INTERNATIONAL CAPITAL INFLOWS IN EMERGING MARKETS: THE ROLE OF INSTITUTIONS

by

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submitted in accordance with the requirements for the degree of

MASTER OF COMMERCE

in the subject

Financial Management

at the

UNIVERSITY OF SOUTH AFRICA

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August 2020

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International capital inflows in emerging markets: The role of institutions

I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to an originality checking software and that it falls within the accepted requirements for originality.

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Abstract

The primary objective of this study was to examine the broader impact of institutional quality on enhancing foreign direct investment (FDI) and foreign portfolio investment (FPI) inflows in a sample of twelve emerging market economies for the period 2007 to 2017. We specifically sought to answer questions related to the key drivers of FDI and FPI inflows into emerging markets, with a particular emphasis on the role played by institutional quality factors. We further sought to interrogate the long-run and causal relationships between the key variables of FDI, FPI and institutional quality, in respect of the sample of emerging markets. The study employed the Principal Components Analysis (PCA) to construct a composite index for institutional quality composed of the six Worldwide Governance Indicators. Various other econometric models were applied, including the dynamic panel data generalised method of moments (GMM) model, the panel autoregressive distributed lag (ARDL) model for dynamic heterogeneous panels, and the panel vector error correction model (VECM). The results revealed that FDI in the selected emerging markets was, in the main, attracted by economic growth and institutional quality. Institutional quality, economic growth and capital account openness were positive determinants of FPI inflows; however, stock market development stood out as the foremost determinant factor. In addition to finding long-run, cointegrating relationships between the key variables, it emerged that there was bi-directional causality between FDI and FPI, as well as between FDI and institutional quality in the long run. Despite the latter findings, the results further suggested that the long-run relationship between the two foreign capital inflows, i.e. FDI and FPI, was more of a substitutability or trade-off nature in our sample of emerging markets. In light of these findings, we recommended that it would be in the best interests of these emerging markets if the responsible policymakers continued to liberalise these economies. Further, it was shown that in order to attract inward international capital flows, financial liberalisation should be coupled with the strengthening of the domestic institutional environment. Strengthening institutions could curtail the persistence of institutional weaknesses and insulate emerging market economies from the adverse effects of volatile capital flows, and in the long-run enhance international capital inflows.

Ngamafuphi

Inhloso enkulu yalolu cwaningo kwaye kuwukuhlola umthelela obanzi kwizinga leziko ekuqiniseni uhlelo lokutshalwa ngqo kwezimali ezweni langaphandle (*foreign direct investment; FDI)* kanye nemali engena mayelana nokuthengwa kwamagugu (*shares, stocks and bonds*) angenisa imali ezweni elingaphandle (*foreign portfolio investment; FPI)* kwizimakethe zamazwe eziyishumi nambili esikhathini esiphakathi kuka 2007 ukufika ku 2017. Empeleni besifuna ukuphendula imibuzo emayelana nezikhwezeleli ezisemqoka eziheha uhlelo lwe-*FDI* kanye ne-*FPI* ezimakethe ezifufusayo, ikakhulu kugxilwe kwindima edlalwa yizinto ezihlobene nezinga leziko. Siqhubekela phambili nokuphenya izinhlobo zobudlelwano besikhathi esinde kanye nobudlelwano obuyimbangela phakathi kwamavarebuli asemqoka e-FDI, i-FPI kanye nezinga leziko, mayelana nesampuli yezimakethe ezisafufusayo. Ucwaningo lusebenzise uhlelo lwe-*Principal Components Analysis (PCA)* ukwakha imvange yezinkomba ukwenzela izinga leziko eliqukethe izinkomba eziyisithupha ezibizwa phecelezi nge-*Worldwide Governance Indicators*. Amanye amamodeli alinganisa ezomnotho asetshenzisiwe, kuxutshwa phakathi idatha yamaphaneli eguquguqukayo ebizwa nge-*dynamic panel data generalised method of moments (GMM) model*, uhlelo lwe-*panel autoregressive distributed lag (ARDL) model* ukwenzela amaphaneli ahlukahlukene futhi aguquguqukayo, kanye nohlelo lwe-*panel vector error correction model (VECM)*. Imiphumela iveze ukuthi i-*FDI* ezimakethe ezikhethiwe ezisafufusa, esikhathini esiningi, iye yahehwa ukuhluma komnotho kanye nezinga leziko. Izinga leziko, ukuhluma komnotho kanye nokuvuleka kwe-akhawunti yemali bekuyizinto eziyizinkomba ezinhle zokungena kwe-*FPI*; yize-kunjalo, ukuthuthukiswa kwemakethe yesitoko kuvele kwagqama ngaphezulu njengenkomba ekhombisayo. Ukwengeza phezu kolwazi olutholakele esikhathini esinde, ukuhlangana kobudlelwano obuphakathi kwamavarebuli asemqoka, kuye kwavela ukuthi kwakunezimbangela ezikhomba izindlela ezimbili zokungena kwezimali ezitshalwa ngaphandle, zona yilezi i-FDI kanye nezinga leziko esikhathini esinde. Naphezu kolwazi olutholakele kamuva, imiphumela iqhubeka nokuphakamisa ukuthi ubudlelwano besikhathi eside obuphakathi kwezinhlelo zokutshalwa kwezimali ezivela emazweni angaphandle, lezo zinhlelo yilezi, i-*FDI* kanye ne-*FPI*, bezingendlela ikakhulukazi yokushintshana/yokumisela noma yokushintshelana ngokuhweba kwisampuli yethu

yezimakethe ezisafufusayo. Mayelana nalolu lwazi olutholakele, sincome ukuthi kuzohambisana nokuthandwa yilezi zimakethe ezisafufusa uma ngabe abenzi bemigomo ababandakanyekayo baqhubeke nokususa izihibe zomnotho kula mazwe asafufusa. Ngaphezu kwalokho, kuye kwavezwa ukuthi ukuze kuhehwe izimali zamazwe angaphandle, uhlelo lokususwa kwezihibe zomnotho lufanele luhambisane nokuqiniswa kwesizinda esiyiziko lasekhaya. Ukuqiniswa kwamaziko kungaqeda isimo esintengayo seziko futhi kungasusa izimakethe zamazwe asafufusayo kwisimo esingagculisi sezimali ezingenayo, kanti esikhathini eside lokhu kungaqinisa ukutshalwa ukungena kwezimali ezivela emzaweni angaphandle.

AMAGAMA ASEMQOKA: Ukungena kwezimali ezivela emazwenia ngaphandle, uhlelo lokutshalwa ngqo kwezimali emazweni angaphandle, Ukutshalwa kwempahla eyigugu emazweni angaphandle, izinga leziko, izimakethe ezisafufusayo.

Tshobokanyo

Maikemisetso magolo a thutopatlisiso eno e ne e le go tlhatlhoba ditlamorago ka bophara tsa boleng jwa ditheo mo go tokafatseng keleloteng ya dipeeletso tsa tlhamalalo tsa kwa dinageng tse dingwe (FDI) le dipeeletso tsa dipotefolio tsa kwa dinageng tse dingwe (FPI) mo sampoleng ya diikonomi tse somepedi tsa mebaraka e e tlhagelelang mo pakeng ya 2007 go fitlha 2017. Re ne re totile go araba dipotso tse di malebana le ditsamaisi tsa botlhokwa tsa keleloteng ya FDI le FPI mo mebarakeng e e tlhagelelang, go lebeletswe thata seabe sa dintlha tsa boleng jwa ditheo. Gape re ne re lebeletse go tlhotlhomisa go nna sebaka se se telele le sebako sa dikamano magareng ga dipharologantsho tsa botlhokwa tsa FDI, FPI le boleng jwa ditheo, malebana le sampole ya mebaraka e e tlhagelelang. Thutopatlisiso e dirisitse Tokololo ya Dintlha tsa Botlhokwa (PCA) go aga tshupane ya dikarolo ya boleng jwa ditheo e e nang le Disupi di le thataro tsa Lefatshe lotlhe tsa Bolaodi. Go dirisitswe gape dikao tse dingwe tse di farologaneng tsa ikonometiriki, go akarediwa sekao sa *dynamic panel data generalised method of moments* (GMM) sa data ya phanele e e farologaneng, sekao sa *panel autoregressive distributed lag* (ARDL) sa diphanele tse di farologaneng le sekao sa *panel vector error correction* (VECM). Dipholo di senotse gore FDI mo mebarakeng e e tlhophilweng e e tlhagelelang e ne tota e ngokiwa ke kgolo ya ikonomi le boleng jwa ditheo. Boleng jwa ditheo, kgolo ya ikonomi le go bulega ga akhaonto ya kapitale e nnile diswetsi tse di siameng tsa keleloteng ya FPI; fela tlhabololo ya mebaraka ya setoko e tlhageletse jaaka ntlha e e kwa pele e e swetsang. Go tlaleletsa mo go fitlheleleng botsalano jwa pakatelele le jo bo kopanang jwa dipharologantsho tsa botlhokwa, go tlhageletse gore go na le go sebako sa dintlhapedi magareng ga FDI le FPI gammogo le magareng ga FDI le boleng jwa ditheo mo pakeng e e telele. Le fa go ntse go na le diphitlhelelo tse di kailweng la bofelo, dipholo gape di tshitshinya gore botsalano jwa paka e e telele magareng ga keleloteng ya kapitale ya kwa ntle k.g.r. FDI le FPI ke jwa mofuta wa go emisetsa se sengwe ka se sengwe mo sampoleng ya rona ya mebaraka e e tlhagelelang. Ka ntlha ya diphitlhelelo tseno, re atlenegisa gore go tlaa bo go le mo dikgatlhegelong tsa mebaraka eno e e tlhagelelang gore ba ba rweleng maikarabelo a go dira dipholisi ba ka tswelela go repisa diikonomi tseno. Mo godimo ga moo, go bonagetse gore go ngokela kelelo e e tsenang ya kapitale ya boditšhabatšhaba, go repisiwa ga merero ya ditšhelete go tshwanetse ga tsamaisiwa le maatlafatso ya tikologo ya ditheo tsa

selegae. Go maatlafatsa ditheo go ka fedisa go tswelela pele ga makoa a ditheo le go sireletsa diikonomi tsa mebaraka e e tlhagelelang mo ditlamoragong tse di maswe tsa dikelelo tse di maswe tsa kapitale, mme kwa bokhutlong, go tokafadiwe kelelo ya kapitale ya boditšhabatšhaba.

MAFOKO A BOTLHOKWA Keleloteng ya kapitale ya boditšhabatšhaba, dipeeletso tsa tlhamalalo go tswa kwa dinageng tse di kwa ntle, dipeeletso tsa potefolio ya dinaga tse di kwa ntle, boleng jwa ditheo, mebaraka e e tlhagelelang.

Dedication

To the memory of my mom; and to my siblings, for their love, patience and understanding.

Acknowledgements

I owe immense gratitude and appreciation to a number of people who played an integral role in the completion of this dissertation. First and foremost, I would like to express my heartfelt appreciation to my supervisor, Prof. Patricia Lindelwa Makoni; firstly, for her commitment and dedication to seeing the fruition of this research, and secondly, for her untiring professional and intellectual support that transformed me from a novice into a fledged research student. Thank you, El Prof. My sincere gratitude also goes to Prof. Godfrey Marozva, for his expert knowledge and statistical assistance with my methodology and data analysis; as well as my professional language editor, Dr Ruth Scheepers, for her efficient and professional language editing of my final draft dissertation. To the UNISA Student Funding Division – I am grateful for the financial support that went a long way in easing the financial burden related to my studies. Lastly, I wish to thank my family and close friends; for their support, patience and understanding.

List of acronyms

AfDB	African Development Bank
ADF	Augmented Dickey-Fuller
AIC	Akaike information criteria
ARDL	Autoregressive distributed lag
BRICS	Brazil, Russia, India, China, South Africa
CAOP	Capital openness
COR	Control of corruption
CRED	Domestic credit to the private sector by banks
DFE	Dynamic Fixed Effects
ECT	Error correction term
EU	European Union
EXCH	Real effective exchange rate
FDI	Foreign direct investment
FE	Fixed effects model
FPI	Foreign portfolio investment
GDP	Gross domestic product
GINTR	Global interest rates
GMM	Generalised Method of Moments
GOV	Government effectiveness
HUMC	Human Capital Development
ICRG	International Country Risk Guide
IMF	International Monetary Fund
INFL	Inflation
INSTDEX	Institutional quality index
INSTQ	Institutional quality
INTR	Interest rate
IPS	Im, Pesaran and Shin
IV	Instrumental variables
JSE	Johannesburg Stock Exchange
LAW	Rule of law
LLC	Levin, Lin and Chu
MENA	Middle East and North Africa
MG	Mean Group
MNCs	Multinational corporations
NATR	Natural resources
OECD	Organisation for Economic Cooperation and Development
OLE	Ownership, location and externalisation
OLI	Ownership, location and internalisation
OLS	Ordinary Least Squares
PCA	Principal components analysis
PLC	Product life cycle
PMG	Pooled Mean Group

POL	Political stability
PP	Phillips-Perron
RE	Random effects model
REG	Regulatory quality
RSA	Republic of South Africa
SIC	Schwartz information criterion
SMC	Stock market capitalisation
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
US	United States
USD/US$	United States Dollar
VAR	Vector autoregressive
VECM	Vector error correction model
VOA	Voice and accountability
WDI	World Development Indicators
WGI	Worldwide Governance Indicators
WTO	World Trade Organisation
ZAR	South African Rand

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Chapter One: Introduction

1.1 Background to the study

The growth of globalisation and financial market integration is characterised by rising international capital flows across developed and developing countries. Global capital flows are composed mainly of foreign direct investment (FDI), foreign portfolio investment (FPI) and other private sector capital flows such as bank lending (UNCTAD, 2018). After significant plunges and reversals during the 2007/2008 global financial crisis period, capital flows recovered, although not to pre-crisis levels (Alfaro & Chauvin, 2016; UNCTAD, 2018).

Over the past few decades, a debate has continued in scholarly papers over the impact of globalisation and capital inflows on the economic development and growth of host economies. Scepticism emanating from this debate has even resulted in some economies tightening their policies and regulations towards inward foreign investment (UNCTAD, 2019). However, there are still countries that continue to strengthen their pursuit of foreign-investment-assisted development strategies (Narula & Dunning, 2000; UNCTAD, 2019).

Empirical studies continue to produce divergent results as to a direct relationship between FDI and economic growth. However, considerable empirical evidence has also shown that FDI can be beneficial to growth, provided that the host country has sufficient capacity in the form of adequate development in the financial markets, institutions and human capital to absorb the advantages that are embodied in FDI. These advantages include new technologies, skills, and foreign capital, which can all contribute to increased productivity and economic growth (Borensztein, De Gregorio & Lee, 1998; Alfaro, Chanda, Kalemli-Ozcan & Sayek, 2004; Choong, Baharumshah, Yusop & Habibullah, 2010; Agbloyor, Abor, Adjasi & Yawson, 2014; Slesman, Baharumshah & Wohar, 2015; Agbloyor, Gyeke-Dako, Kuipo & Abor, 2016). Empirical literature also suggests that the ambiguity in the direct relationship between FDI and economic growth is partly due to the type of FDI a host country would attract - i.e. whether resource-seeking, market-seeking or efficiency-seeking FDI - (Žarković, Gligorić & Žarković, 2017; Ayomitunde, Geogina, Bose & Grace, 2019).

Moreover, while there may still be scepticism about the essential economic effects of FPI, notably as a result of its volatile nature, studies continue to show that the interaction between FPI inflows and adequately developed capital markets and institutions has the potential to alleviate and, better still, to transform any negative growth effects of these flows into positive ones (Choong *et al.*, 2010; Agbloyor *et al.*, 2014). Economies beset by low domestic savings often rely heavily on foreign capital injected into the capital markets to alleviate current account deficits and provide for much needed investment in order to galvanise economic activity and growth. Significant inflows of FPI also have the effect of broadening domestic capital markets, increasing liquidity and reducing the cost of capital. Furthermore, foreign participation in domestic financial markets improves the efficiency of markets as it relates to the allocation of funds to productive investments, and provides information necessary for improved evaluation of investment projects (Errunza, 2001).

Empirical evidence concerned with the determinants of international capital inflows points to factors such as macroeconomic fundamentals, development and policy-related factors, as well as global factors (for instance, see Ahmed, Arezki, & Funke, 2007; Różański & Sekuła, 2016; Gossel & Biekpe, 2017; Makoni, 2017; Saini & Singhania, 2018; Sabir, Rafique & Kamran, 2019). Macroeconomic fundamentals include variables such as economic growth, interest rates and exchange rates, which influence foreign investors' rates of return, and therefore inform their return and risk expectations (Ahmed *et al.,* 2007). Development factors entail variables such as institutional quality, financial market development, and human capital development in respect of the host country, which are expected to facilitate the growth and development benefits of capital inflows to the host economy (Choong *et al.,* 2010; Agbloyor *et al.,* 2014; Makoni, 2017). Policy-related variables, on the other hand, include those related to market liberalisation, which indicate the recipient country's liberalisation with regard to international financial transactions (Ahmed *et al.,* 2007; Makoni, 2017; Gossel & Biekpe, 2017).

Of particular interest to this study is the growing evidence to the effect that, in addition to such factors as macroeconomic fundamentals, financial market development, and market liberalisation - institutional quality is a critical determinant of capital inflows, both in their attraction and in the harnessing of their benefits in the host economy (for instance, see

Alfaro, Kalemli-Ozcan and Volosovych, 2007; Fratzscher, 2012; Agbloyor et al., 2016; Różański & Sekuła, 2016; Kurul, 2017; Makoni, 2018).

Studies that have examined the behaviour of international capital flows, such as Fratzscher (2012) and Ghosh, Qureshi, Kim and Zalduendo (2014), reveal that despite global factors, the quality of domestic institutions accounts significantly for the heterogeneity and allocation of capital flows across emerging markets. Other studies have concluded that some developing countries fail to attract capital inflows because of the poor quality of their institutions (Masron & Abdullah, 2010; Kurul & Yalta, 2017; Makoni, 2018; Peres, Ameer & Xu, 2018).

Institutions are the rules that structure economic, legal, political and social interactions and transactions such as laws, regulations, and codes of conduct, as well as the mechanisms that enforce these rules (North, 1991; World Bank, 2002). High quality institutions provide a stable and fertile environment for investment and long-term economic development. Investor confidence and foreign capital inflows are augmented by better quality institutions. Studies have shown that the mere openness of the market is not sufficient to attract sizeable foreign investment inflows; but good institutional quality and financial openness work hand in hand in enhancing foreign investment (Okada, 2013; Byrne & Fiess, 2016). Furthermore, it has been empirically proven that strong institutions have a direct effect in improving economic growth and circumventing or moderating any negative effects that may arise from foreign investment inflows and market openness. These negative effects include competition that may adversely affect domestic firms (Nawaz, Iqbal & Khan, 2014; Agbloyor *et al*., 2016; Nguyen, Su & Nguyen, 2018).

Evidence of the existence of a relationship between FDI and institutional quality and/or the impact of the latter on the former in both developed and developing countries, is well established in the literature and corroborated by numerous empirical studies. These include those by Asiedu and Lien (2011), Buchanan, Le and Rishi, (2012), Różański and Sekuła (2016), Kurul and Yalta (2017) and Peres *et al*. (2018). On the other hand, there is relatively limited research on the impact of institutional quality on FPI inflows. Furthermore, international scholarly research on the relationships among the three variables (i.e.

institutional quality, FDI and FPI) is even scanter, although Makoni (2018) does provide some insights into the nexus between FDI, FPI and institutional quality from an African perspective.

In light of this background, the primary objective of this study was to investigate the broader impact of institutions in enhancing international capital inflows, both FDI and FPI, in the context of emerging market economies. Emerging markets make a compelling case study because, on the one hand, their role and influence in the global economy has accelerated with the growth of globalisation. Their rapidly expanding economies, and financial market liberalisation have, on a large scale, lured multinational corporations (MNCs) and international investors seeking to expand and diversify into new markets.

On the other hand, the characteristics of institutional development and institutional change in emerging markets are different from those in developed countries. Many emerging countries democratised and began liberalising their economies just three decades ago. They transitioned from colonial, military or authoritarian rule to civilian rule, while at the same time shifting from closed and state-controlled economies to open and market-based economies. This recent democratisation and market liberalisation places emerging countries at a different stage of institutional development relative to developed countries (Iyer, 2016: Puffer, McCarthy & Jaeger, 2016).

Some emerging countries are still characterised by inadequate institutional development, with inefficient regulatory and property rights structures, political risk, as well as institutional instability in relation to the regulation of foreign investment and trade. These institutional voids and instabilities create uncertainty, greater risks and higher transaction costs for multinational companies and international investors (Rottig, 2016).

Emerging markets also grapple with the phenomenon of institutional persistence – where political institutions that are characterised by concentrated political power, and economic institutions designed to extract resources and distribute them to a few politically connected groups, persist even after political and economic transition. The persistence of these extractive institutions can be linked to powerful elites that have a great deal to lose from institutional reforms, as their political and economic power is vested in the existence of these

institutions. As a result such elites resist institutional change (Acemoglu, 2003; Acemoglu & Robinson, 2019).

Inadequate institutional development hinders the ability of emerging market economies to attract and preserve foreign investment. Furthermore, the persistence of extractive political and economic institutions creates inequalities that often lead to political and social unrest, which in turn may have an adverse impact on the business environment (Acemoglu, 2003; Iyer, 2016).

It was therefore the intention of this study to assess the key drivers of inward FDI and FPI flows to emerging markets, paying particular attention to the role of institutions. We further delved deeper by examining the interrelationships of the key variables of FDI, FPI and institutional quality in emerging markets. In the next subsection, we discuss our problem statement and outline the specific research objectives and questions that this study sought to address.

1.2 Problem Statement

A number of empirical studies have assessed the impact of institutions on foreign capital inflows across advanced and emerging market economies. While it is evident from empirical literature that a broad set of high quality institutions is crucial for emerging markets to enhance their foreign investment inflows, the studies are not unanimous on which are the most important institutional determinants for foreign investment in emerging markets. Moreover, while these studies continue to reveal the impact of institutional quality on FDI inflows, research on the role of institutions on FPI inflows remains relatively limited. These gaps in the literature can be noted in the following strand of empirical literature.

Busse and Hefeker (2007) found that government stability, law and order, bureaucratic quality, democratic accountability, and conflicts stood out as the most important political-institutional determinants of FDI inflows for 83 emerging countries over the years 1984 to 2003. Similarly, in a study of 98 developed and emerging economies for the period 1970 to 2000, Alfaro, Kalemli-Ozcan and Volosovych (2008) found that institutional quality measured by a broad set of institutional factors was the most significant and most consistent variable that accounted for international capital flows (FDI and FPI flows) not flowing from

capital-rich countries to capital-constrained countries. These factors included, amongst others, government stability, bureaucratic quality, investment profile, conflicts, corruption, and law and order. On the other hand, Ali, Fiess and MacDonald (2010) identified property rights protection as the most relevant institutional aspect for FDI inflows for 69 emerging countries over the period 1981 to 2005, compared to other attributes of institutions such as corruption, democracy and political stability.

Recent studies that have employed the Worldwide Governance Indicators (WGIs) as a measure of institutional quality include Różański and Sekuła (2016) who found positive and statistically significant impact on FDI inflows from voice and accountability, political stability and rule of law, while control of corruption was significant but negative. Their study included 51 developed and emerging markets for the period 1996 to 2014. Kurul and Yalta (2017) found that government effectiveness, control of corruption, voice and accountability were positive and statistically significant for FDI inflows in 113 emerging countries, over the period 2002 to 2012. Peres et al. (2018), on the other hand, looked particularly at the impact of the rule of law and control of corruption on FDI inflows in a panel of 110 developed and developing countries (2002-2012). These institutional indicators were found to be highly significant for FDI inflows only in developed countries. Correspondingly, Sabir *et al.* (2019), using an institutional quality index composed of the WGIs, only found statistical significance or greater impact of institutions on FDI inflows in developed economies, as opposed to emerging economies (1996-2016). Based on these findings, both studies concluded that emerging market economies failed to attract sufficient inflows of foreign investment because of the weak quality of their domestic institutions. In the case of sub-Saharan African emerging markets, Gossel and Beard (2019) found that control of corruption, government effectiveness, political stability, regulatory quality and rule of law were the most pertinent and significant institutions for FPI inflows between 1985 and 2015.

It was therefore the purpose of this study to add to this strand of empirical literature by re-examining the role of institutional quality on both FDI and FPI inflows in the context of emerging markets. We sought specifically to reassess the key determinants of FDI and FPI inflows in emerging markets, but placing particular emphasis on the role of institutional

factors. These included government effectiveness, regulatory quality, rule of law, control of corruption, voice and accountability, and political stability.

The interrelationships between the three key variables of FDI, FPI and institutions in emerging markets were explored in some depth. Several studies, including Hyun (2006), Shah, Ahmad and Ahmed (2016), and Kurul (2017), have revealed relationships such as threshold effects of institutional quality on FDI inflows, as well as long-run and causal relationships between institutional quality and FDI. On the other hand, empirical studies dealing with such relationships between institutions and FPI are very scarce.

This study therefore builds on and extends this literature by further examining the long-run relationships and causal relationships between the inflows of FDI and FPI and institutional quality in emerging markets. In order to fill the gaps in the literature that were highlighted in this subsection, the study aimed to achieve and answer the research objectives and questions that are outlined in the following subsections.

1.3 Research objectives

The primary objective of the study was to examine the broader impact of institutional quality in enhancing foreign direct investment (FDI) and foreign portfolio investment (FPI) inflows in emerging markets, for the period 2007 to 2017.

In order to achieve this primary objective, the study sought to address the following secondary objectives:

i. To identify the key determinants of FDI and FPI inflows to emerging markets from 2007 to 2017.

ii. To assess the long-run relationships between institutional quality, FDI and FPI inflows to emerging markets over the period 2007 to 2017.

iii. To determine the causal relationships between FDI, FPI and institutional quality in emerging markets between 2007 and 2017.

These sub-objectives collectively aimed to achieve the primary objective of examining the broader impact of institutions on international capital inflows to emerging market

economies. These objectives were translated into definite research questions that were addressed and answered in the empirical study that employed various econometric models.

1.4   Research questions

The following research questions were posed in the study:

i.   What were the key determinants of FDI and FPI inflows into emerging markets from 2007 to 2017?

ii.   In what way, and to what extent, were FDI inflows, FPI inflows and institutional quality in emerging markets related in the long run, over the period 2007 to 2017?

iii. What causal relationships existed between FDI, FPI and institutional quality in emerging markets between 2007 and 2017?

1.5   Scope of the study

This study focused on international capital flows to emerging markets, namely, foreign direct investment (FDI) and foreign portfolio investment (FPI) in relation to each other, and in relation to institutional quality. The focus on these two capital flows was due to the fact that they are the primary sources of long-term external finance to emerging market economies, other than the volatile short-term external debt inflows. The study also examined the impact on foreign capital inflows into emerging markets of various economic, development and policy-related variables, as well as global indicator(s), which are regarded as strong determinants of international capital flows in the literature. The decision to place greater emphasis on the role of institutions was informed by the precariousness in the institutional environment of emerging markets, caused by factors such as political instabilities, inefficient legal systems, and nationalisation programmes. All these have a negative impact on the inflows of FDI and FPI into emerging markets. Other factors that affect the ability to attract inward FDI and FPI, although acknowledged in the review of previous studies, fell outside the scope of this particular study.

Lastly, the study used emerging markets as a case study and employed data covering the period 2007 to 2017. This period was chosen on the basis that it marked the period of increased integration of emerging market economies into the world economy and increased international capital flows. and thus gave insights into whether the policies and institutions

adopted by emerging markets yielded desired results in so far as attracting foreign capital inflows to assist domestic economic development was concerned.

1.6   Significance of the study

While the impact of institutions on FDI inflows is corroborated by extensive literature, this study found that literature on the impact of institutional factors on foreign portfolio investment, by contrast, is relatively limited. Research examining the three variables of FDI, FPI and institutions together is even scarcer. Thus, this study aimed to contribute to this area of research by adding new perspectives that extend the empirical analysis of the impact of institutions on foreign capital inflows by considering institutional effects on both FDI and FPI. It further aimed to contribute to the scant literature that investigated the long-run and causality relationships between institutions and both FDI and FPI inflows into emerging markets.

We further believed that the findings of this study would not only contribute to knowledge, given the gaps in the literature highlighted above, but will also highlight informative and relevant policy implications for policymakers and governments in emerging market economies. In particular, it will provide empirical evidence of the significance of institutions to foreign capital inflows into their countries, and of how institutions interact with foreign direct and portfolio investment inflows into the host economy.

