

# **The Economic Growth and Foreign Direct Investment Nexus: Does Democracy Matter? Evidence from African Countries.**

## **Abstract**

This paper investigates the impact of democracy on the foreign direct investment (FDI) - economic growth nexus by considering both a country's current and past political regimes. We apply a linear dynamic panel data model to data from 53 African countries over the period 1989-2014. Standard errors of the estimates are Weidmeijer corrected, following an orthogonal deviations transformation. The results show that the direct impact of FDI on growth is positive and significant. Likewise, the stock of democracy plays a positive and significant role in the growth process. However, the positive impact of FDI on growth decreases with the improvement in the historical experience of a country with democracy. These findings imply that with contemporary efforts to expand political rights in Africa, it is critical to identify alternative channels that facilitate the transmission of the flow of FDI into further and sustainable growth.

**Keywords:** FDI, Democracy, Economic Growth

## **1-Introduction**

As a stock of physical capital, the empirical evidence confirms that Foreign Direct Investment (FDI) plays a direct and substantial role in the economic growth process in developing countries that lack capital. However, less attention has been given to other important indirect mechanisms through which FDI can also contribute to such growth. This is because the new growth theory proposes that FDI also has indirect effects arising from technology spillovers and efficiency gains (Elkomy et al. 2016). The empirical literature has identified three channels through which technology can spread from FDI to home companies which are; intra-industry (or horizontal) spillovers; inter-industry spillovers (Vertical linkages) and both intra- and inter-industry spillovers ((Iványi and Vigvári, 2012). Since the spillover processes are not automatic, there are several variables, themselves complexly interrelated, which determine how strong each channel can be. In most host economies, probably all the channels mentioned above are at work at some point, but the level of technology transfer that actually happens depends on a number of factors (Blomström et al. 1999). These factors include, for example, the level of competition and the structure of the host market, the size of the host market, technological competencies of host country firms, the capacities of workers to learn and adopt new technologies and the amount, type and intensity of vertical linkages between domestic firms and foreign affiliates are crucial (Iványi and Vigvári, 2012). Thus, it is generally recognised that the absorptive capacity of the recipient country is the key determinant of whether FDI has a positive, insignificant or negative spillover effect on economic growth.

While the impact of several FDI enhancing growth variables have been considered extensively in previous studies, the influence of the political regime in enhancing economic growth responses to FDI has not received as much attention. The literature on the impact of democracy on the FDI - economic growth nexus shows a controversial indefinite relationship; a theoretical point of view sees the impact of democracy on FDI to be unclear. More specifically, there are several ways that democratic institutions may have a positive effect on FDI and consequently economic growth: through checks and balances on elected officials; reducing arbitrary government intervention; lowering the risk of policy reversal; and, strengthening property rights protection (North and Weingast, 1989; Li, 2009). In contrast, multinational corporations (MNCs) and foreign aid donors may prefer to invest in autocratic countries, as autocratic governments are not directly accountable to their electorates. Hence, autocratic governments may be in a better position to provide generous incentive packages to foreign investors, while offering protection from labour unions (Li and Resnick, 2003). These benefits would likely enable MNCs to exploit their oligopolistic or monopolistic positions when operating in autocratic countries (Li and Resnick, 2003). These, in turn, determine the extent to which the benefits of FDI are distributed to the wider population.

Due to these several factors, the empirical literature on the impact of democracy on the FDI - growth nexus, as we can see later, is ambiguous. This is because the findings of these studies are affected by, for instance, the nature/structure of the data (panel, time series or cross-section), variables that are included and how they are measured, the proxy that is used to represent democracy and model specification. The present paper seeks to address the experience of Africa with this issue and expects to add to the existing literature in two principal fashions. First, we propose that the contracting view regarding the impact of democracy on the FDI - economic growth nexus may be, even partly, because previous studies consider only the contemporary status of democracy. It seems that such studies are based on the fundamental assumption that a proximal relationship exists between the variables. In this respect, Gerring et al. (2012) introduced the possibility that the developmental effects of democracy might be long-term and characterised by a distal rather than proximal causal relationship because new and old democracies may vary. While new democracies are prone to a host of problems associated with regime transition, older democracies are more institutionalised and generally enjoy higher-quality governance (Kapstein and Converse, 2008; Keefer, 2006). Given these differences between new and old democracies, the present study seeks to re-examine the influence of democracy on the FDI - economic growth nexus by differentiating between contemporary/current and the stock/history of democracies.

Second, the focus in Africa due to the fact that since the end of the 1990s, most African countries have experienced a wave of democratisation (Kudamatsu, 2012). The discussion among political scientists pertaining to African countries focuses on the causes of democratisation; and whether new democracies in the region will be strengthened. Unfortunately, very few studies examine whether such political changes affect the lives of people in the continent. This is because improvements among political institutions do not always imply similar advancements in the standard of living; as no consensus exists regarding whether democracy enhances economic development or not (Przeworski et al., 2000; Kurzman et al., 2002). So far, only a few studies have considered the impact of democracy in the context of African countries. Masaki and van de Walle (2014), contended that current literature is deficient in differentiating how regime transitions and democratic consolidation can influence economic growth. Their study analysed the economic and political data of 43

countries in sub-Saharan Africa over the period of 1982-2012. They found a solid clue that democracy is positively related to economic growth. The most significant part of their results is that they found this 'democratic advantage' to be more noticeable for those African countries that have sustained the democratic era for longer periods. However, their findings were found to not distinguish carefully between the dissimilar impacts of regime progression and democratic strengthening on economic growth. The rest of the paper is structured as follows: the second section presents the literature on the FDI - economic growth nexus within the democracy context in African countries. The third section details the methodology employed and the fourth section illustrates the data used. The fifth section presents and demonstrates the results from the empirical estimations; and finally, the last section concludes and provides policy implications.

## **2-Literature Review**

As mentioned previously, although there is consensus on the impact of democratic institutions on FDI inflows, however, conflicting views still exist on how democratic institutions affect the inflows of FDI. According to Olson (1993), countries with democratic institutions have a greater chance of attracting foreign firms because they are more likely to protect property rights, possess independent judiciaries, and have more effective systems to resolve business disputes. Democracy certainly provides an effective conduit between citizens and policymakers. Other studies contend that countries with less well-developed democratic institutions are more attractive because they are better able to offer preferential treatment in the form of tax concessions and other incentives, compliant labour forces, and less stringent policies toward competition, leading to higher rates of return (e.g., Haggard, 1990; Li & Resnick, 2003; O'Donnell, 1978; Oneal, 1994; Zhang, 2001). Ledyeva et al. (2013) used firm-level panel data from 1996 to 2007 for many regions in Russia. They found that investors from less democratic and more corrupt countries are more likely to invest in less democratic and more corrupt Russian regions. The results suggested that foreign investors searched for commonalities in host regions.

