'A beggar has no choice'
A Mixed Approach Exploring Blended Finance for Africa's Infrastructure

A Dissertation

presented to

The **Development Finance Centre (DEFIC)**
Graduate School of Business
University of Cape Town

In partial fulfilment
of the requirements for the Degree of
Master of Commerce in Development Finance

by

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January 2020

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ACKNOWLEDGEMENT

First, I want to express my deepest gratitude to my supervisor, Dr Abdul Latif Alhassan for his patience, motivation, and continued support throughout the process in completing my dissertation. His guidance, understanding and always being available motivated me to complete this thesis.

I wish to acknowledge my dear friend, Isaac Wahito, who was always available to sit with me and guide me through this research process.

I am grateful to my parents and my in-laws in Cape Town for keeping the doors open when I needed a place of silence to study.

Last, my family who had to sacrifice many days and nights without me while I was completing my studies. Thank you for all the love and support you granted me during this process.

All praise to God for providing me the opportunity to reach this milestone in my life.

ABSTRACT

The United Nations estimated that to achieve the Sustainable Development Goals globally, they require approximately USD6 trillion per annum, totalling between USD90 to a USD100 trillion of investments needed over the 15 years. African countries are struggling to finance their infrastructure development needs and require innovative solutions to finance their infrastructure gaps. The African Development Bank noted that Africa's infrastructure needs can be estimated between USD130 and USD170 billion per annum with an estimated financing gap of USD68 billion to USD108 billion. Blended finance received international attention during the Third International Conference on Finance for Development in 2015 when it was mentioned in the adopted resolution report dubbed the Addis Ababa Action Agenda (here forth the Addis Agenda). The overall objective of this study is to explore the private sector participation investing in economic infrastructure in Africa and the public sector's understanding of blended finance. The research also focuses on the role of multi-and bilateral development banks in mobilising the private sector and the government support required to attract private sector participation investing in infrastructure projects

For this study, the Convergent Parallel Design mixed research method is employed where both the quantitative and qualitative data are collected concurrently or in the same phase. The World Bank PPI database is used as the primary quantitative data source, while nine qualitative in-depth interviews were conducted. The results from the multiple linear regression model indicate that projects with multi-lateral development bank' support are characterised by lower private sector participation in infrastructure investments in Africa. Furthermore, countries receiving concessional support from the International Development Association (IDA) are receiving lower private sector participation in their projects. In-depth interviews with public sector officials indicated that most of the officials had an overall understanding of blended finance in line with current market definitions. Officials, however, were not convinced with the use of concessional funding and loans in the blended finance structure due to the conditions precedents which came with it but felt like they had no choice but to accept these conditions due to the needs of the countries and the project involved.

Informed by the findings of the study, the study recommends that blended finance should be localised for the African context and makes key policy recommendations linked to the OECD principles for blended finance.

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LIST OF ABBREVIATIONS

ADB	African Development Bank
AUDA	African Union Development Agency
BFT	Blended Finance Taskforce
CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CIV	Collective investment vehicles
Coef	Coefficient
CP	Condition precedents
CPD	Convergent parallel design
DAC	Development Assistance Committee
DBSA	Development Bank of Southern Africa
DEFIC	Development Finance Centre
DFI	Development Finance Institution
ECA	Economic Cooperation Administration
EDFI	European Development Finance Institutions
EIB	European Investment Bank
FDI	Foreign direct investment
FI	Financial Institutions
GDP	Gross Domestic Product
GEOGR	Geographical regions
GOVSUP	Government support

ICT	Information and communication technology
INCGROUP	Income status of country
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
IPP	Independent Power Producer
LDC	Least developed countries
LID	Low income developing
MDB	Multilateral Development Bank
MDBS	Include Multilateral or bilateral support
NEPAD	New Partnership for Africa's Development
ODA	Official Development Assistance
OLS	Ordinary least squares
OECD	Organisation for Economic Cooperation and Development
PPP	Public-Private Partnership
PRG	Partial risk guarantees
PRIMSEC	Primary Sector
PROPTYPE	Solicited or Unsolicited bid
PSTATUS	Active, Cancelled, Concluded or Distress project
REC	Regional Economic Community
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SDGC/Africa	Sustainable Development Goals Center for Africa

SDIP	Sustainable Development Investment Partnership
SOE	State-owned enterprise
SSA	Sub-Saharan Africa
THK	Tri Hita Karana
UN	United Nations
USD	United States Dollar
WEF	World Economic Forum
WB IDS	World Bank International debt statistics
WB PPI	World Bank Private Participation in Infrastructure
WB SDG	World Bank Sustainable Development Goals data

CHAPTER 1

INTRODUCTION

1.1 Background of the research area

Financing the global sustainable goals to achieve the 2030 targets is one of the greatest challenges facing the 193 global leaders who signed the Sustainable Development Goal (SDG) declaration in 2015. The United Nations (UN) (2015a) estimated that to achieve the SDGs globally, they require approximately USD6 trillion per annum, totalling between USD90 to a USD100 trillion of investments needed over 15 years. The funding gap to achieve this target is estimated around USD2.5 to USD3 trillion dollars per annum after foreign direct investments (FDI), Official Development Assistance (ODA), and public funds towards the SDG's are considered (United Nations, 2015b). A recent publication by the IMF revealed that emerging markets will require approximately USD 2.1 trillion additional spending and USD 0.5 trillion for low-income developing countries to deliver on the SDG goals in 2030 (Gaspar, Amaglobeli, Garcia-Escribano, Prady & Soto, 2019). The Sustainable Development Goal Centre for Africa (SDGC/Africa, 2019) estimated the SDG financing gap for Africa to be between USD500 billion and USD1.2 trillion per annum with the likelihood of achieving the SDG goals gradually declining.

Almost a half a decade after the launch of the SDGs, both the Organisation for Economic Cooperation and Development (OECD) (2018) and the Blended Finance Taskforce (BFT) (2018) announced that the current rate of investments is not allowing for a critical impact in achieving the 2030 targets with debt levels alarmingly increasing in developing countries. Recent reports suggest that approximately 40% of low-income countries can either not service their current debt levels or is approaching high risk of debt distress (United Nations, 2014). Mustapha and Prizzon (2018:4) demonstrated in their analysis of the debt levels in sub-Saharan Africa (SSA) that the composition of public external debt changed radically over the past few years since its peak in 2005 with a steady decrease in providing concessional debt by bilateral and multilateral organisations to SSA countries. Mustapha et al. (2018:4) further noted that "[as] of 2016, multilateral debt accounted for less than 40% of external public debt on average, down from 53% in 2005". The SDGC/Africa (2019) estimated that four (4) of every ten (10) African countries are currently experiencing debt distress.

Blended finance received international attention during the Third International Conference on Finance for Development in 2015 when it was mentioned in the adopted resolution report dubbed the *Addis Ababa Action Agenda* (here forth the Addis Agenda). According to the UN General Assembly resolution adopted on 27 July 2015, members confirmed the importance of mobilising private sector investments by using public funds to achieve the SDGs by stating that "[an] important use of international public finance, including ODA, is to catalyse additional resource mobilisation from other sources, public and private… It can also be used to unlock additional finance through blended or pooled financing and risk mitigation, notably for infrastructure and other investments that support private sector development" (United Nations, 2015a:17).

Blended finance, according to the Addis Agenda, is commonly referred to as combining non-concessional private finance with concessional public and or philanthropic funding sources (United Nations, 2015a; United Nations, 2015b). The objective of using a blended finance approach is to attract more commercial finance into areas or sectors where the private sector would be reluctant to invest in and thus, create the "additionality" effect; as referred to by both the OECD and the World Economic Forum (WEF) (OECD & WEF, 2015a). The BFT (2018) reported that with blended finance, most of the investments in developing countries could be de-risked for the private sector and potentially generate an additional USD1 trillion in annual potential investments. This includes public-private partnerships that serve "to lower investment-specific risks and incentivize additional private sector finance across key development sectors led by regional, national and subnational government policies and priorities for sustainable development" (United Nations, 2015b :24-25).

The Blended finance taskforce noted that since 2014, more than 50 blended finance facilities and funds were launched with approximately 40% of these funds or facilities focusing only on the clean energy projects (BFT, 2018). According to the BFT (2018), most of these funds, while covering more than one region, targeted Africa, with SSA being the recipient of more grants than guarantees. Despite the focus on Africa, only nine countries, predominantly in North Africa, are consuming above the world average of 89% electrification, with less than half of the population in Africa having access to electricity (SDGC/Africa, 2019). The SDGC/Africa (2019) further reported that only six countries are above the threshold of having at least one basic clean water service within a 30-minute round trip in Africa, with nearly 40% of African countries only able to provide basic drinking service to less than two-thirds of their populations (SDGC/Africa, 2019). The expectation, however, is that the more blended finance

structures are being employed by the public sector, the more the private sector will be crowded into areas where they are the least expected to invest, including the water sector as mentioned above. Achieving the target of "universal and equitable access to safe and affordable drinking water for all"[1] and affordable and clean energy to all by 2030, will require a radical increase in investments in Africa's infrastructure.

Convergence (2018) argues that blended finance is not a panacea for SDG's to achieve but should rather be a structuring approach when investing in projects that contribute to achieving the SDGs than an investment tool. While the focus is on mobilising as much private sector participation through a blended finance approach as emphasised by many research institutions and think tanks, Convergence (2017) argued that governments' throat within the blended finance debates have been silent and the real impact of it on governments in developing countries are still to be seen. In this sense, the role of the multilateral development banks (MDBs) and the local or national development finance institutions (DFIs) and the support they provide to African governments, specifically in achieving the SDGs and mobilising the private sector, becomes essential.

This research is scoping the private sector investment activities in the economic infrastructure sectors linked to transport, energy, water and sewerage, and information and communication technology (ICT) in Africa. These sectors are mostly captured under Goals 9, 6, 7, and 13 of the SDGs. Goal 9 of the SDGs focus specifically on industry, innovation, and infrastructure; outlining eight specific targets, including supporting technology development, promoting industrialisation, and developing sustainable and resilient infrastructure (United Nations, 2018a). Goal 6 focuses on clean water and sanitation, goal 7 includes affordable and clean energy, and goal 13 focuses on climate action (Walker, Pekmezoric & Walker, 2019).

Various global research institutions and think tanks explored and analysed the concept and application of blended finance in the different economic sectors to understand how best a blended finance approach or structure could help in achieving the SDGs. There, however, remains a gap regarding how blended finance could be localised for the African continent and how public officials operating in the infrastructure space understand the concept of blended finance.

[1] https://sdg-tracker.org/water-and-sanitation

1.2 Problem Statement

With global institutions and leaders driving the mantra of roping more private sector investment into developing countries for sustainable development (Convergence, 2019), Collier (2014:38) asked the one pertinent question: "If private finance for African infrastructure is a good idea, why hasn't it happened already?" According to Collier (2014), some of the deterring factors preventing private sector investments include the high political risk, the increase costs of capital for governments itself, and the conditions that bind private investors when investing in foreign countries. One of the potentially biggest concerns, however, is the private cost of capital and their rate of returns in investing in a specific infrastructure project that might be greater than the costs at which a society could afford and invest in (Collier, 2014:38). Collier (2014:39) argues that the private sector will not initiate and fund an infrastructure project that, from a social perspective, should most likely be undertaken by the government itself.

The key question to be asked then is: How can blended finance help African governments mobilise additional private sector investments into their infrastructure projects? Despite these challenges, African governments are motivated to explore using blended finance as traditional investment approaches are not creating the impact as is expected. Globally, approximately USD3.3 trillion per annum is being spent on infrastructure alone with the bulk of this being funded from the balance sheets of governments, despite their deficit limitations and high debt levels (Samans, 2016). Research shows that of the USD3.3 trillion spent on infrastructure projects, only about USD400 billion can be contributed annually through traditional project finance markets that is not paid from the balance sheet of the sponsor, but rather from the cashflows of the project itself (Samans, 2016).

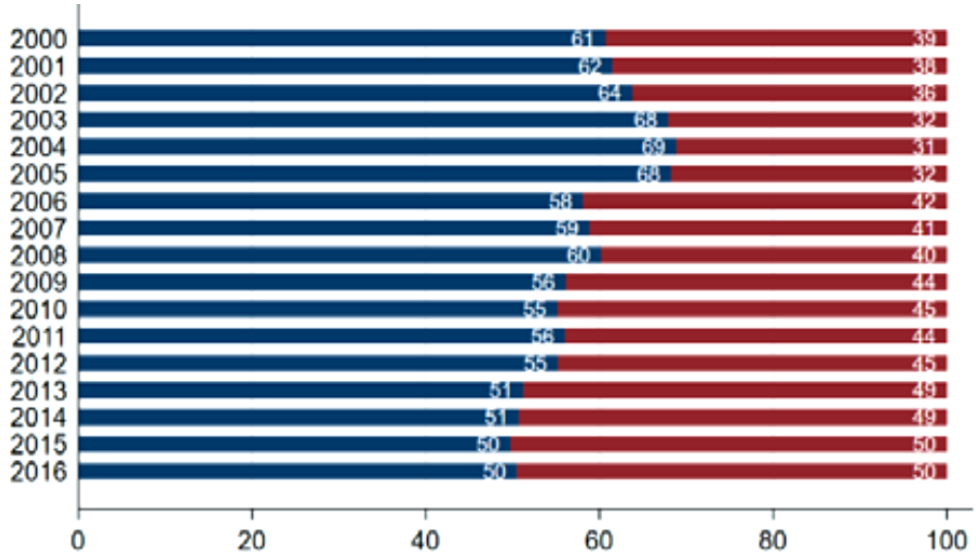
African countries are struggling to finance their infrastructure development needs and require innovative solutions to finance their infrastructure gaps. The African Development Bank (AfDB) (2018) noted that Africa's infrastructure needs could be estimated around USD130 to USD170 billion per annum with an estimated financing gap of USD68 billion to USD108 billion. To mobilise more private sector investment into the SDGs, a multi-stakeholder group of DFIs are using their financing on commercial terms, blended with concessional funds to increase development impact and mobilise additional private sector investments (DFI Working Group, 2018). Concessional debt is usually referred to as loans that include an original minimum of 25% grant element and a long repayment tenure (Ezeaku, Nwakoby, Egbo &

Onwumere, 2019). Recent data show that the participating DFIs in 2017, financed projects to the value of approximately USD8.8 billion; using approximately USD3.9 billion of DFIs financing and USD1.2 billion of concessional funds (DFI Working Group, 2018). Approximately USD43 million of concessional commitments was allocated to infrastructure in SSA, while approximately USD121 million was allocated to North Africa.

While the share of external debt's maturity is largely long-term, de Soyres, Picco and Sab (2019) indicated that the share of concessional financing as a share of external debt decreased by 11% to 50% from 2000 to 2016, as illustrated in Figure 1.1, for frontier low-income development countries. De Soyres et.al. (2019) argue that low income developing (LID) countries' cost of financing could increase due to the higher share of debt being issued at non-concessional terms.

Figure 1.1: Frontier LID countries: External Debt Characteristics (Concessional external debt – Percentage of total external debt)

Source: de Soyres, Picco & Sab (2019: 10)



Another traditional investment instrument, Public-Private Partnership (PPPs) also brought its challenges for Africa, especially regarding the regulatory frameworks required and the institutional capacity needed to drive the investment process. The World Bank (2012: 11) defines PPPs in general as "long-term contracts between a private party and a government agency for providing a public asset or service, in which the private party bears significant risks and management responsibility".

The focus on crowding-in private sector financing into public infrastructure programmes is motivated by the available surplus capital within private coffers. This capital could be invested

into large infrastructure projects for a return, leaving the public sector with additional capital to spend on other important development projects (Tew, Caio, & Lonsdale, 2016). The challenge though is that there is no robust evidence that can prove the "financial additionality" of private finance catalysed through public sector financing. There also is no available proven evidence to show that blended finance will decrease the cost of the project for the public sector, especially as private capital requires a return given the opportunity cost (Martin, 2015).

Various studies have explored the size and scope of blended finance on the African continent (Convergence, 2018; UNCDF, 2018). Convergence (2018), for example, which hosts a database of almost 500 organisations active in the blended finance space, reported that SSA remains one of the most targeted regions for blended finance deals (55%) with a deal size averaging around USD125 million. Few of these studies', however, delft into the actual scope of the blended finance deals focusing on the African continent. Furthermore, while the DFI Working Group is reporting significant amounts of investments into Africa, why does Mustapha et al. (2018:4) note that multilateral debt accounted for less than 40% of external debt on average in 2016 alone? Limited recent research is showing the role and impact of multi- and bilateral DFIs in mobilising the private sector to invest infrastructure projects in Africa.

This research aims to fill the gap by exploring private sector investment in Africa by highlighting the relationship between multi- and bilateral DFIs in crowding-in the private sector in Africa's infrastructure projects. It will further explore the government support required in the blended finance space and government or public sector officials' understanding of blended finance.

1.3 Research objectives and questions

1.3.1 Specific research objectives

The overall objective of this study is to explore private sector participation investing in economic infrastructure in Africa and the public sector's understanding of blended finance. More specifically, the objectives of this study include to:

1. investigate the extent of private participation investing into Africa's infrastructure projects;
2. examine the relationship between MDBs or DFIs in crowding-in private sector participation investing into infrastructure projects in Africa;

3. investigate whether government support affects private sector participation investing in infrastructure projects; and
4. explore the public sector's understanding of blended finance

1.3.2 Research questions

The primary research questions for this study are as follow:

1. What is the state of private sector participation investing in infrastructure projects in Africa?
2. Is blended finance crowding-in more private sector participation into Africa's infrastructure projects?
3. What is the role of the MDBs and the DFIs in a blended finance structure and to what degree does an MDB or DFI's participation in an infrastructure project influence the private sector to participate in investing in economic infrastructure projects in Africa?
4. What is the public sector and or government's understanding of blended finance?

It is proposed that a mixed research approach including both quantitative and qualitative methods are used to explore the application of blended finance in Africa to attract additional private sector investments into infrastructure projects in this region.

1.4 Justification of the research

The traditional methods of project finance and PPPs have dominated infrastructure finance. These are known to delay project implementation due to its detailed risk assessment and contractual requirements. As previously mentioned, African countries do not have the means to achieve the SDGs and will require innovative financing methods or approaches to achieve these goals. Blended finance is but one of many new financing approaches proposed by the Addis Agenda. This is considered a niche market, but already supported by large organisations such as the WEF and the OECD. A BFT consisting of global private sector institutions, experts from multi- and bilateral DFIs, and experts from the different think tanks and international bodies was established to ensure the focus and principles in applying the blended finance approach, specifically for investing in infrastructure projects, was developed and implemented.

Despite the vast interest in this topic, limited empirical research has been conducted in the African region. More specifically, the voice of public officials in African governments and

institutions is silent around the topic regarding its effectiveness to mobilise private sector participation into Africa's infrastructure. It is thus imperative that more empirical research is conducted that will inform the current research paradigm around the viability and application of blended finance.

The main contribution of this research is to add to the literature on blended finance and the factors contributing to private sector participation, specifically in infrastructure projects in Africa. While many research studies focused on the determinants for MDBs to participate in infrastructure projects and the mobilisation effects to crowd private sector investments into infrastructure projects, the researcher was unable to find, to the best of his knowledge, studies that identified blended finance as a key driver for private sector mobilisation through the MDBs or DFIs in Africa.

1.5 Research assumptions

The researcher accepts that there are no one quantitative database that has available all the information needed to explore the impact of a blended finance approach in Africa, capturing all the necessary instruments that could determine using blended finance in Africa. The World Bank PPI database, which focuses on private participation investments into public sector infrastructure projects, is a public available database that will be used as a core database for analysis. It will be supplemented with data from the World Banks' International Debt Statistics database and the World Bank's SDGs' Data Catalogue. The researcher will further be led by the detailed literature review to define the key variables for analysis, which will provide insight for the interview schedule. It is further assumed that officials from the government or public sector operating in the economic infrastructure space will be available for interviews.

1.6 Organisation of the dissertation

This research dissertation is organised as follow.

Chapter 1 created the context informing the motivation behind exploring blended finance as an approach to mobilise private sector participation in investing in Africa's infrastructure to achieve the infrastructure development targets of the SDGs.

Chapter 2 provides an overall literature review outlining the conceptual debate behind the focus of using blended finance as a mechanism to finance infrastructure in Africa, highlighting the key benefits for developing countries and the current state of Africa's infrastructure needs.

Chapter 3 outlines the mixed methodological approach used to explore blended finance on the African continent.

Chapter 4 provides a detailed analysis of both the quantitative and qualitative data collected.

The research will be concluded in **Chapter 5** with an interpretation of the mixed results, policy recommendations for Africa based on the OECD blended finance principles, and avenues for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter deliberates in detail the literature available on blended finance. The first section focuses on the state of Africa's infrastructure and its investment needs. The second section concentrates on the conceptual debate as applicable to blended finance, the stakeholder dynamics and the instruments at play. Finally, an investigation into the empirical literature and evidence conducted to date is reviewed, stressing the need for additional empirical research on blended finance specifically for the African context.

