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Contents

PREFACE

The University of Cape Coast has run business programmes since the 1975/76 academic year, when it introduced the very popular Bachelor of Commerce degree programme. In 2003, the Department of Business Studies, then part of the Faculty of Social Sciences, attained Faculty status as the School of Business.

Like other leading Business Schools in the world, it is befitting of the School of Business of the University of Cape Coast to have a scholarly journal of the highest standards, which focuses on business and enterprise development. *Journal of Business and Enterprise Development (JOBED)* aims to stimulate in-depth and rigorous empirical and theoretical research in the business and enterprise development.

This issue features articles touching on banking and finance, marketing and consumer behaviour, information and communication technology, small and medium-sized enterprises, and entrepreneurship. The broad spectrum of articles selected underscores the importance of addressing business issues in a multidisciplinary context. Each article has been subjected to scrutiny not only by the editorial board, but also by seasoned reviewers from within and outside the University of Cape Coast. A double-blind assessment procedure was adopted for the review.

The *Journal of Business and Enterprise Development (JOBED)* is currently published as an annual periodical, but it is hoped that very soon it will be released twice a year and subsequently quarterly.

It is our fervent hope that readers will benefit from its contents, and that quality contributions will be forthcoming to sustain it. We welcome all comments aimed at improving the journal.

May I take this opportunity to thank the various reviewers who took time off their busy schedules to review the papers submitted. May I also thank the members of the editorial board in recognition of the role they played and the quality service rendered towards the production and release of this document.

I wish you enjoyable reading.

F. O. Boachie-Mensah
(Editor-in-Chief)

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Analyzing Ghana's Tourism Operating Environment: A Political Economy Perspective

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Abstract

Notwithstanding its importance to the success of businesses and industries, the external operating environment is hardly a subject of interest in the tourism literature. But understanding the operating environment is of major value when assessing the efficacy of tourism and its role as a vehicle for socioeconomic transformation in any country. The present study therefore employs a qualitative design within a political economy framework to assess the current environment within which Ghana's tourism operates. Using unstructured in-depth interviews the study collates views from 10 senior tourism sector operatives representing both public and private sectors chosen through the purposive sampling technique. The findings suggest that the political and economic factors of the present operating environment combine to create a difficult operational theatre for both the public and private sector actors in tourism. By implication therefore, the environment disables rather than enables the tourism trade and circumscribes its potential for expansion. To reverse the situation it is recommended that the existing organizational structures must be repositioned and also there must be reorientation of the existing ideological and fiscal policies.

Key words: tourism, environment, hosting paradox, public sector, private sector

Introduction

Tourism has for the past three decades become a permanent fixture in the developmental agenda of many developing countries and the reason cannot be farfetched. Modern day tourism is big competitive business and an important sector of the global economy. It is responsible for a tenth of all global employment and generated U.S$ 1.2 trillion dollars in receipts in the year 2015 (United Nations' World Tourism Organisation, 2016). This business which involves the movement of people for non-remunerative purposes around the globe is widely recognized as a vehicle for socio-economic development and has been actively promoted by many governments and multilateral development agencies (e.g. the United Nations' World Tourism Organization; 2002a; 2012).

The belief in tourism's developmental abilities is even stronger among developing countries. The traditional benefits of tourism include job and wealth creation for individuals, enhanced revenues for businesses and increased foreign exchange and taxes for governments (Honey & Gilpin, 2009; Wu & Yeung, 2015).