Bornschier et al. (1978) were among the first scholars that addressed the relationship between political institutions in developing countries and FDI inflows. They found that more authoritarian regimes attracted greater inflows of FDI but that the growth effects are mixed at best. Borensztein et al. (1998) controlled for the number of assassinations, coups d'état, protection of political rights, and wars but found that they have little significant effect on FDI inflows. They argue that this can be explained by the almost complete lack of political quality in many developing countries. Li and Resnick (2003) found that the protection of property rights had a positive effect on FDI inflows but that developing countries with democratic political systems receive significantly lower FDI inflows. Choi and Samy (2008) found only a weak relationship between democracy and the inflows of FDI. In general, most of the studies found some form of positive relationship between the two variables. Harms and Ursprung (2002), Jensen (2003), Busse (2004), Jakobsen and de Soysa (2006), Busse and Hefeker (2007), Guerin and Manzocchi (2009) and Alguacil, Cuadros, Orts (2011) Cleeve (2012) all showed that more politically developed countries with democratic institutions received significantly higher inflows of FDI. Interestingly, Busse (2004) found that this relationship

prevailed during the 1990s but not in the 1970s and 1980s. The positive relationship between democracy and FDI inflows, therefore, is by no means assured.

Other studies, however, suggest the existence of a negative relationship between more democratic political regimes and FDI inflows, particularly in low-income countries reliant on natural resources (Dunning, 2008; Haber & Menaldo, 2011). Only a small number of studies focus on the effect of host-country democratic institutions on the efficiency gains and spillovers generated by inflows of FDI. Bengoa and Sanchez-Robles (2003) used panel data to analyse the relationship between FDI inflows, “economic freedom”— including the domestic economic policy environment— and growth in 18 Latin American economies. Their findings indicated a positive correlation between FDI inflows and both economic freedom and growth, conditional on a threshold stock of human capital. Darrat, Kherfi, and Soliman (2005) compared the effects of FDI inflows on growth between EU accession and non-applicant economies in Central and Eastern Europe (CEE) alongside economies in the Middle East and North Africa (MENA). They found that FDI inflows were positively correlated with growth for EU accession CEE economies, but there was only a weak relationship with respect to the other countries. The authors argued that these findings reflect differences in the institutional and policymaking environments between these sets of countries, with the accession economies benefiting from implicit or explicit EU guarantees of democracy and macroeconomic stability. Recently, Agbloyor et al. (2016) tested the hypothesis that the relationship among FDI, institutional quality and economic growth may differ based on country characteristics such as the level of financial development and natural resource endowment. Using data for SSA, the results show that the quality of institutions favourably alters the effect of FDI on economic growth countries that do not have developed financial markets. The results also suggest that in countries that are not endowed with natural resources, FDI and institutions on their own are sufficient to promote growth. However, the growth-enhancing effects of FDI decrease as institutions improve in these countries.

Furthermore, a separate strand of existing literature looks at governance and FDI inflows in natural resources. Jensen (2006) found that democratic countries attract greater inflows of resource-seeking FDI into abundant natural resources after controlling for the selection bias of authoritarian developing countries. Asiedu and Lien (2011) found that foreign investors prefer democratic governments when they operate in non-resource exporting countries but prefer less democratic or non-democratic governments when they act in resource exporting countries. Their research concludes that oil or mineral types of natural resources weaken the positive effect of democracy on FDI. There are also surprisingly few empirical analyses of the effects of FDI flows on growth in transition economies. However, the findings of these studies are mixed. While some studies detected an insignificant impact of FDI on growth in transition economies (e.g., Aleksynska, Gaisford, & Kerr, 2003; Apergis, Lyroudi, & Vamvakidis, 2008; Campos, 2002; Carkovic & Levine, 2002; Lyroudi, Papanastasiou, & Vamvakidis, 2004), Resnick (2001) Elkomy et al. (2016), others detected significant negative impact (Campos and Kinoshita (2002), Resnick (2001)). According to Elkomy et al. (2016), one possible justification for this mixed finding is that many of these studies focus on the first

decade following economic and political liberalisation where only a very few encompass relatively recent data covering the second decade since transition.

Recently, a growing number of studies have emphasised a nonlinear relationship between democracy and growth. This argument underlines that the impact on growth of a political regime differs among autocracies, democracies, and hybrid regimes. In particular, it has been argued that if an ordering of political regimes from a “pure autocracy” to a “pure democracy” can be provided, then the economic impact on growth of democracy along this ordering may be nonlinear (Plumper and Martin, 2003; Cheng and Ouyang, 2016). Nevertheless, the form of the non-linear response of economic growth to the extent of democracy is still in debate. As surveyed by Libman (2012), the extant literature hypothesises two basic types of nonlinearity: inverse U-shaped and U-shaped responses. An inverse U-shaped response has been proposed by Barro (1996), among others, who argued that more democracy enhances growth at low levels of democracy but hinders growth when a moderate level of democracy has been reached. Barro interpreted this pattern as the evidence that, in the worst dictatorships, an increase in democracy can increase growth as the economy can benefit from relaxing limitations imposed by governmental powers. However, for countries that have already attained a moderate level of democracy, a further increase in political rights may impair growth because, at this point, the dominant effect comes from the intensified concern of income redistribution and the power of interest groups. Therefore, all things being equal, regimes with an intermediate level of democracy grow faster than pure democracies and pure autocracies.

In contrast, the U-shaped response claims that regimes at the corner of the distribution (pure autocracies or pure democracies) can achieve better economic performance than mixed regimes with inconsistent institutions (governments being somewhat limited in terms of their ability to use direct coercion or dictatorships with high levels of political participation). For instance, Gates et al. (2006) and Thum and Choi (2009) pointed out that most hybrid regimes are a transitory phenomenon between democracy and autocracy, and hence are less stable and suffer from political and economic uncertainty. Acemoglu and Robinson (2006) also showed that the social elite or government is unlikely to block development when there is a high degree of political competition (pure democracy) or an absence of external threats (pure autocracy). Conversely, in hybrid systems, the public pressure to implement reforms may be low, and the threat of power loss for the social elite from changes in economic institutions may be significant; and so, reforms are postponed (Libman, 2012). That is to say, the relationship between blocking development and political competition can be viewed as U-shaped. The review of these studies, in addition, confirms the absence of any consistent findings, it calls for the need to look for the impact of democracy on the FDI - growth nexus from a different view. Thus, the absence of any study that distinguishes between the impact of the contemporary status of democracy and the stock of democracy on the FDI-growth nexus has further motivated us to conduct this study.