1.7   Limitations of the study

The limitation of this study is that it was based on a sample of 12 emerging markets, and thus, its findings may not necessarily be generalisable to other countries and economies. However, the intention was to obtain a deeper understanding of the trend of international capital inflows into some of the largest emerging market economies across the regions of Asia, Africa, Latin America, and Europe. In so doing, we sought to understand the effect of institutions on international capital inflows in order to make recommendations to policymakers on how to improve the investment profile and institutional environment in their countries, and attract sizeable and durable foreign capital inflows that will complement domestic savings, and thus enhance economic productivity and growth. Such steps could

then also be emulated by other developing countries across the larger spectrum of the emerging market economy.

1.8 Conclusion

This chapter discussed the background to the study, presented the problem statement, and outlined the research objectives and questions. It also explained the scope and significance of the study, as well as its limitations. The remainder of this dissertation is structured as follows: Chapter 2 presents an overview of the key concepts, as well as the theoretical and empirical literature related to the three key variables of the study, namely FDI, FPI and institutions. Chapter 3 details the methodological aspects of the empirical study. Chapter 4 presents the data analysis and the discussion of the results, while Chapter 5 concludes the study by providing a summary of the key findings, as well as recommendations regarding the policy implications of the study, and suggestions for future research.

Chapter Two: Literature Review

2.1 Introduction

This chapter presents a discussion and review of the main concepts, theoretical frameworks, and previous empirical evidence that are relevant to the study. Sections 2.2, 2.3 and 2.4 discuss existing theoretical and empirical literature on the key concepts of this study, i.e. foreign direct investment, foreign portfolio investment and institutions, respectively. Section 2.5 reviews the extant empirical evidence on the interrelationships between capital flows and institutions from a global perspective, while section 2.6 provides background about international capital inflows into some of the largest Asian, African, Latin American and European emerging market economies that constitute the sample of this study. Section 2.7 concludes the chapter.

2.2 Foreign Direct Investment (FDI)

2.2.1 Definition and Overview of FDI

The Organisation for Economic Cooperation and Development (OECD, 2008) and the International Monetary Fund (IMF, 2009) define foreign direct investment (FDI) as a category of international investment that grants 10 percent or more voting rights to an entity of one economy in an entity that is resident in another economy. The investment is made with the intent to establish a long-term strategic interest in the foreign entity to ensure significant influence or control in the management of the foreign entity or enterprise. The long-term interest and significant influence or control derives from or is evidenced in the acquisition of at least 10 percent of voting rights by the investing entity in the foreign enterprise. The foreign enterprise may be a subsidiary in which the investing entity holds over 50 percent of voting shares, or an associate in which between 10 and 50 percent of voting shares are held by the investing entity (OECD, 2008). The transactions that occur between enterprises of the same group are encapsulated in FDI and they include direct investment positions and financial flows of equity and debt, as well as direct investment income flows (i.e. reinvested earnings, distributed earnings and interest income) (OECD, 2008). Put differently, these transactions include the initial investment transaction in the

foreign enterprise by the investing entity and all ensuing transactions between the entities (UNCTAD, 2007).

FDI may occur in a number of forms. It may take the form of a green-field investment, which entails establishing a new enterprise (Coetzee, Bezuidenhout, Claassen & Kleynhans, 2015). It may also come in the form of mergers and acquisitions (M&As), that is acquiring controlling equity and assets of an existing company (Correia, 2015:17-2).

Hymer (1960) provided several reasons as to why a firm would seek control in its foreign operations, and therefore embark on FDI. Hymer (1960) argued that firms seek control because: (1) they want to ensure the prudent use and safety of their assets and investments, (2) they desire to remove competition or to fully exploit their abilities and skills, and (3) firms with advantages over other firms in the production of a particular product may find it more profitable to establish operations in a foreign country, rather than serving the foreign country through exports.

Dunning and Dilyard (1999) also mentioned four motives for pursuing FDI. The first motive is resource-seeking, which seeks to secure resources such as natural resources and raw materials for the investing firm. The second motive of market-seeking FDI seeks to identify and take advantage of new markets for its final goods, while the third motive, efficiency-seeking FDI, seeks to reorganise the structure of its existing investments to ensure an efficient allocation of its resources. The last motive is that of strategic-asset-seeking FDI, which seeks to solidify and sustain a firm's global competitive edge by augmenting its existing resources or ownership advantages (Dunning & Dilyard, 1999).

The following subsection presents a review of some of the most pertinent theories that explain the phenomenon of FDI.

2.2.2   Theories of Foreign Direct Investment

2.2.2.1   Imperfect Markets Theory

Hymer (1960) is credited with laying the foundation of the imperfect markets theory, from which many other theories on international production ensued (Denisia, 2010). This theory states that domestic firms generally have an advantage of superior knowledge of the

economy, languages, laws and policies of their home country. For a foreign firm to acquire this knowledge may be considerably costly. Moreover, the foreign firm is faced with more permanent disadvantages such as capital controls, exchange-rate risk, taxation and discrimination by the local government, consumers and suppliers (Hymer, 1960). However, the foreign firm may possess firm-specific advantages that are more profitable abroad than at home. These advantages should outweigh the disadvantages of operating abroad and make international investment profitable (Nayak & Choudhury, 2014).

Kindleberger (1969), also credited with expanding the theory, added that in the presence of perfect international markets for technology, management and labour skills, and inputs, the market abroad would be better catered for by local firms. Essentially, Hymer (1960) and Kindleberger (1969) were arguing that a firm establishing operations in a foreign country will be at a disadvantage when compared to local firms. Therefore for FDI to be pursued, the foreign firm should possess certain advantages over local competitors and the benefits from exploiting these advantages must more than compensate the foreign firm for the costs and disadvantages of operating in that country (Agarwal, 1980; Denisia, 2010). These benefits should enable the firm not only to profit more than competitors back home, but also to earn more than the domestic competitors in the host country (Agarwal, 1980). Furthermore, in order to engage in FDI, the advantages of the foreign firm must be exclusive to the firm and transferable to its subsidiaries (Agarwal, 1980). These advantages include superior technology, marketing and management skills, differentiated products, patents, access to capital and economies of scale (Kindleberger, 1969).

2.2.2.2   Product Life Cycle Theory

Vernon (1966) developed the product life cycle theory (PLC) employing the case of FDI by U.S manufacturing firms in Western Europe between 1950 and 1970. The theory asserts that firms proceed through four stages of production, namely innovation, growth, maturity and decline (Denisia, 2010).

The first stage of the cycle is characterised by the invention, production and sale of a new product in the home market. The home market is characterised by high income levels, and the local production of the product facilitates efficient coordination between research and

development, production and marketing (Agarwal, 1980; Lall, 1976). In the second stage, when the product is successful in the home market, production will expand, new markets with the next higher level of income will be penetrated, and exports will begin with foreign demand (Lall, 1976; Agarwal, 1980). At this stage, the producers still possess the competitive advantage, as the technology is discreet even though competitors are attracted by the success of the product (Lall, 1976). The third stage will start when significant competition has developed, and the product as well as its technology – which has now become known – become standardised. In an attempt to resist competition and maintain profits and market share, the innovating firm will intensify marketing efforts and also set up production facilities in foreign markets, with lower input costs (Agarwal, 1980; Lall, 1976). The product matures as production shifts further to lower income markets or less developed countries (Lall, 1976). In the final stage, foreign markets may become the base at which the product is produced and from where it is exported back to the country of origin. At this stage, several firms besides the innovating firm will be producing the product (Lall, 1976). Eventually, the product will be phased out and new innovative products will have to be developed (Nayak & Choudhury, 2014).

Vernon (1979) later criticised his own PLC theory, observing that it had, with time, lost its predictive and explanatory power as it related to the causes of FDI and the relations among advanced economies, and between developing countries and advanced countries (Nayak & Choudhury, 2014). He did, however, maintain that strong traces of the PLC sequence would remain (Vernon, 1979).

2.2.2.3   Eclectic Paradigm Theory

The eclectic paradigm theory brought together different hypotheses of FDI (or international production) related to the ownership, location and internalisation of multinational enterprises, to construct an O-L-I paradigm that serves as a basis for firms to engage in FDI (Dunning, 1980; 2001). The three aspects of the eclectic paradigm are ownership advantages (O), location advantages (L) and internalisation advantages (I). These elements explain the advantages that a firm should possess in order to pursue successful and competitive direct investment in foreign countries.

Dunning (2001) narrated that while he was studying US direct investment in Britain in the 1950s, his conclusion was that the productivity differences between British and American firms could be explained by ownership- and location- specific aspects. However, later in the 1970s, he admittedly realised that firms had additional advantages in that they could choose the way they utilised the resources and capabilities (ownership advantages) they owned. Thus, in order to fully explain multinational companies' (MNC) foreign activities, one had to account for the reasons why MNCs chose to internally exploit their ownership-specific advantages, rather than acquire or sell these in the market. These additional advantages became the third aspect of the O-L-I paradigm, and Dunning (2001) referred to them as internalisation advantages.

Ownership advantages include a firm's intangible and tangible assets such as access to markets and capital, technology, superior management and organisational skills, economies of scale and trademarks (Dunning, 1980). These advantages should be exclusive and specific to the firm and should provide the firm with a competitive advantage over its domestic and foreign competitors, leading to reductions in production costs and higher incomes (Nayak & Choudhury, 2014; Denisia, 2010). Locational advantages are the determining factors as to which countries will host the MNC (Denisia, 2010). These factors include proximity to customers, endowment of resources by the host country, lower labour costs, local capital markets and favourable host country institutions and policies (Dunning, 2001). Internalisation advantages relate to the internalisation of the ownership advantages of the MNCs, which may be more profitable than to externalise through exporting, leasing, licensing or management contracts for other firms located in the foreign market to exploit (Dunning, 1980). The basic motive for internalisation, according to Dunning (1980), is to circumvent the disadvantages of market imperfections such as high transaction costs. Advantages that may ensue from internalisation thus include control of markets, stability of (input) supply at the right price, economies of vertical integration and exploitation of technological advantages (Dunning, 1980).

Having discussed the relevant theories of FDI, this chapter now considers previous empirical studies focusing on the relationships between FDI and several factors that are commonly regarded in the literature as the key determinants of FDI.

2.2.3 Determinants of Foreign Direct Investment – empirical perspective

2.2.3.1 Human Capital Development

Following the study by Borensztein *et al.* (1998) that stressed the importance of host country human capital development in absorbing FDI technology transfers, a number of subsequent empirical studies have found supporting evidence that human capital development in the host country is a significant determinant of inward FDI. For instance, Kheng *et al.* (2017) proxied human capital development with secondary and tertiary school enrolment ratios and found a positive and statistically significant relationship between FDI inflows and human capital development in 55 developing countries. Similarly, Mallik and Chowdhury (2017) proxied human capital development with secondary school enrolment ratio and revealed its highly significant and positive effect on FDI inflows in 156 developing and developed countries. These studies respectively concluded that human capital development is increasingly becoming a significant determinant of FDI, and that international investors are not only interested in low-cost labour, but also seek a skilled labour force. While it might be expected that high human capital development leads to higher labour costs, evidence from Poole (2013) showed that MNCs are willing to pay higher incomes, which reflects their hiring of higher quality workers. Poole (2013), who used data from Brazil, also found evidence that knowledge and technology spillovers from FDI materialise through the mobility of workers from MNCs to domestic firms, particularly in high-skill intensive industries.

2.2.3.2 Financial Market Development

Alfaro and Chauvin (2016) alluded that recent empirical studies have shown that the development of the domestic financial sector is one critical prerequisite that determines the extent to which FDI translates into increases in economic growth. They argued further that efficient use and allocation of capital that comes with FDI, and the extent to which FDI generates increases in capital, depends on local financial markets.

In an earlier study, Alfaro *et al.* (2004) used various banking sector and stock market development measures, including private credit extended by banks and stock market size, to evaluate the effects of FDI on economic growth in 71 countries over the period 1975–1995. They found that with the inclusion of an interaction term between FDI and financial

development variables, the growth effects of FDI become positive and significant, particularly at the maximum level of financial development. No significant impact of FDI on economic growth was found in the absence of financial market development variables.

Furthermore, evidence of causal relationships between FDI and stock market capitalisation, and between FDI and bank credit to private sector in Africa (although in the case of the latter with less certainty) was found by Soumaré and Tchana (2015), as well as by Makoni (2016).

2.2.3.3 Exchange Rates

Fluctuations in the exchange rate would have an effect on FDI flows as they have a bearing on the payment of remittances and other international transactions within MNCs or between parent firms and subsidiaries (Madura & Fox, 2014). Cambazoğlu and Güneş (2016) analysed the relationship between the exchange rate and FDI inflows, using Turkish data for the period 2007–2015. The results of the study revealed that FDI inflows and the real exchange rate were correlated in the long run but the effect of the exchange rate on FDI was negative, meaning that an appreciation in the Turkish currency caused decreases in inward FDI flows for the period (Cambazoğlu & Güneş, 2016). Similarly, Mensah, Bokpin and Fosu-Hene (2017) found that devaluations in the Ghanaian cedi had the effect of attracting and increasing FDI inflows in Ghana during the period 1990 to 2012.

2.2.3.4 Natural Resources

Anarfo, Agoba and Abebreseh (2017) found significant positive effects of natural resources (using total natural resources rents as a share of GDP) on FDI inflows in Ghana over the period 1975–2014. Nandialath and Rogmans (2019), on the other hand, did not find any significant impact of oil and gas reserves, except for oil prices, on FDI inflows in 16 MENA countries during the period 1988–2008. This was in contrast to earlier findings by Mohamed and Sidiropoulos (2010), who found that natural resources, proxied by fuel exports, were a positive determinant of FDI inflows in 12 MENA countries between 1975 and 2006. The difference in the results of these studies suggests that different proxies of natural resources may produce different results.

Moreover, it has been found that resources-led FDI crowds out FDI directed at other sectors, and this results in aggregate FDI in the economy being low (Anarfo *et al.*, 2017). Further, resource-seeking FDI increases exports and strengthens the local currency, in which case the FDI in other sectors is deterred (Nandialath & Rogmans, 2019). The negative growth effects of this phenomenon are borne out in Hayat (2018), who investigated the impact of natural resources in the FDI-growth nexus for 104 countries from 1996 to 2015. The results of this study revealed that increases in FDI inflows significantly augmented the economic growth rate of the host economy. However, the inclusion of natural resources lowered the positive effect of FDI on economic growth. Moreover, the impact of FDI on economic growth became negative for countries with extensive natural resource sectors because of a high propensity of FDI inflows to predominantly go to the resources sector and fuel what is commonly referred to as a "resource curse" (Hayat, 2018).

2.2.3.5   Agglomeration Effects

Walsh and Yu (2010) stated that foreign firms cluster together in a host country through linkages in projects or as a result of foreign firms emulating existing FDI firms, which signals the existence of favourable business conditions in the host country. Anyawu (2012) went on to state that agglomeration effects may transpire in situations where foreign investors, in their efforts to mitigate uncertainty about a host country that is unknown to them, would emulate investment decisions of FDI that is already present in that host country. Both Anyawu (2012) and Makoni (2016) used past FDI inflows to proxy for agglomeration effects in their studies based on African economies. Agglomeration was found to have a positive and highly significant effect on FDI inflows in African countries.

2.2.3.6   Institutional Quality

An economic or financial crisis can expose the weak state and quality of institutions, which may have been concealed at times of economic boom (Buchanan, Le & Rishi, 2012). Institutional quality reflects the state of legal, political, economic and regulatory institutions in the host country, which influences its attractiveness to foreign and domestic investment (Makoni, 2018).

Agbloyor *et al.* (2016) found that even in the absence of a well-developed financial sector, good quality institutions facilitated a positive impact of FDI on GDP per capita growth in 47 African countries for the period 1996–2010. In the same vein, Asamoah, Adjasi and Alhassan (2016), using data for 40 sub-Saharan African countries for the period 1996–2011, found that institutional quality alleviated the negative effect of macroeconomic uncertainty (measured by exchange rate volatility) on FDI inflows. In a more recent study and using institutional quality data from the International Country Risk Guide, Fraser Institute (economic freedom) and World Bank (ease of doing business), Aziz (2018) found institutions to be significantly positive for FDI inflows in 16 Arab countries over the period 1984–2012. Based on the scholarly evidence presented, it one can conclude that institutional quality plays a pivotal role in the attraction and retention of inward FDI flows.

2.2.3.7   *Foreign Portfolio Investment*

Attempts have been made to investigate the possible interrelationships between FDI and FPI. Noman, Rahman and Naka (2015) examined the complementarity between FDI outflows and FPI outflows for developed, emerging and frontier markets for the period 2001 to 2009. Using a two-stage least squares and co-integration analysis framework, their results revealed that a strong positive long-run relationship between FDI and FPI existed, and the effect of FPI on FDI was more significant than the effect of FDI on FPI. Noman *et al.* (2015) thus concluded that portfolio investment and direct investment outflows are indeed strategic complements.

Conversely, Humanicki, Kelm and Olszewski (2017) conducted a study to determine whether FPI inflows and FDI inflows complemented or substituted each other in Poland over the period 2002 to 2013. In a VECM co-integration analysis, they found a statistically significant relationship of a "substitutability" or trade-off nature between FDI and FPI flows, concluding thereby that the international capital flows are substitutes rather than complements. These contradictory findings suggest that different countries (and/or different methodologies) would reveal different interactions between the two capital flows.

2.2.3.8   Economic growth

Economic growth indicators provide investors with an indication of the size of the market, and the potential for demand, as well as economies of scale in the host country (Walsh & Yu, 2010; Meyer & Habanabakize, 2018). There is, however, still ambiguity in the empirical literature regarding the direct relationship between FDI and economic growth, and this ambiguous interaction may be partly due to the type of FDI a host country may attract.

Žarković *et al.* (2017) compared the impact of FDI on economic growth in countries in Central Europe and in South-East Europe. In the case of Central European countries (CE), it was found that FDI inflows had a positive and significant impact on economic growth, while in the South-Eastern countries (SEE), the effect of FDI inflows on economic growth was statistically significant, although the impact was lower than in the Central European region. Žarković *et al.* (2017) argued that the reasons for the latter finding was that FDI in SEE countries was predominantly directed towards the service sectors rather than to the productive sectors of the economies. Furthermore, FDI in SEE countries often takes place in the form of mergers and acquisitions and the privatisation of state-owned enterprises (SOEs), and less often in the form of green-field investments. In this regard, Žarković *et al.* (2017) contended that FDI in the form state-owned-enterprise acquisitions increases government spending (therefore consumption) more than investment, and this leads to higher imports and higher trade deficits, which stimulate economic growth in the region only, rather than in the domestic economy (Žarković *et al.*, 2017).

Ayomitunde *et al.* (2019) investigated the relationship between FDI and economic growth in the BRICS countries, testing for long-run and causal relationships among FDI, GDP and economic growth rate. They found a long-run relationship among the three variables and concluded that these economic variables would have a propensity to converge in the future. In their causality tests, Ayomitunde *et al.* (2019) found bi-directional causality between FDI and GDP. Based on this evidence, they inferred that FDI inflows into BRICS countries were attracted by growth rates in these economies, and that FDI inflows accelerated expansion in the productive sectors, which consequently led to overall economic growth in the long run.

2.3   Foreign Portfolio Investment (FPI)

2.3.1   Definition and Overview of FPI

Wilkins (1999) and the International Monetary Fund (IMF, 2009) defined foreign portfolio investment (FPI) as an investment in equity or debt (other than FDI). FPI includes capital flows, financial derivatives and other money market instruments, carried out in the financial markets of an economy outside that of the investor or investing entity. The IMF definition excludes bank credit and real estate investments, as opposed to the OECD definition, but includes bonds and notes under debt securities.

Investors can engage in FPI through a number of channels that can be broadly categorised into direct FPI and indirect FPI (Bartram & Dufey, 2001). An investor can purchase securities directly in two ways: firstly directly in the foreign market, through a domestic or foreign intermediary, and secondly in the domestic market by purchasing securities of foreign firms that have listings in the domestic capital markets (Bartram & Dufey, 2001). On the other hand, indirect FPI entails investing in the shares of multinational companies (MNCs), purchasing instruments linked to foreign shares, or buying securities through international mutual funds (Bartram & Dufey, 2001).

MNCs have greater access to foreign securities and firms, and their foreign acquisitions may add to the value of MNCs. This in turn provides domestic shareholders of the MNC with the benefit of international diversification. Financial instruments closely linked to foreign shares, such as Eurobonds and American Depository Receipts, represent hybrid instruments with debt and equity components. International mutual funds, on the other hand, provide the most cost-effective and convenient way to obtain exposure to foreign securities, particularly for an individual investor. The mutual fund handles all the matters related to information and foreign market access, as well as trading of foreign securities, while the individual investor benefits from low fees as a result of pooled resources (Bartram & Dufey, 2001).

Segmented global capital markets that result in less than perfect correlations provide investors with opportunities for risk diversification and increased return expectations through international portfolio investment. There are, however, risks and constraints to

foreign portfolio investment that require analysis and comprehension (Bartram & Dufey, 2001). Solnik and McLeavey (2009:120) observed that global financial markets are sometimes construed as not fully integrated because of various constraints to capital movements. They argued further that while each national financial market may be efficient, there are factors that might prevent international capital flows from exploiting imperfect correlations. These factors include currency and country risks, as well as institutional constraints. Currency risk emanates from unexpected exchange rate changes (Solnik & McLeavey, 2009:120). The volatility of exchange rates has an impact on the correlation of returns in a portfolio, and on the correlation of the various currencies involved. Even though the currency risk can be hedged, it still makes a considerable contribution to the total volatility of an asset (Bartram & Dufey, 2001). Country risk includes political and/or economic instability, and transfer risks such as capital or foreign exchange control that restricts capital investment inflows or the repatriation of profits from investments. Institutional constraints include factors such as poor regulatory quality, excessive transaction costs associated with accessing information and purchasing securities in foreign capital markets, and discriminatory taxation (Bartram & Dufey, 2001; Solnik & McLeavey, 2009).

Inflows of FPI can play a crucial complementary role with other sources of external finance and domestic savings for the host economy. Errunza (2001) highlighted the roles of FPI in the host country, specifically with regard to capital markets development, market integration and resource mobilisation. FPI, through foreign investors, requires improved quality of information, institutions, market regulation and technology. Moreover, active participation of foreign investors reinforces local investor confidence and stimulates market participation. Furthermore, FPI would monitor and demand good firm performance, leading to improved investment decisions from firms. All these factors contribute to capital market development and growth (Errunza, 2001). As the capital markets develop, liquidity and supply of securities increases, and capital outflows are averted. In addition, removing capital controls and integrating the domestic market into the global market shifts local assets from domestic pricing to global pricing. This has the effect of reducing or eliminating the risks associated with the domestic market, thereby lowering the cost of capital. Another effect of

globalisation is that domestic firms gain access to foreign capital markets for potential foreign listings, which may contribute to increased mobilisation of resources (Errunza, 2001).

In what follows, the theoretical foundations of FPI are discussed, followed by a review of previous empirical studies that have investigated the determinants of FPI.

2.3.2 Theoretical Foundations of Foreign Portfolio Investment

2.3.2.1 International Portfolio Diversification Theory

The portfolio diversification theory and asset pricing models developed earlier by scholars such as Markowitz (1952), Sharpe (1964), Lintner (1965) and Mossin (1966), were adopted and extended to explain international portfolio diversification.

Branson (1970) adopted the portfolio diversification theory developed by Markowitz (1959) and Tobin (1958) and applied it to the context of international portfolio capital flows. His model became known as the "stock adjustment model of capital movements" (Branson, 1970). The portfolio diversification hypothesis postulates that the allocation of securities in an investor's portfolio is driven by expected rates of return and estimates of risk associated with the securities. Thus, for a given level of risk and return, there will exist a certain allocation of assets to an investor's portfolio (Branson, 1970). When applied to international portfolio flows, the stock adjustment model postulates that the cross-border movement of capital or the share of total portfolio assets invested abroad is a function of the level of interest rates and asset-risk estimates, both domestically and abroad (Branson, 1970). Moreover, rising domestic interest rates will cause a once-off stock adjustment inflow of capital, meaning that as interest rates rise, domestic and foreign investors will (re)allocate more domestic assets to their portfolios. The allocation will continue until an equilibrium balance of portfolio assets is reached (Branson, 1970).

Contrary to Branson's (1970) model, Grubel (1968) had earlier developed a model that showed that international capital flows are not a function only of interest rate differences between countries, but also of an array of other factors. Using the bond markets to illustrate his model, Grubel (1968:1301-1302) argued that the demand for foreign assets which leads

to capital flows is determined by five factors, namely: 1) the size of portfolios held by investors; 2) the size of the differences in interest rates between countries; 3) the size of the risk differential between domestic and foreign assets; 4) the correlation of returns on domestic and foreign assets; and 5) the preferences of investors with respect to risk and return levels.

Solnik (1974), on the other hand, employed the capital asset pricing model (CAPM) of Sharpe-Lintner-Mossin to derive a theoretical model that explains international portfolio investment. The traditional CAPM is premised on several assumptions about investors and the domestic market, including that investors are risk-averse, they hold similar risk and return expectations, that a risk-free interest rate exists in the market, and that there are no transaction costs or taxes (Solnik & McLeavey, 2009:121). Extending the domestic CAPM to an international context would also extend these assumptions: investors across the world would be assumed to hold similar expectations and it would be assumed that the purchasing power parity (PPP) constantly holds (Solnik & McLeavey, 2009:125).

In the real world, however, the PPP may not hold and the price levels among countries may differ, giving rise to foreign exchange rate risk (Solnik, 1974; Bartram & Dufey, 2001). As a consequence, an international investor will hold a portfolio comprising a risk-free asset denominated in the investor's domestic currency and a world market portfolio consisting of risky securities (e.g. equities and bonds) that are appropriately hedged against foreign exchange rate risk (Solnik, 1974). The presence of foreign exchange rate risk gives rise to more risk premiums that reflect the risk dynamics between the securities in the portfolio and the various exchange rates (Solnik & McLeavey, 2009:126).

In essence, capital asset pricing models postulate that asset-specific risks dissipate as a result of diversification, and that the resultant total risk – reflected in asset prices – is reduced to market risk or systematic risk. Furthermore, moving from a domestic portfolio to a global portfolio eliminates the risks associated with the domestic market. For this reason, a globally diversified portfolio is expected to have significantly reduced risks relative to a domestic portfolio (Solnik & McLeavey, 2009).

The rationales for international portfolio diversification that have since been advanced are that diversification should provide benefits for portfolio risk reduction and the potential for increased risk-adjusted expected returns when international capital markets are imperfectly correlated (Solnik & McLeavey, 2009:388; Adler & Dumas, 1983; Bartram & Dufey, 2001). Earlier studies such as those by Solnik (1974), Adler and Dumas (1983) and Solnik and McLeavey (2009:393-397) revealed the low correlations between national capital markets, and made attempts through theoretical models and empirical tests to demonstrate the benefits of international portfolio diversification.

2.3.2.2 Push and Pull Factor Theory

The 1990s saw the emergence of the view that capital flows might be driven by pull and push factors. Scholars such as Calvo, Leiderman and Reinhart (1996) and Taylor and Sarno (1997) expounded this categorisation of pull and push factors, insofar as the determinants of international portfolio flows were concerned. Capital inflows can be attributed to factors that are internal (pull factors) to recipient countries and those that are external (push factors) to the recipient countries (Calvo *et al.*, 1996).

Sarno, Tsiakas and Ulloa (2016) described push factors as those global forces that push capital flows from industrialised economies toward other countries. These forces include regimes of low interest rates, low potential growth, growing risk appetite, as well as desires for international portfolio diversification on the part of industrialised investing economies. In contrast, pull factors are country-specific factors that reflect favourable domestic economic conditions in host countries such as high interest rates, low inflation and high growth rates (Sarno *et al.*, 2016). These factors pull capital flows into host countries, and reflect the host countries' relative attractiveness in terms of investment opportunities and risk (Sarno *et al.*, 2016).

In their explanation of capital flows from industrialised economies to developing countries – Asia and Latin America in particular – Calvo *et al.* (1996) highlighted factors that were highly explanatory of the international capital flows between the developed and developing countries, particularly in the 1990s. These included global interest rates, international business cycles, integration of global capital markets and international diversification, as

well as economic policies, including monetary and fiscal policies. While countries with favourable domestic conditions attracted vast amounts of long-term capital flows, external factors were fairly dominant in accounting for portfolio flows to emerging Latin America and Asia during the 1990s (Calvo *et al.*, 1996).

2.3.2.3 Ownership – Location – Externalisation (O-L-E) Theory

Dunning and Dilyard (1999) modified the eclectic paradigm (OLI) that was initially used as a theory to explain FDI, to make it applicable in an FPI context. Their intention was to explain the choice between FPI and FDI by MNCs, wherein FDI would be pursued to strengthen existing competitive advantages, while FPI would be used as a vehicle to transfer other financial resources (Dunning & Dilyard, 1999:42).

In the FPI context, *ownership* advantages that an investing entity would possess over other entities would include variables such as the amount of investible capital, access to additional capital, expertise and knowledge of markets by portfolio managers, research capabilities and access to information about other markets. Moreover, portfolio managers would have a reasonable knowledge of the prospects of the firms in which to invest as well as other investment opportunities available in the foreign market (Dunning & Dilyard, 1999).

