akinlo, 2004). Further, it has also been argued that multinational corporations (MNCs) outcompete local firms leading to an overall negative impact on the host country (e.g. Aitken & Harrison, 1999; Djankov & Hoekman, 2000; Konings, 2001; Zukowska-Gagelmann, 2000). This is because MNCs usually have more capital, have higher skilled labour, have access to more advanced technology and may receive preferential treatment from the host government. This negative impact, however, is reversed for countries with the necessary absorptive capacities (Adjasi *et al.*, 2012; Agbloyor *et al.*, 2014; Gui-Diby, 2014; Adams & Opoku, 2015; Gui-Diby & Renard, 2015; Agbloyor *et al.*, 2016).

In this paper, we examine the effect of FDI on welfare when we interact FDI with elections. Our aim is to investigate whether elections help African economies transform the negative impact of FDI on welfare (as established in previous studies) into a positive one. It may also be possible that elections magnify the negative impact of FDI on welfare if elections increase the level of uncertainty. This paper takes its motivation from Julio and Yook (2016) who find that FDI flows from the USA to destination countries decrease in election quarters. Further, they find that the impact of elections (political uncertainty) on FDI is mitigated in countries with strong institutions. Similar to Julio and Yook (2016), we examine the effect of elections on FDI flows. We expect that elections may have a negative or positive effect on FDI flows. A negative effect will be in line with Julio and Yook (2016), who suggest that elections create political uncertainty due to the possible change in governments and government policies. A positive relation on the other hand will suggest that elections reduce political uncertainty and make these countries more attractive to foreign investors.

Beyond the investigation of Julio and Yook (2016), we investigate how FDI interacts with elections to influence welfare. It is against this backdrop that we aim at contributing to the extant literature. Uncertainty due to elections could magnify the negative effect of FDI on welfare. Elections may also lead to a positive impact of FDI on welfare. This is because incumbents are likely to implement sound monetary and fiscal policies prior to elections to increase their chances of being elected. These will mean that the environment for FDI during electioneering periods is more likely to be positive, thus enhancing the impact of FDI on welfare. This advances the argument that good policies will be chosen prior to elections, following the political business cycle arguments put forth by Nordhaus (1975). Further, instead of elections increasing uncertainty, they may reduce uncertainty in the African setting. This is because elections represent a deepening of the democratic credentials of a country. Thus, elections may actually signal a reduction in risk and therefore can enhance the effect of FDI on welfare.

Africa presents a fine test case because of its democratic experiment. Indeed, right after independence, most African countries had dictators governing them and practised a one-party state system. However, in recent times, especially starting from the 1980s and the early 1990s, most African countries have made strenuous efforts to improve their democratic credentials. It is within this context that we propose the examination of how elections interact with FDI to influence welfare outcomes.

Our aim in this paper is to, therefore, examine the effect of elections on FDI flows and how elections may alter the relationship between FDI and welfare. The rest of this paper is structured as follows: Section 2 presents an overview of elections and political regimes in Africa. Section 3 reviews the extant literature on FDI, elections and welfare. In Section 4,

we present the empirical methods adopted in this paper. We present results from our empirical analysis in Section 5. Finally, we conclude in Section 6.

2 OVERVIEW OF ELECTIONS AND POLITICAL REGIMES IN AFRICA

Democracy is a system of government by the whole population in which representatives are elected to represent the entire population in order to make decisions and governance concerning the entire economy easier (Przeworski, 1991; Kimber, 1989; Oxford English Dictionary). Given that elections are the bedrocks of most democratic dispensations, this study employs elections including both parliamentary and presidential elections in Africa as measure for democracy.

Appendix 1 and 2 present the number of elections and the years of elections in 49 African countries. The appendices present information on election events between 1990 and 2014 in 49 African countries. The data show that election events between these periods amount to 218. It was observed that most countries in Africa run presidential elections concurrently with parliamentary elections. However, not all countries in Africa undertake presidential elections as some countries practice monarchy system of presidential elections. Of the total number of elections events (218 elections) that occurred during the period understudy, 90.13 per cent representing 198 elections constituted elections where both presidential and parliament elections were run concurrently while 9.87 per cent representing 20 elections did not include presidential elections. Specifically, we observe that Eritrea, Lesotho, Libya, Morocco and Swaziland did not undertake presidential elections. These countries held only parliamentary elections.

Specifically, elections in Eritrea select representatives from the country's six regions for the National Assembly. Lesotho as well holds elections for their parliamentary seats and not the presidential. This form of parliamentary elections replicates itself for Libya, Morocco and Swaziland. In Eritrea, elections are held for the representatives of the National Assembly. Regional and local district elections are held too with the recent event in April, 2014. Despite plans for election in 1997 failed, regional and local elections took place in December, 2002, and May, 2004. The election of the president was done by the National Assembly in 1993. No other presidential election has occurred in Eritrea, although plans were made. Similarly, Lesotho conducts general elections for its legislature. The members of the legislature have an office term of 5 years. The legislature votes into power the prime minister who exercises the executive powers of government.

The Libyan government has been holding national elections through a hierarchy of people's committees. The general people's congress elects the head of the government; nevertheless, the Libyan rule has never seen presidential elections. However, presidential elections were scheduled to take place on the 10 December, 2018. The last parliamentary election that was held was on the 25 June, 2014. Out of eight parliamentary elections, none is a presidential election. Morocco is run on Monarchy. There is a king. A president, just like a prime minister in other jurisdictions, is chosen by the King of Morocco from the largest party elected to parliament. The Constitution of Morocco grants executive powers to the government. Moroccan elections are held for the legislature. Morocco has had a multi-party system since independence in 1956, with a number of political parties. Since its independence, no one party often has a chance of gaining power alone; coalition governments are usually required.

The practice of Monarchy is very much existent in Swaziland. Election in Swaziland is conducted to elect the members of parliament. The parliament of Swaziland is elected upon and appointed by the King. Election is by secret ballot. The parliament is made of two chambers: a house of assembly and the senate. Members of both chambers serve for 5-year terms. All candidates run on a non-partisan basis, as political parties are banned.

At the country level, seven countries including Algeria, Ghana, Guinea-Bissau, Mauritania, Mauritius, Tunisia and Zambia record the highest number of election events of six each. In terms of yearly trends in election events in Africa between 1990 and 2014, 2008 and 2013 were the years in which election events recorded their lowest occurrence of four each. On the other hand, 2011 and 1996 recorded the years with the highest number of election events with each year recording 15 and 14 election events, respectively.

3 LITERATURE REVIEW

The level of FDI inflows in Africa can be said to have a significant impact on the economic growth of a country. Extant literature of the relationship between FDI and welfare does not account for the contributing effect of elections and election periods to welfare outcomes. In other words, extant literature does not provide answers to the question 'to what extent does election in Africa aid in enhancing the impact of FDI on welfare?'

Theories that describe the political economy of growth can be categorised into three schools of thoughts, namely, conflict, compatibility and sceptical (Sirowy & Inkeles, 1991). The conflict school of thought is known to have been proposed by Karl Marx, while the compatibility and sceptical schools of thought emanate from the classical economic perspective (Alesina & Rodrik, 1992; Benhabib & Rustichini, 1996). The conflict school of thought argues that the democracy of an economy, particularly less developed countries, hinders its economic growth (Huntington, 1968; Kurzman, Werum, & Burkhart, 2002). The compatibility school of thought rejects the hypotheses of the conflict school and argues that democracy enhances economic growth (Sirowy & Inkeles, 1991; Przeworski & Limongi, 1997; Gasiorowski, 2000; Nelson & Singh, 1998; Durham, 1999, as cited in Baum & Lake, 2003).