But the wholesale endorsement of tourism as an economic redeemer in developing countries has been mediated by well documented concerns (e.g. Arthur & Mensah 2006; Akama & Kieti, 2007; Holden, Sonne & Novelli, 2011; Koutra & Edwards, 2012; Sharpley, 2009, Sonne, 2010) about the inability of these gains to translate into palpable developmental outcomes at the local community level. It is generally the case that in many African destinations, the growth in tourist patronage has barely triggered the expected commensurate developmental outcomes (Okech, 2010; Sharpley, 2009). The few realisable benefits such as increased revenues to government and increased foreign exchange have tended to largely remain in the macroeconomic domain, but the real effects are hardly ever felt at the more decentralized levels where they are most needed. Empirical findings to this effect have been made of major African tourism destinations such as Kenya (Akama, 2007; Okech, 2010; Sindinga, 1996) and Tanzania (Salazar, 2009) and Ghana (Arthur & Mensah, 2006; Teye, Sirakaya & Sonmez, 2002). To this end, a contradiction, termed the 'hosting paradox' (Boakye, Otibo, & Frempong, 2013: 45) arises- a situation in which growth in tourism is reflected in less than proportionate gains in socio-economic development. Sharpley (2009:1) captures this paradox astutely by asserting that "despite the apparently successful growth of tourism in many LDCs, (Least Developed Countries) wider economic growth and development has, in many cases, not occurred".

When juxtaposed against the success stories of Western European and North America, the ambivalence of the African tourism experience, signals the importance of context and emphasizes the fact that tourism operates in a more nuanced and complex way than is often understood (Picard & Wood, 1997). Seeking to unravel the hosting paradox therefore raises three structure/agency - related issues, namely: capacity; the role of the tourism institutions; and, the operational environment Capacity refers to the ability of an entity to perform

assigned roles. Capacity has been found (e.g. Boakye et al. 2013; Koutra & Edwards, 2012a; Moscardo, 2008) to be a major determinant of the receipt and distribution of earnings from tourism. There is thus the need to understand the capacities of various actors in the tourism space and how these are harnessed for their benefit. The second issue, relates to the key actors in tourism and their attendant effectiveness. The success of tourism depends heavily on both the effectiveness of the public sector and the ingenuity of the private sector. While public institutions are generally expected to play a facilitative role, the private sector has the duty to play a creative role. Tourism's expected benefits are often hinged on a vibrant private sector. Using the multiplier concept (Gee, Makens & Choy, 1997), it is theoretically expected that tourists' direct expenditure on accommodation, transportation, food, beverage and entertainment will be absorbed by first-line businesses whose operations in will turn stimulate economic activity by engaging other businesses in their quest to meet the need of tourists (Mitchel & Faal, 2008; Coviello, Winklhofer & Hamilton, 2006). Tourism institutions (both public and private) are therefore a key conduit through which the sector's economic benefits are expected to trickle down to the micro and individual levels and vibrant tourism businesses operating in an accommodating environment can help achieve these. The third generic issue constitutes the focus of this paper and relates to the operating environment. Often overlooked in many a study, the operating environment constitutes an important determinant of the success of the tourism actors. It has been proposed for example that operating environment invariably impacts on output (David, 2013) and empirical evidence to this effect has been adduced from the food and beverage industry (Adeoye & Elegunde, 2012). It becomes imperative therefore to examine the operating environment for both tourism businesses and state institutions with a view of understanding their success and limitations better. A Tourism Operating Environment (TOE) can be functionally defined to be the setting (especially political and economic) within which the tourist trade occurs in a given space. The TOE is a combination of political and economic factors and how they together roll out an operational theatre for the tourism trade. These three concepts can be fused within an analytical framework cast within the Political Economy (PE) thinking. Political Economy approaches basically assess an operating environment by taking into account structure-related issues such as political and economic factors (Mosedale, 2011). This paper adopts the Critical Realism (CR) paradigm[1]. The CR theory argues for a clear distinction between epistemology and ontology (Sayer, 1992; Archer, 1998; Bhaskar, 1998) on the basis that social reality cannot be understood without an appreciation of the various strata and their powers of influence (Morton, 2006). As Bhaksar

[1]. This account of the CR is deliberately shortened for the parochial object of establishing its link with the present study. Otherwise, a more comprehensive account of the CR theory can be found in seminal books by Archer et al (1998) and Bhaskar (1989).

