

Essays on Regulatory Environment and Firm Performance in Sub-Saharan Africa

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Essays Regulatory Environment and on firm performance in SSA economies

Abstract

This three-essay thesis examines how national institutions influence firm performance and activities in sub-Saharan African economies. Most developing countries generally consider businesses as the key to economic development. Unfortunately, national institutions are weak in sub-Sahara Africa and hence not conducive, which has hindered firm performance. The study utilises the World Bank Enterprise Surveys data for firm-level performance and the IMF Monitoring of Funds Arrangements data for structural reform indexes. Additionally, data from the World Development Indicators and World Governance Indicators capture inflation, Gross Domestic Product growth rates, and regulatory quality, respectively. The main finding is that firm performance depends on regulatory quality in sub-Sahara Africa.

In chapter 2, the first essay examines export orientation and the determinants of internationalisation of sub-Saharan African firms. In the past two decades, there has been an internationalisation drive by SSA countries in areas including product diversification and acquisition of quality management systems certification. The literature on internationalisation is mainly limited to developed and emerging economies. However, this study views internationalisation from the SSA perspective. The dataset used is from the World Bank Enterprise Surveys. The dataset considered 31795 enterprises from 39 sub-Saharan African countries between 2006 and 2018. The investigation was accomplished by applying export orientation as the dependent variable against other determinants. This quantitative research adopted a multiple set of ratio regressions approach and finally settled for the Tobit regression for the analysis. This essay's main finding indicates that export orientation, depending on the firm characteristics, enhances the internationalisation of firms in sub-Saharan Africa. Business registration and firm size significantly and positively impact export orientation. This knowledge about the determinants of internationalisation contributes to expanding the literature on firm growth globally, specifically in sub-Sahara Africa.

In chapter three, the second essay examines the impact of selected structural reforms on firm performance considering 31795 firms in 39 sub-Sahara African countries from 2006 to 2018. Enhancing firm performance in a global market is significant for developing economies, which is why structural reforms are needed. The much-publicized result that structural reforms are

associated with economic growth is evidenced only in middle-income economies. Data from the WBES, IMF- MONA and WDI are used to achieve the aim of this study. Exploring diverse options, this study uses a multilevel mixed method to assess the impact of structural reforms on firm performance. In line with previous studies, the findings are that successful structural reforms significantly enhance firm performance, and further trade reforms are the key drivers of firm performance in SSA. Remarkably, corruption is statistically significant and positive, and trade reforms impact firm performance the most. After a decomposed regression, it is concluded that sectoral reforms complement each other for structural reforms to be successful.

In chapter four, the nexus between access to finance and firm performance in developing and emerging economies has recently become topical. This study evaluates the relationship between firm performance, regulatory quality, quality management certification and access to finance. Previous research has demonstrated the relationship between access to finance and firm growth or firm performance, thus neglecting the relationship between regulatory quality, quality management certification and access to finance. Data from the World Bank Enterprise Survey (WBES) and World Governance Indicators (WGI) between 2006 and 2018 are used in this research. The analysis was done using the ordered logit technique, which fits the categorical dependent variable. The findings of this study provide essential indications to the literature on access to finance in sub-Saharan Africa. First, the results indicate that adequate finance encourages firm performance. This is evidenced by estimations that show a positive sign and statistically significant effect of access to finance and firm performance. Secondly, the findings indicate that more robust country-level regulatory quality eases access to external finance as the estimations show a positive and statistically significant effect of access to finance and regulatory quality. Thirdly, quality management certification is positive and significantly influences access to finance in SSA.

Key words: Firm performance, structural reforms, regulatory quality, SSA, internationalisation, WBES, access to finance

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List of Acronyms and Abbreviations

AfCFTA	African Continental Free Trade Area Agreement
ECOWAS	Economic Community of West African States
EU	European Union
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
IMF	International Monetary Fund
ISO	International Standard Organisation
IT	Indicative Targets
MONA	Monitoring of Funds Arrangement
OECD	Organisation for Economic Co-orporation & Development
OEM	Original Equipment Manufacturers
PA	Prior Actions
R&D	Research & Development
QMS	Quality Management System Certificate
QPC	Quantitative Performance Criteria
RBV	Resource Based View
SB	Structural Benchmarks
SSA	Sub-Sahara Africa
TFP	Total Factor Productivity
UNCTAD	United Nations Conference of Trade and Development
WBES	World Bank Enterprise Survey
WDI	World Development Indicators
WGI	Word Governance Indicator

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Chapter 1: Introduction

1. Overview of Chapters

Several research have employed diverse quantitative techniques to study firm performance in developing nations using different firm characteristics. The much-touted industrialisation, internationalisation, structural reforms, and the ease of access to finance by firms in sub-Saharan Africa are gaining attention in the academic world, and there are diverse views on whether they have enhanced firm performance. Arguably, high firm-level performance can bridge the developmental gap with the rest of the world. It is therefore essential to understand the challenges and opportunities SSA firms encounter to enhance their performance so that they can become competitive with firms from other parts of the world. This thesis consists of three essays which connect to issues in finance and economics that deal with the responsibilities of governments in the internationalisation of firms and access to finance by firms in sub-Saharan Africa. The overarching theme that underpins the three essays is the impact of national institutions on firm performance.

In developing and emerging economies, it is believed that firm performance is poor, as compared to the developed economies, due to dysfunctional institutions, weak corporate governance practices, and challenging business environments (Benites & Polo, 2013; Ting et al., 2019). Similarly, studies have cited factors such as excessive regulations, inadequate supply of skilled labour, high taxation, market size and conditions, technology, and high information costs as some of the main causes that impede firm performance in developing countries (Nugent, 1996; Sleuwaegen & Goedhuys, 2002; Turkson et al., 2022). Regardless of the methodology and data examined, existing studies agree that firm performance is poor in SSA. Njikam (2017) posited that firm performance depends on export destination and SSA firms perform better when they export to the United States of America. Though it is evidenced that firm level performance is high in the European Union (Kersten et al., 2017; Piza et al., 2016) it is not the same for labour productivity and total factor productivity (Dvouletý et al., 2021). Three specific issues which will help evaluate the firm-level performance challenges, in SSA, are internationalisation, structural reforms, and access to finance. Three dependent variables, export orientation, firm performance, and access to finance have been used to measure firm performance, the outcome is indicative that in SSA firm performance is low or poor.

This study focuses on SSA since others have already researched individual countries in SSA, sub-regions within SSA, and other parts of the world (Abdisa & Hawitibo, 2021; Goedhuys & Mohnen, 2017; Kumari & Kumar, 2018; Quartey et al., 2017). The research by Quartey et al. (2017) concluded that firm performance is poor in the ECOWAS sub-region. An important ongoing concern is the poor firm performance in individual countries in SSA and examples are Nigeria, Ghana, Mali, Senegal, and The Gambia; results from these individual countries confirmed the poor performance of firms in SSA (Badu & Appiah, 2017; Ede, 2021; Ganiyu et al., 2019; Quartey et al., 2017). A collective discovery of the problems causing poor performance in SSA will help project a panacea to the challenges. This study, therefore, focuses on the SSA sub-region to understand the determinants of poor firm performance.

Enhancing firm performance has become essential to economic growth in SSA. Countries and trade blocks globally have tirelessly focused on enhancing firm performance in the last twenty years. Arguably, there are a lot of factors that influence firm performance. These include the ratio of capital employed, return on assets, industry structure, and ethnic diversity (Awaworyi Churchill & Valenzuela, 2019; Kumari & Kumar, 2018). Kumari and Kumar (2018) focused on how macroeconomic factors influence firm performance. On the other hand, researchers including Odusanya et al. (2018) focused on how firm-level factors impact firm performance. However, I choose to include macro and microeconomic factors such as internationalisation, structural reforms, and access to finance in assessing firm performance in sub-Saharan Africa.

The internationalisation of SSA firms is critical in enhancing firm performance in the sub-region. In this research the primary variable is export orientation which looks at the income generated by exporting firms. The aim of chapter 2 is to ascertain the significant factors that determine the internationalisation of sub-Saharan African firms. Essay 1 evaluates the determinants of internationalisation of 31795 firms in 39 sub-Saharan African countries between 2006 to 2018. Research reveals that studies on the internationalisation of African firms are increasing. However, most of the studies focused on small and medium-sized firms, although there are several cross-national and regional studies sponsored by the IMF and The World Bank (Abor et al., 2008; Agbloyor et al., 2020). In the past, governments in SSA had focused on import substitution, which failed. The attention is now on export drive, which has been successful and consequentially brought improvement in firm performance (Illiasenko et al., 2020; Trachuk & Linder, 2018). Export orientation has become the focus of SSA firms due to this new opening, and the resultant trade blocks in SSA opening up has also served as a source

of encouragement for exporting (Obeng-Odoom, 2020). Existing research is mainly concentrated on developed countries; however, the few on Africa are either centred on individual African countries but not on export orientation (Illiasenko et al., 2020; Quartey et al., 2017; Stern & Ramkolowan, 2021).

Again, chapter 2 of this study focuses on export orientation as the dependent variable and the determinant of internationalisation. Two theories, Resource-based view and Institutional theory are adopted to achieve this study. The notion is to connect how country-level institutional development enhances the release of locked-up resources for firm development in SSA. This essay uses Tobit regression technique which fits the dependent variable, because it is a continuous fractional variable. Among the findings are that firm registration has a positive sign and is significant in relation to export orientation. Another result is that Quality management standards influence export orientation in SSA. For robustness test, fractional and pooled probit and logit techniques are used in this study. I exploit export orientation as a catalyst to the internationalisation of SSA firms. To estimate the determinants of internationalisation of firms in sub-Saharan Africa, the study uses Tobit regression technique.

In chapter 3, this study deals with how structural reforms impact firm performance in SSA. Essay 2 studies the impact of structural reforms on firm performance in the same 39 sub-Saharan African countries from 2006 to 2018, among 31975 firms, as in essay 1. Structural reforms open the argument of how governments and policymakers in SSA support firm performance with the relevant policies, laws, and regulations. These reforms are described as the pertinent changes that governments make in terms of regulations and restrictions that enhance governance to promote economic and business growth (Dau et al., 2020). Structural reforms in SSA have been undertaken since the 1990s and are mainly part of the conditionalities given to the countries involved, by the International Monetary Funds. These governments embark on the reforms with the aim to improve economic growth, reduce unemployment rates, and enhance firm performance; unfortunately, at the firm level there conflicting arguments as to the impact of structural reforms (Bordon et al., 2018). Culiuc and Kyobe (2017) argue that the conditionalities associated with structural reforms create economic and institutional flexibility for increased efficiency in areas such as investment, productivity, employment, and efficiency. In nations where the openness of trade policies does not provide for the protection of domestic firms, domestic firm growth and performance are hindered. It is more likely that the larger multinationals would take over the local and international markets to the detriment of the

smaller domestic enterprises. These arguments support how structural reforms are necessary for firm growth. However, little is known about the impact of structural reforms on firm performance.

This chapter identifies the impact of structural reforms on firm performance in SSA. This study follows the approach used by Kouamé and Tapsoba (2019) by adopting sectoral reforms which include trade, fiscal, financial and real reforms. To achieve the goal, this study uses the institutional economic theory, the underpinning argument is that structural reforms reduce a firm's operational costs and decrease restrictions on firm activities. Another argument is that the difference in firm growth in different economies is dependent on factors including national policies, and the institutional environment (Torkkeli et al., 2018; Urbano et al., 2019). Whereas previous studies did not consider the impact of corruption in studies such as this, this essay introduces corruption for the first time. In this chapter, I calculate the total index of the reforms from the individual reform index. This study uses the multilevel mixed method, and the main finding is that structural reforms improve firm performance more than the economy as a whole. Another finding is that corruption is positive and significant, intimating that corruption is a greasing wheel but not a sanding wheel. Further, the finding suggests that the trade sector is the main driving force of the reforms because more efficient competitors take advantage of the released resources. A decomposition regression exercise is prepared to ascertain which reform drives firm performance and the conclusion is that though trade reform has the most sizeable impact, the individual reforms complement each other.

The goal of chapter 4 is to identify the determinants of access to finance. Essay 3 examines the determinants of access to finance by exploring national institutions indicator, the regulatory quality, and firm performance in sub-Saharan Africa. Though there has been research in this area they failed to include regulatory quality. This study incorporates regulatory quality as a novel approach to firm performance and access to finance. The inclusion of regulatory quality is to help evaluate national institutions influence on access to finance and firm performance. The literature on access to finance mostly mention financial obstacles, which paints a picture of firms' problems when accessing external finance (IFC, 2010; Otman, 2021). Many researchers argue that if financial resources are allocated to more productive firms, their contributions can increase firm-level growth (Dvouletý & Blažková, 2019; Larrain & Stumpner, 2017). Globally, smaller firms find it more challenging to access finance than their larger counterparts. According to European Union (EU) research, financial institutions are

prone to using capital rationing in lending funds to small and medium-sized enterprises (Andrieş et al., 2018). Further, Anton and Bostan (2017) using a sample of 25 countries from the European Union, concluded that access to finance positively influences entrepreneurial activities. Arguably, large firms have comparatively easier access to finance than smaller ones. Studies have shown that the level at which firms encounter difficulty accessing finance depends on size; small firms face more significant problems accessing funding than larger firms (Abdisa, 2020). The situation in the EU is not entirely different from that in SSA; as posited by Abdisa and Hawitibo (2021) constraints in accessing finance inhibit firm performance in SSA. Though registration is essential in accessing external finance, registration in Africa is complicated. Recently, the registrar-general in Ghana instituted online registration, thus reducing the burden of moving physically to offices and the long waiting queues and time (Bediako, 2022). According to Wang (2016) the most severe problem that inhibits firm performance in SSA is access to finance.

Chapter 4 exploits firm performance as a basis for access to finance, this study therefore introduces regulatory quality as an explanatory variable, this is the first time this variable has been used in research such as this. The pecking order theory is applied in this study to help explain why firms would choose to either use internal or external funds to finance their working capital. This study uses the ordered logit model for the estimation, this choice is made due to data availability and the nature of the dependent variable. Due to the data limitations, the percentage level of internal resources used to finance working capital is utilised to represent access to finance, instead of, for example, profit. This essay classifies the dependent variable into 4 groups or levels, and it fits into four ordered categories and hence the ordered logit model. The main finding is that access to finance is significantly positive and therefore influences firm performance. The results from the ordered logit regression also reveals that an improved regulatory quality enhances firm access to finance in SSA. Regulatory quality is introduced, for the first time to answer the question does regulatory quality influence access to finance?

Further robustness checks that have been done include analysing only Nigeria and the total sample without Nigeria, categorising the number of years in the sample to evaluate the impact of the global economic crisis on access to finance, and comparing access to finance and finance obstacles. The computation is to analyse the impact of Nigeria on the rest of the sample, since it is the biggest in the sample. Overall, the robustness results confirmed the main finding.

Businesses are generally regarded as the key to economic development in most developing countries. These businesses need a favourable environment to thrive, unfortunately, firms in sub-Saharan Africa operate in relatively unfavourable business conditions. Due to this, firm growth is inhibited, and according to the findings of Babajide et al. (2020) about 90% of all firms in SSA are either small or medium-sized. However, their contributions at the 60% employment level, are acknowledged. Firms in SSA encounter lots of problems due to the weak or practical absence of effective monitoring, government policies, inadequate or absence of infrastructure, insufficient finances, and corruption.

1.1 Problem statement

The motivation of this study is to assess the significance of national institutions in the performance of firms of sub-Saharan Africa. This interest in sub-Saharan Africa increased after realising that a better understanding of the determinants of firm performance and determinants access to finance can help improve the economic independence of the sub-region and can bring out the potential for firm development. The need for three essays on firm performance has become necessary because of the diverse approaches, such as business registration, investment climate, access to finance, financial development, etc, to firm performance in general and in sub-Saharan Africa specifically (Ahmad et al., 2020; Dollar et al., 2005; Williams & Kedir, 2016). There are many studies that have considered firm performance globally, but only a few have considered SSA. Many factors influence firm performance in sub-Saharan Africa, and these factors including macroeconomic and firm characteristics need consideration to bring out the capabilities in SSA firms. Ironically, it is perceived that SSA countries are characterised by weak national institutions emanating from inadequate monitoring and a distortionary regulatory business environment which negatively influence the development and performance of firms (Alhassan & Kilishi, 2019; Jibir et al., 2019; SN & Sen, 2017).

The weak institutions could possibly undermine firms' performance through high-interest rates, obstacles to access to finance, and high competition from foreign larger firms (Aigheyisi, 2018; Babajide Fowowe, 2017). Due to the weak institutions, some SSA countries have undertaken structural reforms, which have significantly changed national institutional quality. Nigeria has undertaken financial sector reforms, and the impact has been positive. Nigeria instituted the second financial sector reforms between 2008 and 2013. Onyekwelu and Iroegbu (2020) indicated that the reforms undertaken by the Central Bank of Nigeria have yielded significant results and enhanced the financial system in Nigeria.

However, national institutions seem stronger in South America than in SSA due among other issues such as stronger rule of law (Alam et al., 2019). Whereas recent studies suggest that national institutions are the key players in firm performance (Alam et al., 2019; Jibir et al., 2019), Kumari and Kumar (2018) suggest that it is rather firm level factors that are the driving force in firm performance.

Studies have tilted towards ethnicity and firm performance. Others including Awaworyi Churchill (2019) looked at firm performance in SSA using only financial performance and linking it with ethnic diversity. The authors further argue that firm performance is impacted by innovation and entrepreneurship that emanates from ethnic diversity. Similarly, Awaworyi Churchill and Valenzuela (2019) examined firm performance from the ethnicity point of view using 62 countries from all over the world, the conclusion of their study is that ethnic diversity and linguistics are associated with poor firm performance.

In SSA many studies have been done on firm performance. For example, Njikam (2017) conducted studies on export market destination and firm performance. Quartey et al. (2017) focused on access to finance and firm performance in the ECOWAS sub-region. and realised that access to finance is a challenge for firm performance. However, little attention has been paid to national institutions and firm performance. It is against this backdrop that this study seeks to examine how the national institutions influence firm performance and firm activities in sub-Saharan African economies.

To the best of my knowledge, other researchers have not considered regulatory quality, which is an institutional factor, in the literature on firm performance in SSA. Moreover, this will be the first thesis that looks at firm performance in SSA from 3 perspectives: internationalisation, structural reform, and access to finance.

1.2 Aim

This research aims to examine how national institutions influence access to finance and firm performance in sub-Saharan African economies.

1.3 Objectives

This study will look at the three interrelated objectives underlisted below:

1. To identify the key drivers of determinants of internationalisation of sub-Saharan African firms.

2. To identify the impact of structural reforms on firm performance in 39 sub-Saharan African countries from 2006 to 2018
3. To explore the significant determinants of access to finance in sub-Saharan Africa.

To be able to accomplish the overall research objectives on “Three essays on firm performance in sub-Saharan Africa”, this study will examine determinants of internationalisation, structural reforms, and financing of firms and how they inform firm performance in sub-Saharan African countries. This study draws evidence from 39 countries taking into consideration 31795 firms to enhance the understanding of firm performance in the internationalisation of sub-Saharan African (SSA) firms. Firm innovation that results from export diversification, international standards, and structural reforms will be considered to further understand the roles governments and entrepreneurs need to play to support the performance of firms. This research uses the World Bank Enterprise Survey data for all three papers. The data covered thirty-nine sub-Saharan African countries and 31795 firms. The first essay utilises only the WBES data. Essay 2 uses the WBES, World Development Indicators (WDI), and The International Monetary Fund Monitoring of Funds Arrangement (MONA) data. To capture the rate of inflation and gross domestic product the WDI data has been employed. The MONA dataset is the main tool utilised to capture the structural reform variables. The third essay, after using the WBES data, incorporates the World Governance Indicator (WGI) dataset to capture the regulatory quality index for sub-Saharan Africa.

1.4 Contribution to knowledge

While existing literature has evaluated the determinants of firm performance, the link between national institutions, particularly regulatory quality and firm performance has not been considered. First this study provides a new dimension to the literature on firm performance in SSA by addressing the key issue of national institutions and firm performance in SSA. For instant, institutional economic theory suggests that weaker national institutions give rise to corruption, which negatively affect firm performance. This position is confirmed by Kouamé and Tapsoba (2019) and Dutta and Sobel (2016). However, this thesis suggests that corruption has a positive impact on firm performance in SSA. The statistically significant and positive coefficient of corruption can be attributed greatly to the issue of firms circumventing rigid procedures and benefitting from weak national institutions to the advantage of their operations, which has been ignored by previous studies. According to Kolstad and Wiig (2012) as cited by Okafor (2015), Chinese firms are more attracted to countries with weak institutional

environment, a confirmation that the Chinese and others like them see corruption as a helping hand. Arguably, the national institutional factor, regulatory quality as applied in this thesis, is a very important contribution because it has shown the link between national institutions and the acquisition of quality management systems certifications and firm performance in SSA. Firm registration (registered) variable has for the first time been added to a study on export orientation and internationalisation of SSA firms.

This study finds that registered positively and significantly impact on export orientation. Export-oriented firms are more likely to register their activities in sub-Saharan Africa so that they can take advantage of QMS and become competitive internationally. Notably in Ghana, the introduction of online registration of firms has helped to reduce the cost and time involved in the process. Existing research has not considered Quality Management Standards in the setting of export orientation and internationalisation of SSA firms; however, it has been included in this study, therefore its importance should not be overlooked. The acquisition of QMS certification is important for SSA firms because it creates opportunities for them on the global market, it is positive and highly significant.

A major contribution by essay 2 is the inclusion of corruption in the study as an explanatory variable. The finding is unique as corruption variable is added for the first time in a study such as this. The estimated coefficient of corruption, structural reforms, and firm performance is positive and statistically significant. Findings from this study also indicate that foreign firms perform better than government-owned firms under structural reforms, this result is also novel as existing studies found that government owned firms are likely to benefit more than others.

A key contribution by the third essay is the consideration of QMS as a determinant of access to finance. Quality management systems certification is another variable that resulted in a significant and positive relationship with access to finance. We find that the acquisition of QMS itself is likely to enhance the firm's chances to access external finance. Apart from the above-mentioned contributions in the individual studies, this thesis has introduced the idea that regulatory quality is positive and statistically significant for firms in sub-Sahara Africa to access finance. It should be noted that, research is not conclusive whether a better institutional quality enhances or discourages firm performance (Herckenrath, 2021; Mahendra et al., 2015) but this study supports the school of thought that indicates that a better regulatory quality enhances firm performance.

This research also tries to create a cogent environment for analysing the available data especially the WBES and the MONA datasets by linking them with internationalisation, structural reforms, and access to finance. Additional data used are the World Governance Indicators and World Development Indicators.

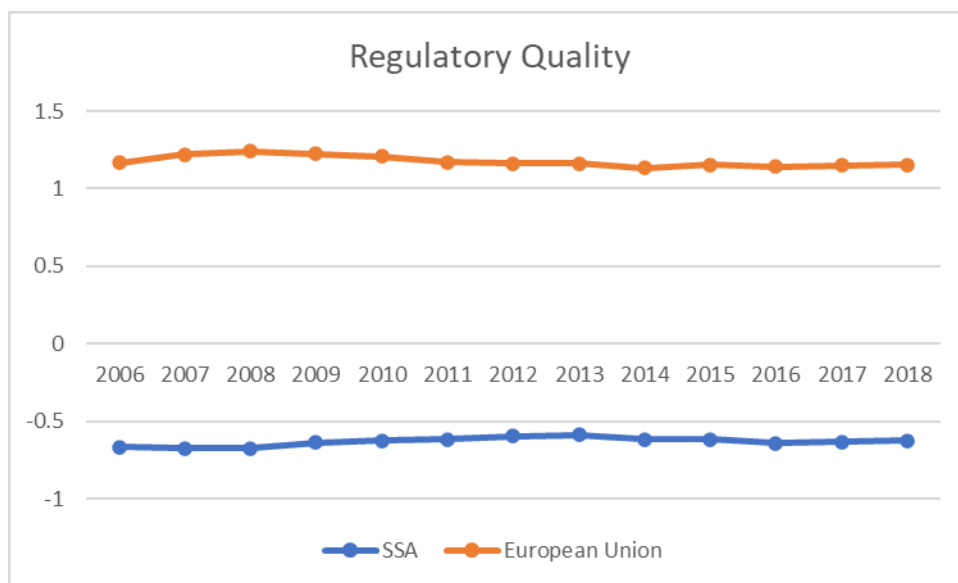


Figure 0.1 Regulatory quality in SSA and EU

This research is novel and significantly different from existing studies which focuses on high-income and emerging economies. In those economies, it is believed that their institutions are comparatively more robust than the SSA institutions. (Agostino et al., 2020; Qu et al., 2017; Zhu et al., 2019). Hence, the application of those findings to support decision-making in SSA will not only be misleading but also questionable academically. A close look at the regulatory quality graph (Figure 1.1) of the European Union (EU) and SSA indicates that SSA has weaker institutions than the EU. The choice of SSA for this research is unique since existing literature is mostly centred on Europe and China. On the other hand, those who did similar studies in Africa neglected the impacts institutions and quality certifications have on firm performance. Again, the choice of SSA for this research is novel since existing literature is mainly centred on individual countries or trade blocks in Africa.

1.5 Themes

It is significant to note that this research through essays 1 to 3 evaluates the regulatory framework and the performance of firms in sub-Saharan Africa. As mentioned already the study examines how national institutions influence firm performance in sub-Saharan African economies. It can be stated with certainty that regulatory quality runs through this research. The regulatory quality index explains the perception of governments to frame and execute policies and guidelines that permit and encourage the growth of the private sector in the economy (Kaufmann et al., 2010). Determinants of firm performance is examined and positioned in the first essay. These determinants are directly and indirectly linked with governments and policymakers executed policies and guidelines associated with structural reforms depending on the perspective one views it. Pritchett (2013) considered public-sector involvement in human capital development (a determinant of firm performance) as a catalyst for technological development leading to internationalisation. Apart from human capital development, mention can also be made of firm registration which is influenced by the regulatory quality of the country. When institutions are strong, monitored and working well, SSA firms are encouraged to register. Furthermore, the acquisition of quality management systems certificate is dependent in part on firm registration. Another notable point is in essay 2, structural reforms deal with the enhancement of national institutions to the benefit of firms that operate in the environment, and so does essay 3 which looks at the regulatory quality of the sub-region. Governments undertake reforms to correct market failures, furthermore, policies and regulations are made to strengthen the regulatory framework of the country. The objective of financial reforms is to generally create a flexible financial sector environment to support firm performance, this will strengthen the regulatory quality. Key arguments and links in essay 3, include access to finance, international standards certification, and the regulatory environment in which businesses operate because of financial reforms. Regulatory quality is introduced in the third essay, and this is in conformity with the whole research. Additionally, quality management certification is another variable that has been highlighted in this research and it is a theme that runs through essays 1 and 3. It can be concluded that though these three essays stand alone, they are linked by regulatory quality and to some extent quality management systems certification.

The following will be presented in the remaining chapters: Chapter 2 presents the determinants of internationalisation of sub-Saharan African firms. While chapter 3 is the impact of structural

reforms on firm performance in sub-Sahara African countries, chapter 4 examines the determinants of access to finance in sub-Saharan Africa. Chapter 5 is the conclusion, main findings, and contribution to the whole thesis.

Chapter 2: Export orientation and determinants of internationalisation of SSA firms

2.1 Introduction

2.1.1 Background to the research

In recent times, Sub-Saharan African firms have embarked on an internationalisation surge. This increase, over the past two decades, is most particular in areas such as the level of exports, product diversification, and adoption of quality management standard certification (Boso et al., 2016; Calza et al., 2019). The upsurge in internationalisation has shifted policy decisions from import substitution to export drive and firm internationalisation in the sub-region. The disappointment of import substitution firms and the consequential successes of export-oriented firms has catalysed this outward growth (Pane & Patunru, 2021; Trachuk & Linder, 2018). This new era has found many firms exporting to other countries in SSA, with the introduction and signing of a pact by the African Continental Free Trade Area Agreement (AfCFTA) that encourages free trade in Africa, more firms are encouraged to export (Obeng-Odoom, 2020). However, some firms have ventured outside Africa and have become competitive globally (Adeleye et al., 2015). The literature on the determinants of internationalisation of firms has so far been focused on developed and emerging economies. Those that are centred on Africa are sometimes focused on single countries and if even they focus on sub-Sahara Africa the emphasis is either on international standards or firm productivity (Bernard et al., 1995; Ibeh et al., 2012; Njikam, 2017). For these reasons, this study examines export orientation and determinants of internationalisation of 31795 sub-Sahara African firms between 2006 and 2018.

2.1.2 Research Question

The question addressed in this research is what are the determinants of internationalisation of sub-Saharan African firms?

To answer this question and contribute to this emerging debate on the determinants of SSA firms, this study takes advantage of the availability of the World Bank Enterprise (WBES) survey dataset which includes 31795 firms and covers the period between 2006 to 2018. The WBES dataset is used to investigate export orientation and factors that determine the internationalisation of firms in SSA. The WBES dataset is a set of firm-level surveys from 39 sub-Sahara African countries, which comprises 31795 firms and is based on random sampling. This dataset contains a broad range of information including industry sectors, firm age, firm

size, annual sales, percentage of sales from export activities, and human capital development, among others. This information is supportive in addressing the research question.

2.1.3 Relevance and Contribution

This research aims to contribute to a better understanding of the determinants of internationalisation of SSA firms, through a review of existing relevant literature. Existing literature draws a link between economic growth and internationalisation rendering it important to focus on this phenomenon (Jackson & Jabbie, 2020). This agrees with the globally held view of the need for better managerial standards, innovation, and the availability of a line of credit for SSA firms to be competitive internationally. It is anticipated that this research would identify those determinants of internationalisation of SSA firms that are under review and the relevant gaps highlighted. Hence, data from 31795 firms from thirty-nine sub-Saharan African countries, between 2006 and 2018, were studied in this research.

Additionally, the study will compute robustness tests to examine firm performance from a measure of internationalisation, and the impact of internationalisation, using fractional and pooled probit, logit, and tobit regression techniques. This study will contribute to the literature by demonstrating that export-orientation, coupled with support from the home country policies can have an impact on firm performance. It is expected that academics, governments, policymakers, investors, and potential exporters in both developed and developing countries will find this study very useful.

This essay will proceed in this manner: the next Section (section 2) will review the relevant literature on the internationalisation. Section 3 will be variables description and hypotheses. Section 4 is the research methodology, followed by Section 5 which deals with analysis and findings, and finally, Section 6 for conclusions and implications.

2.2 Literature Review

2.2.1 Background

In this section, the existing literature will be reviewed. The objective of this literature review is to examine the determinants of internationalisation of firms in the sub-Saharan region of Africa.

In recent times internationalisation of firms has gained more ground in governance and firms among Sub-Saharan African economies (Boso et al., 2019). Historically, trade for growth and development perception has been outstanding based on the concept that nations need to specialize in the production and export of commodities that they have a comparative advantage (Samuelson, 1948), however, recent developments demonstrate otherwise. According to this theory, SSA countries should be exporting unprocessed products, while they import manufactured goods. Nevertheless, Carrasco and Tovar-García (2020) posit that technological innovation and export diversification has become the emphasis, rather than export specialization in modern times. The situation in SSA, which is not different from the story of Chile, needs to be told, the aim is to tell the story from the perspective of the percentage sales firms gain from their export activities. Classified as export orientation, it involves only the percentage of the firm's annual sales that were derived from exports.

Researchers have been able to identify the contributions export-oriented firms make toward the economic growth of developing economies; however, the findings are inconclusive. The literature on firm performance concerning human capital development, institutional policies, ethnic diversity, structural reform, etc, are copious using different methodologies (Boudreaux, 2020; Carbonara et al., 2016; Danquah & Amankwah-Amoah, 2017). Similarly, Njikam (2017), studied export market destinations and performance of manufacturing firms. In their studies, Amelie Schmidt and Michael Wendelboe Hansen (2017), paid attention to competition, internal factors, and institutional conditions. Similarly, export intensity is analysed together with explanatory variables such as firm size, firm access to a line of credit, and firm registration, among others (Ibeh et al., 2012; Narteh et al., 2007; Amelie Schmidt & Michael W Hansen, 2017).

Okpara (2009) examined strategic orientation, managerial orientation, and exporting as the key variables. Okpara uses export orientation in a sense that demonstrates the percentage of firm revenue obtained from export. Several other studies (Agosin et al., 2012; Fosu & Abass, 2019) have empirically examined the determinants of export orientation using data from developing and developed economies globally, however, Osakwe et al. (2018) limited their data on African nations. Determinants mostly used in previous research include institutional policies, R&D, infrastructure, domestic credit, technology, and international competition.

There is a global perception that exporting firms that are innovative benefit more from the international market. Other assumptions are that innovation has a direct impact on firm competitiveness, both abroad and domestically (de-Oliveira & Rodil-Marzábal, 2019; Rodil et al., 2016). Products meant for export are well researched and improved (R&D) by the firms before they are processed and sent into the foreign markets. Internationalisation, therefore, leads to increased innovation, the adaptation of standards, and manufacturing. Similarly, manufacturing firms improve their products before exporting and gain a potential productivity advantage after entry into the export market. These improved manufactured products then make the manufacturing firms competitive in the international market.

Moreover, SSA firms are faced with an unfavourable economic environment dominated by low technological development, corruption, and institutional void (Hansen et al., 2018; Tvedten et al., 2014). Other unfavourable conditions, according to research include information asymmetry and lack of export experience (Biswas, 2019; Keddari & Touati, 2020). Information asymmetry makes it difficult for firms in sub-Saharan Africa to identify opportunities in the export market. The lack of awareness of both economic and non-economic benefits, non-availability of experienced and or professional staffing, and knowledge of how to enter the market. Since the inception of trade liberalisation reforms in the 1980s by SSA countries, local firms have suffered intense competition from the more efficient multinational companies that have flooded the continent to benefit from these policies (Moini et al., 2016). Additionally, competition from local firms oftentimes is a hindrance to export-oriented firms. They both compete for portions of the local market as well as access to a line of credit, among others. To be able to understand and develop a policy-oriented broad-based sustainable and inclusive growth for SSA firms, it has become necessary to study SSA firms and their determinants and how they affect the international market. Existing literature suggests that national or domestic circumstances such as market size, marketing resources, technological infrastructure, and business group affiliation influence the growth of export-oriented firms (Gaur et al., 2014). According to Amelie Schmidt and Michael Wendelboe Hansen (2017), the presence of both internal and external competition from the big multinational companies add to the already weak financial situation of these SSA firms, making them stagnate which is reflected in their weak annual export sales. These factors and the problems that accompany institutional void need to be addressed by governments and firms if firms will see growth and become competitive in the international market. Equally, less attention is given to domestic resources that could be

mobilized to support the internationalisation process of the firms. As posited by Zander et al. (2015), the influence of a firm's country of origin concept needs to be put in the right perspective, if internationalisation would be understood and incorporated into existing frameworks. Dysfunctional competition and its impact are sometimes viewed as a hindrance to internationalisation within SSA firms. Dysfunctional competition is defined by Boso et al. (2019) as decision-makers perceptions about how to circumvent violations of copyrights, licenses, patents, competition pressures, and ineffective regulatory and contractual monitoring in the export market. Likewise, dysfunctional competition is defined by Filatotchev et al. (2016) as the opportunistic behaviour of firms that can be described as unfair, and sometimes unlawful.

The nature of domestic markets in sub-Saharan Africa induces firms to veer into the international market. The size of the market which is not big enough to accommodate the growing number and size of firms in the sub-region spurs some of the firms to internationalise. Competition for space and market share forces domestic firms to either diversify or internationalise to be able to maintain a sustainable turnover (Tvedten et al., 2014). Similarly, Amelie Schmidt and Michael Wendelboe Hansen (2017) asserted that some firms in SSA internationalise to escape the difficult nature of the domestic market, for example, the infiltration by large multinational companies.

2.2.2 Theoretical framework

The theoretical framework consists of theories that have been articulated by authorities in their fields of study, which relate to this research plan. This research draws on two theories established by experts, to provide a theoretical structure for the analysis of data and interpretation of the findings. The Efficient Structure Theory (ESH) states that more efficient firms are able to expand in terms of market share than the less efficient ones as competition increases (Catena, 1999). Similarly, the ESH views the influence of firm-specific resources as important has led to further research into the sources of firm performance (Mahoney & Pandian, 1992; Zahra, 2021). This has led to the emergence of the resource-based view as a guiding framework of the determinants of firm-specific performance (Timothy, 2010). Hence the use of RBV in this study instead of ESH. To be able to evaluate the role national institutions play to release resources for a better firm performance, the institutional-based theory is added to the resource-based view, which complement each other. These two main theories that relate to export orientation, labour productivity, quality assurance certification, and

internationalisation will be considered. Existing literature mainly uses labour productivity, quality management standards, or technology licensing as the explained variable in their studies, however, this study will restrict itself to export orientation. This research investigates the nexus between the percentage of firms exporting revenues and the other determinants of internationalisation.

This is based on Resource-based theory which states that “heterogeneity in resources and capabilities among firms is fundamental in explaining firm performance” (Barney, 1991). While it is believed that the resource-based view theory is important, recent studies suggest that the political & legal environment in which the firms operate is also important, hence the need to add the institutional-based view theory. According to Peng et al. (2008), there exist two main branches of institutional theory, which are mainly economics and political science, and organisational theory and sociology.

2.2.2.1 Resource-based theory

To build a more prudent and rigorous model for this research, the resource-based theory (RBV) of the firm has been applied (Wernerfelt, 1984). The RBV theory is a later development based on the earlier work of Penrose and Penrose (2009). The main assertion is that a firm’s growth depended to a large extent, on how the bundle of specific resources available is well managed. The driving force of internationalisation was mooted from the background that firms have certain inherent resources that inure to their competitive advantage and this assertion is in agreement with the claim by Wernerfelt (1984) that two fundamental assumptions underlie the RBV theory which are immobility and heterogeneity of resources. The key assumption is that the capabilities and resources of the firm impact its competitive advantage. These resources include finances, physical assets, the level of skills employees possess, and production processes. On the other hand, capabilities consist of management actions and other forms of activities that help the firm to enhance or process the resources to its maximum advantage. Resources of a firm are perceived as a strength or weakness which are rare, valuable, imperfectly substitutable, and inimitable (Barney, 1991). Rare resources of a firm give the organisation a competitive edge over its competitors both on the domestic and international front. The inimitability of the company’s resources such as technology creates an added competitive advantage. Firms without relevant technology will need to access it through licensing and or technology transfer. Existing studies on firms by and large embrace a macroeconomic-level method, however, the basic resources essential for a firm’s activities,

such as human capital and financial assets, are embedded in the individual entrepreneur and their businesses (Autio & Acs, 2010). Similarly, Li (2019) argues that the extent to which a microeconomic-level resource-based asset impacts internationalisation is very important. RBV has become topical in recent times whenever there is an inquiry into internationalisation by firms. It is applied as a guiding paradigm. Following Penrose and Penrose (2009) description of a firm as a compendium of both human and physical resources, which are also heterogeneous in nature, existing research recognised three sets of resources. Penrose and Penrose (2009) categorises the main resources available to the firm into three main groups as enterprise resources, organisational resources, and technological resources.