According to Feng (1997), proponents of the democratic model claim that democratic governments in less developed countries perform well in fostering 'sustained and equitable economic development'. The compatibility school of thought maintains the argument that democratic procedures, the existence and exercise of fundamental civil and political rights create favourable social conditions that enhance economic development. This school asserts that both political freedom and economic freedom enhance property rights and market competition, resulting in economic growth. The last but not the least school of thought is the sceptical school of thought. This school puts forward the argument that the presence of a democratic government alone will result in a less than average growth in an economy (Pye, 1966; McKinlay & Cohan, 1975, as cited in Feng, 1997). This school posits that the combination of a democratic government and institutional structures and strategies is key for higher levels of economic growth.

Przeworski and Limongi (1997) examined the effect of democracy on economic growth. The authors explored theories and arguments for and against the nexus between political regimes and economic growth. They argue that political institutions matter for economic

growth. Feng (1997) also examined the effect of democracy and political stability on economic growth. The study employed a simultaneous equation model, which allows the reciprocal relationships between democracy, political stability and economic growth to be investigated, using data covering 96 countries for the period of 1960 to 1980. The findings of the study indicate that democracy provides a stable political environment, which reduces unconstitutional and irregular governmental changes. Democracy, together with regime stability, offers flexibility and the opportunity for substantial political change within the political system, and this fosters growth. Positive but indirect effects of democracy on growth are well seen through investment and education. Alesina, Özler, Roubini, and Swagel (1996) examined the effect of political stability on economic growth using simultaneous equations for 113 countries over the period 1950–1982. Their findings indicate that political instability has a negative effect on economic growth. They further find that the effect of low economic growth on political instability is strong for countries that have experienced coup d'états but not so strong for other types of regime changes. Their findings show that political stability is persistent, meaning that previous incidents of instability lead to further instability in the future. Finally, they find no significant difference between the growth rate of democracies and authoritarian governments.

Masaki and Van de Walle (2014) examine the impact of democracy on economic growth in sub-Saharan Africa (SSA) using data on 43 countries for the period of 1980 to 2012. The findings of this study indicate that democracy has a positive effect on economic growth. Moricz (2012) examines the causal effect of local elections of district heads on economic growth at the district level in Indonesia using a quasi-experimental approach. The findings do not show a significant effect of local elections on economic growth. However, elections had a positive and significant effect in advanced islands: Java and Bali. Vergne (2009) overcomes traditional political budget cycles models, focusing solely on the dynamics of aggregate government expenditure and deficits, in order to shed light on electoral composition changes in public spending. The study used data on 42 developing countries from 1975 to 2001. According to Vergne (2009), elections eliminate incompetent politicians and give those in power an incentive to put in effort. Elections are believed to provide suitable incentives for efficient governance. Politicians may change the composition of expenditure in an election year, without increasing the overall budget deficit. Her findings show that election year's public spending shifts towards more visible current expenditure, wages and subsidies in particular, and away from capital expenditure.

Merlevede and Schoors (2004) investigate how policy reforms in some countries affect the FDIs and the economic growth levels of those countries. This is considered important in literature as most policy reforms in developing countries go hand in hand with new administrations or governments in power who are elected via a democratic process. Their findings indicate that new reforms affect economic growth negatively but have a positive effect on FDI. Their findings also indicate that the level of past reform leads to higher growth. Further, their findings show that reform reversals contribute to lower growth. Addison and Heshmati (2003) examined the effect of information and communication technology and democracy on FDI flows to developing countries using panel data techniques. Their findings suggest that both information and communication technology and democracy have positive effects on FDI flows. Owen (2016) investigates whether the attraction of inward FDI enhances the electoral fortunes of incumbent parties. The findings from this study provide support for the assertion that FDI inflows have a large and positive effect on the electoral fortunes of incumbent parties. Thus, the announcement of an investment project increases the vote share and the probability of re-election of the

incumbent's party. Guerin and Manzoichi (2009) find that democracy has a positive effect on FDI from advanced to emerging economies. The findings of this study further indicate that parliamentary democracies are more likely to attract FDI compared with presidential democracies.

4 METHODS

We utilise data on African economies covering the period 1990–2014. The data start from 1990 mainly because most African countries embarked on their democratic experiments from the 1990s. We construct a panel data set for African economies (see Appendix 2 for the list of countries) to give us a unique opportunity to explore the cross-sectional and time series variation of the data. The panel approach also enables us to account for continuously evolving country-specific differences in technology, production and socio-economic factors.

4.1 Effect of Elections on Foreign Direct Investment

We present the following equation that estimates the effect of elections on FDI:

$$FDI_{it} = \alpha + \beta_1 \text{Elections}_{it} + \sum_{j=2}^N \beta_j X_{it} + \varepsilon_{it} \quad (1)$$

The dependent variable is FDI. This is measured as net FDI inflows/GDP.

β_1 represents the coefficient of elections. The election variable was obtained mainly by searching online to find out when elections were held in a particular country. The elections variable was constructed as a dummy, with a value of 1 in election years and 0 otherwise.

The vector X contains a list of control variables. These include gross domestic product (GDP) per capita, merchandise trade (measured as the sum of exports and imports scaled by GDP), natural resources (measured as natural resource rents as a percentage of GDP), inflation (changes in the consumer price index), financial openness (Chinn & Ito's, 2008, measure of financial openness), infrastructure (proxied as the number of telephone lines per 100 of the population) (see Heeks, 2010), population growth (see Hoffmann, Lee Ramasamy and Yeung, 2005) and institutions (average of rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability following Kaufmann, Kraay, & Mastruzzi, 2011). Institutions and its components range from 0 to 100, with higher values indicating better institutional outcomes.

We expect a positive relationship between GDP per capita and FDI. This suggests that FDI flows go to countries with a higher income level because of their ability to consume more especially in the case of market-seeking FDI. The data on GDP per capita were obtained from the World Development Indicators. GDP per capita is used to proxy market size. Okafor (2015) finds a positive relationship between GDP per capita growth and FDI into SSA. We expect a positive relationship between trade openness and FDI (Asiedu, 2002; Agbloyor, Abor, Adjasi, & Yawson, 2013). The data on merchandise trade were obtained from the World Development Indicators.

We expect either a positive or negative relationship between natural resources and FDI in Africa. The data on natural resources were obtained from the World Development Indicators. A positive relationship suggests that natural resources attract FDI flows into

the continent. A negative relationship on the other hand suggests evidence of an FDI/natural resource curse. For example, Asiedu (2006) finds that natural resources attract FDI to Africa. However, Asiedu (2013) finds that natural resources have a negative impact on FDI for 99 developing countries. Okafor (2015) also finds a negative relationship between FDI and natural resources in SSA. We expect a negative relationship between inflation and FDI. This is because macroeconomic imbalances are likely to dissuade foreign investors from investing in the continent. For example, Asiedu (2006) finds a negative relationship between inflation and FDI. The data on inflation were obtained from the World Development Indicators.

We expect a positive relationship between financial openness and FDI flows suggesting that financial openness promotes FDI. For example, Agbloyor *et al.* (2013) find a positive relationship between financial openness and FDI flows in Africa. The data on financial openness were obtained from Chinn and Ito. We expect a positive relationship between infrastructure and FDI. The data on telephone lines per 100 of the population, which are used to proxy infrastructure, were obtained from the World Development Indicators. Asiedu (2002) finds a positive relationship between infrastructure and FDI flows to SSA.

We expect a positive relationship between population growth and FDI. The data on population growth were obtained from the World Development Indicators. We also expect a positive relationship between institutions and FDI suggesting that institutions promote FDI flows. The data on institutions were obtained from the World Governance Indicators housed by the World Bank.

$\varepsilon_{it} = v_i + \eta_{it}$ is the composite error term.