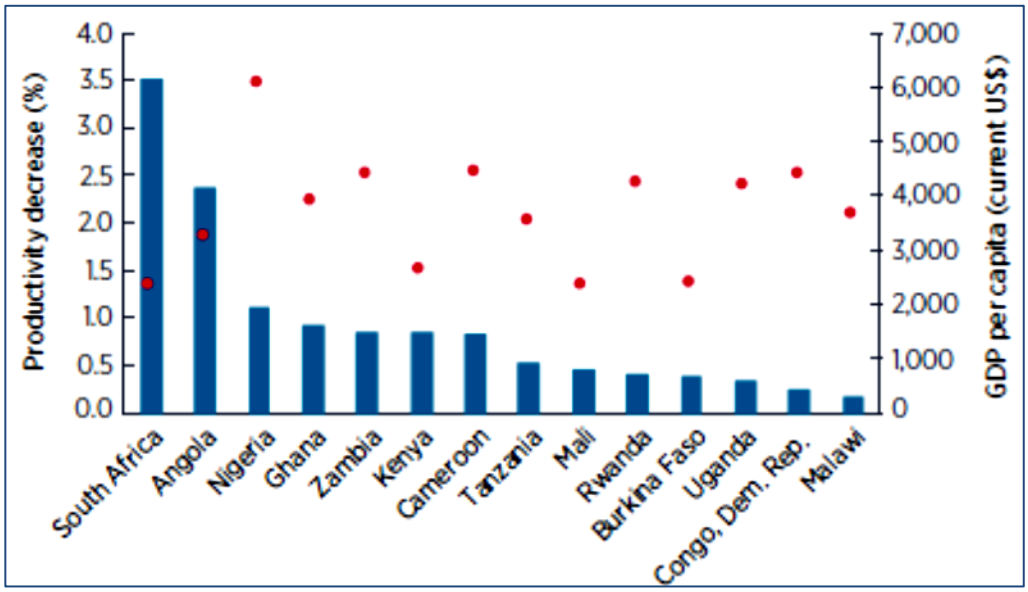
AFRICA'S INFRASTRUCTURE NEEDS

2.2 Taking stock of Africa's infrastructure needs

Africa's economic infrastructure is in a dire state with its energy supply being notoriously unreliable. The continent's need for energy is reported as Africa's biggest challenge (Kodongo & Ojah, 2016). It is estimated that by 2050, less than 40% of African countries will reach universal access to electricity (Estache, A., & Wodon, 2014; Eberhard, Foster, Briceño-Garmendia, Ouedraogo, Camos, Shkaratan, 2008). More than 30 SSA countries experience regular power shortages and interruptions with an estimated 46% of the share of the African population in 2014 having access to electricity (Foster & Briceño-Ganmendia, 2010; AfDB, 2018). This accounts for less than half of the reported percentage of the total population having access to electricity in Latin America (Foster & Briceño-Ganmendia, 2010; AfDB, 2018). Hallegatte, Rentschler and Rozenberg (2019) referenced a study conducted by Mensah (2016) showing that in 14 countries in SSA, a 1% increase in electricity outages could lead to company productivity losses of between 1 and 3.5% (see Figure 2.1).

Figure 2.1: An Increase in Power Outages Lead to Lower Company Productivity in African Countries[2]

Source: Hallegatte et al. (2019) extracted from Mensah (2016)



- GDP per capita (right scale)
- Decrease in productivity resulting from 1% increase in outages

SSA countries spend on average 2.7%, with some 4% of their GDP on the energy sector with little luck receiving increased financing into the energy sector due to inefficiencies of most of the energy utilities in the region (Eberhard et al., 2008). Access to sanitation, on the other hand, improved slightly to around 39% in 2013, but only an estimated 34% of rural Africans have access to sanitation (AfDB, 2018). Kodongo and Ojah (2016) report that while 64% of the population in SSA countries do have access to improved drinking water, these water resources remain unsustainably managed and underdeveloped. As mentioned earlier, more recent data shows that about 40% of African countries can provide basic drinking water services to less than two-thirds of their populations (SDGC/A, 2019).

The road density of SSA is reported to be around 204 kilometres (kms) of road per 1 000[2] km of land area; far below the world average of 944 kms (Kodongo & Ojah, 2016). Regarding ICT, AfDB (2018) recorded mobile cellular subscriptions per 100 population around 73 subscriptions in Africa (97 in Latin America), while only one fixed broadband subscription per 100 population was recorded compared to the nine (9) subscriptions in Latin America.

[2] The percentage decrease in productivity in shown in the left scale (dots) resulting from a 1% increase in outages. The GPD per capita of the countries analysed is captured in the right scale (bars) in US$ (Hallegatte, Rentschler & Rozenberg, 2019).

Low-income countries experience the worst infrastructure deficits in Africa, which is further combined with the lack of proper infrastructure in fragile states compared to the more affluent middle-income countries such as South Africa and Mauritius (Ncube, 2010). Sixteen of Africa's 54 countries are defined as landlocked countries, which, according to Kodongo (2013), is further retarding economic growth for the SSA region and is an added distraction for foreign trade and investments. Of the global 47 least developed countries (LDCs), 33 are in Africa (UNCDF, 2018). Development partners and African governments all agree about the continents' massive infrastructure gaps and the negative impact it has on both the social and economic development of the continent (Kodongo, 2013; Kodongo & Ojah, 2016).

2.3 Mind the Gap – Balancing Africa's infrastructure funding gap and its sovereign debt crises

> *"The infrastructure deficit condemns Africa to perform below its economic potential… Infrastructure services in Africa cost twice as much on average as in other developing regions and are exceptionally high by global standards"* (Ncube, 2010:74).

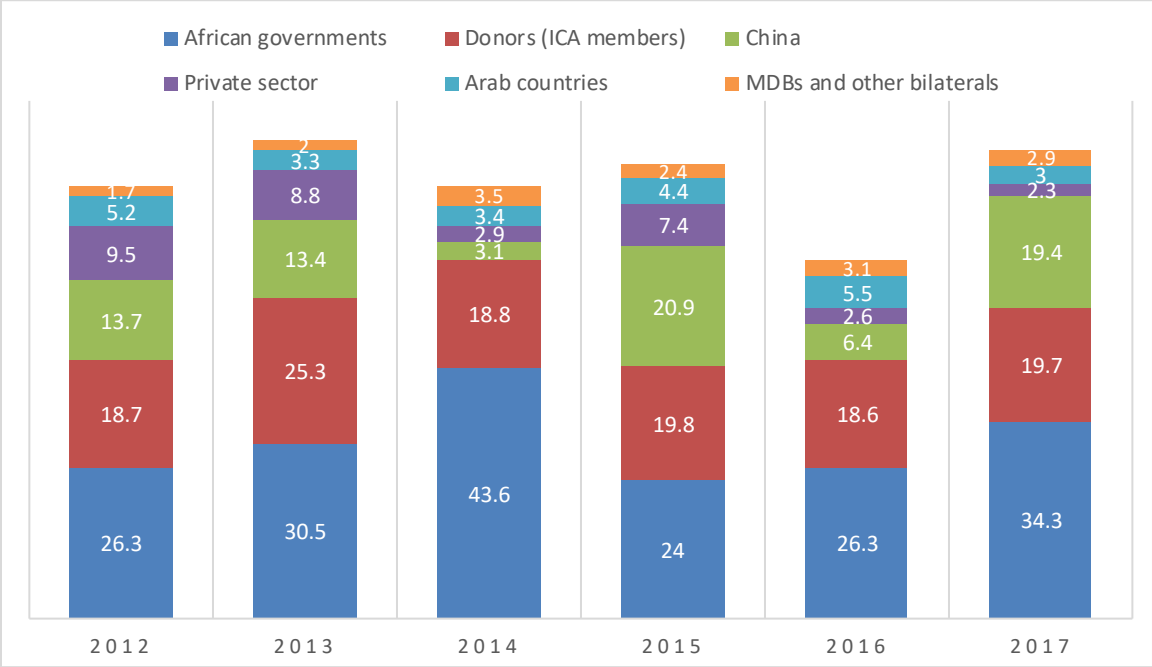
Ncube's (2010) statement above speaks to the heart of Africa's infrastructure and investment challenges, further escalating the funding gap; that is, Africa's infrastructure deficits and the increased cost of infrastructure services. As previously mentioned, Africa's infrastructure financing needs escalated to between USD130 to USD170 billion per annum, with a maximum funding gap estimated at USD107.5 billion (AfDB, 2018)[3]. This is an increase from the previous much-publicised estimated figure of USD93 billion (i.e. 15% of Africa's GDP) required per annum, with a financing gap of nearly USD31 billion per year to address Africa's infrastructure investment needs (Foster & Briceño-Ganmendia, 2010). It is predicted that by 2040, Africa's total infrastructure investments needs is projected to be around USD4.3 trillion with an estimated annual funding need of USD174 billion (Global Infrastructure Hub & Oxford Economics, 2018). This is aligned to the estimated projections of the AfDB (2018).

African governments, as many other countries across the world, endures the most of financing the infrastructure they so desperately need. The Infrastructure Consortium for Africa (ICA, 2018) tracks the investments into Africa's infrastructure annually through data provided by its

[3] The estimated infrastructure investments need of the AfDB excludes the current financing commitment made by donors to fill the infrastructure deficit (AfDB, 2018). However, FDI and donor commitments such as ODA, is still not enough to fill the gap as mentioned in chapter 1.

various members, including data provided by, for example, the G7 countries, local DFIs, and multi- and bilateral institutions.[4] Aligned to the findings of previous researchers (Foster et.al., 2010; Kodongo, 2013; Kodongo & Ojah, 2016), Figure 2.2 confirms that most of the financing commitments towards Africa's infrastructure is still coming from African governments (ICA, 2018). On average, between 2012 and 2017, African National Governments committed approximately USD30.8 billion towards infrastructure projects (ICA, 2018). Despite experiencing a sharp decline reported in 2015 due to the commodity price shock, infrastructure financing commitments still increased to approximately USD34 billion in 2017.

Figure 2.2: Commitments Towards Financing Africa's Infrastructure (USD Billions)
Source: Authors Compilation from Source: ICA 2018 & 2017 reports



When reviewing government's expenditure into infrastructure, the AfDB (2018) reported that between 2008 and 2015 the ratio of expenditure to GDP for Africa increased; however, the ratio of total government's revenue to GDP during the same period, remained flat. SSA countries' median level of public debt at the end of 2017 already exceeded 50% of the GDP, with fiscal deficits remaining large (IMF, 2018, p10). The economic crises of 2008/09 caused many donor countries and institutions to tighten their belts with a decrease in concessional

[4] At the time of the publication the G7 countries included Canada, who was the Chair of the ICA, Germany, Italy, France, Japan, UK and the USA, (Russia was included, previously G8, before it was suspended in 2014). Data is also provided by the selected Regional Economic Communities in Africa. South Africa is the only G20 member also providing investment data. Details of members contributing data is covered in the publication available at https://www.icafrica.org/fileadmin/documents/Annual_Reports/IFT2017.pdf

funding to developing countries, with African countries receiving only a slight increase in 2015 (AfDB, 2018). African governments have no option but to be highly dependent on deficit financing to finance their infrastructure needs through public borrowings from multi- and bilateral institutions, commercial banks, and the national and international capital markets or requesting grants or loans from foreign government institutions (Foster & Briceño-Ganmendia, 2010; Kodongo, 2013; Ncube, 2010; AfDB, 2018).

The IMF (2018) argues that the high reliance of SSA countries on foreign currency borrowing to fund development activities such as infrastructure development is a further source of vulnerability of debt distress for these countries. SSA's foreign-currency-denominated public debt increased by approximately 40% from 2010/2013 to 2017, and on average, accounted for an estimated 60% of total public debt in 2017 (IMF, 2018: 11). Mustapha et al. (2018) concedes that borrowing is in most instances a prerequisite for growth. They, however, emphasised that unsustainable debt only increases the risks to not achieve the SDGs and further compels governments to spend less on infrastructure and more on debt servicing.

Researchers are exploring different possible financing options available to finance Africa's infrastructure deficits, which include using diaspora bonds, issuing infrastructure indexed bonds and infrastructure bonds, increase private savings to, for example, developing local capital markets, mobilising domestic resources, and financing low-carbon infrastructure by tapping into the carbon finance markets (Kodongo, 2013; Ncube, 2010). PPP financing mechanisms are regarded as one of the more preferred instruments to use in Africa. PPPs are usually structured as bilateral contracts between a government institution and a private concession operator (Arezki, Bolton, Peters, Samama & Stiglitz; 2017:224). The IMF (2018) noted that compared to the rest of the world, SSA recorded the highest average ratio of PPP projects to GDP at 1.4% for the year 2000 compared to 1% in other regions of the world. PPP projects in SSA are mainly located in the transport and energy sectors and tend to bring the project cost down and further increase strong competition between private sector entities in the process (IMF, 2018:69).

A lack of regulatory and institutional capacity in the PPP field has led to more disputed projects in this region. "Since 2006, the value of disputed projects in SSA as a share of a countries' GDP has averaged three-quarters of a percent of GDP, which is the highest ratio among emerging markets and developing countries" (IMF, 2018: 69). The IMF (2018) highlights that using PPPs without the necessary expertise and institutional frameworks could transmit into

several fiscal risks, which could include governments providing some form of debt guarantee, implying contingent liabilities for the governments providing the guarantee. This could lead to disputed or failed projects. Groenfeldt (2018) claims that within developing countries, the bankers who are arranging the PPPs tend to have more expertise to develop and evaluate these complex contracts than the governments requiring the assets or services and, at times, even requires further re-negotiations or subsidies from the host countries. Groenfeldt (2018) is unconvinced by the blended finance drive to achieve the SDGs and claims that it is, just as PPPs, another form of joint-funding; labelling it as being "lipstick on the public-private partnership pig."

In summary, Africa's massive socio-economic challenges and the great need for proper infrastructure with limited available funding are curbing most African countries to drive economic growth in these countries and negatively affect Africa's goal to achieve the 2030 SDGs. In the next section, the historical nature of blended finance will be explored in more depth, highlighting the complexity behind its conceptual understanding, the role players involved, and how blended finance is structured.

CONCEPTUAL LITERATURE

2.4 Tracing the history of blended finance

Historically, international institutions such as the World Bank practised blended finance, long before its mention in the 2015 Addis Agenda. For example, several of the instruments in this research, such as using concessional funding provided to developing countries and public guarantees, are not entirely new in structuring infrastructure investment projects. Tew, Caio and Lonsdale (2016) stipulate that the practice of blended finance could be traced back to more than a hundred years ago where governments in the domestic context were using public guarantees or incentives to de-risk investments into public sector projects. In 1945, for example, the established United States Economic Cooperation Administration (ECA) used blended finance to implement the Marshall plan, while the International Finance Corporation (IFC), known for using blended finance instruments, was established during the mid-1950s. The rise of blended finance and the importance of development and multilateral financing institutions became more evident in the 21st Century, and especially, towards the final few years of the Millennium Development Goals (Tew et al., 2016). Annexure A provides a timeline of some examples of the international historical events that led to the rise and current

interest in using blended finance as a financing structure or mechanism to achieve the SDGs. It also includes launching new networking and deal platforms such as the WEF/OECD Sustainable Development Investment Partnership (SDIP) initiative to scale private finance, the Convergence deal sourcing platform, and the most recent BFT.

Despite the historical nature of blended finance, none of the institutions or various platforms share the same definition on blended finance. In the next section, the researcher will further unravel the different blended finance understandings.

2.5 Different blended finance definitions

There is no universally accepted definition for blended finance as a standard across all sectors or geographies. A think tank publication identified around 15 different blended finance definitions with different unique characteristics (Tew et.al., 2016), while the UNCDF identified more than three dozen blended finance definitions that were found in various publications (UNCDF, 2018). It is thus not surprising that in a study conducted in LDCs, the UNCDF (2018) found that most of their respondents had diverse understandings of blended finance (UNCDF, 2018).

Table 2.1 highlights a select number of definitions provided by various researchers before the Addis Agenda 2015 referred to blended finance as combining "concessional public finance and non-concessional private finance and expertise from the public and private sector" (United Nations, 2018b: 17). From the definitions in the table, some key characteristics can be highlighted:

- Blended finance could refer to different sources of financing combined from both the public sector and the private sector.
- A blended finance approach could involve using various financing instruments and sources of financing; mixing loans and grants for development with some form of concessional component in place. Loans tend to be on concessional or market terms making projects viable. Grants or aid tend to be linked with ODA funding (Bilal & Krätke, 2013; Mustapha et al., 2014; Nunez, Ferrer & Behrens, 2011; Romero & Van Der Poel, 2014). Bilal and Krätke (2013), for example, links using blended finance, specifically focusing on the EU, with that of a grant aid from ODA and other sources of public or private finances such as risk capital and or equity and loans.

- The definition of blended finance could be contextual, as a few of the researchers specifically focuses on EU-blended instruments. This implies that the definition of blended finance is potentially dependent on the mandate of the institution applying blended finance.

Table 2.1. Selected Definitions on Blended Finance

SOURCE	DEFINITION
Overseas Development Institute (ODI) (2011: 11)	"Blending as carried out by the EU facilities, mixes loans and grants. It entails a combination of market (or concessional) loans with grant (or grant equivalent) components which may be in various forms...It is the mechanism of achieving a blended package and the resulting 'associated financing' structure which includes funds from third parties (public, private and from the beneficiary) that distinguishes a loan blended with a grant, as provided by the facilities, from a concessional loan, as might be provided by DFIs outside the facilities"
Núñez Ferrer, J. & Behrens, A (2011: 1)	Blending loans and grants: "grant and loan blending facilities, which link EU budget grants, member state grants and loans by international, regional and European bilateral financial institutions".
Bilal, S. and Krätke, F. (2013: 1)	"It involves the combination of grant aid from Official Development Assistance (ODA) with other private or public sources of finance, such as loans, risk capital and/or equity. Such grant aid can leverage the additional non-grant financing, generally for infrastructure, energy or private sector development projects, to meet unmet investment needs. Grant aid (or grant equivalent) provided can take a number of forms, most commonly direct investment grants, interest rate subsidies, and technical assistance."
Romero, M.J. and Van Der Poel, J. (Eurodad, 2014: 11)	"The term 'blending' refers to a mechanism that links a grant element, provided by ODA, with loans from publicly owned institutions or commercial lenders... what is new in the current context is the great promotion of EU blending instruments to both support private sector projects and leverage private finance from different sources and the new narrative that is being developed around it."
Mustapha, S., Prizzon, A. & Gavas, M. (2014: 2)	Blended finance... refers broadly to the complementary use of grants (or grant-equivalent instruments) and non-grant financing from private and/or public sources to provide financing on terms that would make projects financially viable and/or financially sustainable.
Intergovernmental Committee of Experts on Sustainable Development Finance (2014: 37)	"Blended finance encompasses a large portfolio of potential instruments, including instruments provided by DFIs to leverage private finance (e.g. loans, equity investments, guarantees etc.), as well a traditional public private partnerships (PPPs)...But it goes beyond these structures to encompass structured public-private funds and innovative 'implementing partnerships' between a wide range of stakeholders - including governments, civil society, philanthropic institutions, development banks and private for-profit institutions. When well designed, blended finance allows governments to leverage official funds with private capital, sharing risks and returns, while still pursuing national social, environmental and economic goals in areas of public concern.

Source: Author's compilations

- There is a focus on the various stakeholders involved in the blended finance mechanism that could include DFIs, governments, and commercial lenders.
- There is also a focus on leveraging private capital using official or public funds.

Leverage is one of the key characteristics identified by the WEF/OECD (2015) where they defined blended finance as the strategic use of development finance and philanthropic funds to mobilise capital flows to emerging and frontier markets (WEF/OECD, 2015: 4). The WEF/OECD's definition motivates using philanthropic and development funds to leverage more private capital into those markets where the private sector would not necessarily invest, using various instruments to make the project viable for the private sector. For the WEF/OECD

(2015), blended finance is not only about leveraging the private sector, but also to ensure the investments have an impact that drives economic, social, and environmental growth. It should simultaneously create financial returns for the private sector that is based on the real and perceived risks and is in line with market expectations (WEF/OECD, 2015). While the focus on impact or development impact is not new compared to previous definitions and their characteristics reviewed, the focus on risk-return is an important component that is emphasised in blended finance structures.

The definition of blended finance evolved further as key stakeholders provided their input and understanding of using blended finance. The multi-stakeholder group of DFIs view blended finance as using their financing on commercial terms, which can be blended with concessional funds (philanthropic or ODA) to increase development impact (DFI Working Group, 2018). More specifically, the DFI Working Group (2017:3) defined blended concessional finance specifically for private sector projects as "[c]ombining concessional finance from donors or third parties alongside DFIs' normal own account finance and or commercial finance from other investors, to develop private sector markets, address the SDGs, and mobilise private resources". The DFI Working Group's definition is different than that defined by the EU (see Ferrer & Behrens, 2011) and is focused more directly on supporting the private sector by blending with available concessional resources. The DFI Working Group and the EU's conceptualisation of blended finance proves how definitions of blended finance are inconsistent with that of other institutions but that the understanding of blended finance is shaped by the constituencies and the mandates of the different institutions (Mustapha et al., 2014).