Business ownership or type of ownership aligns with enterprise resources. The nexus between decision-makers and the level of internationalisation of the firm is seen to be positive (Li, 2018). This positive relationship is further buttressed by characteristics of enterprise resources which include knowledge of technology, knowledge of the export market, access to credit, and investment capital. However, the human capital that the owners of the firm possess should not be overlooked. Research (Evald et al., 2011) opines that human capital renders an outward-looking perception for entrepreneurial firms and therefore their ability to acknowledge and seize international business opportunities. Mathews (2017) suggests that RBV theory and internationalisation have a direct link because internationalisation is dependent on the discovery of new relationships and the quest externally for new resources. Therefore, firms do not only look for domestic and internal resources to internationalise. Research by Brymer et al. (2020) in assessing the importance of human capital and relational capital, concluded that these two variables have positive effects on internationalisation. This point has been stated elsewhere in this research, that information asymmetry is a problem for exporters, therefore if human capital is fully developed it will be an asset for sub-Saharan African firms. Turro et al. (2020) argue that the pivot of a firm's resources is for the decision-maker to use their knowledge in the specific field to enhance the opportunities of the firm by being innovative. Similarly, managerial standards provide that expert knowledge that is internationally accepted should be an encouragement for decision-makers to become innovative. Agreeably, a major process that supports a firm to establish a competitive advantage is innovation, thus diversification and developing new products (Rua et al., 2018; Urbano & Alvarez, 2014).

Penrose and Penrose (2009) indicate that organisational resources are measured by managerial slack as revealed by the physical and financial resources available for use by the organisation.

Business size and scale, such as the volume of exports and proportion of sales on the international market, are indicative of the financial and managerial resources in the organisation. The excess of organisational resources will encourage the firm to expand. Studies have shown that there is a positive relation between big firm size and its plan to internationalise. This position is supported by researchers who focused on annual sales revenue size (Idris & Saridakis, 2018; Ngoma et al., 2017). Similarly, Moen (1999) in a study identified that eight out of twelve studies concluded that there is a positive correlation between firm size and export orientation. Further, it is suggested that small firms that possess relatively fewer organisational resources will need the appropriate resources to internationalise (Wadhwa et al., 2017).

Technological resources are key assets for a firm's intent to internationalise. They comprise both tangible and intangible technological resources available to the firm. Previous studies have supported the view that there is a positive correlation between technological assets and internationalisation (Autio et al., 2000; Cahen et al., 2016; Karagozoglu & Lindell, 1998). Kriz and Welch (2018) suggest that technological advantage is likely to accelerate the internationalisation process of the firm because of its distinctive sustainable nature. Therefore, innovative firms that have strong technological capabilities are more likely to internationalise faster than those firms lacking these resources. Their innovativeness has the advantage of selling their products on the international market.

2.2.2.2 Institutional theory

While the resource-based view is important, the specific environment in which the firm operates is also significant. Institutional theory is extensively used by various disciplines to research the nature of organisational behaviours, as in social innovation (van Wijk et al., 2019), emerging markets (Kostova & Marano, 2019), and supply chain finance adoption (Wuttke et al., 2019). According to Zucker (1987), institutional theories 'provide a rich, complex view of organisations'. The complex view of organisations emanates from the source of pressure, which can be external originating from the government, other firms in the sector, or internal from the firm itself. In other words, the theory elucidates how organisations behave in a socially acceptable manner. As posited by the theory, an organisation's structure and behaviour are influenced by the institutional environment, which is composed of trade associations, competitors, environmental activists, and governments, that provide norms such as policies, practices, social expectations, operations, and behaviours (DiMaggio & Powell, 1983; Scott, 2008). Similarly, it is significant for organisations to conform to these stakeholder pressures to

maintain legitimacy which will ensure access to important resources (Azadegan et al., 2020; Berrone et al., 2020). As postulated by Meyer and Rowan (1977) organisations end up manifesting the orientation of societal values and corporate ethics by adopting institutional guidelines.

Several studies have indicated that export orientation is not only encouraged by firm-specific resources but is also a combination of a formal and informal institutional framework under which the firm operates (Oliver & Satisfaction, 2018; Scott, 1995). DiMaggio and Powell (1983) recognised two main divisions of institutional theory, deriving them mainly from sociology and organisational theory, and political science and economics. The political science and economics branch explains how human behaviour is influenced by institutional rules and regulations and these institutions can be informal and formal (North, 2005). Formal institutions include the constitution, contracts, licenses, regulations, etc, while informal institutions involve values, attitudes, norms, etc. However, Scott (1995) classified these two categories of institutional theory into three groups namely coercive, normative, and mimetic dimensions.

The coercive or regulative dimension is described as the procedure through which entrepreneurs and firms construct legal systems or social rules in the pursuit of their business activities. It establishes the ground rules for organisations, echoing the legal environment of the country and the degree to which monitoring and enforcement of these laws and regulations take place. Yoo and Reimann (2017) looked at the internationalisation of firms in developing country into developed countries, paying attention to the salient part of the institutional aspect. They found a higher level of internationalisation among countries that provide better regulative protection for technology and intellectual property and hence concluded that the home country's regulatory environment has an impact on export orientation. The registered intellectual property when better protected encourages the owners to research new products for the international market. Effective monitoring and supervision of the regulative dimension can hinder or promote internationalisation.

In furtherance of the assertion that available resources and opportunities should induce firms to embark on international expansion, a strong domestic regulatory environment will encourage firms to take advantage of the available resources and opportunities in the country. Given this, Li (2018) argues that the effects of resources on a firm's propensity to internationalise are strengthened when the regulative environment of a country is effective. The implication is that

the organisation will anticipate fewer hindrances and obstacles that should enhance the firm's estimation of the ease of doing business.

The normative dimension, as a component of an institution, comprises beliefs, social norms, values and human behaviour, and assumptions of human nature. Professional groups or associations use normative isomorphism. According to institutional theorists DiMaggio and Powell (1983), professionalism can be seen from two important sources. The first form of professionalism is education and professional training, for example, trained engineers, and professional accountants. These professionals are supposed to act and practice by following specific norms, strategies, and practices outside of which they will be deemed unethical. The second facet of professionals is the varied professional groups, networks, and professional bodies that hold similar ideas and perceptions of acceptable procedures. Organisations and individuals in these groups have a culture of exchanging information among themselves enabling them to copy inherent policies and practices. Additionally, professionals who are linked with such associations adopt practices and ethics and in turn transfer them for the benefit of their organisations. Recent research however suggests that there is a difference between what may be termed legal and legitimate (Guerrero & Urbano, 2020). While legitimacy means rules stipulated by beliefs, values, and norms, the term legal refers to rules as defined by law and regulations. In countries where institutions are weak, legitimacy becomes the order of the day. The absence of fair competition and financial discipline in developing countries (including sub-Saharan Africa), has given rise to ineffective formal supervisory institutions that depend on informal norms. Buckley and Casson (2016) observed that norms, beliefs, and values can enhance the availability of resources and relevant opportunities, and consequently, influence the desirability for internationalisation. It can therefore be suggested that normative isomorphism can reinforce the nexus between resources and the degree of internationalisation of firms.

The mimetic dimension occurs when a firm models its culture after the shared values and perceptions of the industry it is involved in. Mimetic dimensions, due to their socio-cultural nature, refer to the firm's conceptions which constitute their interpretations of reality and the social framework of the industry (Scott, 1995). This explains the influence firms have on others in the same industry. Findings by Bosma et al. (2018) reinforced the claim that firm behaviour across countries has shown that national and regional institutional policies play an essential role that affect international development.

2.2.3 Manufacturing sector and internationalisation

Trade agreements and treaties are gradually reducing impediments to cross-country disparities in production costs, and international trade, and broadening the scale of manufacturing at both domestic and international levels (Grossman & Rossi-Hansberg, 2006; Obeng-Odoom, 2020) and in many sectors of both developed and emerging economies, manufacturing activities have been relocated or extended abroad. In the past, the share of manufacturing exports to total exports from Africa was between 5 percent and 20 percent and descended to a low level of 5 percent around 2000 (Rutashobya et al., 2003). This was due mainly to the structure of exports which emanated from the extraction of raw minerals and the export of raw agricultural products. The new approach to economic development in Sub-Saharan Africa is the promotion of manufactured products for export. Value is added to the raw agricultural products and other raw materials by manufacturers before exporting. Trade liberalisation and regional regulations have brought national and regional advantages or disadvantages due to the diminishing barriers to international trade. The African Continental Free Trade Area Agreement (AfCFTA) is extensively perceived as a vehicle for industrialisation and sustainable economic growth (Saygili et al., 2018). Inter African cross-nation treaties and agreement alone is expected to help African manufacturing firms either relocate or expand to other African countries. For example, the regional free movement associated with AfCFTA has enabled Dangote to expand from Nigeria to other West African countries such as Togo and Ghana mainly in the manufacturing and agricultural sector.

Since there are a few large firms in the sub-Saharan Africa region it is generally believed that an alternative way to promote the export-oriented manufacturing sector is to develop the small and medium-sized (SME) export-oriented firms. Therefore, there is a need for governments, in the sub-region, to promote SMEs by creating an enabling environment that will stimulate SMEs to become innovative and make them internationally competitive.

The difficulty here is that since most of the large firms in SSA are fully or partly owned by foreigners, who provide the capital and expertise that the SMEs do not possess, this makes it difficult for the SMEs to compete with them both at home and globally. Domestically, it is becoming difficult for governments to make policies that will exclude the promotion of the larger companies because they are tightly related to the inward foreign direct investors who are a source of capital and economic growth for SSA economies.

Arguably, innovation, both managerial and technological is significant for the manufacturer in sub-Saharan Africa. The common target of the industrialist in Africa is to invest in innovation that will promote efficiency. However, Barasa et al. (2019) assert that the adoption of foreign technology has a negative but significant impact on manufacturing firms in SSA. This trend is considered to be the result of manufacturing firms adopting the inappropriate type of foreign technology. Additionally, because foreign technology is mainly sourced from developed nations, there is the likelihood that SSA firms will face low-level operational and factor endowment issues. It is argued that the adoption of foreign technology may not be appropriate for SSA firms due to the factor endowment disparities between the developing countries and developed countries (Acemoglu, 2002; Peng et al., 2018). Scholars (Eichhorst et al., 2018; Fu et al., 2011) argue that the abundance of low-skilled and unskilled labour in developing countries hinders the efficient operation of foreign technology. The low level of human capital development which has resulted in semi-skilled workers in sub-Saharan Africa is a contributory factor that impedes the development of manufacturing in the sub-region for internationalisation. However, ownership type seems to change this argument. Foreign-owned manufacturing firms tend to have well-trained labour with technical expertise to efficiently operate foreign-owned technology. Barasa et al. (2019) indicated that foreign ownership improves efficiencies in SSA manufacturing firms. The reason is that foreign direct investment comes with the needed technology and the expertise, or the training workers need to operate the imported technology. As per the review of the manufacturing variable above the first hypothesis is drawn.

Hypothesis 1: Firms in the manufacturing industry are likely to be more competitive and export more because they develop their products before exporting and they further gain a productivity advantage after access to the international market.

2.2.4 Management standards and internationalisation

Recently, standards have become topical in the governance of international trade and the global supply chain. Different forms of standard certifications exist in management, technical or technological standards. The key objective of the International Organization for Standardisation (IOS) is to set global standards in view to enhance international trade and worldwide welfare. The ISO 9000 started in 1987 when the technical committee (TC 176) of

IOS published the ISO 9001 Quality Assurance Standards. ISO 1400 though is the much lesser used to some extent, deals with environmental management systems and proposes management systems that help to mitigate the negative effects of the organisation's production processes on the environment. Currently, subscribers are in over 190 member countries with over one million organisations and companies worldwide (Neyestani, 2016). The most internationally recognised standards frequently used are the ISO 9000 and ISO 14000 (Silva et al., 2016). This is an indication that the Quality Management Systems of the IOS are credible and acceptable worldwide.

Due to pressure from consumer groups, environmental activists, and other stakeholder groups, exporting firms in order to project and protect their reputations depend on these standards (De Marchi et al., 2018). It is also believed that firms in developing countries suffer from poor management systems which results in low-level productivity and sub-standard quality level products (Nebo & Ogbuene, 2021). It is therefore appropriate for exporting firms in developing countries to prove their commitment to global environmental protocols, quality production processes, and internationally acceptable labour conditions. According to Goedhuys and Mohnen (2017), this is done by acquiring ISO certificates and committing to adhere to the relevant transnational standards. These certified firms have the privilege of adopting quality management systems that enable them to reach their set targets in terms of sustainability and processes in production. Zoo et al. (2017) believe that adopting firms can improve their internal management procedures and organisational practices. The Oslo manual defines organisational innovation as 'new business practices, workplace organisation or external relations' (OECD. et al., 2005), therefore international standards can be considered as a type of organisational process that introduces a modified procedure to firm practices.

The use of standards is not limited to the manufacturing sector alone, evidence shows that sectors such as tourism, financial, hospitality, transport, or customer services have increased their use of international certification (ISO, 2016). Quality Management Systems accredited firms gain the opportunity and information to increase their share of the global market through networking. Once accredited the firms are added to the lists of ISO members and it further indicates that the production processes of the accredited firm are according to international standards, which is most likely to result in quality products. This accreditation opens opportunities for internationalisation, networking, and coordination among firms within the supply chain which creates efficiency with its correspondingly reduced operational costs (Zoo

et al., 2017). In their studies, Chetty and Holm (2000) indicated that a New Zealand electrical industry machinery exporting firm called EARLY, benefitted after acquiring quality management systems accreditation (QMS) as it improved its international sales in different markets, through networking.

2.2.5 Accreditation procedure

The general approach adopted by ISO before issuing certificates to firms can be divided into three groups: a) compliance with national regulations, b) established business links that meet buyer requirements, and c) internal competence gains (Cai & Jun, 2018). Further, registrars are nominated in each country for the issuance of certificates, which are under the control of a national governing body.

Unlike common non-tax and tariff barriers, standards and certifications do not only reduce barriers but are also important for the expansion of international trade. Though ISO is generally found to stimulate international trade more than national standards, they have the potential to be protectionist when large buyers require that products meet international standards which are accompanied by huge costs (Kareem & Martínez-Zarzoso, 2020). The growing use of standards has created the need for researchers in international business and strategy, to examine the rationale behind organisations acquiring a certification and how it affects their performance. Though studies (Fikru, 2016; Viadiu et al., 2006) have demonstrated that motivations to acquire certifications and the benefits are almost the same, Gebreyesus (2014) and others are of the view that firms need to evaluate the cost of certification procedures against the benefits before applying.

2.2.6 Accreditation costs

Accreditation costs can be high considering the processes, time, and amount of money involved. The differences in national regulations, access to finance, and efficiency in supervision can impact the cost of accreditation, this results in the variation of costs in the SSA sub-region. Hence the adoption of standards in a country can become a trade barrier if it is accompanied by substantial compliance costs for both domestic and foreign-owned firms. Similarly, seeking international management certification standards can be cumbersome due to the documentation of practices involved during the production activities instead of a singled

out measured outcome. According to Davis et al. (2018), management certification requires that procedures and production levels are verified and documented. Therefore, the need for documentation and coding, evaluation, and adoption is necessary. The local firm accomplishes this with the support of private consultants and expert suppliers. Devoid of the capacity to meet international standards, SSA firms are likely to find it difficult to enter the international markets (Davis et al., 2018). In developing countries, where smaller firms do not have the competence and additional resources, obtaining international management accreditation becomes a major obstacle. Arguably, firms with management procedures that are far below international standards incur higher costs to improve before applying for certification. As a result, acquisition and adherence to international standards are consequential to the accessibility and development of available resources (Goedhuys & Mohnen, 2017). The nominated registrars are supposed to conduct an annual compliance audit to ascertain adherence and offer the necessary suggestions, which also come with additional costs. However, Sartor et al. (2019) view this as a conflict of interest situation. They questioned the impact of accreditation in SSA due to the poorer quality of the audits. They argue that the private firms that assist in the procedures of application are the same firms that are the regulators for non-compliance. Debatably, this creates a level of conflict of interest on the part of the regulators which sometimes reduces the quality of supervision and mismanagement of the structures. There may be unobserved abuse (influence), but the main predisposition is for firms to enhance their international presence with the acquisition of accreditation.

2.2.7 Technology licensing and internationalisation

Technology licensing is evolving as a strategic management weapon for the development of products and firm growth (Min et al., 2020). Original Equipment Manufacturers (OEM) can license their technology to a third party over a period usually annually. Technology licensing means that an OEM sells the usufructuary rights of its technology in forms such as patents, procedures, and technical know-how to another firm for payments of compensation and other royalties (McDonald & Leahey, 1985). Technological abilities are the attempts and activities that firms embark on to acquire knowledge and develop their existing knowledge. These processes involve the adaptation of codified knowledge in management standards, risk-taking, technological learning and adoption, and investment. As stated elsewhere in this study, firms assess the costs and anticipate benefits before applying for standards certification. Salgado et

al. (2016) made a distinction between the two types of benefits. They are innovation enhancement and efficient means of improving technology, which supports product development and firm growth. Though the accredited firms seem to benefit, scholars assert that the licensor may license only the production technology leaving out the process technology, thus reducing the potential competition that the licensee can create (Li et al., 2021). This strategy of the licensor disadvantages the third party, especially firms from developing economies because they compete internationally with the giant that offered them the technology license.

2.2.8 Export orientation and internationalisation

The literature on internationalisation indicates that most of the research involve the entrance of large Western multinationals into other markets, firms from developing countries to developed countries, and the other way around. Firms that increase or are interested in increasing their involvement in international operations are classified as export-oriented (Gerschewski et al., 2020; Holmlund et al., 2007). They are identified by the percentage of sales revenue gained from foreign deals. As stated elsewhere in this study, African firms initially exported unprocessed products. In recent times due to technology and international standards, most exporting firms have diversified and now export processed and improved products. Literature suggests that generally African firms are limited in the volume of exports. According to Njikam (2017) around 17.7% of sub-Saharan African firms gain about 40% of their revenue from exports to the European Union. Similarly, the findings of Ibeh and Young (2001) indicated that out of 69% of the exporters in Nigeria surveyed, the volume of annual turnover from export was as low as 10%. The volume of exports from SSA is still low and influenced by competition among other things.

Moreover, it is argued that internationalisation is the direct result of using differentiated products to a firm's competitive advantage (Autio et al., 2000; Lee & Falahat, 2019). Therefore, innovative firms that produce unique products, with the use of technology, have the advantage of competing in the international market. As asserted by Sukaatmadja et al. (2021) young manufacturing firms become internationally competitive with unique products. The argument that capabilities and resources create significant competitive advantage cannot be ignored but it is believed that strategic planning can also support export-oriented firms to internationalise.

Buckley and Casson (2016) suggested that firms' internationalisation processes are influenced by numerous international factors that can promote or hinder export activity. On the other hand, domestic institutions' operations, the size of the domestic market, and domestic competition can also hinder or promote an export orientation drive. The nation's or firm's export drive can be boosted by the strength of national institutions, which set the outline for both local and international businesses.

2.2.9 Export orientation and competition

Both domestic and external competition affect the percentage of annual sales return from the exports of SSA enterprises. There is evidence that Chinese imports to sub-Saharan Africa reduced South African exports to other countries in the sub-region by 20% in 2010 (Edwards & Jenkins, 2014). The presence of the Chinese in SSA is becoming a major source of challenge and competition for SSA firms both in the domestic and external markets. Equally, granted the factor endowment gap between advanced economies and developing economies specifically SSA countries, it is more likely that foreign products in the domestic market will be of higher quality than what the domestic firms produce (Barasa et al., 2019). Since firms need the domestic market as a base to launch into the international market, losing their domestic market affects their finances and therefore level of research and productivity.

Small and medium-sized firms find it challenging to survive partly due to the cost of competing with larger domestic and multinational firms. Statistics from Kenya, Ghana, and Tanzania around the 1990s indicate that there is a strong correlation between firm survival and productivity in large firms, however, it is weak amongst small firms (Amakom, 2012). Innovation in competition means improving products through the adoption of quality management systems and other international production certification processes to achieve international leverage. Whereas large SSA firms are able to meet these innovation challenges due to their financial capabilities, small and medium-sized firms are not able to survive; the financial costs involved in the accreditation processes are mostly too high for them. Makri et al. (2017) in their research on antecedents on results of export innovativeness concluded that innovation is significant in export performance. Previous research held a similar position that high levels of competition in the national market commonly lead to development in production processes, innovation, diversification, improved prices, higher returns of total sales from exports and promotes internationalisation (Goodwin & Pierola Castro, 2015; Nguyen & Nishijima, 2009; Porter, 1990). Therefore, domestic competition can be considered as a

motivation for firms to assign their resources to develop the higher capacities required for international market competition.

Aside from the above, there is an informal competition. Some of the fundamental competitive impediments that firms face include infrastructure, expertise, and regulation (Newman et al., 2016). These systemic issues hinder SSA firms in their efforts to compete globally. Weak or lack of regulation enforcement such as registration (formalisation) of firms with the domestic country's registrar of companies can lead to dysfunctional competition. When levels of dysfunctional competition increase in magnitude the joint effect of market responsiveness and product innovativeness on export performance are weakened. Informal or unregistered competitors might push businesses to participate in inefficient operational procedures because of low pricing (La Porta & Shleifer, 2014). This leads to inferior quality products that may not meet the international market standards.

This notwithstanding, competition can be viewed as the ability and commitment of firms to alter products and marketing choices in a bid to gain a competitive advantage (Gokus, 2015; Song & Parry, 2009). Similarly, Gao et al. (2017) posited that firms that can withstand and survive through a weak institutional environment are capable to develop sustainable competitive strengths. Besides, Luiz et al. (2017) demonstrated the value of "institutional complementarity" to the African firm on the global market. It is argued that SSA firms are more likely to compete internationally because of their experience of survival under weak institutional conditions. These firms develop the capability to manage institutional barriers which offer them a competitive advantage even in the international marketplace.

2.2.10 Export orientation and Registration

Registration (formalisation) of firms in sub-Saharan Africa is a major problem due to the time constraint and the significant cost involved. The general belief is that non-registration is damaging to the performance of firms. It has been suggested that the registration of firms provides a form of legal legitimacy and a reduction in the chances of failure (Stinchcombe, 1965). However, recent research has a different view. Williams et al. (2017) posited that these benefits generally prevail in developed economies, and it may not be conscionable to transfer these benefits to the developing world. The argument is that institutions in developing countries, which include sub-Sahara African countries are not as functional as they are in developed nations. With the lack of or insufficient supervision coupled with the high costs of

registration, SSA firms do not find it attractive to register and would rather save their resources. Godfrey (2015) asserted that though the unregistered firm may lack the level of legitimacy, in the developing world they have social legitimacy, this form of legitimacy spurs the firms on for some time. Market imperfections have been a discouraging factor toward firm registration in SSA.

In their findings, Williams et al. (2017) concluded that registered firms that started as unregistered for a long time but later got themselves registered have subsequent better or higher performance than those that initially started as registered. This means that the blended approach is good for firms in developing countries. It can also be deduced that firm age and firm registration have a relationship. Williams and Kedir (2018) researched the probability of a firm start-up as unregistered, and the finding was that older firms are more likely to have begun as unregistered.

However, with the assumption that export-oriented firms exhibit higher levels of firm performance, it can be inferred that firms that are foreign-owned and export-oriented are more likely to have started as registered than domestic-owned counterparts (Cantner, 2007; Djankov et al., 2008; Sarkar, 2018). Similarly, QMS accreditation acquisition is dependent on the firm's compliance with the country's laws therefore firms deem it necessary to register and formalise their operations before seeking accreditation. There is a connection between the registered variable and the two theories (RBV and institutional-based theory) used in this study and how they influence internationalisation. Firm registration is principally based on the regulations of the domestic country.

Hypothesis 2: The regulative environment influences specific firm resources and the level of internationalisation.

2.2.11 Line of Credit and Internationalisation

Access to a line of credit for firms in emerging and developing economies, including SSA, has been problematic over the years. Owing to the underdevelopment of the capital market in developing countries, the cost of capital is high. As indicated by Hearn et al. (2017), apart from the high risk of lending out credits in the African financial market, the issue of weak legal systems heighten the problem of financial institutions in offering external credit. The problem is however lessened when the firm is registered, which reduces the risk of non-performing assets on the part of the lender. Generally, countries in sub-Saharan Africa do not have a digital

address system, and therefore if a company is registered the credit provider is assured of the location of the firm.

Nevertheless, exporting SSA firms find it difficult to access lines of credit, not only due to the high-interest rate but also the need for collateral. Additionally, the processes of obtaining a line of credit are cumbersome which comes with personal relationships, location of the firm, and long delays. This position of credit providers sometimes discourages firms from seeking loans, with the view that the application might be declined due to their location or owners' (entrepreneur) relationship, among other factors, with the credit provider (Deakins et al., 2009). Similarly, inflation is another factor that discourages exporting firms from accessing credit in SSA and should be considered. For example, inflation in Ghana reduced from 15% in 2016 to 12.8% in the first quarter of 2017, but this is still high for investors, especially exporters (Adarkwah & Santuoh, 2018). Therefore, firms may not seek external credit not because they do not need it, but because of trust and fear of failure. Some firms are discouraged and would not go for any line of credit due to the above-stated reasons.

Given that quality management standards provide assurances of good internal management processes, firms that are accredited find it easier to access a line of credit than those without (Baffour-Awuah & Adjei-Kumi, 2021; Shapiro & Carney; Zarook et al., 2013). Exporting manufacturing firms that have QMS accreditation are more likely to get a line of credit for both short-term and long-term loans. In their study Bokpin et al. (2018) found out that access to finance is significant and positively impacts firm performance in Africa, however, exporters perceive it differently due to the level of inflation and the high-interest rates in the sub-region (Aigheyisi, 2018). High-interest rates and inflation levels contribute to the high cost of production which make exported products less competitive on the international market. Aigheyisi (2018) asserted that the upsurge in the line of credit to private firms rather adversely impacts export diversification due to their lending conduct. The creditors tend to lend to firms in the extractive industry which grants them the needed security than the manufacturing exporting firms. Export diversification is the current idea for African firms if they want to remain competitive in the global market.

2.2.12 Export orientation and firm size

Firm size is measured by the number of permanent employees, and they are grouped as follows: small firms have between 5 and 19, while medium and large have 20 to 99, and above 100, respectively. Others, including Njikam (2017) noted that the average exporting firm size in SSA has 95 employees as against 35 for non-exporting. Njikam continues that firm size contributed to the 31.3% export that can be attributed to the manufacturing industries in sub-Saharan African countries in 2009. The fact that large firms export more than small firms confirms the initial discourse that large firms are financially stable and stronger than small companies. Export orientation is somewhat capital intensive taking into consideration the costs of innovation and accreditation.

Though the size of the firm is important, it cannot be separated from foreign ownership and age. There is evidence that exporting internationally is mainly dominated by foreign-owned and older firms (Ibeh et al., 2012). Njikam (2017) holds a similar view stating that for sub-Saharan African firms the average firm age is 27 years for exporters as against 21.5 years for the United States of America. The following reasons why firms ought to be big to be competitive in the international market (Wagner, 1995): management expertise, economies of large-scale production, high risk-taking capabilities, fully operational functional departments, access to lower cost of capital, and bulk purchase advantages. In his findings, Njikam (2017) stated that ownership and firm size are two main determinants that would encourage a firm to export. Foreign-controlled firms in SSA are the main providers of the needed capital to support the large firm size among other things to improve their exporting capacities. Firm size as reviewed above is linked with the firm's organisational resources. These resources, it is believed are mainly provided by the large foreign firms that are export oriented. This leads to hypothesis three.

Hypothesis 3: Firm size is more likely to influence a positive relationship with the degree of internationalisation.

2.2.13 Summary

To summarise, export orientation will be analysed together with explanatory variables such as manufacturing, quality management standard certification, firm size, firm access to a line of credit, and firm registration, among others. To be able to understand and develop a policy-oriented broad-based sustainable and inclusive growth for SSA firms, it has become necessary

to study SSA firms and their determinants and how they benefit from the international market. The fact that large firms export more than small firms confirms the initial discourse that large firms are financially stable and stronger than smaller ones. Manufacturing firms have the likelihood to improve their products before exporting and gain potential productivity advantage after entry into the export market. In furtherance of the assertion that available resources and opportunities should induce firms to embark on international expansion, a strong domestic regulatory environment will encourage firms to take advantage of the available resources and opportunities in the country of operations.

2.3 Variables description

In this section, the variables evaluated and adopted by this research will be described briefly, and in order to answer the question, “what are the determinants of internationalisation of sub-Saharan African firms”, three hypotheses will be formulated.

2.3.1 Export orientation

Export orientation is captured as the dependent variable in this research. Researchers usually use export intensity and or international certification to assess the determinants of internationalisation of sub-Saharan African firms (Danquah & Amankwah-Amoah, 2017; Goedhuys & Mohnen, 2017). No single approach is perfect. Export orientation is measured as a proportion of export activities on the total turnover of the firm. Export orientation is the most commonly used measure for export performance in empirical research (Lau et al., 2020). Both export intensity and export orientation examine the measurable value of the exports and look at the percentage of the sale that accrued to the firm in terms of exports as against the total sale of the firm in the last fiscal year.

2.3.2 Manufacturing

Manufacturing is used as a dummy variable in this study. Generally, studies are done on manufacturing concerning firm performance on the global market. Many researchers adopted a dataset that essentially relate to the manufacturing sector, however, this study specifically looked at the manufacturing sector with other firm characteristics (Calza et al., 2019). It is also believed that manufacturing firms that export are more productive than those that do not (Tang

et al., 2019), it, therefore, presupposes that there is a link between manufacturing and export orientation that should be examined. Thus, the manufacturing variable is adopted as a dummy variable to determine the link with export performance.

2.3.3 Registration

Registration is used as an explanatory variable and described as firms that are registered with the registrar of companies or the appropriate body. The institutional theory indicates that at the country level there are institutions that can enhance or stagnate the growth of firms. Numerous studies have been done evaluating the link between institutional theory or the significance of country-level regulations and firm-level internationalisation. According to literature, a nation's institutional setting, which comprises social norms, regulations, and cultural-cognitive structures, sets the agenda for firm transactions in the domestic and international markets (Alvesson & Spicer, 2019; North, 1991; Scott, 2013). Arguably, given the firm's resources, a good country-level institutional environment should influence the firm's prospect to expand internationally. As part of the research, this study evaluates how the regulative aspect of institutional theory influences export orientation, hence the use of the registered variable.

2.3.4 Firm size

The following is the usual classification of firm size: between 5- 9 full-time employees is classified as small firm, the medium-sized firm is between 20 -99, while 100 and above full-time employees is a large firm. Scholars consider firm size as a pointer to a firm's organisational resources (Barłóżewski & Trąpczyński, 2021). In this study, firm size is measured by the number of permanent employees in the previous fiscal year. Nevertheless, this study captures firm size at the median number of permanent employees; thus large firms take the value of one and zero otherwise (Njikam, 2017). This study used dummy because it enables us to use a single regression equation to represent multiple groups, which would have been small, medium, and large firm. In this case we have large or otherwise. This study uses firm size because size matters in terms of resources and internationalisation.

2.3.5 QMS dummy

The quality management standards variable is used as a dummy in this research. QMS dummy uses 1 for firms that have accreditation or 0 for those that do not have it. QMS is used in various firm internationalisation studies (Calza et al., 2019; Goedhuys & Mohnen, 2017) and this study deems it fit to adopt it as a determinant of internationalisation.

2.3.6 Other variables

Other variables that were used as explanatory variables in this study include foreign ownership, firm age, competitors, credit, and human capital development. These are further explained in Table 2.2.

2.4. Research Methodology

This section presents an outline of the research methodology. To be able to address the goal of this study and to contribute to this area of research on the determinants of internationalisation, this study will analyse and evaluate export orientation and internationalisation of sub-Saharan African firms. This study uses the method of Oster (2019) and Njikam (2017) by conducting a series of sensitivity analyses of the coefficients of the variables used in the study. The structure of the dataset used for this study makes it appropriate to adopt robust regression analyses before selecting the most preferred model.

For an in-depth study and reliable conclusions to be drawn, this study considers export orientation as the dependent on the explanatory variables. Hence, the proportion of the firm's annual sales that come from exports and their effects on the firm's performance in the international market will be considered. For the sake of sensitivity analysis, the fractional regression technique for Probit, and Logit is used. Then, pooled Probit, Logit, and Tobit regression techniques are also run. These multiple regressions are done for robustness' sake, however, Tobit model, the preferred technique, is used for the analysis. Additionally, this study controls an important variable, manufacturing, by focusing only on manufacturing firms that export in the regression analyses.

2.4.1 Data

The study uses data from the World Bank Enterprise Survey (WBES) database. The WBES surveys are conducted in a coordinated manner; however, the survey questionnaire differs from the type of industry being considered. Consequently, there are different sets of questionnaires for manufacturing, services, and other industries. Since all the industries are important for the economic growth and development of firms in SSA countries, all three sectors have been included in the study. However, special attention is given to the manufacturing sector. The 31795 firms that operate in the selected thirty-nine sub-Saharan African countries are studied over a period of thirteen years, from 2006 to 2018 inclusive. The WBES database is a compilation of firm-level surveys from developing nations, based on a sample largely from the private sector, including manufacturing, services, and other (construction & transport) industries, which are the main areas of research in the selected countries. The dataset also reports on firm characteristics including, but not limited to, firm age, firm size, registered, credit, percentage of sales from export, and foreign ownership. Table 2.1 below lists the selected SSA countries, and the industries examined in the survey. Congo, Gabon, and the Central African Republic could not label their industries under the specified designations during the period of review. Therefore, they have been left out of Table 2.1 below, however, they are considered in subsequent analyses. The results from Table 2.1 indicate that out of the 29868 categorised firms, about 46% are in manufacturing, while 22% and 32% are in the services and other industries, respectively.

Tabulation of country biztype

Country	biz type			Total
	1	2	3	
ANGOLA	356	176	253	785
BENIN	70	13	67	150
BOTSWANA	201	205	204	610
BURKINA	96	110	188	394
BURUNDI	162	102	163	427
CAMEROON	218	249	257	724
CHAD	74	18	61	153
CONGO DEM	513	312	403	1228
COTE D'IVOIRE	275	215	397	887
ETHIOPIA	653	357	482	1492
GAMBIA	96	63	166	325
GHANA	669	247	298	1214
GUINEA	162	59	152	373
GUINEABISSAU	50	54	55	159
KENYA	1265	514	660	2439
LESOTHO	76	45	29	150
LIBERIA	75	23	53	151
MADAGASCAR	485	223	269	977
MALAWI	176	144	203	523
MALI	525	268	242	1035
MAURITANIA	130	58	199	387
MAURITIUS	150	120	128	398
MOZAMBIQUE	628	211	241	1080
NAMIBIA	276	298	335	909
NIGER	41	18	92	151
NIGERIA	2095	1028	1444	4567
RWANDA	59	44	109	212
SENEGAL	506	237	364	1107
SIERRA LEONE	77	20	55	152
SOUTH AFRICA	680	143	114	937
SUDAN	103	139	420	662
TANZANIA	714	186	332	1232
TOGO	45	3	102	150
UGANDA	689	287	349	1325
ZAMBIA	672	245	287	1204
ZIMBABWE	647	257	295	1199
Total	13709	6691	9468	29868

Table 0.1 Country and industry type Manufacturing=1, Services=2, Other sectors=3.

4.2 Description of variables in the study

Variables	Measured (as at last fiscal year) as	Type
Export orientation (Expori)	Percentage of annual sales in export divided by 100	Dependent variable
Manufacturing	Firms in the manufacturing sector	Dummy variable
Firm size	Captured as permanent number of employees; above the median employment level for all firms in the survey = 1, otherwise = 0.	Dummy variable
Foreign ownership	Percentage of firm shares owned by foreigners.	Explanatory variable
Log of Firm age	Number of years the firm has been in existence as at last fiscal year (logged)	Explanatory variable
Registered	As of last fiscal year, has the firm registered with the registrar of companies or the appropriate body	Explanatory variable
Competitors	Whether competitors firms face both domestic and international; formal and informal, is an obstacle. or not? Obstacle =1, not an Obstacle = 0	Dummy variable
Credit	Has the firm got access to a line of credit?	Explanatory variable
Human capital development	Has firm trained employees in the fiscal year under review	Explanatory variable
Quality management standards	Is this firm QMS certified? Certified =1, not certified = 0	Dummy variable

Table 0.2 Variable description

Table 2.3 provides descriptive statistics of the variables used in this research. The means derived from this table are indicative that in SSA export-oriented firms make around 18% of export sales from their total annual sales. The mean for manufacturing firms in SSA is 43.1 percent and 64.1% of all firms are registered or formal. The rate of human capital development is low with a mean of 23.4%.

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.
Export	31795	.177	.237	0	1	0	1	1.116
manufacturing	31795	.431	.495	0	1	0	1	.278
firm_size	31795	.499	.5	0	1	0	1	.003
foreign_ownersp	31177	.12	.302	0	1	0	1	2.33
logfirm_age	31795	2.944	.555	0	5.293	1.386	4.29	-.101
registered	31795	.641	.48	0	1	0	1	-.588
compertitors_O	31795	.171	.377	0	1	0	1	1.746
credit	31795	.161	.368	0	1	0	1	1.845
HCD	31795	.234	.424	0	1	0	1	1.254
QMS_dummy	31795	.15	.358	0	1	0	1	1.955

Table 0.3 Descriptive statistics

A correlation analysis was done, and the indicative results show that some variables are moderately correlated. Consequently, a multicollinearity diagnostic test was conducted by evaluating the variance inflation factors (VIF) of the total number of variables used in the analysis, the outcomes indicate that multicollinearity will not be problematic with this dataset.

2.4.2 Methodology and modelling

For the analysis in this study, export orientation is used as the dependent variable with manufacturing as control and quality management standards as dummy variables. The dependent variable is used to formulate the model for the research. The business types being evaluated are all important but manufacturing firms, according to the dataset tend to export more than the other industries. The general estimation function is as follows:

Export orientation = f(manufacturing, firm age, percentage of foreign ownership, registered, firm size, competitors, human capital development, credit, and QMS dummy).

Recent studies concluded that human capital development, firm size, and access to credit among others are significant determinants for African firms to increase their leverage on the export market (Agosin et al., 2012; Elhiraika & MBATE, 2014; Wernerfelt, 1984). To empirically examine factors that determine the internationalisation of SSA firms, this study uses data from WBES as described above.