4.2 The Independent Effect of Foreign Direct Investment and Elections on Welfare

In estimating the independent effects of FDI and elections on welfare, we specify the model to be estimated as follows:

$$y_{it} = \alpha + \beta_1 \text{FDI}_{it} + \beta_2 \text{Elections}_{it} + \sum_{j=3}^N \beta_j X_{it} + \varepsilon_{it} \quad (2)$$

where y_{it} is log of real GDP per capita in constant US\$2000 for country i in time t , β_1 represents the coefficient of FDI/GDP and β_2 is the coefficient of the elections variable.

$\varepsilon_{it} = v_i + \eta_{it}$ is the composite error term.

In estimating the effect of FDI and elections on welfare, we control for trade, natural resources, inflation, savings, population growth, human development, financial development and institutional quality. These represent the variables in the vector X_{it} . We expect a positive relationship between trade openness and welfare. This suggests that trade openness should promote welfare. We expect a negative relationship between natural resources and welfare, suggesting the presence of a natural resource curse. We expect a negative relationship between inflation and welfare, suggesting that macroeconomic uncertainty reduces welfare. We expect a positive relationship between savings and welfare. We expect a positive relationship between human development and welfare. We proxy human development with the human development index. Human development measures the average achievements in a country across three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. The data on human development were obtained from the United Nations Development Programme. Consequently, countries with a higher level of human capital should achieve

better welfare outcomes. For example, Benhabib and Spiegel (1994) and Ranis, Stewart, and Ramirez (2000) find a positive and significant relation between human development and economic growth.

We expect a negative relationship between population growth and welfare. This is because an increase in population can put pressure on limited resources such as infrastructure, education and health. We expect a positive relationship between financial development (proxied by the level of private credit to GDP) and welfare based on the finance–growth literature, starting from King (1993a & b). We expect a positive relationship between institutions and welfare. This suggests that countries with good institutions should achieve better welfare outcomes.

4.3 The Interactive Effect of Elections and Foreign Direct Investment on Welfare

Because FDI may not have an independent impact on welfare, we also estimate a second equation to capture the interactive effect between FDI and elections.

$$y_{it} = \alpha + \beta_1 \text{FDI}_{it} + \beta_2 \text{Elections}_{it} + \beta_3 (\text{FDI}_{it} * \text{Elections}_{it}) + \sum_{j=4}^N \beta_j X_{it} + \mu_{it} \quad (3)$$

where β_3 represents the interactive effect between FDI and elections.

$\mu_{it} = \varnothing_i + \sigma_{it}$ and \varnothing_i represent individual country effects.

4.4 Estimation Technique

The Prais–Winsten (1954) estimation technique is a linear regression technique that gives room for correcting heteroskedastic and serially correlated residuals. It is a generalised least square (GLS) estimation that affords researchers added advantages compared with the Cochrane–Orcutt, which is also used to correct heteroskedastic and serially correlated residuals. Thus, the Prais–Winsten has the advantage of correcting serial correlation that is closer to 1 compared with the Cochrane–Orcutt, hence providing more robust estimates. Furthermore, the Prais–Winsten estimation provides more reliable and efficient results as the Cochrane–Orcutt uses the first observations as lags to correct for heteroskedastic and serially correlated residuals, hence reducing the number of observations and the relative efficiency of the estimator. Moreover, the Prais–Winsten estimation technique provides the opportunity of suppressing the constant in the regression for relatively efficient estimates, unlike in the case of the GLS fixed effect regression. Finally, Judge *et al.* (1985) posit that the asymptotic results show that the feasible Prais–Winsten estimator is the best in most applied situations, hence making the Prais–Winsten a better estimation within the GLS class of estimators.

5 RESULTS

In this section, we present the results from the empirical estimations. We present the summary statistics first, followed by the correlation results and the regression results. The descriptive statistics are presented in Table 1. The mean of FDI is about 4 per cent of GDP over the sample period. This suggests that FDI has been an important source of

Table 1. Summary statistics

Variable	Obs	Mean	SD	Min	Max
FDI	1193	3.9841	9.9214	-82.8921	161.8237
Electoral events	1225	0.1780	0.3826	0.0000	1.0000
Market size	1210	1566	2770	64	28 937
Trade openness	1217	0.5959	0.5175	0.0491	9.8665
Natural resources	1209	0.1381	0.1435	0.000007	0.8917
Inflation	1123	0.7413	10.3894	-0.3584	244.1103
Financial openness	1206	-0.6858	1.1842	-1.8948	2.3892
Infrastructure	1208	2.7501	4.6140	0	31.5035
Savings	1110	11.8594	21.0180	-152.5373	83.2870
Human capital	1225	0.4131	0.1871	0.0000	0.7790
Population growth	1222	2.4297	1.0550	-6.3428	7.9887
Financial development	1164	20.2580	22.6260	0.1983	160.1249
Institutions	776	30.2693	17.9881	2.9942	76.8399
Rule of law	783	29.6416	20.3737	0.4695	83.2536
Government effectiveness	783	28.1139	20.6786	0.9479	81.2500
Control of corruption	778	31.6523	21.4235	0.4739	85.8537
Political stability	781	32.6711	21.9312	0.4762	92.7885
Regulatory quality	784	29.5523	18.6106	0.4739	83.6539
Voice and accountability	784	29.1756	19.5430	0.4695	78.8462

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Market size is GDP per capita. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Financial openness is Chinn and Ito's financial openness variable. Infrastructure is the number of telephone lines by 100 of the population. Savings are gross national savings divided by GDP. Human capital is the human development index. Population growth is the growth in population. Financial development is private credit to GDP. Institution is the aggregate of the six indicators from the World Governance Indicators, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability.

development finance for African countries. This is because FDI flows have exceeded portfolio investments and cross border bank lending. Further, FDI flows have compared favourably with remittance inflows. For example, in 2014, FDI formed 2.4 per cent of GDP for SSA countries while remittances formed about 2.2 per cent of GDP of SSA countries (based on data from the World Development Indicators). The mean of elections was 17.80 per cent. This suggests that elections took place in almost 1/5th of the years of our sample. Thus, elections were held in one of about every five or so years for the countries in our sample.

Trade openness recorded a mean of about 60 per cent. This suggests that Africa is open to trade. Natural resources recorded a mean of 13.81 per cent. Equatorial Guinea recorded the highest observation for natural resources. Inflation recorded a mean of 74.13 per cent. This suggests that African countries have experienced high levels of macroeconomic imbalances. Zimbabwe recorded the highest inflation levels. The mean of financial openness was -0.6858. This suggests that most African countries are not financially open. Egypt, Gambia, Liberia, Mauritius, Uganda and Zambia recorded high levels of financial openness. The mean number of telephone lines per 100 of the population was 2.75. This suggests that infrastructural quality in Africa is low. The mean level of savings was 11.86 per cent. This suggests that the level of savings in Africa is also low.

Population growth recorded a mean of about 2.4 per cent, suggesting that Africa has a high population growth rate. This is because most of its population is young. Human

development recorded a mean of 0.4131. This shows that the level of human capital in Africa is low according to the United Nations Development Programme's categorisation. Private credit recorded a mean of 20 per cent. The level of savings and credit to the private sector suggests that the level of financial development in Africa is low. The aggregate institutional indicator recorded a mean of 30. This suggests that the quality of institutions in Africa is low or poor. The same observation applies to the various indicators of institutional quality, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability.

The correlation results are presented in Table 2. The correlations show a positive association between FDI and elections. There is a negative correlation between welfare and FDI. We find a positive correlation between elections and welfare. The various institutional quality indicators are positive and highly correlated. Consequently, we do not include them together in the regressions. The correlation matrix generally does not suggest that multi-collinearity should be a problem in our data. Because correlations only show the relationship between the two variables without controlling for the effect of the other variables, we present the results from the formal econometric analysis in Table 3.

In Table 3, we present the results that estimate the effect of elections on FDI. We do not find a significant relationship between elections and FDI flows. This means that elections play no role in influencing FDI flows. Although we report the contemporaneous effect of elections on welfare, we also experimented with lag and lead values of elections. These were not significant either and thus have not been reported. Our results are contrary to Julio and Yook (2016) who found a negative relationship between elections and FDI.

