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Abstract

The objective of this study is to assess governance drivers of FDI in a panel of BRICS and MINT countries for the period 2001-2011. We bundle and unbundle governance determinants using a battery of contemporary and non-contemporary estimation techniques. Our findings reveal the following: Firstly, for both contemporary and non-contemporary specifications, while the majority of our governance determinants of Gross FDI are significant, they are overwhelmingly insignificant for Net FDI. Secondly, the significance of the governance dynamics in increasing order of magnitude are general governance, political governance, economic governance, political stability, regulation quality and government effectiveness. Thirdly, for non-contemporary specifications, the significance of governance variables is as follows in ascending order of magnitude: *economic governance*, *institutional governance*, *general governance*, *corruption-control*, *political governance* and *political stability*. The importance of combining governance indicators is captured by the effects of *political governance, economic governance and institutional governance.* The results indicate that the simultaneous implementation of the various components of governance clarifies a country's attractiveness for FDI location. Policy implications are discussed with particular emphasis on the timing of FDI and its targeting.

JEL Classification: C52; F21; F23; P37; P39
Keywords: Foreign direct investment, emerging countries, governance

1. Introduction

Foreign-owned investments have been in existence since the colonial era in many parts of the globe. After a substantial drop in these investments in the 1980s, the need for security in food, energy and water is pushing many countries to adopt this new strategy of investment, especially in the aftermath of the 2008 food crisis (Arezki *et al.*, 2015). In essence, policies favouring restrictions to trade and capital that were predominant in developing nations in the 1970s and 1980s were considerably eased after these same countries suffered from declining economic prosperity and foreign investment (Rodrik, 1998). Hence, some domestic industries which these policies were initially meant to protect, bore much of the brunt of diminishing social and private returns (De Mello, 1997; Dupasquier & Osakwe, 2006; UNESCAP, 2000[1]; Apkan et al., 2014). Hence, the policies known as 'structural adjusment' were fundamentally meant to address the capital scarcity in developing countries, while at the same time enabling multinational corporations from the more developed world to benefit from the cheap labour in less developed nations (Asongu, 2013a, 2014a; UNCTAD[2], 2013)[3].

With the current trend of land grab in the world, there is a growing strand in the literature focusing on foreign land acquisitions (FLA) in developing countries (Osabuohien, 2014, 2015)[4]. This rush for foreign direct investment (FDI) and FLA extends well beyond African, Asian and Latin American countries in the south of the globe to Ukraine, Russia, and Australia. Two types of foreign investors have been documented: a European private sector characterised for the most part by investment banks and hedge funds, and Asian investment of private and public origin (UN, 2010). Reasons advanced for motivating this FDI/FLA range from debates to more fundamental poverty alleviation goals. Consistent with World Bank (2007), Lipton (2009) and Arezki *et al.* (2015), the underlying rush needs to provide some guarantee for initiatives favouring smallholder structures of agriculture which are friendlier

[1] United Nations Economic and Social Commission for Asia and the Pacific.
[2] United Nations Conference on Trade and Development.
[3] It is also interesting to note that not all privatisation policies delivered the much needed FDI. For instance, as shown by Rolfe & Woodward (2004), this has been the experience of Zambia. The need for FDI has been further highlighted in recent literature on population studies which show that unless other sources of investment are channelled into developing countries (especially in Africa), only public investment would be used to setttle issues arising from the burgeoning population growth and resulting unmployment (Asongu, 2013b).
[4] The mention of FLA literature is meant to clarify how the positioning of the study on FDI departs from previous studies. The focus of the study is not on FLA but on FDI. From intuition, FDI from the rest of the world to every sampled country (i.e. including China) includes FDI from other sampled countries. It is important to clarify the distinction between FDI and FLA. The latter (i.e. FLA) is the process by which foreign investors acquire large chunks of land. Such foreign investors could be a corporation, an individual or a government agency acquiring land from individuals or the State in accordance with laws, *inter alia*: the payment of fixed government compensation in order to cover for losses that are incurred by local owners of the land. On the other hand, FDI is an investment that is made by an individual or a firm in one country for business interests that are located in another country. Accordingly, FDI occurs when an investor acquires foreign business assets or foreign business operations which generally entail ownership or control of interest related to the foreign business.

towards poverty alleviation. The intuition for this line of narrative is the Asian experience of relatively higher poverty reduction which has been substantially driven by small scale agriculture (Loayza & Raddatz 2010; De Janvry & Sadoulet, 2010; Asongu & Nguena, 2015). Collier (2008) also follows this argument for sub-Saharan Africa because the region has been substantially affected by the 2008 global food price changes.

In the light of the literature discussed in Section 2, FDI is mutually beneficial to both investment corporations and domestic economies. Some advantages for host nations are finance, employment and positive externalities like managerial experience, technology & skills transfer and corporate governance. The benefits of the investing company are, inter alia: cheap labour, market access, natural resource availability and appealing externalities from bilateral and multilateral trade policies (Akpan *et al*., 2014). In accordance with the narrative, as of 2012, FDI in developing nations soared substantially over the past decades to about 52% of global flows (UNCTAD, 2013). Among these recipients, a set of countries have accounted for most of the FDI flowing into developing economies: the BRICS (Brazil, Russia, India, China & South Africa) and MINT (Mexico, Indonesia, Nigeria & Turkey). According to the World Bank (2013), these countries account for most the FDI in their respective regions[5]: Mexico in Central America, Nigeria in Africa, India in Southern Asia, Indonesia in South-Eastern Asia, Turkey in West Asia, Brazil in South America and China in East Asia.

In spite of the increasing importance of the nine nations in attracting FDI and influencing the shape of the global economy, as far as we have reviewed, the FDI literature on these countries is scant. FDI determinants in the BRICS have been examined by Vijayakumar et al. (2010) on panel data for the period 1975-2007 to conclude that, whereas the impact of trade and inflation is not insignificant, factors such as market size, labour cost, infrastructure and capital formation are more favorable to FDI inflows. Jadhav (2012) concludes that FDI is fundamentally market-oriented since 'natural resources' have a negative impact, while a positive effect is found in trade, market size and the rule of law. Jadhav & Katti (2012) use the same periodicity to conclude that regulation quality and government effectiveness have positive effects, while voice & accountabiliy, corruption-control and political instability have negative effects. Akpan *et al.* (2014), a study in the literature closest to the present line of inquiry, assessed both the BRICS and MINT economies with data from 2001 to 2011. The authors established that, whereas the quality of institutions and resources have insignificant

[5]Geographic regions are consistent with the UNCTAD classification.

effects, the impact of trade openness, infrastructure and market size are positive for FDI. These studies leave room for improvement in at least *four* areas: control for endogeneity, the comtemporarenous nature of the relationships, complementing the BRICS with the MINT, and articulating the essence of governance.

In light of the above, our contribution to the literature is fourfold. *First*, contingent on the Hausman test for endogeneity, we use panel Fixed-effects (FE) to control for unobserved heterogeneity in terms of country- and time-effects. *Second,* we introduce contemporary and non-contemporary specifications to assess whether determinants are contingent on their contemporary features. *Third,* but for Akpan *et al*. (2014), the underlying literature has been limited to the BRICS. Hence, we complement existing literature by providing evidence from both the BRICS and MINT economies. *Fourth*, we have found that the effects of governance may be insignificant (Akpan *et al*., 2014) or limited to the rule of law (Jadhav, 2012) and economic governance (Jadhav & Katti, 2012). We extend the dimension of institutions by bundling and unbundling governance dynamics. In essence, we use ten governance indicators, notably: institutional governance, economic governance, political governance, general governance, corruption-control, rule of law, regulation quality, government effectiveness, voice & accountability and political stability/no voilence[6].