To test the economic model, it is necessary to transform it into an econometric model. The literature is mainly interested in the explanatory variables because this study aims to capture the determinants of internationalisation of sub-Saharan African firms. Initial tests were conducted in selecting the variables, using descriptive statistics and a correlation matrix. To be able to provide evidence of a relationship between internationalisation and export orientation, this study followed the methodology of Bernard et al. (1995) and Bernard and Wagner (1997). Their model examines an export premium as a superior level of exporters as compared with non-exporters, in terms of firm performance and characteristics. Their model focuses on export premium whereas this study considers export orientation in relation to firm characteristics and accomplishment in international markets. Given that export orientation, the dependent variable, is a continuous variable, which is a ratio with values between 0 and 1, the regression techniques adopted are appropriate. The independent variables are manufacturing, firm size, foreign ownership, firm age, registered, competitors, credit, human capital development, and quality management systems certification. Considering the use of an appropriate econometric model since the dependent variable is a ratio, this study then used fractional Logit, fractional Probit, Logit, Probit, and Tobit regressions to estimate the coefficients of the variables. All five techniques are appropriate individually but for the sake of robustness, all of them have been used together. This is consistent with the methodology of Njikam (2017). The general estimation equation takes the following form:

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_n X_{nit} + \beta_3 D_{it} + \varepsilon_{it} \quad (1)$$

Where i and t denote index firms and multiple periods, Y signifies export orientation. The coefficient of the constant in the regression is represented by α_i . The rationale is that exporting leads to higher firm productivity, innovation, diversification, and therefore internationalisation. X_1 is the explanatory variable which goes through the entities to the n th variable. Specifically,

D_{it} , the dummy for QMS takes the value of either 0 or 1, signifying whether a firm is certified. Finally, ε_i is the random error term.

From the general formula above fractional Logit, fractional Probit, Logit, Probit, and Tobit regressions were deduced and run accordingly. The model is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \dots + \beta_n X_{nit} + \beta_3 D_{it} + \varepsilon_{it} \quad (2)$$

It should be noted that β_0 denotes the coefficient of the constant.

Secondly, fractional regressions were used for the study because it fits with the dependent variable which is a ratio. Table 2.5 is constructed with all these five regression techniques stated above for ease of comparison.

2.5. Analysis and findings

This study examined 31795 firms in 39 SSA countries between 2006 and 2018. Obtained evidence supports claims in the literature that both a negative and a positive correlation exist between export orientation and the explanatory variables as per Table 2.5. This study argues that, depending on the determinants of internationalisation, the result could be either a positive or negative relationship with export orientation. To test the research hypotheses, a matrix of correlation, fractional regressions, and three pooled regression techniques were done using STATA.

To solve Hypothesis 1, the findings in Table 2.4 are instructive. Firms in the manufacturing industry export more than firms in either the service or other sectors in SSA, out of 31795 exporting firms, 13709 are in manufacturing (group 1) with a mean of 0.203 as against 0.158 for services and other industries. From Table 2.4, it is found that industry type (business module) has an impact on the number of firms that export. Arguably, sub-Saharan African manufacturing firms that export are capital intensive firms that are fully or partially foreign owned. They, therefore, use their financial strength to adopt quality management standards certification and to improve their products by innovation and diversification. The manufacturing sector, both local sales and export returns, made a 10.62% contribution to the Gross Domestic Product of sub-Sahara Africa in 2018 (The World Bank Group, 2020). Hypothesis 1 is therefore accepted and confirms the findings of Nowak-Lehmann D et al. (2005) that export diversification has become the recent theory for internationalisation for SSA

firms. Manufacturing companies meet international market standards due to their ability to acquire international accreditation as opposed to the firms in the service and other sectors.

Group	Mean	Std. Dev.	Std. Err.	Freq.	Percent
0	.15794203	.22582826	.0016792	18,086	56.88
1	.20253039	.24850447	.0021224	13,709	43.12
Total	.17716713	.23690064	.0013286	31,795	100.00

Table 0.4 Relation between industry type and export return. Manufacturing = 1 & services and other industries =0

The results from equations (1) and (2) are shown in Table 2.5. Pooled Probit, Logit, and Tobit regressions are put together with the fractional Probit and Logit techniques for robustness. This is the first time this combination has been used for research such as this. Among the pooled estimations, Tobit is preferred over Probit and Logit regressions because it fits with the dependent variable which lies between zero and one. Furthermore, Tobit is chosen because the dependent variable is not discrete but continuous, and it is consistent with the method of Wagner (1995). The dependent variable, export orientation has values that lie between zero and one. The results from all the regression techniques demonstrate that all the variables are significant and positive except competitors and credit which are significant but negative. This outcome is the same for pooled Probit, Logit, and Tobit regressions. However, foreign ownership is not significant in the Probit and Logit estimations, which makes it inconsistent with existing findings. This, therefore, validates the choice of Tobit regression.

The method used by Njikam (2017) differs from this study in that while he used the Probit model, this study uses a series of regression models including fractional Probit, fractional Logit, Probit, Logit, and Tobit. This is aligned with the method followed by Calza et al. (2019) however, as stated above the models used in this study are different from existing studies in this area of research. This method is followed for robustness and comparison, for both

fractional and pooled regressions using Probit and Logit, and Tobit models. Further, existing literature has not used this method, therefore, this study, took advantage to fill this gap with a more robust modelling. For the sake of fractional regression, the dependent variable export orientation percentage was converted to decimals. However, it is worth noting that it is only the fractional regressions and Tobit that indicate a positive and strong statistical significance (0.001) of foreign ownership in Table 2.5.

Table 2.5 provides the coefficients and the t-values of the study variables. The coefficients and the t-values, which are reported using marginal effects at the means of the variable, are starred and in parentheses respectively. The results are largely consistent with previous findings except for the results from the fractional regressions as stated above. The dependent variable is export orientation percentage, which has been decimalized so its value stands between 0 and 1 inclusive. Though the Logit and Probit techniques are more popular, econometrically the Tobit model which is less popular does not change much as a technique. The dummy variable in all the five models is scrutinised, and it is found that manufacturing is consistently and statistically highly significant and positive in explaining the likelihood of motivating the internationalisation of SSA firms.

	(1) Tobit	(2) Logit	(3) Probit	(4) Fraclogit	(5) Fracprobit
Export Manufacturing	0.135*** (19.37)	0.134*** (19.63)	0.134*** (19.63)	0.056*** (18.39)	0.057*** (18.30)
firm_size	0.0357*** (5.55)	0.036*** (5.87)	0.0362*** (5.86)	0.0145*** (5.08)	0.0142*** (4.97)
foreign_ownership	0.0336*** (3.41)	0.0121 (1.26)	0.0122 (1.27)	0.0213*** (4.57)	0.0214*** (4.47)
logfirm_age	0.0540*** (9.74)	0.067*** (12.37)	0.067*** (12.38)	0.019*** (7.63)	0.019*** (7.66)
registered	0.0529*** (8.07)	0.043*** (6.73)	0.043*** (6.78)	0.025*** (8.45)	0.025*** (8.67)
competitor_o	-0.105*** (-11.36)	-0.094*** (-10.38)	-0.094*** (-10.41)	-0.047*** (-11.62)	-0.048*** (-11.82)
credit	-0.0312*** (-3.84)	-0.027*** (-3.35)	-0.0265*** (-3.36)	-0.0138*** (-3.65)	-0.0138*** (-3.63)
HCD	0.0482*** (6.75)	0.061*** (8.73)	0.061*** (8.71)	0.015*** (4.84)	0.016*** (4.92)
QMS_dummy	0.0684*** (8.08)	0.081*** (9.65)	0.081*** (9.66)	0.026*** (6.91)	0.026*** (6.87)
<i>N</i>	31177	31177	31177	31177	31177

Marginal effects; *t* statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 0.5 The determinants of internationalisation in SSA

The coefficient results in Table 2.5 have been calculated using marginal effects at the means of the variables. The results analysed in this section depend on the models in Table 2.5 above. Columns (1), (2), and (3) are Tobit, Logit, and Probit estimations respectively. The last two columns (4) and (5) present the fractional Logit and Probit estimations. Apart from the size of the coefficients, which are not comparable across different regression techniques, the results are quite similar. However, the t-values of Probit and Logit are very close to each other than the other techniques. Though all the models are appropriate for this dataset, however, Tobit technique is preferred for this analysis.

As indicated, the coefficient of manufacturing is positive and significant in the Tobit estimation. This, in quantitative terms, means that each unit change in manufacturing will cause a 13.5% change in export orientation. This result is consistent with the argument that innovation and diversification of products impact the success of sub-Saharan African firms in foreign markets. This finding is consistent with the findings of Makri et al. (2017), who asserted that innovation and product diversification, which arguably emanate from the manufacturing sector is important in export performance.

The relationship between export orientation and firm size is positive and highly significant. This is consistent with the literature that larger firms perform better on the international market. Wagner (1995) attributed numerous reasons why larger firms do compete successfully in the international market. The argument raised includes economies of large-scale production, lower cost of financing, full usage of executive expertise, maximum utilization of functional departments, and high risk-taking. This is consistent with Fosu and Abass (2019) and coherent with the theory that export diversification leads to growth. Another key finding of this study confirms that the larger the firm the better position it is for them to export. Firm size is statistically significant and positive, which confirms hypothesis 3 and aligns with the arguments of Njikam (2017).

The level of foreign ownership enhances the firm's propensity to export, and the coefficient is positive and significant. Studies have shown that foreign-owned firms are better exporters than highly domestic-owned firms. This according to Wignaraja (2008) and Newman et al. (2014) is dependent on the fact that they are able to: (i) acquire the best technology; and (ii) develop human capital. It is also observed that about 43% of manufacturing firms in sub-Saharan Africa are foreign owned, this supports the claim that foreign-owned firms are export-oriented.

Though firm age is known to be an important determinant, existing literature suggests mature firms are less likely to export than young firms (Das, 1994). Looking at the regression, it is found that firm age is significant in explaining the potential for SSA firms to internationalise. This aligns with the findings of Petruzzelli et al. (2018). They indicate that firm age serves as a proxy for organisational procedures which include innovation and internationalisation.

Once again, the Tobit model is the preferred tool used for this analysis. Two variables, competitors, and credit are negative but significant. The logical argument is that as competition increases it becomes an obstacle for the firms and therefore, export returns decrease. Access to

credit is problematic in SSA and this is indicative of this result. Available literature confirms the results of this study (Misati et al., 2017). They contend that SMEs in Africa lack access to affordable lines of credit. The regressions of this study also resulted in a statistically significant but negative coefficient factor for a line of credit. This is consistent with the findings of Aigheyisi (2018). Though access to credit in sub-Saharan Africa has a significant and positive effect on total factor productivity, it has a significant but negative coefficient in terms of export orientation. This is explained by the lending behaviour of financial institutions in the sub-region. Additionally, in terms of line of credit for the firms, only 16% of the enterprises under review possess a line of credit.

The workings of national institutions and regulations are important. One of the findings of this study indicate that registered is positive and significant. This is the first time registered has been added as an explanatory variable to a study like this. Export-oriented firms are more likely to register their activities in sub-Saharan Africa. As indicated in this essay, in Ghana, there has been an improvement in institutional regulation, company registration is online, and this has reduced the cost and time involved in the process. This confirms hypothesis 2 which is consistent with findings by Williams et al. (2017).

For the first time, the explanatory variable Quality Management Standards has been added in the setting of export orientation and internationalisation of SSA firms, therefore its importance should not be overlooked. This study found that the acquisition of QMS certification is important for SSA firms to export, it is positive and highly significant. This is consistent with the findings of Goedhuys and Mohnen (2017). Adding the synthesis together it can be asserted that QMS, firm size and manufacturing are determinants that enhance the exporting strategies of SSA firms.

2.6 Conclusions and implications

This study aimed to assess the determinants of the internationalisation of SSA firms using export orientation as the dependent variable. Overall, the findings of this study indicate that when, it enhances their ability to acquire international certifications which boosts their competitiveness on the international markets. A significant contribution is the inclusion of the registered, and QMS variables in the regression analysis, which previous studies did not consider. However, copious literature demonstrate that export orientation plays a vital role in

the internationalisation of firms in sub-Saharan Africa. With evidence from 39 countries, this study corroborates the view that export orientation enhances internationalisation.

Moreover, there are diverse ways of exporting to become competitive in the international market, which include managerial innovation, production process innovation, and product diversification. The firms internationalise by exporting processed and improved products using quality management systems and innovation, and this accounts for the positive impacts observed in the study. Another finding is that exporting manufacturing firms is key to the internationalisation of SSA firms. Furthermore, it is revealed that the manufacturing sector gains more from exports than the services and the rest of the SSA economic sectors.

This research finds strong evidence that for SSA firms to internationalise they need international accreditation which will enhance their ability to diversify, export, and become competitive. A unit change in QMS will cause a 0.0684 change in export orientation. The literature revealed that quality management systems certification influences firm globalisation because it provides assurances to the worldwide community that international production processes and standards have been followed. Moreover, firm size and foreign ownership enhance the tendency to internationalise. While the results indicate that foreign ownership is important, firm age and human capital development also contribute to firms' inclination to export. The study confirms that large firms in the manufacturing sector obtain accreditation more than smaller firms in services and other sectors. This can be explained by the costs involved in the process of obtaining the licenses and certifications. It can also be proved that manufacturing firms irrespective of size are keener on the acquisition of accreditation than firms in services and other sectors.

Regarding export orientation and firm size, results indicate that larger firms are more predisposed to receive more revenue from exports than smaller firms. The larger positive and significant effects of human capital development found for export orientation indicate that if constructive attention is given, human capital development can enhance the growth of exports by sub-Saharan African firms.

2.6.1 Conclusion of research question and hypotheses

The studies conclude that the determinants of internationalisation are the firm characteristics that when combined with country resources will enhance the internationalisation of sub-Saharan African firms. Large firms in the manufacturing sector in countries that have strong

regulatory institutions and have acquired quality management standard certification are more likely to internationalise. The fact that not much attention has been given to the development of national institutions to mobilize and assist in the resource-based internationalisation of SSA firms, has challenged the growth of the firms. This study however indicates a positive and significant statistical position for registered firms, which is a sign that firms have geared towards national institutions.

2.6.2 Implications for theory

Findings indicate that in SSA, manufacturing firms internationalise more than services and other sectors. Availability of resources and stronger national institutions are found to support the need for internationalisation. Following the framework offered by institutional theory, this study finds that stronger domestic country institutions enhance higher returns from exports hence internationalisation. Results show that about 64% of the SSA firms are formally registered, which is a sign that national institutions are working. Stronger national institutions help release both internal and external resources that enable firms to go global. This is one of the first studies that use export orientation as its dependent variable, registered and QMS as independent variables among others, to determine the internationalisation of SSA firms. Further, the model approach is novel and combines fractional regression using fractional Probit and Logit, and pooled Probit, Logit, and Tobit.

The scope of the research is limited to export orientation and internationalisation at the cross-country level. Therefore, the research does not analyse in detail export orientation and internationalisation at any specified country level. Secondly, since the results are generated from export orientation at the cross-firm level, it is, therefore, difficult to generalise it to cover individual firms. Due to data restrictions, export proceeds have been used whereas profit from export could have been an alternative.

2.6.3 Policy implications

Policy implications of these findings are important, particularly considering the 39 SSA countries analysed: not only is it discovered that exporting activities induce further innovation. The findings produced by this study have pertinent implications for export orientation and internationalisation in SSA countries. It suggests that human capital development, firm development (firm size), and foreign ownership are important determinants that should be encouraged at both the macro and microeconomic levels. The findings of this study signify

that for firms to develop and become competitive in the global market and internationalise, there is a need for them to train their employees. The results further indicate that majority of export-oriented firms are in the manufacturing sector, it is suggested that governments enact policies such as the industrialisation drive in Ghana, for firms in SSA countries. Certification of QMS aids customers to decide which firm to keep a trusting relationship with, this study therefore will be of great support to buyers of SSA products on the international market.

The low level of export orientation of SSA firms, which has a mean of 17.7%, is disturbing, as exports can potentially catalyse economic development in developing countries (Amelie Schmidt & Michael Wendelboe Hansen, 2017; Söderbom & Teal, 2003). Due to this disturbing situation, SSA governments should strengthen export-orientated firms through the regulating of duties on imported capital goods. Policies made should serve as incentives for links between SSA firms and foreign firms. Despite the trade liberalisation policies by the African Continental Free Trade Area, the above-stated policies if implemented will protect the budding domestic manufacturing firms in SSA.

In general, SSA governments must recognise the potential of export-oriented firms and introduce policies to support the development of such firms. Tax exemptions and tax holidays for exporting firms will be a welcome policy for a start. In addition, the introduction of export-driven policies against the import substitution strategies will help improve industrialisation and economic development. Finally, knowledge about the determinants of internationalisation and the fresh introduction of quality management standards and registered as explanatory variables are contributions to the expansion of the literature on firm growth globally, and specifically for sub-Saharan Africa.

Chapter 3: Structural reforms and firm performance in SSA economies

3.1 Introduction

3.1.1 Research background

Globalisation has produced overwhelming changes all over the world, including sub-Saharan Africa. Reviving firm growth through firm performance in a global marketplace is key to revitalising developing economies and this is the reason why structural reforms are needed. Structural reforms, an element of globalisation, refers, essentially to measures that help improve the institutional, political, and regulatory framework of a country in which people and firms operate. Structural reforms can also be described as an amendment and reduction of government regulations and restrictions relating to economic dealings and the enhancement of governance policies (Dau et al., 2020). Country-level structural reforms are commonly associated with economic growth, according to research, this is evidenced only in middle-income economies (Christiansen et al., 2013).

Structural reforms have been undertaken by countries to lift economic growth, create employment, and consequently aid a better firm performance, astonishingly, arguments are challenging on its impact, particularly at the firm level (Bordon et al., 2018; Henisz et al., 2005). Often, these reforms are part of conditionalities accompanying financial bailout such as those offered by the International Monetary Funds to some of the SSA countries under review. The slowdown in economic growth is partly due to the recent financial crisis, low population growth, and structural changes in the world (Eichengreen, 2015). While middle-income economies are slowly getting out of the melt-down of the early 2000s, developing countries are yet to grasp its full impact.

Consequently, this essay aims to add a voice to the argument on the impact of globalisation and the benefits firms derive from structural reforms by analysing 31795 firms and looking at the impact of structural reforms between 2006 - 2018 on firm performance in 39 sub-Saharan African countries. Following the work of Kouamé and Tapsoba (2019), the four areas of structural reforms to be examined for this essay will be the real, financial, fiscal, and trade sectors. These sectors when efficient, significantly improve firm performance. Structural reforms spread over an extensive range of activities which in principle help defeat the hindrances to economic growth. Culiuc and Kyobe (2017) argued that the conditionalities associated with structural reforms create flexibility, both economic and institutional for increased efficiency in areas such as investment, productivity, and employment. However not

much is known about the impact of structural reforms on firm performance. Verboncu and Zalman (2005) described firm performance as a specific outcome obtained in economics, management, and marketing that characterises efficiency and competitiveness in an organisational structure and procedures. In focusing on firm performance this study seeks to situate the nexus of four related but distinct reforms, the financial sector, trade sector, real sector, and fiscal reforms.

The aggregate indexes of these sector reforms are juxtaposed with other macro and micro characteristics (variables) in this study. These aggregate indexes help identify the effects of the structural reforms on firm performance. These key structural reforms are examined as firm-level performance developing tools in the economic development of countries. Financial sector reforms are key to creating flexibility in the financial sector and easy access to the much-needed finance in the economy. Researchers argue that the efficient allocation of financial resources can lead to flexible and easy access to both domestic and foreign funding which creates an enabling environment for efficient firm performance. Demetriades & Rousseau (2016) posited that for financial reforms to achieve the desired growth, banks should be efficiently supervised and regulated. In OECD countries, indicators show that policies designed to support insolvency regimes that remove financial restrictions and barriers can revive firm performance (Andrews et al., 2017).

Literature on the real sector reforms are copious and they suggest that such reforms contribute positively toward higher firm-level productivity and performance. Many studies that used rich firm-level datasets obtained robust results indicating that structural reforms that reduce or remove barriers improve firm-level growth through enhanced firm performance (Bourlès et al., 2010; Gouveia et al., 2019; Nicoletti & Scarpetta, 2003). Similarly, trade reforms that promote competition include policies such as regional and international waivers which when put in place encourage firms to perform better. Additionally, Bouis et al. (2016) indicated that structural reforms that promote industrial competition could enhance firm performance through efficient management, increased productivity, and growth. For instance, flexibility in labour laws promote firm performance through labour efficiency. Flexibility in work-family balance among entrepreneurs and workers in China promotes firm performance (Welsh et al., 2017).

Fiscal reforms are set to enhance firm performance through investment in human capital development and easy access to the labour market. Banerji et al. (2015) emphasise that labour-

tax reforms targeted at youth unemployment will help sustain firm performance. Banalieva et al. (2018) asserted in their studies on Latin American countries that an increase in human efficiency enhances performance, therefore fiscal reforms in human capital development are significant for increased firm performance. Additionally, structural reforms aimed at imposing taxes and levies on excess profits, expenditure capitalisation, and financial account disclosure could minimise corruption and improve firm performance.

3.1.2 Research questions

The research questions to be answered are i) who benefits from structural reforms, and ii) is structural reforms significant and positive for firm performance in SSA? To answer these research questions and make contributions to the studies on structural reforms and firm performance, The World Bank Enterprise Survey (WBES), International Monetary Fund Monitoring for Fund Arrangements (MONA), and World Development Indicators (WDI) datasets have been utilised in this research. A full description of the datasets will be presented in section three of this essay. While the full explanation of the methodology will be given in section four, it must be stated that this research uses the Multilevel mixed method.

3.1.3 Relevance and Contribution

While existing literature has examined the impact of structural reforms on firm productivity, the nexus between structural reforms and firm performance is less explored. The objective of this study is to contribute toward a better understanding of the impact of successful structural reforms on firm performance in sub-Saharan Africa. This study examines the aggregate effects of successful financial sector, fiscal sector, real sector, and trade sector reforms on firm performance in sub-Saharan Africa. Further, a decomposition is computed to analyse the effects of the individual reforms, such as financial sector reforms, trade sector reforms, real sector reforms, and fiscal sector reforms, on firm performance. This study adopted the definition of Ostry et al. (2009) for structural reforms which states that reforms refer to policies by governments that are targeted to address market failures, government interventions, trade restrictions, allow for competent distribution of resources, ease of financial transactions, and the demolition of national monopolies.

The remainder of the essay is structured as follows. Section two is the literature review on structural reforms and firm characteristics. Section three describes the variables used in this study. Section four describes structural reforms data, firm-level data, macroeconomic data, and the methodology. Section five presents the findings and analysis of how firm performance is

explained by successful structural reforms. Lastly, section six is the conclusion and implications.

This section has presented the foundation for this essay. The background to this study, a definition of structural reform, and the research questions have been introduced, as well as a brief introduction of the methodology given. The datasets which will be relied on have been presented and based on this, the essay can progress with the full explanation of the study.

3.2 Literature review

3.2.1 Background

This section deals with the review of existing literature to examine structural reforms and firm performance. To be able to formulate an independent opinion on the impact of structural reform on SSA there is the need to also view evidence from other regional blocks such as South America and the European Union.

The global crisis of the early 2000s has made policymakers rethink their economic development strategies. Other factors such as external debt crisis, banking sector crisis, and higher inflation crisis are significant issues that drive policymakers to make the necessary decisions that lead to the adoption of structural reforms (Agnello et al., 2015). Policymakers in developing economies, in their bid to revive these economies have resorted to the use of structural reforms. Countries in sub-Saharan Africa in most cases run to the International Monetary Funds (IMF) for support, this financial assistance comes with conditionalities that generally are associated with structural reforms.

The available literature is mostly on the relationship between structural reform and firm productivity. Dabla-Norris et al. (2016) asserted that structural reforms and institutional reforms create an enabling environment for firm productivity, growth, and performance. They further posited the importance of consistency of structural reforms even when the desired result has been achieved. Others including Prati et al. (2013), and Kose et al. (2010) stated that structural reforms are associated with growth and efficiency. However, the forms and selected types of reforms used vary from one research to another. Whereas other studies looked at reforms and all sectors of the economy, some studies looked at the impact of structural reforms on specific sectors, for example, manufacturing, agriculture, exports, etc. For illustration, Dabla-Norris et al. (2016) examined the short- and long-term impact of reforms on productivity

instead of the economy as a whole. Banerji et al. (2015) also researched the impact of structural reforms on youth employment in advanced Europe.

Kouamé and Tapsoba (2019) used the International Monetary Fund Monitoring for Fund Arrangements (MONA) and World Bank Enterprise survey (WBES) datasets to explore the impact of structural reforms in developing countries. After using the indexes of financial, fiscal, real, and trade sectors reforms, they concluded that structural reforms improve firm productivity. Bordon et al. (2018) in studying the impact structural reforms have on employment, determined that reforms have a positive but lagged effect on employment. This assertion agrees with many other studies. However, the differences in the types of reforms and methodology create a problem for generalisation. Kouamé and Tapsoba (2019) cited that the impact of trade and fiscal reforms on productivity is hindered by factors such as corruption, nuisance taxes, etc.

Firms operating from developing nations which include sub-Sahara Africa encounter distinctive or peculiar distortions that affect their economic performance even after structural reforms (Bah & Fang, 2015). In SSA the national institutions are less developed compared to developed countries. Factors such as high costs and unreliable supply of electricity and water, bribery and corruption, security, finance access constraints, information technology, and transportation glitches pose problems for firm performance. Lora (2001) using five structural reform indexes from 16 countries in Latin America from 1985 to 1999 concluded that as reforms increased, growth and performance also increased. Again, the geographical location and technological distance of a country and firm also influence the impact of structural reforms on firm performance. Research has shown that technological distance influences the impact of structural reforms on productivity or firm performance (Dabla-Norris et al., 2016; Prati et al., 2013). Thus, the impact of reforms is felt more in countries that are close to up-to-date technological advancement than those that are distant. Using the gravity model for international trade, Bergeijk and Brakman (2010) posited that geographical distance from trade partners is important for nations as well as firms.

Due to the importance countries attach to reforms, their timing and reform type or types should be assessed before it is undertaken. Trade and real sector reforms, for example, raise firm performance and employment in the short to medium term, therefore this calls for matching macroeconomic policies to enhance the short-term benefits as stated by International Monetary

Fund (Fund. & Fund., 2016). The impact of both trade and real sector reforms accrues at different times, most specifically that of trade reforms differ across diverse categories of reforms. Timing which includes the economic growth rate of the country or group of countries before and after the reforms is also important if the stimulus effect is being evaluated. The stimulus effects of structural reforms are therefore varied depending on many factors among which consideration should be given to the type of reforms and firm-level characteristics.

Four key structural reforms that cut across most studies are the financial, real, trade, and fiscal. Financial sector reforms have the objective to alleviate the hindrances and restrictions in the financial sector and create flexibility and ease of access to finance in both external and domestic financing. It is generally agreed that external debt, globalisation, and banking crises are the main triggers of financial reforms in developing countries, including sub-Saharan African nations. The notion of globalisation triggering financial reforms is a highly held view and Agnello et al. (2015) posited that the successes gained by firms and countries in globalisation are directly linked with reforms. Henry (2007) asserted that financial reforms cause falling capital costs with the associated thriving investment leading to increased firm performance.

Real sector reforms which deal with the public corporations (also called state-owned enterprises), labour market, private sector, regulatory environment, market restrictions, and price controls reforms, constitute part of the structural reforms aimed at liberating the labour and product markets to enhance firm performance and productivity. However, time is important, evidence has indicated that reforms in the labour market take time to materialise, (Bouis et al., 2016). There is further evidence that in the short-term the effects of labour market reforms may not be realised due to the length of training, education, and employment incentives. There is also the argument that the introduction of flexible contracts may solve the labour market problem, specifically for the youth and women (Cirillo et al., 2017). This is one of the policies that is widespread and effective in developed countries. However the discourse is different in SSA, it is evident that institutional reforms do not have much impact on unemployment in the short run (Abdulhakeem et al., 2020).

Trade reforms in sub-Sahara Africa have seen numerous development from regional agreements to continental agreements. Hallaert (2010) asserted that it is not all trade reforms that achieve the set targets however, it is general knowledge that most trade reforms have been successful. The Economic Community of West African States (ECOWAS) 1996 signed the

Free Trade Agreement and in 2000 signed the External Tariff Agreement aimed at encouraging free trade among member states, however, trade among member states is still very low (Afesorgbor & van Bergeijk, 2011; MacPhee & Sattayanuwat, 2014). Trade reforms are deemed to be positive and significant for economic growth in the mid-term and not the short-term period. However, research shows that this is so mainly in mid-income economies (Christiansen et al., 2013; Tressel et al., 2009). According to Topalova and Khandelwal (2011), trade reforms that include input tariff reforms have a greater impact on firm growth. Lanau and Topalova (2016) merged product market reforms indicators between 2003-2013 and firm-level data from Italy, and the results were that deregulation in network sectors is positive and strong in provinces where public administration is more efficient. There is evidence that confirms the impact of trade reforms on firms, with empirical evidence that points towards more productive firms (Eaton et al., 2011; Fernandes, 2003; Topalova & Khandelwal, 2011; Yang et al., 2019). According to this evidence, the level of firm performance before the reforms is a significant factor that determines the level of impact trade reforms will have on the firm. For trade reforms to succeed competitive conditions must be created by the reforming country. These conditions can include the reduction of regulatory barriers to entry, meaningful endeavours in attracting investors into key industries, and extended trade liberalisation (Faulkner et al., 2013; Lee & Usman, 2018).

Fiscal reforms can be an important instrument in effecting medium to long-run economic growth, it is also known to enhance firm performance when the necessary tools are applied (Gupta, 2015). For example, the reduction of taxes, being corporate or income, enhances firm performance in the economy as a whole. Expenditure categories and management processes have a direct impact on firm performance in an economy, and to a large extent, this affects economic growth (Hodžić et al., 2020). Cottarelli and Keen (2012) contend that fiscal reforms that aim to improve human capital, through education and health improve firm performance. The economic growth results of fiscal reforms to a large extent depend on matching other complementary structural reforms and the necessary macroeconomic policies such as prudent government expenditure.

Structure reforms as indicated yield the targeted stimulus results when combined or matched together with other complementarities. The approach to and impact of structural reforms depend on when the reform is being implemented. Reforms taken before a downturn or a booming economy will give different results, and with different firm characteristics, can also

give varied results. The results from reforms are quantified by evaluating the reform indicators, which are also designated as transition indicators (Georgiev et al., 2017). These may include reforms in the financial sector, tax policy, fiscal transparency, customs reforms, labour market reforms, and privatisation of public firms.

The sector-specific structural reforms that are commonly used by researchers are financial, trade, real, and fiscal. For example, South Africa in its search for sustainable economic growth resorted to a diagnostic analysis of its economic situation, this resulted in the country emphasising structural reforms in education and skills, institutional development reform, labour market reform, black economic empowerment, industrial reform, trade, and competition reform (Faulkner et al., 2013).

3.2.2 Institutional Economic Theory

Following the argument of institutional economics, it can be stated that the institutional environment under which a firm operates influences its behaviour. North (1987), explains institutional economic theory as “a set of rules, compliance procedures, and moral and ethical behavioural norms designed to constrain the behaviour of individuals in the interests of maximizing the wealth or utility of principals.” The underpinning assumptions behind this theory include profit maximisation, bounded rationality, complexities of the market, and institutional void.

3.2.3 Structural reforms and firm performance

The institutional economic theory, according to North (1990), supports structural reforms to reduce operation costs and decrease restrictions and hindrances on firm activities, enabling firms to increase their efficiency and become competitive internationally which improves their general performance. Cuervo-Cazurra and Dau (2009) adopting large firms in Latin America in their studies argued that due to the different levels of firm competitiveness and the agency problem, the impact of structural reforms may vary with different firm ownership types, such as foreign, domestic, and government. According to Osakwe et al. (2018) trade policies such as significant tariff reduction, and multilateral and bilateral agreements which are motivated by trade reforms enhance product diversification, thus making firms more efficient and competitive globally. Similar views are shared by Adegboye (2020) who indicated that trade policies that enhance the liberalising of international trade are disposed to reducing tariffs, removing or limiting trade barriers, stabilising exchange rates, and encouraging the flow of

capital. More importantly, trade reforms lead to a global competitive advantage for the domestic firm as it gains access to external capital and new skills are learned which culminate in efficiency (Newfarmer & Sztajerowska, 2012). Though the impact of exchange rate policies and trade reforms differ across countries in SSA, it is generally agreed that good exchange rate policy and trade reforms stimulate firm performance in sub-Saharan Africa (Babatunde, 2009).

Another structural reform through which firms can perform better is real sector reforms. One of the actions governments in developing countries take in governance is to retreat from active engagement in the entrepreneurial activities of the country. Governments actively relax price control systems and marketing restrictions, public firm privatisation and reforms, regulatory environment and private sector reforms, and labour market deregulation (Cuervo-Cazurra & Dau, 2009; Kouamé & Tapsoba, 2019). These reforms open opportunities for firms to tap into the available resources and use the institutions to plan thus becoming efficient and competitive in the global market. Real sector reforms or economic liberalisation allows firms to efficiently take advantage of the freed resources and optimise operational activities leading to efficiency and high competitiveness both domestically and internationally. Secondly, as stated by Kuczynski and Williamson (2003) privatisation of public enterprises, deregulation of the labour market and industry, and price liberalisation, will enable firms to act freely and take part in activities that they were not doing previously. Consequently, firms can be involved in activities that will enhance their international competitiveness through prudent management of investment resources and labour.

Real sector reforms do not only support firms to be efficient and internationally competitive, but they are obliged to do so. This is as a result of the fact that structural reforms create competition, and efficiency is a consequential effect. For example, with privatisation and public enterprise reforms, private firms can invest in industries and access resources that were reserved only for state-owned enterprises. This produces a better investment atmosphere resulting in several new foreign and domestic investors which increases competition. As a result, incumbent enterprises lose part of their customer base and are forced to look for international markets to enable them to sell their products (Jin & Hurd, 2018; Leonidou et al., 2007). The less efficient firms will therefore become less competitive in both the domestic and international markets.

Fiscal sector reforms that deal with governance issues at the macroeconomic level are seen as another conduit for firms to improve their performance. Fiscal sector reforms include the amendment to tax regulation policies, anti-corruption policies, reforms in education, health and

social wellbeing, fiscal transparency, and others. In Europe, it is argued that there is a strong relationship between fiscal reforms, trade reforms, and increased firm productivity (Eggertsson et al., 2014). The Organisation for Economic Co-operation and Development (OECD) survey concluded that structural reforms succeed when the countries build an analytical environment in areas such as efficient and transparent government expenditure, employment effect policies, growth targeted pensions, efficient tax policies, and infrastructure for distribution (Daude, 2016). A policy well designed to include monitoring and evaluation will ensure stability and efficacy since an unstable reform will discourage both consumers and enterprises. These policies through improvements in regulations and rules help reduce the costs of doing business and increase efficiency. Firm-level efficiency is enhanced and sustained if governments improve policy implementation, monitoring, speeding up of contracts resolution, and strengthening fiscal transparency.

The financial health of firms which includes liquidity constraints and access to external financing does seriously hinder the capability of firms in developing economies, including sub-Saharan Africa, to perform better (Chaney, 2016; Manova, 2013). There is evidence that an advanced initial financial development leads to a correspondently higher economic development (Aghion et al., 2005; Beck et al., 2000). Arguably, a better developed financial sector can encourage an efficient distribution of the much-needed capital for industries and firms leading to enhanced firm performance (Galindo et al., 2007; Tressel et al., 2009).

3.2.4 Firm performance, structural reform, and ownership type

The impact of structural reforms on firm performance varies across firm type because of agency problems, and operational costs among other factors. Ownership types can be categorised as state-owned enterprises, domestic private-owned firms, and foreign-owned (or foreign-owned subsidiary) firms. Sabin (2017) researching employment relationships and firm performance, argued that in the People's Republic of China after the structural reform of 1978 the number of state-owned enterprises reduced drastically, while domestic private-owned firms and foreign-owned firms grew gradually and significantly through the twenty years after the reforms. This argument is supported by Tsui et al. (2002) stating that different types of firms in China chose types of employment relationships that fit into their organisational cultures and or management strategies to achieve a competitive advantage over their rivals.

Cuervo-Cazurra (2018) contended that, in terms of exports, domestic private investors benefit more from structural reforms followed by foreign-owned firms. Therefore, depending on the economy, management strategies, and what the studies are about, who benefits from structural reforms varies. However, it is contended that overall structural reforms enhance firm performance because the monitoring and evaluation processes that accompany these reforms help reduce agency costs for the firms (Dau et al., 2020).

Irrespective of the type and level of structural reforms in developing economies, including sub-Saharan Africa, foreign-owned firms, or firms with foreign investors as majority shareholders achieve higher levels of performance because of their access to foreign capital and other resources that are not available in the reforming nation. The transfer of foreign resources is made easy because of the inherent interest the parent firm has in the investment in SSA. The existing network between the foreign investor and international financiers heightens the easier transfer of funds to favourable economic environments. Research has contended that financial sector reforms are a key contributing factor in increasing the transfer of foreign capital by foreign-owned firms (Alvarado et al., 2017; Campos & Kinoshita, 2008). Agency cost is also decreased through the reduction of tariffs, removal of trade barriers, and the benefits of tax holidays for foreign firms in the SSA sub-region. These changes in the comparative advantage stimulate foreign firms to plan and take advantage of the lower operational costs in the country. Structural reforms, therefore, promote stimulating conditions for foreign firms to benefit more from comparative competitive advantages in developing countries, and because they form part of bigger networking internationally, this becomes a platform for these foreign firms to improve their performance both in the host nation and globally.

3.2.5 Firm performance, structural reforms, and State-owned enterprises

Regardless of the nature and intensity of structural reforms in developing countries, state-owned enterprises have considerable constraints in terms of performance. In SSA most state-owned enterprises are reformed or divested anytime there is a structural reform programme as part of real sector reform (Kouamé & Tapsoba, 2019). State-owned enterprises are owned by the citizens, but the management team is unfortunately appointed by politicians, a system that tends to alienate the bona fide owners from the firm. As a result, most management decisions are politically motivated which does not lead to growth but for political benefits such as employment promotion (Lauesen & Bjerre, 2020; Vickers & Yarrow, 1988). The first-

generation structural reform of South Korea targeted market performance through trade liberalisation and openness which included state withdrawal of firm ownership. For example, an earlier state policy was unsuccessful because it failed to delegate the investment planning role to the private sector (Dabla-Norris et al., 2016). This reinforces the point that most reforms in developing economies either privatise or restructure state-owned enterprises.