We found a negative relationship between income levels and FDI flows, suggesting that countries that have higher income levels receive lower FDI flows. This may suggest that investors find more opportunities with higher returns in low-income economies compared with high-income economies. Further, it confirms that most FDI into Africa is not market seeking (Asiedu, 2002). The level of GDP per capita is important for market-seeking FDI as opposed to resource-seeking FDI, which a number of African countries attract.

Trade had a positive and significant relationship with FDI flows. This suggests that countries that are more open to trade tend to receive higher FDI compared with those who are less open to trade. This is because MNCs may want to export some of their produce. Indeed, most FDI into Africa is not market seeking in nature, meaning that the level of trade openness should matter to investors (i.e. for resource-seeking FDI). Thus, trade openness becomes essential to their decision to invest in a particular country. Indeed, most FDI into Africa is natural resource seeking as opposed to market seeking. These resources are typically exported outside of the continent, suggesting that trade openness is a factor that attracts FDI flows. These results are similar to Asiedu (2002) and Agbloyor *et al.* (2013).

We find that natural resources have a positive effect on FDI flows. This suggests that countries endowed with natural resources tend to receive more FDI flows. Thus, the results suggest that natural resources pull or attract FDI into African economies. Inflation had a negative relationship with FDI flows. This suggests that macroeconomic instability discourages FDI flows because of the increased uncertainty posed to MNCs. These results are similar to Agbloyor *et al.* (2013), who found a negative relationship between inflation and FDI in Africa.

We also find that countries that are more financially open tend to attract more FDI inflows. This is because financial openness makes it easier to transfer capital across

Table 2. Correlation results

	1	2	3	4	5	6	7	8	9	10
Market size (1)	1									
FDI (2)	-0.0116	1								
Electoral events (3)	0.0071	0.303	1							
Trade openness (4)	0.0836	0.1883	-0.0116	1						
Natural resource (5)	-0.0058	0.2395	-0.0726	0.4152	1					
Inflation (6)	-0.0551	-0.0175	-0.0283	0.0154	0.0457	1				
Financial openness (7)	0.0854	0.0943	0.0349	0.0144	-0.1274	-0.0439	1			
Infrastructure (8)	0.6219	-0.0463	0.0272	0.0473	-0.1788	-0.0249	0.2167	1		
Savings (9)	0.5629	-0.2431	-0.0434	0.0149	0.1697	-0.0141	-0.1275	0.2105	1	
Population growth (10)	-0.2852	0.1087	-0.0044	-0.0807	0.1679	0.0182	-0.0360	-0.4304	-0.0593	1
Human capital (11)	0.7130	-0.0646	0.0311	-0.0344	-0.1258	-0.0106	0.1368	0.5453	0.4099	-0.2513
Financial development (12)	0.4761	-0.0496	0.0464	-0.0154	-0.3044	-0.0498	0.1069	0.6265	0.0800	-0.3004
Institutions (13)	0.4016	-0.0188	0.0391	0.0450	-0.3426	-0.0474	0.2050	0.4536	0.0999	-0.2736
Rule of law (14)	0.3900	-0.0260	0.0501	0.0314	-0.3496	-0.0523	0.2409	0.4859	0.1070	-0.2813
Governance effectiveness (15)	0.3930	-0.0538	0.0282	0.0197	-0.3616	-0.0331	0.1792	0.4779	0.1502	-0.3070
Control of corruption (16)	0.3315	-0.0203	0.0423	0.0532	-0.3706	-0.0471	0.1523	0.4124	0.0076	-0.3267
Political stability (17)	0.4529	0.0433	0.0231	0.1271	-0.1835	-0.0318	0.1631	0.3835	0.1387	-0.2092
Regulation quality (18)	0.3721	-0.0448	0.0336	-0.0053	-0.3352	-0.0554	0.2530	0.3959	0.1548	-0.2210
Voice and accountability (19)	0.2562	-0.0068	0.0539	0.0065	-0.2941	-0.0427	0.1393	0.3350	-0.0130	-0.1469

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Market size is GDP per capita. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Financial openness is Chinn and Ito's financial openness variable. Infrastructure is the number of telephone lines by 100 of the population. Savings are gross national savings divided by GDP. Human capital is the human development index. Population growth is the growth in population. Financial development is private credit to GDP. Institution is the aggregate of the six indicators from the World Governance Indicators, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability.

Table 2. (Continued)

	11	12	13	14	15	16	17	18	19
Market size (1)									
FDI (2)									
Electoral events (3)									
Trade openness (4)									
Natural resource (5)									
Inflation (6)									
Financial openness (7)									
Infrastructure (8)									
Savings (9)									
Population growth (10)									
Human capital (11)	1								
Financial development (12)	0.3896	1							
Institutions (13)	0.4003	0.4702	1						
Rule of law (14)	0.4083	0.4640	0.9657	1					
Governance effectiveness (15)	0.4336	0.5247	0.9400	0.9178	1				
Control of corruption (16)	0.3340	0.4588	0.9207	0.8898	0.8717	1			
Political stability (17)	0.3366	0.2665	0.8512	0.7922	0.6961	0.7252	1		
Regulation quality (18)	0.3899	0.4757	0.9349	0.8978	0.9084	0.8215	0.7125	1	
Voice and accountability (19)	0.2691	0.4049	0.8837	0.8110	0.7810	0.7430	0.7277	0.8079	1

Table 3. Effect of elections on FDI flows

	Model 1	Model 2	Model 3	Model 4
Electoral events	0.7323 [0.7588]	0.7867 [0.7281]	0.7481 [0.7272]	0.7253 [0.7586]
Market size	-2.5257 [0.9732]***	-2.4441 [0.8917]***	-2.4822 [0.9255]***	-2.4923 [0.9429]***
Trade openness	17.6154 [2.7671]***	17.8182 [2.475]***	17.7633 [2.4359]***	17.5583 [2.7699]***
Natural resources	9.3558 [4.4489]**	8.0307 [3.9497]**	8.5398 [4.0348]**	9.2325 [4.3507]**
Inflation	-0.0418 [0.0154]***	-0.0426 [0.0158]***	-0.0425 [0.0157]***	-0.041 [0.0154]***
Financial openness	1.2405 [0.2803]***	1.2498 [0.2846]***	1.2533 [0.2827]***	1.2502 [0.2789]***
Infrastructure	0.1353 [0.089]	0.1529 [0.0861]*	0.144 [0.0819]*	0.1394 [0.0899]
Population growth	1.3016 [0.7157]*	1.3891 [0.6594]**	1.3555 [0.644]**	1.3581 [0.6401]**
Institutions	0.0159 [0.03]			
Trend	0.1638 [0.0777]**	0.1576 [0.0707]**	0.1649 [0.075]**	0.1611 [0.0774]**
Rule of law		0.0017 [0.0228]		
Governance effectiveness			0.0073 [0.0239]	
Control of corruption				0.0127 [0.0248]
Political stability				
Regulatory quality				
Voice and accountability				
_cons	4.0649 [5.8602]	3.855 [5.5248]	3.8963 [5.5033]	3.8915 [5.5845]
p	0	0	0	0
N	711	718	717	712

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Market size is GDP per capita. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Financial openness is Chinn and Ito's financial openness variable. Infrastructure is the number of telephone lines by 100 of the population. Population growth is the growth in population. Institutions are the aggregate of the six indicators from the World Governance Indicators, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability. Robust standard errors in square brackets.