Factors such as political stability, access to and degree of development of capital markets, market openness, capital controls, economic growth prospects as well as regulatory and institutional quality, in respect of host economies and how these factors influence the rate of return expectations would determine the *location* advantages of the FPI. In instances where expected returns are greater in the home market than in foreign markets, domestic investment would be preferred to foreign investment (Dunning & Dilyard, 1999).

Finally, *externalisation* advantages replace internalisation advantages (that are associated with FDI). Externalisation rationalises the preference for international capital markets, which are external markets, over internal markets for the transfer of capital (Dunning & Dilyard, 1999). Externalisation advantages when using international capital markets to exploit ownership and location advantages include, among others, the ability to access superior market information in order to pursue apt investment strategies, and the ability to

take advantage of imperfect correlations between different markets, all of these at low transaction costs (Dunning & Dilyard, 1999).

2.3.3 Determinants of Foreign Portfolio Investment – Empirical Perspective

Brink and Viviers (2003) identified factors that influence potential foreign investment, and determine the risk and return expectations of long-term foreign portfolio investors. Perceived risks are determined by institutional aspects such as economic and political stability, while return expectations are informed by macroeconomic variables such as interest rates and growth rates, as well as the degree of financial development, which affects financial and transaction costs (Brink & Viviers, 2003). They also highlighted policy-related influences such as the host country's degree of capital openness.

The volatile nature of FPI flows can adversely affect an economy's capital markets and its broader financial stability (Errunza, 2001; Brink & Viviers, 2003). Widely cited examples of the adverse effects are the crises in Latin America and Asia during the 1990s (Errunza, 2001; Brink & Viviers, 2003). Thus, well-developed and efficiently regulated domestic financial markets that improve corporate governance are essential in managing the effects of FPI flows into the host economy (Errunza, 2001; Choong *et al.*, 2010; Agbloyor *et al.*, 2014). Well-developed domestic financial markets, both the stock market and banking sectors, were also found to be the conduit through which the growth effects of foreign capital flows can be transformed from negative to positive, through the interaction of capital flows and financial market development variables (Agbloyor *et al.*, 2014; Makoni & Marozva, 2018).

Byrne and Fiess (2016) found the quality of institutions and capital account openness to be positive and statistically significant determinants of portfolio flows to emerging markets. Similarly, Okada (2013) showed earlier that financial openness, or institutional quality, might not single-handedly attract international capital inflows; rather, the positive impact of financial openness on capital inflows increases with the level of the host country's institutional quality. Okada (2013) concluded that financial openness is more beneficial for foreign investment in countries with higher institutional quality than in those with lower institutional quality.

Some studies have identified both global and domestic factors as drivers of portfolio capital flows. For instance, Ahmed and Zlate (2014) found global risk, differentials in GDP growth rates and interest rates between emerging markets and advanced economies to be important drivers of net portfolio flows for 12 emerging markets over the period 2002–2013. Similarly, Vo, Nguyen, Ho and Nguyen (2017) found that differentials in GDP growth, stock market development and governance significantly determined bilateral portfolio capital flows from advanced economies to emerging markets. Singhania and Saini (2017) found differentials in trade openness, GDP growth rate, interest rates and stock market performance to be significant determinants of FPI inflows in 19 developed and developing countries. Moreover, past FPI inflows, proxied by a lagged dependent variable of FPI, were positively significant for current FPI inflows in Singhania and Saini (2017).

2.4 Institutions

2.4.1 Definition and Overview of Institutions

North (1991) defined institutions as formal and informal rules (and the manner in which the rules are enforced), tailored by human beings to structure and reduce uncertainty in their economic, political, legal and social exchanges and outcomes. Laws and regulations constitute the formal rules, while behavioural norms or codes of conduct make up the informal rules. Prior to this definition, Matthews (1986) highlighted some principles that underlie institutions that influence economic markets, including property rights rules stipulated by the law, norms of economic behaviour, and the types of permissible contracts.

Institutions are understood to be critical for economic outcomes because they determine the magnitude of the costs and risks of transacting in an economy, and therefore the level of productive activity. Efficient institutions engender positive economic outcomes because they stimulate investment and entrepreneurship, protect property rights, enforce contracts, enable adoption of efficient technologies, integrate world markets, maintain political and macroeconomic stability, promote the rule of law and civil liberties, manage risks, including those taken by the financial sector, and promote long-run economic development and growth (Alfaro *et al.*, 2008; Rodrik, 2008).

Acemoglu and Robinson (2019) made a distinction between inclusive and extractive institutions. Inclusive economic institutions are characterised by well-enforced property rights, competitive markets and the effective distribution of resources. These institutions create predictability, broad opportunities and incentives, thereby attracting investment and promoting growth-enhancing activities in the economy. Extractive economic institutions are by contrast designed to extract resources and allocate them disproportionately to a few elite and politically connected individuals or groups.

These institutions emanate from the nature of the political institutions existing in the country (Acemoglu & Robinson, 2019). If the political institutions in charge of the country are inclusive, meaning that political power is widely distributed in society, and if these institutions are composed of a capable state and government that efficiently enforces rules and regulations, the economic institutions that are built will also be inclusive. However, if the political institutions are extractive and political power is concentrated in a few individuals or parties, with no constraints on their actions, economic institutions will be extractive and characterised by unpredictability and considerable political interference and high expropriation risks (Acemoglu & Robinson, 2019).

In the next subsection, the theoretical frameworks used to examine the potential impact of institutions in fostering an attractive and conducive environment for international investment are discussed.

2.4.2 Theories of Institutions

2.4.2.1 New Institutional Economics

North (1992) conceded that the old institutional economics provided meaningful insights into the study of institutions, but criticised it for a lack of a systematic body of theory necessary for the development and progress of a discipline. Coase (1998:72) also argued that the proponents of the old institutional economics lacked a theory to bind together their collection of arguments and facts, and as a result had very little of value to pass on. The new institutional economics theory emerged to address these shortcomings. Whilst the new institutional economics theory builds on the fundamental principles of scarcity and competition that underpin microeconomics, it makes several departures from the

neoclassical theory of economics (North, 1992). New institutional economics abandons the assumptions of perfect symmetrical information, efficient markets, costless transactions and unlimited human rationality that are associated with neoclassical economics (Menard & Shirley, 2005:1; North, 1992).

North (1990; 1991; 1992) classified institutions in terms of their degree of formality. He argued that institutions are made up of formal and informal institutions, and the manner in which these institutions are enforced. Formal institutions or formal rules can be categorised as political rules, economic rules and legal rules, and they emanate from laws, regulations and constitutions. Informal institutions or informal constraints, on the other hand, include codes of conduct or social norms of behaviour that stem from socially transmitted knowledge such as cultures and traditions. It is imperative for formal rules to be complementary to the informal constraints, as incompatibility between the two institutions will induce disaffection and political instability (North, 1993).

Institutions are also distinguished from organisations. Institutions are the "rules of the game" that structure human interaction, exchanges or transactions in order to reduce uncertainty, while organisations are the "players of the game", consisting of economic, political, societal and educational organisations (North, 1992). Organisations that emerge in an economy reflect the existing institutional framework and the opportunities it offers. This means that if the institutional structure provides incentives for productive activity, firms will emerge to engage in productive activities. Put differently, economic rules (e.g. property rights structure) determine the types of contracts or economic activities that individuals can engage in and, ultimately, the forms of organisations that will participate in the economy (North, 1990).

The long-run performance of an economy is shaped and determined by how its institutions evolve. In this regard, North (1992; 1993) proposed that organisations are the agents of institutional and economic change. The perpetual interaction between institutions and organisations in an economy characterised by competition drives institutional change. Domestic and foreign competition induces firms to enhance their chances of survival by investing in knowledge and skills but also by exerting influence on the political structures

that make economic rules. Naturally, the political structure (e.g. the government and lawmakers) would determine economic rules, through property rights and contract laws, but economic interests (e.g. firms), through their bargaining muscle and political proximity would also have an influence on the political structure. This continuous interaction is what underpins the change in the institutional framework and the performance of the economy (North, 1990).

Williamson (2000), on the other hand, classified institutions into four levels of social analysis. Each level taps into a particular social science theory: social theory for level 1 institutions, economics of property rights and positive political theory for level 2 institutions, transaction cost economics for level 3 institutions, and neoclassical economics (and agency theory) for fourth level institutions (Williamson, 2000).

The first level comprises the most socially embedded and pervasive institutions such as traditions, customs, norms and religion. These institutions are what North (1991) referred to as informal constraints. Williamson (2000) regarded these institutions as the most entrenched in society and take as long as centuries to millennia to evolve.

The second level represents the institutional environment (Williamson, 2000). The institutional environment hosts formal institutions such as laws, regulations and property rights (North, 1991). This level is the domain of the legislative, judicial, executive and bureaucratic functions of government, where the responsibility to define and enforce economic rules such as property rights and contract laws is entrusted (Williamson, 2000). The institutional environment is constrained by and less embedded than the first level informal institutions (Williamson, 2000; Kunčič, 2014).

Institutions of governance occupy the third level. Given the structure of the institutional environment consisting as it does of formal institutions (as explained above), governance structures are established to govern the contractual or economic relationships between economic agents (Williamson, 2000). Governance structures refer to the legal and regulatory framework within which transactions or contracts are negotiated, implemented and enforced. Williamson (1985; 2000) did, however, emphasise that much of contract management and enforcement is conducted privately by the parties concerned. This level

entails the alignment of governance structures with the types of transactions or contracts that might occur, given the forms of organisations that exist (Williamson, 2000).

Finally, the fourth level represents the rules that govern the determination of prices and quantities of goods and services, and resource allocation, in accordance with economic theory and market structures – e.g. monopolies and oligopolies- (Williamson, 2000; Kunčič, 2014).

The new institutional economics is primarily concerned with the second and third levels (Williamson, 1995; 2000). The institutional environment that comprises the fundamental legal, political, economic and social rules. These form the basis of all forms of transacting (e.g. property rights, contract laws), and the institutional arrangement that consists of the governance structures that govern the manner in which economic organisations coexist, transact/contract and/or compete (Williamson, 1995).

Williamson (1995) pursued a micro-analytical approach to the study of institutions, focusing mainly on the second level institutions. More specifically, he concentrated on an analysis of inter-organisational transactions and the institutional arrangements that govern these transactions. He called his approach transaction cost economics, an interdisciplinary approach combining law, economics and organisational theory (Williamson, 1995). In transaction cost economics, Williamson (1995) examines the effectiveness of various forms of economic organisations such as markets, firms and bureaus, in relation to the attributes of the transactions – particularly the transaction costs – and governance structures with which these different forms of organisations are associated.

The transaction cost theory derives largely and directly from Coase (1937). Coase (1937) postulated that firms in an economy would emerge because of the transaction costs associated with carrying out transactions in the open markets. These transaction costs emanate from the institutional structure of the economy. For instance, an economic organisation such as a firm represents an organisation of transactions. But the institutional structure can make it excessively expensive to conduct every single transaction in the open market. One pertinent cost associated with the open market is that of concluding a contract for every exchange transaction. Thus to minimise transaction costs and become profitable,

an entrepreneur would organise these transactions (e.g. vertically) in a cost economising manner, into a single organisation, i.e. the firm (Coase, 1937).

North (1986), on the other hand, adopted a macro-analytical perspective and was primarily and broadly concerned with the continuous interaction between the institutional environment (formal institutions) and organisations, and how this interaction drives institutional change and economic performance over time. North (1990) constructed his theory of institutions by combining theories of human behaviour (informal rules), production (organisations or firms) and transaction costs (formal rules) to explain the role of institutions in the performance of economies.

North (1990; 1992) attributed transaction costs, on the one hand, to the costliness of acquiring sufficient information about a transaction, as that information would be in most cases asymmetrically held by the parties to the transaction. On the other hand, transaction costs underlie all the costs associated with a transaction, including determining what is being exchanged, protecting property rights and enforcing contractual agreements (North, 1990; 1992).

North (1986) pointed out earlier that, as a result of the complex nature of modern economies, characterised as they are by impersonal – distant – transactions and third party enforcement, the costs of transacting rise (particularly for international investment). In this instance, the institutional framework must play the crucial role of enforcing contracts and property rights to minimise transaction costs for economic agents. Creating institutional structures that enable low costs of transacting and enforcement in capital and other markets is the key to creating productive economies (North, 1990). Incomplete markets and market failures in some developing countries have been attributed to excessively high costs of transacting and information asymmetries (Kherallah & Kirsten, 2002).

Turning to the role of legal institutions, Rubin (2005:205) observed that while it was once believed that the creation and/or liberalisation of economic markets would be sufficient for economic growth and prosperity, actual lessons from history have proved the inadequacy of the mere liberalisation of the economy. Rather, an economy requires an effective and persistent legal system in order to thrive (Rubin, 2005). Three functions of the legal system

are essential for the efficient operation of markets. Firstly, the law should define property rights precisely. Secondly, the law must allow the transfer of property rights, and lastly the law must provide for the protection of property rights (Rubin, 2005; Furubotn & Ritcher, 2005:293).

Hadfield (2005) also looked into the legal institutions and mechanisms that support contractual commitments, such as courts, lawyers, contract laws and enforcement services. His emphasis was not whether contracts can or cannot be enforced but rather on the cost and effectiveness of these institutional structures and mechanisms that improve the confidence of the contracting parties in the performance of their agreements. This is where the capacity of an economy to generate economic activity and growth is determined by the institutional environment's enforcement mechanisms (Hadfield, 2005:180). Incidentally, North (1990) also attributed the past poor economic performance in underdeveloped countries to deficiencies in the development of an institutional framework that would enable effective and less costly contract enforcement.

Enforcement mechanisms are costly because they require time, information, technology, investment in human capital and the services of others, and there may be errors made in the process (Hadfield, 2005:180). Expediency and "opportunism" is also likely to occur when transactions are impersonal (North, 1990:55). Thus for an enforcement mechanism to be effective, these underlying costs should not exceed the gains from increased commitment (Hadfield, 2005).

Thus, in summary and context, the broad theory of the New Institutional Economics essentially postulates that institutions in an economy should be structured in a manner that enables low transaction costs in economic markets that will galvanise investment and productive activity, and promote long-run economic development. This is achieved mainly through well enforced property rights and contracts. Such enforcement requires the collective action of a broad set of institutions, including economic, legal and political institutions.

Subsequent theories of institutions borrowed greatly from the New Institutional Economics theory to construct theoretical frameworks within which to examine the impact of the

institutional environment on other key elements of economic activity and development. Below are some theories that have emerged to explain the role of institutions in the context of international investments.

2.4.2.2 *Institutional Environment for Multinational Investment*

Institutional environment for multinational investment is a theory that applies the new institutional economics view to the multinational investment context. This theory allows for the analysis of the impact of host-country institutions on multinational corporations (MNCs), as well as of the impact of the risks associated with the contractual relations that the MNC would engage in with domestic firms or partners. The theory further identifies an interaction between the risks associated with the political-institutional environment of the host country and those associated with the MNC transactions, which influences the entry mode – whether as a wholly owned subsidiary or joint venture – of the MNC into the host country (Henisz, 2009).

Entering a host country that has a precarious institutional, regulatory and property rights structure, would pose two main political risks for the MNC. Firstly, the MNC faces expropriation risk from the host government, and secondly, the MNC faces the risks of adverse changes in regulations, taxes and other agreements. These would have the effect of reducing the MNC's expected return on its investment in the host country (Henisz & Williamson, 1999; Henisz, 2000).

In the presence of these risks, the MNC would consider several mitigating actions. On the one hand, it might seek a domestic partner or supplier that could positively or beneficially influence the political or regulatory system; or it might make use of illegitimate markets where transactions would be difficult for the government to detect (Henisz & Williamson, 1999). On the other hand, the MNC might reduce expropriation risks by acquiring considerable bargaining power. Firms with strong competitive and strategic advantages, such as unique technologies, capital resources and human capital would possess considerable bargaining power in negotiations with host country governments. A problematic possibility in this regard, however, is that the bargaining power might dwindle

once the MNC has made fixed, long-term and immovable investments in the host country; these would be costly to dispose of prematurely (Henisz & Williamson, 1999).

Given these prospects, the MNC may consider the feasibility of strategies that could increase the political costs for the government of adverse actions taken against the MNC. These strategies include increasing the employment of domestic partners, workers, managers and capital markets. The purpose of these strategies is to deter adverse government action against the MNC as they would shift a greater portion of the costs of political risks onto local stakeholders, from which the government would fear acts of political reprisal, such as lower political benefits and votes, and reduced tax revenues (Henisz & Williamson, 1999).

As mentioned above, the interaction between the risks associated with the institutional environment and those that stem from the contractual relationships of the MNC in the host-country have the effect of influencing the mode in which the MNC enters the host market. The MNC may conduct business in the host market as a wholly owned subsidiary or as a minority equity holder or joint venture. The argument here is that the impact of political risks on the form that the MNC takes is a function of both the institutional environment and the characteristics of the investment transaction, including the contractual relations that arise therefrom. Risks from the MNC's contractual relations include expropriation by domestic partners, where the partners may deviate from agreements or manipulate the political system – to which they have better access – to their own benefit and to the detriment of the MNC (Henisz, 2000).

The interaction between political risks and contractual risks would play out as follows. Political risks would induce the multinational investor to take the form of a minority equity holder or joint venture with a domestic partner as opposed to a majority equity holder or wholly owned subsidiary. The former lowers the impact of political risks on the multinational investor as the greater portion of the costs of expropriation or adverse actions by the government is borne by domestic partner(s). However, the benefits of minority equity holding or a joint venture can be greatly reduced by the risk that the domestic partners may themselves opportunistically expropriate the returns from the joint-venture partnership. For partnerships with low contractual risks, on the other hand, the choice between majority

and minority equity holding would be strongly influenced by the political-institutional environment. Therefore, the net effect of risks from the institutional environment is critically contingent on the severity of contractual risks (Henisz, 2000).

This institutional theory has been empirically tested in a number of cross-national studies, and the impact of variations in institutional environments across countries has been found to significantly account for the differences in electricity and telecommunications infrastructure investments (Henisz & Zelner, 2001; Bergara, Henisz & Spiller, 1998; Henisz, 2002).

2.4.2.3   FDI-Institutional-Fitness Theory

This is a theory developed by Wilhelms (1998), who integrated various theories of foreign investment. Similar to the previous theories, it allows for the analysis of the impact of host country institutions on the enhancement of inward foreign direct investments. The theory essentially foregrounds host country institutional fitness as a key determinant of FDI inflows, beyond other country specific and macroeconomic variables. Wilhelms (1998) asserts that it is not invariably the industrialised and biggest countries that receive foreign investment, but rather those that strive to make themselves the most institutionally adaptable and fit to receive it.

The theory places emphasis on four key host country institutions, namely government, markets, education and socio-culture. These institutions are ranked hierarchically according to their degree of significance to foreign investment.

The foremost institution is government, which rules over the other institutions because of the significance of the state of the host country's political environment and institutions to the foreign investment decision. In the new institutional economics framework these are formal institutions. The investor would focus on these formal institutions as the source of key policies and actions (Wilhelms, 1998). Beneath government are the market institutions. These institutions include the capital markets and their regulatory framework. Wilhelms (1998) asserts that well-functioning markets are a key factor in investors' investment decisions as they affect the financial and economic transactions of investment projects directly. Wilhelms (1998) argues further that open and competitive markets – with

"protective" regulation as opposed to "directive" regulation that stifles private investment – attract more FDI. Below the markets, comes education, which develops the host country's human capital and therefore creates an environment in which foreign direct investments can be efficiently utilised.

At the base of the hierarchy lies the socio-cultural institutions. These are the primitive and most entrenched and pervasive institutions that underpin all other institutions in the host country (Wilhelms, 1998). These are also informal institutions that are the most socially embedded and that take longer to change.

When Wilhelms (1998) tested her hypothesis empirically for 67 developing countries (1978-1995), she found government and market institutions to be the utmost important in attracting FDI. With respect to government institutions, she found low corruption, strong rule of law, and openness to trade and investment to be positively associated with FDI inflows. With regard to market institutions, it was shown that FDI inflows are enhanced by a balanced tax system, a strong financial sector, high trade volume and sound infrastructure.

Having discussed the conceptual and theoretical frameworks within which to examine institutions and foreign investment inflows together, a review of previous empirical literature related to the institutional determinants of foreign investment follows.

2.4.3   Institutional Determinants of Foreign Investment Inflows

Well-enforced property rights and competitive markets are key to influencing economic outcomes as they incentivise investment and the adoption of efficient technologies, and further allocate resources to their most productive use (Acemoglu, Johnson & Robinson, 2005). As such, Acemoglu and Johnson (2005) focused on institutions of property rights and contracting to examine their determinants and their importance for economic and financial outcomes for 71 countries (former European colonies) during the 1990s. They found that property rights, which are rules and laws that protect investors from government expropriation, and contracting institutions – the laws that govern contracts between private economic agents – are heavily determined by a country's colonial history (i.e. legal origins and colonial institutions). As far as the impact of these institutions on economic and financial outcomes was concerned, property rights had positive associations with GDP per capita and

the ratios of investment, private credit and stock market capitalisation to GDP. This suggests that property rights are crucial for attracting and galvanising productive economic activity and ultimately improving long-run economic growth. Contracting institutions had no significant impact on the outcomes, except on stock market development (Acemoglu & Johnson, 2005).

Government stability, law and order, bureaucratic quality, democratic accountability, and internal and external conflicts stood out as the most important political-institutional determinants of foreign direct investment inflows in Busse and Hefeker's (2007) study of 83 developing countries over the period 1984 to 2003. They used International Country Risk Guide (ICRG) data, and applied panel data models. Similarly, Alfaro *et al.* (2008) found that a broad set of institutional factors, including among others government stability, bureaucratic quality, investment profile, conflicts, corruption, and law and order, was the largest and most consistent variable accounting for international capital flows (FDI, portfolio equity and debt flows) not flowing from capital rich countries to capital constrained countries. They employed the International Country Risk Guide (ICRG) data in Ordinary Least Squares regressions methodology for 98 developed and emerging economies between the period 1970 and 2000.

On the other hand, in a panel random effects model for 69 emerging countries for the period 1981 to 2005, Ali, Fiess and MacDonald (2010), also using ICRG data, identified property rights protection as the most relevant institutional factor for FDI inflows, when compared to other attributes of institutions such as corruption, democracy and political instability. Lim (2014), using the system GMM model, went on to reveal that the rule of law, property rights protection and control of corruption (proxied by ICRG data) displayed more consistent and statistical significance as structural determinants of investment activity than financial development, in both industrialised and pre-industrialised economies,.

Recent studies that have employed the Worldwide Governance Indicators (WGIs) to assess the impact of institutions on foreign capital inflows include those by Różański and Sekuła (2016). They found positive and statistically significant impact on FDI inflows from voice and accountability, political stability and rule of law, while control of corruption was significant

but negative. They used a panel fixed effects model for 51 developed and emerging markets over the period 1996 to 2014. Kurul and Yalta (2017) found government effectiveness, control of corruption, and voice and accountability to be positive and statistically significant for FDI inflows into 113 emerging countries over the period 2002 to 2012. They used a dynamic system generalised method of moments (GMM) model. Peres *et al.* (2018), on the other hand, looked particularly at the role of the rule of law and control of corruption in direct investment inflows in a panel of 110 developed and developing countries (2002–2012). In an instrumental variables model approach, these institutional indicators were found to be positive and highly significant for FDI inflows into developed countries. They were, however, found to be positive but statistically insignificant for developing countries. Based on these findings, the authors concluded that, because of the weak quality of institutions in developing countries compared to developing countries, developing countries fail to attract sufficient foreign investment inflows.

Gossel and Beard (2019) found that control of corruption, government effectiveness, political stability, regulatory quality and rule of law were the most pertinent and significant institutions for foreign portfolio inflows for 33 emerging sub-Saharan African countries over the period 1985–2015. The results of a panel GMM approach also revealed that government effectiveness, regulatory quality and control of corruption had a positive impact on FPI inflows, while the rule of law and political stability were significant but negative for portfolio inflows.

On the other hand, Sabir (2019) used an institutional quality index composed of the Worldwide Governance Indicators to examine the impact of institutions on FDI inflows into 148 emerging and developed economies, across the lower to higher income groups, over the period 1996–2016. The impact of institutional quality on FDI inflows was positive for both groups, but as in Peres *et al* (2018), statistical significance or greater impact of institutions was only found for developed economies.

These empirical studies are not unanimous in their determination of the most important institutional determinants for foreign investment, but it could be argued that a broad set of institutions is crucial for host countries to enhance their foreign investment inflows.

Having reviewed the literature on relevant theoretical frameworks and empirical determinants of the three key variables of interest, the purpose of the next subsection is to discuss empirical evidence for the various (inter) relationships between global capital flows (FDI and FPI) and institutions.

2.5 Global Capital Flows and Institutions

Of centrality to this study are the determinants of foreign investment inflows, with a particular focus on the role of institutions, and the (inter)relationships between FDI, FPI and institutional quality. Having looked at the determinants of these key variables in the preceding subsections, the discussion now turns briefly to a review of empirical evidence of these (inter) relationships.

Alfaro *et al*. (2007) investigated the determinants of capital flow volatility for 47 developed and developing countries for the period 1970–2000, with particular attention paid to the role of institutions. The volatility of FDI and portfolio equity flows per capita were treated as dependent variables and measured as the standard deviation of total equity inflows per capita, divided by the average gross flows over the period under study. Institutional quality was proxied by a political safety index composed of International Country Risk Guide (ICGR) data. An Ordinary Least Squares regression estimation revealed a significant effect of institutions on the volatility of total equity inflows, while this effect was also sensitive to capital controls and country risk. In this regard, Alfaro *et al*. (2007) concluded that institutional quality and macroeconomic policies are significant determinants of inflows and their volatility.

Evidence has also been found of threshold effects associated with the relationship between capital flows and institutions. For instance, Kose, Prasad and Taylor (2011) found threshold levels of institutional quality and financial development above which host countries benefited significantly from foreign capital inflows and financial integration. Similarly, Slesman, Baharumshah and Wohar (2015) found that above a certain threshold value of institutional quality, host countries could derive high levels of growth benefits from direct and portfolio investment inflows in both developed and emerging economies. As in the study by Kose *et al*. (2011), Kurul (2017) analysed whether a threshold level of institutional quality

exists, which must be reached in order for significant inflows of FDI to be attracted. FDI inflows as share of GDP and a principal component analysis constructed institutional quality index consisting of the Worldwide Governance Indicators was used with data from 126 developing and developed countries for the period 2002–2012. The results of a dynamic panel threshold regression model revealed that there was indeed a threshold value of institutional quality that divides two regimes. The first regime, which is below the threshold value, represents low institutional quality. No significant correlation was found between FDI inflows and institutional quality at this level. However, the second regime with high institutional quality produced a significant and positive relationship between the two variables, suggesting that improvements in institutional quality led to considerable increases in FDI inflows. Kurul (2017) went on to investigate the impact of global factors, that is global liquidity and global risk, in driving capital flows to emerging countries. A GMM estimation revealed that global liquidity had a positive and significant effect on FDI flows. In contrast, however, FDI flows did not show any significant sensitivity to increases in global risk.

Shah, Ahmad and Ahmed (2016) investigated the causal relationships between institutional quality, and sectoral and total FDI inflows for Pakistan over the period 1980 to 2012, using a composite index of ICRG data for institutions. Employing the Autoregressive Distributed Lag (ARDL) technique, the researchers found long-run bi-directional causality between institutional quality and total FDI, as well as between manufacturing and services sectors FDI. Short-run bi-directional causality was also found between institutions and manufacturing sector FDI. No significant long or short run relationships could be found between institutional quality and FDI from the primary sectors, comprising oil, gas and mining resources (Shah *et al.*, 2016). The latter finding means essentially that FDI directed at extracting resources is not dependent on a country's institutional environment. In a somewhat similar vein, Hyun (2006) had earlier found only a long-run causal relationship, but no short-run causality, between FDI stock and institutional quality (ICRG) for 62 developing countries (1984–2003) using various techniques, including ARDL, Pedroni cointegration, and fully modified OLS techniques.

In another study, Makoni (2018) used the Kunčič (2014) institutional quality dataset to examine the impact of institutions on FDI and FPI in nine African economies over the period 2009–2016. Applying the ordinary least squares model on multiple regressions, Makoni (2018) found evidence of a positive and significant relationship between the three variables and concluded that institutional quality becomes very important in attracting foreign capital inflows in the absence of well-developed financial markets and/or sizeable natural resource endowment.

2.6 International Capital Inflows in Emerging Market Economies – Background

2.6.1 Asian economies

2.6.1.1 China

China was historically a staunchly communist, state-centralised economy and, like other Asian economies, was generally closed and highly regulated until at least the late 1970s and early 1980s (Knoop, 2013: Stanley, 2018). From the 1980s, the Chinese government started adopting market-oriented policies. The economy was opened and the country embarked on a gradual liberalisation of the capital account as well as the current account, thereby pursuing an investment and export (trade) led growth model. After years of closure as the result of political revolutions, the Shanghai and Shenzhen stock markets were also re-established in the 1990s (Hatzvi, Meredith & Nixon, 2015; Stanley, 2018).