### 3-Model

The analysis employs an augmented growth accounting model incorporating FDI based on Solow (1956) and is in line with the work of De Mello (1999) and Borensztein et al. (1998):

$$Y = Af(K_{it}, L_{it}, F_{it}, \gamma_{it}) \quad (1)$$

Where  $Y$  is the output level, determined by capital,  $K$ , labour,  $L$ , FDI inflows,  $F$ , and political development other enhancing growth determinants included in  $\gamma$ , while  $A$  represents the economic environment. According to the new growth theory, FDI is considered an additional source of capital injection into the host economy with special characteristics. Foreign capital inflows in this form embody technology, know-how, and tacit knowledge, all of which promote host-country technological and human capital development, and are the primary transmission mechanism for transferring these potentially growth-enhancing assets. While there is little doubt in existing literature regarding the contribution of FDI inflows to augmenting domestic capital stock in host countries, there exists no clear consensus regarding their indirect growth effects in the form of technology spillovers and efficiency gains (Damijan et al. 2003). Recent empirical evidence shows that such indirect impact is influenced by the absorptive capacity of the recipient country in terms of, for example, the stock and level of human capital (Borensztein, De Gregorio & Lee, 1998; Li & Liu, 2004), the degree of openness (Balasubramanyam, Salisu & Sapsford, 1996), infrastructural development (Li & Liu, 2004; World Bank, 2001), the provision of new governance institutions (Azman-Saini, Baharumshah, & Law, 2010), the level of financial development (Adjasi, Abor, Osei, & Nyavor-Foli, 2012; Agbloyor, Abor, Adjasi, & Yawson, 2014; Alfaro, Areendam, Kalemli-Ozcan, & Sayek, 2004; Durham, 2004; Hermes & Linsenck, 2003; Omran & Bolbol, 2003) and good governance (Morrissey & Udomkerdmongkol, 2012, Elkomy et al. 2016).

In the present study, we will test the hypothesis that FDI triggers significant growth effects while controlling for other contingent domestic growth determinants. The empirical specification of the model follows Blomstrom et al. (1992), Borensztein et al. (1998), and Balasubramanyam et al. (1999) and takes the following form:

$$Y_{it} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 FDI_{it} + \beta_3 INF_{it} + \beta_4 INV_{it} + \beta_5 LL_{it} + \beta_6 HC_{it} + \beta_7 GE_{it} + \beta_8 TR_{it} + \beta_9 Pl_{it} + \vartheta_i + \alpha_t + \epsilon_{it} \quad (2)$$

where the dependent variable  $Y$  is the growth rate of the real gross domestic product (GDP) per capita;  $FDI$  is the inflow of FDI measured as a share of GDP;  $INF$  is the inflation rate, measured using the change in the GDP deflator.  $INV$  is the share of domestic capital accumulation measured by the rate of the gross fixed capital formation to GDP;  $LL$  is the labour force;  $HC$  is human capital, measured by the gross enrolment ratio at secondary school, following Barro and Sala-i-Martin (1995).  $GE$  is the share of government in total consumption;  $TR$  is openness measured in terms of trade as a share of GDP;  $Pol$  is the political development measured in terms of political rights.  $\vartheta$  captures country-specific effects that reflect heterogeneity in growth patterns across countries;  $\alpha_t$  are time-specific factors which control for technological changes and policy direction across time;  $\epsilon_{it}$  is the unexplained error term; and  $i, t$  are the country and time indicators respectively.

The foreign direct investment variable FDI shows the direct effects of FDI inflows on growth. The simultaneous inclusion of domestic investment demonstrates the independent effect of FDI inflows on the growth rate through improvements in the productivity of capital by controlling for domestic investment (Durham, 2004; Borensztein et al. 1998). Including both components of investment also provides the means to capture the indirect spillover effects of FDI over and above the effects of purely physical capital accumulation (Borensztein et al., 1998).

The labour force; LL, is incorporated into the growth accounting analysis as a basic production input. This term is regarded as a key determinant in the empirical analysis of the FDI - growth nexus (e.g., Balasubramanyam et al., 1999; Blomstrom et al., 1992; Darrat et al., 2005). Labour force here captures the impact of productive labour (the employed) and unproductive labour (the unemployed) on growth. The growth in productive labour may increase or decrease the economic growth in a country because it depends on country characteristics. Physical capital accumulation is considered to be the main driver of economic growth from a growth accounting perspective. Including both domestic and foreign investment in the growth accounting function captures the indirect effects of FDI on growth that are not simply reflected in physical capital accumulation.

Nelson and Phelps (1966) argued that sustainable long-run economic growth is determined by the stock of well-educated labour that is able to understand advanced technologies and introduce productive innovations. New growth theory highlights the important contribution of human capital accumulation to sustainable output growth such that investment in human capital is a critical component of long-run economic growth. Lucas (1988) showed that growth differentials between countries are mainly explained by differences in the stock of domestic human capital. The growth and productivity effects arising from capital deepening; that is increasing capital per worker, are primarily dependent on a country's stock of human capital.

Government expenditure GE and inflation INF are included in the empirical analysis to capture the macroeconomic policy dimensions of institutional quality. Owing to the limitations on the availability of detailed macroeconomic data when dealing with transition and developing countries, this study follows the convention of simply using total government expenditure as a proxy for the quality of fiscal policy rather than deducting defence and education expenditure, as done by Barro and Sala-i-Martin (1995b). GE here is measured by the share of government expenditure in consumption and provides an indicator of the size of government, bureaucracy, and political corruption, all of which are viewed as impediments to growth. Barro (1997) also argued that a system of progressive taxation discourages both domestic and foreign investment. The expectation is that higher government expenditure is associated negatively with growth effects (Borensztein et al., 1998; Carkovic & Levine, 2002). The inflation rate (INF); indicates the effects of monetary policies on economic growth. Low rates of inflation reflect the stability and credibility of monetary policies required to support growth, while higher rates are associated with increasing costs of production and a more volatile investment climate; both of which dampen real growth.

The openness variable has been widely used in the growth literature (see Sala-i-Martin, 1997; Agbloyor et al. 2016). We expect a positive relationship between trade openness and economic growth. Trade liberalisation is usually undertaken to open a country and to promote economic growth. Yanikkaya (2003) found that trade openness promoted economic growth,

although trade barriers also appear to have a positive and significant relation with growth. Falvey, Foster, and Greenaway (2012) found that trade liberalisation raised economic growth in both crisis and non-crisis periods.

The political development variable  $PL$  measures the quality of domestic governance and institutions; using the country score provided by Freedom House from the data on political rights. The data ranges from one to seven. A rating of one implies “there are competitive parties or other political groupings, the opposition plays a vital role and has actual power” and a rating of seven indicates that political rights are absent. For the stock of democracy, the approach of Gerring et al. (2012) is followed and the sum of each country’s score from 1989 to 2014 is computed; while applying a 1% annual depreciation rate. The way the stock of democracy is computed allows for the years that are more distant to be weighted less than recent years while allowing a country’s regime stock to be analysed over a period of two decades. The expectation is that the causal effect of democracy, like other capital stocks, depreciates over time (Gerring et al., 2012; Awad and Yossuf, 2016). To examine whether the indirect effects of FDI inflows in the form of technology spillovers and efficiency gains differ based on the political regime, we create an interaction variable  $FDI\_Pol$  that reflects the joint effect of FDI and political development on economic growth. This provides a mean to assess the magnitude of the effects of FDI on growth in developing countries at dissimilar stages of political development. Based on this information, we can rewrite equation 2 as follows:

$$Y_{it} = \beta_0 + \beta_1 Y_{i,t-1} + \beta_2 FDI_{it} + \beta_3 INF_{it} + \beta_4 INV_{it} + \beta_5 LL_{it} + \beta_6 HC_{it} + \beta_7 GE_{it} + \beta_8 TR_{it} + \beta_9 PL_{it} + \beta_{10} (PL_{it} * FDI_{it}) + \vartheta_i + \alpha_t + \epsilon_{it} \quad (3)$$