*** $p < 0.01$.
 ** $p < 0.05$.
 * $p < 0.1$.

Table 3. (Continued)

	Model 5	Model 6	Model 7
Electoral events	0.7918 [0.7252]	0.7904 [0.7268]	0.7653 [0.7279]
Market size	-2.6194 [0.8676]***	-2.4169 [0.9349]***	-2.4486 [0.8659]***
Trade openness	17.3227 [2.534]***	17.8896 [2.4622]***	17.6145 [2.4634]***
Natural resources	9.4778 [3.6463]***	7.5413 [4.0553]*	9.0037 [4.0495]**
Inflation	-0.0419 [0.0157]***	-0.0432 [0.0162]***	-0.0415 [0.0152]***
Financial openness	1.2262 [0.281]***	1.2655 [0.2924]***	1.2557 [0.2831]***
Infrastructure	0.135 [0.0966]	0.1609 [0.0839]*	0.1325 [0.0863]
Population growth	1.2336 [0.6366]*	1.4179 [0.6748]**	1.2953 [0.6865]*
Institutions			
Trend	0.1679 [0.0716]**	0.1562 [0.0727]**	0.1563 [0.0693]**
Rule of law			
Governance effectiveness			
Control of corruption			
Political stability	0.0211 [0.0148]		
Regulatory quality			
Voice and accountability		-0.0054 [0.0277]	
_cons	4.7292 [5.6497]	3.8538 [5.5698]	0.0156 [0.0213]
P	0	0	0
N	715	718	718

borders, thus promoting FDI flows. These results are highly significant in all the regressions. There is some evidence that infrastructural development promotes FDI flows. The coefficient of infrastructure enters models 2, 3 and 6, with a positive and significant coefficient. This suggests that countries with better quality infrastructure receive more FDI flows. This is because higher quality infrastructure reduces the cost of doing business and improves the efficiency of businesses. Thus, MNCs are attracted to countries that have better quality infrastructure. Finally, our results show that population growth is positively related to FDI flows. This suggests that an increase in population makes a country more attractive to foreign investors, thus leading to an increase in FDI flows.

In Table 4, we present the results showing the independent effects of FDI and elections on welfare. Thus, the results are presented without the interaction between FDI and elections. The results suggest that FDI has no effect (direct) on welfare in Africa. For example, countries such as Nigeria, which rely on FDI into the natural resources sector, see little or no benefit because these investments have little linkages with the rest of the economy. The finding of no relationship between FDI and welfare is consistent with a number of studies in Africa that find no relation between FDI and growth or a negative relationship between FDI and growth (Adjasi *et al.*, 2012; Agbloyor *et al.*, 2014; Gui-Diby, 2014; Adams & Opoku, 2015; Gui-Diby & Renard, 2015; Agbloyor *et al.*, 2016). We find that electoral events on their own have no significant relationship with welfare. Put differently, there is no direct relationship between electoral events and welfare. We experimented with lead and lag values of elections. These were not significant either. We therefore do not report these results.

In terms of the control variables, trade openness entered the regressions with a positive and significant coefficient. The results are highly significant in all the reported regressions. The results suggest that trade openness has contributed to improving welfare in African countries. This is because an open economy allows countries to export what they have and also import what they need. Generally, we found no significant relationship between natural resources and welfare. Only in model 12 do we see a positive and significant relationship between natural resources and welfare. Thus, we find no evidence of a resource curse in our sample countries. Indeed, when natural resources enter the regressions with a significant coefficient, this coefficient is positive, suggesting that natural resources have contributed to improved welfare in Africa. Inflation does not enter any of the regressions with a significant coefficient.

Savings is positively and significantly related to welfare. This suggests that countries that save more tend to achieve better welfare outcomes. This is because more resources are available to the financial system to be allocated to the productive sectors of the economy. Population growth is negatively and significantly related to welfare. This suggests that an increase in population leads to a reduction in welfare. This is because more people will have to compete over limited resources. Human development enters all the regressions with a positive and highly significant coefficient. This suggests that policies that promote education, health and income positively impact on welfare.

Financial development enters all the regressions with a positive and significant coefficient. This suggests that countries with higher financial development achieve higher welfare outcomes. This is because financial development leads to more efficient intermediation, better corporate governance, improved risk management by firms and so on. In terms of institutional quality, we find that the quality of institutions matters for welfare outcomes. Institutions are positively and significantly related to welfare. The specific institutional indicator that is found to matter is political stability and absence of

Table 4. The independent effect of FDI and elections on welfare

	Model 8	Model 9	Model 10	Model 11
FDI	0.0009 [0.0048]	0.0014 [0.0047]	0.0017 [0.0047]	0.0014 [0.0048]
Electoral events	-0.016 [0.0503]	-0.0213 [0.051]	-0.0216 [0.051]	-0.0156 [0.0503]
Trade openness	1.1052 [0.1301]***	1.1934 [0.1278]***	1.2067 [0.1282]***	1.114 [0.1318]***
Natural resources	0.0038 [0.0027]	0.0015 [0.0026]	0.0006 [0.0028]	0.0031 [0.0026]
Inflation	0 [0.0002]	-0.0001 [0.0002]	-0.0001 [0.0002]	0 [0.0002]
Savings	0.0174 [0.0019]***	0.0184 [0.0019]***	0.0185 [0.002]***	0.0177 [0.0018]***
Population growth	-0.1738 [0.0307]***	-0.1552 [0.0306]***	-0.1511 [0.031]***	-0.1629 [0.0295]***
Human capital	2.7262 [0.2258]***	2.8337 [0.2365]***	2.8901 [0.2418]***	2.7687 [0.221]***
Financial development	0.0071 [0.0008]***	0.0079 [0.0008]***	0.0084 [0.0009]***	0.0075 [0.0008]***
Institutions	0.0037 [0.0018]**			
Trend	0.0279 [0.0044]***	0.0277 [0.0044]***	0.0268 [0.0046]***	0.0277 [0.0044]***
Rule of law		0.0002 [0.0015]		
Governance effectiveness				
Control of corruption			-0.0011 [0.0019]	
Political stability				0.0024 [0.0015]
Regulatory quality				
Voice and accountability				
_cons	4.3579 [0.1384]***	4.3335 [0.1415]***	4.3449 [0.1404]***	4.3464 [0.1399]***
p	0	0	0	0
N	650	654	654	651

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Savings are gross national savings divided by GDP. Population growth is the growth in population. Human capital is the human development index. Financial development is private credit to GDP. Institutions are the aggregate of the six indicators from the World Governance Indicators, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability.

Robust standard errors in square brackets.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 4. (Continued)

	Model 12	Model 13	Model 14
FDI	0.0002 [0.0046]	0.0017 [0.0047]	0.0014 [0.0047]
Electoral events	-0.0165 [0.0493]	-0.0212 [0.051]	-0.0219 [0.0509]
Trade openness	0.9672 [0.1267]***	1.2163 [0.1294]***	1.1863 [0.1286]***
Natural resources	0.0061 [0.0024]**	0.0003 [0.0027]	0.0019 [0.0025]
Inflation	0 [0.0002]	-0.0001 [0.0002]	-0.0001 [0.0002]
Savings	0.0172 [0.0018]***	0.0186 [0.0019]***	0.0184 [0.0019]***
Population growth	-0.1746 [0.0292]***	-0.1483 [0.0314]***	-0.1591 [0.0312]***
Human capital	2.6273 [0.2126]***	2.8774 [0.2275]***	2.8353 [0.2212]***
Financial development	0.0074 [0.0008]***	0.0084 [0.0009]***	0.0077 [0.0008]***
Institutions			
Trend	0.03 [0.0043]***	0.0271 [0.0044]***	0.0276 [0.0043]***
Rule of law			
Governance effectiveness			
Control of corruption			
Political stability	0.007 [0.001]***		
Regulatory quality			
Voice and accountability			
_cons	4.3084 [0.1366]***	4.3509 [0.1416]***	0.0009 [0.0013]
p	0	0	4.3263 [0.1414]***
N	653	654	654

violence. Thus, countries that promote political stability and minimise violence achieve better welfare outcomes compared with their counterparts.