Capital account liberalisation in China has attracted largely FDI inflows, which have contributed the largest share of total capital inflows in the country. The larger share of FDI inflow is said to be the result of expectations of high rates of return from investors' perspective because of rapid productivity growth in the economy and a huge market, but also because of modest regulations imposed on inward FDI by the government (Knoop, 2013; Hatzvi *et al*., 2015). FPI, on the other hand, has been smaller than FDI owing to heavy restrictions, controls, quotas and schemes constraining portfolio flows, and intended to limit market volatility (Hatzvi *et al*., 2015; Stanley, 2018). Between 2006 and 2017, FDI averaged about 3 percent of GDP, compared to about 0.6 percent of GDP for FPI.

The Chinese economy insulated itself from the 2007/2008 global financial crisis through various foreign exchange and capital controls, as well as other central bank measures. China

resumed and accelerated capital account liberalisation in the decade following the global crisis (Hatzvi et al., 2015; Stanley, 2018). In 2013, the Shanghai Financial Free Trade Area, which has since been expanded, was established with the aim of promoting trade and foreign investment in the country (Stanley, 2018). The Chinese government is expected to continue liberalising its capital account, as well as transforming the composition of its capital flows by giving greater scope to the liberalisation of portfolio inflows (Hatzvi *et al.*, 2015).

2.6.1.2 India

After independence from British rule in the late 1940s, India established an economy that was relatively closed and characterised by significant government intervention and control over private investment (both local and foreign) in several sectors. Foreign investor participation was limited to 40 percent, meaning that development programmes were predominantly funded by domestically mobilised resources (Iyer, 2016: Stanley, 2018). As a result of strict government regulation, bureaucracy, high taxation and corruption, existing FDI (including that of Coca Cola, IBM and Mobil Oil) exited the Indian economy. This was followed by very moderate economic growth rates (Iyer, 2016).

The beginning of 1990s saw the economy running short of domestic funds and export receipts becoming insufficient, leading to high budget deficits, recurrent current account deficits, and significant inflationary pressures. This was exacerbated by the fact that India was a net importer of oil, and commodity prices were high on the international markets. However, with the advent of the 2000s and after a decade or so of distress in a closed economy, India began gradually liberalising its capital account. Restrictions on foreign investment inflows were lifted, (although initially FDI remained considerably regulated, resulting in higher FPI inflows) (Iyer, 2016; Stanley, 2018). Investment subsequently increased, with FDI inflows averaging about US$65 billion between 2000 and 2008. In turn, economic growth was accelerated (Iyer, 2016).

Like many other emerging market economies, India suffered from low global investor confidence during the 2008 global financial crisis. Significant drops in the Bombay Stock Exchange index were witnessed between January 2008 and March 2009, as portfolio investors repatriated their investments from the Indian economy (Stanley, 2018).

Nevertheless, India continued its deregulatory and liberalisation measures during and after the global financial crisis to enhance foreign investors' benefits in the domestic market and implemented several central bank measures to limit the effects of the crisis on the economy. As a consequence of these measures, the Indian economy recovered from the financial crisis and led by institutional investors, foreign participation has been dominating the Indian equity markets ever since (Stanley, 2018).

2.6.1.3 Indonesia

Along with Thailand, Malaysia and South Korea, Indonesia was hard hit by the East Asian financial crisis that took place between 1997 and 1999. Among other explanations that have been advanced is the fact that this crisis was largely influenced by a currency crisis that resulted from these Asian economies pegging their currencies to the US dollar with the objective of attracting foreign capital inflows. This despite the fact that their major trading partners were neighbouring Asian countries (Knoop, 2013). The US dollar significantly appreciated in the 1990s, so much so that these Asian currencies were considered overvalued, and this caused panic among international investors and creditors. Subsequently, rapid withdrawals of capital flows by international investors and creditors ensued (Wie, 2003; Knoop, 2013). Indonesia had already attracted significant foreign capital flows, including considerable short-term and volatile debt flows (as well as high corporate debt guaranteed by government) from advanced economies because of its rapid industrialisation and positive macroeconomic fundamentals in the preceding decades (Wie, 2003). For Indonesia, the crisis was coupled with internal institutional and political weaknesses. In the 1990s the country was associated with pervasive corruption, crony capitalism and political instability, compounded by weak regulatory, financial and economic systems. Transparency International's corruption index ranked Indonesia 110 out of 182 countries in 2010. These factors hindered a speedy recovery by the economy. Since 1998 Indonesia has recorded continuous net outflows of FDI. Polled investors also emphasised the institutional environment, including the capability and integrity of government and the legal system, as their main concern (Lindblad, 2003; Wie, 2003; Knoop, 2013).

Notable economic and political stability was achieved around mid-2002 (Wie, 2003). FDI inflows began to grow, though sluggishly, but accelerated from 2005 onwards. In 2007, the Jakarta and Surabaya stock markets were merged to form the Indonesia Stock Exchange, and this merger was a boost for the country's capital market development and FPI attraction (Broszkiewicz, 2017). Despite a sharp shrinkage in FPI volumes in 2008 resulting from the global financial crisis, FPI inflows increased considerably for a decade up to 2017, and even surpassed 50% of asset holdings in the Indonesia Stock Exchange (Broszkiewicz, 2017).

2.6.2   African economies

2.6.2.1   Egypt

Egypt began adopting liberalisation policies from 1991. This direction was taken mainly because of structural adjustment (economic reform) programmes that the country had entered into with international lending institutions. Thus, between 1991 and the mid-2000s, the country embarked on a lengthy series of economic reforms that included reducing the dominance of the state in the economy by undertaking privatisations, and liberalising trade and investment. Many sectors in the economy, including nearly the entire financial sector had, up to that point, been under the control of the state. By the mid-2000s, a number of sectors fell under the ownership of private domestic and foreign capital, and the state played a mainly regulatory role (Louis, Mahdy & Handoussa, 2004; Alissa, 2007; Dahi, 2012).

An open economy triggered significant inflows of FDI, notably between 2005 and 2010. The performance of FPI, on the other hand, was relatively poor and very volatile, recording periodic negative net inflows as percent of GDP for half the period between 2006 and 2017. According to the World Development Indicators, FPI inflows averaged about 0.2% of GDP relative to about 3.5% of GDP for FDI inflows, over the period 2006–2017. Apart from the sensitivity of portfolio flows to external economic factors, Helmy (2015) attributed the poor and volatile performance of FPI inflows to macroeconomic instability, indicated by high inflation rates, low degree of market openness, as well as the economy's vulnerability indicated by a high public budget deficit in the Egyptian economy.

Despite efforts to stabilise the economy, Egypt has had a persistent problem of political instability and a poor institutional framework that has limited the ability of the economy

attract considerable inflows of foreign investment (Louis *et al.*, 2004; Alissa, 2007). Over the past few decades, Egyptian political regimes   have been mostly authoritarian and lacking in government accountability, judicial independence, democratic assumption of political power and civil liberties (Alissa, 2007; Adly, 2009; Dahi, 2012). These characteristics have precipitated sporadic political unrest within the country. Concerns have also been raised regarding the inadequacies in the rule of law, protection of property rights, regulatory framework, and control of corruption between state and business (Adly, 2009). Egypt has consistently ranked low in these institutional factors, according to the Worldwide Governance Indicators and the Transparency International's Corruption Index, along with countries like Mexico, Nigeria and Russia.

2.6.2.2   Nigeria

Although structural economic reforms had already started about a decade earlier under the auspices of structural adjustment programmes with the IMF and the World Bank, Nigeria augmented its capital account liberalisation in 1995. In that year, a new law was passed that permitted foreign investors to participate in any sector of the economy, and to any extent, except for the oil and gas sectors. This law replaced previous legislation that had required majority Nigerian ownership of foreign enterprises operating in the country (IMF, 1998; Ikhide & Alawode, 2002). On the other hand, a financial sector reform programme was already underway. Capital markets were deregulated in 1992, but owing to restrictions on FDI and rudimentary capital market development, foreign direct and portfolio equity inflows were much smaller. Foreign debt and oil export receipts were the main forms of inflow (IMF, 1998; Ikhide & Alawode, 2002; IMF, 2008; AfDB, 2009).

Since 2000, rapid increases were observed in all forms of capital inflows. A large potential market and oil sector attracted considerable FDI inflows. Also, major improvements to the functionality of capital markets attracted substantial inflows of FPI. However, the 2008 global financial crisis reversed the substantial gains in FPI. The Nigerian Stock Exchange All Share Index recorded a loss of about 55% between mid-2008 and early 2009 (AfDB, 2009). Its durability and resilience, however, meant that FDI was not significantly reversed, unlike

FPI, and thus maintained a degree of stability. A recovery in FPI inflows was seen from 2010 to 2013, but these dropped significantly again between 2014 and 2016.

Nigeria is known to be one of the most industrialised countries and one of the richest in terms of natural resources in Africa, and one which foreign investors use as a gateway to regional markets (World Bank, 2015). For these reasons, the Nigerian economy receives a large share of the FDI inflows to the continent. However, in comparison to the broader global emerging market economy, Nigeria is among those countries that receive the lowest foreign investment. This relatively low foreign investment has been attributed largely to concerns about institutional weaknesses, including perceptions of high corruption, political instability, and regulatory inefficiency, all of which are evident in the Worldwide Governance Indicators. These concerns limit efforts to attract foreign investment into Nigeria, such as the establishment of the Nigeria Investment Promotion Commission in 2004 (World Bank, 2015).

2.6.2.3   South Africa

The political transition and capital account liberalisation in South Africa during the 1990s facilitated a surge in capital flows (both equity and debt-related) into the country. This surge was precipitated by several external and internal reforms in the South African economy. Externally, there was the lifting of economic sanctions imposed on the previous South African government by the international community, the debt rescheduling agreement on foreign debt, and the reintegration of South African government bonds into international capital markets. Several internal economic reforms included the 1995 removal of the dual exchange rate regime, and the relaxation of restrictions on cross-border capital movements by non-residents and residents (Gidlow, 2009; Leape & Thomas, 2009; Aron, Leape & Thomas, 2010). These reforms continued on an incremental basis with the prioritisation of cautionary measures and regulatory frameworks, including macroeconomic stabilisation and financial sector development to insulate the small open emerging economy from global risk exposure (Leape & Thomas, 2009; Aron *et al.,* 2010).

International capital inflows to South Africa in the past two decades have, however, been biased towards portfolio investment, which has become the main source of long-term

external finance (Ahmed *et al.,* 2007; Leape & Thomas, 2009). In addition to economic reforms and developed domestic capital markets, the larger share of FPI can be partly attributed to the inclusion of South African equities in global emerging market indices such as the Standard & Poor and Morgan Stanley Capital International emerging market indices in 1995. This increased interest in the South African market from international investors (Leape & Thomas, 2009). The country also broadened its domestic financial markets and improved their liquidity by using more of its domestic (rand denominated) bond market for sovereign debt issues and for maintaining low levels of external debt. This also limited exposure to external shocks associated with global credit markets (Leape & Thomas, 2009; Aron *et al.,* 2010).

The South African stock market, i.e. Johannesburg Stock Exchange (JSE), is the largest stock market in Africa and substantially larger and more liquid than those of comparable middle-income countries. (Aron *et al.,* 2010). Significant increases in portfolio inflows, particularly equity inflows, were experienced during 1997 to 2001 because of exchange reforms that enabled foreign listings of South African companies and attracted international investors to the South African capital market. Further reforms enabled domestic institutional investors to swap local assets for foreign assets with foreign investors, up to a limit (Gidlow, 2009; Aron *et al.,* 2010). Drops in portfolio equity inflows followed in the period 2002–2003, owing partly to domestic factors such as the black economic empowerment laws (Gidlow, 2009; Aron et al., 2010; Adeola & Aziakpono, 2017). Thereafter, attracted by a positive macroeconomic environment and promising commodity prices, portfolio inflows increased erratically yet steadfastly, accounting for over 50 percent of total net inflows, and only dropping significantly during the 2008 global financial crisis (Leape & Thomas, 2009; De Beer, 2015). After this crisis, portfolio inflows recovered to pre-crisis levels, averaging approximately 50% of inflows on the financial account between 2009 and 2014 (De Beer, 2015).

Apart from intermittent increases in FDI inflows resulting from corporate acquisitions and restructurings in South African companies and MNCs over the first decade after 1994 (e.g. Telkom's partial privatisation in 1997, Anglo American-De Beers' restructuring in 2001, and ABSA's partial acquisition by Barclays Bank in 2005), considerable FDI inflows were seen

during the global financial crisis in 2008. These FDI inflows were helpful in offsetting portfolio outflows of over 100 percent on the financial account during the crisis period. However, FDI inflows declined again as portfolio investment inflows and other investment inflows regained strength after the global financial crisis (De Beer, 2015). Macroeconomic and political uncertainties partly precipitated these declines in FDI inflows up to 2017. The country recorded considerable FDI outflows between 2014 and 2017. Green shoots were, however, seen in 2018 when the country's FDI flows reached 5.3 billion USD (UNCTAD, 2015; 2018; 2019).

Also significant for South Africa's position for foreign investment was its induction into the BRICS economic bloc alongside Brazil, Russia, India and China in 2010. It thus became a leading African emerging market, and served as a base country for multinational companies and international investors from which to expand regionally into the African continent (UNCTAD, 2015).

The 2020 World Investment Report noted that FDI flows to Africa declined (by 10%) in 2019 owing to moderate economic growth and lower global demand for commodities. These reduced inflows were particularly noticeable in diversified economies and commodity-exporting countries such as South Africa and Nigeria (UNCTAD, 2020). Prospects for FDI inflows in Africa remain negative for 2020 because of the COVID-19 global pandemic and its anticipated eroding effect on economic growth.

2.6.3   Latin American economies

2.6.3.1   Argentina

Argentina is historically an open economy, mainly engaged in agricultural exports, and attracting predominantly natural resource seeking FDI concentrated in export related activities. However, this open economy approach was uneven because of disruptions caused by global economic crises, as well as by intermittent internal economic and institutional instability (López, 2011). Until 1983, the country alternated between democratic and military rule for many decades, after which full democracy was established. Earlier depressions in the global economy forced the country to pursue import substitution industrialisation and inward oriented development. However, years later (from the 1990s to

the 2000s), owing the generally low domestic savings rate and the need for MNCs' assistance in expediting industrialisation through technology and capital, the country readopted liberalisation and investor friendly policies (López, 2011).

Since the 1990s, the country has restructured and industrialised its economy, embarking on a series of privatisations as well as widespread deregulation, thereby attracting diverse foreign direct investment inflows, including market-seeking and efficiency-seeking FDI (López, 2011; Stanley, 2018). Resource-seeking foreign investment inflows remain significant owing to the country's abundant natural resources and trade liberalisation (López, 2011). Argentina is also a full member of the Mercosur trade bloc, alongside Brazil, Paraguay and Uruguay.

FPI, on the other hand, has been more volatile than FDI, and very sensitive to external conditions such as global financial volatility and global interest rates. Internally, portfolio flows are largely determined by growth and stability in the domestic economy, and fluctuations in commodity prices. As such, portfolio flows in Argentina suffered during the global financial crisis of 2007/8. A post-crisis recovery in the flows was seen from 2011, only to decline in 2013 when the commodity price boom came to an end. Significant increases in foreign portfolio inflows were seen again on the Buenos Aires Stock Exchange between 2016 and 2017, amid positive economic growth and stability prospects (Gonclaves, David & Pienknagura, 2019).

2.6.3.2   Brazil

Since World War II, FDI has made an important contribution in shaping the Brazilian economy. Brazil, however, began taking the role of foreign investment in domestic economic development seriously in the mid-1990s. Two notable periods have been highlighted: the 1996–2002 period of economic stabilisation and privatisation, and the abolition of discriminatory regulations on foreign capital from 2005 (Silber, 2011).

After more than a decade of low economic growth, macroeconomic instability, state monopoly, and narrow market openness, the country expanded its market liberalisation process, beginning with trade reform (Silber, 2011). Trade liberalisation was the first reform to stimulate foreign investment and integrate Brazil into the world economy. By 1994, most

high tariffs and non-tariff barriers had been reduced or discontinued. This was followed by aggressive privatisation, which involved abolishing state monopoly in sectors such as oil and gas, and infrastructure development. In 2005, legislation that had prohibited foreign capital from participating in the infrastructural sectors was abolished. These reforms attracted considerable FDI to the imports and exports sector of the Brazilian economy. In 2008, Brazil was ranked third behind China and Russia in terms of FDI inflows to developing countries, and by 2010 the country held about 3% of world's FDI (Silber, 2011; Stanley, 2018).

The mid-1990s also saw the country rediscovering the role of domestic capital markets. The BF&M-Bovespa stock market was resuscitated. This was followed by the opening of the domestic securities market to foreign portfolio investors. With this, portfolio flows from developed countries entered the Brazilian capital markets, holding about one third to half of the market (Stanley, 2018). Foreign investment inflows dropped during the 2008 global financial crisis. Portfolio investors repatriated large capital flows out of the domestic market, while subsidiaries of MNCs diverted their remittances and earnings abroad. With the objective of attracting and preserving foreign investors after the global crisis, the Brazilian authorities introduced new legislation in 2014, aimed at increasing the legal status of foreign investors. Since then, foreign investment inflows have been relatively stable, except for portfolio flows, which are very sensitive to global economic conditions (Stanley, 2018).

2.6.3.3 Mexico

By the time the Mexican currency crisis of 1994 occurred, Mexico had already begun economic and liberalisation reforms a decade earlier. The reforms entailed, among others, extensive privatisation, liberalisation of foreign trade and investment, deregulation of financial markets, and the signing of the North American Free Trade Agreement (Ros & Lustig, 2001; Máttar, Moreno-Brid & Peres, 2002). As a consequence of these reforms, foreign investment inflows accelerated in the early 1990s. Increased FDI inflows accounted for most of the trade sectors. Outstanding growth, exceeding that of FDI, was also recorded for FPI inflows. In addition to domestic economic reforms, the considerable increase in foreign portfolio inflows was also the result of declining interest rates and growth in developed economies, which precipitated large international capital flows to emerging

markets in Latin America and Asia in the early 1990s. However, by late 1994, the substantial gains in capital flows had been reversed (notably FPI) by the Mexican currency crisis and the recurrent political uncertainties in the country (Calvo *et al*., 1996; Carstens & Schwartz, 1998; Ros & Lustig, 2001; Máttar, Moreno-Brid & Peres, 2002).

Capital inflows rebounded from 1996, but the composition of capital flows in Mexico changed after the crisis. FDI became the dominant and stable form of foreign capital instead of FPI. The three periods of 1996–2001, 2001–2000, and 2002–2007 represent notable surges in capital flows in Mexico in the period between the 1994 crisis and the 2008 global financial crisis. Capital inflows contracted sharply again during the 2008–9 global financial crisis, but regained strength significantly from 2010 (Ibarra, 2013; IMF, 2014). In 2010, Mexico became the first Latin American country to be included in Citigroup's World Government Bond Index, thereby attracting flocks of new foreign investors. Furthermore, Mexico had by this time improved its macroeconomic fundamentals, as well as the depth and liquidity of its financial markets. This attracted significant foreign portfolio inflows. By 2014, 36% of domestic sovereign debt was held by non-resident portfolio investors. The strength of market integration with the North American economic bloc was a further boost for Mexico, as evidenced by its strong investment and trade links with the United States (IMF, 2014).

2.6.4   European economies

2.6.4.1   Hungary

Like many countries in Central and Eastern Europe that had formerly been communist states, Hungary embarked on external liberalisation with the advent of the 1990s. Trade liberalisation was the first to commence, and was implemented more aggressively than the liberalisation of capital flows. The liberalisation of foreign investment began in a very gradual and closely guarded manner: FDI inflows accelerated from 1995, attracted by large-scale privatisation of previously state-controlled entities (Oblath, 2006; Kiss, 2007). On the other hand, prevailing high interest rates instigated by monetary authorities precipitated a surge in FPI and other short-term capital inflows. The increase in foreign capital inflows not only improved the balance of payments, but also had a positive impact on the productive

capacity of the Hungarian economy, particularly on FDI, and this led to growth in exports and the economy (Oblath, 2006; Kiss, 2007).

In 2001, the country fully liberalised the capital account. This was to some extent motivated by Hungary's intention to accede to the European Union (EU), which eventually took place in 2004 (Oblath, 2006). After the accession in 2004, FDI inflows into Hungary reached unprecedented heights, averaging about 35% of GDP over the next four years.

The emergence of a new government in 2010 was the turning point in the Hungarian economy. In an attempt to reverse the economic impact of the 2008 global financial crisis on the Hungarian economy, the new government embarked on a nationalisation programme that involved sectors such as energy, banking and public utilities (Isaacs & Molnar, 2017; Voszka, 2018). These sectors had sizeable foreign capital investment, but the foreign investors were bought out by the state, and excessive state regulation was introduced in the affected sectors. What followed was massive outflows of foreign investment, which resulted in the recording of negative net inflows of FDI and FPI in some years between 2010 and 2017 (Voszka, 2018).

2.6.4.2   Poland

Poland had transitioned from a state-centralised economy into a market-based economy by the dawn of the 1990s. From then on, the country embarked on persistent pro-market institutional reforms such as privatisation and economic liberalisation. Foreign investment inflows were liberalised from 1991, beginning with FDI. The Warsaw Stock Exchange was also relaunched, and by 1992 foreign portfolio investors had started participating in equity and debt securities. The Polish economy became a leading destination for foreign investment in the Central and Eastern Europe (CEE) region during the 1990s, and this was boosted by the sovereign credit ratings upgrade in 1995. Foreign portfolio investment inflows suffered through contagion effects from financial crises in other emerging markets, including the 1997 Asian crisis and the 1998 Russian financial crisis, but FDI grew resiliently (Wagner, 2001; Kowalski, 2013; Jasiniak, 2015).

In 2004, Poland became part of the EU. This compelled the country to further liberalise the economy, especially in the case of trade and the movement of capital flows between EU

countries. Several laws were passed that ensured freedom and equality for foreign and domestic businesses (Jasiniak, 2015). The accession to the EU also placed the Polish economy in an improved position to attract foreign investment, and hence FDI inflows accelerated between 2004 and 2011, averaging about 4.3% of GDP. Among the key determinants of FDI in Poland are a low-cost and skilled labour, a large market, and a stable and growing economy (Kuzel, 2017).

With regards to FPI inflows, over 90% of foreign portfolio flows in Poland are invested in government debt securities. Since 2004, FPI has not been as stable as FDI. The period of the 2007/8 global financial crisis saw a significant drop in FPI inflows owing to low investor confidence in global financial markets (Humanicki *et al.*, 2017; Broszkiewicz, 2018). Between 2009 and 2015, FPI inflows recovered, almost reaching FDI levels. Despite boasting the most developed and largest banking sector in CEE, the Polish capital markets have not developed sufficiently to attract significant levels of FPI inflow. There are still concerns about issues such as inadequate investor protection, low transparency, concentration of share ownership, an inefficient legal framework, high transaction costs, and low liquidity (Broszkiewicz, 2018).

2.6.4.3   Russia

After the collapse of communism and the Soviet Union in the early 1990s, Russia struggled to attract foreign investment. Between 1991 and 2000, FDI in Russia averaged only 1% of GDP, despite its being the largest economy among European transitional economies at that time, with abundant oil and gas resources and an educated labour force. Fellow European emerging markets such as Czech Republic, Hungary and Poland held over 50% of total FDI in the region and were the fastest growing and developing economies because of FDI (Fabry & Zeghni, 2002). Concerns were raised over the absence of a stable legal framework, inadequate protection of property rights, and persistence of old rent-seeking tendencies and poor corporate governance in newly privatised entities during the privatisation period in the early 1990s (Fabry & Zeghni, 2002; Ketenci, 2015).

Market liberalisation began in the late 1990s and attracted significant inflows of foreign investment. These inflows were disrupted, however, by the 1998 Russian financial crisis as

well as by the political instability that resulted from the dissolution of the government cabinet in the same year. Investor confidence and market access improved from 2001, following an upgrade in the Russian sovereign credit rating (Fabry & Zeghni, 2002; IMF, 2004; Ketenci, 2015). Capital inflows increased consistently from 2004 onwards, with an average of about 3% of GDP for FDI between 2004 and 2013. Portfolio inflows also increased after 2000, notably bond inflows to the private sector (IMF, 2004). As in many other emerging markets, portfolio flows took a dive during the 2008 global financial crisis.

As the economy was recovering from the impact of the global crisis, and after the country was ranked the third most attractive for foreign investors behind the US and China in 2013, financial sanctions were imposed on Russia during the first half of 2014 as a result of the Russian military intervention in Ukraine (Gurvich & Prilepskiy, 2015; Ketenci, 2015). These sanctions were initiated by developed countries, including the European Union (EU) countries and the US, and were initially directed at certain Russian individuals and companies but were later expanded to include some sectors, including the energy sector. In late 2014, Russia retaliated by imposing embargos on food imports from countries such as the US and the EU (Gurvich & Prilepskiy, 2015).

The effects of these sanctions were severe for the Russian economy. Foreign borrowings were directly affected and foreign investment inflows (FDI and FPI) were indirectly but heavily impacted. A sovereign credit rating downgrade in 2015 as a result of low oil prices, sanctions and negative growth prospects, exacerbated the situation by further tainting the investment attractiveness of the Russian economy. FPI inflows were negative during 2014 and 2015, while FDI also took a dip in 2015, owing to geopolitical and economic uncertainty (Gurvich & Prilepskiy, 2015; Korhonen, 2019). At present, foreign capital inflows remain relatively low while sanctions, on the other hand, remain in place, although several EU leaders have expressed their intentions to lift them.

2.7 Conclusion

This chapter presented an overview of the conceptual, theoretical and empirical literature relevant to this study, from both global and emerging market contexts. The chapter further provided a background on each of the sampled countries' experiences with international

capital inflows. The next chapter comprises a discussion of the research methodology that was applied in the empirical study in pursuit of the research objectives and to answer the research questions posed, as stated in the introductory chapter.

Chapter Three: Research Methodology

3.1 Introduction

The research objectives of this study, as stated in the introductory chapter, entail identifying the key drivers of FDI and FPI inflows with particular emphasis on the role of institutional quality factors, as well as interrogating the interrelationships between FDI, FPI and institutions in emerging markets for the period 2007 to 2017. The current chapter presents the research methodology that was applied to address these objectives. Details are provided in respect of the population and sampling strategy adopted, the data and variables used, as well as the econometric methods and models followed in pursuit of the objectives of the study. Discussions on reliability and validity, as well as ethical considerations, as they relate to this study are also provided. A summary concludes the chapter.

3.2 Population and sample

A population is a group of potential participants to whom the researcher generalises the results of the study (Van Zyl, 2014). Since it may not be feasible to conduct the study on the whole population, a researcher selects a subgroup or sample of that population, and generalises his/her results based on that sample to the rest of the population.

The process of selecting a sample is known as sampling. There are two broad categories of sampling techniques: probability sampling (or random sampling) techniques and non-probability sampling (or nonrandom sampling) techniques. In probability sampling, the probability of any one member of the population being selected is known, while in non-probability sampling the likelihood of selecting any single member is not known (Van Zyl, 2014). Under non-probability sampling, one finds, among others, a technique called purposive sampling. Purposive sampling is suitable for focused and in-depth research such as case studies and grounded theory. It begins with the purpose and/or focus of the study and then a sample is subjectively selected to suit the purpose and research objectives and questions of the study (Saunders, Lewis & Thornhill, 2009).

The major limitation of purposive sampling is that it is non-random and is subjective in the selection of the subjects or cases for study, and may thus not be representative of the

population, limiting the generalisability of the results. On the other hand, purposive sampling can be a very useful technique when random selection is not possible, but also when the researcher does not intend to produce results that are aimed particularly at creating generalisations (Saunders et al., 2009; Etikan, Musa & Alkassim, 2016).

In addition, there are other techniques such as stratified sampling under probability sampling techniques. Stratified sampling involves selecting a sample from a population that is stratified according to one or more factors (e.g. emerging markets, as in this case) (Van Zyl, 2014). A hybrid of purposive sampling and stratified sampling was deemed the most appropriate sampling strategy for this study as its purpose was to conduct a case study on selected emerging markets, making them the sample. This sample of emerging markets was based on the IMF (2018) World Economic Outlook. There are 155 emerging market economies in the IMF (2018) World Economic Outlook. Thus, the total population of emerging markets was 155. Of these, three economies from each of the Asian, African, Latin American and European clusters were identified. The resultant sample size was 12 emerging market economies, which was regarded as adequate for the purposes of this study.

The sample of emerging markets included China, India, Indonesia, Egypt, Nigeria, South Africa, Argentina, Brazil, Mexico, Hungary, Poland, and Russia. According to the IMF's (2018) World Economic Outlook, these emerging market economies are some of the largest, in terms of GDP and population size, across the four regions of Asia, Africa, Latin America, and Europe. Moreover, these emerging markets receive the largest flows of foreign investment in their respective regions. The choice of these markets was also determined by the availability of data.