Where, again, the country-specific effects,  $\vartheta$  reflects the heterogeneity in growth patterns between countries and eliminates the potential for correlation between the determinants of growth and the unexplained error term  $u_{it}$ . The time-specific elements,  $\alpha_t$ , control for technological changes and policy direction across time and eliminate the potential for serial correlation in the random error terms (Eller, Haiss, & Steiner, 2006; Vu, Gangnes, & Noy, 2008). This also deals with some of the sources of endogeneity problems that may result if the error terms explain the growth of output.  $\epsilon_{it}$  are the random shocks that are assumed to be idiosyncratically and identically distributed with a zero mean and variance  $\sigma^2$ , and  $i, t$  are the country and time indicators respectively.

The empirical analysis employs a stratified panel of 53 host countries in Africa over a period of 26 years; 1989-2014. Except for the political variable, all the remaining variables are gathered from the World Bank development indicators. For the political variable; more specifically democracy, we use data on political rights published by Freedom House. Given the implication of a high score in the political variable that is used in this study, Table 1 shows that these countries suffer to some extent from the absence of political rights (the mean equals 4.77 points). Table 2 shows the existence of a relatively high positive correlation between growth in per capita GDP and physical investment. From Table 2 we can suggest no general concern about multicollinearity because the independent variables do not exhibit high correlations. Tables A1 and A2 in the Appendix show the definition for each variable and the list of countries that are included in the study respectively.



**Table 1: Descriptive statistic**

Variables	Obs	Mean	Min	Max
Real per capita GDP growth (Y)	1310	1.64	-62.21	141.64
Foreign direct investment (FDI)	1375	4.15	0	90.46
Inflation (inf)	1233	68.79	-35.84	24411.03
Domestic investment (Inv)	1217	21.53	-2.43	219.07
Labor forces (LL)	1300	6202384	33145	5580000000
Human capital (HC)	824	38.62	4.57	115.98
Government expenditure (GE)	1210	15.99	2.05	69.55
Trade (TR)	1265	76.81	11.09	531.74
Democracy	1373	4.77	1	7

Source: author's calculation.

**Table 2: Correlation matrix**

Variables	Y	FDI	Inf	Inv	L	HC	GE	TR	DEM
Y	1	0.17	-0.09	0.54	0.05	0.09	-0.22	0.21	0.01
FDI	0.17	1	-0.02	0.17	0.20	0.08	-0.03	0.34	0.04
Inf	-0.09	-0.02	1	-0.04	0.06	-0.03	-0.07	-0.04	0.04
Inv	0.54	0.17	-0.5	1	-0.14	0.11	-0.06	0.33	-0.03
L	0.05	0.20	0.06	-0.14	1	0.008	-0.25	-0.13	0.06
HC	0.09	0.08	-0.03	0.11	0.008	1	0.06	0.22	0.03
GE	-0.22	-0.03	-0.07	-0.06	-0.25	0.06	1	0.16	0.19
TR	0.21	0.34	-0.04	0.32	-0.13	0.22	0.15	1	0.13
DEM	0.01	0.04	0.04	-0.03	-0.06	0.03	0.19	0.13	1

Source: author's calculation.

#### 4-Method of Estimation

Since economic behaviour is dynamic in nature, the joint effects of institutional quality and other determinants on the economic growth in African countries can be estimated using the General Method of Moments (GMM) estimator proposed by Arellano and Bond (1991). In spite of the fact that the General Method of Moments (GMM) is the method of estimation of dynamic panel models that provides consistent estimates (Baum, 2006; Roodman, 2006), one still has to decide whether to use: “difference-GMM” (henceforth DGMM) developed by Arellano and Bond (1991); or “system-GMM” (henceforth SGMM) estimation established by Arellano and Bover (1995) and Blundell and Bond (1998). Arellano and Bond (1991) and Arellano and Bover (1995) suggested differencing the model to eliminate the unobserved effects, and to subsequently use valid instruments to deal with the problem of the new error term being correlated with the lagged dependent variable. A drawback of the difference GMM estimator is that when first differences are taken, time-invariant variables are removed. Therefore, difference GMM does not use the cross-sectional information reflected in the differences between countries. Another disadvantage of the difference GMM estimator is that lagged levels are often poor instruments for the equation in difference; which can lead to poor precision in the estimators. Arellano and Bover (1995) suggest that these problems can be addressed by estimating the level and first-difference regressions as a system; which is known

as a system-GMM estimator. In this estimation, the level regression is instrumented with lagged first-differenced variables while the first-differenced regression is instrumented with lagged level variables.

There are two variants of the SGMM estimator; the one-step estimation and the two-step estimation. We used the two-step estimator with Windmeijer (2005) corrected standard errors because this is asymptotically more efficient than the one-step estimator. In addition, we use orthogonal deviations because we have a panel with gaps to maximise the sample size. The SGMM estimator is suitable and particularly relevant for this study for several reasons. First, as pointed out by Blundell and Bond (1998), the SGMM estimator provides an improvement over the DGMM estimator when the dependent variable is highly persistent with the autoregressive term, close to unity and the number of time periods is small (Agbloyor et al. 2016; Roodman, 2006). This might fit our study more as our time period is short (26 years) and we have 53 African countries. Second, the SGMM approach allows us to treat growth as a dynamic process; thus, accounting explicitly for the possibility that previous growth may influence future growth. Third, the use of the SGMM approach allows us to control for the endogeneity of the explanatory variables. Fourth, The SGMM's estimate has an advantage over DGMM in variables that are "random-walk" or close to being random-walk variables (Agbloyor et al. 2016; Bond, 2002; Roodman, 2006; Baum, 2006; and Roodman, 2007). Since our model specification includes macroeconomic variables, which are known in economics for the presence of random-walk statistical generating mechanisms, the SGMM approach seems to be the most appropriate for this study. In light of these econometric issues, we adopted system GMM in the analysis.

To check for the consistency of our estimates, we employed two specification tests: the Sargan/ Hansen over-identifying restrictions and a serial correlation test in the disturbances (Arrelano and Bond, 1991). The Hansen test is based on the overall validity of the instruments by analysing the sample analogue of the moment conditions used in the estimation process. Failure to reject the null of the Hansen test implies that the instruments are valid and the model is correctly specified. In terms of the serial correlation test, one should reject the null hypothesis in the absence of the first order serial correlation ( $AR_1$ ) and not reject it in the absence of the second order serial correlation ( $AR_2$ ).