In Table 5, we present the results after including the interaction between FDI and elections. As was found in Table 4, generally, the coefficient of FDI is not significant (i.e. the unconditional effect). Where it is, the impact is negative (see Model 17). The coefficient of elections is not significant just as we found previously. However, we find a positive coefficient between the interaction of FDI and elections (see Models 16, 18, 19, 20 and 21). Thus, the conditional effect of FDI is positive and significant. For example, using Model 16, the net effect of FDI on elections based on the coefficients is as follows: $\text{Welfare} = -0.0057 + 0.0140(\text{Elections}) = 0.0083$ when elections assume a value of 1. The net effect is positive for the other models as well, apart from Model 17. $\text{Welfare} = -0.0057 + 0.0140(\text{Elections}) = -0.0057$ when elections assume a value of 0.

This suggests that elections reduce the negative impact of FDI on welfare or enhance the impact of FDI on welfare. This is because elections serve as a risk reduction signal for foreign investors. This is because in the African setting, elections increase the democratic credentials of a country, thus reducing the country's risk profile. Further, although we do not test this directly, the results suggest that incumbents choose good policies (fiscal and monetary policies) in election years in order to enhance their chances of success. Consequently, the environment for FDI is likely to be friendlier during election years. These findings support the political business cycle arguments put forth by Nordhaus (1975). In terms of the control variables, trade openness, natural resources, savings, human development and financial development have a positive effect on welfare as shown in Table 4. Inflation is not significant as previously. Population growth is negative and significant, as shown in Table 4. Further, institutions are positive and significant as indicated in Table 4. Here, we find that in addition to political stability and the absence of violence, government effectiveness and control of corruption are positive and significant.

To check for the robustness of these results, we also rerun the regressions using a robust fixed effects estimation (based on the Hausman Test). These results are not reported to conserve space but are available upon request. Most of the interaction terms are significant [six out of the seven regressions (at 10%)]. The net effects are negative, but they are less negative than the effect of FDI alone, meaning that elections reduce the negative effect of FDI on welfare.

Although elections generally send good signals to investors about the local environment, for countries with poor institutions, elections may prove more important in communicating issues about the local environment to investors, compared with countries with good institutions. Therefore, in Tables 6 and 7, we examine whether the effect of FDI and elections on welfare is contingent on the quality of institutions. Thus, we classify countries (country observations) as having good or poor institutions depending on whether they fall above or below the median value for the specific institutional indicator in a particular year. Those countries that fall above the median value are classified as having good institutions, and those that fall below the median value are classified as having poor institutions for that particular year. Because we split the sample based on the quality of institutions, we do not include the measures of institutional quality in the regression results. We now present the results from this empirical experiment.

Table 5. The interactive effect between FDI and elections on welfare

	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
FDI	-0.0061 [0.0049]	-0.0057 [0.005]	-0.0175 [0.006]***	-0.0058 [0.0049]	-0.0069 [0.0048]	-0.0054 [0.0049]	-0.0058 [0.0049]
Electoral Event	-0.0836 [0.0574]	-0.0901 [0.0576]	-0.1194 [0.0716]*	-0.0841 [0.0573]	-0.0857 [0.0558]	-0.0897 [0.0575]	-0.0913 [0.0575]
FDI-Electoral Events	0.0137 [0.0084]	0.014 [0.0083]*	0.01 [0.0113]	0.0139 [0.0085]*	0.0141 [0.0081]*	0.0139 [0.0082]*	0.0141 [0.0083]*
Trade Openness	1.1078 [0.1284]***	1.1971 [0.1263]***	0.9507 [0.143]***	1.1133 [0.1301]***	0.9716 [0.1249]***	1.2206 [0.128]***	1.1895 [0.1272]***
Natural Resources	0.0043 [0.0027]	0.0019 [0.0026]	0.0148 [0.0027]***	0.0036 [0.0025]	0.0064 [0.0023]***	0.0007 [0.0027]	0.0023 [0.0024]
Inflation	-0.0001 [0.0002]	-0.0001 [0.0002]	0.0001 [0.0002]	-0.0001 [0.0002]	0 [0.0001]	-0.0001 [0.0002]	-0.0001 [0.0002]
Savings	0.0176 [0.0019]***	0.0185 [0.0019]***	0.0179 [0.0018]***	0.0179 [0.0018]***	0.0174 [0.0018]***	0.0188 [0.0019]***	0.0186 [0.0019]***
Population Growth	-0.1761 [0.0304]***	-0.1574 [0.0303]***	-0.179 [0.0368]***	-0.1648 [0.0293]***	-0.1765 [0.029]***	-0.1505 [0.0311]***	-0.1619 [0.0309]***
Human Capital	2.6866 [0.2229]***	2.7934 [0.2338]***	3.8855 [0.2767]***	2.7245 [0.218]***	2.5915 [0.2106]***	2.8409 [0.225]***	2.7981 [0.2189]***
Financial	0.0071 [0.0008]***	0.0079 [0.0008]***	0.0065 [0.0011]***	0.0074 [0.0008]***	0.0074 [0.0007]***	0.0084 [0.0009]***	0.0076 [0.0008]***
Development Institutions	0.0039 [0.0017]**						
Trend	0.0293 [0.0043]***		0.0261 [0.0053]***	0.0292 [0.0043]***	0.0313 [0.0042]***	0.0285 [0.0043]***	0.029 [0.0043]***
Rule of Law		0.0003 [0.0015]					
Governance			0.0036 [0.002]*				
Effectiveness				0.0027 [0.0014]*			
Control of Corruption					0.0071 [0.001]***		
Political Stability						-0.0015 [0.0018]	0.0011 [0.0013]
Regulatory Quality							
Voice and Accountability							
_cons	4.3749 [0.1373]***	4.3527 [0.1404]***	4.1211 [0.1704]***	4.3597 [0.1387]***	4.3281 [0.1353]***	4.3697 [0.1405]***	4.3445 [0.1402]***
P	0	0	0	0	0	0	0
N	650	654	707	651	653	654	654
Net effects	0.0076	0.0083	-0.0075	0.0082	0.0071	0.0085	0.0083

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Savings are gross national savings divided by GDP. Population growth is the growth in population. Human capital is the human development index. Financial development is private credit to GDP. Institutions are the aggregate of the six indicators from the World Governance Indicators, namely, rule of law, government effectiveness, control of corruption, political stability, regulatory quality and voice and accountability.

Robust standard errors in square brackets.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 6. Effects of FDI and elections on welfare in countries with good institutions