The bundling and unbundling of governance variables is through principal component analysis and the bundled governance indicators represent principal components of constituents variables in the principal component analysis. The derived principal components represent composite or bundled indicators which reflect common information in the constitutent indicators. Contemporary regressions entail a process where-by the contemporary outcome variable is regressed on contemporary independent variables while non-contemporary regressions entail the regression of the contemporary outcome variable on non-contemporary independent variables. While contemporary variables are in level series, non-contemporary variables are lagged by one year.

The intuition for articulating the quality of institutions draws on a recent stream of interesting literature focusing on bundling and unbundling institutions for development outcomes. Oluwatobi *et al*. (2015) investigated the effect of various governance components on innovation in Africa and concluded that economic governance (regulation quality and government effectiveness) is the most important. Andrés & Asongu (2013) have investigated

[6] Governance and institutions are used interchangeably thoughout the paper. The latter concept of instituions is different from institutional governance which is measured by corruption-control and rule of law.

how various governance dyanmics affect the fight against software piracy and found corruption-control to be the most effective tool. Andrés *et al.* (2014) employ the same governance mechanisms to access how upholding intellectual property rights (IPR) treaties affect the knowledge economy (KE) and concluded that formal institutions are a ncessary, but not sufficient condition for KE in Africa. Asongu & Kodila-Tedika (2016) followed the same strategy employed by the two preceding studies in assessing which governance channels are most effective in the fight against African conflicts and crimes. They conclude corruption-control is the most effective institutional weapon. Drawing on the above, Asongu & Nwachukwu (2016a) bundled and unbundled institutions in predicting the Arab Spring. This process has also been employed for the measurement of political governance (voice & accountability and political stability/no violence) to show the effect of lifelong learning on political stability and non-violence in Africa (Asongu & Nwachukwu, 2016b).

In the light of the above, the objective of this study is to assess governance drivers of FDI in a panel of BRICS and MINT countries for the period 2001-2011. Assessing governance drivers is both relevant to scholars and policy makers. While the gap it fills in the scholarly literature has been discussed in the preceding paragraph, the policy importance of bundling and unbundling governance indicators is to improve policy options regarding how a plethora of governance drivers can independently and collectively affect FDI. To make the assessment, the study bundles and unbundles governance determinants using a battery of contemporary and non-contemporary estimation techniques. Our findings reveal the following: Firstly, for both contemporary and non-contemporary specifications, while the majority of our governance determinants of Gross FDI are significant, they are overwhelmingly insignificant for Net FDI. Secondly, the significance of the governance dynamics in increasing order of magnitude are general governance, political governance, economic governance, political stability, regulation quality and government effectiveness. Thirdly, for non-contemporary specifications, the significance of governance variables is as follows in ascending order of magnitude: *economic governance*, *institutional governance*, *general governance*, *corruption-control*, *political governance* and *political stability*. The importance of combining governance indicators is captured by the effects of *political governance, economic governance and institutional governance.* The results indicate that the simultaneous implementation of the various components of governance clarifies a country's attractiveness for FDI location. Policy implications are discussed with particular emphasis on the timing of FDI and its targeting.

The rest of the paper is organised in the following manner. The theoretical underpinnings, empirical literature and stylized facts are covered in section 2. Data and methodology are covered in section 3. Section 4 presents the empirical analysis and discussion of results. We conclude in section 5.

2. Theoretical underpinnings, empirical literature and stylized facts

2.1 Theoretical underpinings

This first section on theoretical underpinnings of FDI/FLA location substantially draws on Vernon (1966), who also documented a product life cycle which articulates four main stages: introduction, growth, maturity and decline. According to this pattern, new products are introduced in developed and later diffused to less developed nations over time. Hence, these fundamental stages susbtantially influence the location decision of mulitinational corporations to, *inter alia*, set-up production facilities abroad and to benefit from lower production cost and address concerns of growing demand in less developed countries. Consistent with Apkan *et al*. (2014), the electric paradigm conceived by Dunning (1988, 1993, 2000) provide a general perspective for rationalizing FDI location decisions by multinational companies. According to this model, factors like the geography, scope and industrial elements of FDI by mutlinational corporations are substantially affected by interactions in the following three sets of interdependent indicators: location specificity, strategic ownership advantages and internationalisation. This is broadly consistent with the recent survey of theoretical underpinnings on determinants by Faeth (2009).

2.2 Empirical literature

In the second section, we devote some space to discussing the findings of the empirical literature on the deteminants of FDI/FLA. Consistent with recent literature (Akpan *et al*., 2014), it depends on a number of factors, among others: estimation techniques, context of papers, data span and proxies used for indicators (Moosa, 2002; Asiedu, 2006; Hajzler, 2014; Moosa & Cardak, 2006; Asiedu, 2002; Ranjan & Agrawal, 2011; Buchanan *et al*., 2012; Sekkat & Veganzones-Varoudakis, 2007). We follow Asongu & Nguena (2014) in discussing them in six main strands, namely: quality of business climate (infrastructure, trade, returns & institutions), tenure security, weak governance, resource-grab motivations, regional factors and global economic shocks. The first is linked to FDI while the others broadly apply to FDI & FLA.

On the *first* strand that is focused on *business climate* , Amendolagine *et al.* (2013) have investigated factors motivating FDI and concluded that features such as local partners, market factors and time are significant. Other documented characteristics are infrastructure and return to capital (Asiedu, 2002), market size, trade openness and availability of infrastructure (Vijayakumar *et al.*, 2010; Bartels *et al.*, 2009; Kinda, 2010; Darley, 2012; Anyanwu, 2012; Akpan *et al.*, 2014; Büthe & Milner, 2008; Bartels *et al.*, 2014; Jadhav, 2012); the abundance of cheap labour and incentive packages (Vijayakumar *et al.*, 2010; Tuomi, 2011; Asongu, 2014b). Institutional factors entail corruption-control (De Maria, 2010; Wei, 2010), democracy (Asiedu & Lien, 2011), political stability (Busse & Hefeker, 2007), economic governance (Jadhav & Katti, 2012) and good institutional quality (Gastanaga et al., 1998; Neumayer & Spess, 2005; Kinda, 2010; Tuomi, 2011; Asongu, 2012; Cleeve, 2012; ; Abdioglu *et al.*, 2013; Hayakawa *et al.*, 2013; Bartels *et al.*, 2014).

In the *second* strand, Areski *et al.* (2013) who document the attractive force of *weak governance* have also confirmed business climate quality is an attractive feature for FDI/FLA. Here, *bad governance* motivates foreign investments. While Kolstad & Wiig (2011) have confirmed poor institutional quality as the primary factor motivating FDI from China to Africa, Asongu & Aminkeng (2013) have balanced the narrative by concluding that the motivations of Western companies are not much different from those of Chinese corporations.

The *third* strand focuses on *land tenure security* issues which have been documented as an important factor in FLA (UN, 2010; Arezki *et al.*, 2015). Systems of land tenure affect food security (Economic Commission for Africa, 2014) and have been identified as one of the fundamental factors influencing FDI/FLA (Ingwe *et al.* 2010; Okoth-Ogendo, 2008). The narrative which is in line with Wouterse *et al.* (2011) broadly characterises the issues as "*taking away the land of peasants which are possessed on communal tenure systems that starkly contrast with official land titles related to 'indigenous colonialist' controlled neoliberal capitalist systems who have used various forms of manipulation in the past to alienate Africans from their land*" (Asongu & Nguena, 2014, p.4). German *et al.* (2011) argue that in spite of their recognition, customary rights are not fundamentally protected by FLA agreements. Along the same lines, Thaler (2013) concludes that foreign investment targets countries that are characterised by authoritarian and corrupt governments associated with weak land tenure security; in countries where the rights of the local population are not clearly articulated and governance is poor, FLAs are linked to substantial risks for the population

(Liu, 2013) and local institutions do not substantially affect decisions in FLA because of overwhelming state power (Osabuohien, 2014).