3.3   Data and Variables

The study applied annual data pertaining to the selected sample of 12 emerging markets in various econometric models in an attempt to answer the research questions. The data and study covered the period 2007 to 2017.

As identified in the literature review, the main dependent variables were FDI net inflows (as a share of GDP, in USD) and FPI net inflows (as a share of GDP, in USD). The data for these variables were sourced from the World Development Indicators. Institutional quality (INSTQ) was the main independent variable. The Worldwide Governance Indicators (WGI) served as the measure of INSTQ. The WGI ranks countries on six aspects of governance: Voice and Accountability, Political Stability/Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption (World Bank, Governance Matters, 2008; Thomas, 2010; Kaufmann, Kraay & Mastruzzi, 2011).

Various explanatory and control variables, including macroeconomic variables, that are regarded in the literature as strong drivers of foreign capital inflows were also included in this empirical study. The data for these control and explanatory variables were also mainly sourced from the World Development Indicators.

Table 1, *Table 2* and *Table 3* below provide a summary of the details of the variables and data sources that were used in this study.

Table 1: <u>Dependent variables</u>

VARIABLE	INDICATOR	SOURCE	SIMILAR STUDIES
FDI net inflows	Ratio of net FDI inflows to GDP	World Development Indicators – World Bank	Jensen (2003); Choong *et al.* (2010); Saini & Singhania (2018)
FPI net inflows	Ratio of net FPI inflows to GDP	World Development Indicators – World Bank	Choong *et al.* (2010); Singhania & Saini (2017)

Table 2: <u>Independent variables</u>

VARIABLE	INDICATOR	SOURCE	EXPECTED OUTCOME/IMPACT ON DEPENDENT VARIABLE	SIMILAR STUDIES
Institutional quality indicator	Rule of law	Worldwide Governance Indicators	Positive determinant of FDI and FPI	Ali, Fiess & MacDonald (2010); Różański & Sekuła (2016); Peres *et al.* (2018), Gossel & Beard (2019)
Institutional quality indicator	Regulatory quality	Worldwide Governance Indicators	Positive determinant of FDI and FPI	Gossel & Beard (2019)
Institutional quality indicator	Political stability	Worldwide Governance Indicators	Positive determinant of FDI and FPI	Busse & Hefeker (2007); Różański & Sekuła (2016); Aziz (2018); Meyer & Habanabakize (2018); Gossel & Beard (2019)
Institutional quality indicator	Government effectiveness	Worldwide Governance Indicators	Positive determinant of FDI and FPI	Kurul & Yalta (2017); Gossel & Beard (2019)
Institutional Quality indicator	Voice and accountability	Worldwide Governance Indicators	Positive or insignificant determinant of FDI and FPI	Różański & Sekuła (2016); Kurul & Yalta (2017); Gossel & Beard (2019)
Institutional Quality indicator	Control of corruption	Worldwide Governance Indicators	Positive determinant of FDI and FPI	Kurul & Yalta (2017); Peres *et al.* (2018);

				Gossel & Beard (2019)

Table 3: <u>Explanatory and control variables</u>

VARIABLE	**INDICATOR**	**SOURCE**	**EXPECTED OUTCOME/IMPACT ON DEPENDENT VARIABLE**	**SIMILAR STUDIES**
Economic growth	Real GDP growth rate %	World Development Indicators – World Bank	Positive determinant of FDI and FPI	Ahmed & Zlate (2014); Žarković, Gligorić & Žarković (2017); Akalpler & Adil (2017); Singhania & Saini (2017); Owusu-Nantwi & Erickson (2019)
Exchange rate	Real effective exchange rate	Bank for International Settlements	Negative determinant of FDI	Cambazoğlu & Güneş (2016); Mensah, Bokpin & Fosu-Hene, (2017); Gossel & Biekpe (2017)
Financial openness	Degree of capital account openness	Chinn-Ito capital account openness index – Chinn & Ito (2006; 2008)	Positive determinant of FPI	Okada (2013); Byrne & Fiess (2016); Kurul & Yalta (2017)
Financial market development	Stock market capitalisation (% of GDP);	World Development Indicators – World Bank	Positive determinant of FDI and FPI	Alfaro *et al.* (2004); Ahmed *et al.* (2007); Agbloyor *et al.*

				(2014); Soumaré & Tchana (2015); Makoni (2016)
Financial market development	Domestic credit to private sector by banks (% GDP)	World Development Indicators – World Bank	Positive determinant of FDI and FPI	Alfaro *et al.* (2004); Ahmed *et al.* (2007); Agbloyor *et al.* (2014); Soumaré & Tchana (2015); Makoni (2016)
Human capital development	Education index (expected & mean years of schooling)	Human Development Index – United Nations Development Reports	Positive determinant of FDI	Kheng *et al.* (2017); Mallik & Chowdhury (2017)
Total natural resource rent	Total natural resources rents (% of GDP)	World Development Indicators – World Bank	Positive determinant of FDI	Mohamed and Sidiropoulos, (2010); Anyawu (2012); Anarfo *et al.* (2017)
Global interest rates	US real interest rates, measured as the lending interest rate, adjusted for inflation by the GDP deflator.	World Development Indicators – World Bank	Negative determinant FPI	Ahmed *et al.* (2007); Gossel & Biekpe (2017)

The variables that were used in the study are discuss in more detail below.

3.3.1 Dependent variables

The dependent variables in the study were FDI and FPI net inflows in emerging markets over the period 2007 to 2017. The data for these inflows was sourced from the World Development Indicators of the World Bank. As in empirical studies such as Jensen (2003), Choong *et al.* (2010), Singhania and Saini (2017) and Saini and Singhania (2018), these variables are measured as FDI and FPI net inflows as a ratio of GDP, and they represent the net changes (i.e. inflows minus outflows) in the investment position of foreign investors in the country. They do not include cross-border movements of capital by domestic investors.

This approach to the measurement of foreign capital inflows is preferable to others because it provides the best measure or indication of a country's ability to attract, preserve and enhance foreign investment inflows. A country with positive net foreign investment inflows is attracting new foreign investment, while a country with negative net foreign investment inflows is experiencing outflows of foreign investment (Jensen, 2003).

FDI inflows, as adopted in this study and in line with the Organisation for Economic Cooperation and Development (OECD, 2008) and the International Monetary Fund (IMF, 2009) can be defined as inflows of investment that grant 10 percent or more voting rights in an entity of one economy into an entity that is resident in another economy. The investment is made with the intent to establish a long-term strategic interest in the foreign entity to ensure significant influence or control of the management of the foreign entity or enterprise. It encompasses equity capital, reinvested earnings, other long-term capital and short-term capital as reflected in the balance of payments.

FPI inflows, on the other hand, and in line with Wilkins (1999) and the International Monetary Fund (IMF, 2009) are net inflows of investment in equity and debt securities (other than FDI). These include long and short-term portfolio capital flows (equity and debt flows), financial derivatives and other money market instruments, carried out in the financial markets of an economy outside that of the investor or investing entity. These inflows exclude bank credit and real estate investments but include bonds and notes as debt securities. In contrast to FDI, FPI inflows are not made with the intent to establish significant influence or control in the management of a foreign entity.

3.3.2   Independent variables

The main independent variable and key constructs were institutional quality factors, used interchangeably with institutions in this study. Adopting North's (1991) widely used definition, institutions can be defined as formal and informal rules (and the manner in which these rules are enforced), tailored by human beings to structure and reduce uncertainty in their economic, political, legal and social exchanges and outcomes. Laws and regulations constitute formal rules, while behavioural norms or codes of conduct make up the informal rules. Institutions determine the costs and risks of transacting in an economy and therefore the level of productive and economic activity. The types of economic activities that take place in an economy reflect the existing institutional framework, and the incentives and opportunities it offers (North, 1990).

Empirically, institutional quality has been shown to be one of the most consistent and statistically significant structural determinants of investment and productive activity in an economy, and the most consistent explanatory variable for capital flows not coming from wealthier countries to poorer countries (Alfaro *et al.*, 2008; Lim, 2014). Empirical literature has further shown that institutions have a direct, positive impact on economic growth. They also have the effect of circumventing or moderating any negative effects that may arise from foreign investment inflows and market openness such as competition that adversely affects domestic firms (Nawaz, Iqbal & Khan, 2014; Agbloyor *et al.*, 2016; Nguyen, Su & Nguyen, 2018). An extensive strand of literature has also revealed the significance of institutional quality in addition to, inter alia, financial market development, financial openness and macroeconomic fundamentals, in attracting and enhancing foreign capital inflows (Agbloyor *et al.*, 2016; Byrne & Fiess, 2016; Aziz, 2018; Gossel & Beard, 2019).

3.3.2.1   Worldwide Governance Indicators (WGI)

The primary measure of institutional quality in this study was the Worldwide Governance Indicators (WGI) (Kaufmann, *et al.*, 2011). The WGI is a research project that develops cross-country indicators measuring or representing institutional quality and governance, covering over 200 countries from the year 1996. The WGI reports six composite indicators of governance that are updated annually and compiled using subjective assessment based (or

perceptions based) data from various commercial and non-commercial sources with extensive knowledge and experience of the countries rated (Kaufmann, *et al.*, 2011).

These indicators are based on variables acquired from over 30 different sources. These variables capture subjective assessments and perceptions of institutional quality and governance for each country in the sample, from firm and household survey reports (such as the Global Competitiveness Report, Afro-barometer surveys, Gallup World Polls), commercial business information providers (such as the Political Risk Services-ICRG, Economic Intelligence Unit, and Global Insight Risk Service), non-governmental organisations (such as Freedom House and Global Integrity) and public sector organisations (such as the World Bank, and African and Asian Development Banks).

The data, or variables, that are obtained from these sources are assigned correspondingly under each of the six aggregate indicators. A statistical method called an Unobserved Components Model is applied to construct a weighted average of the data from each source for each indicator and for each country in the sample. An individual country will have a score of between -2.5 (lowest score) and 2.5 (highest score) for each of the indicators (Kaufmann, *et al.*, 2011).

Kaufmann *et al.* (2011) argued that institutional quality and governance are essentially concerned with the institutions and methods through which authority in a country is exercised. Institutional quality and governance is underpinned by three key themes: (a) the processes of government selection and monitoring; (b) government capacity in effective and sound policy formulation and implementation; and (c) due regard for the institutions that govern the economy and society, by the state and citizens. From these three key themes, Kaufmann *et al.* (2011) developed six measures of governance, named and described as follows:

(1) **Voice and accountability** – measuring the extent of civil liberties, including citizens' ability to participate in the selection of their government, and the freedoms of association, expression and media.

(2) **Political stability and absence of violence** – capturing the probability of political or government instability caused by violent or unconstitutional means such as political violence and terrorism.

(3) **Government effectiveness** – measuring the independence of government from political interference, and the quality of government services, policy formulation and execution, and the credibility of government's commitment to such policies.

(4) **Regulatory quality** – capturing government capability to formulate and implement sound policies and regulatory frameworks that promote private sector development.

(5) **Rule of law** – capturing perceptions of the extent to which agents, economic and others, have confidence in and abide by the laws of the country, and in particular the quality of property rights, contract enforcement, the courts, and the police, as well as the likelihood of violence and crime.

(6) **Control of corruption** – capturing the extent of corruption, i.e. the exercise of public power for private gain, including petty and significant forms of corruption, as well as state capture by elites and private interests.

These governance indicators have been used extensively in empirical studies of both developed and developing countries to examine the impact of host-country institutional quality, and of the individual indicators, on inward capital investments, including FDI and FPI (see Kurul & Yalta, 2017; Kurul, 2017; Peres *et al.*, 2018; Gossel & Beard, 2019). This study follows these previous studies by adopting the same measures of institutional quality to conduct in-depth assessments of the impact of these measures on foreign capital flows to the sample of emerging market economies.

3.3.3   Explanatory and control variables

Although the emphasis in this study was on the role of institutions in international capital inflows, we also sought to assess the impact of a broader set of determinants on inward investment, in order to answer the first research question. In line with the reviewed empirical studies and the theoretical frameworks, a number of explanatory and control variables were included that also play a key role in attracting investment inflows. This

included a set of macroeconomic fundamentals, as well as policy-related and development factors.

Macroeconomic variables entailed indicators of economic growth and exchange rates. These indicators provide potential foreign investors with insight into the economic environment, including the stability and/or uncertainty of the host country and thus feed into their return and risks expectations. Economic growth was proxied as the annual growth rate (%) of GDP. A fast growing rate of GDP indicates an expanding and growing economy, with a higher market demand, and is likely to offer increased future earnings and higher rates of return for investors (Ahmed *et al*., 2007). A positive relationship between the GDP growth rate and FDI, and between GDP and FPI was thus expected.

In line with Cambazoğlu and Güneş (2016) and Mensah *et al*. (2017), exchange rates were expected to be negatively associated with FDI inflows. A depreciation in the exchange rate would enhance foreign capital inflows, while an appreciation would discourage the inflows. The proxy for exchange rates was the real effective exchange rate (Cambazoğlu & Güneş, 2016).

The policy-related variable included in the study was capital account openness, measuring the host country's extent of liberalisation to international financial/capital transactions. The Chinn-Ito (2006; 2008) capital account openness index was used to measure the country' extent of financial openness. This index measures the extent of capital controls, as opposed to the stringency of capital account restrictions, by considering the existence of multiple exchange rates, restrictions on capital account and current account transactions, as well as the requirement to surrender export receipts (Chinn & Ito, 2008). Using the Chinn-Ito capital account openness index, Okada (2013) and Byrne and Fiess (2016) found that financial openness together with institutional quality were positive and significant determinants of foreign capital inflows. A positive relationship between capital openness and international capital inflows was also anticipated in this study.

The development variables were financial market development and human capital development. Studies have provided empirical evidence for the central role played by the development of domestic financial markets, both banking sector and stock markets, in

facilitating the growth benefits of capital inflows. There is also evidence of causal and positive long-run relationships between financial development indicators and foreign capital inflows (Alfaro *et al.*, 2004; Choong *et al.*, 2010; Agbloyor *et al.*, 2014; Soumaré and Tchana, 2015; Makoni, 2016). This evidence corroborates the significance of host country financial markets in enhancing foreign capital inflows. In the present study, we proxied domestic financial market development using stock market capitalisation, and domestic credit to the private sector by banks, both as a ratio of GDP. Although these two indicators may provide a narrow measure of broad financial development, they are still good proxies as they indicate to foreign investors the size of the domestic capital markets and the amount of financial resources directed at private sector investment activities (Levine & Zervos, 1998; Sghaier & Abida, 2013).

Following the study by Borensztein *et al.* (1998), subsequent empirical studies have found supporting evidence that human capital development in the host country is a significant determinant of inward FDI. For instance, Kheng *et al.* (2017) proxied human capital development with secondary and tertiary school enrolment ratios, finding that a positive and statistically significant relationship existed between FDI inflows and human capital development. Similarly, Mallik and Chowdhury (2017) proxied human capital development with secondary school enrolment ratio, and noted its highly significant and positive effect on FDI inflows. These studies concluded that human capital development is increasingly becoming a significant determinant of FDI, and that international investors are interested not only in low-cost labour, but in a skilled labour force. In the present study, human capital development was proxied by the education index, measuring the mean and expected years schooling, which is a component of the Human Development Index published in the United Nations Development Reports.

According to the United Nations Human Development Reports, citizens and their capabilities should be the paramount criterion for assessing the development of a country. Moreover, high educational attainment levels in a country mean large numbers of skilled workers, greater labour productivity, and a greater ability to absorb advanced technology from developed countries. Educational attainment levels also influence a country's economic and social outcomes, such as the distribution of income (Barro & Lee, 2013).

There is growing evidence that natural resource endowment can increase FDI inflows, particularly resource-seeking FDI (Asiedu, 2006; Mohamed & Sidiropoulos, 2010; Anyawu, 2012; Anarfo *et al.* 2017). As a result, this study included an indicator of natural resource endowment to assess its impact on FDI inflows to the sample of emerging markets. In doing so, we followed Anarfo *et al.* (2017) and used as proxy the total natural resources rents as a percentage of GDP, which measures the sum of oil, natural gas, coal, mineral and forest rents as a proportion of GDP.

Lastly, in line with the pull and push factor theory that international capital flows to emerging markets are pushed partly by global interest rates (Calvo *et al.*, 1996; Taylor & Sarno, 1997; Carstens & Schwartz, 1998), US real interest rates were included in the study. These were measured as the lending rate adjusted for inflation (GDP deflator) to assess the impact of international interest rates on foreign capital inflows to emerging markets.

As indicated in the tables above, sources for the dependent, explanatory and control variables included the World Development Indicators, the Chinn-Ito capital account index database, the Bank for International Settlements and United Nations Development Reports.

3.4 Econometric methodology

The research methodology used in this study was quantitative in approach, and a panel data methodological framework was adopted. Baltagi (2008) defined panel data as pooled observations on a cross-section of countries over a period of time. Similarly, Wooldridge (2002) described a panel data set as comprising a time series for each cross-sectional unit (e.g. a country) in the data set.

There are several advantages to using panel data. Baltagi (2008) highlighted the point that panel data are preferable over pure time series and cross-section structures in that they allow for the control of heterogeneity among cross-sectional units or countries, and they allow for more variability among variables. Wooldridge (2013) alluded to the notion that panel data, because of multiple observations, allow for the control of unobserved characteristics of a cross-sectional unit and allow one to study the significance of lags in the behaviour of certain variables. This is particularly relevant to foreign investment inflows, where the current level of FDI is somewhat affected by its past levels.

The scope of this empirical study encompassed panel data regression analyses, co-integration tests, as well as causality analyses. The researcher sought to answer questions related to the key drivers of FDI and FPI net inflows, as well as to long-run and causal relationships among the key variables of FDI, FPI and institutional quality in the sample of emerging markets. The researcher used the principal components analysis (PCA) method to construct a composite index for institutional quality. Prior to conducting the main econometric estimations, the researcher conducted preliminary diagnostic tests, i.e. unit root tests, to examine the properties of the data. The main econometric models that were employed in the study included a dynamic panel data generalised method of moments (GMM) regression model, a panel autoregressive distributed lag (ARDL) model approach to co-integration, and a panel vector error correction model (VECM).

3.4.1   *Principal Components Analysis*

As in Kurul (2017) and Sabir *et al*. (2019), this study made use of the Principal Components Analysis (PCA) method to construct a single composite index for institutional quality (INSTDEX). This was made necessary by the high correlations observed between the individual institutional quality factors, measured by the WGIs, and the absence of a consensus in previous empirical literature as to which of the individual indicators were most important for foreign investment inflows in emerging markets.

The PCA is a statistical method that transforms a dataset into orthogonal (statistically independent) variables called principal components. The principal components are independent linear combinations of the original variables that contain the maximum variance from a dataset of correlated variables (Kurul, 2017; Aït-Sahalia & Xiu, 2019). The PCA method reduces the dimensionality of the original dataset and retains the most important information by considering the maximum variation in the dataset. Thus, instead of using many interrelated variables, the PCA method produces fewer components from the dataset that contain the principals or the most important information about the original data (Brooks, 2008; Kurul, 2017; Aït-Sahalia & Xiu, 2019).

The PCA method is performed by estimating eigenvalues of the correlation matrix of the original dataset. In most cases, the generated principal components associated with the

highest eigenvalues (usually the first few) are selected as they account for the largest part of the variance and are therefore considered to contain the most important information about the original variables (Brooks, 2008; Kurul, 2017; Aït-Sahalia & Xiu, 2019).

3.4.2 Unit root tests

Prior to conducting an analysis of time series data, it is necessary to determine the properties of the time series. More specifically, and most commonly, the time series must be tested to determine whether it is stationary or non-stationary (i.e. whether or not it contains a unit root). A time series is stationary when its mean, variance and covariance remain stable over time (Wooldridge, 2013). In other words, the value of this time series tends to revert to its average value or mean, while its variance also remains broadly constant (Gujarati, 2004). Non-stationary time series, on the other hand, have a mean that changes over time (time-varying) and are said to contain a unit root (Shrestha & Bhatta, 2018). Testing data for stationarity, unit roots or orders of integration is essential when analysing data and relationships between variables, because it aids or informs the selection of an appropriate methodological framework within which to conduct such analyses and draw inferences (Shrestha & Bhatta, 2018).

In this empirical study, it was important to conduct prior unit root tests on the data collected in order to determine whether the orders of integration of the variables of interest were compatible with the selected econometric methodological framework. The ultimate purpose of this process was to circumvent estimation inaccuracies and spurious results in the regression analyses, co-integration and causality tests. Although the preferred econometric model for co-integration tests (i.e. ARDL) does not require prior unit root tests, it was necessary in this case to carry out these tests to ensure that the variables of interest were integrated of the order zero [I (0)], order one [I (1)] or a combination of both. They could not be integrated of the order two [I (2)], as strictly required by the model (Nkoro & Uko, 2016).

Shrestha and Bhatta (2018) highlight another property of time series, namely the autoregressive nature of time series, which should also be considered in the selection of appropriate econometric methodology. A time series is autoregressive when its current value is determined or has a relationship with its past values.

The Augmented-Dickey-Fuller (ADF) and the Phillip-Perron (PP) tests make up the list of the most widely employed unit root tests in empirical financial and economic research. The ADF is an enhancement of the earlier Dickey-Fuller test. The objective of the ADF test is to examine the null hypothesis (H_0), that the series contains a unit root, versus the alternative hypothesis (H_1), that the series is stationary (Brooks, 2008:327). A time series will be stationary when the ADF value is greater than its critical value, and it is considered to be non-stationary when the ADF value is less than its critical value (Nkoro & Uko, 2016).

The advantage of the ADF test is that it addresses the problem of serial correlation by using the differenced lags of the dependent variable as one of the explanatory variables (Wooldridge, 2013). A problem arises in this regard, however, when choosing the optimal number of lags, because as Wooldridge (2013:642) warns, too many lags stifle the (small sample) power of the test, while too few lags may render the size of the test incorrect. Two considerations are suggested when deciding on the optimal lag length: the frequency of the data, where in the case of annual data, one or two lags are sufficient, and an information criterion, such as the Schwartz Information Criterion, wherein the number of lags that produces the minimal value of the information criterion would be selected (Brooks, 2008; Wooldridge, 2013).

The Phillip-Perron (PP) test, on the other hand, is similar to the ADF test in terms of hypotheses and tests, except that it does not include the lags of the dependent variable in the model. It also automatically corrects for autocorrelations and heteroskedasticity in the error terms by directly altering the test statistics, without the use of lags (Brooks, 2008; Sunde, 2017:438).

As this study adopted a panel data methodological framework, two further panel unit root tests were conducted, viz. Levin, Lin and Chu (LLC) (2002), and Im, Pesaran and Shin (IPS) (2003). Both these unit root tests derive from the ADF approach. The main difference between them is that the LLC test assumes that all cross-sectional units are homogeneous and follow a common unit root process, whereas the IPS test allows for heterogeneity in the panel and therefore assumes that the cross-sectional units follow individual unit root processes, and is similar to ADF and PP tests. Under both LLC and IPS tests, the null

hypothesis is that the series contains a unit root versus the alternative hypothesis that the series is stationary (Baltagi, 2008; Mahembe & Odhiambo, 2019). In the following section, the specifications of the main econometric models used in the study are provided.

3.4.3   Econometric model specification

3.4.3.1   Generalised Method of Moments (GMM)

The first objective of the study sought to identify the key determinants of FDI inflows and FPI inflows into our sample of emerging markets for the period 2007 to 2017. In addressing this objective, the researcher adopted the dynamic generalised method of moments (GMM) model.

Empirical studies indicating that foreign capital inflows are affected by their past values (lagged values) provide evidence of the dynamic nature of capital inflows. As such, analysing foreign capital inflows in a static model produces an incorrect assessment of the factors that affect them (Hossian, 2015). Moreover, capital inflow regressions are susceptible to the problem of endogeneity. Endogeneity refers to any correlation between the explanatory variables and the error terms in the regression model (Baltagi, 2008; Ullah, Akhtar, Zaefarian, 2018). Endogeneity would arise in instances such as where a lagged dependent variable is included; where a pertinent variable is omitted; or where there is a measurement error in the regression model (Baltagi, 2008; Ullah *et al*. 2018). Thus, estimations based on models that do not account for endogeneity in panel data, such as the Ordinary Least Squares (OLS), might be biased and inconsistent, leading to incorrect inferences (Baltagi, 2008; Wooldridge, 2012; Ullah *et al*,. 2018). In such circumstances, an alternative model would have to be sought, such as the dynamic GMM estimator (Verbeek, 2004; Ullah *et al*. 2018).

To circumvent issues that often give spurious regression results such as endogeneity – as a result of lagged dependent variables, unobserved country-specific effects and omitted variable biases – the study made use of a dynamic panel data model to identify and assess the determinants of foreign investment inflows (FDI and FPI) into this sample of emerging markets. The estimation was conducted using the dynamic GMM with the following general form:

$$y_{it} = \alpha y_{it-1} + \beta X_{it} + \varepsilon_{it}$$

Where:

y_{it} represents the dependent variable (FDI and FPI inflows) for country i in time t;

y_{it-1} represents the lagged value of the dependent variable into country i for time t-1;

α denotes a constant term and the slope of the lagged dependent variable;

X_{it} is the vector of independent variables for country i in time t – that explain the dependent variable;

β is the slope of the independent variables;

ε_{it} is an error term, which is decomposed into $\mu_i + v_{it}$, wherein μ_i represents the time invariant country-specific effect, while v_{it} represents the remainder of the disturbance in the estimated regressions.

The panel data regression model requires one to decide between a fixed effects (FE) model approach and a random effects (RE) model approach. In the FE model approach, the heterogeneous country-specific effects (unobserved effects or error term ε_{it}) are allowed to correlate with the explanatory variables. Thus, the FE approach accounts for heterogeneity among countries. In the RE model, on the other hand, the country-specific effects are treated as random effects and assumed to be uncorrelated with the explanatory variables (Gujarati, 2004; Wooldridge, 2013). In other words, the heterogeneity across countries is treated as random on the assumption that the sample was randomly selected from a large population (Gujarati, 2004; Greene, 2012).

In line with previous empirical studies that investigated the determinants of foreign capital inflows using panel data methodology, such as Różański and Sekuła (2016) and Singhania and Saini (2017), this study applied the Hausman (1978) test to decide on whether the fixed effects model (FE) or the random effects (RE) model was most suitable. The null hypothesis under the Hausman test is that the appropriate approach is the RE model, while the alternative hypothesis is that the FE model is more appropriate (Gujarati, 2004).

In addition to assessing the impact of the main independent variables and the other explanatory variables on FDI and FPI inflows, the dynamic GMM model also enabled the researcher to observe the impact of past inflows on current inflows.

The GMM model was therefore specified as follows;

$$FDI_{it} = \alpha_0 FDI_{it-1} + \alpha_1 FPI_{it} + \alpha_2 INSTDEX_{it} + \sum_{n=1}^{i} \beta X_{it} + \varepsilon_{it}$$

$$FPI_{it} = b_0 FPI_{it-1} + b_1 FDI_{it} + b_2 INSTDEX_{it} + \sum_{n=1}^{i} \beta X_{it} + \varepsilon_{it}$$

Where FDI_{it} and FPI_{it} represent the dependent variables measured by the inflows of foreign direct investment and foreign portfolio investment in US\$, as a share of GDP at time t. FDI_{it-1} and FPI_{it-1} represent, respectively, the lagged value of the dependent variable, FDI and FPI. $INSTDEX_{it}$ is the measure of institutional quality and is proxied by the PCA-constructed index composed of the six Worldwide Governance Indicators. α_0 and b_0 denote a constant term, while ε_{it} is a random error term. X_{it} is a vector that indicates all other variables that explain the FDI inflows and FPI inflows into the sample of countries, such as capital openness, financial market development, economic growth, and exchange rate.

In order to address the problems of endogeneity and country-specific effects, the GMM model takes an instrumental variables-approach. Instrumental variables (IV) are variables that can be assumed to have no correlation with the error term, but are correlated with the explanatory variables (Verbeek, 2004:133). However, IV based estimations can be inadequate when (weak) instruments that have insignificant correlation with the explanatory variables are used, resulting in potential estimation biases (Verbeek, 2004). In order to deal effectively with the issue of weak instruments and endogeneity problems, as well as with small sample biases, and to also enhance estimation accuracy and efficiency, this study adopted the method followed by Ullah *et al*. (2018a) and Sabir *et al*. (2019) of conducting regressions in levels and first-differences. In the regressions in levels, lagged differences of the dependent variables serve as instruments, while in the regressions in first differences, the instruments used are the lagged levels of the dependent variables (Baltagi,

2008; Hossain, 2015; Ullah *et al.* 2018). This method is known as the system generalised method of moments, and it is attributed to Arellano and Bover (1995) and Blundell and Bond (1998).