(1989) indicates, science must discover hidden structures and objects that have the power to influence outcomes. In other words, phenomena in the social world can be better understood only if their (sometimes) invisible underlying structures are known and appreciated. CR Theory is valuable therefore in its ability to facilitate the identification and analysis of structures and mechanisms that drive tourism as well as allowing for ex-post facto explanations of occurrences within its operating structure.

Ghana, a West African country of almost 25 million people has pursued the development of tourism over the past three decades. Being a typical developing country, Ghana, in 1985, introduced tourism as a means of diversifying its economy and reducing its reliance on earnings from its traditional exports of cocoa and gold. While there have been some obvious gains, these have been felt largely at the macro-economic level Ghana, for example, has cumulatively received $13billion in tourism revenues over the past 25 years, averaging some $500m each year. In addition, the contribution of tourism to Gross Domestic Product (GDP) has increased from 0.5% in 1985 to 4.7% in 2014 and it currently employs an estimated 500000 people (World Travel and Tourism Council, 2015). Ghana represents a good context for examining the operational environment on account of two facts. The first is the reality that the growth of the sector has slowed down over the past ten years in terms of arrivals, revenues and supply of tourism services (Boakye, Otibo & Frempong 2013). Secondly, there is evidence to suggest that tourism has largely failed to deliver developmental outcomes, particularly by way of micro-level benefits to the host communities. Almost all the studies from the country's major tourism hub, the Cape Coast-Elmina area, (e.g. Teye, Sonmez & Sirakaya, 2002; Koutra, 2007a; Boakye, 2008; Sonne, 2010; Holden et al, 2011; Koutra & Edwards, 2012) are unambiguous in their conclusions that tourism has failed to deliver the needed developmental outcomes to the local people after almost 30 years. In the view of Arthur & Mensah (2006), the increased numbers of tourists (about 100,000 annually) to Elmina has made very little impact on the town's underdeveloped nature which is still characterized by poor sanitation and waste management, weak infrastructure and huge constraints on educational and healthcare facilities. Such an unsettling commentary of a destination area which has continually witnessed inflows of tourists for more than 25 years beckons a deeper, more critical assessment of the operating environment. However, in spite of importance of the role of context in understanding the complex and nuanced tourism-development interface, very few studies employ a paradigm that provides the depth of understanding of the environment within which tourism operates as a tool for development. When applied to the current discourse, therefore, the PE thinking guides the study's thought process through highlighting the following issues encapsulated in the following questions about Ghana's tourism:

- What is the nature of the operating environment and what implications does it have for the efficacy of the tourism institutions identified earlier?
- How does the structure of the operating environment shape the organization of both the private and public sectors in tourism? Ghana's tourism policy (political) environment in terms of ideology,

This paper principally sets out to assess the external operating environment of Ghana's tourism sector. The external environment is generally known to be that part of an entity's operations which is controlled by forces outside the control of the firm and has traditionally involved the political, economic, legal, scientific and technological factors. The present study focuses on the political, economic and legal spheres of the country's tourism operating environment. The next section discusses some theoretical and empirical issues related to the tourism-development nexus with the others discussing the methods, findings and discussions accordingly.

Literature review

Political Economy (PE) approaches have generally been useful in studying the nature of the operating environment of the tourist trade and how they affect the attendant outcomes. A cursory look at the tourism literature shows two broad applications of PE. The first concerns the strict interface between politics and economics and how each influences the other. Tourism related studies which have directly or inadvertently employed this approach include Teye's (1988) seminal essay on tourism and political stability, as well as work by Brown (2000), Dieke (2001), Bianchi (2002), Ferreira (2004), Akama & Kieti, 2007; and Okech, (2010) have variously singled out politics (and, to an extent politicking) and their resultant policies as an influencer of the outcomes of the tourism development process in their respective countries.