The OECD revised their definition by stating that "blended finance is the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries" (OECD, 2018a:50). Where, initially, blended finance was specifically focused on mobilising private capital to emerging and frontier markets, the OECD is now stating that these funds mobilised should be targeted specifically for developing countries, a much more general targeted group, and further noting that it does not have to be concessional. The OECD (2018a: 50) is clear in their analysis of blended finance that the definition they developed is specifically targeted to support development finance providers and "donor governments in moving towards more effective blended finance" and that using blended finance for sustainable development projects could include using either concessional or non-concessional funding or even both. By noting that blended finance transactions could either be

concessional or non-concessional, the OECD is acknowledging the needs of the MDBs or that of the DFI Working Group who focus on crowding-in the private sector with concessional instruments. Table 2.2. provides an overview of the operational differences between the definition of the OECD (2018a) and that of the DFI Working Group (2017 & 2018).

Table 2.2: Comparing Definitions of Blended Finance between OECD DAC and DFI Working group

		OECD DAC Blended Finance Principles		DFI Working Group Guidelines	
		Development finance used in BF	Finance mobilised in BF	Development finance used in BF	Finance mobilised in BF
Source of finance	Motivation / mandate	Developmental only	Commercial only	Developmental only	Developmental and / or commercial
	Ownership	Public and private	Public and private	Public and private	Public and private
	Terms of finance	Concessional and non-concessional	Non-concessional only	Concessional only	Non-concessional only
Use of finance	Investee	Public and private		Private only	

Source: OECD (2018a:51)

The OECD (2018a) focuses on the mobilisation of financing for development, specifically from commercial sources. They add that the investee could be public or private and that the financiers could include DFIs, governments, and or foundations of which resources could be either concessional or non-concessional (OECD, 2018a). The DFI Working Group's approach focuses on private investments, emphasising supporting the private sector through the deployment of concessional financing to minimise the risks associated with these projects (OECD, 2018a).

The OECD (2018a:22-23) emphasised that their focus is from a policy perspective and highlights specific tenets that should be acknowledged when adopting their definition of blended finance:

1. The finance that is mobilised should not be available for that specific project without blending and could be accepted as additional.
2. The development finance contribution is catalysing the additional mobilised finance.
3. It is not the source of the funding provided, but more the purpose (development) that is important.
4. Blending is not determined on concessionality.

5. Blended finance is not a replacement for commercial sector development – in essence, financing provided to the commercial sector at market rates for specific projects cannot be considered as blended finance

As summarised by the OECD (2018a), the rationale for blending remains the mobilisation of additional investment and or private capital for development. The various definitions identified, however, could be classified within two specific dimensions: (1) whether the blended transaction is concessional or non-concessional, and (2) the participating actors involved in the transaction, i.e. public-private, private-private, or public-public cooperation. The OECD's recent definition will be used as a working definition for this research, considering the role of development finance institutions (MDBs or DFIs) in mobilising private sector participation in investing in infrastructure, specifically, in Africa.

2.6 Key actors in a blended finance structure

This section will highlight the role of four key role players in the blended finance ecosystem, which include the MDBs/DFIs, the private sector, the governments of developing countries, and philanthropic funders as key players extracted from the definitions discussed above.

The Gate Keeping & Unlocking role of the MDBs/DFIs

The traditional role of the MDBs and other DFIs in the infrastructure space were always to invest in projects that shows development impact and where the private banks are unwilling to invest in large scale long-term infrastructure projects (Arezki, Bolton, Peters, Samama & Stiglitz, 2017). MDBs' mandate is to support development-oriented programmes and reduce both market and government failures by assisting governments to originate, develop, and structure their public sector infrastructure projects (Arezki et.al., 2017).

MDBs tend to conduct vigorous planning and due diligence of all infrastructure projects to ensure that it all fits within a broader infrastructure development plan by employing their inhouse expertise, conducting detailed risk assessments, and managing balance sheet structuring by matching it with, for example, long-term assets and long-term liabilities (Arezki et al., 2017). "The mandate of MDBs evolved as the central role of the state in the economy was reassessed and developing economies transitioned away from large public sectors towards more market-based models" (Arezki et al., 2017:242). This shift required development banks

to mobilise more private sector participation into development-oriented projects, and, where necessary, co-invest with the private sector into these projects.

Because of the latter, MDBs are emphasised as key role players in the institutional mechanism to finance the 2030 SDGs and to crowd-in the private sector (Arezki et al., 2017). MDBs can mitigate political risk and market failures since most of their shareholder memberships on their governing structures are represented by international governments (Arezki et al., 2017:249). According to Arezki et al. (2017) development banks can attract private investors as co-investors into infrastructure projects by leveraging public money through committed capital from government contributions and encourage investment-friendly environments through macro-economic stability and growth (Arezki et al., 2017; Broccolini, Lotti, Maffioli, & Stucchi, 2018). An MDB's participation in an infrastructure project that is not immediately attracting private sector attention due to the various risks involved could, on the other hand, signal some trust to private investors to invest in such a project (Basilio, 2014). The MDBs could, through their support to a country in reforming its investments, the various credit enhancement products, and guarantees they have to offer, improve their preferred creditor status, and their technical expertise could raise the creditworthiness of a project and thus, attract more private capital flow to a project (Broccolini et al., 2018).

Although MDBs are at times also required to co-invest with the private sector, they are fundamentally different from commercial banks because where a project is commercially viable, an MDB is not required to invest in such a project and MDBs should always first consider the social and economic development impact of a project before investing in it. Arezki et al. (2017) note that the MDB debt will, in most cases, be senior to other creditors in the project structure.

Despite their key role to crowd-in the private sector and, where necessary, co-invest with the private sector, development banks do have limited funds available for infrastructure projects. Compared to the needs of the countries it services and their narrow capital base and conservative loan approach, MDBs do not necessarily allow for scaling up significant lending to infrastructure projects in those countries whose financing demands well exceed the supply MDBs can finance directly (Broccolini et al., 2018; Arezki et al., 2017). While governance structure comprises mainly of international government representatives, the private sector might feel that the actual needs of the private sector are not always being addressed. Later in this chapter, the researcher will highlight the key blended finance principles of the DFI

Working Group (2017) identified as an approach to crowd-in the private sector into financing the SDGs.

Private Sector – the beneficiaries of blended finance?

The private sector is a key recipient of the blended finance benefits; however, they are cautious of investing in the SDGs. Oppenheim and Stodulka (2017) argue that for the private sector to be crowded into the blended finance space and have them help fill the SDG gap, one must understand that (1) the private sector is a miscellaneous beast with many mandates, and (2) one must be clear what is required for the private sector to invest in at scale. First, excluding the usual commercial and investment bankers, there is also a need to recognise the institutional investors and asset owners (including the pension funds and sovereign wealth funds). There are also asset managers that include private equity firms and wealth managers, and finally, it should include project developers. Excluding the ones mentioned by Oppenheim and Stodulka (2017), there, however, is further a need to recognise the local domestic banks and their local pools of institutional capital. Dasgupta and Ratha (2000:1-2), for example, investigated which determinants drive private capital flow into a developing country and found that non-FDI portfolio flows tend to increase when:

- there is an increase in the current account deficit;
- there is a rise in FDI flows;
- there is a higher per capita income, and
- there is growth performance in the country.

Second, Oppenheim and Stodulka (2017:2) argue that there is a need to break down the different perceptions of risks when investing in sustainable infrastructure projects and highlight three key action items:

- improve the enabling environment;
- drive deal flow through project development; and
- mobilise more institutional capital into infrastructure investments.

At the end, it is about the private sector and the MDBs and DFIs working together to drive investment at scale into sustainable infrastructure projects. The private sector will ensure that the infrastructure projects are economically viable and not politically motivated (Arezki et al., 2017). The MDBs, on the other hand, will conduct most of the project preparation work on a

project for investment and mitigate the risks the private investors identify as barriers for investments. One concern from Arezki et al. (2017) is that the MDB/DFIs tend to bring the private sector into the project development stage fairly late; at the point where the main deal structuring has already been set, having the private sector act too much as a passive player in the development of the project (Arezki et al., 2017). The authors propose that the private sector should be crowded into projects much earlier for a project to achieve viability status.

Governments from developing countries – the silent partner[5]

The majority investors into infrastructure projects to date in Africa, as mentioned earlier, is the government or public sector in Africa (ICA, 2018; AfDB, 2018). In a recent publication of Sustainable Energy for All (SeforALL) (2019) it is argued that government should be leading the drive for investment using blended finance into the energy sector. The authors of this publication proposed that "governments have the ability to secure concessional financing from multilateral and bilateral development partners that can be used to provide risk-tolerant financing to enterprises. This can in turn crowd-in more commercial capital from investors" (SeforAll, 2019: 19). Simultaneously, too much government involvement in the financial closing discussions of a project, however, could also be a deterrent for some private sector investors (OECD/UNCDF, 2019). Given this, government has become the silent partner in most infrastructure project finance deals that involved the private sector, with their key role only to ensure the enabling investment environment is in place, that is, the right policies and regulations for the private sector to invest in a specific project or sector is available.

The OECD/UNCDF (2019:12) recently reported that in trying to achieve the SDGs, the financing models will be in play, whether that is blended finance and or PPPs. Governments, however, must take the "driver's seat in determining which approach works best where". In a recent case study of Uganda, the authors reported that public sectors officials are unaware of the term blended finance but can speak PPPs or can refer to financing instruments such as guarantees (Kasirye & Lakal, 2019). They, however, did warn that for government officials to drive blended finance, there is a serious skills gap that must be addressed, and this could be presumed for most of the LDCs in Africa.

So, while there is a need for government to be more vocal in the development and financing of infrastructure projects in the region, it appears as though a lack of understanding of blended

[5] Donor governments remain a key player in the blended finance ecosystem, but the funding support tend to be covered under ODA as referred to earlier.

finance and their lack of confidence and capacity in the project finance space is still curbing developing countries' governments to participate in the structuring discussions (Convergence, 2017). Furthermore, the private sector perceives that governments' participation in these deals could further delay the project from being implemented. One of the objectives of this study is to explore governments' understanding of blended finance and whether government support attract or deter private sector participation in infrastructure projects in Africa.

Philanthropic funders

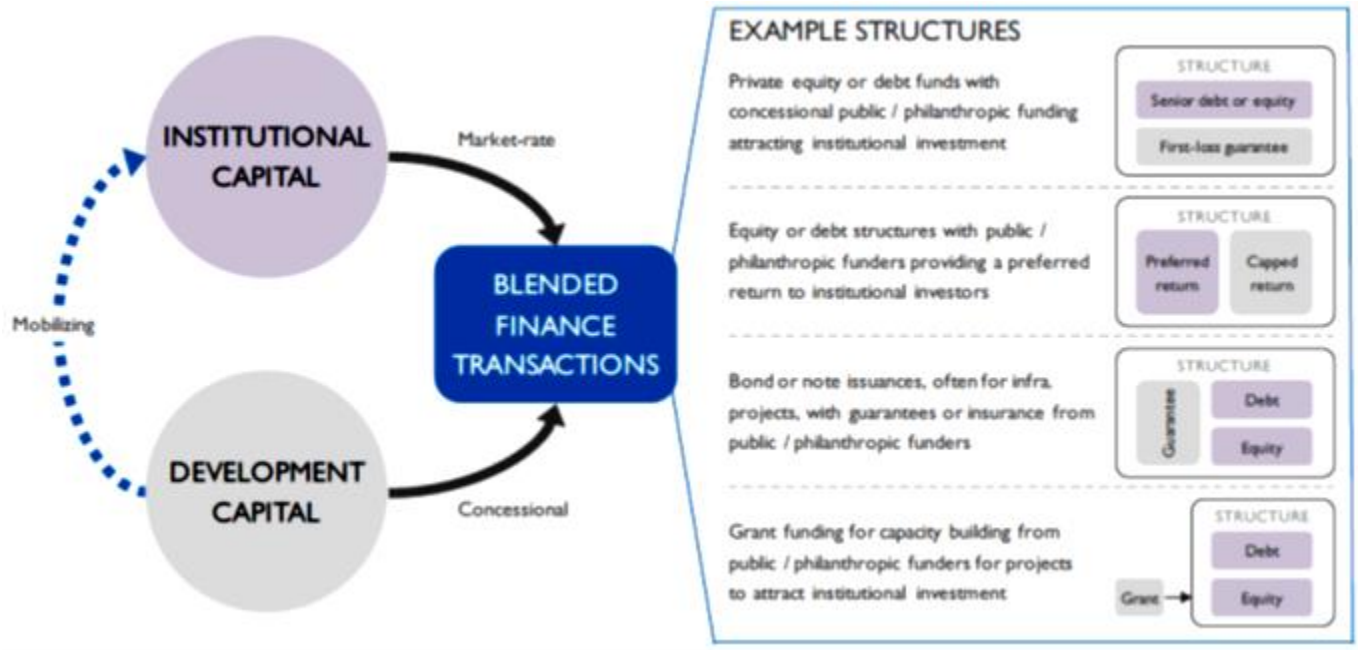
Philanthropic funders are key contributors in the blended finance ecosystem. Convergence (2018, 2019) and the DFI Working Group (2018, 2019) include philanthropic funders as part of the development funding partners who can provide concessional funds to fill the gap in a blended finance structure in financing a project. According to the WEF/OECD (2015), philanthropic funders play a major role in unlocking and improving the local investment markets, especially in the frontier and emerging markets. This study, however, will not focus on the role of the philanthropic funders specifically, due to the limited data that are available in the market.

2.7 Blended finance structure & instruments

The objective of blended finance is to apply various financial instrument that could include loans, guarantees, grants, and equities. The overall aim of blended finance is thus to improve the risk-return profile for commercial investors who, in different circumstances, would not have invested without public intervention (Convergence, 2017; United Nations, 2018b). In line with the latter, the WEF also (2016) noted that risk-adjusted returns should already be in line with market expectations.

Convergence (2018, 2019) argues that blended finance is neither an investment instrument nor is it an investment approach. Blended finance should be understood as a 'structuring approach' (Convergence, 2018, 2019). Figure 2.3 provides a picture of potential blended finance structures.

Figure 2.3: The Structure and Mechanics of Blended Finance
Source: Convergence (2018, 2019)



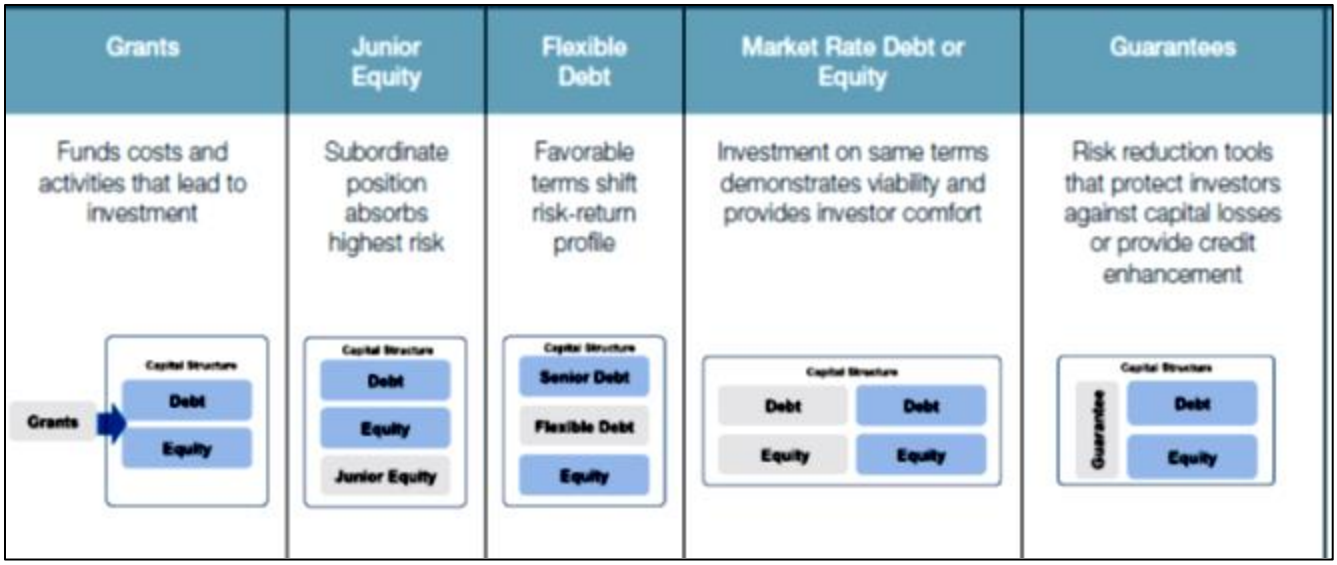
Convergence (2019: 7) identifies four common blended finance structures:

1. Public or philanthropic investors make available funds below market terms to either provide an additional layer of protection to private investors or to lower the overall cost of capital.
2. Philanthropic and public investors provide credit enhancements in the form of insurances or guarantees at below market terms.
3. A technical assistance facility is provided towards the transaction to strengthen the commercial viability and development impact of the deal either pre- or post-investment.
4. The preparation funding of the project is grant-funded from a public or philanthropic investor to attract private and institutional investors.

The mechanic of the structure requires the development capital to be raised or provided by a public or philanthropic funder to mobilise private capital. The development capital partner will provide concessional funding towards the transaction while the private/institutional investor will provide capital at market rates to form a blended finance structure.

The structure provided by Convergence is aligned to the initial structure presented by WEF/OECD (2015), as captured in Figure 2.4.

Figure 2.4: Financial Instruments Commonly Used in Blended Finance
Source: WEF/OECD (2015: 15)



The WEF/OECD (2015:15) postulate that by "mobilizing private capital to new markets or sectors can require support, either by reducing risks or increasing returns when the risks are high". While the instruments and structures in play are similar, Convergence emphasises the role of the philanthropic and public funders in providing concessional funding to the blended finance structure.

This study will not so much focus on the instruments being used to achieve a blended finance structure but will focus more on the mechanics to achieve that structure. The focus will be on whether MDBs have a significant role to play in mobilising private sector participation investment into infrastructure projects and whether using concessional funds and the support of governments do attract private capital flow.

2.8 The 'principle' debate around blended finance

As different institutions and organisation started cementing their roles in the blended finance ecosystem, so did they start redefining the principles around how blended finance could be effectively applied. Two significant organisations that developed their set of principles as applicable to their constituencies and definitions is the OECD for Development Assistance Committee (DAC) member countries and the DFI Working Group. Table 2.3 outlines the different principles of the two organisations.

Table 2.3: OECD & DFI Working Group Blended Finance Principles
Source: OECD (2018b); DFI Working Group (2017)

OECD DAC Blended Finance Principles	DFI Working Group
1. **Anchor blended finance use to a development Rationale**	1. Additionality/Rationale for Using Blended Concessional Finance
2. **Design blended finance to increase the mobilisation of commercial finance**	2. Crowding-in and Minimum Concessionality
3. **Tailor blended finance to local context**	3. Commercial Sustainability
4. **Focus on effective partnering for blended finance**	4. Reinforcing Markets
5. **Monitor blended finance for transparency and results**	5. Promoting High Standards

The OECD (2018b) is clear in their motivation for the principles they adopted. The objective is for these principles to reflect the directives as received from their DAC donors, including that the instruments and policies is as per their political oversight. The DFI Working Group (2018, 2019), which include the European DFIs and the MDB heads, approved the DFI enhanced principles in October 2017, focusing on using concessional financing to mobilise private capital. The DFI blended finance principle is commercially focused with the objective to crowd-in the commercial sector into projects where they otherwise would not invest and stipulate that concessional funding should only be used where it is proven that a project cannot be commercially structured or when the project is not viable with commercial financing.

The OECD is not fully disagreeing with the concessional approach of the DFI Working Group, but emphasise, as previously mentioned, that both non-concessional and concessional development finance could be included in a blended finance structure. The OECD (2018b) highlights "partnering for blending" and tailoring blended finance for the local context, which is not specifically emphasised in the principles or the guidelines of the DFI Working Group. Instead, the DFI Working Group (2019: 25) under the reinforcing markets principle states, as a guideline, that "DFI assistance to the private sector should be structured to effectively and efficiently address market failures and minimise the risk of disrupting or unduly distorting markets or crowding out private finance, including new entrants". It is unclear whether this is targeting local investors. It, however, is focusing on the general task of a DFI, which is to

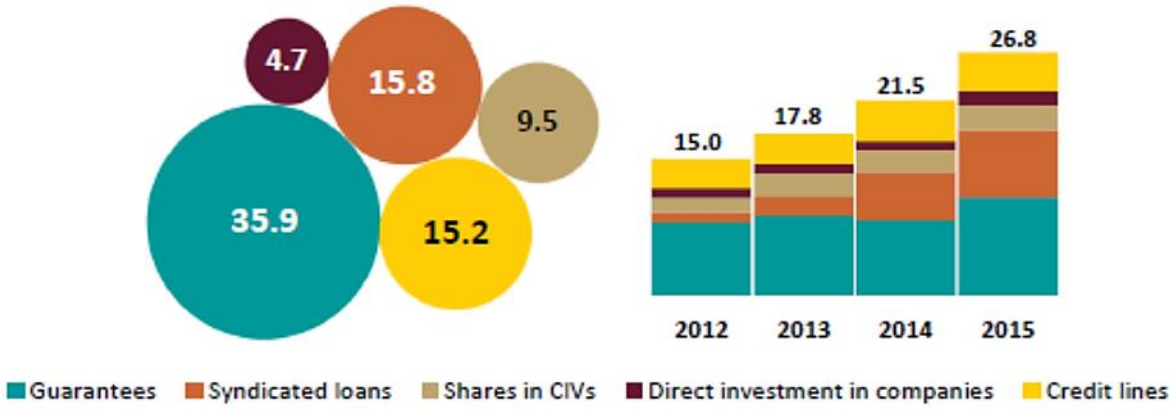
address market failures in a country or in a specific sector. While these are two different sets of principles with a focus more on the needs of their constituencies regarding how they wish to apply blended finance, the question is whether the local context, in this case, the African continent, requires its own set of principle of how best blended finance should be driven in Africa?