There are two post-estimation tests that need to be conducted when applying the GMM model, viz. the over-identification test and the Arellano-Bond first-order and second-order autocorrelation test (Ullah *et al.* 2018). Saini and Singhania (2018) point out that the GMM model uses a number of instrumental variables that might lead to the model being over-identified, thus necessitating an over-identification test under the null hypothesis that all the instruments in the model are valid. In this study, estimation models used several instruments and were therefore subjected to over-identification tests such as the Sargan and Hansen tests to gauge the validity of these instruments (Acheampong, 2019). In addition, the Arellano-Bond test for first-order and second-order autocorrelation was performed as a post-estimation test to examine potential correlation between the error terms, or potential correlation between the lagged variables/instruments and the error terms. The null hypothesis under the latter test is that the error terms are uncorrelated (Ullah *et al.* 2018).

In the next section, the model applied to address the second objective of the study, i.e. assessing the long-run relationships among our three key variables of FDI, FPI and INSTQ in emerging markets is discussed.

3.4.3.2   *Autoregressive Distributed Lag (ARDL)*

The second objective of this study was to assess empirically the long-run relationships among the three key variables of FDI inflows, FPI inflows and institutional quality in emerging markets for the period 2007–2017. Shrestha and Bhatta (2018) state that if two or more variables converge to form an equilibrium relationship over the long-run, or if one variable drags the other, and both of them eventually share the same movement, over a long-run period, they are said to be co-integrated. The second objective was addressed with the aid of the panel autoregressive distributed lag (ARDL) model for dynamic heterogeneous panels, instead of the traditional ARDL approach that is appropriate for single time series studies, where N=1 (Pesaran & Smith, 1995; Pesaran, Shin & Smith, 1999).

The primary advantage of the ARDL model, which has led to its popularity over other co-integration tests such as the Engle-Granger and Johansen tests, is that it breaks the restriction of co-integration tests that requires that the variables to be tested must be non-stationary and of the same order of integration (Sam, McNown & Goh, 2019). The ARDL can be applicable when the variables to be tested are integrated of order zero [I (0)], order one [I (1)] or a combination of both, and is suitable even when dealing with small samples (Pesaran & Shin, 1999; Odhiambo, 2011; Magweva & Sibanda, 2020). Another advantage of the ARDL approach is that it is able to estimate both long-run and short-run effects through the estimation of an error correction model (ECM) - (Raza & Hussain, 2016). This dynamic ECM combines the short-run dynamics with the long-run equilibrium, without long-run information being removed (Shrestha & Bhatta, 2018). In addition, the problem of endogeneity is dealt with or minimised through the use of lags of the dependent and independent variables and appropriate modification of the orders of the ARDL model (Pesaran & Shin, 1999; Sankaran, Kumar, Arjun & Das, 2019).

Thus, given the optimal lag orders/lengths of the variables and the estimation of an ECM, both long-run and short-run coefficients are estimated. The short-run effects are captured by the coefficients of the first-differenced variables of the correction model (Owusu & Odhiambo 2015:186).

The panel ARDL approach would require that an appropriate estimator be selected from the Mean Group (MG), Pooled Mean Group (PMG), and Dynamic Fixed Effects (DFE) estimators (Pesaran *et al.*, 1999). In this regard, the Hausman test can be employed to determine the most suitable of the three estimators. This process is necessary because homogeneity or heterogeneity across individual countries, in both short-run and long-run parameters, cannot be presumed.

The MG approach takes account of the heterogeneity of the cross-sectional units in the estimation of both short -and long run coefficients. It estimates separate equations for each cross-section unit and examines the mean of the estimated coefficients across units. Although the averaged coefficient estimates are consistent, this approach neglects the

possible homogeneity of certain parameters across cross-sectional units (Pesaran & Smith, 1995; Pesaran *et al.*, 1999; Magweva & Sibanda, 2020).

The PMG, on the other hand, has some similarity to the MG in that it also allows short-run parameters, including the speed of adjustment, intercept terms, and error variances to vary across countries. Furthermore, it also generates consistent estimates of the mean of short-run coefficients across cross-sectional units by taking the average of individual country coefficients (i.e. pooling and averaging the means). However, contrary to the MG, the PMG method maintains homogeneity in long-run parameters (Pesaran *et al.*, 1999).

Lastly, the DFE estimator lies at the other extreme end. This approach imposes homogeneity in the estimation of both short and long run coefficients across the entire cross-section, and only allows the individual country intercepts uncontrolled variation (Pesaran *et al.*, 1999; Magweva & Sibanda, 2020).

Although the PMG and MG estimators provide consistent coefficient estimates through averaging, a Hausman test or a likelihood ratio test would provide a better indication of the consistency and efficiency of each of the estimators MG, PMG and DFE (Simões, 2011).

In order to investigate the relationships between the key variables, the panel ARDL model – with FDI, FPI and INSTDEX alternating as the dependent variable – was specified as follows:

$$\Delta FDI_{it} = \delta_0 + \delta_1 FDI_{it-1} + \delta_2 FPI_{it-1} + \delta_3 INSTDEX_{it-1} + \sum_{i=0}^{m} \delta_{1i}\, \Delta FDI_{it-1}$$

$$+ \sum_{i=0}^{m} \delta_{2i}\, \Delta FPI_{it-1} + \sum_{i=0}^{m} \delta_{3i}\, \Delta INSTDEX_{it-1} + \varepsilon_{it}$$

$$\Delta FPI_{it} = \delta_0 + \delta_1 FPI_{it-1} + \delta_2 FDI_{it-1} + \delta_3 INSTDEX_{it-1} + \sum_{i=0}^{m} \delta_{1i}\, \Delta FPI_{it-1}$$

$$+ \sum_{i=0}^{m} \delta_{2i}\, \Delta FDI_{it-1} + \sum_{i=0}^{m} \delta_{3i}\, \Delta INSTDEX_{it-1} + \varepsilon_{it}$$

$$\Delta INSTDEX_{it} = \delta_0 + \delta_1 INSTDEX_{it-1} + \delta_2 FDI_{it-1} + \delta_3 FPI_{it-1} + \sum_{i=0}^{m} \delta_{1i} \Delta INSTDEX_{it-1}$$

$$+ \sum_{i=0}^{m} \delta_{2i} \Delta FDI_{it-1} + \sum_{i=0}^{m} \delta_{3i} \Delta FPI_{it-1} + \varepsilon_{it}$$

where Δ was the differenced operator, and all other variables remained as described earlier. To select appropriate lag lengths for the variables, the Akaike Information Criterion (AIC) and Schwartz Information Criterion (SIC) were applied.

Upon concluding the cointegration tests, the researcher proceeded to the third objective, concerned with the causal relationships between the key variables. It is often stated in empirical studies that the presence of a long-run relationship hints at a possible causal association between variables. In relation to cointegration and causality among variables, Granger (1988:203) argued that for a pair of series to have an equilibrium, there must be some causality between them to provide the necessary dynamics. As such, this study sought to investigate this argument empirically by conducting causality analyses.

3.4.3.3   Vector Error Correction Model (VECM)

With respect to the third objective, which aimed to determine empirically the causal relationships among FDI, FPI and INSTQ in emerging markets between 2007 and 2017, a dynamic panel VECM based causality analysis was conducted. This methodology helped to determine the existence and direction of causality among the key variables.

In the presence of cointegration, the panel VECM is efficient because it can capture both short-run and long run dynamics among variables. The error correction term derived from the long run, cointegration relationship captures short-run deviation of a series from its long-run equilibrium. The comparable panel vector autoregressive (VAR) does not work in the presence of cointegration, and only short-run coefficients can be estimated, and only short-run causality can be inferred (Engle & Granger, 1987; Belloumi, 2009; Shahbaz, Zeshan & Afza, 2012; Mahembe & Odhiambo, 2019).

The panel VECM is also called a restricted panel VAR as it contains the error correction component that, as stated above, corrects short-run deviations from the long-run equilibrium path (Mahembe & Odhiambo, 2019). Furthermore, while the VECM can test nonstationary and order one integrated series, the VAR requires all variables to be stationary and of the same order of integration. Moreover, differencing nonstationary variables in order for them to achieve stationarity removes their long-run information contained in their original form. On the other hand, the lagged error correction term derived from the long-run relationship and included in the VECM maintains the long-run information that may be eliminated through differencing (Engle & Granger, 1987; Li, 2001; Odhiambo, 2009).

Although the ARDL framework, which was applied in the preceding objective, estimates the error correction model (ECM) when there is evidence of co-integrating relationships among variables, the specification of the panel VECM for our key variables took the following form:

$$\Delta FDI_{it} = \delta_0 + \sum_{i=0}^{m} \delta_{1i} \Delta FDI_{it-1} + \sum_{i=0}^{m} \delta_{2i} \Delta FPI_{it-1} + \sum_{i=0}^{m} \delta_{3i} \Delta INSTQ_{it-1} + \delta_4 ECT_{it-1} + \varepsilon_{it}$$

$$\Delta FPI_{it} = \phi_0 + \sum_{i=0}^{m} \phi_{1i} \Delta FPI_{it-1} + \sum_{i=0}^{m} \phi_{2i} \Delta FDI_{it-1} + \sum_{i=0}^{m} \phi_{3i} \Delta INSTQ_{it-1} + \phi_4 ECT_{it-1} + \varepsilon_{it}$$

$$\Delta INSTQ_{it} = \lambda_0 + \sum_{i=0}^{m} \lambda_{1i} \Delta INSTQ_{it-1} + \sum_{i=0}^{m} \lambda_{2i} \Delta FDI_{it-1} + \sum_{ti=0}^{m} \lambda_{3i} \Delta FPI_{it-1} + \lambda_4 ECT_{it-1} + \varepsilon_{it}$$

where, Δ is the differenced operator. The ECT_{it-1} represents the lagged error correction terms derived from the cointegration relationships. The coefficients (δ, ϕ, and λ) represent the speed of adjustment to the long-run equilibrium path. The ε_{it} is the white noise error term, and all the other variables remain as previously described.

Causal effects are inferred from the statistical significance of the long run and short-run coefficients, as well as the statistical significance of the error correction terms (ECT). The categories of causality results that can be drawn from the panel VECM fall into three groups, i.e. short-run causality, long-run causality, and strong causality: (a) short-run causality is inferred when the coefficients of the differenced short-run explanatory variables are statistically significant, while (b) long-run causal effects are deduced from the statistical significance of the long-run coefficients. On the other hand, (c) strong causality can be inferred when, in addition to statistically significant coefficients, the ECT is negative and significant. Furthermore, three directional outcomes can be inferred from this panel VECM: (a) uni-directional causal effects, implying a one-way causal relationship between variables, (b) bi-directional causality, indicating the incidence of feedback in the relationship between variables, and (c) no causality, which implies neutrality between variables (Mahembe & Odhiambo, 2019).

Mahembe and Odhiambo (2019) argued that the above causality analysis approach leads to similar causal inferences as those of the Wald tests based Granger causality method, as well as the pairwise Granger causality test that is used specifically to test the direction of causality.

In the remainder of this chapter, reliability and validity are briefly discussed, as well as how they were ensured in this study. This is followed by a brief discussion of the ethical considerations taken while conducting this study. A summary concludes this chapter.

3.5 Reliability and validity

In order to ensure the credibility of the outcomes of a study, i.e. the results and conclusions, the researcher must strive for two key qualities pertaining to the research design: reliability and validity (Saunders *et al*., 2009). Reliability refers to the consistency and stability of the measurement instrument employed, including the methods and procedures followed, while validity is concerned with the accuracy, dependability and soundness of the results and conclusions thus derived (Van Zyl, 2014).

This study applied secondary data, the credibility of which could not be guaranteed. However, the researcher made certain that he sourced the data from reputable and reliable

global data sources that are widely used in empirical studies. He further made every effort to design the research study in a manner that would ensure compatibility of the data with the chosen research methods and techniques used to analyse the data, in order to effectively address the research questions and objectives of the study and derive credible results (Saunders *et al.*, 2009).

3.6   Ethical considerations

Although the study used secondary data from credible global sources such as the World Bank, the researcher still exercised caution and applied for ethical clearance from the ethics committee of the University of South Africa (UNISA). This was done to ensure that any potentially identifying information was protected, and to comply with the university policies for conducting research. While the secondary data is widely accessible from online databases, the researcher committed to acknowledging all the sources and/or owners of the data, in addition to citing references to acknowledge the work of other scholars.

3.7   Conclusion

The purpose of this chapter was to provide a thorough discussion of the research methodology that was applied in this study to address its objectives. The chapter began by detailing the population and sampling techniques adopted, as well as the data and the variables used. This was followed by a discussion of preliminary tests, i.e. unit root tests. The main empirical econometric models that were run to provide answers to the research questions posed in this study were dissected and specified. Issues of reliability and validity, and ethical considerations concerning this study were also addressed. In the next chapter, the results of the empirical study and the analysis and discussion of the findings are provided.

Chapter Four: Data analysis and discussion of findings

4.1 Introduction

The core purpose of this chapter is to present, analyse and discuss the results of the empirical study conducted with the aid of the various econometric models, as discussed in the previous chapter. The chapter is organised as follows: Section 4.2 briefly discusses the data (and variables) and summarises their descriptive statistics, in addition to presenting in more detail the process of constructing the institutional quality index. The presentation, analysis and discussion of the results of the GMM model estimation are provided in Section 4.3. Section 4.4 and Section 4.5, respectively, provide the cointegration and causality analyses and discussions thereof. Lastly, the chapter is summarised and concluded in Section 4.6. To recap, the research objectives of this study were:

i. To identify the key determinants of FDI and FPI inflows to emerging markets from 2007 to 2017.

ii. To assess the long-run relationships between institutional quality, FDI and FPI inflows to emerging markets over the period 2007 to 2017.

iii. To determine the causal relationships between FDI, FPI and institutional quality in emerging markets between 2007 and 2017.

4.2 Data and descriptive statistics

The study applied annual, short (N>T) and balanced panel data covering the period 2007 to 2017 and pertaining to a sample of 12 emerging market countries. The study further made use of the Principal Components Analysis (PCA) method to construct a single composite index for institutional quality (INSTDEX). This was because of the high correlations observed between the individual institutional quality factors, measured by the WGIs, and the absence of a consensus in previous empirical literature as to which of the individual indicators are the most important for foreign investment inflows in the emerging market context (Kurul, 2017; Sabir *et al.*, 2019).

4.2.1 Principal Components Analysis

4.2.1.1 Institutional quality index

Table 4 below provides the estimated eigenvalues of the correlation matrix of the six indicators of institutional quality from the Worldwide Governance Indicators. The PCA method was used to construct a single composite index of institutional quality (INSTDEX).

Table 4: _Principal Components Analysis: Eigenvalues_

Principal Component	Eigenvalue	Proportion (% of variance)	Cumulative Proportion %
1	4.815042	80.25	80.25
2	0.543506	9.06	89.31
3	0.261205	4.35	93.66
4	0.187673	3.13	96.79
5	0.118046	1.97	98.76
6	0.074528	1.24	100

As indicated in *Table 4* above, the largest variance of 80.25% and highest eigenvalue of 4.815042 implied that the first principal component relatively explained the maximum variation in the original variable set. *Table 5* below reflects the eigenvector loadings from the PCA.

Table 5: _Eigenvector loadings_

Variable	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6
GOV	0.416966	-0.343479	0.183175	0.389906	0.718888	0.076041
LAW	0.427533	-0.031312	-0.351237	-0.55864	0.064638	0.613688
REG	0.411872	-0.224626	-0.588488	0.468413	-0.433061	-0.16320
POL	0.413578	-0.147292	0.703302	0.029402	-0.525398	0.188991
VOA	0.336937	0.899237	0.025236	0.260282	0.080907	0.054006
COR	0.434906	0.016218	0.038619	-0.49787	0.0943	-0.74319

Note: GOV-Government Effectiveness; LAW-Rule of law; REG-Regulatory quality; POL-Political stability; VOA-Voice and accountability; and COR-Control of corruption.

Moreover, as can be seen in the eigenvector loadings displayed in *Table 5* above, the first principal component (PC1) contained positive coefficients across the six individual variables of institutional quality. This meant that, in PC1, all the individual variables played a positive and virtually equal role in explaining the overall measure of institutional quality. Based on these observations, it could be concluded that the first principal component was the most pertinent measure of institutional quality, as it arguably contained the most important

information about the original variables (Brooks, 2008; Kurul, 2017; Aït-Sahalia & Xiu, 2019).

4.2.2 Descriptive statistics

Table 6 below presents a summary of descriptive statistics, including maximum and minimum values, means and standard deviations pertaining to the variables, as well as the number of observations for each variable.

The key variables in this study were FDI and FPI net inflows as a percentage of GDP, and institutional quality (INSTQ), measured by the Worldwide Governance Indicators. In *Table 6* below, INSTQ is presented both as an index (INSTDEX) and as individual indicators, prefixed by the acronym INSTQ. Other variables served as control and explanatory variables.

*Table 6: **Summary of descriptive statistics***

Variable	Mean	Maximum	Minimum	Std. Dev.	Observations
FDI	3.305024	54.648730	-15.83879	7.720751	132
FPI	0.975746	7.422868	-3.550829	1.615821	132
INSTDEX	-0.00000000239	4.464162	-4.046694	2.202680	132
SMC	57.352820	352.15640	6.273966	66.70389	132
CRED	47.148540	157.55620	11.82277	31.59183	132
HUMC	0.665924	0.866000	0.407000	0.126726	132
NATR	6.070066	19.272050	0.255659	4.826112	132
EXCH	95.880480	129.485000	70.02250	11.46875	132
GDP	3.784099	14.231390	-7.799994	3.565593	132
GINTR	2.254217	5.223406	1.137338	1.100919	132
CAOP	-0.042336	2.346708	-1.916551	1.215903	132
INSTQ -GOV	-0.032438	0.827384	-1.214644	0.487776	132
INSTQ-LAW	-0.258794	0.964174	-1.18154	0.533806	132
INSTQ-REG	-0.061918	1.195643	-1.074257	0.583292	132
INSTQ-POL	-0.481324	1.072063	-2.211123	0.802598	132
INSTQ-VOA	-0.053287	1.105113	-1.72125	0.813960	132
INSTQ-COR	-0.356984	0.739105	-1.274705	0.493429	132

Note: FDI (Foreign direct investment); FPI (Foreign portfolio investment); INSTDEX (INSTQ index); SMC (Stock market capitalisation); CRED (Bank credit to private sector); HUMC (Human capital development); NATR(Natural resources); EXCH (Exchange rate); GDP (GDP growth rate); CAOP (Capital account openness). Individual INSTQ indicators: INSTQ-GOV (Government effectiveness); INSTQ-LAW (Rule of law); INSTQ-REG (Regulatory quality); INSTQ-POL (Political stability); INSTQ-VOA (Voice and accountability); INSTQ-COR (Control of corruption).

The mean value of FDI inflows was a mere 3.305024% during the period 2007–2017, which is not a significant value. The FDI maximum and minimum values of 54.648730% and -15.83879% respectively relate to one country in our sample, Hungary. Hungary boasted the highest average of FDI inflows (13% of GDP) in the sample over the period under study. Hungary has attracted significant inflows of FDI over the years, but the inflows have been characterised by high volatility as a result of erratic institutional instabilities (and policy inconsistencies) in the country. The minimum FDI value of -15.83879%, which indicates more outflows than inflows, occurred in 2010, when the Hungarian government embarked on a sudden nationalisation programme that involved several sectors, including the banking and energy sectors (Isaacs & Molnar, 2017; Voszka, 2018). This nationalisation programme was intended to shield the domestic economy from the lasting effects of the 2008/9 global financial crisis, but it was clearly not welcomed by foreign direct investors, as indicated by the significant outflow in that particular year. FDI inflows to Hungary have recovered since 2010 and peaked at 54.648730% of GDP in 2016, but they remain very volatile.

The mean value of FPI net inflows is even lower than that of FDI, at 0.975746% of GDP. Most emerging market economies have not adequately deregulated and/or developed their capital markets and this results in negligible levels of FPI inflow. Even the largest emerging economies such as China have been restrictive on FPI, even though they have liberalised substantially towards FDI (Hatzvi *et al.*, 2015). The minimum value of FPI, -3.550829%, relates to Hungary and occurred in 2007, when high volatility in international capital markets and low global investor confidence preceded the 2008 global financial crisis. The maximum FPI value of 7.422868% could be attributed to South Africa and occurred in 2017. South Africa boasted the largest average of FPI inflows in the sample. These relatively higher FPI values for South Africa can be ascribed to the country's large and developed capital market. This is also evidenced by South Africa's having the largest stock market capitalisation (SMC) in the sample, at 352% of GDP in 2017. The minimum value of SMC, at 6.273966% of GDP, was shown by Argentina in 2012, and coincided with the beginning of the end of the commodity price boom, which was one of the factors that attracted portfolio flows to Argentina (Gonclaves, David & Pienknagura, 2019).

According to the World Development Indicators, domestic credit to private sector by banks as a percentage of GDP (CRED) refers to the financial resources provided by the banking system to the productive activities of the private sector. CRED had a lower mean value (47.148540%) than that of SMC (57.352820%), and this was owing to South Africa's outlying SMC. However, when removing South Africa's SMC from the data, it was noted that in most of these emerging markets, financing provided by the banking system (CRED) was greater than the financing provided by the capital markets. The minimum value of CRED at 11.822770% of GDP occurred in Argentina in 2008, while the maximum value of 157.556200% of CRED was shown by China in the year 2017. China is reported to have the largest banking system, by total assets, in the world (see Ye, Zhang & Dong, 2019), hence the highest value of CRED as a percentage of GDP.

Human capital development (HUMC) was proxied by an education index, a component of the Human Development Index published by the UN Development Reports, which measures educational attainment levels by combining mean years of schooling for adults and expected years of schooling for children (Barro & Lee, 2013). A value of 0.9 or higher reflects very high educational attainment levels. The mean value of HUMC in our statistics was 0.665924, while 0.866000 and 0.407000 were the maximum and minimum values for Poland and Nigeria respectively.

The highest (maximum) value of natural resources as a percentage of GDP (NATR), at 19.272050%, belonged to Russia, while the lowest (minimum) value of 0.255659% was found in the data from Hungary. The average value of NATR was 6.070066% of GDP. It will be noted later in the estimation results that NATR played a rather negative role in foreign capital inflows in this sample of emerging markets, as opposed to economic growth.

Annual fluctuations in the real effective exchange rate (EXCH) were noted across this sample of emerging markets over the period under study. Volatility in exchange rates could be expected to have an adverse effect on international transactions conducted by multinational investors (see Madura & Fox, 2014), and would thus be a deterrent to foreign capital inflows. The mean value of EXCH in our statistics was 95.880480 (2010 = 100 base year index), with a standard deviation of 11.468750.

Economic growth measured by the real GDP growth rate had a mean value of 3.784099%, while the maximum and minimum values were 14.231390% (China–2007) and -7.799994% (Russia–2009) respectively. A fast growing rate of GDP indicates an expanding and growing economy that is likely to offer increased future earnings and higher rates of return for investors (Ahmed *et al.,* 2007).

Global interest rates (GINTR), proxied by US interest rates (lending rates adjusted for inflation) had an average value of 2.254217%. According to the push and pull factor theory of international capital flows, lower global interest rates (in advanced economies) will push international capital flows towards emerging markets that offer higher interest rates for investors (Calvo *et al.,* 1996).

Capital account openness (CAOP) measures the extent of an economy's openness or liberalisation to capital account transactions. This variable was proxied by the Chinn-Ito capital account openness index, which measures the extent of financial openness by considering the existence of multiple exchange rates, restrictions on capital account and current account transactions, as well as the requirement to surrender export receipts (Chinn & Ito, 2008). The index ranges between 2.35 (most open) and -1.92 (least open). The average CAOP value in our statistics was -0.042336, while maximum and minimum values were 2.346708 (Hungary) and -1.916551 (Argentina) respectively.

The mean values of all indicators of institutional quality were negative, including the institutional quality index. Worldwide Governance Indicators suggest that negative values indicate weaknesses in governance and institutional structures (Kaufmann, *et al.* 2011). The negative mean values across institutional indicators in this sample paint a grim picture of institutional development in this sample of emerging markets, particularly in the areas of government and regulatory effectiveness, rule of law, control of corruption, civil liberties, and political stability.

It was therefore the primary objective of this study to examine the broader impact of institutions on foreign direct investment (FDI) and foreign portfolio investment (FPI) inflows into emerging markets, for the period 2007 to 2017. In the next section, the results

of the empirical estimations are presented and analysed in order to address the research questions, in pursuit of the objectives of the study.

4.3 Dynamic panel GMM estimation results

In order to tackle the first research objective of assessing the key determinants of FDI and FPI inflows into this sample of emerging market economies, a dynamic panel data system generalised method of moments model was adopted.

As indicated in the previous chapter, a panel regression model requires the selection of a suitable estimation approach from fixed effects (FE) and random effects (RE). To that end, the Hausman test was applied with a null hypothesis that the appropriate approach was the RE model, as opposed to the alternative hypothesis that the FE model was appropriate (Gujarati, 2004).

4.3.1 FDI determinants based on the system GMM

A p-value of 0.0000 necessitated the rejection of the null hypothesis under the Hausman test, thus rendering the fixed effects more appropriate for the FDI regression model. Guided by theoretical frameworks and empirical literature reviewed earlier, the researcher specified a dynamic GMM FDI regression model using fixed effects as follows:

$$FDI_{it} = \alpha_0 FDI_{it-1} + \alpha_1 FPI_{it} + \alpha_2 INSTDEX_{it} + \alpha_3 SMC_{it} + \alpha_4 CRED_{it} + \alpha_5 HUMC_{it} + \alpha_6 NATR_{it} + \alpha_7 EXCH_{it} + \alpha_8 GDP_{it} + \varepsilon_{it}$$

where i denotes cross-section, t denotes time, α represents the constant term and coefficients of explanatory variables (indicating the mean change in the value of the dependent variable from changes in the independent variable), and ε_{it} is an error term. The rest of the variables are defined as follows:

FDI_{it} = FDI net inflows as a percentage of GDP into country i at time t;

FDI_{it-1} = first lag of FDI net inflows, measured as the previous period's FDI net inflows as percentage of GDP into country i at time $t-1$;

FPI_{it} = FPI net inflows as a percentage of GDP into country i at time t;

$INSTDEX_{it}$ = institutional quality index, composed of the Worldwide Governance Indicators;

SMC_{it} = stock market capitalisation as a percentage of GDP;

$CRED_{it}$ = domestic credit by banks to the private sector as a percentage of GDP;

$HUMC_{it}$ = education index, measured as the number of expected and mean years of schooling;

$NATR_{it}$ = total natural resources rent as a percentage of GDP;

EXCH$_{it}$ = real effective exchange rate; and

GDP_{it} = real GDP growth rate.

The FDI regression results based on the fixed effects (FE) dynamic system GMM model are provided in **Table 7** below. The analysis of results is based solely on the output of the system GMM model as it was the preferred model. Other results provided in **Table 7** were merely robustness tests.

Table 7 shows the regression coefficients and standard errors (in parentheses). The regression coefficient indicates the size of the impact that an individual explanatory (independent) variable (e.g. INSTDEX) has on the dependent variable (FDI). In other words, the coefficient represents the mean change in the dependent variable per unit change in a particular explanatory variable, holding constant the impact of other explanatory variables on the dependent variable. The standard error, on the other hand, indicates the standard deviation of the coefficient (Levine, Szabat & Stephan, 2016).

The most important statistic for the purpose of the analysis in this study was the regression coefficient, in particular its sign (+/-, indicating the direction of the impact) and the statistical significance (indicated by asterisks). A similar approach to analysis was followed for the FPI estimation results.

*Table 7: **FDI System GMM regression results***

	Pooled effects	Fixed Effects	Random effects	System GMM	GLS
	FDI	FDI	FDI	FDI	FDI
L.FDI	0.625***	0.0991***	0.625***	0.702***	0.625***
	(0.118)	(0.0919)	(0.118)	(0.597)	(0.0783)
FPI	0.00743*	-0.00736	0.00743*	-0.149*	0.00743*
	(0.0219)	(0.0168)	(0.0219)	(0.0862)	(0.0231)
INSTDEX	0.0375*	-0.0306	0.0375	0.636*	0.0375*
	(0.0587)	(0.0802)	(0.0587)	(0.211)	(0.0557)
SMC	-0.00155*	-0.000729	-0.00155*	0.00361	-0.00155*
	(0.000649)	(0.000866)	(0.000649)	(0.00316)	(0.000724)
CRED	0.00371*	0.00575	0.00371*	-0.0208*	0.00371*
	(0.00179)	(0.0033)	(0.00179)	(0.0101)	(0.00165)
HUMC	0.0065	0.336	0.0065	-2.291	0.0065
	(0.482)	(1.148)	(0.482)	(5.120)	(0.374)
NATR	0.0037	0.011	0.0037	-0.0643*	0.0037
	(0.00957)	(0.0162)	(0.00957)	(0.0288)	(0.00874)
EXCH	-0.00114	0.00271	-0.00114	-0.0275	-0.00114
	(0.0027)	(0.00236)	(0.0027)	(0.0179)	(0.00309)
GDP	0.0231**	0.024	0.0231**	0.0531*	0.0231*
	(0.00821)	(0.0135)	(0.00821)	(0.0208)	(0.0104)
_cons	3.751**	8.377***	3.751**		3.751***
	(1.356)	(1.269)	(1.356)		(0.938)
N	120	120	120	108	120

Note: Standard errors in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Dependent variable: FDI (Foreign direct investment). Independent/Explanatory variables: L.FDI (lag of the dependent variable, FDI); FPI (Foreign portfolio investment); INSTDEX (Institutional quality index); SMC (Stock market capitalisation); CRED (Bank credit to private sector); HUMC (Human capital development); NATR (Natural resource rent); EXCH (Exchange rate); GDP (GDP growth rate).