Resource-seeking motivations constitute the *fourth* strand (Aleksynska & Havrylchyk, 2013; Lay & Nolte, 2014). Whereas a negative nexus has been established between natural resource-wealth and FDI in the presence of protectionist policies (Jadhav, 2012; Rogmans & Ebbers, 2013), the mainstream narrative suggests a reverse relationship. For instance, Lay & Nolte (2014) have extended Arezki et al. (2015) to confirm the positive connection between natural resource endowment and FDI. The Kostad & Wiig (2011) conclusion on a resource-thirsty China has also been debunked by Asongu & Aminkeng (2013), who conclude that the resource motivations of Western nations are very much identical to those of China.

In the *fifth* strand, we find literature on *global shocks* like food and financial crises as the principal drivers of FDI/FLA for agriculture purposes (Wouterse *et al*., 2011). After the 2008 global food crises, countries that substantially relied on food imports began acquiring land abroad for food security agricultural purposes (UN, 2010). According to Clapp (2013), Fairbairn (2013) and Isakson (2013), financial investors and private sectors seized the opportunity of speculative investments when in 2008 about 25 countries imposed food export restrictions. Investment banks that engaged in such speculation with agricultural investment funds are Knight Frank in the UK, Goldman Sachs & Black Rock in the USA and Deutsche Bank in Germany. In summary, consistent with German *et al*. (2011), the increasing interest in biofuels and rapid growth of emerging economies are some factors that have influenced the speed and scale of FDI/FLA.

Factors in the *sixth* strand are *regional*. Before the 2007/2008 food and financial crises, Asiedu (2002) had established that Sub-Saharan Africa (SSA) received relatively less FDI by virtue of its geographic location. Anyanwu (2012), who does not subscribe to Asiedu's position, concludes that the Eastern and Southern sub-regions in Africa are predisposed to obtain more FDI. A new stream of research is consistent with the view that SSA is a good candidate for FLA location decisions because of, among other things: the relatively low use of water supply which currently stands in the neighbourhood of 2% of underground reserves (UN, 2010), well-nurtured North-South FDI relations (Aleksynska & Havrylchyk, 2013), the existence of local partners based on strong colonial networks (Amendolagine *et al*., 2013), and China's strategy that is oriented towards non-interference and partnership (Yin & Vaschetto, 2011).

2.3 Stylized facts

Table 1 below presents some stylized facts of the BRICS and MINT countries. Consistent with Apkan *et al.* (2014), the former accounted for 15% of world GDP and attracted 26% of global FDI. Some interesting common features among BRICS and MINT are: membership in the Great 20 (G20), excluding Nigeria, burgeoning youth population, and FDI-friendly policies. Other stylized facts presented in the table clearly articulate the evolving importance of these nations. For instance, between 2001 and 2012, FDI to the nine countries rose to 510.4 billion from 113.6 billion (in current USD). Within the same horizon, these countries accounted for 51% of the population in the world, attracted about 30% of global FDI and 19% of world GDP (World Bank, 2013).

Table 1: Stylized Facts on BRICS and MINT

	GDP (constant 2005 US$, billions)	GDP per capita (constant 2005 US$)	GDP growth (annual %)	GDP per capita growth (annual %)	FDI net inflows (BoP, current US$, billions)*	Population growth (annual %)	Population, total, millions	Natural resources, Share of GDP*	Human Development Index (HDI)
Brazil	1136.56	5721.23	0.87	0.00	71.54	0.87	198.66	5.72	0.73
China	4522.14	3348.01	7.80	7.28	280.07	0.49	1350.70	9.09	0.70
India	1368.76	1106.80	3.24	1.94	32.19	1.26	1236.69	7.36	0.55
Indonesia	427.47	1731.59	6.23	4.91	19.24	1.25	246.86	10.00	0.63
Mexico	997.10	8250.87	3.92	2.65	21.50	1.24	120.85	9.02	0.78
Nigeria	177.67	1052.34	6.55	3.62	8.84	2.79	168.83	35.77	0.47
Russia	980.91	6834.01	3.44	3.03	55.08	0.40	143.53	22.03	0.79
South Africa	307.31	6003.46	2.55	1.34	5.89	1.18	51.19	10.64	0.63
Turkey	628.43	8492.61	2.24	0.94	16.05	1.28	74.00	0.84	0.72
*2011 data									

Source of data: UNDP (2013), World Bank (2013) and Akpan *et al.* (2014)

3. Data and Methodology

3.1 Data

The study assesses a panel of the nine BRICS (Brazil, Russia, India, China & South Africa) and MINT (Mexico, Indonesia, Nigeria & Turkey) fast growing emerging countries with data from Apkan *et al.* (2014) for the period 2001-2011. The geographical and temporal scopes of the study are based on data availability constraints at the time of the study. Data from the underlying study which is consistent with UNCTAD's classification of FDI

determinants (see Table 2) is obtained from the World Development Indicators and the World Governance Indicator databases of the World Bank. Two dependent variables are used in the analysis, notably Gross FDI and Net FDI. The choice of these dependent variables is in accordance with the underpinning literature which is based on four principal types of FDI, namely: net FDI inflow as a percentage of GDP (Lehnert *et al*., 2013), net FDI flows as a percentage of GDP (Asiedu, 2002), unidirectional FDI inflow into recipient countries (Rogmans & Ebbers, 2013) and net FDI inflow (Jadhav, 2002). Following Apkan *et al*. (2014), we use Net FDI and Gross FDI. The motivation for using both measures is to control for capital consumption (or depreciation). Accordingly Gross FDI is total investments on new inputs of capital while net FDI is the Gross FDI that is adjusted for depreciations (or capital consumption).

The adopted determinants or independent variables have been discussed in the literature above. They are in accordance with the UNCTAD's classification in Table 2. The exogenous variables are: natural resources, inflation, infrastructure, bank credit and ten governance variables. While the first-four are control variables, the governance dynamics are the key variables of interest. They are (i) *voice & accountability, (ii) poltiical stability, (iii) regulation quality, (iv) government effectivenesss, (v) the rule of law and (vi) corruption-control, (vii) political governance, (viii) economic governance, (ix) institutional governance and (x) general governance. The latter four of the governance dynamic are Principal Components (PCs) generated by bundling the former six individual governance variables using the Principal Component Analysis (PCA) Method explained in Section 3.2.1 below.* On the expected signs of the governance variables, a key point is noteworthy here. As discussed in the preceding section, there is as yet no consensus on the effects of governance dynamics. This is the partial motivation here for bundling and unbundling the impact of goverance elements (Pelizzo & Nwokora, 2016, 2018; Pelizzo, Araral, Pak & Xun, 2016; Asongu & Nnanna, 2019; Asongu & Odhiambo, 2019a, 2019b, 2019c).