The second category of studies have adopted a more liberalized approach (e.g. Adu- Febiri,1994; Konadu -Agyemang, 2001, Iroegbu, 2010) and have widened the scope of PE to focus on the context within which economic production occurs. Such studies have focused on the geopolitical space, particularly the twin concepts of neo-liberalism and globalization and explored its nuances and implications for African economies.

Tourism's expected role as an agent for development has always been modelled after the prevailing paradigm or definition of development. Hence, the changing forms of tourism (e.g. mass tourism, ecotourism, pro poor tourism) have reflected the attendant developmental paradigms namely, development as westernization, environmentally sensitive development and, people-centered development. Theoretically, some of tourism-induced developmental outcomes include the creation of jobs and its attendant incomes to persons, creation of demand for agricultural produce and the raising of revenues (through tourism-

related taxes) for government to undertake social investments such as in health, sanitation, education, and infrastructure.

When related to the current paradigm, the Sustainable Development Goals, tourism can be conceptualized as playing a three-pronged function as an agent of development: as a creator of wealth, a distributor of the wealth so created and, a conduit through which human welfare is secured. In tourism's wealth creative function, the visit of tourists creates additional demand for goods and services and provides enhanced business for individuals and businesses and greater tax opportunities for governments (Honey & Gilpin, 2009). The second developmental function pertains to the distribution of the wealth acquired by businesses through securing backward linkages through the creation of demand for other goods and services by the frontline businesses (Boakye, 2008). The third function− protection, relates to tourism playing a protective function in which the wealth acquired in the first two is used (both by the direct beneficiaries and by government) to pursue other development-related outcomes such as health, education and sanitation. The successful performance of these roles is contingent on the vibrancy of the environment within which tourism operates (Dieke, 1995, 2003).

The literature on the business environment identifies two major operating environments: the internal and the external. While the former deals with the firm's own strengths and weaknesses, the external environment is thought to consist of those factors which affect the firm over which it has no control. Of the many factors that have evolved, the four traditional ones, Political, Economic, Social and Technological (PEST) remain generic. Tourism, even at the broader aggregate level, is affected by each of these factors. Political factors could be operationalized in terms of ideology and governance. Political ideologies have, for example, been found (e.g. Akyeampong, 2008) to inform both the decision and the type of interventions in tourism. A popular example is Tanzania under Julius Nyerere whose Ujamaa political philosophy frowned upon tourism because it was thought to be a conduit through which western ideas could be introduced into the country. The same has been found of North Korea (Kim, Timothy & Han, 2007). As Burns and Novelli (2008) cogently argue, it is important for tourism entities to understand the dynamics of political power in terms of its present and likely future location and the implication of such nuances for tourism policy. Economic factors have also been found to be major determinants of the fortunes of tourism. For example, the strength of the economy (both at the generating and receiving points) can even shape internal demand for tourism. The dips in global outbound travel between 2007 and 2010 can be linked to the general economic depression which hit major generating countries during the same period.

Again, expensive destinations are generally not attractive (Gee et al. 2009) and to this end, countries (e.g. Japan) have been known to deliberately devalue their currencies to make them more attractive to tourists from their targeted generating markets . Still on the same argument, commodities like oil