EMPIRICAL REVIEW

2.9 Blended finance studies

Benn, Sangaré and Hos (2017) conducted a survey commissioned by the OECD DAC, focusing on those amounts mobilised from the private sector due to the interventions made by official development financing (OECD, 2018; Benn et al., 2017). The survey targeted multi- and bilateral DFIs, aid-agencies, and institutions focused on resource mobilisation such as investment funds and public-private partnerships with a development mandate. One of the key objectives explored the amounts mobilised through financing instruments, including guarantees, syndicated loans, shares in collective investment vehicles, direct investments in companies, and credit lines (OECD, 2018; Benn et al., 2017). The study is significant because it is the first of its kind to explore the different leveraging instruments used to crowd-in private sector funding through public finance, focusing on blended finance. In Figure 2.5, for example, the survey highlighted that between 2012 and 2015 through the assistance of official development finance, approximately USD81 billion were mobilised from the private sector by leveraging the various mobilisation instruments used. Guarantees is by far the most used instrument representing approximately USD 35.9 billion mobilised.

Figure 2.5: Financial Instruments Commonly Used in Blended Finance



Source: Benn et al. (2017: 4)

Credit lines were targeted for upper- and lower-income countries, while most of the mobilised funds went to middle-income countries. The survey showed that middle-income countries are still the biggest recipient (77%) of funds mobilised for projects with only 7% of the funds mobilised in LDCs, and 3% mobilised for projects in other low-income countries (Benn et al., 2017, OECD, 2018). This result is disconcerting, as the recent *The Least Developed Countries Report 2017* shows that 33 of the 47 LDCs in the world are in Africa (UNCTAD, 2017). Despite this alarming statistic, Africa mobilised approximately 30% (USD 24.3 billion) of the funds through these mentioned instruments with 62% of African countries using the guarantees as a leveraging instrument with SSA applying this instrument to reported 73% of their projects. This is in contrast with the results of the BFT (2018) who argued that SSA are more the recipients of grants than guarantees. Further results from Benn et al. (2017) showed that:

- Almost half of the private funds mobilised came from higher-income countries, implying limited investments received from local or domestic investors.
- Almost two-thirds of the total amount mobilised resulted from the interventions from MDBs and the DFIs.
- The energy sector was the second highest recipient of funds mobilised after the banking sector with the ICT and water and sanitation sector receiving only 2% of the funds mobilised.

While the study shows great mobilisation effects in crowding-in the private sector through blended finance, it does recommend that a common understanding is required regarding blended finance and what the mobilisation effect really means for the different role players.

Furthermore, there is a need for more transparency around transaction information to develop more evidence-based research regarding the impact of blended finance.

Aligned to the positive results of MDBs and DFIs' role in mobilising private sector investments into infrastructure projects, Gurara, Presbitero and Sarmiento (2018) focused their research on the role of MDBs regarding syndicated loan deals and loan pricing. By collecting data from 23 000 syndicated loans to emerging and developing countries from the dialogic loan analytics database targeting the period of 1994–2015, the authors found that the involvement of MDBs could translate into lower spreads because of the mitigating borrower credit risk of the MDBs. That is, MDBs is critical in the de-risking component of projects in high-risk countries and due to these risk mitigation measures, has a high potential to crowd-in private investments into emerging and developing countries. It is thus assumed that there should be a positive relationship between the MDB/DFI and the participation of private sector investments into infrastructure projects in Africa. Broccolini et al. (2018) similarly focused on whether multilateral lending do mobilise private capital flows. Also referencing the dialogic database with tranches of syndicated loans from 1993 to 2017, Broccolini et al. (2018) targeted private borrowers with at least one foreign bank involved using a country-sector fixed-effects model. They concur with Gurara et al. (2018:12) that "MDB support to a country-sector significantly increases the number of syndicated loans, the total size of flows, the number of [private] partners brought in and the average maturity of loans".

Through the Redesigning Development Finance Initiative, the OECD and the WEF commissioned a survey of existing blended finance facilities and funds, including those that are currently managing and committed capital from private capital sources and development funders (OECD & WEF, 2016:4). The survey focused on capital that was disbursed to emerging and frontier markets[6] through the funds and the facilities they surveyed. A cross-section of 102 existing blended finance investment vehicles were surveyed with 74 classified as eligible for the survey (OECD & WEF, 2016). Qualitative interviews were conducted with selected funds and facilities. Development and philanthropic respondents included mostly multilateral and bilateral institutions from European and American-based organisations and 21 private funds was included in the survey.

[6] According to the WEF/OECD (2016:26) document, ""Emerging" and "frontier" markets refer to countries included in the OECD-DAC list of Official Develpoment Assistance (ODA) recipients." They have however included the countries where funds deployed capital to emerging markets which was listed outside the OECD-DAC list.

The survey results indicated that blended finance could deliver increased capital flows, financial returns for investors and the different investment vehicles, and development impact for developing countries (OECD & WEF, 2016). Capital attributed to SSA countries from the 74 funds and facilities totalled to $5.7bn of which 22% of the total capital attributed providing funds to SSA.

While the study provides an indication of the capital leverage from the private sector, it is not comprehensive enough to provide a significant overview of the scope of the blended finance approaches within SSA. Furthermore, the respondents in the survey was limited to the networks of the WEF and only included the responses from selected bilateral, multilateral, and 21 fund managers. While the Ministry of Foreign Affairs of the Netherlands were surveyed for their ODA and FDI contributions toward emerging and frontier markets, the study could not interview or survey the recipients of these funds and their needs, such as the governments of the SSA region.

The UNCDF (2018) used a mix of desktop research, case studies, and informal qualitative interviews to explore the potential use of a blended finance approach in financing projects in LDCs. More than 60% of the African countries qualify as LDCs. While integrating their data analysis with that of the study conducted by Benn et al. (2017), the noteworthy results from the UNCDF study comes from the five case studies (four from Africa) selected, including Tanzania, Rwanda, Mali, Democratic Republic of Congo, and Myanmar.

The UNCDF (2018) authors report that two of the studies that were focused on infrastructure in Rwanda and Mali would have remained unbankable projects if it was not for the extensive project development support these countries received individually from the MDB and international institutions such as the AfDB and the Private Infrastructure Development Group providing technical assistance, grants, and loans. Some of the key overall challenges highlighted in these countries for the private sector to participate from the get-go include the lack of PPP regulations and the affordability of user tariffs for basic infrastructure such as water and electricity.

Jandhyala (2016) examined whether MDBs in private infrastructure projects lowers the risk of projects and, in turn, increase the benefits of private participation in these projects. Jandhyala (2016) selected a sample of 2 117 infrastructure projects with private investments initiated between 1995 and 2009 in 45 developing countries from the World Bank PPI database. Using a logit model and a propensity score matching technique in robustness tests, Jandhyala (2016)

highlights that projects supported by governments are more likely to be distressed and riskier for private sector participation. Projects with MDB support, however, has a lower likelihood to be distressed with the private sector or firms more likely to benefit from MDBs' participation in these projects. According to Jandhyala (2016), MDBs are more likely to attract private sector participation in infrastructure projects, especially in countries with weak institutional development, while MDBs participation in countries with stronger institutional development prove to have the opposite effect. This suggest that where a country's governance and regulatory systems are in place for private sector to invest, MDBs' role is weakened and the private sector has more confidence to invest in those countries.

Ratha (2005) reviewed the trends of the subsidiary World Bank's IDA and IBRD lending commitments and how it correlates with debt service payments and a borrowing country's level of international reserves. By conducting an econometric analysis of cross-country and time-series data for the period of 1980–2000, Ratha (2005) suggests that countries seem to demand more World Bank lending (IDA/IBRD) when their international reserves decline, and their debt service payment increases. Focusing specifically on the results of IDA, Ratha (2005) reports that IDA loans to countries tend to take up a much larger share of borrowing countries' GDPs, with those countries having limited access to private capital flows. Ratha (2005:418) found that IDA lending commitments tend to be negatively related to the level of international reserves and positively related to debt service payments. In other words, this study implies that IDA concessional lending does not allow for the mobilisation of private sector investments but is more provided to countries due to their chronic inability to access private capital markets (Ratha, 2005). Dasgupta and Ratha (2000), through a country-level panel data analysis for 62 selected IDA countries between 1974 and 1997, found that official IDA flows have a strong positive relationship towards SSA, and a lesser relationship or focus on North Africa. It is expected for this research that IDA and blended concessional funding provided by the IDA will have a negative relationship in mobilising private sector participation in investing in infrastructure projects in Africa.

2.10 Summary

This chapter highlighted Africa's massive socio-economic challenges and the need for proper infrastructure development. The literature suggests that limited available funding are curbing most African countries to drive economic growth and negatively affects Africa's goal to achieve the 2030 SDGs.

The conceptual framework presented in this chapter highlighted the complexity behind the conceptual understanding of blended finance, the role players involved, and how blended finance can be structured to fund Africa's infrastructure. The literature review exposed a gap in the common understanding regarding blended finance and further suggests exploring what the mobilisation effect or crowding in of the private sector really means for the different role players. The researcher adopted the OECD's definition as a working definition for this research, while noting the limited understanding public sector officials have of blended finance and the role key players, such as MDBs and governments, should play in blended finance.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides an overview of the research methodology that was followed to conduct this study. This chapter first provides an outline of the mixed research design and approach, second, focuses on the sampling and data sources selected, and concluding with the quantitative and qualitative analytical frameworks.

3.2 Research design and approach

This study follows a mix method research approach using both quantitative and qualitative research methodologies and analysis. Dewasiri, Weerakoon and Azeez (2018:2) reasoned that by applying two different methodologies in a research process allows for greater generalisability, validity, and completeness and addresses the inconsistent results that could sometimes arise by only following either a quantitative or a qualitative approach. Quantitative results, according to Creswell and Plano Clark (2011), could lack the detailed understanding of what the effect sizes or statistical tests means, while the qualitative data could assist in building the argument and depth that the study need. By combining the usual explorations of, for example, words and narratives (the qualitative components) with the numerical data from larger surveys and secondary data (the quantitative component) on a similar issue, the research could be more generalised towards future examinations and studies (Hesse-Biber, 2010).

Hesse-Biber (2010) argue that a mixed research approach could specifically be used for triangulation, which involves using several research methods to examine the same research question or research problem and thus, applying this method to enhance the credibility of the research study under review. The reasoning for using a mixed research approach for exploring this topic of blended finance for infrastructure investments in Africa could be motivated as follow:

1. *There are inconsistencies in the different quantitative methodological approaches followed in the few blended finance studies reported.* Various self-administered surveys were conducted targeting different private sector institutions, MDBs, donors, or facilities (Basile & Dutra, 2019; DFI Working Group, 2018) The studies, however, lack

the detailed methodological approaches that could be replicated to other regions and tend to survey only the availability of members of large institutions of the WEF, EU, MDBs, or the OECD.

2. *There is limited research on blended finance, to the best of the researchers' knowledge, that specifically targets the African continent*. Case studies on using and understanding blended finance for specific sectors were conducted in, for example, Uganda and Senegal (Kasirye & Lakal, 2019; Sene, 2019) and Tanzania[7]. Other research explored the scope of blended finance in Africa compared to other regions or continents based on their database of blended finance (Convergence, 2018, 2019). In other words, the scope of blended finance investments into the infrastructure sector, specifically focused on Africa, has not received the special attention it deserves.
3. *There is limited to no input from the government officials working in this field*. To date, much of the research focused on the needs of the private sector with no or limited input received from the public sectors, and, more specifically, the government public officials who operate in the infrastructure space in Africa. Research studies focused on donor countries and the role of the MDBs related to blended finance but did not explore the government officials in Africa and members of public institutions such as a NEPAD/AUDA, Regional Economic communities in Africa and the African Union's understanding of this phenomenon called blended finance. It was only recently through the work of the OECD & UNCDF (2019) that the principle of country ownership and blended finance was raised.

Considering the motivations above for this research, Creswell and Plano Clark (2011) suggests that a mixed method approach should rely on a variety of viewpoints and core characteristics that combines philosophical assumptions, mixed methods, and a specific research design orientation. Creswell and Plano Clark (2011:5) highlight the following key components for mixed research methods the researcher should follow:

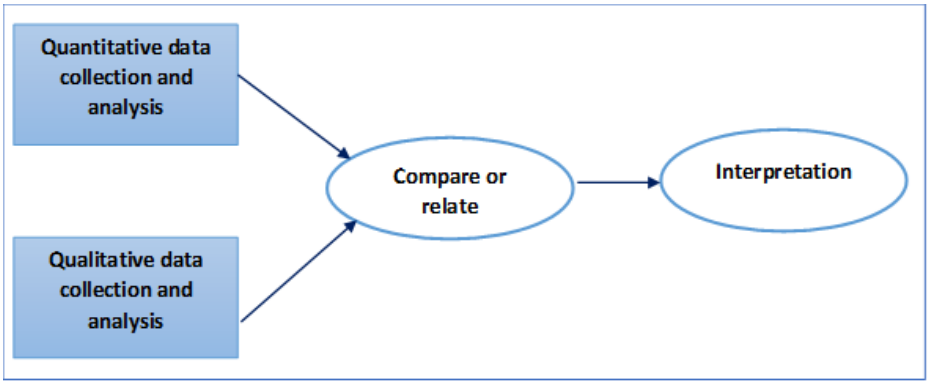
- Based on the research questions, the researcher should rigorously collect both quantitative and qualitative data that address the research questions.

[7] Kathleen Charles presented a case study on the *Use of Blended Finance Mechanisms in the Agriculture Infrastructure Sector in Tanzania* at a conference on Blended Finance in Geneva. The published document was not available at the time of completion of this research

- The researcher should be able to either mix two forms of data concurrently by embedding one with the other, sequentially by building one on the other, or concurrently merging the two forms of data.
- The researcher should be able to prioritise one method over the other method or provide equal weight to both, depending on the research needs.
- These procedures should be applied in either a single study or in a programme of study with multiple phases.
- Procedures should be combined into specific research designs to direct the plan for conducting the study.

For this study, the convergent parallel design (CPD) mixed research method, as defined and interpreted by Creswell and Plano Clark (2011), was employed, which requires the researcher to follow concurrently the quantitative and qualitative processes during the design phase of the research while collecting and analysing the data for both the quantitative and qualitative approaches. Figure 3.1 provides a schematic overview of the CPD, identifying the steps to follow.

Figure 3.1: Prototype of the CPD
Source: Creswell & Plano Clark (2011:69)



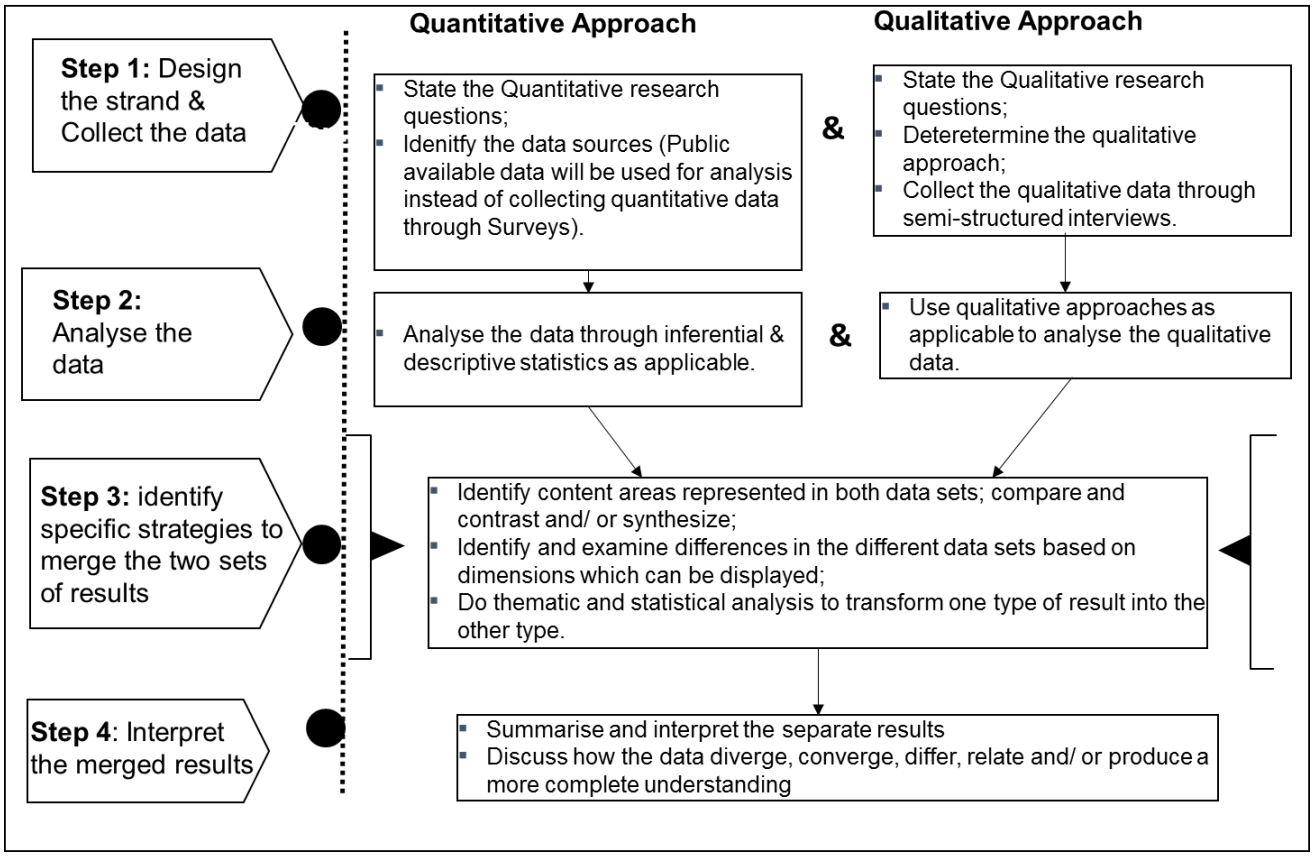
This design format, according to Morse (1991:122), aims "to obtain different but complementary data on the same topic" (cited in Creswell & Plano Clark, 2011:77). Mayoh and Onwuegbuzi (2015:100) refer to this approach as "phenomenology + quantitative approach". Some critics argue that it is difficult to run these approaches concurrently for cross-validation, as qualitative studies and that of phenomenological work, in general, is the exploration of the nature of human experience (Mayoh & Onwuegbuzi, 2015). Creswell and Plano Clark (2011) argue that while unequal sample sizes, merging the two different datasets, and finding discrepancies in both the qualitative and quantitative findings could create further

challenges in implementing it, using this research design could be beneficial for the research process. The sample sizes and data sources will be discussed further in the next section. Nevertheless, in this study, the quantitative data is exploring whether government and MDB/DFIs support attract private sector investments into infrastructure projects in Africa, while the qualitative component examines the public officials' understanding of blended finance to mobilise private sector investments into Africa.

For the implementation process of this research design, the Figure 3.2 outlines the basic procedures that were applied for this research, summarising the steps that were followed in implementing the CPD.

Figure 3.2: Implementation Flowchart of the CPD Approach Adapted for this Research Study

Source: Adapted from Creswell & Plano Clark (2011:79)



3.3 Sample and data sources

As mentioned before, this study uses three independent sources of data. These data sources include secondary quantitative databases that is publicly available from the World Bank, while

a few respondents will be selected to be interviewed for this study to provide the government or public sector's perspective on blended finance and its potential for Africa. Creswell and Plano Clark (2011) argue that when applying a CPD approach, the best option is for the two samples to have different sizes with the quantitative sample being much larger than the qualitative sample. They postulate that this approach "helps the researcher obtain an in-depth qualitative exploration and a rigorous quantitative examination of the topic" being examined (Creswell & Plano Clark, 2011:183). This argument addresses one of the challenges raised earlier regarding the unequal sampling sizes of the population under investigation. These approaches will be outlined in more detail below.