With respect to the set of control variables, we expect a positive relationship with FDI, except for inflation. High inflation is potentially detrimental to FDI. Inflation which is measured with the Consumer Price index is consistent with Barro (2003). The anticipated sign could also be positive because low and stable inflation has been documented to be conduicive for a promising economic outlook (Asongu 2013a). This draws from the intuition that chaotic inflation is linked to uncertainty and investors prefer to engage with less ambiguous economic strategies (le Roux & Kelsey, 2017, 2018). The choice of bank credit as a control indicator is

in line with Asongu (2015) and the anticipated positive nexus with investment is consistent with the theoretical and empirical evidence from the financial development literature (see Levine, 2005). In essence, credit availability offers investment opportunities to economic operators. The choice of natural resources which is in accordance with Fosu (2013) is essentially motivated by the documented evidence that the exploitation and exportation of natural resources is directly linked with FDI in developing countries (see Amavilah, 2015). The importance of infrastructure as a determinant has been recently documented by Sahoo et al. (2010). The positive role of infrastructure in determining FDI location decisions is consistent with Asiedu (2002) and Sekkat and Veganzones-Varoudakis (2007), who have also used Mobile phones' (per 100 people) as a proxy. In essence, mobile telephony has been substantially documented to be driving investment and growth in developing nations (Afutu-Kotey *et al*., 2017; Asongu & Boateng, 2018; Bongomin *et al*., 2018 ; Gosavi, 2018; Hubani & Wiese, 2018; Isszhaku *et al*., 2018; Minkoua Nzie *et al*., 2018; Muthinja & Chipeta, 2018; Abor *et al*., 2018).

Table 2: UNCTAD's Classification of FDI determinants

Determining Variables	**Examples**
Policy variables	Tax policy, trade policy, privatization policy, macroeconomic policy
Business variables	Investment incentives
Market-related economic determinants	Market size, market growth, market structure
Resource-related economic determinants	Raw materials, labor costs, technology
Efficiency-related economic determinants	Transport and communication costs, labor productivity

Source: UNCTAD (2002) and Akpan et al. (2014)

The summary statistics of the variables are presented in Table 3 below. It could be inferred from it that the variables are comparable. Moreover, the degree of variation is quite substantial and hence, reasonable estimated relationships are expected to emerge.

Table 3: Summary Statistics of Variables

	Mean	S.D	Min	Max	Obs
Net Foreign Direct Investment (NFDI)	**28.979**	**46.359**	**-2.977**	**280.07**	99
Foreign Direct Investment (FDI)	2.402	1.348	-1.855	6.136	99
Infrastructure (Number of mobile phones per 100 people)	52.433	39.220	0.210	179.31	99
Bank Credit (on GDP)	85.019	63.492	4.909	201.58	99
Natural resources (on GDP)	9.003	8.110	0.294	38.410	99
Inflation (Consumer Price Index)	8.580	7.519	-0.765	54.400	99
Voice & Accountability	-0.192	0.680	-1.681	0.727	99
Political Stability	-0.826	0.613	-2.193	0.286	99
Regulation Quality	-0.104	0.437	-1.322	0.778	99
Government Effectiveness	-0.100	0.454	-1.200	0.691	99
Rule of Law	-0.428	0.458	-1.522	0.279	99
Corruption Control	-0.431	0.462	-1.333	0.612	99
Political Governance	0.000	1.153	-2.210	1.976	99
Economic Governance	-0.000	1.372	-3.291	2.639	99
Institutional Governance	0.000	1.348	-3.048	2.412	99
General Governance	0.000	2.124	-4.650	3.765	99

S.D: Standard Deviation. Min: Minimum. Max: Maximum. Obs: Observations.

3.2 Methodology

3.2.1 Principal Component Analysis

Consistent with Asongu & Nwachukwu (2015), the substantial degree of substitution among governance indicators in Table 5 implies some overlapping information. We employ Principal Component Analysis (PCA) to address this concern. The use of the PCA technique also enables us to bundle governance variables. This statistical method facilitates the reduction of a high set of correlated variables into a smaller combination of uncorrelated indicators known as Principal Components (PCs). In the process, four more governance indicators are blended from the six individual governance variables identified in Section 2.1. The PC governance dynamics comprise: *Political governance,* which measures the election and replacement of political leaders is approximated by: *voice & accountability* and *political stability/non-violence*; *Economic governance,* which is the formulation and implementation of policies that deliver public commodities, is denoted by *regulation quality and government effectiveness* ; *Institutional governance,* which is defined as the respect of the State and citizens of institutions that govern interactions between them is measured by the *rule of law* and *corruption-control* (Andrés *et al*., 2015).

The policy interest of bundling and unbundling governance variables is to avoid conceptual conflation in the governance literature. For instance, it is inappropriate to use the

term "political governance" unless it captures "political governance" and "voice & accountability"[7]. Moreover, Kangoye (2013) has used governance to qualify a study when corruption is the main governance dynamic used in the study. According to this study, general governance can only be employed to qualify a context, if it entails political stability/no violence, voice & accountability, regulation quality, government effectiveness, corruption control and the rule of law. The general governance indicator can be derived by means of PCA.

Consistent with the underlying literature (Tchamyou, 2017, 2019), we use the Kaiser (1974) and Jolliffe (2002) criterion for the retention of common factors. Hence, we retain factors or PCs with an eigenvalue higher than the mean (or one). In Table 4 below, it can be observed that: *General governance* (G.Gov) which is a first PC has an eigenvalue of 4.514 and represents about 75% of variation in the original six individual governance variables.

In spite of the bundling of variables in order to improve policy implications and avoid conceptual conflations, the study addresses the issues of high degrees of substitution among governance variables by employing them in distinct specifications to limit concerns of multicollinearity.

Table 4: Principal Component Analysis (PCA) for Governance (Gov)

Principal Components	Component Matrix(Loadings)						Proportion	Cumulative Proportion	Eigen Value
	VA	PS	RQ	GE	RL	CC			
First PC (G.Gov)	0.305	0.385	0.440	0.441	0.409	0.452	0.752	0.752	4.514
Second PC	0.848	-0.461	-0.207	-0.115	0.096	0.048	0.121	0.874	0.731
Third PC	0.337	0.532	-0.240	0.192	-0.714	0.012	0.064	0.938	0.385
First PC (Polgov)	0.707	0.707	---	---	---	---	0.664	0.664	1.329
Second PC	-0.707	0.707	---	---	---	---	0.335	1.000	0.670
First PC (Ecogov)	---	---	0.707	0.707	---	---	0.941	0.941	1.883
Second PC	---	---	-0.707	0.707	---	---	0.058	1.000	0.116
First PC (Instgov)	---	---	---	---	0.707	0.707	0.909	0.909	1.818
Second PC	---	---	---	---	-0.707	0.707	0.090	1.000	0.181

"P.C: Principal Component. VA: Voice & Accountability. RL: Rule of Law. R.Q: Regulation Quality. GE: Government Effectiveness. PS: Political Stability. CC: Control of Corruption. G.Gov (General Governance): First PC of VA, PS, RQ, GE, RL & CC. Polgov (Political Governance): First PC of VA & PS. Ecogov (Economic Governance): First PC of RQ & GE. Instgov (Institutional Governance): First PC of RL & CC".

Borrowing from Asongu & Nwachukwu (2016), we devote some space to discussing potential concerns that may arise when regressors originate from previous regressions. Three

[7] It is important to note that there is an evolving stream of literature on the need to bundle and unbundle governance variables in order to limit conceptual conflation (Asongu, 2016; Asongu & Ssozi, 2016; Ajide & Raheem, 2016a, 2016b; Asongu et al., 2018, 2019).

issues have been documented by Pagan (1984, p. 242) on the quality of resulting estimators. They are: (i) efficiency, (ii) consistency and, (iii) validity of inferences at the second stage of the estimation. According to the conclusions of the author, whereas estimators from a *two-step* procedure are consistent and efficient, inferences provided by a few are valid. This narrative is broadly in accordance with a recent literature on the use methods such as PCA which relies on a two-step regression modelling (Oxley & McAleer, 1993; McKenzie & McAleer, 1997; Ba & Ng, 2006; Westerlund & Urbain, 2013a).