	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28
FDI	-0.0099 [0.0047]**	-0.0106 [0.0044]**	-0.0114 [0.0047]**	-0.0082 [0.0045]*	0.0035 [0.0062]	-0.0132 [0.004]**	-0.0054 [0.0005]
Electoral	-0.03 [0.0647]	-0.005 [0.074]	-0.0429 [0.0663]	-0.0595 [0.0589]	-0.0638 [0.0707]	-0.0633 [0.0597]	-0.035 [0.0583]
Events	0.0007 [0.0107]	0.0011 [0.0151]	0.0091 [0.0149]	0.0074 [0.0061]	0.0151 [0.0081]*	0.0075 [0.0087]	0.0008 [0.00067]
FDI-Electoral	1.0431 [0.1411]**	1.0391 [0.1436]**	1.1471 [0.1421]**	0.9493 [0.127]**	1.0164 [0.1606]**	0.9896 [0.1372]**	0.9717 [0.16]**
Events	0.0014 [0.0033]	0.0015 [0.0031]	-0.0068 [0.0043]	0.0028 [0.0033]	0.0053 [0.0029]*	-0.001 [0.003]	0.0018 [0.0033]
Openness							
Natural							
Resources							
Inflation	-0.0165 [0.0035]**	-0.0196 [0.0039]**	-0.016 [0.0036]**	-0.02 [0.0039]**	-0.0114 [0.0039]**	-0.0144 [0.0037]**	-0.0165 [0.0033]**
Savings	0.0251 [0.0027]**	0.022 [0.0028]**	0.0226 [0.0027]**	0.0104 [0.0013]**	0.0298 [0.0028]**	0.0244 [0.0026]**	0.0118 [0.0015]**
Population	-0.2812 [0.0414]**	-0.2447 [0.0443]**	-0.2062 [0.0384]**	-0.2174 [0.038]**	-0.2568 [0.0483]**	-0.2588 [0.0416]**	-0.2721 [0.0315]**
Growth							
Human Capital	2.411 [0.2929]**	2.9706 [0.3463]**	2.4978 [0.3217]**	3.361 [0.2984]**	1.9134 [0.3114]**	2.6177 [0.309]**	2.8034 [0.2866]**
Financial	0.0074 [0.0007]**	0.0069 [0.0008]**	0.0082 [0.0007]**	0.0069 [0.0007]**	0.0083 [0.0008]**	0.0073 [0.0007]**	0.0077 [0.0007]**
Development							
Trend	0.0269 [0.0048]**	0.0293 [0.005]**	0.0252 [0.0047]**	0.023 [0.0053]**	0.0281 [0.006]**	0.0335 [0.0046]**	0.0214 [0.0005]**
_cons	4.9824 [0.1883]**	4.6507 [0.2155]**	4.8004 [0.1915]**	4.7339 [0.193]**	5.0255 [0.2159]**	4.7653 [0.1949]**	5.0907 [0.1586]**
p	0	0	0	0	0	0	0
N	335	326	340	318	329	349	346
Net Effects	-0.0093	-0.0095	-0.0023	-0.00078	0.0186	-0.0057	-0.0045

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Savings are gross national savings divided by GDP. Population growth is the growth in population. Human capital is the human development index. Financial development is private credit to GDP.

Robust standard errors in square brackets.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

Table 7. Effects of FDI and elections on welfare in countries with poor institutions

	Model 29	Model 30	Model 31	Model 32	Model 33	Model 34	Model 35
FDI	-0.0047 [0.0055]	-0.0065 [0.0053]	-0.0043 [0.0057]	-0.007 [0.0072]	-0.0065 [0.0049]	-0.0046 [0.0058]	-0.0037 [0.0084]
Electoral	-0.061 [0.0883]	-0.1092 [0.0863]	-0.0989 [0.0985]	-0.101 [0.0885]	-0.03 [0.0779]	-0.0645 [0.0984]	-0.1238 [0.0928]
Events							
FDI-Electoral	0.0121 [0.0083]	0.013 [0.008]*	0.0124 [0.0082]	0.0179 [0.0098]*	-0.0125 [0.012]	0.0116 [0.0083]	0.0214 [0.0107]**
Event							
Trade	1.3428 [0.1956]***	1.4341 [0.1837]***	1.3347 [0.1799]***	1.3882 [0.2378]***	1.2556 [0.1754]***	1.416 [0.2048]***	1.2869 [0.1775]***
Openness							
Natural	-0.0039 [0.0033]	-0.0042 [0.0031]	-0.0026 [0.003]	-0.0036 [0.0035]	-0.0068 [0.0031]**	-0.0038 [0.0034]	-0.0056 [0.0039]
Resources							
Inflation	0 [0.0002]	0 [0.0002]	0 [0.0002]	-0.0001 [0.0002]	0.0001 [0.0001]	0 [0.0002]	0 [0.0002]
Savings	0.0171 [0.0019]***	0.0178 [0.0019]***	0.0182 [0.002]***	0.022 [0.003]***	0.0132 [0.0015]***	0.018 [0.002]***	0.025 [0.0041]***
Population	-0.0745 [0.0383]*	-0.0711 [0.0373]*	-0.0953 [0.0423]**	-0.1629 [0.0455]***	-0.1429 [0.035]***	-0.0734 [0.0389]*	-0.0818 [0.0487]*
Growth							
Human	2.8156 [0.3033]***	2.6685 [0.3143]***	3.0234 [0.332]***	2.5873 [0.3258]***	2.4647 [0.31]***	2.8614 [0.3131]***	2.8923 [0.3781]***
Capital							
Financial	-0.0026 [0.0038]	-0.0052 [0.0035]	-0.0033 [0.0039]	-0.0024 [0.0038]	0.0049 [0.0025]**	-0.003 [0.0039]	0.0016 [0.0027]
Development							
Trend	0.0369 [0.0068]***	0.035 [0.007]***	0.0364 [0.0074]***	0.0324 [0.0066]***	0.0397 [0.0065]***	0.0308 [0.0076]***	0.0337 [0.0065]***
_cons	4.1889 [0.1732]***	4.277 [0.1705]***	4.1641 [0.1881]***	4.4818 [0.1834]***	4.4339 [0.153]***	4.2379 [0.1814]***	4.1122 [0.2073]***
p	0	0	0	0	0	0	0
N	315	328	314	333	324	305	308
Net Effects	0.0074	0.0065	0.0081	0.0109	-0.0190	0.0070	0.0176

NB: Foreign direct investment (FDI) is net FDI inflows divided by gross domestic product (GDP). Electoral events are dummy variable taking on a value of 1 in a year of elections. Trade openness is the sum of exports and imports divided by GDP. Natural resources are natural resource rents divided by GDP. Inflation is the consumer price index. Savings are gross national savings divided by GDP. Population growth is the growth in population. Human capital is the human development index. Financial development is private credit to GDP.

Robust standard errors in square brackets.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

5.1 Subsample 1: Effect of Foreign Direct Investment and Elections on Welfare in Countries with Good Institutions

The results indicate that in countries with strong institutions, the coefficient of FDI is negative (i.e. the unconditional effect). The results also indicate that the coefficient of elections is not significant. This is also consistent with the earlier results we have presented. Generally, the interaction between FDI and elections is not significant in this sample. It is only in Model 26 that the interaction between FDI and elections is significant at the 10% level.

For example, using Model 26, the net effect of FDI on elections based on the coefficients is as follows: $\text{Welfare} = 0.0035 + 0.0151(\text{Elections}) = 0.0186$ when elections assume a value of 1. The net effect is negative for the other models (although less negative compared with the unconditional effect of FDI). $\text{Welfare} = 0.0035 + 0.0151(\text{Elections}) = 0.0035$ when elections assume a value of 0.

The results generally suggest that in countries with strong institutions, the net effects of FDI are negative. This could be because in these countries, elections do not significantly reduce the level of uncertainty that investors are exposed to. These countries already possess good institutions, and therefore, foreign investors do not view elections as a significant event that reduces their exposure to risk.

Generally, the control variables have the same signs and significance as in the previous results. However, in this subsample, we find evidence that inflation has a negative effect on welfare. Thus, macroeconomic imbalances in terms of high inflation outturns lead to a reduction in welfare.

5.2 Subsample 2: Effect of Foreign Direct Investment and Elections on Welfare in Countries with Poor Institutions

The results show that the coefficient of FDI is negative although not significant in countries with poor institutions (i.e. the unconditional effect). We also find that the coefficient of elections is not significant in this subsample as well. Again, this is consistent with the results reported earlier. Interestingly, we find that the interaction between FDI and elections is positive and significant in this sample (see Models 30, 32 and 35). That is, the conditional effect is positive and significant.

For example, using Model 30, the effect of FDI on elections based on the coefficients is as follows: $\text{Welfare} = -0.0065 + 0.0130(\text{Elections}) = 0.0065$ when elections assume a value of 1. The net effect is positive for the other models as well apart from Model 33. $\text{Welfare} = -0.0065 + 0.0130(\text{Elections}) = -0.0065$ when elections assume a value of 0.