3.3.1 Quantitative sampling and data sources

The main secondary data source used for this study is the World Bank's Private Participation in Infrastructure (WB PPI) database. The WB PPI database records public infrastructure projects that reached financial closure in low- and middle-income countries as classified by the World Bank (version 2010) where there are contractual arrangements and the private sector is assuming operating risk[8]. This is complimented by using the World Bank's International Debt Statistics (WB IDS) database and the World Bank's database on the Sustainable Development Goals (WB SDGs). The unit of analysis was restricted to the economic infrastructure-specific deals in the ICT, energy, transport, and water and sewerage sectors, which reached financial closure between 1994 and 2017 in specifically, North-Africa and the SSA regions. The list of the participating 49 countries, the income level of the different countries, as defined by the World Development Indicators report (2017), and the number of projects listed are captured in Annexure B. All African countries where the private sector participated in investing into infrastructure as per the information available in the WB PPI database were included in the study. Countries that were not listed in the WB PPI database include Burundi, Eritrea, Guinea-Bissau, Equatorial Guinea, and Libya.

Six hundred and forty-six project deals were listed as part of the final analysis. The top five countries in which most of the projects reached financial closure include South Africa (91), Nigeria (53), Egypt (53), Uganda (35), and Tanzania (32). The focus for this study, however, was not so much on the number of projects listed, but on whether blended finance do attract more private sector participation into the infrastructure projects in Africa. In this instance, as it is difficult to confirm that blended finance was applicable in each project, it was assumed

[8] See https://ppi.worldbank.org/methodology/ppi-methodology

that once one of the following criteria was met, some form of a blended finance structure was employed to either support or crowd-in the private sector:

1. The participation of an MDB or DFI in a project attracting/supporting the private sector to invest in the infrastructure deal;
2. The presence of concessional financing in a country indicates the potential crowd-in of private sector investment into that country for development projects;
3. IDA and blended finance countries of IDA are used as a tool to attract private sector participation investment into the infrastructure project; or
4. Government support, whether direct or indirect, is included to provide some sort of guarantee or agreement for the project to go ahead.

Countries are specifically listed as per income level to provide an upfront indication of where the private sector feels most comfortable to invest their money. The preliminary results show that 26% of the private sector investments are allocated to upper middle-income countries, with South Africa the one outlier being the recipient of 91 private sector projects in this period. Further analysis is still required to understand where the investments are going, considering the fear from many researchers that the LDCs will lose out from private investors when following a blended finance approach. A limitation to this study is that the detailed country-risks per the rating agencies associated with investing in these projects or countries are not covered in this study.

3.3.2 Qualitative sampling and data collection

As previously mentioned, Creswell and Plano Clark (2011) argue that in the CPD, both the qualitative and quantitative data must be collected concurrently, the information analysed separately, and eventually, the two databases can be merged in the interpretation process. For this research, data were collected from two independent sources, namely the World Bank databases for the quantitative data and in-depth interviews for the qualitative data. To identify people willing to be interviewed, the researcher employed a purposeful sampling technique. The researcher focused on those public sector officials with an understanding of investing in infrastructure in Africa and the role of the funding support provided by MDBs and DFIs in this space in Africa aligned to the CPD principle where the same questions or variables were explored. A snowball sampling technique, which is described as a non-probability sampling method where those people interviewed are requested to suggest or identify additional available individuals to interview for this subject matter, were applied (Babbie & Mouton, 2001). It

should be repeated that the qualitative sample should be much smaller than the quantitative sample to ensure in-depth qualitative exploration (Creswell & Plano Clark, 2011). In addition, Mason (2002) emphasised that it is not the number of respondents interviewed for the research, but whether the researcher has collected enough information to be convinced that saturation was achieved and no new knowledge can be derived from the interview process.

The qualitative data collection approach will follow a semi-structured interview process. Morse (1994) argues that through a semi-structured interview process, the researcher can start with general enquiries around the specific topic of exploration but can follow this up with more specific themes and patterns in subsequent interviews. Furthermore, this form of interviewing is a more flexible and an open research tool and could provide different perspectives that are not always known. Furthermore, it could provide disadvantaged groups the opportunity to air and publicise their views on the subject matter (Banister, Burman, Parker, Taylor & Tindall, 1994). Interviews will be conducted either using face-to-face or telephonic interviews, depending on the availability of the respondent. Indicative start-up questions for the interview is captured in the interview schedule in Annexure C.

3.4 Analytical framework – Quantitative analysis

The next section will provide more detail regarding the analytical framework that will be used in this study. The unit of analysis for the study is infrastructure investments in countries.

3.4.1 Regression model for exploring blended finance through WB databases

To examine the scope of private sector investments into infrastructure projects in Africa, the statistical computerised system, Stata version 15.0 (Stata Corporation, College Station, USA) was used. Descriptive statistics and a multiple linear regression model were employed for the purposes of analysis. The purpose of a multiple regression analysis, according to Jeon (2015) is to (1) to determine whether the independent variable(s) influence the dependent variable, and (2) to determine if the change in one unit of the independent variable could predict the amount of change in the dependent variable. Multiple regression analysis was used as a powerful statistical tool to model the relationship between a set of independent variables and the dependent variable (Jeon, 2015).

The goal of the multiple regression analysis in this study is to determine the relationship of the various independent variables (MDB Support, concession, IDA, Government Support, Type of

Private sector, project status, primary sector, type of proposal, FDI, Income and Geographical region) on the dependent variable (Private participation investing in infrastructure).

Notably, the relationships identified among variables in the analysis does not imply that those relationships are causal as well. Assumptions regarding multiple regression analysis must be met, including testing for multicollinearity, hetero- and homoscedasticity, and normality. For example, regarding multicollinearity, Gujarati (2003:359) states that "[i]f *R2* is high, say, in excess of 0.8, the *F* test in most cases will reject the hypothesis that the partial slope coefficients are simultaneously equal to zero, but the individual *t* tests will show that none or very few of the partial slope coefficients are statistically different from zero". On the other hand, if there is a high pair-wise correlation coefficient between two regressors more than 0.80, then multicollinearity could be regarded as a serious challenge (Gujarati, 2003: 359). Assuming all these assumptions have been met, the factors influencing or have a relationship with private participation investing in infrastructure projects will be analysed in alignment with the objective of this research. The advantage thus of using multiple regression analysis for the purpose of this study is to examine, to some extent, the influence a variety of independent variables will have on the dependent variable, which in this case is the private participation investing infrastructure.

The regression model for private participation investing in infrastructure (PRIV) include the following predicted relationship variables: MDB support, dummy variable for where MDBs/DFIs are linked to a project (β_0), Concession (CONCES), IDA_status (IDA), Government support (GOVSUP), type of private sector participation (TOPRIV), project status (PSTATUS), primary sector (PRIMSEC), type of proposal (PROPTYPE), FDI, income (INCGROUP), and geographical regions (GEOGR). The sample regression model as an estimate of the database, and can be drafted as:

$$PRIV_i = \beta_0 + \beta MDBS_i + \beta_2 CONCES_i + \beta_3 IDA_i + \beta_4 GOVSUP_i + \beta_5 TOPRIV_i + \beta_6 PSTATUS_i + \beta_7 PRIMSEC_i + \beta_8 PROPTYPE_i + \beta_9 FDI_i + \beta_{10} INCGROUP_i + \beta_{11} GEOGR_i + \varepsilon_i$$

The definition of each variable is captured in Table 3.1 on the next page.

3.4.2 Measurement & description of independent variables

This section of the research aims to motivate the chosen variables selected and its potential impact on the findings of this research study. Only a selected group of variables are discussed

in this section which is expected to have an impact on the results of this study. Reference will be made to previous studies in this field.

3.4.2.1 Multilateral, bilateral and DFI support (MDBS)

Multilateral and bilateral support to advance infrastructure projects in developing countries through blended finance is identified throughout this research as an integral component for crowding-in private sector investments into these sectors. Jandhyala (2016), for example, found that there is a lower likelihood for an infrastructure project to be distressed[9] when there are MDB participation associated with the project. Various studies reported on the positive effect of MDB support on crowding-in private sector investments into infrastructure projects by, for example, funding, securities, and guarantee instruments, and thus, also reducing the risk of relevant projects (Buiter & Fries, 2002; Calitz & Fourie, 2010; Byoun, Kim & Yoo, 2013; Mawdsley, 2015; Bayliss & Waeyenberg, 2018; Convergence, 2018; DFI Working Group, 2018; Convergence, 2019). Convergence (2018) reports that 47% of MDB and DFI institutions combined are active blended finance investors, and notes that 42% of blended finance deals are targeted at SSA.

Several studies are available that delve into the role of DFIs into infrastructure projects to mobilise private sector investments, but only a few of them focus specifically on Africa (ICA, 2018).

Table 3.1: Definitions of Variables

ABBREVIATION	VARIABLES	DESCRIPTION	SOURCES OF DATA
Dependent variable			
PRIV	Private Sector Mobilisation	Percentage of Private Sector Participation	WB PPI
Independent Variables			
Core Independent Variables			
MDBS	Multi- or bilateral support- include DFIs	Dummy Variable	WB PPI
GOVSUP	Direct Support Indirect Support Government granting the contract	Dummy Variable	WB PPI
CONCES	Concessional debt	Concessional debt (% of total external debt)	WB IDS
IDA	IDA Grants NON-IDA	IDA support depends on a country's relative poverty,	WB PPI

[9] Jandhyala (2016) postulates that a project is in distress when it is abandoned or cancelled, and the original contracted services are no longer provided by the private sector.

ABBREVIATION	VARIABLES	DESCRIPTION	SOURCES OF DATA
	Blend Countries	defined as GNI per capita below an established threshold and updated annually ($1,145 in fiscal year 2019); while blend countries IDA-eligible based on per capita income levels[10]	
Moderators – private sector variables			
PRIMSEC	Primary Sectors (Energy, Transport, Water 7 Sewerage, ICT)	Only primary sectors are captured, which include the key sub-sectors	WB PPI
TOPRIV	Divestitures Greenfield projects Brownfield Projects Management & lease contracts	Four categories in which private sector infrastructure projects are classified.	WB PPI
PSTATUS	Projects that have been active, cancelled, concluded or distress	Only the last update of status of project is recorded	WB PPI
PROPTYPE	Unsolicited bids from private sector to governments	Unsolicited bids are where the private sector leads the process of identifying and developing new projects for governments	WB PPI
Macro-Economic Factors – Control variables			
FDI	Foreign Direct Investments	FDI, net inflows (% of GDP)	WB SDG
INCGROUP	Income status of the country	Foreign direct investment, net inflows (% of GDP)	WB SDG
GEOGR	Geographical regions	Projects awarded in low- and middle-income countries, as classified by the World Bank July 2010 categories. Upper-income levels refer to upper middle-income level	WB PPI

3.4.2.2 Government support (GOVSUP)

The WB PPI updated their variable definitions and split government support to direct and indirect government support. It is defined as, "direct government support is further split into capital subsidy, revenue subsidy, and in-kind support. Indirect government support has all of the various guarantees, as well as the new subcategory tax deduction/government credit". The WB PPI database changed their data to include specifically infrastructure projects that specifically involves government or public sector projects to drive private sector investments.

[10] See http://ida.worldbank.org/about/borrowing-countries

It is widely reported that governments cannot pay for the public infrastructure projects they so desperately need to ensure economic growth, especially in Africa. To increase development finance and mobilise private sector finance into Africa, governments should create the necessary enabling environment. This study draws on the government support as one variable to explore whether government support in infrastructure projects do have a positive relationship with private sector institutions to invest their money into infrastructure projects in Africa.

3.4.2.3 IDA/NON-IDA or Blend (IDA)

The IDA of the World Bank is a key blended finance instrument that lends money on concessional terms to countries at risk of debt distress and provides grants to programmes that will boost economic growth in a specific country[11]. The IDA provides low to zero interest rates on their loans, has a tenure that can stretch over 30 years, and a grace period of a maximum of 10 years; yet, private infrastructure investment in IDA/blend vs. non-IDA countries remains scarce in the poorest of countries. IDA/Blend investments remain below USD50 billion annually; yet, it peaked at almost USD200 billion in 2012 in non-IDA countries (Humphrey, 2018). Forty-one of Africa's 54 countries has either IDA or blended status. Countries with blended status, such as Nigeria, are eligible based on per capita income levels, and creditworthy for IBRD borrowing[12]. The IDA/Blend of the World Bank provides an additional instrument into which a country could tap to mobilise additional private sector funding for investments in infrastructure projects on the continent. Aligned to the study conducted by Dasgupta and Ratha (2000), it is expected that the IDA instruments will overall have a negative relationship with private sector participations in investing in infrastructure projects in Africa.

3.4.2.4 Primary Sector (PRIMSEC)

The primary sectors of investigation will be focused on ICT, water and sewerage, and energy and transport. All sub-sectors are included as per the WB PPI database definition. The new WB PPI tracks not only private sector projects for ICT, but tracks the ICT backbone, usually covered by the public sector. Convergence (2018, 2019) showed that the energy sector has dominated the blended finance space. Not only are infrastructure investments in countries the unit of analysis for this study, but the objective is also to explore in which sectors the private sector are mostly investing in Africa with a key focus on the economic sectors. It is assumed

[11] See http://ida.worldbank.org/about/what-is-ida
[12] See http://ida.worldbank.org/about/borrowing-countries

that the energy sector will dominate the private sector investments in Africa, considering the Convergence results.

3.4.2.5 Types of private participation (TOPRIV)

The WB PPI classified private sector participation into four main categories. These include:

- Management and lease contracts – While investment decisions remain with the state or government, the private owner could lease or manage the asset for a fixed term as per the contractual agreement (e.g. Toll road in a PPP project).
- Greenfield projects – A new facility or project is erected that is build and operated for a specified period by either the private sector only or through a private-public sector venture. In this case, the private sector is taking up the operational and financial risk and makes its revenue throughout the life of the project in its care.
- Brownfield projects – Similar to greenfield projects with the only difference being that the asset already exists, the private sector undertakes the operations and capital investment.
- Divestitures – An equity stake is bought by the private sector into a state-owned enterprise (SOE) where the private operator receives full responsibilities for investments, operations, and maintenance. This could be a full government transfer of 100% of the equity of the SOE to the private sector or it could be on a partial arrangement.

3.4.2.6 Project status (PSTATUS)

The project status identifies whether a project is active, cancelled, distressed, or concluded. All status items are included in the study to provide an overall view of the status of the projects. A project, according to the WB PPI, is distressed if either the private entity to the government requested for the contract to be terminated or the project is in international arbitration. Studies that focused on the statuses of projects in Africa still argue that there are limited bankable projects on the continent. The intention is to show that the private sector is investing in infrastructure projects on the continent and the reasons why these private entities are investing in these projects.

3.4.2.7 Concessional debt (CONCES)

Providing concessional financing or funding, weather in the form of grants, debt, or equity, is one of the key instruments used by philanthropist, MDBs, and donors to mobilise additional finance into infrastructure projects or to finance social programmes that would otherwise not receive the necessary funding. The DFI Working Group (2018:4) showed through the results of a self-reported pilot survey during the period of 2014–2016 that the DFI's "annual use of concessional finance from donors by the DFIs for private sector projects in developing countries [reached] … at least USD700 million, with DFIs contributing at least an additional USD1.7 billion to the projects from their own funds and supporting total project costs between 5 and 17 times the concessional amount". That is a contribution of approximately USD5 billion annually (DFI Working Group, 2018). Convergence (2018) argued that more than 40% of the blended finance transactions in their database used concessional funding, which was typically provided by philanthropic and public institutions where for every USD1 of concessional funds, approximately USD4 of private sector finance were mobilised. No concessional debt, a percentage of total external debt, was reported for South Africa, with missing data reported for Namibia and Seychelles. Considering the limited information available from the DFI Working Group (2018) and Convergence (2018), there should be a positive relationship between concessional debt in a country with a higher percentage of private sector investments into African Countries, with South Africa being the outlier.

3.4.3 Estimation technique

The World Bank PPI database can be downloaded as a panel data set using Stata for further empirical analysis of its 6400 infrastructure projects across 137 low- and middle- income countries from 1994 to 2019 (or to date)[13]. However, instead of using panel data analysis, a cross-sectional study was conducted, employing an ordinary least squares (OLS) estimation technique to estimate the multiple linear regression model. This required an upfront investigation of all potential related assumptions regarding the OLS estimation.

Shanahan (2012) argues that the objective with cross-sectional designs and analysis is to access a representation of the population of interest at one given point in time. Data, for this study, were selected at one point in time from the World Bank PPI database. The intent of this study is to explore private sector's relationship with blended finance instruments, such as receiving

[13] https://ppi.worldbank.org/en/ppidata

MDB support, when investing in infrastructure projects in African countries. The objective is not to explore the changes in the private sector's behaviour when investing in these countries, but to understand whether at the time of investment was there any positive or negative relationship between the dependent and independent variables under consideration.

Reflecting on the discussion of cross-sectional analysis as presented by Salkind's (2012), the following motivations can be provided for the selection of cross-sectional analysis for this study:

- This study is examining African countries who were the recipients of different observations or number of infrastructure investment projects per annum over the period selected.
- The data is from a group of countries with varied characteristics from, for example, income status, FDI flows etc.,
- The data does not provide any information on the change over time with the impact of blended finance instruments.

3.5 Analytical framework – Qualitative analysis

In a mixed research approach both the quantitative data and the qualitative data tend to be analysed separately. The qualitative data in the form of in-depth semi-structured interviews will be subjected to a thematic analysis approach. According to Guest, MacQueen and Namey (2014), thematic analysis requires an in-depth focus by the researcher on describing and identifying both the implicit and explicit ideas and the key patterns that is presented by the data that leads to the specific themes. The basis of thematic analysis is in the identification of recurring messages where the process requires breaking the narrative data into categories, which is followed by observing for patterns across all the data received and comparing it across different settings (Costa, Breda, Pinho, Bakas & Durão, 2016). For this study, the researcher recorded and transcribed all interviews. Notes were taken throughout the interview process as a reminder of the key points where the respondent were passionate about the subject discussed and or emphasised.

The transcribing of all the interviews were done in Microsoft Word and later exported to NVIVO 12 Pro, a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) package that assist the researcher in the analysis process of the qualitative data. Due to the large size of

qualitative data usually collected, researchers (Denzin & Lincoln, 1998; Patton, 2002;) encourage using qualitative software packages for qualitative analysis.

Coding of the data is usually applied to break the data down during the process towards identifying key themes emerging from the data. Strauss and Corbin (1998) identifies three progressive coding techniques that were applied in this research study. These include open coding, axial coding, and selective coding. Table 3.2 provides an overview of the mentioned coding techniques.

Table 3.2: Coding Techniques
Source: Strauss & Corbin (1998), extracted from Costa et.al., (2016:38)

Type	
Open coding	Refers to the process of generating initial concepts from data. Concepts are identified and their properties and dimensions discovered.
Axial coding	Through axial coding, categories and their related subcategories and concepts were refined to form more precise explanations
Selective coding	Selective coding is used to integrate and refine categories to form a larger theoretical scheme

In alignment with the convergent design approach, the qualitative themes will be discussed with the quantitative results.

3.6 Conclusion

This chapter provides an overview of the research methodology that was followed to conduct this study. A detailed overview of the mixed research design and approach was provided with a focus on the convergent parallel design (CPD) mixed research method. This method requires the researcher to follow concurrently the quantitative and qualitative processes during the design phase of the research while collecting and analysing the data for both the quantitative and qualitative approaches. The chapter is concluded with the quantitative and qualitative analytical frameworks to be employed.

In the next chapter, the results of the CPD will be displayed and discussed.

CHAPTER 4

DISCUSSION OF RESULTS

4.1 Introduction

This chapter will outline the quantitative and qualitative results of the mixed research methodology applied to explore blended finance for infrastructure projects in Africa. Section 1 focuses on the quantitative results and Section 2 on the qualitative results.

4.2 Quantitative results

4.2.1 Descriptive results

Table 4.1 summarises the descriptive statistical results for all the variables as defined in Chapter 3. The average for all the countries is calculated based on the number of projects in which private sector participated for the period of 1994 to 2017 across Africa. Around 644 observations were detected for most of the variables with only 600 private sector participation (PRIV) in infrastructure investment observations reported in Africa during this period. It is further shown that 624 of the 644 observations held concessional (CONCES) debt as a percentage of the GDP for the period the project was captured. FDI was evident in 631 observations.

Table 4.1: Descriptive Statistics

Stats	Mean	Median	Std. Dev.	Min.	Max.	N
PRIV	0.887	1.000	0.199	0.050	1.000	600
MDBS	0.334	0.000	0.472	0.000	1.000	644
CONCES	0.445	0.423	0.281	0.000	0.935	624
IDA	0.747	1.000	0.676	0.000	2.000	644
GOVSUP	0.197	0.000	0.398	0.000	1.000	644
TOPRIV	1.686	1.000	1.018	1.000	4.000	644
PSTATUS	1.253	1.000	0.676	1.000	4.000	644
PRIMSEC	2.398	2.000	1.018	1.000	4.000	644
PROPTYPE	0.711	1.000	0.454	0.000	1.000	644
FDI	0.041	0.025	0.126	−0.058	1.597	631
INCGROUP	1.992	2.000	0.743	1.000	3.000	644
GEOGR	3.401	4.000	1.312	1.000	5.000	644

Note: PRIV = Private sector participation; MDBS = Include Multilateral or bilateral support; CONCES = Concessional debt as % of total external debt; IDA = International Development Association support; GOVSUP = Direct or indirect support; TOPRIV = Classification of private sector infrastructure projects; PSTATUS = Active, Cancelled, Concluded or

Distress; PROPTYPE = Solicited or Unsolicited bid; FDI = Foreign Direct Investment net inflows as % of GDP; INCGROUP = Income status of country; GEOGR = Southern, Eastern, Western and Northern Africa.