The use of PCs within the framework of this analysis has been documented by Westerlund & Urbain (2012, 2013b) who have built on previous papers (Pesaran, 2006; Stock & Watson, 2002; Bai, 2003; Bai, 2009; Greenaway-McGrevy et al., 2012). As to what error are inherent in PC regressors, they have remarked on the possibility of normal inferences with PC-factors augmenting regressions, if the coefficients that are estimated converge toward their real values at the rate: $\sqrt{NT}$, (where T is the number of time series and N, the number of cross sections). We argue that, any potential issues of small sample bias are not very feasible here because we are constrained by the sample size. In essence, only nine countries constitute the MINT and BRICS among fast growing developing countries.

Table 5: Correlation Analysis

VA	PS	RQ	GE	RL	CC	Polgov	Ecogov	Instgov	G.Gov	
1.000	0.329	0.542	0.457	0.538	0.623	0.815	0.515	0.614	0.648	VA
	1.000	0.774	0.759	0.579	0.752	0.815	0.790	0.698	0.817	PS
		1.000	0.883	0.716	0.886	0.807	0.970	0.840	0.934	RQ
			1.000	0.827	0.861	0.746	0.970	0.885	0.936	GE
				1.000	0.818	0.685	0.795	0.953	0.868	RL
					1.000	0.849	0.900	0.953	0.959	CC
						1.000	0.800	0.804	0.899	Polgov
							1.000	0.889	0.963	Ecogov
								1.000	0.958	Instgov
									1.000	G.Gov

"P.C: Principal Component. VA: Voice & Accountability. RL: Rule of Law. R.Q: Regulation Quality. GE: Government Effectiveness. PS: Political Stability. CC: Control of Corruption. G.Gov (General Governance): First PC of VA, PS, RQ, GE, RL & CC. Polgov (Political Governance): First PC of VA & PS. Ecogov (Economic Governance): First PC of RQ & GE. Instgov (Institutional Governance): First PC of RL & CC".

3.2.2 Estimation Technique

We assess contemporary and non-contemporary determinants using panel regressions. The choice between panel fixed effects (FE) or random effects (RE) is decided by the outcome of the Hausman test for endogeneity.

Assuming the Hausman test for endogeneity is rejected, Eq.(1) and Eq. (2) below denote the corresponding contemporary and non-contemporary specifications respectively of FE regressions.

$$FDI_{i,t} = \alpha + \sum_{h=1}^{n} \delta_j W_{h,i,t} + \eta_i + \varepsilon_{i,t} \qquad (1)$$

$$FDI_{i,t} = \alpha + \sum_{h=1}^{n} \delta_j W_{h,i,t-1} + \eta_i + \varepsilon_{i,t} \qquad (2)$$

Where: $FDI_{i,t}$ is the *Foreign Direct Investment* for country i at period t; α is a constant, W is the vector of determinants η_i is the country-specific effect, and $\varepsilon_{i,t}$ the error term. The regressions are specified with Heteroscedasticity and Autocorrelation Consistent (HAC) standard errors.

The pairwise correlation matrix in Table 6 below helps us in mitigating potential problems arising from multicollinearity and overparameterization. Interestingly, the linear association between Gross FDI and our governance variables, with the exception of political stability/non-violence is negative. The inference is that reforms in these other governance variables by themselves could potentially reduce the attractiveness of BRICS and MINT economies as destinations for FDI. Such provides support for the weak governance effect suggested by Areski *et.al*. (2013). This finding is consistent with our indicators of political governance, regulation quality, corruption-control, institutional governance and general governance regardless of whether the Gross FDI or Net FDI were considered in the correlation analysis. By contrast, the correlation coefficients for the indicators of economic governance, government effectiveness and the rule of law reverted to a positive sign when Net FDI was used in the pairwise correlation. We may surmise that policy actions which enhance the quality of institutions in terms of these last three dynamics may help curtail the problem of reverse investment or disinvestment in our BRICS and MINT states, even if they might not necessarily lead to a significant increase in inward direct investment.

Table 6: Correlation Matrix (n for panel A =90)

Control Variables				Governance Dynamics										Foreign Investment		
Infra	Infla	Credit	Nres	VA	PS	Pgov	RQ	GE	Egov	RL	CC	Ingov	Ggov	FDI	NFDI	
1.000	-0 .102	0.210	0.277	0.032	0.291	0.198	0.291	0.190	0.248	0.132	0.141	0.143	0.212	0.136	0.183	Infra
	1.000	-0.0004	0.077	-0.061	-0.274	-0.205	-0.124	-0.254	-0.193	-0.150	-0.253	-0.211	-0.219	-0.157	-0.251	Infla
			-0.488	0.114	0.548	0.406	0.585	0.682	0.658	0.716	0.703	0.744	0.668	-0.031	0.174	Credit
			1.000	-0.269	-0.228	-0.305	-0.261	-0.345	-0.312	-0.490	-0.455	-0.495	-0.397	0.057	0.049	Nres
				1 .000	0.329	0.815	0.542	0.457	0.515	0.538	0.632	0.614	0.648	-0.392	-0.056	VA
					1.000	0.815	0.774	0.759	0.790	0.579	0.752	0.698	0.817	0.137	0.221	PS
						1.000	0.807	0.746	0.800	0.685	0.849	0.804	0.899	-0.156	-0.209	Pgov
							1.000	0.883	0.970	0.716	0.886	0.840	0.934	-0.113	-0.028	RQ
								1.000	0.970	0.827	0.861	0.885	0.936	-0.143	0.128	GE
									1.000	0.795	0.900	0.889	0.963	-0.143	0.051	Egov
										1.000	0.818	0.953	0.868	-0.247	0.028	RL
											1.000	0.953	0.959	-0.087	-0.067	CC
												1.000	0.958	-0.175	-0.020	Ingov
													1.000	-0.151	-0.028	Ggov
														1.000	0.448	FDI
															1.000	NFDI

Infra: Infrastructure. Infla: Inflation. Credit : Domestic Credit. Nres: Natural resources. VA: Voice & Accountability. PS: Political Stability. Polgov: Political governance. RQ: Regulation Quality. GE: Government Effectiveness. Egov: Economic governance. RL: Rule of Law. CC: Corruption-Control. Ingov: Institutional governance. Ggov: General governance. FDI: Gross FDI. NFDI: Net FDI.

4. Empirical results

4.1 Presentation of results

Table 7 and Table 8 below present contemporary and non-contemporary determinants of FDI respectively. Panel A of either table has Gross FDI as the dependent variable, while the dependent variable for Panel B is Net FDI. The decision as to whether a FE or RE model is a better fit is contingent on the outcome of the Hausman test. A rejection of the test implies the FE model is a better fit.

The following broad finding can be established. While the determinants of Gross FDI are significant in Panel A, they are overwhelmingly insignificant for Panel B on Net FDI. We may therefore suppose that governance reforms in countries with similar long-term attributes such as language, culture, religion, climate, demography and ethnicity, would have a comparable effect on inward and outward direct investment decisions. This inference is consistent with both contemporary and non-contemporary specifications[8] in Tables 7 and 8 respectively.