As a point of departure, it appears from the system GMM output reflected in **Table 7** that institutional quality (INSTDEX), previous inflows of foreign direct investment (L.FDI), foreign portfolio investment (FPI), domestic credit to private sector by banks (CRED), natural resources (NATR) and GDP growth rate (GPD) were statistically significant determinants of FDI inflows into this sample of emerging markets over the period under study.

The key independent variable in the study was institutional quality, measured by an index (INSTDEX) composed of the six World Governance Indicators. The GMM output revealed a

positive and statistically significant relationship between INSTDEX and FDI in emerging markets. Emerging markets are often associated with inadequate regulatory and property rights structures, inefficient legal systems, pervasive corruption, political instability and suppression of civil liberties. These results suggest that the optimism of foreign investors about emerging markets is significantly enhanced by improvements in these areas of institutional development. These results are consistent with those of Kurul (2017), who found a positive and significant relationship between institutional quality and FDI inflows into developing countries.

Indicating the persistence of FDI inflows was the finding of a positive and highly significant impact of past FDI inflows on current inflows. This finding is in line with that of Kurul and Yalta (2017) and Saini and Singhania (2018). The finding is also consistent with the external economies of scale and clustering effects hypotheses. In choosing where to invest, new investors emulate existing FDI and by clustering with other firms, new investors benefit from the lower long-run costs of operating in larger industries (Walsh & Yu, 2010).

These GMM results further indicated a negative but statistically significant relationship between foreign portfolio investment (FPI) and foreign direct investment (FDI). This result is in contrast to Noman *et al*.'s (2015) finding of a strongly positive and complementary relationship between FDI and FPI. However, the results of this study are supported by the finding of Humanicki *et al*. (2017) of a VECM-based substitutability or trade-off relationship between the two forms of capital flows. The finding in the present study also confirms the skepticism and restrictiveness of emerging markets towards FPI. Given the high liquidity and volatility of FPI relative to FDI, and the subsequent emerging markets' experience of substantial reversals of FPI at times of financial crisis, these markets have resorted to a very gradual and cautious approach to the deregulation and liberalisation of their capital markets. This is in contrast to the much liberalised policies that emerging markets have adopted in order to maximise FDI inflows.

The development of domestic financial markets is one of the key absorptive capacities for FDI in the host economy (Kose, Prasad, Rogoff & Wei, 2009; Alfaro & Chauvin, 2016). To capture the impact of banking sector financial intermediation on FDI inflows, this study used

domestic credit to the private sector by banks (CRED), which indicates the extent of financial resources directed at private sector investment activities (Sghaier & Abida, 2013). The results indicated a negative but significant relationship between bank credit and FDI inflows in emerging markets. This result suggests that increased liquidity in the domestic market for private sector investment lowers the need for foreign capital in the form of FDI (Makoni, 2016). The researcher also estimated the impact of stock market development on FDI inflows in emerging markets. The proxy in this regard was stock market capitalisation as percentage of GDP (SMC), which measures the breadth of the domestic stock market. Although not statically significant, the impact of stock market capitalisation on FDI was positive. Results on the impact of financial market development, considering both CRED and SMC, on FDI inflows suggests that equity markets play a more positive role in FDI than the banking sector. These findings correspond with those of Soumaré and Tchana, (2015), who found a positive relationship between FDI and stock market capitalisation, and an inconclusive relationship between FDI and bank credit to the private sector in emerging markets.

Despite existing evidence (see Mohamed & Sidiropoulos, 2010; Anarfo *et al.*, 2017) to the effect that significant endowment of natural resources attracts resource-seeking and export-oriented FDI, this study found a negative and significant association between FDI inflows and natural resources. The natural resources variable was proxied by the total natural resources rent, which measures the sum of oil, natural gas, coal, mineral and forest rents, as a proportion of GDP. The result can be attributed to the poor performance of commodity prices in global markets, and the dominant role adopted by governments in the resources and energy sectors, that deters resource-seeking FDI inflows into emerging markets (Nandialath & Rogmans, 2019). This can be seen in many countries including Russia, Hungary and the MENA countries. Other explanations that have been advanced for the negative impact of natural resources on FDI inflows include the argument that countries with large endowments of resources raise sufficient domestic capital to finance their inward oriented development (Eissa & Elgammal, 2019). A further argument pertains to what is commonly referred to as a resource curse. Resource rich countries tend to attract extractive and export-

oriented FDI that crowds out other FDI and waters down FDI induced economic growth (Hayat, 2018; Nandialath & Rogmans, 2019).

Lastly, it was found that economic growth exerted a positive and significant impact on FDI inflows into emerging markets. This finding, in part, suggests that FDI in emerging markets is attracted by their rapidly expanding economies, rather than by their natural resources. An accelerating rate of GDP indicates an expanding and growing economy with a higher market demand and is likely to offer increased future earnings and higher rates of return for investors (Ahmed *et al*., 2007; Meyer & Habanabakize, 2018). The findings in this study are in line with those of Žarković *et al*. (2017) and Ayomitunde *et al*. (2019).

The other explanatory variables had a weakly significant deterministic relationship with foreign direct investment. Human capital development had a negative and insignificant effect on FDI inflows. The proxy for human capital development (HUMC) was an education index, which measures educational attainment levels in a population in terms of the mean and expected years of schooling. A positive impact of HUMC as measured by educational attainment levels was anticipated. Higher educational attainment levels in a country mean large numbers of skilled workers, greater labour productivity and greater ability to absorb advanced technology from developed countries (Barro & Lee, 2013). However, the results were inconsistent with those of Mallik and Chowdhury (2017) and of Kheng *et al*. (2017), who measured HUMC by secondary and tertiary school enrollments and found a positive relationship. While it might be expected that high human capital development leads to higher labour costs that may deter FDI inflows, evidence from Poole (2013) shows that MNCs are willing to pay higher incomes, which reflects their hiring of better quality workers. There is, however, also a concern about human capital flight in some emerging markets, which might be the reason behind the insignificant impact of HUMC in attracting FDI inflows (Esew & Yaroson, 2014). A scarcity of skilled labour in the host country would result in MNCs bringing in their own human capital.

The impact of exchange rates on FDI inflows was negative but statistically insignificant. This negative relationship between the two variables was expected. Exchange rate risk, on the one hand, affects the payment of remittances and other international transactions within

MNCs or between parent firms and subsidiaries (Madura & Fox, 2014). On the other hand, emerging market economies are predominantly export and trade oriented, which makes fluctuations and volatility in the currency a matter of concern for FDI involved in the trade sectors of these economies. All the emerging markets in this sample are member states of the World Trade Organisation. Moreover, a good number of these emerging markets are part of regional and trans-regional trade and economic blocs. Lastly and incidentally, recessions and subsequent capital flight that have historically occurred in some of these economies emanated from currency crises that involved currency pegging systems and currency overvaluations (e.g. the late 1990s East Asian, Mexican and Russian financial crises). The results in this study are consistent with those of Cambazoğlu and Güneş (2016) and Mensah *et al.* (2017), who found an inverse relationship between exchange rates and FDI, where currency appreciations (depreciations) deterred (attracted) FDI. Furthermore, the insignificant impact revealed by the results in the present study might be caused by various exchange rate hedging strategies that are common in foreign exchange markets and employed by MNCs to hedge against exchange rate risk for their international transactions (Madura & Fox, 2014).

To conclude the analysis of the GMM based FDI results, these findings imply that FDI inflows into emerging markets, particularly those that constitute our sample, are in the main attracted by their large and rapidly expanding economies. This is demonstrated by the significant positive relationship with economic growth, as well as the clustering effects, proxied by previous FDI inflows. On the other hand, efforts by these emerging markets to improve the institutional environment raise the optimism and confidence of foreign investors, which in turn leads to significant inflows of FDI into their economies.

4.3.2   *FPI determinants based on the system GMM*

With respect to the FPI regression model, the null hypothesis under the Hausman test was not rejected, and therefore the random effects (RE) estimation approach was considered valid (p-value = 0.9889). The FPI random effects dynamic GMM regression model was expressed as follows:

$$FPI_{it} = b_0 FPI_{it-1} + b_1 FDI_{it} + b_2 INSTDEX_{it} + b_3 GINTR_{it} + b_4 SMC_{it} + b_5 CRED_{it}$$
$$+ b_6 CAOP_{it} + b_7 NATR_{it} + b_8 GDP_{it} + \varepsilon_{it}$$

where i denotes cross-section, t denotes time, b represents a constant term and coefficients of explanatory variables, ε_{it} is a random error term. The rest of the variables are defined as follows:

FPI_{it} = FPI net inflows as a percentage of GDP into country i at time t;

FPI_{it-1} = first lag of the FPI net inflows as a percentage of GDP into country i at time t-1;

FDI_{it} = FDI net inflows as a percentage of GDP into country i at time t;

$INSTDEX_{it}$ = institutional quality index, composed of the Worldwide Governance Indicators;

$GINTR_{it}$ = global interest rates, proxied by US interest rates;

SMC_{it} = stock market capitalisation as a percentage of GDP;

$CRED_{it}$ = domestic credit by banks to the private sector as a percentage of GDP;

$CAOP_{it}$ = measure of capital account openness based on Chinn and Ito capital account index;

$NATR_{it}$ = total natural resources rent as a percentage of GDP; and

GDP_{it} = real GDP growth rate.

The results of the FPI regression are presented in **Table 8** below. The focus of the analysis is solely on the system GMM output, while the other results are merely for robustness checks.

Table 8: FPI System GMM regression results

	Pooled Effects	Fixed Effects	Random Effects	System GMM	GLS
	FPI	FPI	FPI	FPI	FPI
L.FPI	0.178	0.0491	0.178	-0.247*	0.178*
	(0.188)	(0.136)	(0.1880	(0.102)	(0.0844)
FDI	-0.00728	0.00549*	-0.00728	-0.00013	-0.00728
	(0.00946)	(0.00372)	(0.00946)	(0.0061)	(0.0177)
INSTDEX	-0.351	1.274*	-0.351	2.609	-0.351
	(0.226)	(0.950)	(0.226)	(3.324)	(0.213)
GINTR	-0.32	-0.514**	-0.32	-0.853**	-0.32
	(0.199)	(0.164)	(0.199)	(0.259	(0.196)
SMC	0.0129***	0.0325***	0.0129***	0.0264**	0.0129***
	(0.00242)	(0.00536)	(0.00242)	(0.00772)	(0.00231)
CRED	-0.011	-0.0510*	-0.011	-0.113**	-0.0110*
	(0.00641)	(0.0219)	(0.00641)	(0.0319)	(0.00476)
CAOP	0.186	0.117	0.186	0.858	0.186
	(0.176)	(0.210)	(0.176)	(0.923)	(0.131)
NATR	-0.124*	-0.112	-0.124*	-0.136*	-0.124***
	(0.0514)	(0.0617)	(0.0514)	(0.0531)	(0.0356)
GDP	0.0166	-0.0315	0.0166	0.0074	0.0166
	(0.04030)	(0.0558)	(0.0403)	(0.0281)	(0.0371)
_cons	1.967**	3.368*	1.967**		1.967***
	(0.683)	(1.492)	(0.683)		(0.486)
N	120	120	120	108	120

Note: Standard errors in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Dependent variable: FPI (Foreign portfolio investment). Independent/Explanatory variables: L.FPI (Lag of the dependent variable, FPI); FDI (Foreign direct investment); INSTDEX (Institutional quality index); GINTR (Global interest rates); SMC (Stock market capitalisation); CRED (Bank credit to private sector); CAOP (Capital account openness); NATR (Natural resource rent); GDP (GDP growth rate).

With regard to FPI, the system GMM output revealed that amongst the explanatory variables, global interest rates (GINTR), lagged FPI, stock market capitalisation (SMC), bank credit to private sector (CRED) and natural resources (NATR) were statistically significant determinants of FPI.

An inverse and highly significant relationship was found between FPI inflows and global interest rates, proxied by US interest rates. This result is in line with the push and pull factor theory of international capital flows and, to a certain extent, the international portfolio diversification theory. According to these theories, declining global interest rates (as a push

factor), particularly in advanced economies, bring about reallocations of international capital flows in favour of emerging market economies. Emerging markets generally provide better returns because of higher interest rates and growth rates (which are pull factors) (Calvo *et al.*, 1996; Taylor & Sarno, 1997; Carstens & Schwartz, 1998). The significant effect of advanced economies' interest rates of driving portfolio capital flows to emerging markets was also revealed by Ahmed and Zlate (2014), Vo *et al.* (2017) and Singhania and Saini (2017).

Clustering effects were not confirmed in the case of foreign portfolio investment in emerging markets. The impact of past inflows of FPI (proxied by the first lag of FPI, i.e. L.FPI) on current inflows was negative and statistically significant. This finding may confirm the volatility of FPI flows in response to institutional instabilities in emerging markets, as well as to the restrictive approach to portfolio flows taken by emerging market economies. This result was in contrast to the positive relationship between past and current FPI inflows found by Singhania and Saini (2017). Nevertheless, the finding of a significant positive impact of previous FDI inflows on current inflows, and the significant negative effect of previous FPI inflows on current FPI was significantly similar those of Al-Khouri (2015), based on 16 MENA countries.

The financial market development variables also had a statistically significant impact on portfolio investment inflows. Stock market capitalisation (SMC) was positive and significant, indicating the significant impact of equity markets on the allocation of global capital flows, particularly portfolio inflows, into emerging markets. This finding of a positive and significant impact of SMC in enhancing FPI inflows in emerging markets corresponds to recent findings by Bayar (2017) and Qamruzzaman and Wei (2019). Bank credit to private sector (CRED), on the other hand, was significant but negative. This variable measures the amount of financial resources directed at private sector investment activities by the banking system. The negative impact of this variable on FPI inflows in emerging markets may indicate that when there are sufficient financial resources in the domestic banking system to fund private sector investment projects, private firms prefer to raise funds through bank loans rather than capital markets. Underlying this preference for bank loans may be the cost of

capital and/or the access to acquiring funds between the banking system and the capital markets and the speed with which this can be done.

Lastly, natural resources (NATR) had a negative and significant effect on FPI. Although the emerging markets in this sample are well endowed with natural resources, notably oil and mineral resources, in most cases these resources are strictly state and government controlled. Since these resources are seldom owned or traded through capital markets, portfolio investors only have exposure to them through commodity markets, or no exposure at all. Moreover, this negative and significant effect of NATR on FPI suggests that the more natural resources based the economy (taking account of state control over such resources and domestic institutional weaknesses), the more FPI flows avoid such a country.

The individual effects of the remaining determinant variables were not of strong statistical significance. The impact of FDI on FPI was negative but of negligible significance. This result sustains the argument that the two forms of capital inflows are substitutes or trade-offs rather than complements in emerging markets, substantiated by Humanicki *et al.'s* (2017) evidence. Wu, Li and Selover (2012) earlier provided evidence that placed the institutional and governance environment at the centre of the trade-off between FDI and FPI. In a sample of 45 developed and developing countries, these authors found that countries in which there was prevalence of formal institutions, such as rule of law, corporate governance, and political stability, tended to have a larger proportion of FPI in total foreign investment. This occurs because portfolio investors rely on public information (e.g. financial statements) and public enforcement to monitor the performance of their investments and to minimise their transaction costs, as they do not physically manage their investments. These countries are contrasted with those characterised by ineffective rule of law and the prevalent use of informal institutions and networks in the enforcement of contracts. Such countries would have a larger share of FDI in total foreign investment, as direct investors prefer to participate in the management of their assets in order to reduce expropriation risks and to protect their investments privately (Wu *et al.*, 2012). This institutional environment based rationale may also be the explanation behind the relationship between the two forms of capital inflows in our emerging markets.

Institutional quality (INSTDEX), which was the key independent variable, had a positive and insignificant impact on foreign portfolio investment into emerging markets. The insignificant effect of INSTDEX indicates the low level of institutional quality in emerging markets. Similarly, capital account openness (CAOP), measured by the Chinn-Ito capital openness index, was insignificant but positive as expected. It has been stated that the coefficient of the Chinn-Ito capital account openness is never statistically significant (but is often correctly signed), possibly reflecting weak implementation or low effectiveness of capital account liberalisation policies (IMF, 2008). The positive impact of CAOP indicated by these results suggests that capital account liberalisation and deregulation pursued by emerging markets is yielding positive results in attracting FPI, although not significantly. Furthermore, the insignificance of both INSTDEX and CAOP in these results may also be linked to the evidence provide by Okada (2013) and by Byrne and Fiess (2016), that institutional quality, or financial openness, might not single-handedly attract foreign capital inflows. However, the positive impact of financial openness on capital inflows becomes significant with increases in the level of host country institutional quality. In other words, CAOP favours countries with higher (significant) institutional quality (INSTDEX).

Although not significant, the impact of the economic growth rate, as a pull factor, was positive as expected (Ahmed & Zlate, 2014; Vo *et al.*, 2017; Singhania & Saini, 2017). The positive relationship between capital flows and economic growth, as measured by GDP, becomes significant in the host economy when there are sufficient levels of financial market development and institutional quality (Agbloyor *et al.*, 2014; Slesman *et al.*, 2015). Therefore, in order for these emerging markets to experience not only the economic growth and development effects of international capital inflows, but also to enhance the inflows, these emerging markets would have to prioritise and augment the development of financial markets and institutions (Kose *et al.*, 2009).

In conclusion, stock market development stood out as the most important variable for foreign portfolio investors, as borne out in the significant positive relationship between FPI inflows and stock market capitalisation. Emerging markets should prioritise stock market development, not only to enhance FPI flows, but also to insulate their economies from the volatility of portfolio flows. Moreover, the development of financial markets to more

adequate levels is crucial if the growth effects of FPI are to be realised, as they play a critical role in the channeling of capital inflows to productive investment endeavours (Choong *et al.*, 2010; Agbloyor *et al.*, 2014; Gök & Güvercin, 2020). It is also important for emerging markets to couple their financial liberalisation (capital openness) with the development of institutions in order to enhance FPI inflows and their growth benefits for the economy (Slesman *et al.*, 2015; Byrne & Fiess, 2016).

4.4 Cointegration analysis

The second research objective was concerned with assessing the long-run relationships between our key variables, i.e. FDI, FPI and institutions. If two or more variables converge to form an equilibrium relationship over the long term, or if one variable drags the other and both eventually share the same movement, in the long run , they are said to be co-integrated (Shrestha & Bhatta, 2018). This objective was addressed in this study with the aid of the panel autoregressive distributed lag (ARDL) model for dynamic heterogeneous panels, developed by Pesaran and Smith (1995) and Pesaran, Shin and Smith (1999). This model is a variation of the traditional ARDL model that is most suitable for single time series studies, where N=1.

Although the preferred econometric model for cointegration tests (i.e. panel ARDL) does not require prior unit root tests, it was necessary to carry out these tests to ensure that the variables of interest were integrated of order zero [I (0)], order one [I (1)] or a combination of both, and not order two [I (2)], as required by the model (Nkoro & Uko, 2016).

4.4.1 Unit root test results

Several unit root tests were conducted, including the Augmented Dickey-Fuller (ADF), the Phillip-Perron (PP), Levin, Lin and Chu (LLC) and the Im, Pesaran and Shin (IPS) tests. The results of these tests are presented in **Table 9** below. As can be noted from the table all key variables were integrated of order zero [I (0)] and order one [I (1)]. Based on this diagnosis, the panel ARDL approach was deemed suitable to investigate the long-run, co-integrating relationships between the key variables of FDI, FPI and institutions, as per the second objective.

Table 9: <u>ADF, PP, LLC and IPS unit root test results</u>

Variable	Intercept	Intercept and trend	No trend	Diagnosis (Order of integration)
Augmented Dickey Fuller (ADF) test - Fisher Chi-square				
FDI @ level	49.4240**	44.5059**	50.7280**	I(0)
FPI @ level	66.7077**	58.8080**	68.4192**	I(0)
INSTDEX	59.2244**	52.4853**	81.5170**	I(1)
Phillips-Perron (PP) test - Fisher Chi-square				
FDI @ level	53.0314**	50.7159**	58.2996**	I(0)
FPI @ level	93.8936**	99.2092**	77.4248**	I(0)
INSTDEX	70.5051**	94.5040**	92.1458**	I(1)
Levin, Lin and Chu (LLC) test				
FDI @ level	-6.68065**	-7.12176**	-4.11807**	I(0)
FPI @ level	-5.03464**	-9.39288**	-4.74618**	I(0)
INSTDEX	-5.89295**	-8.08932**	-7.00795**	I(1)
Im, Pesaran and Shin (IPS) test				
FDI @ level	-3.33792**	-2.35756**	**	I(0)
FPI @ level	-4.84450**	-2.67173**	**	I(0)
INSTDEX	-3.88751**	-1.90733**	**	I(1)

Note: All tests are at first difference, except where otherwise indicated. ***; **; * indicate that the null hypothesis of unit root tests is rejected at 1%, 5% and 10%, respectively. All test probabilities assume asymptotic normality, except for Fisher tests which are estimated using the asymptotic Chi-square distribution. Variables remain as previously described. The lag length selection is based on the Schwartz Information Criterion (0 to 1).

4.4.2 Panel ARDL cointegration estimation results

The panel ARDL model requires the selection of an appropriate estimator from the Mean Group (MG), Pooled Mean Group (PMG) and Dynamic Fixed Effects (DFE) estimators (Pesaran *et al.* 1999). We applied the Hausman test to determine the most efficient of these three estimators. This process was necessary because homogeneity or heterogeneity across individual countries, in both short-run and long-run parameters, could not be presumed.

Table 10 below presents the summary of the panel ARDL cointegration estimation results, as well as outputs from the error correction models (ECM). The table comprises two panels. One panel shows the estimated long-run coefficients, whilst the other panel reflects the estimated short-run coefficients. ECT denotes the estimated error correction term. The error correction term implies the speed of adjustment from short-run deviations back to the long-run equilibrium path (Brooks, 2008:339).

Table 10: _Cointegration and ECM results: Mean Group; Dynamic Fixed Effects; Pooled Mean Group_

	Mean Group ΔFDI	Dynamic Fixed Effects ΔFPI	Pooled Mean Group ΔINSTDEX
LONG RUN			
FDI	--	-0.0136* (-0.53)	-0.279*** (-5.83)
FPI	-0.00757** (-0.08)	--	0.0631** (2.67)
INSTDEX	0.447** (1.39)	0.884 (1.61)	--
ECT	-0.913*** (-7.63)	-1.024*** (-9.89)	-0.472*** (-4.38)
SHORT RUN			
ΔFDI	--	0.00590 (0.33)	0.0733*** (4.01)
ΔFPI	-0.0118 (-0.31)	--	-0.0282 (-1.51)
ΔINSTDEX	0.145 (0.42)	0.287* (0.41)	--
_cons	9.551*** (7.75)	1.032*** (5.61)	0.192 (1.19)
N	120	120	120

Note: t statistics in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

4.4.2.1   Cointegration and ECM results with FDI as the dependent variable – Mean Group

According to the Hausman test, the mean group (MG) estimator was consistent and efficient for the model with FDI as the dependent variable. Recall that the MG estimator allows both short-run and long-run coefficients to vary or to be heterogeneous across cross-sectional units. In addition, the MG provides consistent estimates of coefficients because it runs

separate equations for each cross-section unit and averages the coefficients across units (Pesaran & Smith, 1995; Pesaran *et al*., 1999; Magweva & Sibanda, 2020). The FDI results based on the MG estimation are displayed in **Table 11** below. The PMG and DFE outputs in **Table 11** are merely robustness tests.

Table 11: <u>FDI - Mean Group (MG) output</u>

	PMG ΔFDI	MG ΔFDI	DFE ΔFDI
Long run			
FPI	0.0689**	-0.00757**	-0.0307
	(2.58)	(-0.08)	(-0.90)
INSTDEX	-0.289**	0.447**	-0.0212
	(-2.89)	(1.39)	(-0.15)
ECT	-0.643***	-0.913***	-0.880***
	(-5.93)	(-7.63)	(-8.84)
Short run			
ΔFDI	-0.0252	-0.0118	-0.00127
	(-0.72)	(-0.31)	(-0.06)
ΔINSTDEX	0.415	0.145	0.148
	(1.54)	(0.42)	(1.02)
_cons	6.633***	9.551***	9.046***
	(5.85)	(7.75)	(8.82)
N	120	120	120

Note: t statistics in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

When FDI served as the dependent variable, the MG estimation revealed statistically significant long-run relationships among FDI inflows, FPI inflows and institutions (INSTDEX). The impact of FPI on FDI in the long run was negative and significant at the 1% significance level. These long run results are comparable to those of Humanicki *et al*. (2017), who investigated the cointegrating relationship between FDI and FPI in a VECM framework, using Poland as a case study. They found that these two capital flows were significantly cointegrated in the long run. However, this long-run relationship was of a substitutability or trade-off nature, where both capital flows were influenced by economic growth, but portfolio flows were strongly related to interest rates, whereas FDI showed a long-term dependence on unit labour costs (Humanicki *et al*., 2017). Thus, in the case of this study, the finding meant that foreign investors in emerging markets substituted FDI for FPI or vice versa depending

on the dynamics of the institutional environment in the host economy. Therefore, improvements in institutional quality led foreign investors to pursue relatively more FDI. This was also corroborated by the statistically significant and positive long-run relationship found between institutions (INSTDEX) and FDI. This particular aspect of these findings supports the initial GMM-based result of the INSTDEX-FDI relationship. It also corresponds with the findings of Hyun (2006) of a positive cointegrating relationship between the two variables in developing countries. Shah *et al*. (2016) also found a positive long-run relationship between institutions and FDI inflows in the case of Pakistan. The researcher may also, in relation to these findings, invoke the suggestion of Wu *et al*. (2012) that, depending on the prevalence of informal institutions over formal institutions, foreign investors would pursue more FDI than FPI in emerging markets.

The short-run coefficients, on the other hand, were statistically insignificant, indicating no significant impact in the short term. Pfeffer (2008) argued that, owing to the high investment costs entailed, it is not possible to adjust FDI in the short term or even regularly in response to environmental changes. For this reason, the significant (and positive) effect of institutions on FDI inflows may, in certain cases, only be apparent over the long term, and may not be noticeable immediately (Hyun, 2006).

The negative and statistically significant error correction term (ECT) of -0.913 meant that 91.3 % of the past period's equilibrium error was corrected within a year.

4.4.2.2   Cointegration and ECM results with FPI as the dependent variable – Dynamic Fixed Effects

Based on the Hausman test, the dynamic fixed effects (DFE) estimator was considered efficient when estimating the FPI cointegration equation. The DFE approach is poles apart from the MG estimator. The DFE approach imposes homogeneity in the estimation of both short- and long-run coefficients across the entire cross-section, and only allows the individual country intercepts to vary (Pesaran *et al*. 1999). The DFE-based FPI results are reflected in **Table 12** below. MG and PMG are there only for comparison and robustness purposes.

Table 12: <u>*FPI – Dynamic Fixed Effects (DFE) output*</u>

	PMG ΔFPI	MG ΔFPI	DFE ΔFPI
Long Run			
FDI	-0.00364	-0.599*	-0.0136*
	(-0.45)	(-2.12)	(-0.53)
INSTDEX	-0.11	0.85	0.884
	(-0.87)	(0.84)	(1.61)
ECT	-1.026***	-1.130***	-1.024***
	(-7.01)	(-13.73)	(-9.89)
Short Run			
ΔFDI	-0.176	0.276	0.0059
	(-1.06)	(1.28)	(0.33)
ΔINSTDEX	1.131*	-0.443	0.287*
	(2.19)	(-0.39)	(0.41)
_cons	0.915**	3.703**	1.032***
	(2.93)	(3.17)	(5.61)
N	120	120	120

Note: t statistics in parentheses. *** P < 0.001, ** P < 0.01,* P < 0.05 are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

We found a significant cointegrating relationship between FPI and FDI, where FDI exerted a negative and significant impact on foreign portfolio inflows in the long run. This suggested that increases in FDI inflows were crowding out FPI inflows. This finding was also in line with previous results from the FDI mean group output, and the subsequent conclusion that, given the state of institutional quality, the two investment inflows could have been substitutes in this sample of emerging markets. These results contradict those of Noman *et al*. (2015), who found a positive and significant link between FDI and FPI, with FPI having a greater impact on FDI in a sample of 45 developed and developing countries. Noman *et al*. (2015) did not take into account the effect of institutions, however, but only that of variables such as differentials in market openness, exchange rates and inflation rates.