Investment through private participation in infrastructure projects in the selected data is high with a mean of about 88.7%. In the 44 observations where there is no private sector participation, it can be inferred that the projects listed were most likely financed through public-public partnerships; that is through multilateral and or bilateral support and or government contribution or this information were missing or not reported on.

MDB support to African countries is averaging as low as 33% compared to the participation of the private sector participation in infrastructure investments in these projects. Simultaneously, the direct and indirect support received from African governments (GOVSUP) towards these infrastructure projects is on average low with a mean of 0.2. The IDA support is averaged higher at a mean of 0.7.

Most of the type of investments are leaning more towards investing into the brownfield projects at 1.68, while the median is showing that the most recurring investment projects tend to be greenfield projects. The energy sector is still dominating as the PRIMSEC for private sector participation on average, with most of these projects, according to the data, reported as unsolicited bids (PROPTYPE). The FDI net flows as a percentage of GDP per annum averaged around 4%.

Most of the investments, according to the mean, is leading towards the northern and southern African regions. Most of the investments are more in lower middle-income countries with limited investments going to lower- and upper-income countries.

4.2.2 Private sector investments: Region and income group analysis

A deeper frequency analysis into the private sector participation into the specific geographical and country income group analysis does not show much difference.

Table 4.2: Region and Income Group Analysis

Geographic regions	PRIV		Income Grouping	PRIV
Central Africa	0.7656		Lower-Income	0.8851
Eastern Africa	0.9436		Lower-middle-income	0.8984
Northern Africa	0.8551		Upper-middle-income	0.8687
Southern Africa	0.8719			
Western Africa	0.9006			

Central Africa, according to Table 4.1, is receiving the lowest investment from a private sponsor at around 76.5%, while the eastern African region is receiving the highest participation from private sector investors at 94.3%. The latter is contradicting, as the results of the mean as reported in the descriptive analysis showed more investments from private participation in infrastructure projects in the southern and northern African regions.

The lower-middle-income countries are receiving slightly higher private sector participation at 89.8% compared to the lower and upper middle-income countries, which is not far behind at 89.8% and 86.8% respectively.

4.2.3 Correlation results: Factors determining private sector participation

The correlation matrix in Table 4.3 shows that MDBS has a negative correlation with private sector participation. Blended finance instruments to attract private sector participation such as using concessional debt (CONCES) and IDA support (IDA) through grants, low interest loans or technical assistance are also negatively correlated with private sector participation. Government support, whether direct or indirect, as well as FDI flows, show a positive but weak relationship to private sector participation.

The correlation matrix is indicating a strong negative relationship between income and concessional debt as a percentage of GDP and income and IDA support. There is a high likelihood that the higher the income status of the country, the less concession it is receiving. Similarly, there is a high likelihood that an upper-middle-income country will receive much less IDA support than lower-income countries.

The results of the correlation analysis do not show any evidence of multicollinearity, as per Gujarati (2003:359), rule of thumb that the correlation coefficients do not exceed 0.80.

Table 4.3: Correlation matrix

	PRIV	MDBS	CONCES	IDA	GOVSUP	TOPRIV	PSTATUS	PRIMSEC	PROPT~	FDI	INCGR~	GEOGR
PRIV	1											
MDBS	−0.020	1										
	(0.634)											
CONCES	−0.028	0.195	1									
	(0.501)	(0.000)										
IDA	−0.013	0.061	0.4217	1								
	(0.758)	(0.125)	(0.000)									
GOVSUP	0.061	0.179	−0.1634	−0.2476	1							
	(0.133)	(0.000)	(0.000)	(0.000)								
TOPRIV	−0.104	−0.092	0.208	0.156	−0.208	1						
	(0.011)	(0.019)	(0.000)	(0.000)	(0.000)							
PSTATUS	−0.006	−0.056	0.144	0.137	−0.157	0.258	1					
	(0.889)	(0.158)	(0.000)	(0.001)	(0.000)	(0.000)						
PRIMSEC	0.120	−0.047	0.010	0.101	−0.086	0.245	−0.027	1				
	(0.003)	(0.235)	(0.810)	(0.010)	(0.029)	(0.000)	(0.499)					
PROPTYPE	−0.170	−0.174	0.312	0.284	−0.433	0.282	0.219	0.188	1			
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)				
FDI	0.040	−0.014	0.052	0.086	−0.028	0.044	−0.050	0.020	−0.047	1		
	(0.338)	(0.724)	(0.199)	(0.031)	(0.490)	(0.270)	(0.211)	(0.623)	(0.235)			
INCGROUP	−0.031	−0.157	−0.772	−0.565	0.095	−0.079	−0.142	0.047	−0.214	−0.174	1	
	(0.456)	(0.000)	(0.000)	(0.000)	(0.016)	(0.044)	(0.000)	(0.231)	(0.000)	(0.000)		
GEOGR	0.027	0.000	−0.198	0.134	−0.065	0.057	−0.064	0.096	−0.030	0.121	0.117	1
	(0.505)	(0.993)	(0.000)	(0.001)	(0.099)	(0.149)	(0.107)	(0.015)	(0.447)	(0.002)	(0.003)	

Note: PRIV=Private sector participation; MDBS=Include Multilateral or bilateral support; CONCES=Concessional debt as % of total external debt; IDA=International Development Association support; GOVSUP=Direct or indirect support; TOPRIV=Classification of private sector infrastructure projects; PSTATUS= Active, Cancelled, Concluded or Distress; PROPTYPE=Solicited or Unsolicited bid; FDI=Foreign Direct Investment net inflows as % of GDP; INCGROUP=Income status of country; GEOGR= Southern, Eastern, Western and Northern Africa. Values in parentheses represent *p*-values.

4.2.4 Regression results: Private sector participation investment in infrastructure

The results of the multiple linear regression model on the effect of MDBS on private sector participation investment in infrastructure (PRIV) projects is presented in Table 4.4. The results of the multiple regression analysis are statistically significant ($F_{(22.558)} = 12.6, p = 0.000$), indicating that the slope of the estimated linear regression model is not equal to zero. Stata results shows lower bound of the slope at −.071 and upper bound of the slope at .104. The regression model in Table 4.5 proves to be highly significant at the 1% level with a *p* value of 0.000 and a low coefficient of determination (R^2) value of 0.332. This indicates that the independent variables could only explain around 33% of the variation in the private sector participation investment into infrastructure projects (dependent variable). To determine the relationship of the independent variables identified regarding the PRIV dependent variable, a multiple linear regression analysis was used.

The coefficient of MDBS has a negative relationship with private participation in infrastructure investment at the 1% significant level (Coef = 1.083; *t* = -3.34; *p*.=.000). This means that projects with MDB support are characterised by lower private sector participation in infrastructure investments. This result is in line with the result of Rodrick (1995) who found no significant association between past multilateral lending and current private flows. The outcome can further be linked to the study conducted by Ratha (2001) who found a negative relationship between private sector flows and multilateral loans in the short term. Dasgupta and Ratha (2000), through their investigation of the World Bank lending, showed a negative relationship with private sector flows. The results, however, could be contrasted with those of Broccolini et al. (2019), and Jandhyala (2016) who both argued that MDB support do attract private participation in infrastructure investment projects in different ways. Broccolini et al (2019) argued that MDB support increases the number of additional partners brought into the project and the number of syndicated loans. Jandhyala (2016) found support in her data for her hypothesis that an infrastructure project with private sector investment will be less distressed when there is an MDB involved in that specific project. While both the hypotheses' might be somewhat different, both studies argue that MDBs, largely, through their instruments and expertise could crowd-in private sector participation in different ways into infrastructure investment projects.

Table 4.4: Factors Influencing Private Investments in Infrastructure Projects

	Coef.	Std. Err.	t	P>t
Constant	1.083	0.064	16.99	0.000
MDBS _Yes	−0.055***	0.016	−3.34	0.001
CONCES	-0.024	0.049	−0.5	0.620
IDA (NON-IDA)				
IDA	−0.281***	0.049	−5.74	0.000
Blended	−0.250***	0.050	−5.04	0.000
GOVSUP_Yes	−0.003	0.020	−0.14	0.886
TOPRIV (GREENFIELD)				
Brownfield project	−0.012	0.022	−0.55	0.582
Management and lease contract	−0.247***	0.031	−8.05	0.000
Divestiture	0.120***	0.032	3.77	0.000
PSTATUS (ACTIVE)				
Concluded	0.018	0.036	0.49	0.624
Cancelled	−0.038	0.031	−1.23	0.219
Distressed	0.094**	0.044	2.1	0.036
PRIMSEC (ICT)				
Energy	0.043*	0.026	1.66	0.098
Water & Sewerage	0.003	0.039	0.07	0.947
Transport	0.028	0.031	0.92	0.359
PROPTYPE_Yes	−0.056***	0.020	−2.89	0.004
FDI	0.030	0.061	0.5	0.618
INCGROUP (Lower-Income)				
Lower-middle-income	0.012	0.023	0.54	0.589
Upper-middle-income	−0.225***	0.047	−4.77	0.000
GEOGR (Central Africa)				
Eastern Africa	0.185***	0.034	5.4	0.000
Northern Africa	−0.135***	0.047	−2.9	0.004
Southern Africa	0.046	0.034	1.36	0.174
Western Africa	0.143***	0.032	4.53	0.000
F(22, 558)		12.6		
Prob > F		0.000		
R-squared		0.332		
Adj. R-squared		0.3056		
Root MSE		0.16474		
Observations		581		

Note: PRIV=Private sector participation; MDBS = Include Multilateral or bilateral support; CONCES = Concessional debt as % of total external debt; IDA = International Development Association support; GOVSUP = Direct or indirect support; TOPRIV = Classification of private sector infrastructure projects; PSTATUS = Active, Cancelled, Concluded or Distress; PROPTYPE = Solicited or Unsolicited bid; FDI = Foreign Direct Investment net inflows as % of GDP; INCGROUP = Income status of country; GEOGR = Southern, Eastern, Western and Northern Africa. ***, ** and * denotes significance at 1%, 5% and 10% respectively. Coef: -Standard Coefficient, *t*:-*t*-value; $p > t = p$

The results also show that there is a significant negative relationship between private participation in infrastructure investment and IDA. Specifically, IDA countries are observed to have a lower likelihood of attracting private participation in infrastructure investment compared to non-IDA countries at the 1% significant level (Coef = −0.281; t = −5.74; p.=.000). Similarly, blended support, an additional IDA instrument, also indicated a significant relation with private participation in infrastructure investment (Coef = −0.250; t = −5.04; p =.000). This means that countries receiving IDA or blended support is characterised by receiving lower private sector participation in their projects. The results are contrasting to the research of Galiani, Knack, Xu and Zou (2016), who argued that when IDA is viewed as an instrument of aid, the investment rate in that country drops in that specific country following the reduction in aid. In other words, Galiani et al. is arguing that aid instruments, such as the IDA, is more likely to increase the investment rate of other sources, such as private capital flows, into those countries. This links to the income status of a country to receive private participation in infrastructure investments. Ratha (2005) argues that IDA support is more likely to be targeted where private sector investment is less likely to occur due to the inability of these countries to access the private capital markets. The results of this study are more likely to concur with the finding of Ratha (2005), as most of the countries in this sample has a lower-income status as per the UNCDF (2018) experiencing institutional and regulatory challenges.

There is a high likelihood that an upper middle-income country will receive significantly less private sector participation with the coefficient of upper middle-income countries observed to have a negative relationship with PRIV at the 1% significant level (Coef = −0.225; t = −4.77; p =.000). The result reflects the correlation matrix in Table 4.3, which showed that the higher the income level of a country, the lower concessional and IDA support it will receive. The results of this study align with the results of the UNCDF (2018). It can be argued that middle-income countries are still the largest beneficiaries of private sector participation in infrastructure investment projects, which is also reflected in the negative relationship in the correlation matrix in Table 4.3; albeit not significant (UNCDF, 2018). The OECD/UNCDF (2019) found that of the total private sector funding mobilised by official development finance interventions between 2012 and 2017, only 6% went to LDCs, while over 70% was injected into middle-income countries. LDCs are on average still mobilising less private sector investments through blended finance deals compared to other developing countries (OECD/UNCDF, 2019).

The coefficient of the project status of distressed projects is observed to have a positive relationship with private participation in infrastructure investment projects at the 10% significant level (Coef = 0.094; t = 2.1; p = 0.036) compared to active projects in which the private sector is participating.

The results are in line with the that from Guarara et al. (2018) who showed that 5% of projects in the PPI database is either distressed or cancelled, and Jandhyala (2016) who found that 9% of the infrastructure projects in her sample could be classified as under distress. Jandhyala (2016), for example, found that projects supported by government are more likely to be under distress, which could be linked to the risks associated with these projects. Both Guarara et al. (2018) and Jandhyal (2016) found that projects were less distressed where there are MDB support involved in these projects.

The results revealed that there is a positive and significant relationship between eastern Africa (Coef = −0.185; t = 5.4; p =.000) and western Africa (Coef = 0.143; t = 4.53; p =.000). while northern Africa (Coef = −0.135; t = −2.9; p =.004). is observed to have a negative relationship with private sector participation at the 1% significance level. This means that as more projects are available for investments in the eastern and western African regions, the more likely it is that private sector participations in these regions will increase. This result concurs with the findings from both the AfDB (2018) and the ICA (2017) publications that indicated that investments into infrastructure tend to be higher in the eastern and western African regions. While private sector participation in the northern African regions indicate a negative relationship, characterised by lower private sector participation in this region, which is in contrast to the results from the AfDB (2018). Northern Africa has been the recipient of disbursements into its infrastructure of up to 20.7% of Africa's total share by 2016 (AfDB, 2018), indicating increases of investments over the years observed.

The results in Table 4.5 indicates a significant positive relationship between private sector participation investing in infrastructure and the energy sector (Coef = −0..043; t = 1.66; p =.098) at the 10% significance level in African countries. The results concur with other research that blended finance transactions have been dominating in the energy sector with 38% of blended finance transactions reported in the energy sectors in SSA between 2010 and 2018 alone (Convergence, 2019). This, however, also means that the more the private sector participates in infrastructure investment projects in the energy sector, the lesser it participates in much more needed developmental infrastructure sectors such as water and sanitation, which shows a positive but not significant relationship with the private sector.

The results further showed that there is a significant negative relationship with private participation in infrastructure investment and management and lease contracts. More specifically, management and lease contracts are observed to have a lower likelihood of having private sector participation in infrastructure investments compared to participation in greenfield projects (Coef = −0.247; t =

−8.05; p =.000). Simultaneously, the coefficient of the type of divestiture projects is observed to have a positive relationship at the 1% significance level compared to greenfield projects where the private sector is participating in infrastructure investments (Coef = 0.120; t = 3.77; p = 0.000). The results are in line with a recent study focusing on private sector participation in the energy infrastructure sector in Ghana, which found that the private sector is more likely to invest in greenfield projects through PPPs as opposed to management and leasing contracts (Owusu-Manu, Edwards, Kutin-Mensah, Kilby, Parn, Love, 2017). Berg and Shirley (1990), in their review of divestiture in developing countries, found few instances of leasing and management contracts of private participation and during this time, found a limited number of divestiture projects, specifically in developing countries. The one reason provided is because developing countries are not always keen to sell off state-owned entities to the private sector.

Finally, the coefficient of the type of proposal (PROPTYPE) showed a negative significant relationship (Coef = −0.056; t = −2.89; p = 0.004). between solicited bids and private sector participation investment in infrastructure projects, highlighting that the private sector is not always keen to bid for government-published or initiated projects but would rather approach the public sector with a new project for development and skip the procurement and bidding process (unsolicited bids). The result is thus not surprising, as Yun, Jung, Han and Park (2012) confirm that various factors are influencing the success of a solicited projects. The private sector, however, are deterred from these types of projects due to the longer preparation time to develop these projects, and once governments' send out a request for proposals for a specific project, the private sector already knows that there is a gap in the financing of these projects (Yun, Jung, Han and Park, 2012).

4.3. Qualitative results

The objective of the in-depth interviews conducted with public sector officials was to explore their understanding of blended finance and its applicability to Africa's infrastructure projects. This section highlights the profile of the respondents interviewed and the different themes that emerged from the different interviews. The findings of the outcome of the study, excluding the profile of the respondents, are presented under five key themes, namely:

1. Understanding of blended finance
2. The role of MDBs and or DFIs in blended finance
3. Use of concessional finance or funding as a blended finance tool
4. Role of government in blended finance structures

5. The expectations around blended finance structures

It should be noted that the verbatim responses of the interviewees were captured in this section.

4.3.1 Profile of respondents

In Table 4.4, the demographic details of the respondents are provided with pseudo names given to each of the respondents. The researcher also refrained from providing a specific age or the exact name of the organisation or country the respondent represented. Ethical clearance for conducting the interviews was received from the UCT Graduate School of Business and respondents' permission to interview them was also received.

In total, 13 individuals were referred for the interview. Unfortunately, only one female out of the nine confirmed respondents were available to be interviewed. The researcher was dependent on the availability of respondents and the referrals received from the different respondents as per the snowball sampling selection method. Four of the nine interviews were conducted telephonically, as indicated by the Asterix next to the name. Most of the respondents were between the age of 35 and 45 with a university degree.

Table 4.5: Demographic Characteristics of Respondents

Respondent	Gender	Age range	Public Sector
A1	Male	35 – 45	Supranational Continental Body
*A2	Male	35 – 45	Government– Ministry of Treasury
A3	Male	35 – 45	Government– Ministry of Transport
A4	Male	35 – 45	Regional Economic Community (REC)
*A5	Male	55 – 65	Regional Economic Community – Affiliated Association (REC)
*A6	Male	45 – 55	MDB
A7	Male	35 – 45	National DFI
A8	Female	55 – 65	Advisory Services to Public Sector
*A9	Male	55 – 65	Government Ministry of Treasury

4.3.2 Understanding of blended finance

In this section, the key themes emanating from the discussions with respondents regarding their understanding of blended finance is presented. The findings highlight that most of the respondents' understanding of blended finance is about (1) mobilising private sector capital by (2) combining different sources of funding to (3) reduce the risk for the private sector to invest in infrastructure projects or regions where they will not usually invest in.

4.3.2.1 Mobilising private sector capital

Respondents' overall understanding was that blended finance is an approach to mobilise additional private sector capital for the development of projects. This perspective of blended finance was clearly stipulated by A2 from the government sector.

> *Okay, my understanding of blended finance is the use of government and development finance to mobilise private sector finance. A way to try and maximise finance for development through the private sector*. (A2)

A2's understanding of blended finance reflected that of several of the respondents and is aligned with the original definition provided by the (OECD/WEF, 2015) who focused their definition on mobilising private capital flows that would ensure developmental impact. In further support of this finding, the Addis Agenda emphasised using blended finance as an instrument to mobilise private capital and that it should be used to attract private sector finance for impact across the development sectors (OECD, 2018a).

4.3.2.2 Combination of sources of financing

While the overall understanding of blended finance is to mobilise private sector capital, an added view defined blended finance in line with combining different forms of financing or funding. A few of the respondents argued that blended finance is about a "*combination of sources of financing*" (A6) to mobilise or attract private sector participation.

> *It is about taking various forms of financing and combining them together to reduce the cost of capital for lending into infrastructure projects and other types of projects. And generally, it involves three types of financing: One is DFIs, one is donor or philanthropic financing and the other is private financing. And if we are lucky, there could be a bit of public financing[14] blended in as well*. (A5)

> *…it is a modality of financing development where you structure a combination of sources of financing. So, in this case it could be traditional financing from a DFI and private sector resources or investments into the capital of the project*. (A6)

The above understanding of blended finance to combine different sources of financing is in line with the arguments from several researchers and publications where blended finance is linked to the

[14] Reference specifically to government financing

combination of various financing sources (Carter, 2015; Bilal & Krätke, 2013). A different view in combining different sources of funding was emphasised by A1 from the supranational body. A1 argued that blended finance should include "*all forms of money, which accompanies or strengthen public money… which should also have some sort of a commercial element to it*". A1 emphasised the commercial component, as most of the infrastructure projects are still funded by government and that not all the projects are of interest to the private sector, noting that the additional funds should be in support of strengthening public sector money for infrastructure.

One respondent (A4) mentioned that his understanding of blended finance is that it is used by the European Investment Bank (EIB) where you have "*a grant, and they will blend it with a loan facility*". A4's understanding of blended finance agrees with various other studies such as Bilal et al (2013), Mustapha et al (2014), Ferrer et al. (2011), and Romero et al. (2014).

4.3.2.3 The risk factors

A8[15], on the other hand, argued that the definition of blended finance provided is too narrow and needed to include risk mitigation measures as well.