This suggests that the effect of FDI on welfare is higher during election periods. Put differently, the results suggest that in countries with poor institutions, elections enhance the effect of FDI on welfare. This may be because foreign investors view electoral events as a positive sign that reduces their exposure to risk, given that institutions are of poor quality.

Generally, the control variables have the same signs and significance as in the previous results. However, in this subsample, there is some evidence that natural resources have a detrimental effect on welfare (see Model 33).

To check for the robustness of these results, we also rerun the regressions using a robust fixed effects estimation (based on the Hausman Test). These results are not reported to conserve space but are available upon request. The interaction terms are mostly not significant; however, the net effects are positive.

6 CONCLUSION AND POLICY IMPLICATIONS

In this paper, we examined the relationship between FDI, political business cycles and welfare in Africa. We found no relationship between elections and FDI. This means that elections are not a significant determinant of FDI flows in Africa. The results in the full sample suggested no direct relationship between FDI and welfare. We found no relationship between elections and welfare either. When we interacted FDI with elections, the interaction turned out to be positive and significant in most cases. This suggests that elections enhance the effect of FDI on welfare.

We then split the sample based on the quality of institutions, arguing that the positive effect of FDI and elections on welfare should take place mostly in countries with poor institutions. This is because elections in these countries serve to reduce uncertainty for foreign investors. In countries with strong institutions, FDI had a negative impact on welfare. Elections was still insignificant as in previous results. Further, the interaction between FDI and elections was mostly insignificant. When we examined the sample made up of countries with poor institutions, we found that just as in the full sample, FDI had no impact on welfare. Further, elections had no impact on welfare. Interestingly, the results showed that the interaction between FDI and elections was positive and significant in a number of cases. This suggests that foreign investors consider elections to be risk-reducing events in countries with poor institutions. Thus, in line with our *a priori* expectations, the positive impact of FDI and elections is concentrated in countries with poor institutions, as elections serve as significant risk reduction events in these countries.

The major implication from our work is that elections do matter for welfare outcomes in terms of how elections interact with FDI; however, this effect is larger for countries with poor institutions. Thus, for these countries, efforts at holding elections will help them to realize positive benefits from FDI, helping them to overcome the constraints imposed on them by their weak institutions. We do recognize that holding elections *per se* may not translate into a deepening of the democratic process. This is a limitation of our work; however, we believe that our work provides an important first step in understanding the complex relationship between FDI, political business cycles and welfare outcomes. Future studies should consider the quality of elections (violent and non-violent elections; and elections quality based on reports from elections observers). Further, it would be important to examine this relationship based on whether a country is a natural resource-based or manufacturing-based economy or services-based economy. It is plausible to think that the effect of elections on FDI and the effect of FDI and elections on welfare will be larger in countries with a manufacturing-based and services-based economy compared with resource exporting countries.

The results showed that market size and inflation were negatively related to FDI flows. Trade openness, natural resources, financial openness, infrastructure and population growth on the other hand were positively related to FDI. In terms of welfare, the results showed that trade openness, savings, human development, financial development and

institutions were positively related to welfare. However, population growth was negatively related to welfare.

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APPENDIX

APPENDIX 1: YEARLY ELECTIONS EVENTS IN AFRICA FROM 1990 TO 2014

Years	No. of elections
1990	5
1991	5
1992	10
1993	12
1994	8
1995	5
1996	14
1997	6
1998	6
1999	13
2000	8
2001	6
2002	10
2003	6
2004	10
2005	11
2006	8
2007	8
2008	4
2009	13
2010	11
2011	15
2012	7
2013	4
2014	13
	218

¹Source: Authors' own construction from internet sources.

APPENDIX 2: COUNTRY-LEVEL ELECTIONS EVENTS AND THEIR YEARS OF OCCURRENCE

Country code	Country	No. of elections	Presidential elections	Election years
1	Algeria	6	Yes	1990, 1995, 1999, 2004, 2009 and 2014
2	Angola	1	Yes	1992
3	Benin	5	Yes	1991, 1996, 2001, 2006 and 2011
4	Botswana	5	Yes	1994, 1999, 2004, 2009 and 2014
5	Burkina Faso	4	Yes	1991, 1998, 2005 and 2010
6	Burundi	3	Yes	1993, 2005 and 2010

(Continues)

Table . (Continued)

Country code	Country	No. of elections	Presidential elections	Election years
7	Cameroon	4	Yes	1992, 1997, 2004 and 2011
8	Cape Verde	5	Yes	1991, 1996, 2001, 2006 and 2011
9	Central African Republic	5	Yes	1992, 1993, 1999, 2005 and 2011
10	Chad	4	Yes	1996, 2001, 2006 and 2010
11	Comoros	5	Yes	1990, 1996, 2002, 2006 and 2010
12	Congo, Dem. Rep.	2	Yes	2006 and 2011
13	Congo, Rep.	3	Yes	1992, 2002 and 2009
14	Cote d'Ivoire	4	Yes	1990, 1995, 2000 and 2010
15	Djibouti	4	Yes	1993, 1999, 2005 and 2011
16	Egypt	5	Yes	1993, 1999, 2005, 2012 and 2014
17	Equatorial Guinea	3	Yes	1996, 2002 and 2009
18	Eritrea*	3	No	1996, 2002 and 2009
19	Ethiopia	5	Yes	1994, 1995, 2000, 2005 and 2010
20	Gabon	4	Yes	1993, 1998, 2005 and 2009
21	Gambia, The	5	Yes	1992, 1996, 2001, 2006 and 2011
22	Ghana	6	Yes	1992, 1996, 2000, 2004, 2008 and 2012
23	Guinea	4	Yes	1992, 1998, 2003 and 2010
24	Guinea-Bissau	6	Yes	1994, 1999, 2000, 2009, 2012 and 2014
25	Kenya	5	Yes	1992, 1997, 2002, 2007 and 2013
26	Lesotho*	5	No	1993, 1998, 2002, 2007 and 2012
27	Liberia	4	Yes	1997, 2005, 2011 and 2014
28	Libya*	2	No	2012 and 2014
29	Malawi	5	Yes	1994, 1999, 2004, 2009 and 2014
30	Mali	5	Yes	1992, 1997, 2002, 2007 and 2013
31	Mauritania	6	Yes	1992, 1997, 2003, 2007, 2009 and 2014
32	Mauritius	6	Yes	1991, 1995, 2000, 2005, 2010 and 2014
33	Morocco*p	5	No	1993, 1997, 2002, 2007 and 2011
34	Mozambique	5	Yes	1994, 1999, 2004, 2009 and 2014
35	Namibia	5	Yes	1994, 1999, 2004, 2009 and 2014
36	Niger	5	Yes	1993, 1996, 1999, 2004 and 2011
37	Nigeria	5	Yes	1993, 1999, 2003, 2007 and 2011

(Continues)

Country code	Country	No. of elections	Presidential elections	Election years
38	Rwanda	2	Yes	2003 and 2010
39	Senegal	4	Yes	1993, 2000, 2007 and 2012
40	Sierra Leone	4	Yes	1996, 2002, 2007 and 2012
41	South Africa	5	Yes	1994, 1999, 2004, 2009 and 2014
42	Sudan	3	Yes	1996, 2000 and 2010
43	Swaziland* ^p	5	No	1993, 1998, 2003, 2008 and 2013
44	Tanzania	5	Yes	1990, 1995, 2000, 2005 and 2010
45	Togo	5	Yes	1993, 1998, 2003, 2005 and 2010
46	Tunisia	6	Yes	1994, 1999, 2004, 2009, 2011 and 2014
47	Uganda	4	Yes	1996, 2001, 2006 and 2011
48	Zambia	6	Yes	1991, 1996, 2001, 2006, 2008 and 2011
49	Zimbabwe	5	Yes	1990, 1996, 2002, 2008 and 2013
		218		

¹Source: Authors' own construction from internet sources.