have been found (e.g. Becken, 2011; Boakye, 2012) to have a deterministic effect on the fortunes of tourism. Happenings on the oil production front tend to affect both the demand and the supply of tourism. The fiscal regime also plays a major role in determining the outcomes of tourism. Serra, Correia and Rodrigues, (2014) have argued that the exchange rate and other fiscal indicators such as the rate of inflation and taxation rates tend to affect the operational outcomes of tourism businesses. Mak (2004) for example asserts that a 5% tax introduced by the state of New York on hotels caused an overall decline in tourism business and prompted a withdrawal four years later. Similarly, Zapalska, Vaidayanathan and Brozik (2012) identified inefficient fiscal policies as one of the reasons for poor performance of hospitality and tourism firms in West Virginia. Social and Technological factors also play major roles in shaping the external operating environment of tourism but fall outside the purview of the present study. Iroegbu's (2010) survey found the economic climate to be a significant influencer of market development strategies adopted by Multinational Corporations. But the external environment is not the only factor that plays a deterministic role on operational outcomes. The internal environment has also been found to play an equally deterministic role in a firm's success. Hence internal efficiency is equally important and while not the focus of this paper, it is worthy to note that other studies (e.g. Akyeampong, 2007; Duran, 2013) have examined internal efficiencies of tourism actors. Nevertheless, it would appear on the balance that the success of a tourism entity would largely be determined by the quality of the external environment. No matter how well organized and efficient a firm's internal environment may be, high taxes, political instability and poor infrastructure will definitely pose a mediating effect on growth.

Methodology

The study's explorative orientation and nature compellingly placed it in the qualitative orientation. Primary data was collected through In-Depth Interviews conducted with 10 senior tourism officials and tourism/hospitality industry captains who were purposively chosen on the basis of their vast industry experience and the positions they hold. Secondary data were extracted from policy documents from Government sources as well as other literature. The instrument mainly centered on issues related to expected roles, as well as existing problems faced by both government officials and service providers, but also explored the existing power dynamics among actors in the tourism sector.

Data gathered from the interviews were analyzed using an inductive thematic approach based on themes elicited from the literature. In addition, data gathered from online searches under the topic 'tourism in Ghana' using the Google search engine was analyzed.

Results and Discussion

The study sought to assess the tourism operational environment as viewed by actors in both the public and private sectors. This section reports on the operationalized aspects of the tourism operating environment under the broad political and economic dimensions.

The political dimension.

The political dimension of the operating environment was assessed using indicators such as the existing political ideology, policy legislative and organizational framework. The findings are presented in turn. On the whole, the evidence suggests that the current political environment is structurally deficient. Starting with ideology, it was discovered that laissez-fairism is the present operative philosophical paradigm. The ensuing quotes capture the reality better:

> *We operate a laissez-faire method …as you know tourism is private sector- led so our job is to facilitate its growth and development [a senior public servant]*.

Another public official had this to say on the issue of ideology and subsequent action:

> *Government's role is to regulate and that is what we are doing. Occasionally we try to train to improve on standards but that is dependent on availability of funds [a senior public servant]*.

Yet another had this to say

> *Regulation is key to the success of any endeavor. Our job is to ensure that the legal requirements are adhered to. We expect the private sector to show leadership and go into creating tourism attractions and facilities. Ours is to create an enabling environment[a senior public servant]*

The quotes from these three senior public officials demonstrate the tenets of the laissez faire thinking: facilitation and regulation. The country's current inclination towards the neo-liberal laissez- faire ideology is not very surprising given the fact that it is the current philosophical orientation of the World Bank/IMF to whose programmes Ghana subscribes. These Bretton Woods institutions are neo-liberal by default, support trade liberalization and believe that governments should not be directly involved in product creation. However, such ideology needs critical reexamination, particularly in the context of developing tourism in poor African countries where a strong institutional presence is necessary to make up for a weak-underperforming private sector

(Jenkins and Henry, 1982). Though the laissez faire approach may be theoretically ideal in the business sense, it tends to be at variance with the economic and social goals for which many African countries develop tourism. Although Akyeampong (2009) argues that the laissez-faire approach may have been responsible for industry growth in Ghana, it is also true that the typical indifference, associated with this ideology may be responsible for the difficult operating environment outlined in this paper. Laissez fairism is hinged on the belief that the market can efficiently allocate and regulate resources but it fails to take cognizance of existence of market failures (Mak, 2004) and the non-economic dynamics such as the environmental and social impacts (Choy, 1991). Yet, as Holden (2005) asserts, tourism is a social phenomenon and has implications for the host community and the societies in which it takes place.