Table 7: Contemporary Determinants (Panel Fixed- and Random-Effects)

	Panel A : Gross FDI									
Constant	**1.754*** (0.003)**	**2.828*** (0.003)**	**2.059* (0.066)**	1.504 (0.144)	1.199 (0.226)	0.981 (0.356)	1.341 (0.115)	**2.483** (0.013)**	1.580 (0.160)	1.536 (0.157)
Voice & Accountability	**-0.761** (0.039)**	---	---	---	---	---	---	---	---	---
Political Stability	---	**1.006*** (0.007)**	---	---	---	---	---	---	---	---
Political Governance	---	---	**0.595** (0.029)**	---	---	---	---	---	---	---
Regulation Quality	---	---	---	**1.669** (0.044)**	---	---	---	---	---	---
Government Effectiveness	---	---	---	---	**2.035** (0.024)**	---	---	---	---	---
Economic Governance	---	---	---	---	---	**0.832*** (0.001)**	---	---	---	---
Rule of Law	---	---	---	---	---	---	-0.525 (0.443)	---	---	---
Corruption-Control	---	---	---	---	---	---	---	-0.004 (0.714)	---	---
Institutional Governance	---	---	---	---	---	---	---	---	0.483 (0.100)	---
General Govevernance	---	---	---	---	---	---	---	---	---	**0.561*** (0.006)**
Nresources	0.033 (0.220)	**0.072** (0.015)**	**0.052*** (0.000)**	**0.064** (0.044)**	**0.073** (0.029)**	**0.079** (0.041)**	0.046 (0.105)	0.046 (0.176)	**0.047** (0.028)**	**0.065** (0.016)**
Infrastructure	**0.007** (0.013)**	**0.008*** (0.006)**	**0.017*** (0.000)**	**0.025*** (0.000)**	**0.023*** (0.000)**	**0.027*** (0.000)**	**0.009*** (0.005)**	**0.024*** (0.000)**	**0.020*** (0.000)**	**0.023*** (0.000)**
Inflation	-0.020 (0.305)	-0.021 (0.261)	-0.016 (0.367)	-0.011 (0.567)	-0.010 (0.442)	-0.009 (0.543)	-0.019 (0.352)	0.014 (0.424)	0.0009 (0.963)	-0.002 (0.880)
Domestic Credit	-0.001 (0.797)	-0.006 (0.318)	-0.007 (0.568)	0.0005 (0.967)	0.003 (0.800)	0.003 (0.819)	0.0003 (0.951)	-0.004 (0.714)	-0.001 (0.894)	-0.003 (0.819)

[8] 'Both specifications' are used subsequently to refer to 'contemporary and non-contemporary' specifications.

Hauman test	8.547	6.011	**18.404*** **	**11.258** **	**12.836** **	**14.800** **	7.262	**15.652*** **	**12.562** **	**23.843*** **
Time effects	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Log-likelihood	-132.1729	-159.038	---	---	---	---	-142.920	---	---	---
Within variance	0.733	0.646	---	---	---	---	0.733	---	---	---
Between variance	0.587	1.874	---	---	---	---	0.939	---	---	---
Within R^2	---	---	0.437	0.450	0.434	0.462	---	0.452	0.423	0.462
Fisher	---	---	**7.273*** **	**7.524*** **	**7.222*** **	**7.749*** **	---	**7.553*** **	**7.019*** **	**7.741*** **
Observations	90	90	90	90	90	90	90	90	90	90
					Panel B : Net FDI					
Constant	39.079	-19.468	40.571	42.172	32.557	36.040	-0.599	45.951	42.000	41.944
	(0.193)	(0.531)	(0.160)	(0.152)	(0.187)	(0.176)	(0.984)	(0.187)	(0.154)	(0.152)
Voice & Accountability	-7.631	---	---	---	---	---	---	---	---	---
	(0.845)									
Political Stability	---	-5.848	---	---	---	---	---	---	---	---
		(0.618)	-2.515							
Political Governance	---	---	(0.811)	---	---	---	---	---	---	---
Regulation Quality	---	---	---	3.684	---	---	---	---	---	---
				(0.889)						
Government Effectivness	---	---	---	---	47.677	---	---	---	---	---
					(0.220)					
Economic Governance	---	---	---	---	---	8.324	---	---	---	---
						(0.457)				
Rule of Law	---	---	---	---	---	---	18.723	---	---	---
							(0.415)			
Corruption-Control	---	---	---	---	---	---	---	7.570	---	---
								(0.788)		
Institutional Governance	---	---	---	---	---	---	---	---	5.163	---
									(0.670)	
General Governance	---	---	---	---	---	---	---	---	---	3.233
										(0.705)
Nresources	-0.424	1.382	-0.449	-0.367	0.275	-0.059	1.481	-0.404	-0.370	-0.287
	(0.747)	(0.142	(0.736)	(0.755)	(0.769)	(0.950)	(0.111)	(0.735)	(0.725)	(0.809)
Infrastructure	-0.044	**0.436*** **	-0.020	-0.008	0.100	0.065	**0.414*** **	0.001	-0.0005	0.003
	(0.911)	**(0.000)**	(0.952)	(0.980)	(0.710)	(0.827)	**(0.000)**	(0.997)	(0.998)	(0.991)
Inflation	0.773	0.658	0.805	0.803	0.873	0.840	0.674	0.912	0.956	0.862
	(0.158)	(0.288)	(0.174)	(0.162)	(0.147)	(0.146)	(0.279)	(0.230)	(0.187)	(0.162)
Domestic Credit	-0.448	0.032	-0.453	-0.476	-0..379	-0.439	-0.035	-0.495	-0.488	-0.491
	(0.245)	(0.888)	(0.265)	(0.247)	(0.252)	(0.247)	(0.875)	(0.243)	(0.246)	(0.236)
Hausman	**21.169*** **	7.146	**20.575*** **	**17.58*** **	**10.931***	**13.75** **	8.536	**24.613*** **	**11.964** **	**17.77*** **
Time effects	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Log-likelihood	---	-482.063	---	---	---	---	-481.896	---	---	---
Within variance	---	635.748	---	---	---	---	634.301	---	---	---
Between variance	---	2335.06	---	---	---	---	1964.07	---	---	---
Adjusted R^2	0.352	---	0.352	0.352	0.371	0.358	---	0.352	0.354	0.354
Fisher	**11.292*** **	---	**11.297*** **	**11.28*** **	**11.726*** **	**11.425*** **	---	**11.302*** **	**11.342*** **	**11.329*** **
Observations	90	90	90	90	90	90	90	90	90	90

*, **, ***: significance levels of 10%, 5% and 1% respectively. The Random Effects specifications are not modelled with time-effects due to issues in degrees of freedom. Accordingly, the matrices become 'positive definite' when the model is specified with 'time-effects'.

The results from the contemporary specifications may be summarised as follows. *First,* the significance of governance dynamics are as follows in increasing order of magnitude[9]: *general governance* (0.561), *political governance* (0.595), *economic governance* (0.832), *political stability* (1.006), *regulation quality* (1.669) and *government effectiveness* (2.035). *Second*, while *institutional governance* and its corresponding components (*rule of*

[9] The magnitude imply that one governance dynamic is more important than others to increase FDI flows and by extension should be given policy priority in decisions to attract FDI.

law and *corruption-control*) have insignificant effects, the impact of *voice & accountability* is persistently negative. A possible explanation for this surprising result is that freedom of speech, accountability and press reporting on matters such as minimum wages, health and safety, environmental controls, tax evasion and human rights abuse may not favour returns to direct investment. *Third,* the motivation to bundle governance variables is articulated by the effect of *political governance* which is significantly positive while one of its components (voice & accountability) is consistently negative. *Fourth,* the signs for the coefficients for most of our governance dynamics reverted from negative in the pairwise correlation analysis to positive in the panel fixed and random effect models. This may be construed as an indication that FDI flows are not simply motivated by governance reforms *per se*, but by the interrelatedness between these structural adjustments and the above-mentioned persistent country attributes. *Fifth*, the significant control variables have the expected signs. Accordingly, *infrastructure* and *natural resources* positively influence Gross FDI flows.