Firstly, a separate investigation of the impacts of FDI, democracy level and the stock of democracy on economic growth is examined. Thereafter, the joint impacts of FDI and the democracy level and the stock of democracy on economic growth are examined. To do so, an interaction term is created between FDI and the democracy level and the stock of democracy. The introduction of such an interaction term may lead to multicollinearity, as it is likely to be strongly correlated with the original variables used to construct the interaction terms (Darlington, 1990; Azman et al., 2010; Agbloyor et al. 2016). In order to resolve this problem, the interaction term is orthogonalized using the two-step procedures suggested by Burill (2007). First, the interaction term between each pair of variables (e.g., democratic level and FDI) are regressed on the democratic level and FDI. Second, the residuals from each regression in the first step are used to represent the interaction term (Azman et al., 2010).

## **5-Results and discussion**

Before the results are interpreted, it is important to note that the results of both the Hansen test for over-identifying restrictions and the test for serial correlation of the residuals (i.e. AR [1] and AR [2]) result in the rejection of the assumption of the inconsistency of the GMM estimator. In addition, the difference-in-Hansen test of exogeneity results indicates that any correlation between the endogenous variables and the unobserved (fixed) effect is constant over time. This implies that the hypothesis that the additional subset of instruments used in the GMM estimates is exogenous cannot be rejected. Thus, the conclusion drawn is that the results are safe from any statistical problem that may influence the outcomes of the study. Additionally, the study employs data for a large number of African countries that differ in terms of economic structure and level of development. Thus, it is likely that outlier values exist in the data. The data were checked for the presence of outlier values and the model was re-analysed. Since the quantity of the outlier values in the data was very limited, the results, with and without these values, were very similar.

Table 3 reports the results in four different specifications. Model 1 and Model 3 represent the estimation for Equation number 2 (without the interaction term) using democracy level and stock of democracy respectively. Model 2 and Model 4 represent the estimation for Equation number 3 using democracy level and stock of democracy respectively (with the interaction term). In all of the regressions, the lag of the dependent variable is positive and significant. This suggests that past growth influences current or contemporaneous economic growth and provides further justification for the adoption of the dynamic panel estimation technique. The results show that, in all specifications, the FDI variables appear statistically significant with a positive sign. A 10% increase in the flow of FDI (%GDP) will lead to an annual increase in the growth rate in the per capita GDP by, on average, 1.3%. Since we include domestic investment as well in this regression, the positive impact of FDI, in this case, captures its indirect effects that are not reflected simply in physical capital accumulation. This finding supports and confirms the previous findings on the direct role of FDI as capital stock in augmenting domestic capital stock in host countries (Elkomy et al. (2016)). In Model 2, when we add the interaction term between FDI and the democracy level in the analysis (Model 2), the impact of FDI on growth remains the same as before, positive and statistically significant. However, neither the democracy level variable nor its joint effect with FDI appears to have a significant impact on growth. More specifically, the variable of the democracy level appears with a favourable sign, but with an insignificant impact on growth. Accordingly, we fail to provide support for the view that higher (better) political development scores are associated with stronger economic performance. Regarding the insignificance of the joint effect, this finding implies that the positive impact of FDI on growth is direct and not through political institution mechanisms. Consequently, it seems that the contemporary status of political institutions in Africa will not help the continent to achieve further benefit from the inflows of FDI.

The story is different when we consider the stock of democracy instead of its level. Model 3 shows the direct impact of FDI and the stock of democracy on growth, while in Model 4 we add the joint effect of both. Clearly, an improvement in the stock of democracy has a direct positive and significant impact on growth. A 10% improvement in the stock of democracy will lead to an increase in annual per capita GDP growth by, on, average 1.1%. This finding implies that, all other things being equal a country's stock of democracy, but not its current regime status, will be associated with high growth in per capita GDP in the following period. The joint impact of FDI and the stock of democracy on growth appears negative and statistically significant, but marginal. The results seem to suggest that in these countries, the

growth effects of FDI diminish as the stock of democracy improves. These results are puzzling but indicate that the beneficial effects of FDI in these countries will reduce as institutional quality increases. In fact, this finding is, to some extent, consistent with the finding of Agbloyor et al. (2016) that was discussed earlier<sup>1</sup>.

**Table 3: dependent variable real per capita GDP growth**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Lag dependent variable (Y)	0.31* [0.12]	0.31* [0.11]	0.31* [0.11]	0.31* [0.11]
Foreign direct investment (FDI)	0.13** [0.07]	0.12** [0.06]	0.13** [0.07]	0.13** [0.06]
Inflation (inf)	-0.0002* [0.00009]	-0.0002* [0.00009]	-0.0002* [0.00009]	-0.0002 [0.00008]
Domestic investment (Inv)	0.06** [0.3]	0.06* [0.03]	0.06* [0.03]	0.06* [0.03]
Labor forces (LL)	0.20*** [0.11]	0.21*** [0.12]	0.21*** [0.13]	0.21*** [0.12]
Human capital (HC)	0.009 [0.007]	0.01 [0.01]	0.007 [0.007]	0.01 [0.01]
Government expenditure (GE)	-0.10* [0.04]	-0.095* [0.03]	-0.099* [0.04]	-0.09* [0.03]
Trade (TR)	0.011*** [0.006]	0.012*** [0.01]	0.012*** [0.01]	0.12*** [0.007]
Democracy, level (DE)	-0.07 [0.08]	-0.08 [0.07]		
Democracy, level*FDI		-0.03 [0.04]		
Democracy, stock (DE)			-0.11** [0.05]	-0.11** [0.05]
Democracy, stock*FDI				-0.06* [0.01]
Constant	-3.03 [2.19]	-3.16 [2.01]	-2.79 [2.22]	-2.80 [2.10]
Hansen test	(0.55)	(0.56)	(0.53)	(0.56)
Sargan test	(0.69)	(0.70)	(0.68)	(0.73)
Hansen test excluding group	(0.14)	(0.20)	(0.14)	(0.23)
AR(1)	(0.007)	(0.007)	(0.007)	(0.006)
AR(2)	(0.17)	(0.17)	(0.17)	(0.17)
Difference-in-Hansen tests of exogeneity of instrument	(0.94)	(0.88)	((0.93)	(0.83)
Wald test, chi <sup>2</sup> (probability)	(0.000)	(0.000)	(0.000)	(0.000)
Number of observation	640	640	640	640
Notes				

<sup>1</sup> We also tested a 5% depreciation measure of democratic stock, but the results remained the same.

- Robust standard errors in [ ] and p value in ( ).
- (\*) and (\*\*) denote significant at 1% and 5% levels respectively.