However, structural reforms can support state-owned enterprises to better their performance in terms of exports but not at the rate at which foreign firms will do it. It is therefore argued that structural reforms drive state-owned enterprises to work towards efficiency in that trade liberalisation and deregulation create competition which pushes firms owned by the state to enhance their efficiency (Ugorji, 1995). Improvement in fiscal reforms decreases the seriousness of agency problems that has always accompanied state-owned enterprises, this will impact the performance of the firm positively. With the reforms in place management of state-owned firms are given more liberty to operate, which incentivises them to pursue business-related agenda. This reduces the agency problem making the state-owned enterprises more vibrant and efficient. However political influence may still limit the performance of these firms as compared to the foreign-owned enterprises. Albeit structural reforms help state-owned enterprises to improve their performance though they are subject to conflict of objectives and hindrances that limit their competitiveness in both domestic and international markets.

3.2.6 Firm performance, structural reforms, and corruption

Corruption which involves the abuse of power by public officers for personal gain contribute to the high operational costs associated with doing business in the nation. Anti-corruption policies or legislation, which is part of fiscal reforms, when well implemented and monitored help curtail operational costs leading to improved firm performance. Fiscal reforms involve the enforcement and implementation of rule of law in the jurisdiction. Studies have asserted that the incidence of high bureaucratic obstacles on firms and investors in developing countries and increasing transactional and operations costs of firms are some of the causes of corruption (Aidis & Adachi, 2007; Aidis et al., 2008; McMillan & Woodruff, 2002). The ability to enforce anti-corruption policies reduces the arbitrariness of government officials thus reducing the incidence of corruption. The uncertainties in planning, financial indiscipline, and bribery are reduced with proper monitoring, which helps improve firm efficiency. However, the impact of corruption on economic activities in SSA is highly debatable. According to research bribery

and corruption are forms of incentives for government officials to work better and faster, and secondly, it helps private agents to overcome cumbersome laws and regulations (Sequeira & Djankov, 2014).

There are different opinions and findings on the impact of corruption on firm performance and economic growth. It is alleged that corruption can either enhance or retard firm performance through helping-hand theory or grabbing-hand theory respectively (Imran et al., 2019). Pirtea et al. (2019) claim that there are arguments for both “greasing the wheels” and “sanding the wheels”. Kato and Sato (2015) indicated that a helping hand or “greasing the wheels” can help business operations if government policies are weakly monitored and not effective. Supporting this claim research indicate that investors use corruption for tax reduction and to circumvent cumbersome regulations (Elheddad, 2018). The corruption perception index in 2018 indicated that sub-Saharan Africa was highly corrupt (Froehlich et al., 2020) with an average score of 32% yet foreign direct investment for the sub-region was 46 billion US dollars, an increase of 11% from 2017 (unctad, 2019).

However, other arguments are that corruption increases the cost of operations for firms and therefore it is grabbing-hand or “sanding the wheels” (Hamilton & Hammer, 2018). This assertion is supported by Dutta and Sobel (2016) who posited that corruption does not improve entrepreneurship and firm performance, it only hampers business growth. Ofori et al. (2015) in their studies on corruption and foreign direct investment in Ghana indicated that rational foreign investors will be scared away from investing in countries with a high level of corruption and its consequential bureaucratic barriers, high costs of transactions, and the possibility of capital embezzlement. Similarly, Al-Sadig (2009) opines that because corruption increases operational costs, it hinders investments both indirectly and directly. Okafor (2015) also argues that because of factors such as corruption, among others, foreign investors perceive SSA region as highly risky to invest in. This ultimately is more likely to affect the outcome of structural reforms. Corruption is viewed as a key indicator for weak national institutions generally, and this is applicable to sub-Saharan Africa, in that access to finance, application for permits, licenses, and basic utilities such as telephone, electricity, and water are all hindered because of corruption (Aterido et al., 2011; B Fowowe, 2017). Bribes paid by these firms could be used to pay for legitimate expenses and because bribes are illegal the amounts paid are not entered in the accounts books as such, creating room for internal book-keeping indiscipline.

3.2.7 Firm performance, structural reform, and inflation

There is abundant literature that suggests that trade liberalisation relates to low levels of inflation. The argument is that trade liberalisation opens the host country to foreign competition making it difficult for domestic firms to increase their prices which keeps pressure on inflation. Secondly, liberal trade policies are often linked with liberal financial market reforms and this can be a constraint on imported inflation. Barlow (2010) using GMM and panel logit to study structural reforms and inflation concluded that price reforms, credit allocation reforms, and trade liberalisation reduce inflation. Trade liberalisation if well implemented and monitored leads to high levels of competition in the host country resulting in lower price pressures and consequently lower inflation.

The impact of structural reforms on inflation and how it even influences firm performance is not definite. Higher levels of inflation, coupled with weak institutions, weak financial competition, and political influence affect the relationship between financial growth and firm performance (Chauvet & Jacolin, 2017; Demetriades & Hook Law, 2006; Rousseau & Wachtel, 2002). Due to how serious policymakers view inflation, in the last ten years many Eastern European nations have tried out reforms that will tighten monetary policies to be able to contain pressures that emanate from inflation, unfortunately, the reforms have had less impact (Dell'Ariccia et al., 2015).

On the other hand, the situation is different for flexible economies which are in the European Union, they tend to react immediately to decreasing prices after a negative demand shock. Structural reforms can target high rates of unemployment, high taxes and tariffs, and the removal of trade barriers, to increase the national consumption levels. This type of reform will increase inflation as consumption starts to rise but the problem of the high cost of doing business can be curtailed by fiscal policies that support firms against the effects of high inflation (Draghi, 2015). However, countries that are not economically flexible may experience a high level of unemployment due to low consumption, which in the long run will result in very low inflation. Similarly, in the aftermath of the debt and oil crisis, central banks in African countries that used tightening monetary policies to resolve the inflationary pressures ended up with high-interest rates (Ojede et al., 2013). In both cases, if relevant reforms are not put in place the level of inflation may lead to higher interest rates, low demand, and high costs of operation, harming firm performance.

Further, it is contended that inflation and structural reforms are negatively correlated (Bogetić & Smets, 2017; Melo et al., 1996). While such claims are made, it is also argued that it is

plausible when such studies are done using a cumulative reform index, but it does leave problematic issues about how structural reforms impact inflation and its significance on firm performance.

3.2.8 Firm performance, structural reforms, and firm size

The impact of structural reforms on firm performance depends on firm characteristics, such as firm size, age, export status, sector, and investment level. Using 30 countries across Europe and Asia, de Almeida and Balasundharam (2018) concluded that firm characteristics influence the impact of structural reforms. The efficiency of institutions plays a critical role in investment and firm performance. Different economic policies and strength of institutions are significant in the resultant economic development (Acemoglu et al., 2005). There is evidence that improvement in the court system or legal reforms helps increase firm size by the reduction of eccentric risks faced by entrepreneurs and firms (Laeven & Woodruff, 2007). Hijzen (2016) posited that smaller firms gain more from trade reforms, which removes market barriers because they force larger firms to reduce their investments and recruitment so that they can maintain their existing market share.

3.2.9 Summary

Policymakers in developing countries have resorted to structural reforms to revive their economies after the meltdown in the early 2000s. To be able to understand the impact of structural reforms on firm performance in SSA, it is necessary to evaluate existing structural reforms and how they are applied to firm characteristics in the sub-region. The level of inflation and GDP growth rate, as macroeconomic factors should also be considered to understand the current topic. The fact that trade reforms enhance firm performance does not indicate that the aggregate of or individual sector reforms will give the same results. Institutional economic theory indicates that structural reforms enable firms to enhance their efficiency and become competitive due to the consequential reduction in operational costs which improves their general performance. The impact of structural reform on firm performance varies across firm types because agency problems, and operational costs among other factors, have different effects on different types of firms. Ownership types can be categorised as state-owned enterprises, domestic private-owned firms, and foreign-owned firms. That aside it is argued that the impact of structural reforms is different for firms depending on the firm characteristics

such as size, age, level of investment, export status, and sector. The fact that findings are not conclusive on the impact of corruption on firm performance is interesting.

3.3.0 Datasets

Macroeconomic and microeconomic datasets used in this study are compiled from different sources. The International Monetary Fund (IMF) Monitoring data of Fund Arrangement (MONA) is used to compute the five indexes for structural reforms, whereas inflation and GDP growth are taken from World Development Indicators (WDI). The only microeconomic data used for firm-level characteristics is the World Bank Enterprise Surveys (WBES) dataset.

As already indicated elsewhere in the literature review it is difficult to quantify the effects of a typical structural reform in an economy, this limits the generalisation of results on structural reforms. Structural reforms are identified as a significant tool for the uplifting of potential economic growth which leads to the removal of impediments to an efficient distribution of resources and the improvement of institutions and markets with the aim to enhance firm performance. Structural reforms are also key in addressing market failures that directly or indirectly influence firm performance in an economy.

3.3.1 Consolidation of datasets

The consolidation of the MONA country-level dataset with the WBES firm-level dataset took into consideration the successful reforms for the past three years which is in line with the procedure followed by Kouamé and Tapsoba (2019). An example of how the consolidation was done is by matching the successful structural reform index of 2011, 2012, and 2013, against firm-level data of 2014. This strategy reduces potential endogeneity issues that can arise between firm performance and structural reform indexes. Though the WBES dataset has 39 countries it is only 31 countries that successfully had structural reforms between 2006 and 2018 in sub-Saharan Africa.

Data from World Development Indicators are also matched with the WBES dataset to enable this study capture inflation and gross domestic product in United States dollars, this is so captured because of standardisation. Inflation, which is a country-level fixed effect and a monetary phenomenon, is matched with firm-level data because it affects firm performance through price levels, productivity, and employment. Finally, the GDP as a macroeconomic

indicator influences output growth and firm performance and is therefore used as the denominator to construct the firm performance variable.

3.3.2 The World Bank Enterprise Survey

The firm-level data comes from the World Bank Enterprise Survey (WBES) dataset. The data sample used in this study covers the years 2006-2018 and consists of over 5 million observations from 39 SSA countries and 31795 firms. This study focused on countries in sub-Saharan Africa under the IMF structural reforms programme with at least one WBES survey between 2006-2018. Kenya and Nigeria are the only countries in the sample that have more than 2000 firms each, 2439 and 4567 respectively. However, the whole sample has a median size of 693 firms. The WBES database produces firm-level data from around 125000 firms in 139 countries. The data is used to benchmark the value of the business atmosphere globally through the creation of more than 100 firm indicators. To compile such firm-level data from mainly the private sector, surveys are carried in each country every 3 to 4 years. The surveys spread over a range of business topics such as corruption, human capital development, access to finance, competition, firm registration, crime, transport network, ownership type, and industry sector in most countries worldwide. The WBES dataset follows a standardised regulation in structure and implementation which makes cross-country comparability easy and contains firm performance information such as sales, firm registration, firm size, investment, and the number of employees. The presence of such retrospective information assisted in capturing the dependent variable over the structural reform period in this study. Included in this analysis are firm characteristics such as access to finance, corruption, size, age, exporter, ownership, and investment.

3.3.3 International Monetary Fund Monitoring of Fund Arrangements (MONA)

The IMF MONA dataset is used in this research because the dataset covers the conditionalities the IMF sets for the countries in its programmes. The MONA data includes 94 countries that have undertaken the IMF structural reform arrangement agenda since 2002. The MONA database is a piece of complete and comprehensible information on the economic objectives and outcomes in Fund-supported arrangements. The performance of countries in the programme is tracked through the MONA database in terms of purchases and reviews, structural and quantitative conditionalities, and macroeconomic indicators. The MONA database enhances the IMF's capacity to readily provide information to countries about their experiences under the programme and further provide advice for future engagements.

The MONA database provides information on Fund-supported programmes that are approved and disbursed by the executive board of the IMF. These Fund-supported programmes are periodically reviewed to ascertain whether the implementation is within the Fund's framework, the progress, and any necessary modifications. The reviews involve both backward- and forward-looking assessments. Many policy commitments are considered by the Fund and the domestic country authorities before programmes are approved.

Conditionalities include indicative targets (IT), structural benchmarks (SB), prior actions (PA), or quantitative performance criteria (QPC). Prior actions (PA) are procedures that countries should agree on before the executive board of the IMF approves the financing or evaluation of the programme. These measures are there to ensure that programmes succeed and in case of any off tracking, the programme can be reviewed and continued within the IMF framework. Before the conditions for a review are met QPCs, which are specific and enumerable conditions would have been met. The QPCs, which are macroeconomic variables are directly under the control of the country's authorities and include fiscal balances, international reserves, credit and monetary aggregates, and external borrowing. Indicative targets (IT) can be established with QPCs as a quantitative indicator to assess the country's implementation and advancement of the programme. Therefore, ITs serve to check the uncertainties of the QPCs. Hence, ITs can be said to be complementary as they serve as a check on the QPCs. Structural benchmarks (SB) are used to assess how the programme was implemented during a review period. SBs are procedures that are critical in achieving the programme objectives. They are not fixated but vary across programmes, they can be measured to enhance the social safety net and strengthen the member country's financial management. The standards indexes used in this study for the structural reforms are the SBs, since SBs met or met with delays under the IMF structural reform programmes in sub-Saharan African countries can serve as indicators of critical and major structural reforms.

Following the economic classification used by Kouamé and Tapsoba (2019), the structural reforms are grouped into four categories as fiscal sector, financial sector, real sector, and trade sector. The details about the individual sectors have been explained in the literature review and will be described further under decomposition variables.

3.3.4 World development indicators

The level of inflation and GDP data are taken from the World Development Indicators database. The two main macroeconomic indicators that can affect both firm performance and structural reforms are inflation and GDP growth. The inflation rate determined by the consumer price index is meant to capture the macroeconomic stability of the country. The GDP is intended to normalise total asset growth and posit how GDP growth influences firm performance in the sub-Saharan Africa sub-region.

3.4 Variable description

The two main questions answered are, do structural reforms have impacts on firm performance, and who benefits from structural reforms. To answer these questions, this essay focuses on the dependent variable, firm performance, and the independent variables are aggregate index (structural reforms), inflation and other firm characteristics which can potentially mitigate or strengthen the impacts of structural reforms.

3.4.1 Firm performance

Firm performance which is analysed as the dependent variable is captured as investment per Gross Domestic Product in US\$, in this study. There are abundant studies on structural reforms with many researchers assessing its impact on labour productivity growth, labour productivity (Sales/GDP per worker), output growth, increase in profitability, firm export, employment growth, or a combination of two of such variables (Christiansen et al., 2013; de Almeida & Balasundharam, 2018; Kouamé & Tapsoba, 2019; Ojede et al., 2013). Firm performance, as the dependent variable, has been captured as investment/log GDP in US\$ due to data constraints. This is in line with the measurement used by Christiansen et al. (2013) and helps explain the aim of this research. Investment is captured as the log of the current value of total assets, being land and equipment owned by the firm and this is the same measurement used by Kouamé and Tapsoba (2019). Since certain years enjoyed zero investment, the values were scaled before they were logged. Since the level of firm investment is dependent on the economic growth the dependent variable is captured as such. Due to the limitation of data in the WBES dataset investment can only be captured using land and equipment as stated above. GDP in US\$ is obtained from the WDI dataset.

Since structural reforms are meant to deal with hindrances to the efficient allocation of resources in an economy, the purpose of this study is to estimate how structural reforms liberate

these resources for the firms that operate in sub-Saharan Africa. An increase in firm annual investment creates opportunities to expand the productivity and profitability of the firm and further economic growth. In different studies firm performance is measured in different ways such as using sales growth over two different periods, capital growth, size of employees, and export volume or size (Delen et al., 2013; Hansen & Wernerfelt, 1989; Taouab & Issor, 2019).

Any of the approaches cannot be seen to be perfect. Firm exports and structural reforms look at the impact of structural reforms on the ability of firms to export or expand their exports, while employment and output growth assesses the effect structural reforms have on employment and output. The method of capturing output also depends on the motive or problem the researcher wants to solve. In this study, firm performance is measured as investment/log GDP growth in US\$ and this approach considers policy management, firm management, and marketing efficiency in an economy that boosts firm performance.

3.4.2 Inflation

Inflation, captured at the consumer price index, measures the macroeconomic stability of an economy, and is used as an independent variable to measure the country-level effects. It indicates the efficiency of monetary policy, and it can affect growth through its influence on consumption, investment, and savings decision by firms. Inflation as used in this research is measured by the consumer price index which helps to assess how the level of inflation in sub-Saharan Africa influences firm performance even in an era of structural reforms.

3.4.3 Aggregate index

Four specific structural reform indexes were added together and captured as an independent variable which follows the approach of Kouamé and Tapsoba (2019). The four indexes taken to represent structural reforms are fiscal, financial, trade, and real sector reforms, the details of how the indexes are worked out will be explained later. Structural reforms are actions taken by governments to address market failures, improve market efficiency, and institutions geared towards removing hindrances to an efficient allocation of resources to encourage and improve firm performance. The aggregate index just like inflation is country-level effect that has been examined and used as an independent variable. Therefore, the choice of the aggregate index as an independent variable is significant for this study.

3.4.4 Finance access

Access to finance is used as a dummy variable and quantified as to whether firms have access to loans and lines of credit. In the survey (from the WBES dataset) questions were posed to managers if their firms had access to loans, and or lines of credit, Yes and No answers were assigned, 1 and 0 respectively. This study captures access to finance as the addition of access to loans and credit lines (Kouamé & Tapsoba, 2019).

3.4.5 Exporter

Firms' connections to the global markets are captured by the dummy variable Exporter, taking the value of 1 if the firm receives revenues from export and zero if otherwise. Structural reforms open economies for domestic firms to have access to opportunities that can enable them to boost their performance in the global market. Exports are significant keys to firm performance because it enables them to increase revenue by increasing sales and enhance their competitiveness via learning from the global market.

3.4.6 Corruption

Corruption is measured as the gifts demanded by officials or gifts paid to them in relation to the operational activities of the firm. This variable is captured as the addition of expected or paid informal gifts by the firm towards applications for electricity, water, and telephone. The level of corruption is captured by the dummy variable with the value of 1 for firms that paid or were asked to pay a bribe or 0 otherwise. By description, firm performance is influenced by corruption, and from the WBES dataset corruption can be captured by using the variables stated above. Structural reforms are meant to improve governance by focusing on reducing the indiscriminate use of discretion by public officials, hence reducing the possibilities of corruption. As posited by Shleifer and Vishny (1994), firm performance improves as corruption is controlled which results in the reduction of transaction costs and other uncertainties.

3.4.7 Firm size

Firm size is measured by the number of full-time employees. The usual classification is as follows: 5 - 9 employees as small, medium-sized firms with 20 - 99, and above 100 full-time employees are categorised as a large firm. However, some researchers proxy size by the firm's total assets (de Almeida & Balasundharam, 2018). Following the classification of Cuervo-Cazurra and Dau (2009) and Njikam (2017), this study captures firm size at the median of permanent employees, with large firm size taking the value 1, which is above the median, and

zero is assigned to small firms. This study uses firm size as a dummy variable because size, as a firm characteristic, is important in determining the impact of structural reforms on firm performance. The benefits small and large firms enjoy from structural reforms cannot be ignored if one must comprehend the impact structural reforms have on the country's investment environment and firm performance.

3.4.8 Foreign

This is measured by the percentage share of foreign capital in domestic private firms. However, it is captured as a fraction in the regression analysis.

3.4.9 Government

This variable is measured by the percentage share the government has in a private domestic firm. Most of these investments are held by institutional investors that are governmental or quasi-governmental. It is measured as a fraction in the regression analysis.

3.4.10 Firm age

Firm age is captured at the median age of all firms in the WBES dataset, 0 refers to young firms, and 1 is equal to matured firms.

3.4.11 Decomposition variables

Additionally, the aggregate index is decomposed into its individual reform indexes as in trade reforms, financial reforms, fiscal reforms, and real reforms, which is used for the alternative regression method. From the MONA dataset, the following explanation can be given to the sector reforms:

Financial sector reforms comprise reforms in the financial sector which include legal, regulation and supervision of financial institutions, privatisation and restructuring of financial establishments, other financial sector regulation and supervision, and banking.

Real sector reforms include labour market, state-owned enterprise privatisation and reforms, price controls and market deregulation, regulatory environment and private sector reform, and non-financial sector reforms.

Trade reforms involve changes in trade regime and policies which does not include custom reforms.

Fiscal reforms include tax reforms, fiscal transparency, pensions and social reforms, debt management, financial controls, auditing and accounting, and central bank financing to government (Kouamé & Tapsoba, 2019).

Table 3.1 below reports the descriptive statistics of the variables used in this study. The reported statistical means from the table indicate that firm performance in SSA has a mean of 0.189. Firm size and access to finance have mean values of 0.499 and 0.335, respectively. Three variables that reportedly have low mean values are the proportion of government shares in domestic firms, corruption, and aggregate index, which is the structural reform variable at 0.007, 0.061, and 0.076 respectively. The low observation reported for the aggregate index is because not all the countries in the dataset had successful structural reforms between 2006-2018.

Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
Firm performa	31795	.189	.253	0	1.092	0	.743	.748	1.882
Agg index	11000	.076	.919	-1.096	2.579	-1.096	2.579	.624	2.798
Inflation	30860	7.165	7.626	-1.8	36.907	-1.566	36.907	2.348	9.141
Corruption	31795	.061	.239	0	1	0	1	3.666	14.437
Finance access	31795	.335	.472	0	1	0	1	.7	1.49
Exporter	31795	.436	.496	0	1	0	1	.258	1.067
Fsize	31795	.499	.5	0	1	0	1	.005	1
Age	31795	.663	.473	0	1	0	1	-.689	1.475
Foreign	31177	.12	.302	0	1	0	1	2.33	6.737
Government	31213	.007	.063	0	1	0	.25	11.201	146.631

Table 0.1 Descriptive statistics

3.5 Methodology

This study is interested in examining the impact of structural reform on firm performance in sub-Saharan Africa. Hence, a multilevel mixed method is utilised, in line with the methodology used by Kouamé and Tapsoba (2019). This study uses firm performance as the dependent

variable, which is proxied by the investment made by the firms per the country's GDP at the local currency level. In similar studies, dependent variables such as total factor productivity (TFP), labour productivity growth, and labour productivity are frequently used.

3.5.1 Structural reform indexes

The structural reform indexes used in this study are calculated based on the IMF MONA dataset. The information available in the dataset based on the macroeconomic structural benchmark involving the trade, financial, fiscal, and real sectors are used in the computation of the indexes. Measurement is centred on the specific successful reforms in which set goals have been met or met but with minor delays.

The centred-reduced normalisation method also called the Z-score approach used by Nardo et al. (2005), Commission (2008), and Kouamé and Tapsoba (2019) have been used to determine the indexes. This approach involves the computation of composite indexes by the transformation of the variable X which is characterised by its standard deviation σ and the mean μ , to an index. For the purposes of comparison and robustness of this index a Z score is estimated with the following expression:

$$Z = \frac{(X-\mu)}{\sigma}$$

When X is normally distributed, Z then follows a centred-reduced normal distribution having a standard deviation equal to one and a zero mean. By this adjustment, the structural reform variables are all stated in a uniform unit expressed in standard deviation, which can then be logically matched in terms of its impacts.

A normalised country-level structural reform index is computed for each period and class of structural reform stated above as follows:

$$Reform_{ct} = \frac{N_{ct} - N_{avg,t}}{\sigma_{Nt}} \quad (1)$$

The number of successful reforms (met or met with minor delays) which is the IMF's last review period is represented as N_{ct} , Reform in country c and time t is represented as $Reform_{ct}$. Both the mean and the standard deviation of the successful reforms for the countries under review at a given time are assigned $N_{avg,t}$ and σ_{Nt} respectively. The indexes of the structural reforms computed are based on the number of sub-Saharan African countries in the IMF MONA dataset. The results from the above equation are derived from the specific sector

structural reforms and the index = 0 when the number of reforms matches the average number of successful reforms.

The aggregate index is then created by averaging the indexes of the different sector structural reforms namely trade sector, fiscal sector, real sector, and financial sector. The computation of the aggregate index is done by applying the same weights for the different structural reforms and the resultant indexes range between -1.096 and 2.579. High scores indicate a higher concentration of successful structural reforms on average. The selected indexes are focused on only successful structural reforms that have been implemented within the IMF timeframe or with a bit of delay and have certainly met the IMF performance benchmarks. The selection criteria of structural reform indexes are in line with the approach of Kouamé and Tapsoba (2019) as all other studies do not cover the real sector and the fiscal sector reforms but mainly focus on financial and trade sector structural reforms (Abiad et al., 2010; Abiad & Mody, 2005; Arnold et al., 2016). Table 3.2 below presents the structural reform indexes.

The estimation of the impacts of structural reforms on firm performance is difficult because of the nature of the datasets and possible endogeneity issues. However, the interdependency of firms operating in the same country cannot be ignored. For example, firms tend to have similar characteristics if they operate within the same country and these characteristics include factors such as the macroeconomic environment, institutional framework, and infrastructural network. However, standard econometric methods often ignore these collective circumstantial characteristics, which may cause downward-biased standard errors. Therefore, these elements have been accounted for to avoid a bias in the results.

The challenges linked with the potential endogeneity issues and the structure of the data are solved by using the multilevel mixed technique. According to Schwerdt and Woessmann (2020) multivariate regression models are among standard approaches used to cure the problem of endogeneity by looking out for the variances in results and observing the possibility of other correlation sources. The multilevel mixed method considers the clustering effects which permit intercepts that vary across the countries and therefore capture the heterogeneity that occurs at the country level (Hox et al., 2017). The multilevel mixed model permits the simultaneous inclusion of country-level variables, industry sector, country, and year fixed effects. The datasets used in this study, comprise country-level and firm-level data, justifiably multilevel mixed model suits the nature of the combined data. The projected multilevel mixed model is

based on a two-level model representing the country level and firm level, highest level, and lowest level respectively, and is represented by the equation below:

$$\text{Firm_performance}_{ict} = \alpha_{oc} + \beta \text{Reforms}_{c, (t-1, t-3)} + \eta X_{ict} + \gamma Z_{ct} + \varepsilon_{ict}, \varepsilon_{ict} \sim N(0, \sigma^2) \quad (2)$$

Where Firm_performance is the performance of the firm *i* in country *c*, at year *t*. Reforms_{c,(t-1, t-3)} is the reform indexes of 3-year lagged successful reforms in country *c*, *X_{ic}* represents the group of firm separate characteristics that have been described in this study. *Z_c* vector is the macroeconomic variable inflation and lastly, *ε_{ic}* is the firm-level error term. The *β* is the coefficient that measures the effects of structural reforms on firm performance. The anticipation is that structural reforms enhance firm performance in sub-Saharan Africa, it is therefore likely that structural reform will have a positive sign. The equation for the next level is stated below.

$$\alpha_{oct} = \alpha_{oot} + \vartheta_{ct}, \vartheta_{ct} \sim N(0, \delta^2), \vartheta_{ct} \perp \varepsilon_{ict} \quad (3)$$

the baseline equation can then be deduced from equations (2) and (3) as follows:

$$\text{Firm_performance}_{ict} = \alpha_{oot} + \beta \text{Reforms}_{c, (t-1, t-3)} + \eta X_{ict} + \gamma Z_{ct} + \vartheta_{ct} + \varepsilon_{ict} \quad (4)$$

The random part of this model is *ϑ_{ct} + ε_{ict}*, with *ϑ_{ct}* representing the country-specific error term and *ε_{ict}* the firm-specific error term. The inclusion of the firm, country, and year-fixed effects is necessary to control for survey differences and conceivably significant variables that may be omitted. The standard errors are robust in all the regressions. Additionally, the multilevel mixed method can capture the within and between country impacts of structural reforms.

Country	Year	Index Trade	Index_Financial	Index_Fiscal	Index_Real	Index_Total
ANGOLA	2012		1.085	-0.837	2.494	1.846
BENIN	2008	-2.837	-1.377	0.246	0.012	-0.067
BENIN	2013		-0.572	0.247	-0.163	-0.125
BURKINA	2006		-1.222	1.998	-1.183	1.169
BURKINA	2010	-0.864	-1.218	-0.086	0.169	-0.248
BURKINA	2013		-0.415	1.115	0.538	0.708
BURKINA	2016		-0.827	-0.031	0.217	-0.148
BURUNDI	2007	0.707	-0.450	-0.836	0.101	-0.378
BURUNDI	2011		-0.730	2.087	-0.938	1.393
BURUNDI	2015		-0.808	-0.013	-3.693	-0.314
CAMEROON	2008	-0.873	0.674	2.451	2.148	2.579
CENTRAL AFRICA/	2009	-1.061	-0.014	-0.399	-1.027	-0.401
CENTRAL AFRIC/	2015		-0.978	-0.990	-3.693	-1.115
CHAD	2017		-0.880	-0.486	-1.116	-0.561
CONGO DEM	2012		-0.145	0.942	-0.754	0.227
CONGO REP	2007	-1.179	-0.778	-0.543	-0.653	-0.767
CONGO REP	2011		-0.969	1.037	0.329	0.707
COTE D'IVOIRE	2012		-0.587	0.761	-0.708	-0.040
COTE D'IVOIRE	2014		-0.126	0.317	1.374	1.477
GABON	2010	-0.864	-1.218	-0.657	-1.041	-0.894
GAMBIA	2010	-0.864	-0.602	0.517	-1.041	0.153
GAMBIA	2015		-0.978	-0.963	-3.693	-1.096
GHANA	2006		0.012	0.526	0.070	0.640
GHANA	2012		-0.391	0.906	0.360	0.596
GHANA	2018		0.793	0.882	-0.287	0.790
GUINEA	2010	-0.707	-0.417	-0.689	-1.041	-0.605
GUINEA BISSAU	2013		-0.650	-0.573	-0.546	-0.801
GUINEA BISSAU	2018		-0.854	-0.104	-0.144	-0.433
KENYA	2006		-0.728	-0.143	-0.870	-0.367
KENYA	2014		-2.086	-1.085	-0.966	-0.863
KENYA	2016		-0.939	-0.973	-0.781	-1.002
LESOTHO	2013		-0.311	-0.862	-0.291	-0.722
LIBERIA	2011		0.769	1.504	-1.191	1.462
LIBERIA	2015		0.085	1.491	-3.693	1.210
MADAGASCAR	2009	-0.707	-0.459	-0.442	-1.027	-0.477
MALAWI	2008	-2.837	-0.307	-1.315	-1.303	-1.073
MALAWI	2013		-0.441	-1.151	-0.610	-1.068
MALAWI	2015		1.530	0.884	-3.693	1.425
MALI	2007	-1.179	-0.860	-0.616	0.101	-0.637
MALI	2011		-0.550	-0.043	1.850	0.296
MALI	2016		-0.855	0.000	-0.744	-0.382
MAURITANIA	2009	-1.061	-0.905	-0.591	-1.027	-0.686
MAURITANIA	2013		0.525	-0.211	-0.610	0.126
MOZAMBIQUE	2007	-1.179	0.532	1.364	-0.955	0.964
MOZAMBIQUE	2010	-0.864	-0.171	-0.022	1.380	0.420
MOZAMBIQUE	2013		-0.467	0.247	-0.610	-0.172
MOZAMBIQUE	2016		-0.659	-0.612	-0.781	-0.692
NIGER	2008	1.091	-1.377	0.063	-1.303	-0.438
NIGER	2011		-1.269	-1.181	-0.938	-1.373
NIGER	2015		-0.850	1.808	-0.396	1.112
NIGERIA	2007	-1.179	-0.532	0.411	2.362	0.791
RWANDA	2009	-1.061	-0.608	-0.100	0.051	-0.097
RWANDA	2013		0.760	0.922	-0.610	1.022
RWANDA	2016		1.160	0.534	-0.781	0.603
RWANDA	2017		-0.427	-0.424	-1.116	-0.446
SENEGAL	2006		-1.222	-0.545	-1.183	-0.950
SENEGAL	2010	0.707	-0.540	2.484	2.480	2.491
SENEGAL	2013		-0.311	1.139	-0.100	0.629
SENEGAL	2018		-0.793	0.925	-0.718	0.000
SIERRA LEONE	2009	-1.061	-1.202	-0.271	-1.027	-0.439
SIERRA LEONE	2013		-0.546	-1.103	-0.610	-1.099
SIERRA LEONE	2016		-0.491	0.502	-0.596	0.077
TANZANIA	2006		0.259	2.065	0.383	2.123
TANZANIA	2010	-0.864	0.691	0.961	-0.271	1.088
TANZANIA	2011		-1.269	-1.327	-1.065	-1.511
TANZANIA	2013		-0.232	0.006	-0.291	-0.109
TANZANIA	2014		-2.086	-1.040	-0.966	-1.038
TANZANIA	2017		0.277	-0.347	-1.116	-0.285
TOGO	2011		0.410	-0.043	0.710	0.456
UGANDA	2007	-1.179	-0.942	-1.276	-0.955	-1.373
UGANDA	2009	-1.061	0.432	-0.399	-0.128	-0.249
UGANDA	2013		-0.259	0.127	-0.610	-0.125
UGANDA	2016		-0.463	0.126	-0.781	-0.185
ZAMBIA	2007	-1.179	-0.696	1.511	-0.503	0.531
ZAMBIA	2011		-0.730	-0.072	0.076	-0.116

Table 0.2 Country reforms indexes

3.6 Analysis and findings

The results from equations (2), (3), and (4) are reported as per the multilevel mixed method in Table 3.3. The use of firm performance and the aggregate, vis-a-vis “four sectors” structural reforms in this type of research are novel. From the literature review, it has been stated that labour productivity, labour productivity growth, total factor production, and employment growth, among many, have been used as the dependent variables in similar studies. The methodology used by Kouamé and Tapsoba (2019) is the same but whereas labour productivity growth is their dependent variable. This study looked at firm performance captured as investment weighted to GDP in US\$ to depict the relationship between GDP and firm investment in an economy. This study is of the view that structural reforms affect firms more than the economy as a whole. The question of whether structural reforms significantly and positively influence firm performance in sub-Sahara Africa is answered and the result shows that it is true. A one percent increase in the structural reform index causes firm performance to increase by 0.007 percentage points indicating strong evidence that structural reforms at the macro-level influence an increase in firm performance. In this study, the four types of structural reforms that are aggregated are the financial sector, real sector, fiscal sector, and trade sector.

Inflation is positive and significant with a coefficient of 0.005 in this study. According to Barro (2013) the unfavourable impact of inflation on growth may be small, but the influence on standards of living may be substantial causing demand for higher wages and salaries and low labour productivity. However, due to increasing market prices during times of inflation large firms perform better and this accounts for the statistically positive and significant coefficient value for inflation in this study. This is in line with the findings of Ahmad et al. (2012). According to existing research, in developing economies, inflation slows down growth only when the threshold level of inflation rates are outside of 7-11 percent (Khan & Senhadji, 2000; Tien, 2021). Further explanation is that as inflation rises beyond the threshold level, firms operations costs rise, consumption decreases, and outputs of the economy reduces. The data available from 2006 to 2018 has an average range that falls within 7-11 percent, and this confirms the findings of this study.

The quadratic form of inflation has been regressed in the Table A1, which is Inflation^2 , this is significant and has a negative sign. This is a formal test that inflation has a nonlinear effect on firm performance as per (Khan & Senhadji, 2000; Tien, 2021) . The argument is that trade liberalisation and removal of barriers and tariffs encourage the more efficient foreign firms to take advantage of the SSA's cheap raw materials and labour. This cost advantage added to their efficiency renders them more competitive than the domestic firms in both the domestic and international markets. The relationship between firm size, structural reforms, and firm performance is positive and statistically significant and this is confirmed by the findings of de Almeida and Balasundharam (2018).

This study contributed to research by introducing corruption as an explanatory variable. The estimated coefficient of corruption, structural reforms, and firm performance is positive and statistically significant. Corruption is statistically significant and positive with a coefficient of 0.093 which can be attributed greatly to the issue of firms circumventing rigid procedures and benefitting from weak national institutions to the advantage of their operations, for example to pay lower taxes. This is in line with the findings of Imran et al. (2019) which state that corruption boosts firm performance. As per the “greasing wheel” and helping-hand theory the findings of this study indicate that corruption is seen as a helping-hand for firm performance in sub-Saharan Africa.

Mixed-effects ML regression

Firm_performa nce	Coef.	St.Err.	t- value	p- value	[95% Conf	Interval]	Sig
Agg_index	.009	.003	3.14	.002	.003	.014	***
Inflation	.005	0	10.84	0	.004	.006	***
Corruption	.093	.011	8.28	0	.071	.116	***
Finance_access	.08	.005	14.96	0	.07	.091	***
Exporter	-.003	.005	-0.62	.536	-.013	.007	
Fsize	.063	.005	11.71	0	.053	.074	***
Age	.013	.005	2.53	.012	.003	.024	**
Foreign	.03	.008	3.59	0	.014	.046	***
Government	.105	.047	2.21	.027	.012	.198	**

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 0.3 Multilevel Mixed-effects regression

Dreher and Gassebner (2013) and Arif et al. (2020) agree that in a highly regulated economic environment corruption accelerates firm performance and this is confirmed by the findings of this study. However, other studies argue that corruption is a “sanding wheel” and therefore detrimental to firm growth and economic development (Dutta & Sobel, 2016; Glaeser & Saks, 2006; Treisman, 2000).

Answering the question of who benefits from structural reforms, after controlling for foreign and government variables, this paper finds the following results conclusive and robust. The directions and significant levels of the other variables in the regression remain the same as shown in Table 3.4 below.

	(1)	(2)	(3)	(4)
	Firm_performance	Firm_performance	Firm_performance	Firm_perform
Firm_performanc				
e				
Agg_index	0.00879** (0.00280)	0.00880** (0.00280)	0.00840** (0.00280)	0.00868* (0.00278)
Inflation	0.00518*** (0.000477)	0.00516*** (0.000477)	0.00519*** (0.000477)	0.00477* (0.00046)
Corruption	0.0935*** (0.0113)	0.0934*** (0.0113)	0.0924*** (0.0113)	0.0938** (0.0112)
Finance_acces	0.0803*** (0.00536)	0.0805*** (0.00536)	0.0809*** (0.00536)	0.0802** (0.00530)
Exporter	-0.00321 (0.00518)	-0.00318 (0.00518)	-0.00277 (0.00517)	-0.00235 (0.00513)
Fsize	0.0633*** (0.00541)	0.0642*** (0.00540)	0.0668*** (0.00529)	0.0667** (0.00524)
Age	0.0133* (0.00527)	0.0137** (0.00527)	0.0129* (0.00527)	0.0132* (0.00522)
Foreign	0.0298*** (0.00832)	0.0296*** (0.00832)		
Government	0.105* (0.0474)		0.104* (0.0474)	
<i>N</i>	10641	10644	10669	10850

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 0.4 Robustness control effects

These variables are controlled so that we can answer the question, who benefits from structural reforms. The findings report that foreign-controlled private firms are more likely to benefit significantly from structural reforms than government-controlled domestic private enterprises and it is in agreement with Cuervo-Cazurra and Dau (2009) and Kouamé and Tapsoba (2019). This paper argues that because firms bear different characteristics and structural reforms differ, not all firms benefit equally from reforms. The regression resulted in a positive and statistically significant coefficient for structural reforms. Foreign-controlled firms enjoy high benefits because they take advantage of trade deregulation, tax reliefs, and their links with external partners. The result for government-controlled private firms is positive and significant but at 5 percent.