The following outcomes are established for non-contemporary specifications in Table 8. *First,* the significance of the governance dynamics are as follows in increasing order of magnitude: *economic governance* (0.427), *institutional governance* (0.485), *general governance* (0.489), *corruption-control* (0.578), *political governance* (0.802) and *political stability* (0.908). *Second*, while *regulation quality and government effectiveness* have insignificant effects on Gross FDI, their combined impact as captured by the economic governance variable is significantly positive at ten percent level. *Third,* the decision to bundle governance dynamics is justified by the effects of *political governance, economic governance and institutional governance* which varied markedly from those of their individual elements either in terms of sign, size and level of statistical significance. *For instance, (i) political governance* is significantly positive while one of its components (voice & accountability) is negative (ii) *Economic governance* is significantly positive while its components (*regulation quality* and *government effectiveness*) are not and (iii) *institutional governance* is significant while one of its components (*rule of law*) is not. *Fourth,* the significant control variables have the expected signs. Accordingly, *infrastructure*, *domestic credit* and *natural resources* positively influence Gross FDI while *inflation* has a negative effect. Overall, irrespective of tables, it is worthwhile to articulate that the large constant terms, especially for Net FDI, suggest that much of the variations in FDI are not explained by governance, natural resources, infrastructure, inflation, and domestic rate of interest.

Table 8: Non contemporary determinants (Panel Fixed- and Random-Effects)

					Panel A : Gross FDI					
Constant	**2.103*** **	**2.781*** **	0.410	-0.795	**1.719** **	-1.196	**1.848** **	-0.310	-0.857	-1.001
	(0.000)	**(0.004)**	(0.511)	(0.377)	**(0.010)**	(0.225)	**(0.033)**	(0.639)	(0.288)	(0.222)
Voice & Accountability (-1)	**-0.777** **	---	---	---	---	---	---	---	---	---
	(0.021)									
Political Stability (-1)	---	**0.908** **	---	---	---	---	---	---	---	---
		(0.017)								
Political Governance (-1)	---	---	**0.802** **	---	---	---	---	---	---	---
			(0.026)							
Regulation Quality (-1)	---	---	---	0.748	---	---	---	---	---	---
				(0.201)						
Government Effectiveness(-1)	---	---	---	---	-0.890	---	---	---	---	---
					(0.179)					
Economic Governance (-1)	---	---	---	---	---	**0.427***	---	---	---	---
						(0.069)				
Rule of Law (-1)	---	---	---	---	---	---	-0.121	---	---	---
							(0.862)			
Corruption-Control (-1)	---	---	---	---	---	---	---	**0.578*** **	---	---
								(0.007)		
Institutional Governance (-1)	---	---	---	---	---	---	---	---	**0.485***	---
									(0.089)	
General Governance (-1)	---	---	---	---	---	---	---	---	---	**0.489** **
										(0.016)
Natural Resources (-1)	0.036	**0.074** **	0.052	0.045	0.049*	0.053	**0.055***	0.036	0.039	0.055
	(0.173)	**(0.014)**	(0.106)	(0.217)	(0.073)	(0.132)	**(0.061)**	(0.292)	(0.246)	(0.105)
Infrastructure (-1)	0.003	0.003	0.007	0.011	0.003	0.012	0.004	0.010	0.011	**0.012***
	(0.323)	(0.339)	(0.329)	(0.176)	(0.308)	(0.110)	(0.236)	(0.233)	(0.145)	**(0.090)**
Inflation (-1)	**-0.051** **	**-0.053*** **	-0.012	-0.006	**-0.051** **	-0.005	**-0.049** **	0.0009	0.007	0.002
	(0.011)	**(0.007)**	(0.190)	(0.533)	**(0.013)**	(0.572)	**(0.017)**	(0.955)	(0.610)	(0.850)
Domestic Credit (-1)	0.001	-0.000	0.011	**0.021*** **	0.004	**0.023*** **	0.002	**0.019*** **	**0.020** **	**0.020** **
	(0.778)	(0.994)	(0.170)	**(0.007)**	(0.366)	**(0.005)**	(0.678)	**(0.007)**	**(0.012)**	**(0.012)**
Hauman test	7.767	5.196	**17.40*** **	**10.983***	9.124	**11.055***	8.670	**10.194** **	**9.944***	**17.83*** **
Time effects	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Log-likelihood	-113.00	-139.056	---	---	-119.311	---	-126.621	---	---	---
Within variance	0.7136	0.632	---	---	0.706	---	0.693	---	---	---
Between variance	0.472	1.823	---	---	0.618	---	0.919	---	---	---
Within R^2	---	---	0.497	0.435	---	0.442	---	0.429	0.446	0.474
Fisher	---	---	**8.011*** **	**6.827*** **	---	**6.949*** **	---	**6.729*** **	**7.025*** **	**7.541*** **
Observations	81	81	81	81	81	81	81	81	81	81
					Panel B : Net FDI					
Constant	**117.108***	3.216	**125.10***	**121.89***	13.855	**108.01***	17.688	121.013	1.721	119.448
	(0.098)	(0.923)	**(0.098)**	**(0.098)**	(0.624)	**(0.018)**	(0.594)	(0.112)	(0.950)	(0.113)
Voice & Accountability (-1)	-28.834	---	---	---	---	---	---	---	---	---
	(0.530)									
Political Stability (-1)	---	-0.535	---	---	---	---	---	---	---	---
		(0.965)								
Political Governance (-1)	---	---	2.438	---	---	---	---	---	---	---
			(0.833)							
Regulation Quality (-1)	---	---	---	1.474	---	---	---	---	---	---
				(0.953)						
Government Effectiveness(-1)	---	---	---	---	37.063	---	---	---	---	---
					(0.151)					
Economic Governance (-1)	---	---	---	---	---	7.593	---	---	---	---
						(0.471)	21.148			
Rule of Law (-1)	---	---	---	---	---	---	(0.394)	---	---	---
Corruption-Control (-1)	---	---	---	---	---	---	---	-17.232	---	---
								(0.505)		
Institutional Governance (-1)	---	---	---	---	---	---	---	---	-0.879	---
									(0.919)	
General Governance (-1)	---	---	---	---	---	---	---	---	---	2.546
										(0.749)
Natural Resources (-1)	-0.1902	0.859	-0.050	-0.080	0.902	0.194	0.906	-0.085	0.836	-0.002

	(0.848)	(0.394)	(0.959)	(0.926)	(0.357)	(0.774)	(0.361)	(0.941)	(0.399)	(0.997)
Infrastructure (-1)	-0.1745	**0.392*** **	-0.075	-0.068	**0.394*** **	-0.001	**0.375*** **	-0.135	**0.371*** **	-0.051
	(0.699)	**(0.001)**	(0.821)	(0.832)	**(0.000)**	(0.997)	**(0.001)**	(0.704)	**(0.002)**	(0.878)
Inflation (-1)	-0.010	-0.106	0.084	0.100	-0.127	0.148	-0.056	-0.187	-0.200	0.153
	(0.970	(0.870)	(0.787)	(0.738)	(0.848)	(0.656)	(0.931)	(0.671)	(0.775)	(0.664)
Domestic Credit (-1)	-0.519	0.022	-0.655	-0.625	-0.058	**-0.572***	-0.034	-0.616	0.069	-0.629
	(0.108)	(0.927)	(0.120)	(0.111)	(0.797)	**(0.092)**	(0.885)	(0.120)	(0.770)	(0.126)
Hausman	**13.123** **	4.603	**15.77*** **	**16.964*** **	8.577	**11.736** **	6.434	**19.33*** **	9.085	**13.928** **
Time effects	Yes	No	Yes	Yes	No	Yes	No	Yes	No	Yes
Log-likelihood	---	-432.367	---	---	-434.242	---	-433.583	---	-430.950	---
Within variance	---	681.532	---	---	654.042	---	672.085	---	681.048	---
Between variance	---	2769.32	---	---	1926.97	---	2276.81	---	1717.61	---
Adjusted R^2	0.347	---	0.341	0.340	---	0.346	---	0.345	---	0.342
Fisher	**12.262*** **	---	**12.124*** **	**12.109*** **	---	**12.241*** **	---	**12.21*** **	---	**12.13*** **
Observations	81	81	81	81	81	81	81	81	81	81

*, **, ***: significance levels of 10%, 5% and 1% respectively. The Random Effects specifications are not modelled with time-effects due to issues of degree of freedom.