The results of the remaining enhancing -growth variables are consistent with our expectations. An increase in the inflation rate will reflect in a marginal reduction in the growth rate. Higher rates are associated with increasing costs of production and a more volatile investment climate; both of which dampen real growth. As expected, the results also show that domestic investment has a marginal, but significant effect on the per capita growth rate. In addition, the results also show that an increase in government spending has a significant negative impact on the growth rate. As mentioned formerly, GE here reflects the size of government, bureaucracy, and political corruption, all of which are viewed as impediments to growth. Alternatively, in the developing nations where domestic sources of capital are likely to be limited, it could also provide an indication of private-sector investment being “crowded out” by higher levels of government spending. Our finding is consistent with the findings of, for example, Borensztein et al., (1998); Carkovic & Levine, (2002) and Agbloyor et al. (2016). An increase in the size of the labour force as well as the openness of the economy seems to have a positive and significant impact on the growth rate in per capita GDP. For robustness checking, we re-estimated the model by including a country-dummy variable. We classified our countries; the 53 countries, into three groups. The first group refers to low-income countries (26 countries), lower middle-income group (16 countries) and upper middle-income group (11 countries) (World Bank, 2015). However, the results show that in addition to the insignificance of the two dummy variables; the magnitude, the sign and the statistical significance of each variable remain the same<sup>2</sup>. Again, the results remain the same when we redefine the dummy variables<sup>3</sup>. This implies that the level of development has no significant impact on the relationship between the selected explanatory variables and the growth rate.

## 7-Conclusion

This paper investigates the impact of democracy on the foreign direct investment (FDI)-economic growth nexus by simultaneously considering a country's historical experience of democracy and current political regime. We estimate a linear dynamic panel data model with Weidmeijer corrected standard errors and orthogonal deviations using data from 53 African countries over the period 1989-2014. In addition to the democracy variable, we include labour forces, domestic capital, human capital, inflation, openness and government spending as other explanatory variables. We find evidence in support of the hypothesis of FDI-led growth which indicates that FDI flow into these countries will affect in a significant way the annual growth rate in per capita GDP.

Regarding the impact of democracy on growth, we fail to find a significant effect for the contemporary political regime, but the stock or the historical experience of a country with democracy seems to have a significant positive impact. Thus, for these countries, the accumulation effect of democracy and not the present status of democracy is important for the

---

<sup>2</sup> The results are not reported, but available upon request.

<sup>3</sup> In the first attempt, the upper middle-income group was used as benchmark category and in the second attempt, the lower middle-income group has been used as of benchmark category.

growth process. Regarding the joint impact of FDI and democracy on growth, we find that the current level of democracy has no significant role in strengthening the indirect impact of FDI on growth. In contrast, the joint impact of FDI and the stock of democracy on growth is statistically negative, but the magnitude of this effect is negligible. This finding suggests that the indirect positive impact of FDI on growth decreases as the accumulation of the stock of democracy increases. The overall finding suggests that FDI as additional capital may directly promote growth, but the indirect effect will decrease as the historical experience of African countries with democracy increases.

What are the implications of these results for policy makers in Africa? Does this finding reflect a trade-off between more FDI inflow or better political rights? First of all, recall that our findings don't deny the direct and significant positive impact of FDI on growth, hence efforts should be made to attract more FDI. In addition, since it is well-recognised that indirectly FDI may affect growth positively through technology spillovers and efficiency gains, this effect, as mentioned previously, depends on numerous factors. So far, we show that this effect may adversely impact the growth rate if and only if the flow of FDI is associated with improvement in the historical experience of these countries with democracy. However, it's possible for these countries to achieve remarkable and preferable indirect impact through alternative channels in which the benefits exceed the marginal losses that may appear from improvements in political rights. Thus, policy makers should identify these alternative channels. Once these mechanisms are identified, the country can enjoy high growth and better political rights without any effect from the foremost on the first.

Thus, more studies are needed to discover and identify more effective mechanisms that can facilitate the process of transmitting the expected indirect effect of FDI on growth. In addition, given the argument that the effect of a political regime on growth differs among autocracies, democracies, and hybrid regimes, further investigation for the possibility of a nonlinear relationship between democracy and growth in these countries is recommended.

## References

- Acemoglu, D., & Robinson, J. (2006). Economic Backwardness in Political Perspective. *American Political Science Review*, 100(1), 115–31.
- Adjasi, C., Abor, J., Osei, K.A. & Nyavor-Foli, E.E. (2012). FDI and economic activity in Africa: The role of local financial markets. *Thunderbird International Business Review*, 54, 429– 439.
- Afzalur, R. (2015). Impact of Foreign Direct Investment on Economic Growth: Empirical Evidence from Bangladesh. *International Journal of Economics and Finance*. 7(2).
- Agbloyor, E.K., Abor, J.Y., Adjasi, C.K.D. & Yawson, A. (2014). Private capital flows and economic growth in Africa: The role of domestic financial markets. *Journal of International Financial Markets, Institutions and Money*. 30, 137–152.
- Agbloyor, E.K; Gyeke-Dako, A; Kuipo, R; & Abor, J.Y.(2016) Foreign Direct Investment and Economic Growth in SSA : The Role of Institutions. *Thunderbird International Business Review*, 1-19, DOI: 10.1002/tie.21791.
- Aleksynska, M. & Havrylchyk, O. (2013). FDI from the south: The role of institutional distance and natural resources. *European Journal of Political Economy*. 29, 38–53.
- Alfaro, L., Areendam, C., Kalemli-Ozcan, S. & Sayek, S. (2004). FDI and economic growth: The role of local financial markets. *Journal of International Economics*. 64 (1), 89–112.

- Alguacil, M., Cuadros, A. & Orts, V. (2011). Inward FDI and growth: The role of macroeconomic and institutional environment. *Journal of Policy Modelling*. 33, 481–496.
- Apter, D. (1965). *The Politics of Modernization*. Chicago: University of Chicago Press.
- Arellano, M. & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and on democracy and human development, Application to Employment Equations. *Review of Economic Studies*. 58(April), 277–97.
- Arellano, M. & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*. 68 (1), 29-51.
- Asiedu, E. & Lien, D. (2011). Democracy, foreign direct investment and natural resources. *Journal of International Economics*. 84, 99–111.
- Awad, A. & Yossuf, I.(2016). Democracy and Human Development Nexus: The Experience of African Economies. *Journal of Economic Cooperation and Development*, 37(2), pp:1-34.
- Azman-Saini, W., Zubaidi, A. & Hook, S. (2010). Law, Foreign direct investment, economic freedom and economic growth: International evidence. *Economic Modelling*. 27, 1079–1089.
- Balasubramanyam, V. N., Salisu, M. & Sapsford, D. (1996). FDI and growth in EP and IS countries. *Economic Journal*, 106, 92–105.
- Barro, R. J. & Sala-i-Martin, X. (1995). *Economic Growth*. New York, McGraw Hill
- Barro, R. (1996). Democracy and Growth. *Journal of Economic Growth*. 1(1), 1–27.
- Barro, R. (1997). *Determinants of Economic Growth: A Cross-Country Empirical Study* (Cambridge, MA: MIT Press).
- Baum, F. C. (2006). *An Introduction to Modern Econometrics Using Stata*. Texas, Stata Press
- Benhabib, J. & Spiegel, M. M. (1994). The role of human capital in economic development evidence from aggregate cross-country data. *Journal of Monetary Economics*. 34, 143–173.
- Beugelsdijk, S., Smeets, R. & Zwinkels, R. (2008). The impact of horizontal and vertical FDI on host's country economic growth. *International Business Review*. 17, 452-472.
- Bird, G. & Rajan, R. S. (2002). Does FDI guarantee the stability of international capital flows? Evidence from Malaysia. *Development Policy Review*. 20(2), 191-202.
- Blomstrom, M., Lipsey, R. E. & Zejan, M. (1992). What explains developing country growth? National Bureau of Economic Research Working Paper No. 4132. Cambridge
- Blundell, R.W. & Bond S.R. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics*. 87, 115-143.
- Bond, S. (2002). Dynamic panel data models: A guide to micro data methods and practice. Working Paper CWP09/02. Cemmap, Institute for Fiscal Studies. Available at <http://cemmap.ifs.org.uk/wps/cwp0209.pdf>.
- Borensztein, E., De Gregorio, J. & Lee, J.W. (1998). How does FDI affect economic growth? *Journal of International Economics*. 45(1), 115–135.
- Burill, D. (2007). Modelling and interpreting interactions in multiple regression, Internet, available at <http://www.minitab.com>.
- Busse, M. & Hefeker, C. (2007). Political risk, institutions and foreign direct investment. *European Journal of Political Economy*. 23, 397–415.