A decomposition exercise was done in this research to ascertain the impact of the specific sector structural reforms on firm performance in sub-Saharan Africa. The impact of structural reforms on firm performance might vary depending on the nature of the reform. Equation (4) is re-estimated for each specific structural reform. Table 3.5 reports different results, using the multilevel mixed method, from different individual sector reforms. The coefficients are reported with stars whereas the standard errors are in parenthesis. In the regression report, column (1) is the baseline results while columns (2) to (5) represent results from trade sector, financial sector, fiscal sector, and real sector reforms. The outcomes indicate that except for real sector reforms which is negative and not significant, all the other reforms have a positive and statistically significant impact on firm performance at the micro-level. In sub-Sahara Africa, it is argued that financial sector reforms are key to firm performance, however, this study finds that trade sector reforms turn out to have the highest coefficient, about 1.5 times higher than the baseline results. This is because resources become redundant in sectors where there is a comparative disadvantage (Zahonogo, 2016) and the more efficient firms take advantage of sectors where they have a comparative advantage. The finding of the paper is in agreement with Topalova and Khandelwal (2011). They argue that trade reforms that include input tariff reforms have a greater impact on firm growth. Similarly, Irwin (2019), argues that though there is empirical evidence that trade reforms improve firm performance, the full impact depends on the level of the firm's performance before the reforms started.

It is also important to report that the coefficient of the real sector reforms is negative and insignificant, which is lower than the baseline (aggregate index). The coefficient of the financial sector reforms is significant and positive. In their findings, Kouamé and Tapsoba

(2019) had a positive and significant coefficient for the financial reforms, and this is confirmed by this study. The wealthy foreign-controlled firms import financial capital and take advantage of the reforms to the detriment of the local firms. Arguably, financial sector reforms that are accompanied by financial market reforms tend to have positive results as exchange rates stabilise and interest rates are reduced (Chaney, 2016; Fiestas & Sinha, 2011). Finally, fiscal sector reforms have a positive and statistically significant coefficient that is lower than that of the aggregate index. The findings of this study are robust to many sensitivity analyses that used a step-by-step regression applying the various variables, controlling foreign and government variables, and an alternative measurement to assess reforms on firm performance in sub-Saharan Africa.

	(1) Aggregate	(2) Trade	(3) Financial	(4) Fiscal	(5) Real
Firm_performance					
Agg_index	0.00879** (0.00280)	0.0130* (0.00627)	0.00962* (0.00469)	0.00544* (0.00269)	-0.00487 (0.00277)
Inflation	0.00518*** (0.000477)	0.0172*** (0.00224)	0.00477*** (0.000472)	0.00512*** (0.000482)	0.00478*** (0.000472)
Corruption	0.0935*** (0.0113)	0.0818*** (0.0228)	0.0936*** (0.0113)	0.0932*** (0.0113)	0.0927*** (0.0113)
Finance_access	0.0803*** (0.00536)	0.105*** (0.0110)	0.0814*** (0.00538)	0.0803*** (0.00537)	0.0807*** (0.00536)
Exporter	-0.00321 (0.00518)	-0.0760*** (0.0131)	-0.00351 (0.00521)	-0.00305 (0.00519)	-0.00209 (0.00518)
Fsize	0.0633*** (0.00541)	0.0541*** (0.0108)	0.0625*** (0.00541)	0.0634*** (0.00541)	0.0628*** (0.00541)
Age	0.0133* (0.00527)	0.0311** (0.0110)	0.0144** (0.00526)	0.0138** (0.00527)	0.0152** (0.00528)
Foreign	0.0298*** (0.00832)	0.0435* (0.0181)	0.0301*** (0.00833)	0.0298*** (0.00833)	0.0294*** (0.00832)
Government	0.105* (0.0474)	-0.0344 (0.107)	0.104* (0.0474)	0.105* (0.0474)	0.105* (0.0474)
<i>N</i>	10641	2304	10641	10641	10641

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 0.5 Decomposition effects

3.7 Conclusions and Implications

This study aimed to evaluate the impact of structural reforms on firm performance in sub-Saharan Africa using both country-level and firm-level datasets with over 5 million observations from 39 sub-Saharan African countries and 31795 firms. This is the first time such a topic has been researched in sub-Saharan Africa as per the existing literature review. The findings indicate that structural reforms influence firm performance, and their impact is felt more at the firm level than the country level. There is evidence to prove that the IMF structural reforms are very important in SSA, but less is said about their impact on firm performance. Using evidence from the WBES dataset, IMF MONA dataset, and the WDI dataset this research agrees with existing findings that structural reforms enhance productivity and growth, and further states categorically that structural reforms in SSA promote firm performance. The impact of structural reforms cannot be generalised at the macroeconomic level as it varies both within and across countries. Ostry et al. (2018) posited that the processes and impact of structural reforms in Latin America and some developing economies are still under discussion because it is difficult to generally quantify its effects both across countries and in specific sectors. A similar difficulty arises at the microeconomic level. The impacts of structural reforms on firm performance depend on firm characteristics such as firm size, ownership, firm age, annual sales, access to finance, and exporting status. These findings further indicate the significance of pursuing structural reforms in countries based on firm characteristics to boost their impacts.

Another interesting finding is that amid successful structural reforms, it is imperative to state that I find corruption and firm performance are positively related under structural reforms. There is a general agreement among policymakers and researchers in the literature that the impact of corruption on firm performance is both a helping hand and a grabbing hand. In the final analysis corruption, as per this study is a helping hand and therefore enhances firm performance in SSA.

This study contributes to the research on structural reforms by stating which types of firm ownership benefit from it. This finding is important because it contradicts earlier findings which stated that government-controlled enterprises benefited more from structural reforms than others (Appiah-Kubi, 2001). There is strong evidence that foreign-controlled private firms benefit more from structural reforms, they, therefore, perform better than government-

controlled enterprises. This study confirmed that the foreign-controlled firms take advantage of fiscal sector, trade sector, and real sector reforms to access the SSA economies due to their financial and efficiency capacity. As earlier explained statistically inflation is significantly and positively related to firm performance in SSA.

Findings indicate that structural reforms have a positive and significant impact on firm performance in SSA. After following the institutional economics theory framework, which indicates that firm behaviour is influenced by the institutional atmosphere under which they operate, this study can conclude that successful structural reforms enhance better firm performance.

This study has implications for politicians, researchers, entrepreneurs, and managers in sub-Saharan Africa. These findings by this study have significant implications for structural reforms and firm performance. It posits that firm performance is enhanced more than economic growth under successful structural reforms. Politicians when contemplating structural reforms should not think only about economic growth but they should rather consider the impact structural reforms will have on firm performance as well. Entrepreneurs if they follow the findings of this study stand to benefit from structural reforms through the understanding of better and liberal institutional policies. As mentioned, trade reforms tend to release resources that were not available to private firms, entrepreneurs will have to explore these resources to their benefit.

Additionally, this research has implications for managers. This presents an important challenge for managers to expand their prospects and knowledge about the macroeconomic policies that impact private businesses. The findings allow managers to understand the advantages of structural reforms and how they can benefit by efficiently responding to the opportunities offered by the reforms. Managers may consider engaging government officials with more integrated reforms to help boost their firm's performance.

Generally, this study emphasises how structural reforms tend to boost the economic development of a country to further enhance firm performance. It has also been posited that the impact of structural reforms varies with the type of firm. Therefore, future studies and policy discussions need to consider the differences when assessing the benefits. The results of the Trade sector reforms are still open for further studies by academicians and policymakers. Further investigations into the findings for inflation and corruption are open for future studies. The extent of this study is limited to structural reforms and firm performance at the cross-

country level. This study does not analyse the impact of structural reforms and firm performance at a specific country and firm level.

Chapter 4: Determinants of Access to finance across countries in sub-Saharan Africa

4.1 Introduction

4.1.1 Background

The importance of the determinants of access to external finance has been well researched in the literature and financing obstacles have become a well-noted terminology, indicating the inadequacies of access to finance faced by firms (IFC, 2010; Mohammed & Bunyaminu, 2021; Otman, 2021). The valuation and determination of access to finance by firms have become topical and therefore an understanding of the factors that shape access to external finance is important to help determine policies that can address this issue. Adequate or inadequate finance for firms has implications for economic development, firm performance, regulatory quality, and financial systems development. Studies on access to finance have focused on firm growth, productivity, performance, and determinants, but only a few have attempted to examine the impact of regulatory quality on access to finance. This paper examines the determinants of access to finance in sub-Saharan Africa.

The determinants of access to finance differ significantly from firm characteristics and country-level institutional frameworks. Key arguments in the literature include access to credit and loans, obstacles to finance, crime and corruption, the application process, banking regulations, industry sector regulations, firm size, legal systems, labour laws, national digital infrastructure, and ownership type. Easy access to external financing is a challenge for firms in developing countries which impedes their growth. In sub-Saharan Africa access to finance is counted as the most significant obstacle to a firm's investment growth and performance (Wang, 2016). Hindrances such as those emanating from both commercial banks and non-banking financial institutions, institutional challenges, and sub-regional influences affect the performance of firms in sub-Saharan Africa. Factors such as excessive regulations, high taxation, inadequate supply of skilled labour, technology, market conditions and size, and high information costs have been cited as some of the main causes that impede firm performance in developing countries (Nugent, 1996; Sleuwaegen & Goedhuys, 2002; Turkson et al., 2020). In SSA, the underdevelopment of external financing such as venture capital, crowdfunding, angel investors, and equity financing lead firms to resort to all forms of financing including the use of working capital, family loans, etc. Many researchers (Carbonara et al., 2016; Larrain & Stumpner, 2017) argue that if financial resources are allocated to more productive firms, their contributions will most likely increase firm-level growth. According to research access to

finance is important because it helps firm's operational growth, innovation, and employee development, among others (Li, 2019; Mertzanis, 2017).

One cannot lose sight of the importance of the macroeconomic environment within which firms operate. According to research, macroeconomic stability is important for firm performance and sustainable growth (Bleaney, 1996; Chang et al., 2019). Empirical evidence suggests that macroeconomic instability, which is an obstacle to access to finance is usually accompanied by high fluctuating exchange rates, high inflation rates, and high-interest rates which results in short-term loans and financial instability (Lussuamo & Serrasqueiro, 2020; Manzoor et al., 2021). Regulatory quality, which is an institutional factor, has been included in this paper to enhance the understanding of the effects that national institutions have on access to finance.

This study, therefore, has the objective of evaluating and making an impact on access to finance using both country-level and firm-level variables while examining two different datasets between 2006 to 2018. These datasets cover 39 sub-Saharan African countries. This study used the WBES dataset which has 39 countries from sub-Sahara Africa with 31795 firms covering 13 years between 2006 to 2018. Secondly, The World Governance Indicators dataset captures the regulatory quality of the countries in this study.

4.1.2 Research Questions

The questions this essay will answer are i) does regulatory quality influence access to finance from external sources ii) does quality management certification impact firm access to finance and, iii) what is the relationship between firm performance and access to finance? These questions will be answered by using The World Bank Enterprise survey (WBES) and World Governance Indicators (WGI) datasets, which have been described in detail in section three. The method used in answering the research questions is the ordered logit, following the methodology used by Quartey et al. (2017). Additionally, available literature suggests that capital structure is a predictor in the decision of whether to access external finance, based on this and the available data the pecking order theory has been adopted by this paper.

4.1.3 Relevance and Contribution

This study aims to contribute to the literature on determinants of access to finance by the inclusion of national institutional indicator, regulatory quality, and how it impacts firm

performance in sub-Saharan Africa using a secondary research approach. The inclusion of quality management standards certification in this paper is to ascertain its relevance in accessing external finance by firms in sub-Saharan Africa. This research explores what factors determine the availability or not of external financing for firms in sub-Saharan Africa. The findings will contribute to a clear path of access to finance, regulatory quality, and firm performance using the pecking order theory. This essay will contribute to the literature on how regulatory quality and quality management certification influence access to finance by firms in sub-Saharan Africa.

The remainder of this study is as follows. Section two is the literature review. The variable description is in section three, with section four drawing on data description relative to the firm- and country-level. Section five deals with the findings and analysis of how access to external finance plays a role in the performance of firms in SSA. Finally, the conclusions and implications are drawn in section six of this study.

The foundation for this study has been set in this section. The research background, questions, a brief introduction to the methodology, and the datasets have been introduced in this section of the study.

4.2 Literature review

4.2.1 Background

This section deals with the review of the literature with regards to access to finance and its impact on firms in SSA. The debate on the connection between access to finance, and firm productivity, beginning with the thoughtful work of Gatti and Love (2008), findings espoused that access to finance influences productivity positively. Having used access to an overdraft facility and a line of credit as an alternative approach to access credit, they also used other variables which included firm characteristics such as firm age, size, export orientation, and foreign ownership. Ayyagari et al. (2018) explained that many of the problems facing firms in developing economies such as agency problems and antagonistic selection by financial houses are common issues faced by firms in developed countries too, but the issues are more severe in the developing countries to the extent that it impacts on firm growth. Similarly, Iwara and Netshandama (2021) posited that two main factors impede access to finance for firms in sub-Saharan Africa. First, the provision of external financing to firms in Africa is considered high risk by financial institutions. Most African countries have no digital identification system for

citizens and firms, which make it difficult to locate clients in case of default and there is no proper credit scoring system. Secondly, small firms are considered high risk in the provision of financing than large firms: most of the firms in SSA are small. Additionally, inflation rates are high in SSA which leads to higher interest rates. In some cases, the difference between the Central bank's monetary policy rate and that of the commercial banks is very high. In Ghana, the 2020 monetary policy rate was 14.50% in December, but commercial banks were charging as high as 21.10%. Arguably, lenders want security for their services, which means that lending to high-risk borrowers comes with the resultant high-interest rates. These constraints to access to finance exert a negative impact on firm performance. Babajide Fowowe (2017) in his study of 10,888 firms within 30 African economies posited that obstacles to access to finance significantly and negatively affect firm growth.

Due to the heterogeneity of firms in sub-Sahara Africa, it is difficult to establish the main causes of the ease or otherwise of access to financing. Quartey et al. (2017) in their research, concluded that most issues such as the experience of the general manager of the firm, strength of the legal system, firm size, ownership type, and firm's export activities, are among the determinants that influence access to finance. Other factors that influence access to finance include regulation, corruption, crimes, and infrastructure, which are all institutional indicators. Bah and Fang (2015) made a comparison of the business environment between sub-Sahara Africa and The Organisation for Economic Co-operation and Development (OECD), and the results were that in Africa, more than in the OECD, firms are highly constrained. Due to weaker institutions such as regulations, inadequate or absence of infrastructure, and corruption, among others, SSA firms operate in an unfavourable environment than their counterparts in the OECD and Europe. It is generally accepted that access to finance plays an important role in innovation, performance, and growth.

However, financial economists have disagreements on the impact of different systems of financial models, such as informal versus formal and bank versus market-based, on the economic development of a country (Ayyagari et al., 2018). Access to finance does not depend on the financial system operational in a country alone but it is also dependent on the quality and level of monitoring of country-level institutions. There have been existing studies that merged macroeconomic indicators and firm-level datasets for a cross-section of economies to evaluate the nexus between financial development and firm performance (Ayyagari et al., 2017; Beck et al., 2006; Demirguc-Kunt et al., 2006). Ombati and Ojah (2016) asserted that

national institutional factors and firm-specific characteristics are important in accessing financing in Africa.

4.2.2 Overview of Access to finance across Europe

It is clearly stated in Figure 1.1 that Europe has a stronger regulatory quality than SSA sub-region. Access to finance for firms is not a major obstacle for firms in the European economies as it is in the developing world, it is ranked as either the first or the second-biggest constraint in Central Asia, North Africa, and sub-Sahara Africa (Babajide Fowowe, 2017). Klapper et al. (2006) identified that across Europe it is easier for firms to access external financing, further access to finance is positively responsible for several start-up firms. Though they agree that the regulatory quality is high in Europe, firm registration is sometimes costly which impedes firm growth. Access to finance is very high among European economies whereas SSA is far behind in expanding access to external financing for firms (Peachey & Roe, 2004; Quartey et al., 2017). Empirical evidence suggests that the continuous financial integration in the European Union (EU) creates a significant impact on easy access to external finance. In a financially fully integrated zone, there is a limited restriction on the movement of capital from one geographical region to another, making it easier for firms in the eurozone to access external financing (Antonaki, 2019; Dourado, 2017). The EU recognises the importance of the financial sector and hence the efforts to build a sustainable financial system that can support economic growth. According to Andrieş et al. (2018), the concentration of banking markets is categorised by high levels of credit ratio and their analysis further indicated that small firms are more prone to credit rationing than larger firms. Vanacker et al. (2017) concluded in their studies across 26 European countries that slack financial resources in the EU enhance firm performance, however the larger the slack financial resources, the lower the performance of the firm. They posited further that in the EU countries where credit rights are found to be weak abundant financial resources have a positive impact on firm performance. Ullah (2020a) suggested that corruption in the legal system has a negative impact on bank lending, thus hypothesising that corruption does not contextually encourage firm growth and negatively affects the industry sector. Overall, the stronger regulatory quality in the European Union supports easy access to finance than the SSA.

4.2.3 Pecking order theory

The key prediction of the pecking order theory is that because firms do not have an optimal capital structure, they instead select a pecking order as a preference for financing. Modigliani and Miller (1959) defined capital structure as a mixture between debt and equity which is used by firms to finance their business operations. Jensen and Meckling (1976) investigated the agency cost theory and pointed to the possible conflict of interest that arises, on the one hand between shareholders and management, and on the other between shareholders and debtors. These opinions culminated in the development and growth of other capital structure theories such as static trade off, market timing, and pecking order theory.

It must be stated that after its initial development, researchers over time have investigated to either refute or validate these theories viewing them from the relationships between firm performance and capital structure, in both developed and developing countries globally. These researchers (Mursalim & Kusuma, 2017; Nassar, 2016; Nenu et al., 2018; Schulz, 2017) ended up with mixed findings leaving the debate on the relationship between firm performance and capital structure inconclusive.

The pecking order theory as introduced by Myers and Majluf (1984), explicates that optimum capital structure does not exist and that the use of internal resources as the main source of financing and promoting the operational activities of the firm, is the preference of managers. The theory accepts firm age as an important factor in determining a strategic plan for accessing external finance. Pecking order theory predicts that principally optimal capital structure will not be the target of firms, however, they will follow a pecking order of choices that places funds generated internally at the top of their financing order followed by external debt issues (Edim et al., 2014; Quartey et al., 2017). This theory is founded on the cost derivative of asymmetric information, and costs are incremental with asymmetric information. Therefore, firms consider the cost of issuing new securities and retained earnings and the latter is preferred, however, if retained earnings are not enough to finance the investments then firms seek external financing through credits and by issuing new equity. The claim of this theory is the preference of managers to finance firm operations through internal funding before resorting to external equity and debt financing.

4.2.4 Access to finance and regulatory quality

The regulatory quality index explains the perception of governments to frame and execute policies and guidelines that permit and encourage the growth of the private sector in the economy. Financial economic literature assesses the environment in which firms operate using regulatory quality, among others. Institutional development is a condensed variable that includes political stability, anti-corruption policies, regulatory quality, rule of law, voice and accountability, and effectiveness of governance (Kraay et al., 1999). Institutional quality is important for large firms that are not financially constraint, however, research has not concluded whether a better institutional quality enhances or discourages firm performance (Herckenrath, 2021; Mahendra et al., 2015). Countries' regulatory quality is evaluated using factors such as ease of starting and closing business, and government intervention in the economy, especially concerning market failure. Others include labour market policies such as employment law, price, and wage controls. The regulatory quality of a country is further examined by viewing the efficiency and complexity of its tax system, and to what extent the tax system is pro-investment. Countries are scored according to the strength of their institutions. The indices of regulatory quality range from -2.5 to 2.5, higher values indicate stronger institutions and lower values represent weaker institutions (Kaufmann et al., 2010). Alam et al. (2019) suggested that strong regulatory quality helps firms enter new markets and also enhances their growth. They further stated that strong regulatory quality opens investment opportunities for a country. Additionally, the strength of the legal and banking systems is important if the investment environment will boost firm performance. The quality of institutions and efficiency of governance contribute positively toward access to finance, firm innovation, and firm performance (Mahendra et al., 2015). Comparatively, regulatory quality is stronger in Chile and parts of South America than in Africa (Alam et al., 2019).

4.2.5 Access to finance constraint

Obstacles to access to finance in sub-Sahara Africa have been well researched. According to literature, access to finance constraints limits firm growth, firm investment, and economic development (Hussain et al., 2018; Mertzanis, 2017). Wang (2016) and Sibanda et al. (2018) concluded in their studies that identified obstacles to Small and Medium enterprises that access to finance is a major obstacle to firm growth in developing economies. Studies have shown that larger, foreign-owned, and older firms report minimal financing obstacles. The argument about

financing obstacles is based on the assumption that internal financing is more desirable than external financing because of information asymmetry, agency problem, and the high cost of external financing (Brixiová et al., 2020). Coluzzi et al. (2015) indicated in their studies that firm characteristics such as size, age, industry sector, and sales are impacted by financing obstacles. Ayyagari et al. (2016) further confirmed that age and size are useful priori classifications of finance constraints. Finance constraints appear to have an impact on firm performance as posited by Coluzzi et al. (2015) in their research on financing obstacles in the Euro area.

4.2.6 Access to finance and firm performance

Access to finance has been a major challenge for firm growth and performance and smaller firms are found to face this challenge more than the bigger firms. The adequacy or inadequacy of finance for firms has implications for economic development, firm performance, and financial systems development. To investigate this, researchers use access to finance constraint, the level of working capital used to finance operations, the volume of exports, and firms denied credit, as their dependent variables (Babajide Fowowe, 2017; Levenson & Willard, 2000; Manova, 2013; Quartey et al., 2017). Babajide Fowowe (2017) found that firms that have easy access to finance grow faster than the others. A good quality operating financial system eases the external financing constraints faced by firms which hinder both firm and industry performance, and the economic growth of a nation. Therefore, it should be noted that access to finance is one of the most important tools that can enhance firm growth and performance. Results from various studies support the fact that access to external financing is significant for firm performance in Africa. This point is supported by academics who asserted that in areas of easy access to finance the consequential increase in productivity results in increased firm performance and economic growth (Morris, 2018; Odeleye & Olusoji, 2020). Interestingly, financial markets are weakly developed in Africa, but it has been argued that firms that participate in financial markets perform better. According to the findings by Babajide Fowowe (2017), it is indicative that there is a significant and positive relationship between firm growth and access to finance. Additionally, Krishnan et al. (2015) in their evaluation of how an improvement in access to banking finance affects firm productivity in the United States of America postulated that, for financially constrained firms, an increase in access to finance leads

to an improved level of productivity. While there exists widespread empirical evidence on the connection between access to finance and economic performance, the relationship between access to external finance and firm performance is less evident. According to Ayyagari et al. (2016) when firms gain access to finance and decide to engage more in capital investment than increasing labour then there will be less labour growth. Brixiová et al. (2020), using an impact-evaluation-based approach from 42 African economies and using employment level as firm performance, found that better-performing firms have better access to finance and vice versa. However, firms that want to expand are faced with difficulty in accessing financing, this is more prevalent in developing countries than in developed economies, because of the risk-coping plans put in place by lenders in developed countries. The existence, monitoring, and evaluation of better governmental policies and regulations coupled with easy access to finance support increased firm investment, production expansion, and increase firm performance. The challenge therefore to governments is that to enable firms to achieve a certain level of performance, concrete efforts should be undertaken to boost access to finance.

4.2.7 Access to finance and industry sector performance

An evaluation of access to finance should not leave out the industry sector where firms operate. For example in Vietnam, the manufacturing sector contributed about 25% of the GDP growth in 2009 alone (Giang et al., 2019). It is argued that access to long-term loans is either non-existent or difficult for firms in Africa, without which firm productivity, growth, and performance are negatively affected. Manufacturing firms are mostly affected by the absence of long-term credit facilities because the processes of manufacturing demand long-term financing to boost growth. In their study, using Italian manufacturing firms' samples, Galasso et al. (2018) argued that lack of access to finance in the manufacturing sector negatively impacts firm productivity and performance. The lack or absence of infrastructure, internet, regulatory governance, and finance accessibility negatively affects the productivity, growth, and performance of the manufacturing sector. Giang et al. (2018) measuring investment climate and productivity in the manufacturing sector of Vietnam concluded that a bad investment climate does not improve firm performance. In their research, Efobi et al. (2016) found that the impact of access to finance was not uniform for all sectors and even in the manufacturing sector performance increased only for certain firms in Nigeria. Similarly, it can be argued that the fact that a few manufacturing firms obtain loans does not mean that they do not have access to

finance. To help understand access to finance and manufacturing in Africa, the question to be asked is do manufacturing firms apply for credits, and do they have easier access? Researchers investigated this question and concluded that manufacturing is a stronger determinant of access to finance than the other sectors, however, less than half of firms in manufacturing had a demand for external financing and of those who applied only 25 percent were granted the loans (Bigsten et al., 2003; Brixiová et al., 2020).

Another concern is the lending pattern of banks in Africa. Lenders tend to focus on firms in the extractive industry, other than those in the manufacturing due to their ability to provide collateral and the required security (Aigheyisi, 2018). It is believed that a good financial system will endeavour to provide financing or access to finance to all the sectors of the economy to enhance firm performance and the expansion of the economy. In Africa, it is contended that access to external finance is challenging, it is also concentrated in a few sectors of the economy, while other sectors are neglected. This has led to better performance of those sectors leaving the neglected sectors under-developed.

It is suggested that the services sector in developing countries is more likely to be part of the informal economy partly due to their smallness in size. According to Brixiová et al. (2020), small manufacturing firms have relatively easy access to finance than their counterparts in the service sector because of the higher levels of employment they tend to create.

4.2.8 Access to finance and Quality Management Systems certification

There are diverse types of international standard certifications set by the International Standard Organisation (ISO), among them is the Quality Management Systems certification. This certification is the most highly patronised among all the standards. The acquisition of the quality management certification by a firm is an indication that the management systems and production processes are up to internationally accepted standards. According to Goedhuys and Mohnen (2017) firms commit to international standards by acquiring ISO certifications which they commit to adhere to. The ISO certificates will only be issued to firms if they are registered or formalised in the domestic country and meet any of the following criteria i) compliant with their national laws, ii) established relations that meet customer requirements, and, iii) internal competence gains (Cai & Jun, 2018).

In a study, Ullah (2020b) indicated that certified firms get better access to finance than uncertified firms in the same category. Certified firms attract the attention of creditors and

investors, through the acquisition of international accreditation, making it easier to access external finance. Similarly, Minard (2016), using Chinese small and medium-sized enterprises, posited that quality management certification reduces information asymmetry, exposes a firm's unobserved quality, and thereby improves the firm's access to external finance. Incorporating access to finance in innovation, Fombang and Adjasi (2018) concluded that there is a significant and positive relationship between access to finance and quality management certification. It is further argued that smaller firms and firms in developing countries with the least developed financial services benefit more from international certification by gaining enhanced access to finance (Minard, 2016; Ullah, 2020b).

Due to the high cost of acquiring international certification, low-quality and financially struggling firms find it difficult to obtain these quality licenses (Ullah, 2020b). The measures involved in acquiring management certification require that firms verify and document management procedures, production processes, and production levels (Kaplinsky, 2010). In developing economies smaller and struggling firms will need to engage the services of an external consultant, which comes with additional cost. This makes it more expensive for firms with low-level management procedures to acquire the much-needed certification.

4.2.9 Access to finance and firm size

While firms in sub-Saharan Africa complain about access to finance, the size of the firm also matters. Ibhagui and Olokoyo (2018) indicated that firm size defines firm performance with smaller firms performing less efficiently than the larger ones. Large firms are less constrained in access to external financing than small firms, this is partly due to the presence of external partners and their country of origin. In both developing and developed countries, small firms are known to have difficulty in accessing external financing for their operations and expansion. Small firms that demand small loan facilities face the challenge of the payment of the fixed transactional costs charged by financial institutions (Ayyagari et al., 2012, 2018; Quartey et al., 2017). On the supply side, because small firms are seen as high risks, high-risk premiums are charged by the lender on the small firms since they seldom provide the required collateral. These among others have made smaller firms finance their operations with a smaller share from external financing sources (Beck et al., 2008; Quartey et al., 2017). Large firms in developing nations are capable to raise external financing through debt markets and the issuance of equity. Using evidence from Pakistan, Ahmad et al. (2020) claimed that since lenders focus more on

large firms, small firms are bound to suffer. Large firms can increase their working capital through the issuance of equity at relatively cheap rates, which small firms find hard to do (Singh & Weisse, 1998). Therefore, any improvement in the financial sector is more beneficial to the small firms and creates an enabling environment for better performance. Between 2006-2012, the World Bank's obligations and expenditure for the support of small firms represented 7 percent of its total portfolio (Adlung & Soprana, 2017). Similarly, about US\$20 billion was committed to small firms financing in 2011 by investors and public donors (Siegesmund & Glisovic, 2011). Relevant interventions and policies have been directed towards the financing of small firms to enable them to grow and perform better. For example, the Ghana Enterprise Agency has in conjunction with The World Bank established a special financing scheme for small and medium-scale enterprises. The Ghana Enterprise Agency is executing a COVID-19 response grant programme, which is funded by the World Bank to enhance the growth of small private investments in the country (Ghana Enterprises Agency). Kersten et al. (2017) using rigorous methods commonly applied in studying microfinance found that there is a positive and significant relationship between small firm financing and firm performance, as well as firm growth. Guiso et al. (2004) further explain that since financial reforms increase the prospects of small start-ups, boost competition, and enhance growth, it is not favourable for large firms. Alternatively, an increase in the size of the firm is found to be positive increasing the firm's probability of accessing external sources of finance (Quartey et al., 2017).

4.2.10 Access to finance and exports

The export sector exposes firms to the international market and its associated learning by exporting which improves firm performance. Access to finance seemingly is not a major problem for firms that have some exporting experience than new entrants (Cooper & Nyborg, 1998). Popov (2018) contented that the deliberate allocation of credits to the export sectors of an economy can expand the export products and render an improvement in the sector and individual firm performance. Focusing on export financing in Ghana, Adarkwah et al. (2019) found that the high-interest rates and lenders' preference for granting short-term loans rather than medium-term and long-term facilities makes it difficult for exporting firms in Ghana to access finance. Financial institutions prefer lending to business activities that have short gestation periods for them to recuperate their money quickly, this is partly due to the high incidence of non-performing loans in sub-Saharan Africa. However, the small amount of credit

that is available to exporters is not evenly distributed. Some export sectors find it easy to access finance than others. The concentration of exports from a few sectors is a result of the skewness of access to finance in Africa. The widening and deepening of financial markets can purge the concentration of exports and create an increase in exports. When access to cheap finance is open to more exporting firms (widening of the financial markets) and easy access to cheap financing is promoted (deepening of the financial market) as postulated by Chaney (2016), then firms can surmount the financial barriers related to exporting and do well on the international market. Okafor et al. (2020) analysed the impact of bank finance on export performance during financial crunches, their findings suggested that easy access to finance led to increased export sales and firm performance. The non-availability of finance also affects the performance of exporting firms. To promote the performance of exporting firms in China, the City Commercial Banks have been established across China and the consequence is the enhanced performance of the sector firms (Chen et al., 2020).

However, exporters do not depend on external borrowing or the use of internal financing alone to make operational decisions. They evaluate the movement of exchange rates in the domestic country. Exchange rate shocks directly affect the liquidity of exporting firms. Chaney (2016) argues that a depreciation in the domestic currency may affect exports or exporters and cause them to either raise or reduce sales to meet the targeted returns or exit the export sector. Empirical evidence suggests that smaller exporting firms are less active in managing their foreign exposure than the larger firms thus making them more vulnerable to the risks associated with foreign exchange rate fluctuations (Cooper & Nyborg, 1998).

4.2.11 Access to finance and ownership types

Ownership types include foreign private-owned, domestic private-owned, or government-owned (state-owned), and they all have a strong correlation with firm performance (Babajide Fowowe, 2017; Tran et al., 2021). Studies have shown that there are varied financing arrangements across different types of firms. Irrespective of ownership type, firms somehow face challenges in accessing finance. Government-owned firms are more likely to enjoy easy access to finance more than the others because of the availability of the government budgetary support they receive and the favouritism they benefit from state-owned financial institutions in the domestic country. Similarly, the findings of Mertzanis (2017) is consistent with previous results indicating that ownership type has a significant impact on access to finance but domestic

and foreign ownership types are strong predictors of access to finance in developing countries. The relationship between access to finance and foreign ownership is strong. Foreign-owned firms arguably have easier access to international and or external financing due to their international networking relationships. Foreign-owned firms' easy access to finance is not facilitated only by their external networking but also due to their adoption of international quality standards which reduces the risk of bankruptcy. It is asserted that foreign-owned firms in Latin America enjoyed lesser restrictions when accessing external financing (Chu, 2021; Galindo & Schiantarelli, 2002). It is also contended that foreign-owned firms in sub-Saharan Africa are less constrained than domestic-owned firms (Babajide Fowowe, 2017; Harrison & McMillan, 2003). The relationship between ownership type and access to finance is moderated by specific firm characteristics, such as age, size, and the investment environment in the domestic country. Using samples from Hungarian firms, Colombo (2001) however, found that foreign ownership has no significant effect on access to finance.

4.3 Summary

Generally, even as firms concentrate on the specific characteristics that drive their capital structure, governments must work on improving important institutions that can enhance firm performance, the lack of which could have negative impacts on growth and poor financing decisions. To comprehend and develop a sustainable policy that will assist SSA firms in their quest to access finance, it is necessary to evaluate national institutions, firm characteristics, and the ease or otherwise of access to external finance by firms in the sub-region. There is an indication that the industry sector and exporting firms play a significant role in accessing external finance in SSA. Further, it is suggested that firms prefer to rely on internal resources to finance their operations rather than depend on costly and sometimes risky external finance.

4.4 Research Methodology

The outline of the research methodology is presented in this section. This essay examines how firm performance is affected by access to finance and regulatory quality in sub-Saharan African countries. To answer the research questions and contribute to research, the method used by Quartey et al. (2017) is adopted, this preference is in line with the structure of the available data. The dependent variable used in this study is access to finance which is proxied by the level (percentage) of working capital financed by the internal resources of the firm instead of

external financing, to support operational activities. The availability of information makes it prudent to focus on manufacturing rather than all the other sectors.

4.4.1 Data

4.4.1.1 World Bank Enterprise Survey

This essay uses data from the World Bank Enterprise Survey (WBES) which are surveys conducted by The World Bank and its partners across countries and firms over several years. They are standardised panel datasets that have uniform sampling methods and cover 125 countries with more than 130,000 firms. The WBES data contains information which can be favourable or unfavourable for firm performance and economic growth (World Bank, 2012). The data contains information on working capital, obstacles to access to finance, other firm characteristics, and performance indicators that help to compute firm growth, access to finance, and firm performance. The surveys use a core questionnaire which makes it easy for cross-country and years comparison. Further, three distinct sectors categorised as manufacturing, services, and others, are surveyed and different core questionnaires are designed for each sector. The core questionnaire contains survey questions that are asked to top managers and firm owners, who provided both objective and subjective answers related to access to finance and obstacles to finance respectively. The firm-level sample data used in this study span between 2006 and 2018 and covers 39 sub-Saharan African countries, which has a good representation of most of the countries in SSA. The sample included in this research totalled 31795 SSA firms from all the three sectors stated above.

4.4.1.2 World Governance Indicators

A second data used in this essay is the World Governance Indicators (WGI). The averages of the regulatory environment which are the regulatory quality in this study are taken from the WGI. The World Governance Indicators estimates report six dimensions of governance for aggregate and individual governance indicators. The six areas include regulatory quality, governance effectiveness, voice and accountability, rule of law, political stability and absence of violence, and control of corruption (World Governance indicators, 2021). These averages are a combination of the opinions of several firms, citizens, and expert respondents in over 200 countries since 1996. The collation is from numerous think tanks, survey institutions, private sectors, international organisations, and non-governmental organisations (World Governance

indicators, 2021). The regulatory quality captures the country's institutional environment in which firms undertake their operational activities.

4.4.2 Description of variables

Three main questions are raised by this paper and to answer them, this essay focuses on the dependent variable, firm performance, and the independent variables which are regulatory quality and other firm characteristics which can potentially mitigate or strengthen access to finance. The variables are explained below as they have been used in this study.

4.4.2.1 Dependent variables

This research is focused on the impact of access to finance on firm performance. For robustness tests, 2 dependent variables are used namely Finance access and Finance obstacles.

4.4.2.1.1 Finance access

Finance access is the access to finance variable, and it is used as the main dependent variable. Finance access is an objective variable that is computed from the WBES and this is influenced by the work of Quartey et al. (2017). The WBES includes a large volume of objective issues on firm characteristics in sub-Saharan Africa. The survey collects objective information on issues on access to finance such as access to loans, access to a line of credit, and length of loan applications. Additionally, as part of the survey, information is provided on the internal and external sources of financing working capital, which has been used to compute the objective measure of the finance access variable. A variable such as profit could have been used, however, due to data limitations working capital has been used as Finance access. The value of 1 is assigned if the firm uses internal resources to fund at least 75% of its working capital, 2 if the firm finances between at least 50% but under 75% of working capital, 3 if internal resources finance between at least 25% but below 50%, and 4 if internal resources contribute to less than 25% of working capital.

4.4.2.1.2 Finance obstacles

As stated, this dependent variable is used for the robustness test. Business owners and top management were asked for subjective information, if access to finance was an obstacle and they should tick the box from 0 to 4 indicating the severity of the obstacle, with 0 indicating

no obstacle and 4 very severe obstacles. Subjective measures are likely to be influenced by the experience and performance of the firm, which is why objective answers are preferred.