4.2 Further discussion of results and policy implications

We discuss the results in *four* main strands: differences in tendencies of effect on Gross FDI versus Net FDI[10]; comparing and contrasting contemporary and non-contemporary specifications in terms of significance & magnitude and interest of bundling & unbundling governance dynamics on contemporary & non-contemporary specifications.

First, the fact that the governance dynamic effects on Gross FDI are significant while they are insignificant for Net FDI logically implies that the effects of governance may be more apparent in FDI outflows or disinvestment. The results are broadly consistent with Apkan *et al*. (2014) that used Net FDI and found no significant effect between governance and the dependent variable. The *rule of law* estimate which is consistently insignificant across contemporary and non-contemporary specifications is contrary to Jadhav (2012) who concluded that it plays a significant positive role in attracting FDI into the BRICS. Given that we have enlarged the dataset, the insignificance could be traceable to the MINT countries, methodology of estimation and conditionining informaton set or control variables. It should be noted that the present line of inquiry and Jadhav (2012) have sample periodicities that are almost similar (2001-2011 versus 2000-2009 respectively). The favourable effects of *regulation quality* and *government effectiveness* from Jadhav & Katti (2012) who have used the same periodicity as Jadhav (2012) is confirmed only in contemporary specifications of the present study. Only the negative effect of *voice & accountability* is confirmed in both contemporary and non-contemporary specifications. Similarly, the positive effects of

[10] It is important to note that Gross FDI is total investments on new inputs of capital while net FDI is the Gross FDI that is adjusted for depreciations (or capital consumption).

political stability, political governance and *general governance* are persistently significant in both contemporary and non- contemporary models. The reasons for these differences is the same as those presented for deviations from the findings of Jadhav (2012), notably the addition of MINT to the sample, estimation technique and data employed.

Second, it is worthwhile comparing and contrasting contemporary and non-contemporary specifications in terms of significance & magnitude. On similarities: (i) *voice & accountability*, *political stability political governance* and *general governance* are consistently significant in both types of specifications (contemporary and non-contemporary); (ii) *economic governance* (*regulation quality* and *government effectiveness*) is only significant in contemporary specifications, while; (iii) *institutional governance* and *corruption-control* are exclusively significant in non-contemporary specifications. These comparisons are relevant for the timing of FDI location decisions or its targeting. For instance, while factors in (i) can be considered in the same year that the FDI flows are being targeted, as well as the preceding year, those indicator in (ii) and (iii) are exclusively relevant only in the planning of present and future FDIs respectively.

With respect to the magnitude of estimated coefficients in the contemporary model, the dominance of *economic governance* and its key components (*regulation quality* and *government effectiveness)* are consistent with the recent findings of Oluwatobi *et al.* (2015). They have shown that these dimesions are the most effective governance dynamics for attracting innovation into Africa. This inference is contingent on the hypothesis that FDI could also be a proxy for innovation (Andrés et al., 2015, p.692). With regards to non-contemporary specifications, *political stability* and *political govenance* are most relevant. Two policy implications boldly standout: while *economic governance* matters most for present FDI location decisions, *political governance* is the most important factor for one-year future FDI targets.

Third, the reasons for bundling and unbundling govenance dynamics which have partially motivated this line of inquiry have been confirmed in the analysis. They are more apparent in non-contemporary estimations. In comtemporary estimations, we have observed that while the effect of *political governance* is positively significant, that of *voice & accountability,* which is one of its constituents, is not. This implies, foreign investors may look beyond *voice & accountability* and consider the 'elections and replacement of political leaders' all together in their FDI location decisions.The inference and policy implication applies to the interesting findings of non-contemporary specificcations, notably: *Economic*

governance is significant while its components (*regulation quality* and *government effectiveness*) are not; *Institutional governance* is significant while one of its components (*rule of law*) is not and *general governance* is significant while its components (*the rule of law, government effectiveness and regulation quality*) are not. The findings are consistent with Asongu & Nwachukwu (2016) in which *lifelong learning* (which is the consolidation of knowledge acquired during three-levels of education) has a higher effect on *political stability* than the individual independent effects of various educational channels. As a policy implication, established insights into the significant components of the political, economic and institutional governance reforms (as part of a structural adjustment program) could clarify the attractiveness of our BRICS and MINT economies as a future destination for FDI.

5. Conclusion

We have assessed the drivers of FDI in a panel of BRICS (Brazil, Russia, India, China & South Africa) and MINT (Mexico, Indonesia, Nigeria & Turkey) countries for the period 2001-2011. We have bundled and unbundled governance determinants using a battery of contemporary and non-contemporary estimation techniques based on Random- and Fixed-effects regressions. We have also used a principal component analysis technique in amalgamating six governance dimensions into four dynamics. They comprise (i) political governance (voice & accountability and political stability), (ii) economic governance (regulation quality and government effectiveness), (iii) institutional governance (rule of law and corruption-control), and general governance (political, economic and institutional, governance dynamics).

The following four broad general findings are established. *First,* while the majority of our governance determinants of Gross FDI are significant, they are overwhelmingly insignificant for Net FDI. This is consistent with both contemporary and non-contemporary specifications.

Second, with respect to the contemporary specifications, the significance of the governance dynamics in increasing order of magnitude are as follows: *general governance* (0.561), *political governance* (0.595), *economic governance* (0.832), *political stability* (1.006), *regulation quality* (1.669) and *government effectiveness* (2.035). Then too, while *institutional governance* and its corresponding components (*rule of law* and *corruption-control*) have insignificant effects, the contributions of political governance and its dimensions (*voice & accountability and political stability) and economic governance and its*

elements (regulation quality and government effectiveness) are significantly different from zero. Besides, the decision to bundle governance variables is justified by the effect of *political governance* which is significantly positive, although the effect of one of its components (voice & accountability) is significantly negative.

Third, in terms of non-contemporary relationships, we note that the significance of the governance dynamics in ascending order of magnitude are: *economic governance* (0.427), *institutional governance* (0.485), *general governance* (0.489), *corruption-control* (0.578), *political governance* (0.802) and *political stability* (0.908). Further, while *regulation quality and government effectiveness* have insignificant separate effects, their combined impact as captured by the economic governance indicator is significantly positive at the ten percent confidence level. Moreover, the motivation to blend governance variables is further demonstrated by the effects of *political governance, economic governance* and *institutional governance. For example, political governance* is significantly positive while one of its components (voice & accountability) is significantly negative. *Economic governance* is significantly positive while its components (*regulation quality* and *government effectiveness*) are not. *Institutional governance* is significantly positive while one of its components (*rule of law*) is not.

Fourth, the magnitude of the estimated coefficients in the non-contemporary model is all below one, indicating a decreasing impact of past governance reforms on subsequent FDI flows, even if the effect of political stability adjustment is the most persistent.

Policy implications have been discussed, notably: (i) the importance of governance reforms in both current and future FDI location decisions, (ii) the persistence of the impact of governance determinants on the real-time and one-period Gross and Net FDI flows and (iii) the extent to which a synchronized implementation of governance reforms could improve positive FDI location decisions.

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