Another dimension of the political environment pertains to the policy framework. The study found that Ghana, has over the past 15 years, produced six major policy documents relating to tourism, namely:

- Integrated Tourism Development Plan: 1996-2010
- Five year Tourism Action Plan : 2003-2007
- National Tourism Policy (Draft) : 2005
- Tourism Sector Medium Term Development Plan: 2010-2013
- National Tourism Marketing strategy: 2009- 2012
- National Tourism Development Plan: 2013-2027

However, the results of the content analysis suggest that the existing policy architecture collectively fails to satisfactorily address five critical issues relating to the smooth operation of tourism. These are (1) the identity and importance of other stakeholders in the tourism process such as host communities (2), fostering the creation of inter-sectorial linkages between tourism and other economic activity (3), building the generally low capacities of host communities (4), addressing the powerlessness of the public sector and attendant faulty coordination of the tourist trade and, (5) creating a conducive environment to make the private sector more productive and profitable.

Though the latest plan (ROG, 2013-2027) appears to acknowledge the existence of one of these structural gaps, namely the skewed power relations against the tourism establishment, the solutions it proffers can hardly solve the problem. For instance, the plan's call for restructuring of the tourism public sector, though of some value for internal efficiency, simply appears to be a case of creating a new bureaucracy to solve an existing problem. To that extent, the existing policies and plans appear not have not been very helpful in shaping tourism to meet the country's developmental needs. Aside their inadequacies as outlined, large sections of these plans hardly ever get implemented (Mensah-Ansah, Martin & Egan, 2011). An analysis of the legal environment, however, paints a different story. Ghana has over the last 5 years passed a significant

landmark legislation that has permanently changed the face of tourism. The passage of the Tourism Act 817 in 2011 spawned three positive unprecedented developments, namely: the provision of a comprehensive framework within which the tourist trade is to be practiced; the elevation the Ghana Tourist Board to the status of an authority named the Ghana Tourism Authority and; the creation of a tourism development fund which is to be financed through monies realized from a levy. The last development in particular has unearthed an innovative way of financing tourism and has so far yielded US$7million.

The third dimension of the political environment pertained to the organizational framework *which* was found to be underfunded and powerless. In terms of funding a Senior Public Official had this to say:

> *We barely get the funding we need. We need money to perform major functions such as marketing the destination, collating statistics, training among others. Mostly the amounts we get from central government are but a fraction of what we have requested.*

Information gathered from the online search also buttressed the sentiment by the officials. In fact, as Mensah (2011) indicates, the Ministry of Tourism's budget was almost halved in 2012 over the 2011 figure. The 2012 budgetary allocation of US$ 5.1m (approximately) represents a mere 0.23% for the previous year's receipts. Worse still is the fact that a large chunk of this allocation goes into salaries and emoluments leaving very little for developmental or promotional activity. The following extracts from archived Ghana News Agency Reports about the perennial underfunding are self-explanatory. In 2003: The then outgoing acting Minister for Tourism described budgetary allocation to the Ministry as "*peanuts*" saying, the amount is not capable of developing the industry to competitive levels in the Sub-Region. He said the budget allocated to the Ministry was limited and was a serious constraint to raising the standards in the tourism industry. Nine years later in the year 2012**,** "the Deputy Minister for Tourism has noted that the poor performance of countries in the sub- region in their tourism competitiveness was due to weak research and low budget allocations to the sector". Most recently in the year 2013**,** the outgoing Minister for Tourism was quoted to have, again, bemoaned the low allocations to her Ministry. Such perennial underfunding is the outcome of a combination of ideological and economic factors. From the ideological perspective, the underfunding can be explained by the fact that it reflects the neo-liberal/laissez faire approach which is hesitant to allow heavy investments in what is erroneously perceived to be a private sector activity. It is not uncommon to hear state officials describe tourism as being 'private sector led'. Hence investments in tourism are viewed to be wasteful as they support only few elite. Such a viewpoint fails to see tourism as economic activity with strong potential to reduce poverty if well managed (UNWTO, 2012; Honey, 2009; Mitchell & Faal, 2008). Such a mantra is as misleading as it is disingenuous,