4.4.2.2 Firm performance

The growth or performance literature paid little attention to the quantification of growth and the use of factors such as employment assets, sales, and profit (Cowling et al., 2018). However, in recent times researchers treat growth as a heterogeneous, multidimensional, and complex construct (Seibold, 2021). The selection of firm performance variable for this study is based on the suggestion of Delmar (1997) who advised the use of the yearly percentage change in sales and or employment. Due to data limitations, this study measures firm performance according to the available information in the dataset. Firm performance is captured by using firm growth from the perspective of employment growth taking into consideration only permanent employees of the firms. This approach is similar to that of Aterido et al. (2011). Firm performance is calculated using the log of permanent employees for the current number of employees minus the log of number of permanent employees three years before the survey. The sum between the two figures is then divided by the difference in the survey years (Dinh et al., 2012; Babajide Fowowe, 2017). Aterido et al. (2011) indicate that the usage of only permanent workers will reflect the long-run performance of the firm, which is more significant for entrepreneurs and policymakers.

4.4.2.3 Regulatory quality

Regulatory quality as an explanatory variable is captured as a macroeconomic institutional factor used to describe the quality of national institutions in sub-Saharan Africa. It indicates government interventions during market failures, taxation policies, and banking systems among many others. Countries are scored according to the strength of their institutions. The indices of regulatory quality used for this paper, which corresponds with Kaufmann's calculations, range from -2.5 to 2.5, higher values indicate stronger institutions and lower values represent weaker institutions (Kaufmann et al., 2010). According to Kaufmann et al. (2010), these indicators are produced from over 30 data sources which include non-governmental organisations, survey institutions, private sector firms, and international organisations. The regulatory quality of a country depends on how governments perceive and make policies that are efficiently implemented and monitored to enhance the strengths of national institutions and improve economic growth. Regulatory quality indices for all the 39

sub-Saharan African countries between 2006 to 2018 are taken from the World Governance Indicators and used to assess how national institutions influence access to finance and firm performance.

4.4.2.4 Manufacturing

Manufacturing firms in the WBEs dataset were used in this study, separating them from service, and other sector firms. This is a dummy variable; firms are rated 1 if they are in the manufacturing sector and zero otherwise.

4.4.2.5 Quality management systems certification

In the World Bank Enterprise Survey dataset, the question was asked management if the firm has acquired quality management systems certification. This is a dummy variable where a yes answer represents 1, and zero otherwise. Quality management certification has been used in similar studies as indicated by the literature review (Kaplinsky, 2010; Ullah, 2020b).

4.4.2.6 General manager's work experience

The general manager's work experience in the sector is captured as an explanatory variable. The general manager's experience comes to play when the firm needs to decide on capital investment and the sources of funding.

4.4.2.7 Firm age

Firm age is captured at the median age of the firms and used as a dummy variable. This variable is captured at the median age of all firms in the WBES dataset, 0 refers to young firms and 1 is assigned to matured or old firms. The age of a firm has a link to ease or difficult access to external finance.

4.4.2.8 Firm size

The number of employees a firm had as of the last fiscal year before the survey is used to capture the firm size though others use measures such as total assets, total sales, and market capitalisation (Hashmi et al., 2020). This paper uses firm size as a dummy variable and measures it at the median number of permanent employees a firm has, therefore, large firms

take the value of one and zero otherwise. Firm size is a determinant of access to finance and this measurement follows the measurement used by Njikam (2017).

4.4.2.9 Exporter

Exporter is a dummy variable to capture the level of the firm's exposure to the international market. The percentage of sales accrued to the firm is used as the measure of exposure (export). Firms that gain income from export are classified as 1 and zero otherwise. Empirical evidence suggests that easy access to finance leads to increased export sales and firm performance (Okafor et al., 2020).

4.4.2.10 Domestic

Firms that are fully domestic-owned or have majority domestic ownership in the WBEs dataset are captured in this paper as an explanatory variable. Ownership type has an impact on firm performance, and it is argued that in sub-Saharan Africa because of the weak institutions firms face challenges in accessing external finances. Domestic-owned firms contribute significantly to economic growth and how they access external finance is important and should be looked into. This variable is taken from the WBES dataset.

4.4.3 Descriptive statistics

The table (4.1) below reports the descriptive statistics of the variables indicating the statistical mean of each variable.

Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
Finance access	31795	1.786	1.094	1	4	1	4	1.097	2.714
Firm performan	31776	.158	.347	-3.16	2.979	-.337	1.535	2.427	12.056
Reg quality	31795	-.607	.529	-1.935	.861	-1.935	.861	.093	3.424
qualitycert	31795	.15	.358	0	1	0	1	1.955	4.822
Manufacturing	31795	.431	.495	0	1	0	1	.278	1.077
Experience gm	30996	14.112	9.511	0	50	1	40	.985	3.566
Age	31795	.663	.473	0	1	0	1	-.689	1.475
Firm size	31795	.499	.5	0	1	0	1	.003	1
Exporter	31795	.436	.496	0	1	0	1	.258	1.067
Domestic	31204	.815	.364	0	1	0	1	-1.612	3.79

Table 0.1 Descriptive statistics

Table 4.2 presents summary statistics for access to finance, firm performance, and regulatory quality. The average figure for access to finance for firms in sub-Saharan Africa is 1.786 with 21 countries having an average below the sample average for the sub-region. The average for access to finance by firms is lowest in the Congo Democratic Republic while Tanzania has the highest average. The mean firm performance for the sample is 0.158, while Zimbabwe records the lowest mean, Angola and the Congo Republic have the highest averages above the sample mean. The average for regulatory quality is -0.607 and this is a confirmation that the regulatory quality in sub-Saharan Africa is not strong as stated in the literature. Mauritius reports the highest mean with Zimbabwe reporting the lowest below the sample average.

Summary statistics of access to finance, firm performance, and regulatory quality

Country	Summary Access to finance		Summary Firm performance		Summary Regulatory Quality	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
ANGOLA	1.405	0.883	0.345	0.425	-1.088	0.048
BENIN	1.987	1.207	0.095	0.285	-0.437	0.091
BOTSWANA	1.911	1.108	0.176	0.368	0.495	0.035
BURKINA	1.812	1.094	0.128	0.345	-0.112	0.000
BURUNDI	1.937	1.110	0.160	0.307	-1.020	0.239
CAMEROON	2.023	1.131	0.083	0.237	-0.776	0.014
CENTRAL AFRI	1.580	0.735	0.185	0.285	-1.192	0.000
CHAD	1.475	0.868	0.090	0.281	-1.088	0.026
CONGO DEM	1.322	0.678	0.120	0.273	-1.359	0.150
CONGO REP	1.987	1.337	0.344	0.512	-1.288	0.000
COTE D'IVOIRE	1.521	1.006	0.202	0.405	-0.724	0.298
ETHIOPIA	1.425	0.855	0.176	0.390	-1.018	0.016
GABON	1.352	0.883	0.309	0.486	-0.582	0.000
GAMBIA	1.812	1.042	0.182	0.305	-0.509	0.112
GHANA	1.653	0.919	0.140	0.306	0.031	0.065
GUINEA	1.475	0.841	0.280	0.403	-1.083	0.177
GUINEA BISSAU	1.371	0.661	0.189	0.301	-0.938	0.000
KENYA	2.037	1.160	0.093	0.267	-0.255	0.032
LESOTHO	2.249	1.263	0.147	0.376	-0.507	0.119
LIBERIA	1.581	0.989	0.116	0.201	-1.070	0.126
MADAGASCAR	1.698	1.079	0.141	0.405	-0.592	0.062
MALAWI	2.189	1.316	0.154	0.450	-0.722	0.146
MALI	1.538	0.915	0.144	0.302	-0.447	0.090
MAURITANIA	1.814	0.996	0.178	0.344	-0.576	0.184
MAURITIUS	2.111	1.255	0.135	0.364	0.861	0.000
MOZAMBIQUE	1.444	0.786	0.106	0.285	-0.664	0.099
NAMIBIA	2.266	1.343	0.148	0.321	0.031	0.066
NIGER	1.967	1.200	0.202	0.374	-0.581	0.097
NIGERIA	2.032	1.178	0.222	0.385	-0.846	0.036
RWANDA	1.998	1.143	0.224	0.367	-0.384	0.256
SENEGAL	1.526	0.927	0.161	0.296	-0.281	0.067
SIERRA LEONE	1.417	0.732	0.131	0.243	-0.854	0.065
SOUTH AFRICA	1.745	0.938	0.176	0.294	0.491	0.000
SUDAN	1.470	0.720	0.038	0.186	-1.444	0.000
TANZANIA	2.386	1.333	0.243	0.421	-0.351	0.030
TOGO	1.784	1.129	0.147	0.316	-0.829	0.035
UGANDA	1.725	1.016	0.133	0.333	-0.243	0.001
ZAMBIA	1.671	1.027	0.115	0.271	-0.482	0.009
ZIMBABWE	1.616	1.049	0.015	0.346	-1.827	0.107
Total	1.786	1.094	0.158	0.347	-0.607	0.529

Access to finance, firm performance, and regulatory quality variables (mean and standard deviation) by country

Table 0.2 summary statistics of access to finance, firm performance, and regulatory quality

4.4.4 Two-stage Least Squares (2SLS) regression

The possibility endogeneity problem may arise due to the variables used in this paper. To address the challenge of endogeneity the 2SLS model has been used and the results have been represented in Table A2.

Finance access has been used as the dependent variable, as used in the main regression for the analysis and the independent variables remain the same. The Table above demonstrates that the coefficient of Finance access and Firm performance is positive and significant.

4.4.5 Methodology and modelling

This section examines the research methodology. The goal of this study is to evaluate the determinants of access to finance in sub-Saharan African countries. Based on the earlier discussions, two models are estimated where access to finance is the dependent variable, and firm performance, regulatory quality, and quality management certification are the primary explanatory variables. Other variables including manufacturing, ownership type, and firm characteristics are added. However, for the sake of robustness and validity, obstacles to access to finance are also used as a dependent variable with the same explanatory. Hence the analysis embraces two different segments that first deal with access to finance and second the obstacles to access to finance. The ordered logit model is used because the dependent variables have four ordered categories which fits with this technique and helps to answer the research questions. To contribute to the studies on access to finance in sub-Sahara Africa, this paper followed the methodology used by Quartey et al. (2017).

To be able to estimate the determinants of impact of access to finance in SSA, objective measures from the WBES is used. The primary dependent variable is access to finance, and it is represented as FIN. Access to finance is classified between 1 and 4 depending on the level of internal financial resources used by the firm to fund its working capital; >75%, 50 - 75%, 25 – 50%, <25% respectively.

The econometric model is estimated as:

$$FIN_{it} = \alpha_{it} + \alpha_1 X_{1,it} + \dots + \alpha_n X_{n,it} + \epsilon_{it} \tag{1}$$

Where FIN_{it} is access to finance per index firm for the multiple numbers of years in the dataset respectively, and α_{it} represents the coefficient of the constant in the regression. The X_1 in the equation denotes the explanatory variable which runs through to the nth variable, and ϵ_{it} is the error term.

From equation (1) above the ordered logit regression is deduced and estimated as follows:

$$FIN_{it} = \beta_0 + \beta_1 X_{1,it} + \dots + \beta_n X_{n,it} + \epsilon_1 \tag{2}$$

The coefficient of the constant is estimated as β_0 and β_1 is the coefficient of the independent variable, through to β_n .

FINO is used to denote access to finance obstacles and as stated above this is also used as a dependent variable, with 0 denoting zero obstacles and 4 representing severe obstacles. All other variables are included to help in controlling for the differences between FIN and FINO (Babajide Fowowe, 2017). The econometric estimation for FINO, which denotes access to finance obstacles, is shown in equation (3) below:

$$\text{FINO}_{it} = \beta_0 + \beta_1 X_{1,it} + \dots + \beta_n X_{n,it} + \epsilon_2 \quad (3)$$

4.5 Analysis and Findings

This section deals with the analysis and discussion of the findings. The discussion first deals with firm's access to finance using the objective measurement of access to finance in sub-Saharan Africa. For robustness' sake, these findings are matched with the findings of the other estimation that uses the subjective measurement to evaluate access to finance. This study examines the impact of firm performance, regulatory quality, and quality management certification on access to finance in sub-Saharan Africa. The WBES and WGI dataset, which examined 39 sub-Saharan African countries and 31795 firms between 2006 and 2018, helped to answer the three research questions which are i) does regulatory quality influence access to finance from external sources ii) does quality management certification impact firm access to finance and, iii) what is the relationship between firm performance and access to finance?

The results from equations (1) and (2) are collated per the ordered logit model after controlling for country-specific and industry sector type effects. Table 4.3 reports the estimations of the ordered logit marginal effects. Evidence from the literature reveals that access to finance constraints, level of working capital used to finance operations, the volume of exports, and firms denied credit among others have been used as the dependent variables. This paper follows the methodology of Quartey et al. (2017) exploiting the percentage usage of working capital to represent access to finance as the dependent variable, with pooled ordered logit marginal effects as the econometric model.

The pooled ordered logit results in Table 4.3 specify that a unit increase in firm performance causes a 0.00856 increase in access to external finance. This suggests that efficiency and

expansion are one of the factors that attract the attention of lenders. Arguably, this can be the result of past access to finance causing the improvement and expansion in firm performance. This leads to lenders reposing more confidence in these firms and lending more should the firms make the request. Firms that can increase the number of employees over the years are seen to be performing better and therefore have easy access to external finance. Precisely, an increase in firm performance enhances the possibility that the firm would dedicate fewer than 75% of its internal resources for working capital, which signifies improved access to external financing. A better performance then alleviates the firm from the burden of depending on internal resources only to finance its working capital. Pecking order theory suggests that firms will depend on internal resources as a first option more than debt and equity financing because of the associated high cost. In line with the theory, more efficient firms take advantage of the internal competence to access external finance. This result is consistent with the theoretical position that efficient firms can have better access to external finance (Hosny, 2020; Melitz, 2003). However, Ayyagari et al. (2016) find a negative and significant impact of access to finance on firm performance, using employment growth.

The results of this study indicate that as the regulatory quality of sub-Saharan Africa improves, the problem of access to external sources of finance to fund working capital reduces for firms. There is a positive relationship between access to finance and firm performance if the regulatory quality is strong or improves. The introduction of regulatory quality in this type of research is novel. In relation to regulatory quality, firms are about 4.5% more likely to use less than 25% of their internal resources for working capital. Regulatory quality as referred to in the literature includes government policies such as private sector development plans, and financial sector stability that create enabling environment for businesses to grow. This means that the risks of lending to firms is most likely to be reduced, hence the positive and significant trend for this variable. The more secure or stronger the national institutions are, the cheaper external borrowing becomes, therefore a good regulatory environment leads to relatively easy access to finance. This reduces the risk of lending thus creating the tendency to bring down costs such as interest rates. Arguably, this is in line with the pecking order theory; firms will borrow when the cost of money is relatively cheap. This is also linked with the literature indicating that a good regulatory quality leads to a strong legal and financial system.

Quality management systems certification is another variable that I find as statistically significant and positive in relationship with access to finance. This result is coherent with the findings of Minard (2016), who indicated that the acquisition of quality certification improves

the chances of a firm getting easier access to external finance. Quality certification, as indicated in the literature, can only be acquired when firms are registered and adhere to the regulations of their home country. Firm registration gives a form of assurance to the lenders that locating such firms will not be difficult thus reducing the lending risk. With a strong regulatory quality that is well monitored and evaluated, the acquisition of quality management certification becomes easier, and firms are readily accepted. Quality management certification also indicates that firms are ready and have adopted international standards which should improve their management procedures and better-quality products. Lenders are assured that their funds are going to firms that can perform better and therefore be able to pay back the loans.

Regarding firm age, the findings of this study suggest that there is a statistically positive and significant relationship, from outcomes (1) to (3) of Table 4.3, between age and access to finance. As a firm grows in age it is less likely to use more than 75% of its internal resources as working capital. This study therefore concludes that firm age significantly increases its access to external sources of finance and supports the point that older firms are more likely to have easy access to finance than newer or younger firms. This is consistent with existing studies which indicate that access to finance is significantly driven by firm age and size (Kijkasiwat & Phuensane, 2020; Quartey et al., 2017). These results also add to various studies that evidenced that firm performance is influenced by firm age (Dinh et al., 2012; Babajide Fowowe, 2017; Nizaeva & Coskun, 2019).

As stated in the literature existing research has shown that access to external finance and firm performance is driven by firm age and size. The results of this study as shown in column (1) of Table 4.3 indicate a statistically significant and positive coefficient for firms that use between 50 - 75% of their internal resources to run their operations. The results are significant and positive for those in columns (2) and (3) showing consistency with the results in column (1). It can be stated that smaller firms are more likely to face obstacles in accessing external finance than larger firms. On the other hand, because larger firms can provide the needed security and collateral, as stated in the literature review, they have more prospects in accessing external finance. It has also been stated that quality management certification improves access to finance. As larger firms find it easier to acquire quality management certifications, it makes it easier also for them to benefit from the advantages a quality certified firm has in accessing finance from external sources. This finding is consistent with the findings of Motta and Sharma (2020)

Consistent with the findings of Bańkowska et al. (2019), this study reports a statistically significant and positive relationship between exporting firms and access to finance. The explanation is that exporting firms improve their finances before they enter the international market, and their presence internationally is more likely to enhance their access to external finance. Exporting firms are about 0.63% to use between 25 to 50% of internal resources, and about 1.4% likely to use not more than 25% of internal resources to finance working capital, implying that the more they export the less internal resources firms use to finance their working capital. From the literature, it can be confirmed that engaging in exports is typically capital intensive in sub-Saharan Africa, whether manufacturing or export of extractive minerals hence exporting firms are more likely to seek external funding.

As per the findings, domestic ownership significantly reduces the firm's ability to contract external sources of finance and this is consistent with the findings of Quartey et al. (2017). The coefficient is statistically significant and negative. It is important to state that firms with most of their shares owned by domestic investors struggle to gain access to external finance. In other words, as domestic shares increase in a firm the more difficult it becomes for it to access external finance. From the literature, it can be deduced that domestic firms are not like foreign and government-owned firms because they do not have the security that the lenders require. It is believed that in times of bankruptcy, governments will most likely provide support government-owned firms to pay the loans and debts. Foreign-owned firms which are mostly large provide the needed collateral which domestic owned firms mostly do not have.

Pooled ordered logit regression (marginal effects) access to finance in SSA

	(1) Finance_access	(2) Finance_access	(3) Finance_access
Finance_acces			
Firm_perform	0.00856** (0.00271)	0.00586** (0.00186)	0.0127** (0.00402)
Reg_quality	0.0303*** (0.00171)	0.0208*** (0.00118)	0.0450*** (0.00243)
qualitycert	0.0102*** (0.00227)	0.00731*** (0.00171)	0.0163*** (0.00390)
Manufacturing	0.00738*** (0.00176)	0.00509*** (0.00122)	0.0111*** (0.00266)
Experience_g	0.000140 (0.0000959)	0.0000960 (0.0000657)	0.000208 (0.000142)
Age	0.00793*** (0.00208)	0.00535*** (0.00138)	0.0115*** (0.00294)
Firm_size	0.0212*** (0.00185)	0.0145*** (0.00128)	0.0317*** (0.00275)
Exporter	0.00915*** (0.00174)	0.00632*** (0.00121)	0.0138*** (0.00265)
Domestic	-0.0125*** (0.00242)	-0.00858*** (0.00166)	-0.0186*** (0.00358)
<i>N</i>	30474	30474	30474

Marginal effects; Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Access to finance = 1 (column 1) if firm uses between 50–75% internal resources for WC; = 2 (column 2) if between 25–50%; = 3 (column 3) if below

Table 0.3 pooled ordered logit regression (marginal effects) access to finance in SSA

There is yet an interesting observation about the regression analysis in Table 4.3. The signs and statistical significance of the coefficients are consistent across the columns. Despite the consistency of effects across all three columns, firm size, regulatory quality, and quality management certification are more impactful in terms of securing access to external finance if the firms use less than 25% of internal resources to fund their working capital.

Pooled ordered logit(marginal effects) Robustness Table

Regresors	Regressors	<u>Dependent variable:</u>		
		Full sample	<u>Access to finance</u> Without Nigeria	Only Nigeria
Outcome (1)	Firm_performanc	0.00856** (0.00271)	-0.00269 (0.00313)	0.0000279 (0.0000263)
	Reg_quality	0.0303*** (0.00171)	0.0391*** (0.00193)	-0.159** (0.0577)
	qualitycert	0.0102*** (0.00227)	0.0149*** (0.00251)	-0.00402 (0.00575)
	Manufacturing	0.00738*** (0.00176)	0.00447* (0.00204)	0.00997** (0.00316)
	Experience_gm	0.000140 (0.0000959)	0.000329** (0.000110)	-0.0000423 (0.000227)
	Age	0.00793*** (0.00208)	0.00646** (0.00225)	-0.00469 (0.00350)
	Firm_size	0.0212*** (0.00185)	0.0313*** (0.00216)	0.00686 (0.00601)
	Exporter	0.00915*** (0.00174)	0.00685*** (0.00201)	0.0485*** (0.00923)
	Domestic	-0.0125*** (0.00242)	-0.00202 (0.00272)	-0.0889*** (0.00846)
Outcome (2)	Firm_performanc	0.00586** (0.00186)	-0.00170 (0.00198)	0.0000325 (0.0000306)
	Reg_quality	0.0208*** (0.00118)	0.0247*** (0.00124)	-0.185** (0.0653)
	qualitycert	0.00731*** (0.00171)	0.00999*** (0.00180)	-0.00445 (0.00607)
	Manufacturing	0.00509*** (0.00122)	0.00283* (0.00130)	0.0118** (0.00373)
	Experience_gm	0.0000960 (0.0000657)	0.000208** (0.0000695)	-0.0000491 (0.000264)
	Age	0.00535*** (0.00138)	0.00407** (0.00141)	-0.00552 (0.00416)
	Firm_size	0.0145*** (0.00128)	0.0198*** (0.00139)	0.00909 (0.00926)
	Exporter	0.00632*** (0.00121)	0.00435*** (0.00129)	0.0564*** (0.0104)
	Domestic	-0.00858*** (0.00166)	-0.00128 (0.00172)	-0.103*** (0.00850)

Outcome (3)	Firm_performanc	0.0127** (0.00402)	-0.00360 (0.00419)	0.0000692 (0.0000651)
	Reg_quality	0.0450*** (0.00243)	0.0524*** (0.00243)	-0.395** (0.138)
	qualitycert	0.0163*** (0.00390)	0.0219*** (0.00407)	-0.00931 (0.0125)
	Manufacturing	0.0111*** (0.00266)	0.00602* (0.00276)	0.0253** (0.00800)
	Experience_gm	0.000208 (0.000142)	0.000441** (0.000147)	-0.000105 (0.000563)
	Age	0.0115*** (0.00294)	0.00861** (0.00297)	-0.0118 (0.00893)
	Firm_size	0.0317*** (0.00275)	0.0422*** (0.00287)	0.0203 (0.0217)
	Exporter	0.0138*** (0.00265)	0.00925*** (0.00273)	0.120*** (0.0215)
	Domestic	-0.0186*** (0.00358)	-0.00271 (0.00365)	-0.220*** (0.0149)
<hr/> <i>N</i>		30474	26240	4234

Dependent variable: access to finance = 0 if firm uses at least 75% internal resources for WC; = 1 if between 50–75%; = 2 if between 25–50%; = 3 if below 25%. Marginal effects; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 0.4 Pooled ordered logit (marginal effects) Robustness Table

Since Nigeria alone has 14% of the firms in the SSA sample, it is significant to ascertain if the results in Table 4.3 are driven predominantly by Nigerian firms or if those findings can be generalised across the whole SSA. As such, results for the sample without Nigeria are posted, as well as results for Nigeria alone. Compared with the whole sample column (1) of Table 4.4, it can be stated that controlling for Nigeria in column (2), firm performance remains insignificant and negative, hence, Nigeria does not influence access to finance in SSA and at the same time renders ownership type insignificant. Additionally, regulatory quality is significant and negatively associated with access to finance in Nigeria, as demonstrated by the results of Nigeria only in column (3). The significantly negative result could be due to the global financial crisis. The impact of the global financial crisis which led to the collapse of financial institutions also affected Nigeria (Adamu, 2009; Ngwube & Ogbuagu, 2014; Olatunji & Weihang, 2017). Ademola and Marshal (2018) posited that in Nigeria attention is focused on the industry sector rather than firm performance. In their findings, which confirms the results of this paper, the manufacturing sector has a positive and significant influence on access to finance rather than firm performance.

Arguably, the determinants of access to external finance vary across the different countries and, therefore, they have a different impact on sub-Saharan Africa as a whole. Estimates without Nigeria in column (2) indicate that apart from firm performance and domestic ownership, all the other variables influence access to finance with positive coefficient signs and are significant. The regulatory quality which creates an enabling environment for firms to thrive remains positive and significant in the rest of sub-Saharan Africa without Nigeria. The results in column (2) are a further indication that quality certification significantly and positively influences access to external finance in SSA with or without Nigeria. Column (3) represents the results for Nigeria alone. Firm performance does not influence access to finance. More importantly, regulatory quality is significant but negative. As regulatory quality grows weaker its impact on access to finance becomes negative. As stated elsewhere in this study, regulatory quality is pivotal in attracting quality management certification, its negative impact in Nigeria has rendered quality management certification negative and insignificant towards access to finance. A point of illustration is that, as the acquisition of quality management licences increases, the constraints to access to external sources of finance reduces in sub-Saharan Africa

as demonstrated in the first two columns in Table 4.4. The varied determinants of access to finance have different impacts in individual countries and these differences influence access to finance in SSA, though that is not always the case.

Further robustness checks of results were done to compare access to finance and access to finance obstacles, additionally, some years were separated and analysed, specifically between 2006 – 2012 (early years), and 2013 to 2018 (recent years), to ascertain their impact on firm performance in sub-Saharan Africa. The early years (2006 to 2012) encapsulate the major world financial crisis of the early 2000s. The recent years, 2013 to 2018, were chosen because they are more recent, and can explain recent connections between access to finance and firm performance in SSA.

Access to finance used as the dependent variable in Table 4.5 is the same as described and used in Tables 4.3 and 4.4. The findings of the early years indicate different results from the study sample. Firm performance is positive but not significant. Regulatory quality is significant and negative. In the crises period between 2007 and 2009, sub-Saharan African financial institutions experienced a downward trend.

Pooled ordered logit margins for 2006-2012 & 2013-2018

	2006-2012 (1)	2006-2012 (2)	2006-2012 (3)	2013-2018 (4)	2013-2018 (5)	2013-2018 (6)
	Finance_access	Finance_access	Finance_access	Finance_access	Finance_access	Finance_access
Finance_acces						
Firm_perform	0.00340 (0.00464)	0.00245 (0.00333)	0.00305 (0.00416)	0.0157*** (0.00295)	0.0103*** (0.00194)	0.0380*** (0.00709)
Reg_qual	-0.00389** (0.00139)	-0.00279** (0.00100)	-0.00349** (0.00125)	0.0289*** (0.00246)	0.0189*** (0.00164)	0.0702*** (0.00565)
qualitycert	0.00926* (0.00386)	0.00688* (0.00298)	0.00872* (0.00382)	0.0123*** (0.00239)	0.00874*** (0.00186)	0.0343*** (0.00764)
Manufacturing	0.0170*** (0.00299)	0.0124*** (0.00220)	0.0156*** (0.00277)	0.00247 (0.00198)	0.00162 (0.00130)	0.00601 (0.00483)
Experience_g	0.000311 (0.000178)	0.000223 (0.000128)	0.000279 (0.000160)	-0.000240* (0.000110)	-0.000157* (0.0000719)	-0.000582* (0.000266)
Age	0.0182*** (0.00338)	0.0132*** (0.00247)	0.0165*** (0.00310)	0.00865*** (0.00218)	0.00566*** (0.00143)	0.0210*** (0.00525)
Firm_size	0.0316*** (0.00315)	0.0229*** (0.00231)	0.0288*** (0.00289)	0.0129*** (0.00208)	0.00846*** (0.00137)	0.0314*** (0.00500)
Exporter	-0.00402 (0.00648)	-0.00289 (0.00465)	-0.00361 (0.00581)	0.0143*** (0.00200)	0.00938*** (0.00133)	0.0350*** (0.00485)
Domestic	-0.00781 (0.00431)	-0.00561 (0.00310)	-0.00701 (0.00387)	-0.0133*** (0.00263)	-0.00870*** (0.00173)	-0.0323*** (0.00633)
<i>N</i>	15884	15884	15884	14542	14542	14542

Marginal effects; Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ Access to finance = 1 (columns 1 & 4) if firm uses between 50 – 75% internal resources for WC; = 2 (column 2 & 5) if between 25 – 50%; = 3 (column 3 & 6) if below 25%

Table 0.5 Pooled ordered logit margins for 2006-2012 & 2013-2018

According to Brambila-Macias and Massa (2010) and Africa (n.d), economic growth in sub-Saharan Africa dropped from 6.9 percent in 2007 to 5.5 percent in 2008 due to the global economic crises which started in August 2007. Koh and Yu (2021) posited that the International Monetary Fund twice reviewed its forecast growth of SSA in 2009 to 3.5 percent and 1.7 percent in January and April respectively. This was due to the slow inflow of private capital and portfolio equity in SSA. Further, cross-banking lending started tightening in the sub-region, declining by 11 percent in 2008. All these factors contribute to the results for 2006-2012 in Table 4.5. Regulatory quality is consistently significant but negative, it is more likely that the global financial crises led to the negative sign.

Regulatory quality only turns significant and positive after the global financial crisis (2013-2018). One of the reasons could be attributed to the reforms that were carried about in some SSA countries. For example, Nigeria instituted the second financial sector reforms between 2008 and 2013, the results were positive. According to Onyekwelu and Iroegbu (2020) the Central Bank of Nigeria reforms has significantly enhanced the financial system in Nigeria. Quality management certification though positive is significant at 5 percent in the early years. Further, the results indicate that the marginal effects of quality management certification and regulatory quality on access to finance is stronger between 2013 and 2018 than the period between 2006 and 2012 when the global financial crisis might have had a major impact. The post-recovery period, from 2013, as indicated in Table 4.5, significantly impacted firm performance, regulatory quality, and quality certification in sub-Saharan Africa. The test is consistent with the marginal effects on exporter variable as foreign direct investments and international trade improved post global financial crisis. This can be due to the recovery and reforms that has taken place both in SSA and globally. Additional interpretation stands the same as the discussion given for the results in Table 4.3.

Further robustness check of results was computed to compare access to finance and access to finance obstacles to ascertain their impact on firm performance, regulatory quality, and quality management certification in sub-Sahara Africa. This is presented in Table 4.6 with columns (1) and (2) representing access to finance and access to finance obstacles respectively. The signs and statistical significance of variables in column (1) confirm the results already reported by this study. Firm performance, regulatory quality, quality management certification, and access to finance have a positive and statistically significant relationship. This study finds that firm performance is not significant as per the results in column (2). The negative sign and

statistically significant coefficient for regulatory quality, and quality certification are a confirmation of previous discussions as already indicated in this study. The negative signs and significance of the coefficient imply that as regulatory quality grows weaker access to finance obstacles gets severe. As the obstacles become more severe, they further render regulatory quality weak and therefore not impactful. Regarding quality management certification, the more severe the financing obstacles the less influential it becomes. The existing literature confirms that financial constraint is among the important considerations that hamper firm development, growth, and performance. Similarly, others have documented the impact of access to external finance on firms in developing countries with diverse results (Ayyagari et al., 2017; Babajide Fowowe, 2017; Girma & Vencappa, 2015; Rajan & Zingales, 1998).

Pooled ordered logit (access to finance and obstacles to access to finance)

	(1) Finance_access	(2) Finance_obstacle
Firm_performance	0.112** (3.16)	0.0234 (0.72)
Reg_quality	0.397*** (18.71)	-0.338*** (-17.03)
qualitycert	0.139*** (4.32)	-0.322*** (-10.51)
Manufacturing	0.0973*** (4.19)	0.230*** (10.44)
Experience_gm	0.00184 (1.46)	0.00155 (1.31)
Age	0.103*** (3.87)	0.118*** (4.87)
Firm_size	0.279*** (11.59)	-0.367*** (-16.18)
Exporter	0.121*** (5.24)	-0.185*** (-8.56)
Domestic	-0.164*** (-5.20)	0.444*** (15.13)
<i>N</i>	30474	28067

t statistics in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Dependent variables: Access to finance = 0 if firm uses at least 75% of internal resources for WC; 1 if firm uses between 50–75%; = 2 if between 25–50%; = 3 if below 25; Finance obstacles = 0 if firm has No Obstacle through to 4 representing Severe Obstacle.

Table 0.6 Pooled ordered logit (access to finance and obstacles to access to finance)

It is noteworthy to indicate that the results reported in Table 4.6 above is when the dependent variables = 0. The results from the other quartiles are not reported but they display the same signs and levels of significance.

4.6 Conclusion and implication

The main aim of this essay is to evaluate the determinants of access to finance within sub-Saharan Africa. Specifically, these research questions are pursued: i) does regulatory quality influence access to finance from external sources ii) does quality management certification impact firm access to finance and, iii) what is the relationship between firm performance and access to finance? To answer these questions, the ordered logit marginal effects technique was conducted using the WBES and WGI datasets. As postulated by the pecking order theory firms prefer internal financing more than debt and equity financing due to the relatively high cost of external borrowing. Firms in SSA are confronted with limited financing options, due partly to the weaker regulatory quality, making it difficult for them to depart from the use of retained earnings and other sources of internal funding. Secondly, because of the weak business environment, firms encounter various problems in trying to access external funding and some of these problems are linked with the lack of security, information asymmetry, creditworthiness, high transaction costs, low export drive, high-risk premium, and collateral. This paper concludes that access to finance is driven by a combination of factors such as regulatory quality, quality management certification, firm performance, and other firm characteristics. On the other hand, financing obstacles are high among sub-Saharan African firms and render firm performance insignificant. The findings of this study have provided five important indications to the literature on access to finance in sub-Saharan Africa. First, the findings indicate that adequate finance encourages firm performance. This is evidenced by estimations that indicate a positive sign and statistically significant effect of access to finance and firm performance. Secondly, the findings indicate that stronger country-level regulatory quality eases access to external finance as the estimations show a positive sign and statistically significant effect of access to finance and regulatory quality. Thirdly, quality management certification, which is linked with firm formalisation, influences access to finance in SSA. Fourthly, no single country in SSA predominantly drives access to finance in SSA, irrespective of the number of firms the country might have. Lastly, during the global financial crises period

firm performance was rendered insignificant, while regulatory quality became negative but significant.

Evidently, the inclusion of regulatory quality in this study is unique to studies like this. The improvement in national institutions is important, it is key to cheap borrowing, which helps ease the financial challenges faced by firms. The persistent government failure and borrowings create pressure on financial institutions making it difficult for them to lend to firms. Studies by Zaheer et al. (2017) posited that a one percentage point in borrowing by the Pakistani government led to a decrease of eight percentage points in credit allocation to the private sector. Therefore, government involvement and intervention should be well measured to create a sense of improvement in the domestic institutions in developing countries, especially in SSA. The determinants of access to finance are many and varied. as represented in Table 4.3 it is only domestically controlled firms which shows a negative relationship with access to finance. The main finding is that the firms in SSA have easy access to finance when they perform better and when the regulatory quality is strong.

This study is not conclusive, and researchers are encouraged to study the determinants of access to finance. A key limitation is that this study cannot be generalised for the individual countries in the sample because each country and firm have their distinctive determinants and characteristics. I draw the attention of researchers to areas that need more explanation, such as regulatory quality and quality management systems certification with access to finance.

4.6.1 Implications

The findings imply that firms that perform better are more creditworthy and can overcome the obstacles to access to finance which enhances their chances to obtain more external funding. This presents an important responsibility for governments, lenders, and firms in sub-Saharan Africa. Solid and positive efforts that can help alleviate the hindrances to access to finance need to be put in place so that firms can easily access financing when they are in need. Governments need to initiate policies, such as financial sector reforms and monitoring, and low government borrowing, that will strengthen the domestic institutions and render it less risky for financial institutions to lend to firms. However, firms are also encouraged to make business decisions that will make them attractive to financial institutions.

Since quality management certification significantly influences a firm's access to external finance, this study agrees that governments should encourage firms to acquire this certification,

however, it is suggested that governments should also create a favourable environment that will increase the liquidity of lending institutions so that lenders can provide the needed credits to needy firms. Further, given that exporting activities and firm size positively and significantly influence access to finance, to be able to enhance their opportunities in accessing finances, this paper proposes that firms register with groups like Ghana Enterprise Agency, African Continental Free Trade Area, sector industry associations and many more. These bodies should provide managerial and financial training, among others to the managers so that it will become easier for them to manage and apply for loans. Finally, given that domestic ownership is negative and statistically significant it means that any policy that will support them to be credit worthy and able to provide the needed security and collateral can create creditor confidence.

Chapter 5 Conclusion

5.1 Conclusion

This research has examined how national institutions influence firm performance in sub-Saharan African economies. The discussions were centred around the influence of policymakers in strengthening the domestic institutions in sub-Saharan Africa, and its impact on firms in the sub region. To be able to do these three distinct but interconnected essays have been written, these followed the three main objectives of this study. They are: 1) export orientation and determinants of internationalisation of sub-Saharan African firms; 2) structural reforms and firm performance in 39 sub-Saharan African countries from 2006 to 2018; 3) examine the determinants of access to finance.

To achieve the objectives the quantitative method has been used relying on secondary datasets such as The World Bank Enterprise Survey (WBES), International Monetary Fund Monitoring of Funds Arrangements (MONA), World Development Indicators (WDI), and the World Governance Indicators (WGI). Each essay used specific methodology that fits the type of question or questions answered. In essay 1 though tobit technique was used for the analysis, for robustness checks other techniques such as logit, probit, fractional logit, and fractional probit have also been applied. The multilevel mixed method was used for the modelling and analysis in essay 2. Finally, the marginal effects ordered logit technique was utilised in essay 3.

In the first essay in chapter 2, to be able to evaluate the role national institutions play to release resources for a better firm performance, institutional-based theory and the resource base view are used. Existing literature argue that if the internal resources of a firm are managed well and linked with external (national and international) resources then firms will have a competitive advantage, basically this is part of the assumptions of RBV ((Li, 2019). As we deem that the specific domestic institutions are important, the institutional-based theory is also used in the first essay. According to the theory, the institutional environment influences the behaviour and structure of organisations (DiMaggio & Powell, 1983; Scott, 2008) hence making it relevant for this study. To the best knowledge of this researcher, this is the first paper, in a study like this, to have used registered variable. One of the findings is that export orientation SSA firms are more likely to be registered with the national institutions such as registrar general, this confirms hypothesis 2. This is more likely to encourage the exporting firm to acquire QMS, which can make the firm competitive globally. The findings of this study include the fact that

export diversification has become the recent theory for internationalisation. This confirms hypothesis 1, and the position of existing literature and theory that export diversification enhances firm performance (Fosu & Abass, 2019). Another variable, quality management certification has been introduced for the first time in such research. It is found to be significantly and positively related to export orientation. Since home markets are not expanding, the acquisition of quality management certification (international accreditation) enhances firms' capability to become competitive in the international market. The main finding is that depending on the characteristics of the firm, export orientation influences firm internationalisation in SSA.