- Carkovic, M.V. & Levine, R. (2002). Does foreign direct investment accelerate economic growth? University of Minnesota Department of Finance Working Paper.
- Chakraborty, C. & Nunnenkamp, P. (2008). Economic Reforms, FDI, and Economic Growth in India: A Sector Level Analysis. *World Development*. 36(7), 1192–1212.
- Cheng, T. & Ouyang, L. (2016). Democracy and Growth: A Perspective from Democratic Experience. *Economic Inquiry*. 54(4), 1790-1804.
- Chuhan, P., Perez-Quiros, G. & Popper, H. (1996). International capital flows, do short-term investment and direct investment differ? The World Bank Policy Research Working Paper; WPS 1669
- Claude, R. (1976). The Classical Model of Human Rights Development in Comparative Human Rights. Baltimore: Johns Hopkins University Press. 6–50.
- Cleeve, E. (2012). Political and institutional impediments to foreign direct investment inflows to sub-Saharan Africa. *Thunderbird International Business Review*. 54(4), 469-477.
- Darlington, R. B. (1990). Regression and linear models. New York: McGraw-Hill.
- Darrat, A.F., Kherfi, S. & Soliman, M. (2005). FDI and Economic Growth in CEE and MENA Countries: A Tale of Two Regions. 12th ERF's Annual Conference, Cairo.
- De Mello, L.R. (1999). Foreign direct investment-led growth: evidence from time series and panel data. *Oxford Economic Papers*. 51, 133-151.
- Delapierre, Y. & Milelli, L.(1995). firmes multinationales. Des entreprises au cœur d'industries mondialisées. *Politique étrangère*, 60, 776-778.
- Doucouliafos, H. & Ulubasoglu, M.A. (2008). Democracy and Economic Growth: A Meta Analysis. *American Journal of Political Science*. 52(1), 61–83.
- Doytch, N. & Uctum, M. (2011). Does the worldwide shift of FDI from manufacturing to services accelerate economic growth? A GMM estimation study. *Journal of International Money and Finance*. 30, 410-427.
- Durham, J. B. (2004). Absorptive capacity and the effects of foreign direct investment and equity portfolio investment on economic growth. *European Economic Review*. 48, 285–306.
- Elia, S., Mariotti, I. & Piscitello, L. (2009). The impact of outward FDI on the home country's labor demand and skill composition. *International Business Review*. 18, 357-372.
- Eller, M., Haiss, P. & Steiner, K. (2006). Foreign direct investment in the financial sector and economic growth in Central and Eastern Europe: The crucial role of the efficiency channel. *Emerging Markets Review*, 7, 4, pp. 300-319.
- Elkomy, S; Ingham, H; & Read, R. (2016). Economic and Political Determinants of the Effects of FDI on Growth in Transition and Developing Countries. *Thunderbird International Business Review*, 1-16 DOI: 10.1002/tie.21785.
- Elsadig, M. A. (2012). Are the FDI inflow spillover effects on Malaysia's economic growth input driven? *Economic Modelling*. 29, 1498-1504.
- Friedman, M. (1962). *Capitalism and Freedom*. Chicago: The University of Chicago Press.
- Gates, S., Hegre, H., Jones, M. & Strand, H. (2006). Institutional Inconsistency and Political Instability: Polity Duration 1800–2000. *American Journal of Political Science*. 50(4), 893–908.
- Gerring, J., Thacker, S., & Alfaro, R. (2012). Democracy and Human Development. *The Journal of Politics*. 74(1), 1–17.



- Guerin, S.S. & Manzocchi, S. (2009). Political Regime and FDI from Advanced to Emerging Countries. *Review of World Economics*. 145(1), 75-91.
- Hayek, F.A. (1944). *The Road to Serfdom*. Chicago: University of Chicago Press.
- Hermes, N. & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *Journal of Development Studies*. 41, 142–163.
- Herzer, D., Klasen, S. & Nowak-Lehmann, D.F. (2008). In search of FDI-led growth in developing countries: the way forward. *Economic Modelling*. 25, 793-810.
- Hewlett, S.A. (1979). Human Rights and Economic Realities: Tradeoffs in Historical Perspective. *Political Science Quarterly*. 94(3), 453–73.
- Hosein, E. (2015). The Effect of FDI on Economic Growth and the Importance of Host Country Characteristics. *Journal of Economics and International Finance*. 7(2), 25-41.
- Huntington, S.P. (1987). *Understanding political development: An analytic study*. Boston: Little Brown.
- Islam, N.(1995). Growth Empirics: A Panel Data Approach. *Quarterly Journal of Economics*. 110, 1127–1170.
- Kapstein, E.B. & Converse, N. (2008). *The Fate of Young Democracies*. Cambridge: Cambridge University Press.
- Keefer, P. (2006). Clientelism, Credibility and the Policy Choices of Young Democracies. *American Journal of Political Science*. 51(October), 804–21.
- Kudamatsu, M. (2012). Has Democratization Reduced Infant Mortality In Sub-Saharan Africa? Evidence from Micro Data. *Journal of the European Economic Association*. 10(6), 1294–1317.
- Kurzman, C.K., Werum, R.W. & Burkhart, R.E. (2002). Democracy’s Effect on Economic Growth: A Pooled Time-Series Analysis 1951–1980. *Studies in Comparative International Development*. 37(Spring), 3–33.
- Ledyaeva, S., Karhunen, P. & Kosonen, R. (2013). Birds of a feather: Evidence on commonality of corruption and democracy in the origin and location of foreign investment in Russian regions. *European Journal of Political Economy*. 32, 1–25.
- Borensztein, E., De Gregorio, J., & Lee, J.W. (1998). How does foreign investment affect growth? *Journal of International Economics*. 45.
- Li, X. & Liu, X. (2004). Foreign direct investment and economic growth: An increasingly endogenous relationship. *World Development*. 33, 393–407.
- Li, Q., Resnick, A. (2003). Reversal of fortunes: democratic institutions and FDI inflows to developing countries. *International Organization*. 57, 175–211.
- Li, Q. (2009). Democracy, Autocracy, and Expropriation of Foreign Direct Investment. *Comparative Political Studies*. 42(8), 1098–1127.
- Libman, A. (2012). Democracy, size of bureaucracy, and economic growth: evidence from Russian regions. *Empirical Economics*. 43(3), 1321-1352.
- Liu, Z. (2002). Foreign direct investment and technology spillover: evidence from China. *Journal of Comparative Economics*. 30, 579-602.
- Lothian, J. R. (2006). Institutions, Capital Flows and Financial Integration. *Journal of International Money and Finance*. 25(3), 358-369.
- Lucas, R. E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*. 22, 3–42.