> *I had this debate at the UN [inaudible] … about how you define blended finance because the public sector definition often says that it is blending private finance with public finance, period… That is too a narrow definition because to really have blended finance… you need to include risk mitigation*." (A8)

The focus on risk mitigation measures, as emphasised from a private sector perspective is not surprising, as the private sector tend to be risk-averse and will not invest in a project that could eventually lead to financial losses. A5 agrees that "*blended finance has to be a mechanism [that will] reduce the cost of capital primarily by mixing forms of funding which will reduce risk for private sector participants*". This rationale for using blended finance as a mitigation tool to de-risk investment in developing and emerging markets for infrastructure projects and the private sector is shared by the BFT (2018), Tew et al. (2016), and Küblböck & Grohs (2019).

In summary, it should be noted that eight of the nine respondents could provide an understanding of what blended finance is. All eight respondents had some formal education in finance and work in the financing and infrastructure space. A3, who works in the Ministry of Transport and works closely with the supranational and regional economic bodies in implementing critical transport

[15] Even though a representative from the private sector, A8 was selected because of a close collaboration with different MDBs, RECs and Governments.

infrastructure projects, could not provide an understanding of blended finance. After explaining the concept behind blended finance, A3, however, started linking it with using grants and concessional funding to bring more private sector investments into infrastructure.

Nevertheless, most of the respondents had a basic understanding of blended finance, which is aligned with the major definitions available in the blended finance sector. The responses, however, reflect a lack of a universal definition of blended finance as confirmed by A1 "*that there has not been a very clear definition of blended finance*."

4.3.3 The role of MDBs and/ or DFIs

It is clear from all the respondents that MDBs and DFIs are critical in the blended finance structure, especially in supporting governments in developing and achieving their infrastructure goals and in crowding in the private sector into these projects. MDBs and DFIs are, in several ways, critical in supporting governments, as per the respondents in this study. This theme explores the different roles MDBs and DFIs should employ, including providing project preparation funds, making available the necessary guarantee products, providing loans, and crowding-in the private sector. The need for more coordination and development of partnerships was also highlighted as a key role of the MDBs and DFIs.

The critical roles identified links to the MDBs' perspective that they are "*supposed to be trusted advisors as DFIs when [they] go to countries"* (A6). This role of DFIs and MDBs acting as trusted advisors was also emphasised by A3 who mentioned that "*they [MDBs] are key, especially in terms of negotiating in some of the projects*". The respondents' dependency on MDBs and DFIs as trusted advisors and negotiators is reflected in a statement made by Giordano and Ruiters (2016) studying the role of development finance institutions in post-conflict and fragile situations where they emphasised:

> *DFIs, like other external actors, do not want to undermine the state-building process. DFIs are meant [to] help the private sector enter high-risk markets by facilitating the creation of an environment conducive to the protection of private sector investments and interests (governance, rule-based structures, etc.), along with the provision of social and environmental goods and services. But they have to find ways of doing so without weakening the state as a decision-making and policy formation entity*. (Giordano and Ruiters (2016: 570)

In the sections below, the researcher will elaborate in more detail on the roles and functions as conveyed by respondents.

a. Project preparation and development funds

The respondents emphasised that MDBs and DFIs must disburse more development funds to unlock infrastructure projects in the region. A5, from the Regional Economic Affiliated Institution is convinced "*that DFIs are not playing enough of a catalytic role in order to facilitate project development and project preparation which is making the private sector nervous*". The need for additional development funding is further emphasised by A4 from the REC who argued that "*the amount of money that we need to develop the infrastructure is so enormous that what we are getting from the donors or from the development banks is not sufficient. It is not enough. It is just a drop in the ocean*".

While the respondents mentioned that the development capital received from the MDBs and DFIs are not enough, other respondents articulated that they are receiving the necessary preparation funds from these institutions.

> *Yes, I mean there is an IPP in a country where they used that kind of [preparation] financing where there is a government contribution to the project and the government contribution was in the form of a grant from one of the development partners*. (A9)

> *But we are hoping that with these engagements with the World Bank probably we can eventually get some more funding from the likes of the IMF, African Development Bank, DBSA to [develop] some of the projects that we have*. (A3)

A6 from the MDB states that "*the level of preparation of a project… helps you reduce the level of risks because then you have a basic understanding of what the [project] involves and also of cause the environmental and social assessments*".

These confirmations for the need for project preparation by both the government officials and the RECs emphasised the importance of project preparation for the development of infrastructure projects in Africa, which was highlighted by previous researchers as critical for blended finance transactions (Arezki, et al., 2017; Broccolini et al., 2018; Convergence, 2018) It, however, also highlights the dependency of governments for project development funds from the MDBs and the DFIs and their inability to fund and manage these projects themselves. A4 argued that:

> *…a normal challenge with most of the African countries is that you can prepare a bankable project or an investable project, but funding is not immediately available… And that is why, most of the projects as I said earlier on, we prepare them, and then they end up in the shelf, because the countries they cannot manage*. (A4)

A5 is adamant that blended finance will not be a solution for Africa if you do not have well prepared and structured projects.

> *My point is the following, you can have as many instruments as you want, if you have not sort out the issue of properly prepared projects, properly identified projects, alignment to plans and development goals, those things will never be resolved*. (A5)

The above response is in line with research arguing that the lack of bankable projects and the need for catalytic finance to prepare projects to a bankable state to crowding-in private sector remains the key constraints to finance infrastructure in Africa (Badu, Owusu-Manu, Edwards & Holt, 2013; Collier, 2014).

b. Provider of guarantees and insurance products

The private sector usually wants comfort that their investments are secured, and they will not suffer from unbearable losses when they invest in mostly public sector infrastructure projects in Africa. As such, the private sector might request a government guarantee for the project before it is financed. According to A5, "*[projects] simply just do not get off the ground because the private sector is too risk-averse, and government is not willing to put out a government guarantee*." According to many of the respondents, the provision of guarantees by countries could be a challenge for African countries; hence, some of them are not providing guarantees for projects to be financed and implemented.

> *Some countries, because of the ratings of their economies and their debt to GDP ratio, payment terms, have no sovereign guarantees to provide… Because, in effect, they are not dysfunctional, but they are not economically viable to provide any guarantees like Guinea Basso, Sierra Leone, Central African Republic and so forth*. (A1)

> *Really, it is tough… But it is challenging for a lot of countries because our legal frameworks are not that strong. I mean, you have to have recourse as an investor if there is default in any part or maybe a change in the operating environment*... (A6)

This is where the role of the MDBs and the DFIs becomes more important. A2, for example mentioned that while his country does provide financial guarantees to "*financially stable government entities that have strong balance sheets to get financing to do development programmes*", they will still tap into "*the partial risk guarantees (PRG) from African Development Bank*" (A2). It should be noted that A2 is situated in a lower-middle-income country that has a higher likelihood to provide government guarantees compared to low-income countries, as referred to by A1.

The provision of guarantees has a longstanding history, as mentioned earlier; however, within the blended finance structure, it is more emphasised (Convergence, 2018; Tew et al., 2016; Broccolini et al., 2018) and is thus, no surprise that guarantees was raised as a need that MDBs must provide.

The MDB and DFI participants was not wholly convinced that a guarantee is always required.

> *If you lend directly to the government, the guarantee is implicit. The Guarantee is ultimately a backstop to the government. But, if a project can stand on its own and the cashflow in the project is robust, then you do not need a guarantee. You can structure something so that… you have sufficient capital that your interest coverage ratio is forever covered*. (A7)

> *But, I think, if you are an investor and you have done your due diligence, and the legal environment of that country allows you to invest and recoup your money and you are confident, go and invest without a contingent liability, because your risks will be covered through the legal framework*. (A6)

A9 feel that government does not always need to provide the guarantees or tap into any available. His biggest challenge is that "*governments in Africa do not have any standard in managing contingent liabilities. It is something we need to think about and say, how do we minimise from the government's perspective, that risk. So, we put in place mitigation measures*".

Despite the contradictions in perspectives around the provisions of guarantees, Benn et al. (2017) proved that guarantees remain one of the most used instruments, whether from government or MDBs, to crowd-in the private sector in blended finance.

c. *Loan provider: "Their role is essentially to make money"*

DFIs and MDBs were acknowledged in many of the interviews as financiers and providers of loans to the governments or the private sector to finance the infrastructure projects that were required. The DFI Working Group (2017) emphasised in their research that they are a loan provider for

development. The DFI respondent argued that once the countries seek financing from a DFI, their objective is to find financing that is provided at low cost.

> *So, when you are blending, you are looking at DFIs, you are looking at DFIs with much cheaper financing, European DFIs who will look at a project and think we have some money allocated for grant financing for this kind of projects*. (A7)

> *A country can borrow from a DFI at lower cost, as opposed to obtaining financing from a private investor*. (A6)

Some of the REC and government representatives were not fully convinced and argued that DFIs and MDBs are more there for making money than the actual objective of financing the project for development.

> *I think for them [MDBs/DFIs] it is business as usual. Essentially, they are also looking for where to invest. … For example, AfDB will want to focus on the development of the people and want to invest in agriculture… And they say that is a project where we are going to put in some money. Now, they can give money to government or the private sector, depending on who approached them. Their role essentially is to make money, though making money with an eye to contributing to the development of the country and the people... But at the end of the day, all of it is Money. Because this money they get from somewhere and they have to get a return on that money*. (A9)

d. "Crowd-in the private sector as much as you can"

All the participants agreed that the MDBs and DFIs' role is to crowd-in the private sector into infrastructure projects. The objective, as mentioned by A2 earlier on blended finance, is to crowd-in the private sector and the MDBs and DFIs have a critical role to play in this space.

> *Once you have a DFI which have some capacity and a DFI who has a good brand, once they starting to develop projects and talking about investing themselves, the private sector will essentially sigh a sense of relieve because they will be saying that the DBSA or the IDC or whoever it is have developed this programme or this project and in fact, they must understand it. They understand the risk associated with it. Otherwise they would not be putting they own cash into it*. (A5)

> *We are too reward DFIs for doing first loss and that they're there. The whole incentive system and looking at leveraging the private sector*. (A8)

The DFI and MDB concur that one of the main roles is to crowd-in more private sectors to invest into infrastructure projects. This is highlighted in the statements below.

> *Of course, there are certain projects that are not lucrative enough for the private sector to get in that is basically a market inefficiency. And that is when you have to have a government to step in and I [as national DFI] will have to assist in those cases as well. But there are some projects that will be easily taken up by the private sector and their efficiencies will be increased, making their costs of funding even lower, so you want to crowd-in the private sector as much as you can.* (A7)

> *I think the presence of a DFI is vital for private sector to invest especially where they are sceptical of certain rates and do not want to expose themselves fully. In that case, the presence of the DFI actually facilitated the investment from the private sector… However, for projects which have a very high potential for revenue streams and finance and there is private finance that are ready to invest money, I think if our objective is to scale up private sector investment, I think DFIs should be able to take a lower portion of financing for those projects. Whilst at the same time, I think DFIs are going into a project, looking at the interest of a country more than their bottom line in all respect*. (A6)

The above feedback concurs with the result from Jadhyala (2016) and Broccolini (2019) that MDBs are critical in attracting private sector participation into infrastructure projects.

4.3.4 Concessional finance as a blended finance tool

Concessional finance or blended concessional finance is a core theme described by the DFI Working Group (2017) as a tool that is used by MDBs and DFIs to increase private sector participation in investments, in partnership with other development partners and donors to mobilise private financing for the SDGs. The question which was posed to respondents was "What is your feeling towards concessional finance as a tool to support countries financing their infrastructure projects and mobilising more private sector investments?" The responses to this question painted mixed feelings of using concessional finance as a blended finance tool as it reportedly has an "*uneven record*" according to A5. The researcher will elaborate more on the results below.

a. Conditions with concessions: "*I mean, a beggar has no choice*"

Officials from the government, RECs, and supranational bodies were blunt in their expressions towards concessional finance for investments, arguing that while it might be a positive approach to

support countries, the conditions associated just to receive the funds does not motivate countries to tap into this tool available from development funders.

> *And I think we have this notion that the World Bank is doing us a favour through these concessional lending and or the ADB [African Development Bank] … All these new products, that we think that are favours to us, but they are not favours to us… they are not favours because they take the commercial part of the structuring and introduce their instruments to make sure it becomes a commercial transaction. And government is left with the non-commercial part*. (A1)

A1 specifically stipulates that once a deal is structured at concessional rates, governments are left out of the process and left with the "*non-commercial parts*". Surprisingly, when asked about her feelings about concessional financing, A8 stated that she "*thinks when you look at concessional financing […] you just have to know that there is no formula answer… When you do a deal, your criteria are investibility and you got to bring the government along with you*". After further enquiry on this topic, A8 elaborated by stating that "*when you talk concessional funding, you need to look at project development, are you asking the right questions, are you doing capacity building and advisory to the government and the decision-makers, so they don't do stupid things*". In both A8 and A1's responses there is a need for government to be consulted before a concessional financing approach is discussed or agreed upon for any blended finance structure when investing in Africa.

This anguish with using concessional funding is further emphasised by the government officials themselves who argue that concessional funding is too conditional, but in most instances, they do not have a choice but to welcome the funding.

> *For me, it depends on who is providing the concessional funding. But from my experience, we found a lot of conditionalities when it comes to concessional finance. And in most instance, even after the signing of the loan agreements, you find that projects kicking off commencement of construction, procurement of contractors beginning way later, even two years, three years [later]. I have even seen concessional funding that has been signed, but nothing is happening on the ground, just because of conditionalities that is placed on this kind of financing*. (A2)

> *Okay, concession funding is basically twofold. It was beneficial on some projects. It was not beneficial on other projects So, most of what we have been getting, or most of what we have managed to secure as funding came through concessions. So those issues, when you are*

trying to negotiate, an investor will come with those issues... If I am going to invest in this, these issues should be addressed. That has been the problem… Ja, you are coming for this, but you have to meet conditions 1 2 3 and some of them were then political. (A3)

It depends on where you are getting the concessional funding (from)… They have their own conditions and agenda. So, they will say, okay, we give you a loan at 0.75% but this is what we want, 1234, some of which can border on your independence. But that is their conditions. If you can abide by their conditions, you can get the money…And if you are desperate; I mean some countries are in such a need that they have to accept their conditions… So, what do you do when you need the money and if their countries and the quality of the products from their countries are good enough, why not procure from there? So, if it is a conditionality, I mean, a beggar has no choice. (A9)

According to the respondents above, all from government departments, most countries are in need of cheap funding received through concessional loans. The conditions linked to these loans, however, tend to hamper their process and become too political.

b. Concessional rates: The MDB/DFI perspectives

One would expect that the MDB and DFI will have the same opinion around using concessional financing to mobilise the private sector. In this study, the MDB and DFI, however, both had separate ideas around using concessional financing. A6 argued that concessional funding is necessary in Africa, especially when you target low-income countries who are already struggling to manage their national budgets.

So, if the DFI plays a lead arranger on a project and is able to mobilise more concessional finance on a project, at the end of the day for the African context where we still have a lot of low-income countries or users and end-users that may have issues with affordability. By having concessional funding in a project. For low-income countries, absolutely. I think for higher-income countries, maybe not. (A6)

A6 argues that concessional finance could only improve the financial status for low-income countries when financing their infrastructure or capital investments. A7 from the DFI, however, argued that concessional funding "*is not going to crowd-in the private sector, unless you consider the private sector to be guys like Bill Gates or foundations who are willing to give additional philanthropic free money*". He further stated that:

> *...concessional financing can distort the market. So, if you look at Namibia and you are financing a road using concessional financing, we cannot get concessional financing to finance a road in Namibia as a {local DFI}. But if MDB, for example, come in financing a road through concessional financing in Namibia, and we are supposed to compete against MDB, there is no ways we will win. So, they have crowded us out*. (A7)

A7, however, later did argue that if the MDB packaged the project in such a way where they provide a blended solution to the government where everyone on the spectrum, both the local DFIs and the private sector has a role to play in the structure and blend this with MDB concessional financing, only then can the blended solution work.

c. IDA funds – concessional tool

As part of the interviews, the researcher explored the respondents' thoughts on the IDA instrument of the World Bank. Not everyone worked with the IDA, as confirmed by A9 who stated that he is "*aware of it, but personally have not come across it*". Overall, the IDA is viewed as a valuable concessional tool of the World Bank to not only "*crowd-in the private sector*" (A2), but also to "*help in graduating those countries in low-income status to a higher-income levels*" (A6). The private sector felt that while this is a useful tool, it, however, is underused with more coordination being required to really ensure countries and the private sector could benefit from this instrument. A5 claimed that the IDA "*could help you reduce your capital*" and further concluded that "*if we brought all those things (IDA) together with other DFIs, with private finance, you should be able to get a bankable project*". These perspectives on the IDA is in agreement with Delmon's (2007) perspective that the IDA is a useful tool to mobilise private finance for investments.

4.3.5 Government's role in blended finance structures

On the question about the governments' specific role in a blended finance structure, it was argued by most of the respondents that governments' main role is to create the enabling environment for the private sector to come in and invest in those projects.

> *I think what they should do is perhaps creating an enabling environment to law, to provide the necessary guarantees to attract private capital as a form of blended finance and also to change the rules so that institutional investors can also invest in infrastructure as an asset class.* (A1)

So, government has a bigger role in enhancing blended finance. In essence, through communication through policy, through commitment at the highest level. And also, to create a political stable environment, a credible environment, a macro stable economy. So, the government has a big role to play to enable blended finance. (A2)

A5 and A4, however, added that except for creating the necessary policy and enabling environment, governments in Africa must also contribute (financially) to these projects and be capacitated to do so. In this sense, the project will be more blended and government could take on some form of accountability for this project to succeed.

They have to contribute in one way or the other and I am sure that is now maybe the blended financing is also coming in, whereby you are saying okay, we got something to contribute. But for you to be responsible, you [Government] also have to contribute in something [into] this. (A4)

And then you will have to have Government's own commitment to its portion of the funding. (A5)

The DFIs and MDBs are saying that once governments are contributing more to infrastructure projects, they will be crowding out the private sector

...so ultimately the government's role is to basically have an enabling environment. If the governments' role is to start financing projects, it is ultimately crowding out the private sector." (A7)

Capacity constraints remain rife in the government and most of the respondents argued that even they wanted to play a bigger role in investing in infrastructure projects in Africa. They prefer to crowd-in more of the private sector, especially since most of the infrastructure are currently still being financed by the governments.

So, most African Governments are stuck, right. There are those that manage the hurdle and then we go into managing the actual project, the construction of it. We are not good at that. (A1)

First of all, the development architecture back to the skills issue. You have deskilled Africa, because you are importing all the professionals, the highly specialized professionals that you need to identify developer's mitigation and financing factors. (A8)

Excluding creating the enabling environment, A5 and A4 also argued that government should identify projects and commit these projects to their national development plans, which will provide investors more comfort knowing that these are projects that are of value to governments. A2 went so far to argue that governments must be a bit more proactive and identify projects that are commercially viable in high-return areas. A2 argued that "*it is all about getting commercial private financing investing in high return areas or economically viable projects that has high impact in terms of development*."

4.3.6 The expectations in employing a blended finance structure

On the question, whether blended finance structures could benefit African countries in developing the infrastructure environment, respondents responded positively with the hope that by employing these structures in the infrastructure investment space, they hope that it could reduce the public debt levels of countries.

> *Blended finance, if properly used, can help reduce public debt*. (A2)

> *Because we want to find a blended finance solution, especially in the SADC region. What we found is that for many countries in this region, the treasury is bare… I mean, there is some public funding, but it is extremely limited* (A5)

Others were focusing on strengthening the local capital markets.

> *Ultimately, we would like to see more impact from regional banks and regional investors. For example, if we look at the SADC region, instead of going to Malawi and expecting Malawian companies to put in money, and there are not many that have the ability or the muscle to invest in such large projects. But if you look regional, we are eventually going to support the development of regional firms, investors and institutions that are able to invest regionally and are able to go into blended finance. So, the regional institutions that have that capacity will make that difference for Africa if we want to advance blended financing and PPPs in Africa*. (A6)

> *However, a blended finance solution must be an agreement between DFIs that are international and local DFIs that are saying this is how we are going to finance certain projects. You identify a sector, you say transport sector, I have appetite for X amount of money for these countries and these kinds of transport projects etc. We have an excellent*

footprint in Africa. We are here in Africa, we know all the governments, we know all the projects. (A7)

Then they got some working capital loan from locally, because they needed capital to pay for the local costs, you know the labour, mobilisation and that kind of stuff. And then they also brought in some local partners who also brought in some money. So that is the kind of – not using one source of funding, but various sources of funding. That is a typical case of blended finance… (A9)

4.4 Summary

In this chapter, both the qualitative and quantitate data analysis was provided using thematic qualitative analysis and multiple linear regression analysis. Step four of the CPD requires an interpretation of the merged results. The next chapter summarises and interprets the separate results and discuss how the data diverge or relate to provide a more complete understanding of blended finance in Africa. The study concludes with recommendations for future research and a principled approached that can be extracted from the study.

CHAPTER 5

DISCUSSION & RECOMMENDATIONS

5.1 Introduction

This chapter summarises the research exploring using blended finance for private sector participation investing in infrastructure projects in Africa. The findings presented in Chapter 4 of this study informs this discussion, the key principles, and policy recommendations for using blended finance for infrastructure projects in Africa. This chapter concludes with the avenues for future research.