The main conclusion drawn on essay 1 is that the determinants of internationalisation are the SSA firm characteristics which when combined with country resources will enhance their internationalisation. Theoretically, findings from this study indicate that the availability of resources and stronger national institutions support the internationalisation of SSA firms.

The first essay makes several significant implications for policymakers, academics, and investors. Existing research has not combined statistical techniques as done in this paper. This is the first paper that has used research setting of 5 statistical techniques (fractional probit, fractional logit, probit, logit, and tobit) together. Additionally, variables such as registered and quality management certification are variables that have been added for the first time to export orientation and internationalisation studies. The need for firms to provide training for their employees is important. Additionally, it was found that if sub-Saharan African firms can become competitive then the acquisition of quality management certificates are necessary. For policymakers, this study has revealed that regulations and policies that can promote and strengthen export orientation should be their preoccupation.

The second essay in chapter 3 uses institutional economic theory to help evaluate the impact of structural reforms on firm performance. The firm's operational behaviour is impacted by the institutional policies where it operates, and this includes the institutional environment. According to North (1987) structural reforms positively influence firm performance because it is a catalyst for the reduction in restrictions and hindrances on firm operations, and reduction of operations cost. Among the findings is that structural reforms positively and significantly influence firm performance in SSA. Corruption has been introduced to this study for the first time as a contribution towards literature. Using multilevel mixed effects method, the coefficient

of corruption, structural reforms, and firm performance is found to be statistically positive and significant. Corruption is therefore seen as greasing wheel in SSA. A robustness test has been computed to answer the question “who benefits from structural reform reforms”. The result is that foreign-controlled firms are the ones that benefit the most from structural reforms, and this is in line with the findings of Kouamé and Tapsoba (2019). Splitting the aggregate index to their four original sectors, another regression is performed, and the result indicate that the impact of structural reforms on SSA firms may vary depending on the type of the reform.

This second essay contributes towards academia by stating that foreign-control firms benefit more from structural reforms than government-controlled firms, this is contrary to earlier findings (Appiah-Kubi, 2001). Secondly, policymakers need to understand the positive impact successful structural reforms have on SSA firms by promoting trade reforms above the other three elements.

Essay 3 is presented in chapter four of this study. This essay investigates the determinants of access to finance in sub-Saharan Africa. The pecking order theory was used to mainly examine access to finance and firm performance in sub-Saharan Africa. As postulated by the pecking order theory firms prefer internal financing more than debt and equity financing due to the relatively high cost of external borrowing, this is the position of SSA firms. Firms in SSA are confronted with limited financing options, due partly to the weaker regulatory quality, quality management certificates, among others, making it difficult for them to depart from the use of retained earnings and other sources of internal funding. The estimations for this essay were done by applying the ordered logit model. The main finding is that the firms in SSA have easy access to finance when they perform better and when the regulatory quality is strong. It has also been found out that regulatory quality influences firm access to external finance in SSA, a stronger regulatory quality means eases of access to finance. Regulatory quality, according to Kaufmann et al. (2010) depends on how efficient government policies help to strengthen their institutions which leads to create enabling environments for both business and economic growth. Another important finding is the significant and positive impact of quality management certification on access to finance. According to the literature, firms can acquire quality management certification if they have met the domestic country regulations which includes registration of the firm. Regulatory quality and quality management certification are variables that have been newly introduced in access to finance studies. The findings and argument in this

section point to the fact that national institutions influence access to external finance in sub-Saharan Africa.

To determine if Nigerian firms, the country with the largest number of firms in the selected sample, has a predominant influence on the results in Table 4.3, a robustness test is done as indicated in Table 4.4. The results indicate Nigeria alone does not predominantly drive access to finance in SSA. However, it needs to be stated that the determinants of access to finance vary across the different countries and therefore the various countries have different impact on access to finance in SSA. A second robustness check of results is computed to ascertain the impact of global financial crisis on access to finance in SSA. The estimation (Table 4.5) proved that between 2006 and 2012, firm performance though positive is not statistically significant as against a positive and significant firm performance in SSA in 2013- 2018. Regulatory quality (2006-2012) is negative but significant then the sign of the coefficient changes to positive between 2013 and 2018. Quality certificate is statistically positive and significant in the early years but not as strong as in the years between 2013 and 2018. These results can be explained by the impact of the global financial crisis, for example, SSA economic growth dropped from 6.9 percent to 5.5 percent in 2007 and 2008 respectively (Brambila-Macias & Massa, 2010). A third robustness check of results was done to compare access to finance and access to finance obstacles to ascertain their impact on firm performance, regulatory quality, and quality management certification in sub-Saharan Africa. Column (1) in Table 4.6 confirms the result in Table 4.3 however, the result in column (2) does not show firm performance to be significant.

The results from this third essay imply that better performing SSA firms tend to be seen as creditworthy and can overcome obstacles to access to finance thus enhancing their chances of accessing more external finances. Governments, policymakers, lenders, academics, and entrepreneurs will benefit from this study. Since policymakers control the regulatory quality of a country, the findings of this essay should influence how to monitor and evaluate the national institutions to the advantage of firms but more especially domestic firms, to make it easier for them to access external finance. Firms that have acquired quality certificates should be seen as credible to lenders and therefore make it easier for them to access external finance. Academics and governmental agencies need to understand that domestic firms are not thriving partly due to the weak regulatory quality and the lack of or a smaller number of firms that have acquired international certification in SSA.

The main finding of this thesis is that firm performance depends on regulatory quality in sub-Saharan Africa. Based on the findings, a number of policy implications have been suggested. The overall recommendation by this research is that policymakers in sub-Saharan Africa pay much attention to the regulatory quality of the sub-region to enhance the performance of firms. From figure 1.1 it is indicative that the regulatory quality of SSA is very weak as compared with that of the European Union. Governments need to pay attention to issues such as ease of starting and closing businesses, prompt intervention in case of market failures, tax systems, and formulate policies that will strengthen and improve the regulatory quality. A key factor that needs to be looked at is the trade sector reforms. Further policy implication that should be implemented is the enhancement and sustenance of trade diversification, trade liberalisation, corruption control, human capital development and investing in both physical and technological infrastructure. This suggested policy implication is in agreement with Okafor et al. (2015). Opening the SSA economies to international trade is good but should be approached with policies and guidelines that can also protect the domestic budding firms.

This can be done by strengthening industry sector associations, and procedures that will require foreign firms to only invest if their capital level is huge, of a certain criterion. The tax regime in SSA should be reviewed to rather favour the domestic firms, tax holidays should be given to domestic firms as well. Thirdly, the financial sector in SSA needs reforms. Security is a problem for lenders in this region since factors such as digital address systems and credit score data are non-existence or at the development stage. It is recommended that digital address systems are instituted and infrastructure for credit score data is accelerated. The results of this study confirm an inflation threshold of between 7 and 11 percent, the suggestion therefore is that SSA governments should target this inflation threshold to foster economic growth and firm performance. It is proposed that sub-Saharan African governments should introduce macroeconomic policies that will achieve mild inflation targets to enhance economic growth.

Governments, entrepreneurs, and managers of firms in SSA should focus their attention on the acquisition of quality management systems certification. From the results it is concluded that QMS enhances firm performance. Entrepreneurs should understand that their firms will be competitive in the international markets if they are QMS certified. Another point is that it facilitates access to external financing, therefore much attention should be given to the acquisition of QMS. SSA governments should not only encourage firms in its acquisition but also promulgate policies that will make the acquisition of QMS easier for SSA firms. Managers

and entrepreneurs should not always depend on policymakers when acquiring QMS, they need to do a cost benefit analysis before the application. The application process and procedures can be costly and cumbersome therefore, applicants need to be sure of what they are getting before committal.

This research has its limitations. The first issue is the availability of data on sub-Saharan Africa, for example firms' annual profits have not been included in the WBES data. Another limitation is since the study has been performed using data on sub-Saharan Africa (cross-country) it limits the generalisation of the results on individual countries in the sample. This can be confirmed by an example in essay 3, Table 4.4, where a robustness test separated Nigeria from the main sample. The result for Nigeria is visibly different from the rest of the sample.

The scope of the research is limited to export orientation and internationalisation at the cross-country level in chapter 2. Therefore, the research does not analyse in detail export orientation and internationalisation at particular firm or country level. Another challenge, relates to chapter 3, is the difficulty to quantify the effects of a typical structural reform in an economy, this limits the generalisation of results on structural reforms. This study does not analyse the impact of structural reforms and firm performance at a specific country and individual firm level. The results of the financial sector reforms are still open for further studies by academicians and policymakers. Further, different studies select sector reforms of their choice and therefore the generalisation of structural reforms is a challenge.

Areas for further studies include looking at the impact of corruption on firm performance in SSA. Corruption significantly and positively influences firm performance as per this research and I encourage researchers to further study these results. Additionally, I draw the attention of researchers to areas that need more explanation, such as regulatory quality and quality management systems certification with access to finance.

Appendix

Mixed-effects ML regression

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Firm_performance							
Agg_index	.007	.003	2.67	.008	.002	.013	***
Inflation	.014	.001	11.78	0	.012	.016	***
Corruption	.091	.011	8.12	0	.069	.113	***
Finance_access	.085	.005	15.82	0	.075	.096	***
Exporter	-.006	.005	-1.14	.255	-.016	.004	
Fsize	.062	.005	11.55	0	.052	.073	***
Age	.012	.005	2.37	.018	.002	.023	**
Foreign	.032	.008	3.83	0	.016	.048	***
Government	.109	.047	2.31	.021	.017	.202	**
Inflation2	0	0	-8.06	0	-.001	0	***

*** $p < .01$, ** $p < .05$, * $p < .1$

Table A1

Instrumental variables (2SLS) regression

	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Finance_access							
Firm_performance	.07	.019	3.68	0	.033	.107	***
Reg_quality	.213	.011	18.62	0	.191	.236	***
qualitycert	.086	.018	4.89	0	.052	.121	***
Manufacturing	.032	.013	2.53	.011	.007	.056	**
Experience_gm	.002	.001	2.55	.011	0	.003	**
Age	.026	.014	1.82	.069	-.002	.053	*
Firm_size	.146	.013	11.28	0	.121	.171	***
Exporter	.084	.012	6.78	0	.06	.109	***
Domestic	-.103	.017	-6.00	0	-.137	-.069	***

*** $p < .01$, ** $p < .05$, * $p < .1$

Table A2

References

- Abdisa, L., & Hawitibo, A. L. (2021). Firm Performance Under Financial Constraints: Evidence from Sub-Saharan African Firms.
- Abdisa, L. T. (2020). Role of investment in self-generation in mitigating outage loss: Evidence from Sub-Saharan African firms. *Energy, Ecology and Environment*, 5(6), 407-420.
- Abdulhakeem, A. K., Hamed, A. A., & Sodiq Abiodun, O. (2020). *The Nexus between Economic Institution and Unemployment: Evidence from Sub-Sahara Africa (SSA)*.
- Abiad, A., Detragiache, E., & Tressel, T. (2010). A new database of financial reforms. *IMF Staff papers*, 57(2), 281-302.
- Abiad, A., & Mody, A. (2005). Financial reform: What shakes it? What shapes it? *American Economic Review*, 95(1), 66-88.
- Abor, J., Adjasi, C. K., & Hayford, M. C. (2008). How does foreign direct investment affect the export decisions of firms in Ghana? *African Development Review*, 20(3), 446-465.
- Acemoglu, D. (2002). Directed technical change. *The Review of Economic Studies*, 69(4), 781-809.
- Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. *Handbook of economic growth*, 1, 385-472.
- Adamu, A. (2009). The effects of global financial crisis on Nigerian economy. *International Journal of Investment and Finance*, 1, 11-21.
- Adarkwah, M. F., Rtd, C. E. A., & Santuoh, F. J. (2019). The Role of Financial Institutions in Export Financing in Ghana.
- Adarkwah, M. F., & Santuoh, F. J. (2018). Finance Challenges of Manufacturing Companies in Ghana and Their Contributions to the Economic Growth of Ghana.
- Adegboye, A. C. (2020). Macroeconomic policies and sustainable employment yields in sub-Saharan Africa. *African Development Review*, 32(4), 515-527.
- Adeleye, I., Ibeh, K., Kinoti, A., & White, L. (2015). *The changing dynamics of international business in Africa*. Springer.
- Ademola, A. F., & Marshal, O. T. (2018). Financial deepening and the performance of manufacturing firms in Nigeria. *Canadian Social Science*, 14(6), 87-96.
- Adlung, R., & Soprana, M. (2017). Enterprises? *Small and Medium-Sized Enterprises in International Economic Law*, 357.
- Afesorgbor, S., & van Bergeijk, P. A. (2011). Multi-membership and the effectiveness of regional trade agreements in western and southern Africa: A comparative study of ECOWAS and SADC. *Institute of Social Sciences Working Paper*(520).
- Africa, A. S.-S. I. The Impact of the Global Financial Crisis on Sub-Saharan Africa.
- Agbloyor, E. K., Yawson, A., & Opperman, P. (2020). Private capital flows and economic growth. In *Contemporary Issues in Development Finance* (pp. 73-103). Routledge.
- Aghion, P., Howitt, P., & Mayer-Foulkes, D. (2005). The effect of financial development on convergence: Theory and evidence. *The quarterly journal of Economics*, 120(1), 173-222.
- Agnello, L., Castro, V., Jalles, J. T., & Sousa, R. M. (2015). What determines the likelihood of structural reforms? *European Journal of Political Economy*, 37, 129-145.
- Agosin, M. R., Alvarez, R., & Bravo-Ortega, C. (2012). Determinants of export diversification around the world: 1962–2000. *The World Economy*, 35(3), 295-315.
- Agostino, M., Di Tommaso, M. R., Nifo, A., Rubini, L., & Trivieri, F. (2020). Institutional quality and firms' productivity in European regions. *Regional Studies*, 54(9), 1275-1288.

- Ahmad, M. J., Sheikh, M. R., & Tariq, K. (2012). Domestic debt and inflationary effects: An evidence from Pakistan. *International Journal of Humanities and Social Science*, 2(18), 256-263.
- Ahmad, W., Abbas, Z., & Shah, Z. A. (2020). Access to finance, financial development and firm performance—evidence from Pakistan. *NICE Research Journal*, 49-68.
- Aidis, R., & Adachi, Y. (2007). Russia: Firm entry and survival barriers. *Economic Systems*, 31(4), 391-411.
- Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*, 23(6), 656-672.
- Aigheyisi, O. (2018). Factors Affecting Export Diversification in Ecowas Sub-Region. *West African Financial and Economic Review (WAFER)*, 18.
- Al-Sadig, A. (2009). The effects of corruption on FDI inflows. *Cato J.*, 29, 267.
- Alam, A., Uddin, M., & Yazdifar, H. (2019). Institutional determinants of R&D investment: Evidence from emerging markets. *Technological Forecasting and Social Change*, 138, 34-44.
- Alhassan, A., & Kilishi, A. A. (2019). Weak economic institutions in Africa: a destiny or design? *International Journal of Social Economics*, 46(7), 904-919.
- Alvarado, R., Iñiguez, M., & Ponce, P. (2017). Foreign direct investment and economic growth in Latin America. *Economic Analysis and Policy*, 56, 176-187.
- Alvesson, M., & Spicer, A. (2019). Neo-institutional theory and organization studies: a mid-life crisis? *Organization Studies*, 40(2), 199-218.
- Amakom, U. (2012). Manufactured exports in Sub-Saharan African economies: Econometric tests for the learning by exporting hypothesis. *American International Journal of Contemporary Research*, 2(4), 195-206.
- Andrews, D., McGowan, M. A., & Millot, V. (2017). Confronting the zombies: Policies for productivity revival.
- Andrieş, A. M., Marcu, N., Oprea, F., & Tofan, M. (2018). Financial infrastructure and access to finance for European SMEs. *Sustainability*, 10(10), 3400.
- Anton, S. G., & Bostan, I. (2017). The role of access to finance in explaining cross-national variation in entrepreneurial activity: A panel data approach. *Sustainability*, 9(11), 1947.
- Antonaki, I. (2019). *Privatisations and golden shares: bridging the gap between the State and the market in the area of free movement of capital in the EU* [Leiden University].
- Appiah-Kubi, K. (2001). State-owned enterprises and privatisation in Ghana. *Journal of Modern African Studies*, 197-229.
- Arif, I., Khan, L., & Waqar, S. (2020). Does Corruption Sand or Grease the Wheels? A Case of BRICS Countries. *Global Business Review*, 0972150920927370.
- Arnold, J. M., Javorcik, B., Lipscomb, M., & Mattoo, A. (2016). Services reform and manufacturing performance: Evidence from India. *The Economic Journal*, 126(590), 1-39.
- Aterido, R., Hallward-Driemeier, M., & Pagés, C. (2011). Big constraints to small firms' growth? Business environment and employment growth across firms. *Economic Development and Cultural Change*, 59(3), 609-647.
- Autio, E., & Acs, Z. (2010). Intellectual property protection and the formation of entrepreneurial growth aspirations. *Strategic Entrepreneurship Journal*, 4(3), 234-251.
- Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of management journal*, 43(5), 909-924.
- Awaworyi Churchill, S. (2019). Firm financial performance in Sub-Saharan Africa: the role of ethnic diversity. *Empirical Economics*, 57(3), 957-970.

- Awaworyi Churchill, S., & Valenzuela, M. R. (2019). Determinants of firm performance: does ethnic diversity matter? *Empirical Economics*, 57(6), 2079-2105.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2012). Financing of firms in developing countries: lessons from research. *World Bank Policy Research Working Paper*(6036).
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2017). SME finance. Available at SSRN 3070705.
- Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2018). Financing SMEs and economic development. In *Handbook of Finance and Development*. Edward Elgar Publishing.
- Ayyagari, M., Juarros, P., Martinez Peria, M. S., & Singh, S. (2016). Access to finance and job growth: firm-level evidence across developing countries. *World Bank Policy Research Working Paper*(7604).
- Azadegan, A., Mellat Parast, M., Lucianetti, L., Nishant, R., & Blackhurst, J. (2020). Supply chain disruptions and business continuity: An empirical assessment. *Decision Sciences*, 51(1), 38-73.
- Babajide, A., Lawal, A., Asaleye, A., Okafor, T., & Osuma, G. (2020). Financial stability and entrepreneurship development in sub-Saharan Africa: implications for sustainable development goals. *Cogent Social Sciences*, 6(1), 1798330.
- Babatunde, M. A. (2009). Can trade liberalization stimulate export performance in Sub-Saharan Africa. *Journal of International and Global Economic Studies*, 2(1), 68-92.
- Badu, E. A., & Appiah, K. (2017). The impact of corporate board size on firm performance: evidence from Ghana and Nigeria. *Research in Business and Management*, 4(2), 1-12.
- Baffour-Awuah, R., & Adjei-Kumi, T. (2021). *An evaluation of total quality management practices among manufacturing companies in Kumasi*
- Bah, E.-h., & Fang, L. (2015). Impact of the business environment on output and productivity in Africa. *Journal of Development Economics*, 114, 159-171.
- Banalieva, E. R., Cuervo-Cazurra, A., & Sarathy, R. (2018). Dynamics of pro-market institutions and firm performance. *Journal of International Business Studies*, 49(7), 858-880.
- Banerji, A., Lin, M. H. H., & Saksonovs, M. S. (2015). *Youth unemployment in advanced Europe: Okun's law and beyond*. International Monetary Fund.
- Bańkowska, K., Ferrando, A., & García, J. A. (2019). Export activities of euro area SMEs: insights from the Survey on the Access to Finance of Enterprises (SAFE). *Economic Bulletin Boxes*, 8.
- Barasa, L., Vermeulen, P., Knobens, J., Kinyanjui, B., & Kimuyu, P. (2019). Innovation inputs and efficiency: manufacturing firms in Sub-Saharan Africa. *European Journal of Innovation Management*.
- Barlow, D. (2010). How did structural reform influence inflation in transition economies? *Economic Systems*, 34(2), 198-210.
- Barłózewski, K., & Trąpczyński, P. (2021). Is internationalisation beneficial for novice internationalisers? The performance effects of firm-specific advantages, internationalisation degree and firm size revisited. *Oeconomia Copernicana*, 12(1), 53-75.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.
- Barro, R. J. (2013). Inflation and economic growth. *Annals of Economics & Finance*, 14(1).
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2006). The influence of financial and legal institutions on firm size. *Journal of banking & finance*, 30(11), 2995-3015.
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different? *Journal of financial economics*, 89(3), 467-487.

- Beck, T., Levine, R., & Loayza, N. (2000). Finance and the Sources of Growth. *Journal of financial economics*, 58(1-2), 261-300.
- Bediako, G. (2022). *Online Business Registration in Ghana*. The Ghanaian Standard. Retrieved 06/06/2022 from <https://www.ghstandard.com/online-business-registration-in-ghana/>
- Benites, L. L. L., & Polo, E. F. (2013). A sustentabilidade como ferramenta estratégica empresarial: governança corporativa e aplicação do Triple Bottom Line na Masisa. *Revista de Administração da Universidade Federal de Santa Maria*, 6, 827-841.
- Bergeijk, P., & Brakman, S. (2010). *The gravity model in international trade*.
- Bernard, A. B., Jensen, J. B., & Lawrence, R. Z. (1995). Exporters, jobs, and wages in US manufacturing: 1976-1987. *Brookings papers on economic activity. Microeconomics*, 1995, 67-119.
- Bernard, A. B., & Wagner, J. (1997). Exports and success in German manufacturing. *Weltwirtschaftliches Archiv*, 133(1), 134-157.
- Berrone, P., Duran, P., Gómez-Mejía, L., Heugens, P. P., Kostova, T., & van Essen, M. (2020). Impact of informal institutions on the prevalence, strategy, and performance of family firms: A meta-analysis. *Journal of International Business Studies*, 1-25.
- Bigsten, A., Collier, P., Dercon, S., Fafchamps, M., Gauthier, B., Gunning, J. W., Oduro, A., Oostendorp, R., Patillo, C., & Söderbom, M. (2003). Credit constraints in manufacturing enterprises in Africa. *Journal of African Economies*, 12(1), 104-125.
- Biswas, M. (2019). *Policy recommendations for scaling retail textiles and traders in Sierra Leone* [Doctoral Dissertation, Harvard University].
- Bleaney, M. F. (1996). Macroeconomic stability, investment and growth in developing countries. *Journal of Development Economics*, 48(2), 461-477.
- Bogetić, Ž., & Smets, L. (2017). Association of World Bank policy lending with social development policies and institutions. In: The World Bank.
- Bokpin, G. A., Ackah, C., & Kunawotor, M. E. (2018). Financial access and firm productivity in Sub-Saharan Africa. *Journal of African Business*, 19(2), 210-226.
- Bordon, A. R., Ebeke, C., & Shirono, K. (2018). When do structural reforms work? On the role of the business cycle and macroeconomic policies. In *Structural Reforms* (pp. 147-171). Springer.
- Bosma, N., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, 51(2), 483-499.
- Boso, N., Adeleye, I., & White, L. (2016). Africa-to-Africa internationalization: Emerging trends and key issues. *Africa-to-Africa internationalization*, 3-34.
- Boso, N., Adeola, O., Danso, A., & Assadinia, S. (2019). The effect of export marketing capabilities on export performance: Moderating role of dysfunctional competition. *Industrial Marketing Management*, 78, 137-145.
- Boudreaux, C. J. (2020). Ethnic diversity and small business venturing. *Small Business Economics*, 54(1), 25-41.
- Bouis, R., Duval, M. R. A., & Eugster, J. (2016). *Product market deregulation and growth: New country-industry-level evidence*. International Monetary Fund.
- Bourlès, R., Cette, G., Lopez, J., Mairesse, J., & Nicoletti, G. (2010). *Do product market regulations in upstream sectors curb productivity growth? Panel data evidence for OECD countries*.
- Brambila-Macias, J., & Massa, I. (2010). The global financial crisis and Sub-Saharan Africa: the effects of slowing private capital inflows on growth. *African Development Review*, 22(3), 366-377.

- Brixiová, Z., Kangoye, T., & Yogo, T. U. (2020). Access to finance among small and medium-sized enterprises and job creation in Africa. *Structural Change and Economic Dynamics*, 55, 177-189.
- Brymer, R. A., Boss, D. S., Uhlenbruck, K., & Bierman, L. (2020). Internationalization's Effect on Mobility and Firms' Employee-Based Resources. *Academy of Management Perspectives*, 34(1), 114-134.
- Buckley, P. J., & Casson, M. (2016). *The future of the multinational enterprise*. Springer.
- Cahen, F. R., Lahiri, S., & Borini, F. M. (2016). Managerial perceptions of barriers to internationalization: An examination of Brazil's new technology-based firms. *Journal of business research*, 69(6), 1973-1979.
- Cai, S., & Jun, M. (2018). A qualitative study of the internalization of ISO 9000 standards: The linkages among firms' motivations, internalization processes, and performance. *International Journal of Production Economics*, 196, 248-260.
- Calza, E., Goedhuys, M., & Trifković, N. (2019). Drivers of productivity in Vietnamese SMEs: The role of management standards and innovation. *Economics of Innovation and New Technology*, 28(1), 23-44.
- Campos, N. F., & Kinoshita, Y. (2008). Foreign direct investment and structural reforms: Evidence from Eastern Europe and Latin America. *IMF Working Papers*, 1-38.
- Cantner, U. (2007). Firms' differential innovative success and market dynamics. *Jena Economic Research Paper*(2007-078).
- Carbonara, E., Santarelli, E., & Tran, H. T. (2016). De jure determinants of new firm formation: how the pillars of constitutions influence entrepreneurship. *Small Business Economics*, 47(1), 139-162.
- Carrasco, C. A., & Tovar-García, E. D. (2020). Trade and growth in developing countries: the role of export composition, import composition and export diversification. *Economic Change and Restructuring*, 1-23.
- Catena, M. (1999). *Efficiency Structure Hypothesis: An application to the Argentine Banking Sector*. Banco Central de la República Argentina, Area de Economía y Finanzas.
- Chaney, T. (2016). Liquidity constrained exporters. *Journal of Economic Dynamics and Control*, 72, 141-154.
- Chang, X., Chen, Y., & Dasgupta, S. (2019). Macroeconomic conditions, financial constraints, and firms' financing decisions. *Journal of Banking & Finance*, 101, 242-255.
- Chauvet, L., & Jacolin, L. (2017). Financial inclusion, bank concentration, and firm performance. *World Development*, 97, 1-13.
- Chen, Z., Poncet, S., & Xiong, R. (2020). Local financial development and constraints on domestic private-firm exports: Evidence from city commercial banks in China. *Journal of Comparative Economics*, 48(1), 56-75.
- Chetty, S., & Holm, D. B. (2000). Internationalisation of small to medium-sized manufacturing firms: a network approach. *International Business Review*, 9(1), 77-93.
- Christiansen, L., Schindler, M., & Tressel, T. (2013). Growth and structural reforms: A new assessment. *Journal of International Economics*, 89(2), 347-356.
- Chu, L. K. (2021). Financial Access of Latin America and Caribbean Firms: What Are the Roles of Institutional, Financial, and Economic Development? *Journal of Emerging Market Finance*, 09726527211015317.
- Cirillo, V., Fana, M., & Guarascio, D. (2017). Labour market reforms in Italy: evaluating the effects of the Jobs Act. *Economia Politica*, 34(2), 211-232.
- Colombo, E. (2001). Determinants of corporate capital structure: evidence from Hungarian firms. *Applied Economics*, 33(13), 1689-1701.

- Coluzzi, C., Ferrando, A., & Martinez-Carrascal, C. (2015). Financing obstacles and growth: an analysis for euro area non-financial firms. *The European Journal of Finance*, 21(10-11), 773-790.
- Commission, J. R. C.-E. (2008). *Handbook on constructing composite indicators: methodology and user guide*. OECD publishing.
- Cooper, S., & Nyborg, I. (1998). The financing and information needs of smaller exporters. *Bank of England Quarterly Bulletin*, 38(2), 166-172.
- Cottarelli, C., & Keen, M. (2012). Fiscal policy and growth: Overcoming the constraints. *Ascent after Decline: Regrowing Global Economies after the Great Recession*, 87-133.
- Cowling, M., Liu, W., & Zhang, N. (2018). Did firm age, experience, and access to finance count? SME performance after the global financial crisis. *Journal of Evolutionary Economics*, 28(1), 77-100.
- Cuervo-Cazurra, A. (2018). Thanks but no thanks: State-owned multinationals from emerging markets and host-country policies. *Journal of International Business Policy*, 1(3), 128-156.
- Cuervo-Cazurra, A., & Dau, L. A. (2009). Structural reform and firm exports. *Management International Review*, 49(4), 479-507.
- Culiuc, A., & Kyobe, A. J. (2017). *Structural Reforms and External Rebalancing*.
- Dabla-Norris, E., Ho, G., & Kyobe, A. J. (2016). Structural reforms and productivity growth in emerging market and developing economies.
- Danquah, M., & Amankwah-Amoah, J. (2017). Assessing the relationships between human capital, innovation and technology adoption: Evidence from sub-Saharan Africa. *Technological Forecasting and Social Change*, 122, 24-33.
- Das, M. (1994). Successful and unsuccessful exporters from developing countries. *European Journal of Marketing*.
- Dau, L. A., Moore, E. M., & Kostova, T. (2020). The impact of market based institutional reforms on firm strategy and performance: Review and extension. *Journal of World Business*, 55(4), 101073.
- Daude, C. (2016). Structural reforms to boost inclusive growth in Greece.
- Davis, D., Kaplinsky, R., & Morris, M. (2018). Rents, power and governance in global value chains. *Journal of World-Systems Research*, 24(1), 43-71.
- de-Oliveira, F., & Rodil-Marzábal, Ó. (2019). Structural characteristics and organizational determinants as obstacles to innovation in small developing countries. *Technological Forecasting and Social Change*, 140, 306-314.
- de Almeida, L. A., & Balasundharam, V. (2018). On the Impact of Structural Reforms on Output and Employment: Evidence from a Cross-country Firm-level Analysis.
- De Marchi, V., Giuliani, E., & Rabellotti, R. (2018). Do global value chains offer developing countries learning and innovation opportunities? *The European Journal of Development Research*, 30(3), 389-407.
- Deakins, D., Smallbone, D., Ishaq, M., Whittam, G., & Wyper, J. (2009). Minority ethnic enterprise in Scotland. *Journal of ethnic and migration studies*, 35(2), 309-330.
- Delen, D., Kuzey, C., & Uyar, A. (2013). Measuring firm performance using financial ratios: A decision tree approach. *Expert systems with applications*, 40(10), 3970-3983.
- Dell'Araccia, G., Igan, D., Laeven, L., Tong, H., Bakker, B., & Vandembussche, J. (2015). Policies for macrofinancial stability: how to deal with credit booms. Economic Policy 62nd Panel Meeting Hosted luxembourg,
- Delmar, F. (1997). Measuring Growth: Methodological Considerations and Empirical Results. W: Entrepreneurship and SME Research: On its way to the Next Millennium. *Red. R. Donckels, A. Miettinen. Ashgate Publishing Company, Brookfield, Vermont, USA.*

- Demetriades, P., & Hook Law, S. (2006). Finance, institutions and economic development. *International journal of finance & economics*, 11(3), 245-260.
- Demetriades, P. O., & Rousseau, P. L. (2016). The changing face of financial development. *Economics Letters*, 141, 87-90.
- Demirguc-Kunt, A., Love, I., & Maksimovic, V. (2006). Business environment and the incorporation decision. *Journal of banking & finance*, 30(11), 2967-2993.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 147-160.
- Dinh, H. T., Mavridis, D. A., & Nguyen, H. B. (2012). The binding constraint on the growth of firms in developing countries. *Performance of manufacturing firms in Africa: An empirical analysis*, 87-137.
- Djankov, S., Glaeser, E., La Porta, R., Lopez-de-Silanes, F., & Schleifer, A. (2008). *The new comparative economics*, World Bank.
- Dollar, D., Hallward-Driemeier, M., & Mengistae, T. (2005). Investment climate and firm performance in developing economies. *Economic Development and Cultural Change*, 54(1), 1-31.
- Dourado, A. P. (2017). The EU Free Movement of Capital and Third Countries: Recent Developments. *Intertax*, 45(3).
- Draghi, M. (2015). Structural reforms, inflation and monetary policy. Introductory speech by Mario Draghi, President of the ECB, ECB Forum on Central Banking Sintra,
- Dreher, A., & Gassebner, M. (2013). Greasing the wheels? The impact of regulations and corruption on firm entry. *Public Choice*, 155(3-4), 413-432.
- Dutta, N., & Sobel, R. (2016). Does corruption ever help entrepreneurship? *Small Business Economics*, 47(1), 179-199.
- Dvouletý, O., & Blažková, I. (2019). The impact of public grants on firm-level productivity: Findings from the Czech food industry. *Sustainability*, 11(2), 552.
- Dvouletý, O., Srhoj, S., & Pantea, S. (2021). Public SME grants and firm performance in European Union: A systematic review of empirical evidence. *Small Business Economics*, 57(1), 243-263.
- Eaton, J., Kortum, S., & Kramarz, F. (2011). An anatomy of international trade: Evidence from French firms. *Econometrica*, 79(5), 1453-1498.
- Ede, O. C. (2021). Obstacles to firm performance in Nigeria: does size matter? *Journal of Small Business & Entrepreneurship*, 33(1), 49-70.
- Edim, N. O., Atseye, F. A., & Eke, F. A. (2014). Relationship between capital structure and firm's performance: Theoretical review. *Journal of Economics and Sustainable Development*, 5(17), 72-76.
- Edwards, L., & Jenkins, R. (2014). The margins of export competition: A new approach to evaluating the impact of China on South African exports to Sub-Saharan Africa. *Journal of Policy Modeling*, 36, S132-S150.
- Efobi, U., Tanankem, B., Asongu, S., & Beecroft, I. (2016). Exploring multidimensional financial inclusion and manufacturing firms performance in a developing country: The case of Nigeria. *African Governance and Development Institute WP/16/043*.
- Eggertsson, G., Ferrero, A., & Raffo, A. (2014). Can structural reforms help Europe? *Journal of Monetary Economics*, 61, 2-22.
- Eichengreen, B. (2015). Secular stagnation: the long view. *American Economic Review*, 105(5), 66-70.
- Eichhorst, W., Portela de Souza, A., Cahuc, P., Demazière, D., Fagan, C., Araujo Guimarães, N., Fu, H., Kalleberg, A., Manning, A., & McGinnity, F. (2018). The Future of Work-

- Good Jobs for All. In *Rethinking Society for the 21st Century: Report of the International Panel on Social Progress, Vol. 1: Socio-Economic Transformations* (pp. 255-311). Cambridge University Press.
- Elheddad, M. M. (2018). What determines FDI inflow to MENA countries? Empirical study on Gulf countries: Sectoral level analysis. *Research in International Business and Finance*, 44(C), 332-339.
- Elhiraika, A. B., & MBATE, M. M. (2014). Assessing the determinants of export diversification in Africa. *Applied Econometrics and International Development*, 14(1), 147-160.
- Evald, M. R., Klyver, K., & Christensen, P. R. (2011). The effect of human capital, social capital, and perceptual values on nascent entrepreneurs' export intentions. *Journal of International Entrepreneurship*, 9(1), 1-19.
- Faulkner, D., Loewald, C., & Makrelou, K. (2013). Achieving higher growth and employment: Policy options for South Africa. *South African Reserve Bank Working Paper*, 13(03), 1-34.
- Fernandes, A. (2003). *Trade policy, trade volumes, and plant-level productivity in Colombian manufacturing industries*. The World Bank.
- Fiestas, I., & Sinha, S. (2011). Constraints to private investment in the poorest developing countries-A review of the literature. *London, UK: Nathan Associates London*.
- Fikru, M. G. (2016). Determinants of International Standards in sub-Saharan Africa: The role of institutional pressure from different stakeholders. *Ecological Economics*, 130, 296-307.
- Filatotchev, I., Su, Z., & Bruton, G. (2016). Market orientation, growth strategy, and firm performance: the moderating effects of external connections. *Management and Organization Review*.
- Fombang, M. S., & Adjasi, C. K. (2018). Access to finance and firm innovation. *Journal of financial economic policy*.
- Fosu, A. K., & Abass, A. F. (2019). Domestic credit and export diversification: Africa from a global perspective. *Journal of African Business*, 20(2), 160-179.
- Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of development finance*, 7(1), 6-17.
- Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of Development Finance*, 7 (1), 6–17. In.
- Froehlich, A., Ringas, N., & Wilson, J. (2020). A Look at Governance Throughout Africa. In *Space Supporting Africa* (pp. 1-51). Springer.
- Fu, X., Pietrobelli, C., & Soete, L. (2011). The role of foreign technology and indigenous innovation in the emerging economies: technological change and catching-up. *World Development*, 39(7), 1204-1212.
- Fund., I. M., & Fund., I. M. (2016). *World Economic Outlook, April 2016*. International Monetary Fund Washington, DC.
- Galasso, A., Gerotto, F., Infantino, G., Nucci, F., & Ricchi, O. (2018). Does access to finance improve productivity? The case of Italian manufacturing. *Getting Globalization Right*, 197-208.
- Galindo, & Schiantarelli, F. (2002). Credit constraints in Latin America: an overview of the micro evidence.
- Galindo, A., Schiantarelli, F., & Weiss, A. (2007). Does financial liberalization improve the allocation of investment?: Micro-evidence from developing countries. *Journal of development Economics*, 83(2), 562-587.