- Masaki, T. & van de Walle, N. (2014). The impact of democracy on economic growth in sub-Saharan Africa, 1982-2012. WIDER Working Paper 2014/057. (Helsinki: UNU-WIDER).
- Morrissey, O. & Udomkerdmongkol, M. (2012). Governance, private investment and foreign direct investment in developing countries. *World Development*. 40(3), 437–445.
- Nelson, R. R. & Edmund S. P. (1966). Investment in Humans, Technological Diffusion, and Economic Growth. *American Economic Association Papers and Proceedings*. 56, 69–75.
- Nelson, J. (1987). *Political Participation in Understanding Political Development: An Analytic Study*. Boston: Little Brown. 103–59.
- North, D.C., Weingast, B. R. (1989). Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England. *Journal of Economic History*. 49 (4), 803–832.
- North, D.C. (1990). *Institutions, institutional change and economic performance*. Cambridge, England: Cambridge University Press.
- Okada, K. (2013). The interaction effects of financial openness and institutions on international capital flows. *Journal of Macroeconomics*. Retrieved from 10.1016/j.jmacro.2012.11.003.
- Omran, M. & Bolbol, A. (2003). Foreign direct investment, financial development and economic growth: Evidence from the Arab countries. *Review of Middle East Economics and Finance*. 1(3), 231–249.
- Papaioannou, E. (2009). What drives international financial flows? Politics, institutions and other determinants. *Journal of Development Economics*. 88, 269–281.
- Plümper, T., & Martin, C. W. (2003). Democracy, government spending, and economic growth: A political-economic explanation of the Barro-effect. *Public Choice*. 117(12), 27-50.
- Pritchett, L. (2001). Where Has All the Education Gone? *World Bank Economic Review*. 15(3), 367-391.
- Przeworski, A. & Fernando L. (1997). Modernization: Theories and Facts. *World Politics*. 49, 155-183.
- Przeworski, A., et al. (2000). *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990*. Cambridge: Cambridge University Press.
- Resnick, A. (2001) Investors, turbulence and transition: democratic transition and foreign direct investment in nineteen developing countries. *International Interactions*. 27, 381–98.
- Roodman, D. (2006). How to do xtabond2: An introduction to difference and system GMM in Stata. *The Stata Journal*. 9(1), 86–136.
- Roodman, D. (2007). A Short Note on the Theme of Too Many Instruments. Center for Global Development Working Paper 125.
- Sirowy, L. & Inkeles, A. (1990). The Effects of Democracy on Economic Growth and Inequality: A Review. *Comparative International Development*. 25(1), 126-157.
- Solow, R.M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*. 70(1), 65-94.
- Temiz, D. & Gokmen, A. (2013). FDI inflow as an international business operation by MNCs and economic growth: an empirical study on Turkey. *International Business Review*.
- Temple, J. (1999). The new growth evidence. *Journal of economic Literature*, 112-156.

- Thum, M., & Choi, J. P. (2009). The Economics of Politically Connected Firms. *International Tax and Public Finance*. 16(5), 605–20.
- Vu, T.B. & Noy, I. (2009). Sectoral Analysis of Foreign Direct Investment and Growth in the Developed Countries. *Journal of International Financial Markets, Institutions and Money*. 19, 402-413.
- Vu, T., Gangnes, B., & Noy, I. (2008). Is Foreign Direct Investment Good for Growth? Evidence from Sectoral Analysis of China and Vietnam. *Journal of the Asia Pacific Economy*. 13(4), 542-562.
- Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two step GMM estimators. *Journal of Econometrics*. 126(1), 25–51.
- World Bank (2001). *Global development finance report*. Washington, DC. World Bank.
- Yalta, A. Y. (2013). Revisiting the FDI-led growth hypothesis: the case of China. *Economic Modelling*. 31, 335-343.
- Yao, S. & Wei, K. (2007). Economic growth in the presence of FDI: the perspective of newly industrializing economies. *Journal of Comparative Economics*. 35, 211-234.

## Appendixes

**Table A1 ; Measurement & Definition of the variables**

GDP per capita growth (annual %)	Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2005 U.S. dollars. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.
Labor force, total	Total labor force comprises people ages 15 and older who meet the International Labour Organization definition of the economically active population: all people who supply labor for the production of goods and services during a specified period. It includes both the employed and the unemployed. While national practices vary in the treatment of such groups as the armed forces and seasonal or part-time workers, in general the labor force includes the armed forces, the unemployed, and first-time job-seekers, but excludes homemakers and other unpaid caregivers and workers in the informal sector.
School enrollment, secondary (% gross)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers.
Gross fixed capital formation (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.
General government final consumption expenditure (% of GDP)	General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of

	employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation.
Inflation, GDP deflator (annual %)	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency.
Trade (% of GDP)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.
Democracy in term of Political rights	The ratings process is based on a checklist of 10 political rights questions. The political rights questions are grouped into three subcategories: Electoral Process (3 questions), Political Pluralism and Participation (4), and Functioning of Government (3). The total score awarded to the political rights checklist determines the political rights rating. Rating of 1 through 7, with 1 representing the highest and 7 the lowest level of freedom, corresponds to a range of total scores

**Table A2 ; List of the Countries**

Algeria	Ethiopia	Niger
Angola	Gabon	Nigeria
Benin	Gambia	Rwanda
Botswana	Ghana	Sao Tome and Principe
Burkina Faso	Guinea	Senegal
Burundi	Guinea-Bissau	Seychelles
C <sup>ote</sup> d'Ivoire	Kenya	Sierra Leone
Cabo Verde	Lesotho	Somalia
Cameroon	Liberia	South Africa
Central African Republic	Libya	Sudan
Chad	Madagascar	Swaziland
Comoros	Malawi	Tanzania
Congo, Dem. Rep	Mali	Togo
Congo, Rep	Mauritania	Tunisia
Djibouti	Mauritius	Uganda
Egypt	Morocco	Zambia
Equatorial Guinea	Mozambique	Zimbabwe
Eritrea	Namibia	