The impact of institutions on foreign portfolio inflows was insignificant in the long run, but demonstrated significant positive influence in the short run. This outcome was in line with Pfeffer's (2008) postulation regarding the high flexibility of FPI flows. Owing to its lower investment and/or transaction costs relative to FDI, foreign portfolio investment would react immediately to short-term changes in the environment (Pfeffer, 2008).

The error correction term (ECT) under the MG estimation was -1.204 and significant at 0.1 percent. This meant that the variability of FPI inflows as a result of changes in FDI and INSTDEX was corrected to its long-run equilibrium at a speed of adjustment of 120.4% annually. An ECT greater than -1 (or between -1 and -2) also indicates that the error correction process does not directly converge to the equilibrium path but fluctuates, in an oscillatory manner, before rapidly converging to long-run equilibrium (Narayan & Smyth, 2006).

4.4.2.3 *Cointegration and ECM results with INSTDEX as the dependent variable – Pooled Mean Group*

The pooled mean group (PMG) estimator was consistent and efficient for the model estimating cointegration with INSTDEX as the dependent variable, in terms of the Hausman test. The PMG estimator is known for imposing homogeneity on the long-run parameters, but as with the MG, it allows short-run parameters (including the speed of adjustment, intercept terms, and error variances) to vary across countries. In addition, it generates consistent estimates of the mean of short-run coefficients across cross-sectional units by taking the average of individual country coefficients, i.e. pooling and averaging the means (Pesaran *et al.*, 1999).

Table 13 below shows the PMG output. MG and DFE outputs are merely robustness checks.

Table 13: <u>INSTDEX – Pooled Mean Group (PMG) output</u>

	PMG ΔINSTDEX	MG ΔINSTDEX	DFE ΔINSTDEX
Long Run			
FPI	0.0631**	-0.601	0.135*
	(2.67)	(-0.75)	(2.11)
FDI	-0.279***	-0.0402	0.00466
	(-5.83)	(-0.28)	(0.41)
ECT	-0.472***	-0.548**	-0.338***
	(-4.38)	(-3.17)	(-4.36)
Short Run			
ΔFPI	-0.0282	-0.0929	-0.02
	(-1.51)	(-1.85)	(-1.33)
ΔFDI	0.0733***	0.0738*	-0.00191
	(4.01)	-2.29	(-0.73)
_cons	0.192	-0.0628	-0.0437
	(1.19)	(-0.19)	(-1.43)
N	120	120	120

Note: t statistics in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

The PMG estimation between institutions, FDI and FPI revealed evidence of significant long run, cointegrating relationships. In contrast to the previous finding of a positive and significant long-run impact of institutions on FDI, it appeared that FDI in turn exerted a negative significant effect on INSTDEX in the long run. In the short run, the impact of FDI on INSTDEX was otherwise positive and statistically significant. These results were inconsistent with those of Shah *et al*. (2016), who revealed that the positive relationship between the two variables persists from the short run to the long run. Earlier, Hyun (2006) also concluded that the presence of FDI might lead to lasting changes in institutional quality. In contrast, the findings of this study suggested that institutional quality improvements induced by the presence of FDI were merely temporary in this sample of emerging markets. The findings in this regard can also be linked to the phenomenon of institutional persistence, where certain institutional weaknesses would persist even after reforms such as market liberalisation, which permits the inflow of foreign capital (Acemoglu, 2003).

Foreign portfolio investment, on the other hand, had a significant positive impact on institutions in emerging markets. This result was expected to hold for FDI as well. However,

the results suggested that it was FPI that would precipitate institutional improvements in the long run. Alfaro, Kalemli-Ozcan and Volosovych (2007) found earlier that institutional quality was a significant determinant of capital flow volatility, subject to the state of existing capital controls. Over the past three decades, many emerging markets have pursued financial liberalisation, and have as a result received huge capital inflows. However, the liberalisation of capital markets in these emerging markets has led to severe financial crises and subsequent abrupt capital reversals when not coupled with efficient institutional and regulatory frameworks. The finding in this study of a positive long-run impact of FPI on institutions would suggest that emerging markets have learnt the lesson that effective institutional measures must be established in order to insulate their economies from potential adverse ramifications of volatile capital flows. Fratzscher (2012) found that emerging market economies with high institutional quality (and strong macroeconomic fundamentals) were able to insulate their capital markets and economies from adverse effects of portfolio capital flow reversals even amidst the 2008/9 global financial crisis.

The error correction term was significant and negative, i.e. -0.472, indicating that the speed of adjustment to long-run equilibrium from previous disequilibrium was 47.2% annually.

4.5   Panel VECM causality analysis

The third and final research objective in this study pertained to the causal relationships between our key variables, viz. FDI, FPI and institutions, in emerging markets. The causality analyses were based on outputs from the error correction models (ECM) derived from the panel ARDL framework that was applied to the second research objective, which was concerned with cointegration relationships.

It should be kept in mind that the panel vector error correction model (VECM) is efficient in a cointegration setting as it integrates short-run dynamics with the long-run equilibrium without losing long-run information. It also circumvents spurious estimations resulting from non-stationary time series data (Shrestha & Bhatta, 2018). The error correction term derived from the long-run, cointegrating relationships captures the short-term equilibrium errors of series and restores them to their long-run equilibrium (Brooks, 2008).

Table 14 below summarises the outputs of the error correction models extracted from the ARDL framework applied in the earlier cointegration estimations. Causal effects are inferred from the statistical significance of the long-run and short-run coefficients, as well as the statistical significance of the error correction terms (ECT).

Table 14: <u>VECM outputs</u>

Dependent variables	Independent variables – Source of causation						
	Long-run coefficients			**Short-run coefficients**			
	FDI	FPI	INSTDEX	ΔFDI	ΔFPI	ΔINSTDEX	ECT
ΔFDI	--	-0.00757** (-0.08)	0.447** (1.39)	--	-0.0118 (-0.31)	0.145 (0.42)	-0.913*** (-7.63)
ΔFPI	-0.0136* (-0.53)	--	0.884 (1.61)	0.0059 (0.33)	--	0.287* (0.41)	-1.024*** (-9.89)
ΔINSTDEX	-0.279*** (-5.83)	0.0631** (2.67)	--	0.0733*** (4.01)	-0.0282 (-1.51)	--	-0.472*** (-4.38)

Note: t statistics in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

The categories of causality results drawn from the panel VECM fell into three groups, viz. short-run causality, long-run causality, and strong causality. Short-run causality was inferred when the coefficients of the differenced (Δ) short-run explanatory variables were statistically significant, while the long-run causal effects were deduced from the statistical significance of the long-run coefficients. On the other hand, strong causality was inferred when, in addition to statistically significant coefficients, the ECT was negative and statistically significant. Three directional outcomes were further inferred from the panel VECM output: uni-directional causal effects, bi-directional causality, and no causality.

Table **15** below summarises the causality incidences identified from the significant coefficients and ECTs.

Table 15: *VECM causality analyses*

Dependent variables	Independent variables – Source of causation						
	Long-run causality			Short-run causality			
	FDI	**FPI**	**INSTDEX**	**ΔFDI**	**ΔFPI**	**ΔINSTDEX**	**ECT**
ΔFDI	--	Causality** (-0.08)	Causality** (1.39)	--	No Causality (-0.31)	No Causality (0.42)	Causality*** (-7.63)
ΔFPI	Causality* (-0.53)	--	No Causality (1.61)	No Causality (0.33)	--	Causality* (0.41)	Causality*** (-9.89)
ΔINSTDEX	Causality*** (-5.83)	Causality** (2.67)	--	Causality*** (4.01)	No Causality (-1.51)	--	Causality*** (-4.38)

Note: t statistics in parentheses. *** P < 0.001, ** P < 0.01,* P < 0.05 are levels of statistical significance at 0.1%, 1% and 5% respectively. Δ denotes the difference operator. ECT – error correction term. Other variables remain as previously described.

A bi-directional causal relationship between FDI and FPI was found in the long-run, implying feedback effects between the two variables in the long run. This was demonstrated by the significant long-run FPI coefficient in the ΔFDI equation (FDI – dependent variable variable), and the significant long-run coefficient of FDI in the ΔFPI equation (FPI - dependent variable variable). The researcher did not, however, observe a causal relationship between the two variables in the short run and this was the only neutrality/no-causality incident we found. This result was contrary to the complementarity postulation between the two capital flows suggested by Pfeffer (2008) and Noman *et al*. (2015). It was also in contrast to the finding of Gök and Güvercin (2020), who found short-run bi-directional Granger causality between FDI and FPI in sub-Saharan African countries. The present findings were nevertheless somewhat vindicated by Khan and Banerji (2015) who, based on their analysis of FDI and FPI in India, concluded that the two capital flows would initially move in opposite directions but eventually cause each other in the long run (i.e. within a time lag of eleven quarters or three years).

In addition, bi-directional causality was discovered between FDI and institutions (INSTDEX) in the long run. However, in the short run, the researcher found a uni-directional causal relationship from FDI to institutions, which was significant at 0.1 percent. FDI inflows caused

institutions in the short run and in turn, these two variables caused each other in the long term. These results are comparable to those of Shah *et al.* (2016), who found a long-run bi-directional causality between institutions (INSTQ) and total FDI, as well as manufacturing and services sector FDI in Pakistan. While this study found a uni-directional causality from FDI to INSTDEX in the short run, Shah *et al.* (2016) found in addition a bi-directional causal link between institutions and manufacturing sector FDI in the short run. Based on these findings, they concluded that the manufacturing and services sectors attract more market and efficiency seeking FDI. FDI inflows in these sectors penetrate deeper into the host economy through backward and forward linkages. As a result, the spillover effects of increased FDI inflows through these linkages encourage governments to improve their policy and institutional environment over the long term. Moreover, Shah *et al.* (2016) did not find any significant relationship between INSTQ and FDI in the primary sectors, consisting of oil, gas and mining resources. The latter finding means essentially that FDI directed at extracting resources is not dependent on the country's institutional environment. In this regard, Shah *et al.* (2016) concluded that resource seeking and extractive FDI inflows are limited to areas in the host country where resources are situated, and therefore the spillover effects may be limited to those areas, and may not have an impact on the INSTQ in the rest of the economy.

A uni-directional causal link was also observed from FPI to institutions in the long run. In contrast, this study found that, in the short term, INSTDEX caused FPI with a 5 percent level of significance. A stable institutional environment attracts portfolio flows in the short term, and in the long run portfolio flows, because of the ease with which they can be withdrawn, compel governments to maintain institutional stability to prevent capital flight. This result was indicative of the positive spillovers of FPI on the institutional quality of emerging markets. This outcome also pointed to the lessons emerging markets have learned from their previous experiences with financial crises and capital flights.

The researcher also observed that over the long run, FDI and FPI exerted joint causal effects on institutions, whilst FPI and INSTDEX jointly caused FDI. Amplifying the causal relationships suggested by this analysis was the fact that the long-run and short-run coefficients were accompanied by negative and statistically significant error correction

terms (ECTs) in the overall panel VECM framework. On the one hand, the negative and significant ECTs signify strong causality among the variables, and imply convergence of the system to long-run equilibrium. On the other hand, the generated ECTs imply correction of short-run disequilibria at 91.3%, 120.4%, and 47.2% speed of adjustment for FDI, FPI and INSTDEX, respectively. The causal relationships uncovered in the panel VECM framework are summarised in **Table 16** below.

Table 16: Summary of panel VECM-based causal relationships

Long-run causal effects
FDI ↔ FPI
FDI ↔ INSTDEX
FPI → INSTDEX
Short-run causal effects
INSTDEX → FPI
FDI → INSTDEX

Note: ↔ bi-directional causality; → uni-directional causality.

4.6   Chapter summary and conclusion

This chapter focused on the outcomes of empirical estimations that were conducted to address the study's research objectives. It began by briefly providing the characteristics of the variables in a summary of descriptive statistics, and followed by constructing a single composite index for institutional quality indicators. Thereafter, the results from the main empirical estimations were presented, analysed and discussed. The researcher applied a dynamic panel data system generalised method of moments regression model to identify and confirm the key determinants of FDI and FPI in emerging markets. The panel ARDL model was used to assess the long-run cointegrating relationships between the key variables of FDI, FPI and institutions. Finally, the panel vector error correction model was adopted to examine the causal relationships that existed between the three key variables in emerging markets over the period 2007–2017.

The next chapter comprises the overall conclusion of the study. The researcher summarises the key findings of the study, highlights the policy implications of the study's findings, and makes suggestions for future research.

Chapter Five: Summary, conclusions and recommendations

5.1 Introduction

The purpose of this chapter is to provide an overall conclusion to the study. It begins with a summary of the key empirical findings in relation to the objectives of the study. This is followed this by a section that highlights the contribution of the study and discusses the policy implications that may be derived from the findings. Finally, the researcher makes suggestions for future related research.

5.2 Summary of key findings and research objectives

5.2.1 *FDI and FPI determinants in emerging markets*

The first objective of the study was to identify the key drivers or determinants of FDI inflows and FPI inflows in emerging markets for the period 2007 to 2017. In order to address this objective, the dynamic panel data system GMM model was applied. The researcher began by estimating the model to identify FDI determinants, and followed this by estimating the model to identify the determinants of FPI.

The fixed effects estimation of FDI determinants revealed that past FDI inflows, FPI inflows, institutional quality, domestic credit to private sector by banks, natural resources and GDP growth were statistically significant determinants of FDI inflows into emerging markets over the period 2007–2017. Of these significant determinants, previous FDI inflows (measured by one lag of FDI inflows), institutional quality (INSTDEX), proxied by an index composed of the Worldwide Governance Indicators, and the economic growth rate were found to be positive determinants of FDI, implying that they were the key factors in attracting foreign direct investment inflows into emerging markets. Based on the latter finding, the researcher concluded that FDI inflows to the emerging markets that constituted this sample were in the main attracted by their large and rapidly expanding economies, as demonstrated by the significant positive relationship with GDP growth, as well as the cumulative or clustering effects of existing FDI. It was further concluded that the efforts of these emerging markets to improve the institutional environment raised the optimism and confidence of foreign investors, which in turn led to significant inflows of FDI into their economies. These findings

conformed to the location advantages of the eclectic paradigm theory of FDI (Dunning, 1980; 2001).

With respect to FPI, the random effects based estimation showed that previous FPI inflows, global interest rates, stock market development, domestic credit to private sector by banks and natural resources had a significant impact on FPI inflows to emerging markets. Stock market development, as proxied by stock market capitalisation, stood out as the most important factor for foreign portfolio investors investing in emerging markets. In this regard, it was concluded that emerging markets should prioritise stock market development, not only to enhance FPI flows. This would also insulate their capital markets and economies from the volatility of portfolio flows, and enable emerging markets to realise the growth effects of FPI, as the capital markets play a critical role in the channeling of capital inflows to productive investment. The finding regarding the significance of host country stock market development was in line with the location advantages of the Ownership-Location-Externalisation theory of FPI advanced by Dunning and Dilyard (1999). This study also found a significant inverse relationship between FPI and global interest rates, measured by US interest rates. The latter finding was squarely in line with the push and pull factor theory, as well as with the international portfolio diversification hypothesis, which highlights the role of global interest rates in driving international portfolio capital flows between advanced and emerging market economies.

The key variable of institutional quality was found to be insignificant for FPI inflows to emerging markets, as was capital account openness. In relation to these results, it was concluded that it would be important for emerging markets to couple their financial liberalisation (capital openness) with the development of institutions in order to enhance FPI inflows and their growth benefits for the economy, as previous empirical evidence has suggested.

5.2.2 Long-run relationships between FDI, FPI and institutional quality in emerging markets

The second objective of this study was concerned with long-run relationships among FDI, FPI and institutions in emerging markets over the period 2007 to 2017. This objective was addressed using the ARDL model for dynamic heterogeneous panels.

Estimation results revealed that when FDI was the dependent variable, significant cointegrating, long-run relationships occurred among the three variables of FDI, FPI and institutions. The relationship between FPI and FDI was negative and significant in the long run, while institutions had a positive and significant effect on FDI inflows in the long run. On the one hand, these findings meant that the relationship between FDI and FPI in emerging markets was of a substitutability or trade-off nature, dependent upon the dynamics of the institutional environment in the host economy. On the other hand, it was concluded that improvements in institutional quality led foreign investors to pursue more FDI relative to FPI. Furthermore, the trade-off between FDI and FPI suggested that one form of capital inflow would dominate the other, conditional upon the prevalence of informal institutions or formal institutions in a particular emerging market (Wu *et al.*, 2012).

When FPI served as the dependent variable, the study found a significant and negative relationship between FDI and FPI, suggesting that increases in FDI were crowding out FPI. This finding also supported the suggestion of a trade-off between the two capital inflows.

In the institutional quality equation, on the other hand, it emerged that there were significant cointegrating relationships among institutions, FDI and FPI. FPI inflows had a positive and significant influence on institutions in the long run. FDI, however, had a negative and significant impact on institutions in the long term.

5.2.3 Causal relationships between FDI, FPI and institutional quality in emerging markets

In order to address the third research objective, the researcher employed the panel vector error correction model (VECM) to examine causality among the three key variables in emerging markets.

In the long run, bi-directional causality was found between FDI and FPI, and between FDI and institutions. A uni-directional causal relationship from FPI to institutions was also found in the long run. The researcher also observed that over the long run, FDI and FPI jointly caused institutions, whilst FPI and INSTDEX jointly caused FDI. In the short run, no bi-directional causality was observed, but uni-directional causal effects from institutions to FPI, as well as from FDI to institutions were found.

Finally, the error correction terms (ECTs) were negative and statistically significant. These negative and significant ECTs indicated that there was strong causality among the variables. They also implied the correction of short-run disequilibria and convergence of the models to long-run equilibrium.

5.2.4   Primary objective – Impact of institutions on FDI and FPI in emerging markets

The primary objective of the study was to examine the broader impact of institutional quality on the enhancement of foreign direct investment (FDI) and foreign portfolio investment (FPI) inflows in selected emerging markets, for the period 2007 to 2017.

Collectively, the results and findings suggested that institutions did indeed have an impact on the enhancement of FDI and FPI into the sample of emerging markets over the period 2007 to 2017, particularly insofar as deterministic, cointegrating and causal relationships were concerned.

5.3   Contribution and policy implications of the study

This study contributes to knowledge in that it adds to the scarce empirical literature that extends the empirical analysis of the impact of institutions on foreign capital inflows by studying institutional effects on both foreign direct investment and foreign portfolio investment. It further contributes to the scant literature that investigates the long-run and causality relationships between institutions and both FDI and FPI inflows into emerging markets.

For policymakers and governments in emerging markets, the study provides empirical evidence of the significance of the impact of institutions on foreign capital inflows into their countries, and of how institutions interact with foreign direct and portfolio investment inflows in the host economy. The policy implication for governments is that, as they continue

to liberalise and deregulate their economies and capital markets, it is very important to couple financial liberalisation with the strengthening of formal institutions and the general institutional environment. Strengthening the qualitative characteristics of institutions, such as government effectiveness, regulatory quality, rule of law, control of corruption, voice and accountability, and political stability, could curtail the persistence of institutional weaknesses and insulate their economies from the adverse effects of volatile capital flows, and over the long run enhance and preserve foreign capital inflows.

5.4 Suggestions for future research

In order to further the understanding of the relationship between institutions and international capital inflows beyond what existing literature and this study has investigated, future research studies might examine empirically the threshold levels of institutional quality at or above which significant inflows of foreign investment can be attracted by emerging markets. Kurul (2017) determined the threshold level of institutional quality that must be exceeded if developing countries are to attract more FDI inflows. Thus, future research could add to this literature by extending the analysis to include FPI inflows.

As far as the estimation of the determinants of FDI and FPI inflows is concerned, as this study used a short panel encompassing a sample of only 12 emerging markets, the researcher was unable to include many explanatory variables (or potential determinants). Thus, future studies might enlarge their samples in order to study the effects of more explanatory variables. Moreover, in terms of the generalisability of the GMM findings, only the FPI GMM estimation results can be generalised to other emerging markets that were not part of this sample, as thereon a random effects estimation approach was adopted. Thus, enlarging the sample in future research studies to include more countries would determine whether similar or different results would occur, and would also make the findings more generalisable to other economies.

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Appendices

Appendix 1: Correlation matrices

Correlation matrix: All variables used in the estimations

	CAOP	CRED	EXCH	FDI	FPI	GDP	GINTR	HUMC	INSTDEX	NATR	SMC
CAOP	1.0000										
CRED	-0.2448	1.0000									
EXCH	-0.1048	0.1842	1.0000								
FDI	0.2666	0.0265	0.0133	1.0000							
FPI	-0.1564	-0.0815	-0.2187	-0.2224	1.0000						
GDP	-0.2198	0.2418	0.2859	-0.0493	-0.0113	1.0000					
GINTR	0.0809	-0.0388	-0.0871	0.2136	-0.0500	0.1994	1.0000				
HUMC	0.2966	0.0389	-0.2007	0.1351	-0.0969	-0.4212	-0.0894	1.0000			
INSTDEX	0.3143	0.2242	-0.1870	0.2195	0.0484	-0.2159	0.0169	0.6139	1.0000		
NATR	-0.0207	-0.2027	0.0309	-0.1206	-0.1426	0.1441	0.1010	-0.3849	-0.6668	1.0000	
SMC	-0.3250	0.3518	-0.3083	-0.0829	0.4152	0.0186	0.1446	-0.0481	0.2231	0.0364	1.0000

Note: CAOP-Capital openness; CRED-Domestic credit to private sector by banks; EXCH-Exchange rate; FDI-Foreign direct investment net inflows, % of GDP; FPI-Foreign portfolio investment net inflows, % of GDP; GDP-Annual GDP growth rate; GINTR-Global interest rates; HUMC-Human capital development; INSTDEX-Institutional quality index; NATR-Natural resources rent; SMC-Stock market capitalisation.

Correlation matrix: Worldwide Governance Indicators

	COR	GOV	LAW	POL	REG	VOA
COR	1.0000					
GOV	0.8393	1.0000				
LAW	0.9104	0.8155	1.0000			
POL	0.8528	0.8501	0.7909	1.0000		
REG	0.8150	0.8373	0.8458	0.7572	1.0000	
VOA	0.6873	0.5360	0.6518	0.6008	0.5726	1.0000

Note: CORR-Control of corruption; GOV-Government effectiveness; LAW-Rule of law; POL-Political stability; REG-Regulatory quality; VOA-Voice and accountability.

Appendix 2: FDI determinants and diagnostic statistics

FDI determinants estimation results

	Pooled effects	Fixed Effects	Random effects	System GMM	GLS
	FDI	FDI	FDI	FDI	FDI
L.FDI	0.625***	0.0991***	0.625***	0.702***	0.625***
	(0.118)	(0.0919)	(0.118)	(0.597)	(0.0783)
FPI	0.00743*	-0.00736	0.00743*	-0.149*	0.00743*
	(0.0219)	(0.0168)	(0.0219)	(0.0862)	(0.0231)
INSTDEX	0.0375*	-0.0306	0.0375	0.636*	0.0375*
	(0.0587)	(0.0802)	(0.0587)	(0.211)	(0.0557)
SMC	-0.00155*	-0.000729	-0.00155*	0.00361	-0.00155*
	(0.000649)	(0.000866)	(0.000649)	(0.00316)	(0.000724)
CRED	0.00371*	0.00575	0.00371*	-0.0208*	0.00371*
	(0.00179)	(0.00330)	(0.00179)	(0.0101)	(0.00165)
HUMC	0.00650	0.336	0.00650	-2.291	0.00650
	(0.482)	(1.148)	(0.482)	(5.120)	(0.374)
NATR	0.00370	0.0110	0.00370	-0.0643*	0.00370
	(0.00957)	(0.0162)	(0.00957)	(0.0288)	(0.00874)
EXCH	-0.00114	0.00271	-0.00114	-0.0275	-0.00114
	(0.00270)	(0.00236)	(0.00270)	(0.0179)	(0.00309)
GDP	0.0231**	0.0240	0.0231**	0.0531*	0.0231*
	(0.00821)	(0.0135)	(0.00821)	(0.0208)	(0.0104)
_CONS	3.751**	8.377***	3.751**		3.751***
	(1.356)	(1.269)	(1.356)		(0.938)
N	120	120	120	108	120

Note: Standard errors in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively.

Diagnostic statistics: FDI determinants estimation

	Pooled Effects	Fixed Effects	Random Effects	System GMM	GLS
Observations	120	120	120	120	120
Groups	12	12	12	12	12
F-stas/Wald chi2	232.25	1.40	6932.94	4.48	253.36
Prob>F/Prob>Wald chi2	0.0000	0.1967	0.0000	0.011	0.0000
Hausman Test		72.32	72.32		
Prob>chi2		0.0000	0.0000		
R-SQUARED					
Within		0.1132	0.0459		
Between		0.6015	0.9505		
Overall	0.6786	0.4778	0.6786		
rho		0.61226162	0.0000		
Arellano-Bond AR(1)				-0.88	
Prob>z				0.380	
Arellano-Bond AR(2)				-0.21	
Prob>z				0.831	
Sargan test of overid				0.74	
Prob>chi2				0.863	
Hansen test of overid				0.48	
Prob>chi2				0.922	
Instruments				12	
Cross sectional dependence					
Perasan's test		-1.630	-1.264		
Frees' test		0.112	0.117		

Appendix 3: FPI determinants and diagnostic statistics

FPI determinants estimation results

	Pooled Effects	**Fixed Effects**	**Random Effects**	**System GMM**	**GLS**
	FPI	FPI	FPI	FPI	FPI
L.FPI	0.178	0.0491	0.178	-0.247*	0.178*
	(0.188)	(0.136)	(0.188)	(0.102)	(0.0844)
FDI	-0.00728	0.00549*	-0.00728	-0.000130	-0.00728
	(0.00946)	(0.00372)	(0.00946)	(0.00610)	(0.0177)
INSTDEX	-0.351	1.274*	-0.351	2.609	-0.351
	(0.226)	(0.950)	(0.226)	(3.324)	(0.213)
GINTR	-0.320	-0.514**	-0.320	-0.853**	-0.320
	(0.199)	(0.164)	(0.199)	(0.259)	(0.196)
SMC	0.0129***	0.0325***	0.0129***	0.0264**	0.0129***
	(0.00242)	(0.00536)	(0.00242)	(0.00772)	(0.00231)
CRED	-0.0110	-0.0510*	-0.0110	-0.113**	-0.0110*
	(0.00641)	(0.0219)	(0.00641)	(0.0319)	(0.00476)
CAOP	0.186	0.117	0.186	0.858	0.186
	(0.176)	(0.210)	(0.176)	(0.923)	(0.131)
NATR	-0.124*	-0.112	-0.124*	-0.136*	-0.124***
	(0.0514)	(0.0617)	(0.0514)	(0.0531)	(0.0356)
GDP	0.0166	-0.0315	0.0166	0.00740	0.0166
	(0.0403)	(0.0558)	(0.0403)	(0.0281)	(0.0371)
_CONS	1.967**	3.368*	1.967**		1.967***
	(0.683)	(1.492)	(0.683)		(0.486)
N	120	120	120	108	120

Note: Standard errors in parentheses. *** $P < 0.001$, ** $P < 0.01$,* $P < 0.05$ are levels of statistical significance at 0.1%, 1% and 5% respectively.

Diagnostic statistics: FPI determinants

	Pooled Effects	Fixed Effects	Random Effects	System GMM	GLS
Observations	120	120	120	120	120
Groups	12	12	12	12	12
F-stas/Wald chi2	56.29	7.33	1234.12	6.98	61.41
Prob>F/Prob>Wald chi2	0.0000	0.0000	0.0000	0.002	0.0000
Hausman Test		2.15	72.32		
Prob>chi2		0.9889	0.9889		
R-SQUARED					
Within		0.3998	0.2325		
Between		0.3875	0.6324		
Overall	0.3385	0.2307	0.3385		
rho		0.81017232	0.0000		
Arellano-Bond AR(1)				-1.23	
Prob>z				0.219	
Arellano-Bond AR(2)				-1.12	
Prob>z				0.262	
Sargan test of overid				1.17	
Prob>chi2				0.556	
Hansen test of overid				3.12	
Prob>chi2				0.210	
Instruments				11	
Cross sectional dependence					
Perasan's test		0.426	1.632		
Frees' test		0.253	-0.307		

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INTERNATIONAL CAPITAL INFLOWS IN EMERGING MARKETS: THE ROLE OF INSTITUTIONS

by

Immaculate Simiso Nxumalo

submitted in accordance with the requirements for the degree of

MASTER OF COMMERCE

in the subject

Business Management (Finance)

at the

UNIVERSITY OF SOUTH AFRICA

Supervisor:

Prof. Patricia Lindelwa Makoni

July 2020