- Ganiyu, Y. O., Adelopo, I., Rodionova, Y., & Samuel, O. L. (2019). Capital structure and firm performance in Nigeria. *African Journal of Economic Review*, 7(1), 31-56.
- Gao, C., Zuzul, T., Jones, G., & Khanna, T. (2017). Overcoming institutional voids: A reputation-based view of long-run survival. *Strategic management journal*, 38(11), 2147-2167.
- Gatti, R., & Love, I. (2008). Does access to credit improve productivity? Evidence from Bulgaria 1. *Economics of Transition*, 16(3), 445-465.
- Gaur, A. S., Kumar, V., & Singh, D. (2014). Institutions, resources, and internationalization of emerging economy firms. *Journal of World Business*, 49(1), 12-20.
- Gebreeyesus, M. UNU-MERIT Working Paper Series.
- Georgiev, Y., Nagy-Mohacsi, P., & Plekhanov, A. (2017). Structural reform and productivity growth in Emerging Europe and Central Asia.
- Gerschewski, S., Scott-Kennel, J., & Rose, E. L. (2020). Ready to export? The role of export readiness for superior export performance of small and medium-sized enterprises. *The World Economy*, 43(5), 1253-1276.
- Ghana Enterprises Agency. *GETP & GTDP Covid Response Grant*. Retrieved August 04, 2021 from <https://getp.gheaonline.com/introduction>
- Giang, M. H., Trung, B. H., Yoshida, Y., Xuan, T. D., & Que, M. T. (2019). The causal effect of access to finance on productivity of small and medium enterprises in Vietnam. *Sustainability*, 11(19), 5451.
- Giang, M. H., Xuan, T. D., Trung, B. H., Que, M. T., & Yoshida, Y. (2018). Impact of investment climate on total factor productivity of manufacturing firms in Vietnam. *Sustainability*, 10(12), 4815.
- Girma, S., & Vencappa, D. (2015). Financing sources and firm level productivity growth: evidence from Indian manufacturing. *Journal of Productivity Analysis*, 44(3), 283-292.
- Glaeser, E. L., & Saks, R. E. (2006). Corruption in america. *Journal of public Economics*, 90(6-7), 1053-1072.
- Godfrey, P. C. (2015). Introduction: Why the informal economy matters to management. In *Management, society, and the informal economy* (pp. 11-28). Routledge.
- Goedhuys, M., & Mohnen, P. (2017). Management standard certification and firm productivity: micro-evidence from Africa. *Journal of African Development*, 19(1), 61-83.
- Gokus, O. (2015). The moderating roles of company structure and external environment on market orientation and business strategy types. Allied Academies International Conference. Academy of Marketing Studies. Proceedings,
- Goodwin, T. K., & Pierola Castro, M. D. (2015). *Export Competitiveness: Why Domestic Market Competition Matters*.
- Gouveia, A. F., Monteiro, G., & Santa, S. F. (2019). Product markets' deregulation. *HACIENDA PUBLICA ESPANOLA-REVIEW OF PUBLIC ECONOMICS*, 230(3), 125-155.
- Grossman, G. M., & Rossi-Hansberg, E. (2006). The rise of offshoring: it's not wine for cloth anymore. *The new economic geography: effects and policy implications*, 2006.
- Guerrero, M., & Urbano, D. (2020). Institutional conditions and social innovations in emerging economies: insights from Mexican enterprises' initiatives for protecting/preventing the effect of violent events. *The Journal of Technology Transfer*.
- Guiso, L., Sapienza, P., & Zingales, L. (2004). Does local financial development matter? *The Quarterly Journal of Economics*, 119(3), 929-969.
- Gupta, S. (2015). Fiscal Policy and Long-Term Growth. *International Monetary Fund, Tokyo*.

- Hallaert, J.-J. (2010). Increasing the impact of trade expansion on growth: Lessons from trade reforms for the design of aid for trade.
- Hamilton, A. J., & Hammer, C. (2018). Can we measure the power of the grabbing hand?: a comparative analysis of different indicators of corruption. *A Comparative Analysis of Different Indicators of Corruption (January 9, 2018)*. World Bank Policy Research Working Paper(8299).
- Hansen, G. S., & Wernerfelt, B. (1989). Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic management journal*, 10(5), 399-411.
- Hansen, M. W., Langevang, T., Rutashobya, L., & Urassa, G. (2018). Coping with the African business environment: Enterprise strategy in response to institutional uncertainty in Tanzania. *Journal of African Business*, 19(1), 1-26.
- Harrison, A. E., & McMillan, M. S. (2003). Does direct foreign investment affect domestic credit constraints? *Journal of International Economics*, 61(1), 73-100.
- Hashmi, S. D., Gulzar, S., Ghafoor, Z., & Naz, I. (2020). Sensitivity of firm size measures to practices of corporate finance: evidence from BRICS. *Future Business Journal*, 6(1), 1-19.
- Hearn, B., Strange, R., & Piesse, J. (2017). Social elites on the board and executive pay in developing countries: evidence from Africa. *Journal of World Business*, 52(2), 230-243.
- Henisz, W. J., Zelner, B. A., & Guillén, M. F. (2005). The worldwide diffusion of market-oriented infrastructure reform, 1977–1999. *American sociological review*, 70(6), 871-897.
- Henry, P. B. (2007). Capital account liberalization: Theory, evidence, and speculation. *Journal of economic Literature*, 45(4), 887-935.
- Herckenrath, B. (2021). Financial inclusion and firm innovation in emerging markets.
- Hijzen, P. N. G. O. A. (2016). The short-term impact of product market reforms: A cross-country firm-level analysis.
- Hodžić, S., Demirović, A., & Bečić, E. (2020). The relationship between fiscal policy and economic growth in CEE countries. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, 38(2), 653-666.
- Holmlund, M., Kock, S., & Vanyushyn, V. (2007). Small and medium-sized enterprises' internationalization and the influence of importing on exporting. *International Small Business Journal*, 25(5), 459-477.
- Hosny, A. (2020). Macro-structural obstacles to firm performance: evidence from 2,640 firms in Nigeria. *African Finance Journal*, 22(1), 50-69.
- Hox, J. J., Moerbeek, M., & Van de Schoot, R. (2017). *Multilevel analysis: Techniques and applications*. Routledge.
- Hussain, J., Salia, S., & Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK. *Journal of Small Business and Enterprise Development*.
- Ibeh, & Young, S. (2001). Exporting as an entrepreneurial act-An empirical study of Nigerian firms. *European Journal of Marketing*.
- Ibeh, K., Wilson, J., & Chizema, A. (2012). The internationalization of African firms 1995–2011: Review and implications. *Thunderbird International Business Review*, 54(4), 411-427.
- Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics and Finance*, 45, 57-82.

- Idris, B., & Saridakis, G. (2018). Local formal interpersonal networks and SMEs internationalisation: Empirical evidence from the UK. *International Business Review*, 27(3), 610-624.
- IFC. (2010). Scaling-Up SME Access to Financial Services in the Developing World, International Finance Corporation. In: World Bank Group Washington DC.
- Illiashenko, S., Shypulina, Y., Illiashenko, N., Gryshchenko, O., & Derykolenko, A. (2020). Knowledge management at Ukrainian industrial enterprises in the context of innovative development. *Engineering Management in Production and Services*, 12(3), 43-56.
- Imran, S. M., Ur Rehman, H., & Khan, R. E. A. (2019). Determinants of corruption and its impact on firm performance: Global Evidence. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 13(4), 1017-1028.
- Irwin, D. A. (2019). Does trade reform promote economic growth? A review of recent evidence.
- Iwara, I. O., & Netshandama, V. O. (2021). SMALL-ENTERPRISE CAPITAL MOBILIZATION AND MARKETING IN RURAL AREAS: A REVIEW SYNTHESIS OF STOKVEL MODEL. *Academy of Entrepreneurship Journal*, 27(2), 1-11.
- Jackson, E. A., & Jabbie, M. (2020). Import Substitution Industrialization [ISI]: An approach to global economic sustainability.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Jibir, A., Abdu, M., Bello, F., & Garba, I. (2019). Do Institutions Promote Firm Performance? Evidence from Sub-Saharan Africa. *Review of Market Integration*, 11(3), 111-137.
- Jin, H., & Hurd, F. (2018). Exploring the impact of digital platforms on SME internationalization: New Zealand SMEs use of the Alibaba platform for Chinese market entry. *Journal of Asia-Pacific Business*, 19(2), 72-95.
- Kaplinsky, R. (2010). The role of standards in global value chains. *World Bank policy research working paper*(5396).
- Karagozoglu, N., & Lindell, M. (1998). Internationalization of small and medium-sized technology-based firms: An exploratory study. *Journal of small business management*, 36(1), 44.
- Kareem, F. O., & Martínez-Zarzoso, I. (2020). Are EU standards detrimental to Africa's exports? *Journal of Policy Modeling*, 42(5), 1022-1037.
- Kato, A., & Sato, T. (2015). Greasing the wheels? The effect of corruption in regulated manufacturing sectors of India. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*, 36(4), 459-483.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues. *World Bank Policy Research Working Paper*(5430).
- Keddari, N., & Touati, K. (2020). Successful International experiences in promoting productive investments outside hydrocarbons: Case of Indonesia. *Recherchers economiques manageriales*, 14(4), 391-404.
- Kersten, R., Harms, J., Liket, K., & Maas, K. (2017). Small Firms, large Impact? A systematic review of the SME Finance Literature. *World Development*, 97, 330-348.
- Khan, M. S., & Senhadji, A. (2000). Threshold effects in the relationship between inflation and growth.
- Kijkasiwat, P., & Phuensane, P. (2020). Innovation and firm performance: The moderating and mediating roles of firm size and small and medium enterprise finance. *Journal of Risk and Financial Management*, 13(5), 97.

- Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of financial economics*, 82(3), 591-629.
- Koh, W. C., & Yu, S. (2021). Macroeconomic developments. In.
- Kolstad, I., & Wiig, A. (2012). What determines Chinese outward FDI? *Journal of world business*, 47(1), 26-34.
- Kose, A., Ostry, J. D., Quinn, D., & Tabellini, G. (2010). Which Reforms Work and under What Institutional Environment: Evidence from a New Dataset on Structural Reforms.
- Kostova, T., & Marano, V. (2019). Institutional theory perspectives on emerging markets. In *The Oxford Handbook of Management in Emerging Markets* (pp. 99). Oxford University Press.
- Kouamé, W. A., & Tapsoba, S. J.-A. (2019). Structural reforms and firms' productivity: Evidence from developing countries. *World Development*, 113, 157-171.
- Kraay, A., Zoido-Lobaton, P., & Kaufmann, D. (1999). Governance matters. In: The World Bank.
- Krishnan, K., Nandy, D. K., & Puri, M. (2015). Does financing spur small business productivity? Evidence from a natural experiment. *The Review of Financial Studies*, 28(6), 1768-1809.
- Kriz, A., & Welch, C. (2018). Innovation and internationalisation processes of firms with new-to-the-world technologies. *Journal of International Business Studies*, 49(4), 496-522.
- Kuczynski, P.-P., & Williamson, J. (2003). *After the Washington consensus: Restarting growth and reform in Latin America*. Columbia University Press.
- Kumari, R., & Kumar, N. (2018). Determinants of firm performance: A conceptual analysis. *Pacific Business Review International*, 10(11), 133-140.
- La Porta, R., & Shleifer, A. (2014). Informality and development. *Journal of Economic Perspectives*, 28(3), 109-126.
- Laeven, L., & Woodruff, C. (2007). The quality of the legal system, firm ownership, and firm size. *The Review of Economics and Statistics*, 89(4), 601-614.
- Lanau, M. S., & Topalova, P. (2016). *The impact of product market reforms on firm productivity in Italy*. International Monetary Fund.
- Larrain, M., & Stumpner, S. (2017). Capital account liberalization and aggregate productivity: The role of firm capital allocation. *The Journal of Finance*, 72(4), 1825-1858.
- Lau, A. K., Kajikawa, Y., & Sharif, N. (2020). The roles of supply network centralities in firm performance and the moderating effects of reputation and export-orientation. *Production Planning & Control*, 31(13), 1110-1127.
- Lauesen, L. M., & Bjerre, T. K. (2020). Publicly Owned Company Legitimacy: Opportunities and Challenges. *Handbook of Business Legitimacy: Responsibility, Ethics and Society*, 441-457.
- Lee, A. D., & Usman, Z. (2018). Taking stock of the political economy of power sector reforms in developing countries: a literature review. *World Bank Policy Research Working Paper*(8518).
- Lee, Y. Y., & Falahat, M. (2019). The impact of digitalization and resources on gaining competitive advantage in international markets: Mediating role of marketing, innovation and learning capabilities. *Technology Innovation Management Review*, 9(11).
- Leonidou, L. C., Katsikeas, C. S., Palihawadana, D., & Spyropoulou, S. (2007). An analytical review of the factors stimulating smaller firms to export. *International Marketing Review*.

- Levenson, A. R., & Willard, K. L. (2000). Do firms get the financing they want? Measuring credit rationing experienced by small businesses in the US. *Small Business Economics*, 14(2), 83-94.
- Li. (2019). Engagement in international entrepreneurship: interactive effects of resource-based factors and institutional environments. *Journal of Global Entrepreneurship Research*, 9(1), 1-17.
- Li, M., Li-Ying, J., Wang, Y., & Chen, X. (2021). From Potential to Real Threat? The Impacts of Technology Attributes on Licensing Competition—Evidence from China during 2002–2013. *Information*, 12(7), 260.
- Li, T. (2018). Internationalisation and its determinants: A hierarchical approach. *International Business Review*, 27(4), 867-876.
- Lora, E. A. (2001). Structural reforms in Latin America: what has been reformed and how to measure it. Available at SSRN 909562.
- Luiz, J., Stringfellow, D., & Jefthas, A. (2017). Institutional complementarity and substitution as an internationalization strategy: The emergence of an African multinational giant. *Global Strategy Journal*, 7(1), 83-103.
- Lussuamo, J. M., & Serrasqueiro, Z. (2020). Restrictions on access to bank finance for SMEs in Cabinda–Angola. *Small Enterprise Research*, 27(3), 275-288.
- MacPhee, C. R., & Sattayanuwat, W. (2014). Consequence of regional trade agreements to developing countries. *Journal of Economic Integration*, 64-94.
- Mahendra, E., Zuhdi, U., & Muyanto, R. (2015). Determinants of firm innovation in Indonesia: the role of institutions and access to finance. *Economics and Finance in Indonesia*, 61(3), 149-179.
- Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic management journal*, 13(5), 363-380.
- Makri, K., Theodosiou, M., & Katsikea, E. (2017). An empirical investigation of the antecedents and performance outcomes of export innovativeness. *International Business Review*, 26(4), 628-639.
- Manova, K. (2013). Credit constraints, heterogeneous firms, and international trade. *Review of Economic Studies*, 80(2), 711-744.
- Manzoor, F., Wei, L., & Sahito, N. (2021). The role of SMEs in rural development: Access of SMEs to finance as a mediator. *Plos one*, 16(3), e0247598.
- Mathews, J. A. (2017). Dragon multinationals powered by linkage, leverage and learning: A review and development. *Asia Pacific Journal of Management*, 34(4), 769-775.
- McDonald, D. W., & Leahey, H. S. (1985). Licensing has a role in technology strategic planning. *Research Management*, 28(1), 35-40.
- McMillan, J., & Woodruff, C. (2002). The central role of entrepreneurs in transition economies. *Journal of Economic Perspectives*, 16(3), 153-170.
- Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *econometrica*, 71(6), 1695-1725.
- Melo, M. d., Denizer, C., & Gelb, A. (1996). Patterns of transition from plan to market. *The World Bank Economic Review*, 10(3), 397-424.
- Mertzanis, C. (2017). Ownership structure and access to finance in developing countries. *Applied Economics*, 49(32), 3195-3213.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology*, 83(2), 340-363.
- Min, J.-W., Kim, Y., & Vonortas, N. S. (2020). Public technology transfer, commercialization and business growth. *European Economic Review*, 103407.

- Minard, P. (2016). Signalling through the noise: private certification, information asymmetry and Chinese SMEs' access to finance. *Journal of Asian Public Policy*, 9(3), 243-256.
- Misati, E., Walumbwa, F. O., Lahiri, S., & Kundu, S. K. (2017). The internationalization of African small and medium enterprises (SMEs): a South-North pattern. *Africa Journal of Management*, 3(1), 53-81.
- Modigliani, F., & Miller, M. H. (1959). The cost of capital, corporation finance, and the theory of investment: Reply. *The American Economic Review*, 49(4), 655-669.
- Moen, Ø. (1999). The relationship between firm size, competitive advantages and export performance revisited. *International Small Business Journal*, 18(1), 53-72.
- Mohammed, I., & Bunyaminu, A. (2021). Major obstacles facing business enterprises in an emerging economy: the case of Ghana using the World Bank Enterprise Survey. *Journal of Small Business and Enterprise Development*.
- Moini, H., Kuada, J., & Decker, A. (2016). Internationalisation of family-owned businesses in a geographically remote area. *International Journal of Entrepreneurial Venturing*, 8(2), 143-169.
- Morris, D. M. (2018). Innovation and productivity among heterogeneous firms. *Research Policy*, 47(10), 1918-1932.
- Motta, V., & Sharma, A. (2020). Lending technologies and access to finance for SMEs in the hospitality industry. *International Journal of Hospitality Management*, 86, 102371.
- Mursalim, M., & Kusuma, H. (2017). Capital structure determinants and firms' performance: Empirical evidence from Thailand, Indonesia and Malaysia. *Polish Journal of Management Studies*, 16(1), 154-164.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221.
- Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffman, H., & Giovannini, E. (2005). Handbook on constructing composite indicators: methodology and user guide. Organisation for Economic Cooperation and Development (OECD). *Statistics Working Paper JT00188147, OECD, France*.
- Narteh, B., Sorenson, O., & Kuada, J. (2007). Foreign Direct Investment, Learning and Firm Upgrading in Ghana. In John Kuada (ed.) *Internationalisation and Economic Growth Strategies in Ghana: A Business Perspective*.
- Nassar, S. (2016). The impact of capital structure on Financial Performance of the firms: Evidence from Borsa Istanbul. *Journal of Business & Financial Affairs*, 5(2).
- Nebo, A. N., & Ogbuene, E. B. (2021). A REVIEW OF THE CURRENT STATE OF CONTINUOUS IMPROVEMENT IN ACHIEVING ADVANCED QUALITY MANAGEMENT IN NIGERIA. *品質學報*, 28(1), 54-69.
- Nenu, E. A., Vintilă, G., & Gherghina, Ş. C. (2018). The impact of capital structure on risk and firm performance: Empirical evidence for the Bucharest Stock Exchange listed companies. *International Journal of Financial Studies*, 6(2), 41.
- Newfarmer, R., & Sztajerowska, M. (2012). Trade and employment in a fast-changing world. *Policy priorities for international trade and jobs*, 7-73.
- Newman, C., Page, J., Rand, J., SHEMELES, A., Söderbom, M., & Tarp, F. (2016). *Made in Africa: Learning to compete in industry*. Brookings Institution Press.
- Newman, C., Rand, J., Tarp, F., & Anh, N. T. T. (2014). *Exporting and productivity: The role of ownership and innovation in the case of Vietnam* (9292307916).
- Neyestani, B. (2016). Effectiveness of quality management system (QMS) on construction projects. Available at SSRN 2947712.

- Ngoma, M., Ernest, A., Nangoli, S., & Christopher, K. (2017). Internationalisation of SMEs: does entrepreneurial orientation matter? *World journal of entrepreneurship, management and sustainable development*.
- Nguyen, H., & Nishijima, S. (2009). Export intensity and impacts from firm characteristics, domestic competition and domestic constraints in Vietnam: a micro-data analysis. *Kobe University Research Institute for Economics & Business Administration Discussion Paper Series*, 238.
- Ngwube, A., & Ogbuagu, M. (2014). Global financial crisis and Nigeria economy. *Global Journal of Management and Business Research*.
- Nicoletti, G., & Scarpetta, S. (2003). Regulation, productivity and growth: OECD evidence. *Economic policy*, 18(36), 9-72.
- Nizaeva, M., & Coskun, A. (2019). Investigating the relationship between financial constraint and growth of SMEs in South Eastern Europe. *SAGE Open*, 9(3), 2158244019876269.
- Njikam, O. (2017). Export market destination and performance: Firm-level evidence from Sub-Saharan Africa. *Journal of African Trade*, 4(1-2), 1-19.
- North, D. (1987). Institutions, Transaction Costs and Economic Growth. *Economic Inquiry*, 25(3), 419-428.
- North, D. (2005). Understanding the Process of Economic Change, Princeton University Press, Princeton–Oxford.
- North, D. C. (1990). Institutions, Institutional Change and Economic Performance.
- North, D. C. (1991). Institutions. *Journal of economic perspectives*, 5(1), 97-112.
- Nowak-Lehmann D, F., Herzer, D., & Siliverstovs, B. (2005). Export-Led Growth in Chile: Assessing the Role of Export Composition in Productivity Growth.
- Nugent, J. B. (1996). What explains the trend reversal in the size distribution of Korean manufacturing establishments? *Journal of development Economics*, 48(2), 225-251.
- Obeng-Odoom, F. (2020). The African Continental Free Trade Area. *American Journal of Economics and Sociology*, 79(1), 167-197.
- Odeleye, A. T., & Olusoji, M. O. (2020). Financial inclusion and inclusive growth in Nigeria. In: Retrived.
- Odusanya, I. A., Yinusa, O. G., & Ilo, B. M. (2018). Determinants of firm profitability in Nigeria: Evidence from dynamic panel models. *SPOUDAI-Journal of Economics and Business*, 68(1), 43-58.
- OECD., .. D., économiques, O. d. c. e. d. d., Communities, S. O. o. t. E., Centre, D. D., & Development, S. f. I. (2005). *Oslo manual: Guidelines for collecting and interpreting innovation data*. Org. for Economic Cooperation & Development.
- Ofori, D., Ato-Mensah, S., & Jinsheng, Z. (2015). Corruption, Foreign Direct Investment and Growth in Ghana: An Empirical Analysis. *European Journal of Business and Management*, 7(23), 1-10.
- Ojede, A., Mugeru, A., & Seo, D. (2013). Macroeconomic policy reforms and productivity growth in African agriculture. *Contemporary Economic Policy*, 31(4), 814-830.
- Okafor, G. (2015). Locational determinants of US outward FDI into Sub-Saharan Africa. *The Journal of Developing Areas*, 187-205.
- Okafor, G., Piesse, J., & Webster, A. (2015). The motives for inward FDI into Sub-Saharan African countries. *Journal of Policy Modeling*, 37(5), 875-890.
- Okafor, L. E., Bhattacharya, M., & Apergis, N. (2020). Bank credit, public financial incentives, tax financial incentives and export performance during the global financial crisis. *The World Economy*, 43(1), 114-145.

- Okpara, J. O. (2009). Strategic export orientation and internationalization barriers: evidence from SMEs in a developing economy. *Journal of International Business and Cultural Studies*, 1, 1.
- Olatunji, J., & Weihang, H. (2017). The effect and policy analysis of global financial crisis on Nigeria economy. *International Journal of Management Science and Business Administration*, 3(4), 58-64.
- Oliver, R. L., & Satisfaction, L. (2018). A Behavioral Perspective on the Consumer. 1997. *New York ' NY: Irwin-McGraw-Hill*.
- Ombati, S., & Ojah, K. (2016). Effects of financing and institutional constraints on capital structure of firms in select African countries. *African Finance Journal*, 18(2), 1-44.
- Onyekwelu, U. L., & Iroegbu, F. (2020). The relevance of central bank of Nigeria reforms on building a sustainable financial system in Nigeria. *International Journal of Economics, Commerce and Management*.
- Osakwe, P. N., Santos-Paulino, A. U., & Dogan, B. (2018). Trade dependence, liberalization, and exports diversification in developing countries. *Journal of African Trade*, 5(1-2), 19-34.
- Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, 37(2), 187-204.
- Ostry, J. D., Prati, A., & Spilimbergo, A. (2009). *Structural reforms and economic performance in advanced and developing countries* (Vol. 268). International Monetary Fund Washington, DC.
- Ostry, M. J. D., Berg, M. A., & Kothari, S. (2018). *Growth-equity trade-offs in structural reforms*. International Monetary Fund.
- Otman, K. (2021). Small and Medium Enterprises in the Middle East and North Africa Region. *International Journal of Business and Management*, 16(5).
- Pane, D. D., & Patunru, A. A. (2021). Does Export Experience Improve Firms' Productivity? Evidence from Indonesia. *The Journal of Development Studies*, 1-21.
- Peachey, S., & Roe, A. (2004). Access to finance. *A study for the World Savings Banks Institute*.
- Peng, Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920-936.
- Peng, W., Yuan, C., & Guanghan, C. (2018). The Impact of Technology Innovation on the Middle-Income Group: Heterogeneity of Technological Originality or Introduction Re-innovation. *Journal of Finance and Economics*, 44(07), 126-141.
- Penrose, E., & Penrose, E. T. (2009). *The Theory of the Growth of the Firm*. Oxford university press.
- Petruzzelli, A. M., Ardito, L., & Savino, T. (2018). Maturity of knowledge inputs and innovation value: The moderating effect of firm age and size. *Journal of Business Research*, 86, 190-201.
- Pirtea, M. G., Sipos, G. L., & Ionescu, A. (2019). Does corruption affects business innovation? Insights from emerging countries. *Journal of Business Economics and Management*, 20(4), 715-733.
- Piza, C., Cravo, T. A., Taylor, L., Gonzalez, L., Musse, I., Furtado, I., Sierra, A. C., & Abdelnour, S. (2016). The impact of business support services for small and medium enterprises on firm performance in low-and middle-income countries: A systematic review. *Campbell Systematic Reviews*, 12(1), 1-167.
- Popov, A. (2018). Evidence on finance and economic growth. *Handbook of finance and development*.

- Porter, M. E. (1990). *The competitive advantage of nations: with a new introduction*. Free Pr.
- Prati, A., Onorato, M. G., & Papageorgiou, C. (2013). Which reforms work and under what institutional environment? Evidence from a new data set on structural reforms. *Review of economics and statistics*, 95(3), 946-968.
- Pritchett, L. (2013). *The rebirth of education: Schooling ain't learning*. CGD Books.
- Qu, Y., Qu, T., & Wu, Y. (2017). The role of regional formal institutions and foreign direct investment in innovation in Chinese enterprises. *Asia Pacific Business Review*, 23(1), 27-43.
- Quartey, P., Turkson, E., Abor, J. Y., & Iddrisu, A. M. (2017). Financing the growth of SMEs in Africa: What are the constraints to SME financing within ECOWAS? *Review of development finance*, 7(1), 18-28.
- Rajan, R., & Zingales, L. (1998). Financial development and growth. *American Economic Review*, 88(3), 559-586.
- Rodil, Ó., Vence, X., & del Carmen Sánchez, M. (2016). The relationship between innovation and export behaviour: The case of Galician firms. *Technological Forecasting and Social Change*, 113, 248-265.
- Rousseau, P. L., & Wachtel, P. (2002). Inflation thresholds and the finance–growth nexus. *Journal of international money and finance*, 21(6), 777-793.
- Rua, O., França, A., & Ortiz, R. F. (2018). Key drivers of SMEs export performance: the mediating effect of competitive advantage. *Journal of Knowledge Management*.
- Rutashobya, L., Masenge, A., & Jaensson, J.-E. (2003). Small Firms Internationalisation in Tanzania.
- Sabin, L. (2017). New Bosses in the Workers' State: The Growth of Non-State Sector Employment in China. In *Chinese Economic History Since 1949* (pp. 810-841). Brill.
- Salgado, E. G., Beijo, L. A., Sampaio, P., Mello, C. H. P., & Saraiva, P. (2016). ISO 9001 certification in the American Continent: a statistical analysis and modelling. *International Journal of Production Research*, 54(18), 5416-5433.
- Samuelson, P. A. (1948). International trade and the equalisation of factor prices. *The Economic Journal*, 58(230), 163-184.
- Sarkar, P. (2018). Creditor Protection and Credit Market Development in Emerging Countries. Available at SSRN 3191810.
- Sartor, M., Orzes, G., Touboulic, A., Culot, G., & Nassimbeni, G. (2019). ISO 14001 standard: Literature review and theory-based research agenda. *Quality Management Journal*, 26(1), 32-64.
- Saygili, M., Peters, R., & Knebel, C. (2018). *African continental free trade area: Challenges and opportunities of tariff reductions*.
- Schmidt, A., & Hansen, M. W. (2017). Internationalization strategies of African firms. *Internationalization and economic growth strategies in Ghana*.
- Schmidt, A., & Hansen, M. W. (2017). Internationalization Strategies of African Firms: A Survey of 210 Food Processing Firms from Tanzania, Kenya and Zambia.
- Schulz, T. (2017). *The impact of capital structure on firm performance: an investigation of Dutch unlisted SMEs* University of Twente].
- Schwerdt, G., & Woessmann, L. (2020). Empirical methods in the economics of education. *The Economics of Education*, 3-20.
- Scott, W. R. (1995). Organizations and institutions. *Foundations for Organizational Science; Sage Publications: Thousand Oaks, CA, USA*.
- Scott, W. R. (2008). Approaching adulthood: the maturing of institutional theory. *Theory and society*, 37(5), 427.

- Scott, W. R. (2013). *Institutions and organizations: Ideas, interests, and identities*. Sage publications.
- Seibold, L. K. (2021). Patterns of Family Enterprise's Growth. In *Topics of Family Business Governance* (pp. 79-86). Springer.
- Sequeira, S., & Djankov, S. (2014). Corruption and firm behavior: Evidence from African ports. *Journal of international economics*, 94(2), 277-294.
- Shapiro, D., & Carney, M. Initiating internationalization: business group affiliation, export intensity and institutional quality1.
- Shleifer, A., & Vishny, R. W. (1994). Politicians and firms. *The quarterly journal of Economics*, 109(4), 995-1025.
- Sibanda, K., Hove-Sibanda, P., & Shava, H. (2018). The impact of SME access to finance and performance on exporting behaviour at firm level: A case of furniture manufacturing SMEs in Zimbabwe. *Acta Commercii*, 18(1), 1-13.
- Siegesmund, P., & Glisovic, J. (2011). Estimating Funder Support for Small and Medium Enterprises (SMEs). Report accessed on <http://www.slideshare.net/CGAP/estimating-fundersupport-for-small-and-medium-enterprises-smes-12117027>.
- Silva, M. M., Fonseca, L. M., & Sousa, S. D. (2016). The impact of ISO 9001: 2015 on ISO 22000 and food safety management systems (FSMS). *Calitatea*, 17(152), 81.
- Singh, A., & Weisse, B. A. (1998). Emerging stock markets, portfolio capital flows and long-term economic growth: Micro and macroeconomic perspectives. *World Development*, 26(4), 607-622.
- Sleuwaegen, L., & Goedhuys, M. (2002). Growth of firms in developing countries, evidence from Cote d'Ivoire. *Journal of development Economics*, 68(1), 117-135.
- SN, R. R., & Sen, K. (2017). Does institutional quality matter for firm performance? Evidence from India. *South Asia Economic Journal*, 18(2), 184-213.
- Söderbom, M., & Teal, F. (2003). Are manufacturing exports the key to economic success in Africa? *Journal of African Economies*, 12(1), 1-29.
- Song, M., & Parry, M. E. (2009). The desired level of market orientation and business unit performance. *Journal of the Academy of Marketing Science*, 37(2), 144-160.
- Stern, M., & Ramkolowan, Y. (2021). *Understanding South Africa's Trade Policy and Performance*. Economic Research and Statistics Department, South African Reserve Bank.
- Stinchcombe, A. L. (1965). Organizations and social structure. *Handbook of organizations*, 44(2), 142-193.
- Sukaatmadja, I., Yasa, N., Rahyuda, H., Setini, M., & Dharmanegara, I. (2021). Competitive advantage to enhance internationalization and marketing performance woodcraft industry: A perspective of resource-based view theory. *Journal of Project Management*, 6(1), 45-56.
- Tang, V. T., Holden, M. G., & Shaw, T. M. (2019). Mauritius: The making of a developmental African state. In *Development and sustainable growth of Mauritius* (pp. 1-15). Springer.
- Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, 15(1), 93-106.
- Tien, N. H. (2021). Relationship between inflation and economic growth in Vietnam. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(14), 5134-5139.
- Timothy, V. (2010). A study on the Determinants of Commercial Bank Performance in Tanzania: A Resource-based View. Available at SSRN 1858344.

- Ting, I. W. K., Azizan, N. A., Bhaskaran, R. K., & Sukumaran, S. K. (2019). Corporate social performance and firm performance: Comparative study among developed and emerging market firms. *Sustainability*, *12*(1), 26.
- Topalova, P., & Khandelwal, A. (2011). Trade liberalization and firm productivity: The case of India. *Review of economics and statistics*, *93*(3), 995-1009.
- Torkkeli, L., Kuivalainen, O., Saarenketo, S., & Puumalainen, K. (2018). Institutional environment and network competence in successful SME internationalisation. *International marketing review*.
- Trachuk, A., & Linder, N. (2018). Learning-by-exporting effects on innovative performance: Empiric study results. *Knowledge Management Research & Practice*, *16*(2), 220-234.
- Tran, Q., Doan, A. T., & Tran, T. (2021). Small and medium enterprises' credit access, ownership structure and job development. *Australian Economic Papers*.
- Treisman, D. (2000). The causes of corruption: a cross-national study. *Journal of public Economics*, *76*(3), 399-457.
- Tressel, T., Schindler, M., & Christiansen, L. E. (2009). Growth and structural reforms: A new assessment.
- Tsui, A. S., Wang, D., & Zhang, Y. (2002). Employment relationships with Chinese middle managers: Exploring differences between state-owned and non-state-owned firms. In *The management of enterprises in the People's Republic of China* (pp. 347-374). Springer.
- Turkson, F. E., Amissah, E., & Gyeke-Dako, A. (2020). The role of formal and informal finance in the informal sector in Ghana. *Journal of Small Business & Entrepreneurship*, 1-24.
- Turkson, F. E., Amissah, E., & Gyeke-Dako, A. (2022). The role of formal and informal finance in the informal sector in Ghana. *Journal of Small Business & Entrepreneurship*, *34*(3), 333-356.
- Turro, A., Noguera, M., & Urbano, D. (2020). Antecedents of entrepreneurial employee activity: does gender play a role? *International Journal of Entrepreneurial Behavior & Research*.
- Tvedten, K., Hansen, M. W., & Jeppesen, S. (2014). Understanding the rise of African business. *African Journal of Economic and Management Studies*.
- Ugorji, E. C. (1995). Privatization/commercialization of state-owned enterprises in Nigeria: Strategies for improving the performance of the economy. *Comparative Political Studies*, *27*(4), 537-560.
- Ullah, B. (2020a). Financial constraints, corruption, and SME growth in transition economies. *The Quarterly Review of Economics and Finance*, *75*, 120-132.
- Ullah, B. (2020b). Signaling value of quality certification: Financing under asymmetric information. *Journal of Multinational Financial Management*, *55*, 100629.
- unctad. (2019). World investment report 2019: Special economic zones. In: United Nations Geneva.
- Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: an international study. *Small Business Economics*, *42*(4), 703-716.
- Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned? *Small Business Economics*, *53*(1), 21-49.
- van Wijk, J., Zietsma, C., Dorado, S., De Bakker, F. G., & Marti, I. (2019). Social innovation: Integrating micro, meso, and macro level insights from institutional theory. *Business & Society*, *58*(5), 887-918.

- Vanacker, T., Collewaert, V., & Zahra, S. A. (2017). Slack resources, firm performance, and the institutional context: evidence from privately held European firms. *Strategic management journal*, 38(6), 1305-1326.
- Verboncu, I., & Zalman, M. (2005). *Management și performanțe*. Editura Universitară.
- Viadiu, F. M., Fa, M. C., & Saizarbitoria, I. H. (2006). ISO 9000 and ISO 14000 standards: an international diffusion model. *International Journal of Operations & Production Management*.
- Vickers, J., & Yarrow, G. K. (1988). *Privatization: An economic analysis* (Vol. 18). MIT press.
- Wadhwa, P., McCormick, M., & Musteen, M. (2017). Technological innovation among internationality active SMEs in the Czech economy. *European Business Review*.
- Wagner, J. (1995). Exports, firm size, and firm dynamics. *Small Business Economics*, 7(1), 29-39.
- Wang, Y. (2016). *What are the biggest obstacles to growth of SMEs in developing countries? - A picture emerging from an enterprise survey*.
- Welsh, D. H., Kaciak, E., Memili, E., & Zhou, Q. (2017). Work-family balance and marketing capabilities as determinants of Chinese women entrepreneurs' firm performance. *Journal of Global Marketing*, 30(3), 174-191.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, 5(2), 171-180.
- Wignaraja, G. (2008). Foreign ownership, technological capabilities and clothing exports in Sri Lanka. *Journal of Asian Economics*, 19(1), 29-39.
- Williams, C. C., & Kedir, A. (2018). Evaluating competing theories of informal sector entrepreneurship: A study of the determinants of cross-country variations in enterprises starting-up unregistered. *The International Journal of Entrepreneurship and Innovation*, 19(3), 155-165.
- Williams, C. C., & Kedir, A. M. (2016). Business registration and firm performance: Some lessons from India. *Journal of Developmental Entrepreneurship*, 21(03), 1650016.
- Williams, C. C., Martinez-Perez, A., & Kedir, A. M. (2017). Informal entrepreneurship in developing economies: The impacts of starting up unregistered on firm performance. *Entrepreneurship Theory and Practice*, 41(5), 773-799.
- World Bank. (2012). *Enterprise Surveys Indicators Descriptions*. Retrieved August 04, 2021 from <https://www.enterprisesurveys.org/en/enterprisesurveys>
- World Governance indicators. (2021). *Supporting policy with scientific evidence*. Retrieved August 04, 2021 from https://knowledge4policy.ec.europa.eu/dataset/ds00126_en
- Wuttke, D. A., Rosenzweig, E. D., & Heese, H. S. (2019). An empirical analysis of supply chain finance adoption. *Journal of Operations Management*, 65(3), 242-261.
- Yang, P., Riepe, J., Moser, K., Pull, K., & Terjesen, S. (2019). Women directors, firm performance, and firm risk: A causal perspective. *The Leadership Quarterly*, 30(5), 101297.
- Yoo, D., & Reimann, F. (2017). Internationalization of developing country firms into developed countries: The role of host country knowledge-based assets and IPR protection in FDI location choice. *Journal of International Management*, 23(3), 242-254.
- Zaheer, S., Khaliq, F., & Rafiq, M. (2017). Does government borrowing crowd out private sector credit in Pakistan. *State Bank of Pakistan, Working paper*, 83.
- Zahonogo, P. (2016). Trade and economic growth in developing countries: Evidence from sub-Saharan Africa. *Journal of African Trade*, 3(1-2), 41-56.
- Zahra, S. A. (2021). The resource-based view, resourcefulness, and resource management in startup firms: A proposed research agenda. *Journal of Management*, 47(7), 1841-1860.

- Zander, I., McDougall-Covin, P., & Rose, E. L. (2015). Born globals and international business: Evolution of a field of research. *Journal of International Business Studies*, 46(1), 27-35.
- Zarook, T., Rahman, M. M., & Khanam, R. (2013). Management skills and accessing to finance: evidence from Libya's SMEs. *International Journal of Business and Social Science*, 4(7), 106-115.
- Zhu, S., He, C., & Luo, Q. (2019). Good neighbors, bad neighbors: Local knowledge spillovers, regional institutions and firm performance in China. *Small Business Economics*, 52(3), 617-632.
- Zoo, H., de Vries, H. J., & Lee, H. (2017). Interplay of innovation and standardization: Exploring the relevance in developing countries. *Technological Forecasting and Social Change*, 118, 334-348.
- Zucker, L. G. (1987). Institutional theories of organization. *Annual review of sociology*, 13(1), 443-464.