5.2 Summary and conclusions of the study

This study employed the convergent parallel mixed research method that required the researcher to follow concurrently a quantitative and qualitative process during the design phase of the research, the data collection, and analysis phases for both methods. For the quantitative approach, the WB PPI database was sourced as its core database, complimented by the World Bank's International Debt Statistics (IDS) database, and the World Bank's database on the SDGs. A mixed method design allowed the researcher to combine hypothesis generation and hypothesis testing within one research study (Creswell & Plano Clark, 2011).

To investigate the extent of PPI in infrastructure projects in Africa (hypothesis testing), the statistical computerised system, Stata version 15.0 was applied and a descriptive statistics and multiple linear regression model were employed for analysis. Nine in-depth semi-structured interviews were conducted with selected respondents for the qualitative component of this study to explore the respondents' understanding of and experience with blended finance. The semi-structured interviews were transcribed and analysed using Straus and Corbin's (1998) coding techniques with the support of the NVIVO 12 pro CAQDAS programme from which several themes emerged (hypothesis generating), representing their understanding and perceptions of blended finance and its applicability to financing Africa's infrastructure.

5.2.2 Interpretation of the merged results

The mixed research method requires one to summarise and interpret the results separately, which was conducted in Chapter 4, and further, to discuss how the data diverge, relate, differ, and or

provide a more complete understanding of blended finance for Africa's infrastructure projects. This section aims to provide a summative merged interpretation of the findings in Chapter 4.

The qualitative results emulated the diverse understandings of blended finance among the different respondents, confirming that there is no universal definition for blended finance. Most of the respondents, however, could provide an understanding of blended finance that was linked to the dominant definitions currently in the market; whether it is the one provided by the DFI Working Group, Addis Agenda, recent OECD definition, or BFT. The lack of a universal understanding or definition, however, leaves room for different interpretations of how blended finance should be structured for Africa's infrastructure projects and the expectations from the different role players. It could be summarised that the respondents' understanding of blended finance is that it is to (1) mobilise or leverage private sector capital by (2) combining different sources of funding that could include commercial, public, and or philanthropic development capital to (3) reduce the risks for the private sector or to share the risks (and returns) between the different role players, including the private sector.

The quantitative results showed that the extent of private sector participation investing into Africa's infrastructure projects averaged around 88% according to the descriptive analysis, with only 33% on average observed to have received MDB support in these projects. The inferential statistics indicated that there was a significant negative relationship of MDB support observed with the private sector's participation in infrastructure projects in Africa. This highlighted that there was a lower rate of private sector participation in infrastructure projects that were receiving MDB support. The results proved to be in line with the older studies conducted on MDBs mobilising private sector investments but is in contrast with more of the recent research arguing that MDBs is playing a significant role in mobilising the private sector into infrastructure projects. The difference compared to the latter results could be attributed to the fact that most of the recent studies took a bird's-eye view in analysing MDBs support from a global perspective in mobilising the private sector into infrastructure projects. This study focused on projects specifically in Africa, which can be argued to be a significant contribution to the knowledge paradigm exploring the extent of private sector investments into Africa's infrastructure projects linked to MDB support and blended finance.

The increase in private sector participation investing in infrastructure projects in Africa with limited support from MDBs can be because (1) MDBs are playing more of a catalytic role supporting governments in ensuring that projects are bankable and providing the necessary expertise and products (e.g. political risk guarantees) for the private sector to participate in these projects; (2) the

MDBs are participating in these projects but are taking a lower stake or portion in the debt or equity structure (concessional support) of the projects while the projects are driven by the private sector; or (3) a decrease in MDBs support could be an indication that more private sector investments are entering Africa's infrastructure markets, as highlighted by the descriptive results. This allows MDBs to focus on those countries and projects who need their assistance more, such as the LDCs, which received about a third of the private sector participation investments into infrastructure projects out of the 644 observations.

While the mean results from the quantitative analysis indicated high private sector participation in projects in Africa, the respondents emphasised that the MDBs role is to crowd-in more private participation into Africa's infrastructure projects. The reasons provided, included that MDBs have a catalytic role to play in mobilising the private sector into these projects and act as an advisor for government and a negotiator between government and the private sector. It was further argued that within the blended finance structure, the MDBs are there to provide the necessary technical assistance through project development or preparation funds, which must be increased. MDBs should provide the necessary risk and insurance guarantees or products, which most governments in Africa do not have the capacity to provide. The latter products were identified in Chapter 2 as key instruments for a blended finance structure.

Concessional debt had a negative, yet insignificant relationship with private sector participation investing in infrastructure projects in Africa according to the inferential statistics. Interviewees, however, were passionate in their responses on using concessional funding as a structuring instrument for blended finance. The results from the interviews revealed that while concessional funding does have its benefits in providing cheap money and support to countries and projects with high debt levels, the condition precedents (CPs) associated with concessional funding bordered, according to some, on their independence, becomes political, and could create further delays in the implementation of a project. It was emphasised, however, that due to the limitations of most countries, in most cases, they do not have a choice but to accept the concessional funding being offered and implement the CPs, which they do not necessarily agree with, for the sake of development and economic growth.

Similarly, countries receiving IDA or IDA blended financing support were observed to have a lower likelihood of attracting private participation in infrastructure investments compared to non-IDA countries. It is possible that this negative relationship is because not everyone is aware of the IDA facilities of the World Bank as confirmed by some of the interview respondents. The results prove

to be a noteworthy indication to the World Bank and its subsidiary, the IFC, to market its IDA private sector window more available as a blended finance instrument that is targeting specifically low-income countries. Aligned to the lack of private sector participation in lower-income countries, the results of this research are showing that there is a high likelihood that upper middle-income countries will receive significantly less private sector participation compared to lower-income countries. This confirms that lower-middle-income countries are still the largest recipients of private participation investing in infrastructure projects in Africa. The latter further emphasises the need for a more focused approached in mobilising private sector participation in infrastructure projects into lower-income countries in Africa.

The support of government in attracting private sector participation had a negative and no significant relationship as a factor influencing private sector participation investing in infrastructure projects in Africa. This is because the private sector is not expecting much financial contribution from the governments of the different countries, but rather, as confirmed by most of the respondents in the interviews, they should provide the enabling environment for commercial and institutional investors to invest in infrastructure projects in Africa. According to the respondents, governments are required to be more capacitated in the financing and implementation process of infrastructure projects and be motivated to identify projects that are commercially viable in high-return areas, which will attract private sector participation. According to the regression model, there is a positive significant relationship for private sector participation investing in infrastructure projects to occur more in western and eastern African countries, compared to the Central African region.

Variables, which were not elevated or discussed in detail during the qualitative interviews include the status of projects, the type of projects, primary sectors, type of proposal, FDI, income groups (referred to above) and geographic regions (referred to above). Compared to the ICT sector, the energy sector, as anticipated, is still the dominant sector in which the private sector tends to participate, indicating a weak positive and significant relationship. The results concur with most of the studies discussed in this research and is in line with most of the blended finance investment sectors targeted. The research also confirms a weak positive but not significant focus in the water sector compared to the ICT sector, identifying a space in which blended finance could play a more prominent role. The descriptive results indicated that the most recurring investments, according to the median, are more towards greenfield projects, while management and lease contracts showed a significant negative relationship compared to greenfield projects and a significant positive relationship regarding divestiture and private participation investing in infrastructure projects in Africa.

It is not surprising that the results showed a negative significant relationship between solicited bids and private sector investing in infrastructure projects, highlighting that the private sector is not always keen to bid for government-published projects but would rather approach the public sector with a new project for development and skip the procurement process (unsolicited bids) and competition. In mobilising the private sector for blended finance structures, if the project is a public sector project, the procurement processes is inevitable in most instances.

5.2.3 Summary

The research could not prove conclusively that blended finance crowd-in more private sector participation into Africa's infrastructure projects. This could be because a limited number of variables were identified and were blended finance project specific. For example, the data missed the inclusion of the different credit enhancement instruments used in blended finance structures linked to specific projects. What is interesting from the merged results mentioned above, is that most of the core variables that should have had a positive impact from a blended finance perspective in mobilising private participation investing in infrastructure projects in Africa, proved to have a negative relationship in the regression model, as captured in Table 5.1.

Table 5.1: Core Variable and its Relationship with PPI in Infrastructure
Source: Authors compilation

Core blended finance variables explored	**Expectation – Relationship with PRIV**	**Result – relationship with PRIV**
MDB_Support	A significant **positive** relationship with PRIV	**Negative** significant relationship with PRIV
Concession	A significant **positive** relationship with PRIV	**Negative** with no significant relationship with PRIV
IDA and IDA blended financing	A significant **negative** relationship with PRIV	**Negative** significant relationship with PRIV
Government Support	A significant **positive** relationship with PRIV	**Negative**, with no significant relationship with PRIV

For blended finance to really be a benefit for Africa, and maybe turn out to have a more positive relationship between the above variables and private sector participation in this space, respondents provided the following expectations:

- Blended finance should be structured in such a way that it assists in reducing the debt levels of African countries;
- Blended finance structures should assist in strengthening the local capital markets by:
    - advancing blended finance through local regional banks, institutions, and investors;

- strengthening the partnership between the local DFIs and international DFIs in the implementation and structuring of blended finance projects for a country or a region; and
- blended finance should include the application of various sources of funding, including the funding sourced from local partners, using and including local currency in the blended finance structures.

5.3 Policy Recommendations

The policy recommendations to mobilise additional private participation investing into Africa's infrastructure through a blended finance approach is discussed in this section aligned with the principles set out by the OECD (2018b).

Principle 1: Anchor blended finance used to a development rationale

As a key policy recommendation, blended finance structures or approaches should be aligned to the objectives set in a country's national development plans, the African Union's Agenda 2063, and the 2030 SDGs. This would enable all relevant parties to consider the development and economic needs of the country and the region in achieving the global development goals to leave no one behind and in the process, unlock additional donor funding for the specific projects identified.

Principle 2: Design blended finance to increase the mobilisation of commercial finance

This is a twofold recommendation. First, blended finance efforts should invest in those sectors that will ensure the highest development impact with the best risk-return opportunities for both the public and the private sectors. This could be achieved by identifying a pipeline of projects in high economic return or economically viable areas that blended finance approaches should target.

Second, blended finance instruments, such as the provision of guarantees and project preparation funds and facilities should be increased to open the market for commercial funders to invest in infrastructure projects in Africa. If governments are to provide these guarantees, it will require the development of a set of standards that will assist in managing and monitoring the contingent liabilities of each country.

Principle 3: Tailor blended finance to the local context

Local investors should be capacitated to participate and invest in blended finance structures for infrastructure projects in Africa. As mentioned earlier, this includes strengthening the local capital

markets by exploring using local currency for projects, including local DFIs, institutional investors, and local commercial banks in the blended finance structures. A blended local developed fund could be created by the African public and commercial institutions in which local investors can tap as a source of funds to invest in public sector infrastructure projects on the continent.

Principle 4: Focus on effective partnering for blended finance

Linked to Principle 3, DFIs are instruments of the state and MDBs, philanthropist, and foreign investors should be committed to collaborate with the local DFIs and public institutions in driving the blended finance agenda within African countries. Partnering more effectively with the local DFIs (who could also function as local funding arrangers), public institutions, and the local commercial banks could only result in increased economic growth for the different African countries.

Principle 5: Monitor blended finance for transparency and results

The policy recommendation for this principle are threefold. One, blended finance should be defined by what one must do to meet investing requirements and those requirements should be modelled on the rating criteria provided by the rating agencies. This policy recommendation can exclude lower-income countries due to their high perceived political and credit risk ratings. By ensuring that all parties involved are partnering effectively to support these countries to achieve those investment criteria, with concessional and donor support, which are not stringent, most countries, however, could adopt this policy. This will also ensure that projects that are financed are those projects that are needed for a country and are in line with the sustainable development principles.

Two, MDBs, DFIs, and the blended finance actors should make the instruments used in their different blended finance structure for the specific projects more transparent for a more consistent and open database to be developed. This will allow for lessons to be learnt and successful projects to be replicated in other areas or sectors that can only increase the development impact.

Third, a common understanding of blended finance should be adopted to ensure the right instruments are in play and the right criteria are being measured when blended finance projects are being implemented.

New Principle 6: Investing in supporting and capacitating African governments

From outcomes of the qualitative research, African governments do require additional capacity to achieve the 2030 SDGs, and more so, to understand the new innovative funding mechanisms such

as blended finance, that can assist them in achieving their national, regional, and global goals. As such, as a final recommendation, concessional and technical assistance support for any public sector project should be accompanied with a capacity-building programme for public sector officials and advisory services to the government and the decision-makers involved in these projects. These services could easily be rendered by international MDBs and local DFI's. This will result in public sector officials being empowered to create the enabling regulatory environment that is required for capital investments into infrastructure projects needed for their countries.

5.4 Avenues for future research

Even though the concept of blended finance is not new, its application in the 21st century while many countries are facing several environmental, economic, and social challenges, is demanding much more in-depth research on an array of topics, specifically in Africa. As a starting point, the key limitation for this research is the lack of high quality, robust, and detailed datasets that could be tapped into, which specifically focused on blended finance, and which is publicly available. Convergence provides an annual trends analysis of the publicly available data that they collect, while the OECD and the DFI Working Group survey their regular members to explore and report on their blended finance activities.

A focus on the standardisation of a guarantee mechanism that will assist in monitoring the contingent liabilities of the various countries, is a required research piece to inform developing countries on how best they can manage their contingent liabilities when approached for a guarantee. Simultaneously, a review of the impact of concessional funding and the IDA in African countries is required to ensure these instruments are optimally used as blended finance instruments when investing in and supporting African countries. Emphasis and future research are also needed on the role of local DFIs in the blended finance structure and how they can effectively partner with international organisations to invest in blended finance vehicles.

Finally, there is limited empirical research on blended finance on the market. This empirical research on blended finance in Africa thus provide supporting evidence towards the small body of empirical knowledge focusing on blended finance, specifically in the African market. More in-depth research is required to explore the various blended finance activities in Africa and the development impact of these blended finance structures on alleviating the burden of financing the infrastructure projects for African countries.

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Annexure A: Historical events and the rise of blended finance

YEAR	ACTIVITY
1948	Blended finance instruments were used by the USA's ECA while administering the Marshall Plan.
1950's	Establishment of the IFC, a DFI of the World Bank – stakeholders in blended finance structures.
1960's	European countries directing aid through bilateral DFIs encouraging them to invest in the infrastructure sectors in developing countries.
1995 to 1998	ODA flows decline and the role of DFIs and private sector flows to developing countries are emphasised by donor countries and the UN.
2002	Monterrey Consensus, the initial UN Financing for Development agreement highlights the importance of international support for leveraging aid resources, risk guarantees and funding for the feasibility studies to assist the private sector.
2006	EU introduces and commits to scale up blended finance for development in its Multiannual Financial Framework 2007–2013 (now replaced by 2014–2020 version).
2007	EU Africa Infrastructure Trust Fund launched.
2008	Establishment of blended finance unit at IFC to consolidate existing activities.
2011	EU Agenda for Change pledges to scale up existing successful blending operations. Meanwhile, several DFIs commit to the Busan Partnership Agreement on Aid Effectiveness and principles of development cooperation.
2012	EU Platform for Blending in External Cooperation launched to coordinate efforts across all EU blending facilities
2013	OECD develops, and G20 leaders endorse, the High level Principles on Long-Term Investment Financing by Institutional Investors.
2014	G20 leaders establish Global Infrastructure Initiative to support public-private partnerships (PPPs). Launch of Redesigning Development Finance Initiative, a joint project between the OECD and WEF that promotes blended finance and calls for more partnerships with private investors
2015	Adoption of the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, 2015. The Action Agenda establishes a strong foundation to support the implementation of the UN 2030 SDG and refers to blended finance as a tool to the finance the SDGs
2015	The launch of the WEF/OECD SDIP, a global independent platform of 42 public, private and philanthropic institutions with the shared ambition to scale finance for the SDGs and overcome the barriers hindering private investments in emerging and developing countries
2016	Convergence, global network for blended finance, officially launched as the world's first deal sourcing platform that helps public and private investors find and connect with each other for blended finance investments in emerging and frontier markets.
2017	BFT, launched by the Business and Sustainable Development Commission, was established to help mobilise largescale capital for the UN SDGs
2018	Adoption of the Tri Hita Karana Roadmap of the OECD in the margins of the World Bank /IMF Fall meetings in 2018. The objective is to highlight a common framework for mobilising additional financing for the SDGs through a multi-stakeholder process.
2019	First blended finance in Africa Conference held in the London, United Kingdom.

Appendix B: Sampled Countries from WB PPI Database

The regions refer to the names used in the WB PPI database[16] and is aligned to the World Bank Development Indicators (2017)

COUNTRY	REGION	INCOME CATEGORY (JULY 2010)	NUMBER OF INFRASTRUCTURE PROJECTS LISTED
Algeria	North Africa	Upper-Income Level	28
Angola	Sub-Saharan Africa	Upper-Income Level	10
Benin	Sub-Saharan Africa	Low Income	3
Botswana	Sub-Saharan Africa	Upper-Income Level	1
Burkina Faso	Sub-Saharan Africa	Low Income	5
Cameroon	Sub-Saharan Africa	Lower-middle-income	15
Cape Verde	Sub-Saharan Africa	Lower-middle-income	4
Central African Republic	Sub-Saharan Africa	Low Income	1
Chad	Sub-Saharan Africa	Low Income	3
Comoros	Sub-Saharan Africa	Low Income	2
Democratic Republic of Congo[17]	Sub-Saharan Africa	Low Income	4
Republic of Congo[18]	Sub-Saharan Africa	Lower-middle-income	8
Côte d'Ivoire	Sub-Saharan Africa	Lower-middle-income	24
Djibouti	North Africa	Lower-middle-income	5
Egypt, Arab Republic	North Africa	Lower-middle-income	53
Ethiopia	Sub-Saharan Africa	Low Income	4
Gabon	Sub-Saharan Africa	Upper-Income Level	15
Gambia	Sub-Saharan Africa	Low Income	4
Ghana	Sub-Saharan Africa	Lower-middle-income	29
Guinea	Sub-Saharan Africa	Low Income	5
Kenya	Sub-Saharan Africa	Lower-middle-income	29
Liberia	Sub-Saharan Africa	Low Income	6
Madagascar	Sub-Saharan Africa	Low Income	10
Malawi	Sub-Saharan Africa	Low Income	6
Mali	Sub-Saharan Africa	Low Income	3
Mauritania	Sub-Saharan Africa	Lower-middle-income	2
Mauritius	Sub-Saharan Africa	Upper-Income Level	14
Morocco	North Africa	Low Income	21
Mozambique	Sub-Saharan Africa	Low Income	19
Namibia	Sub-Saharan Africa	Upper-Income Level	7
Niger	Sub-Saharan Africa	Low Income	2
Nigeria	Sub-Saharan Africa	Lower-middle-income	53
Rwanda	Sub-Saharan Africa	Low Income	14

[16] The WB PPI database list both the MENA and Northern Africa Countries under one banner. In this case, all countries under the MENA banner was removed to focus only on African countries.

[17] Listed on the WB PPI as Congo, Dem, Republic

[18] Listed on the WB PPI as Congo, Republic

COUNTRY	REGION	INCOME CATEGORY (JULY 2010)	NUMBER OF INFRASTRUCTURE PROJECTS LISTED
São Tomé and Principe	Sub-Saharan Africa	Lower-middle-income	1
Senegal	Sub-Saharan Africa	Lower-middle-income	29
Seychelles	Sub-Saharan Africa	Upper-Income Level	3
Sierra Leone	Sub-Saharan Africa	Low Income	4
Somalia	Sub-Saharan Africa	Low Income	5
South Africa	Sub-Saharan Africa	Upper-Income level	91
Sudan	Sub-Saharan Africa	Lower-middle-income	4
Swaziland/Eswatini	Sub-Saharan Africa	Lower-middle-income	1
Tanzania	Sub-Saharan Africa	Low Income	32
Togo	Sub-Saharan Africa	Low Income	7
Tunisia	North Africa	Upper-Income Level	7
Uganda	Sub-Saharan Africa	Low Income	35
Zambia	Sub-Saharan Africa	Lower-middle-income	10
Zimbabwe	Sub-Saharan Africa	Low Income	6

Appendix C: High-level questions for Semi-structured interviews

1. What is your understanding of blended finance?
2. How can blended finance be applied in the African context, especially in the infrastructure sectors?
3. Does blended finance instruments benefit African countries? Name a few instruments and examples. Explain why you say so?
4. What is the role of the MDBs in following a blended finance approach?
5. Is concessional funding, as a blended finance mechanism, an effective approach to support countries financing their infrastructure? Why do you say so?
6. Are there other financing mechanisms that you are aware of that can be more beneficial for African countries to finance their infrastructure? If so, please provide an example and motivate your reason for saying so?
7. The objective of blended finance is to crowd-in more of the private sector investments into spaces in which the private sector does not invest. What are your thoughts around this understanding?
8. Are you aware of the IDA instrument of the World Bank? If so, what are your thoughts around the IDA instrument as a blended finance mechanism for infrastructure projects?