particularly in the developing country context whose private sector is weak or underperforming. The underfunding may also be due to the low contributions tourism makes to the national purse. In reality, in strict accounting terms, tourism's real monetary contributions to government are only but a fraction of the total receipts that are often publicized. The only tourism receipts that would possibly directly accrue to government's chest would be income from some attractions and, (to a limited extent) airport taxes on those who visit on touristic purposes. The rest (e.g. payments for transportation, food, beverage and accommodation) would be difficult to attribute solely to tourism. Perhaps it is on the basis of this "low inflow" that government allocates such small amounts to the sector. The wider issue, however, is one of data collection and the validity of both the process and the outcomes. The point about Ghana lacking a valid data base on tourism arrivals and receipts has been variously expressed and is buttressed by the fact that the global tourism statistics published by the UNWTO reveals frequent data gaps on Ghana. It is this weakness that has prompted the government to initiate a project on tourism data collection, using the Tourism Satellite Accounting methodology.

Another organizational issue pertains to the seeming powerlessness of the tourism sector. The study found evidence which reflects the dynamics of the concept of bounded territoriality. Tourism by its very nature involves many stakeholders, most of whom have core mandates outside the sector but take decisions that have far reaching implications for it. As shown in Table 1, much of the power of agency in tourism lies with institutions which are not in the sector. It is noteworthy, for example that the Ministry of Tourism does not have cabinet status. The Ministry of Interior for example has a core mandate to protect Ghanaians, hence would be justifiably committed to prioritizing local security over providing protection to tourists. Yet, tourist insecurity reduces the country's appeal as a destination. Similar arguments can be made for the agencies in charge of roads, utility and even taxes.

Table 1: Some tourism related needs and powers of agency in Ghana

Tourism related need	**Relevance to tourism**	**Power of Agency**
Tourists smooth acquisition of entry visas and travel arrangements	Makes the destination competitive	Ministry of Foreign Affairs
Skills training for entry level tourism staff	Enhance professionalism of front line staff critical for good image	Ministry of Employment and Social Welfare
Security	Protection of tourists which is critical to destination image	Ministries of Interior and Defense
Road network to attractions	Access to attractions to allow for higher	Ministry of Roads and Highway

	patronage	
Utility services for tourism businesses especially in outskirts	Creation of a good business operating environment and stimulant for location of tourism businesses in the hinterland	Electricity- Ministry of Energy Water- Ministry of water resources works and housing
Tax regime (including incentives)	Encourages tourism related investments with their attendant benefits	Ministry of Finance and Economic Planning
Exit interviews (especially at the airport)	Useful in providing direct feedback from tourists about the Tourism Product	Ghana Civil Aviation Authority/Ministry of Transport Ghana Immigration Service

Source: Fieldwork, 2016

The tourism public sector's powerlessness is again reflected in the ownership and management of attractions- which are the heart of tourism. As shown in Table 2, the ownership and management of the major tourism attractions does not lie in the hands of the tourism establishment but in Ministries Departments and Agencies whose core mandates are quite different from leisure and recreation.

Table 2: Some major attractions in Ghana and their supervisory institutions

Attraction	**Supervising entity with power of agency**
Aburi Botanical Gardens	Forestry Commission, Ministry of Local Government
Kwame Nkrumah Mausoleum	Ministry of Chieftaincy and Culture
Kakum National Park	Forestry Commission
Cape Coast Castle	Ghana Museums and Monuments Board
Elmina Castle	Ghana Museums and Monuments Board
Lake Bosomtwe recreational area	Relevant District Assembly
Boabeng Fiema Monkey Sanctuary	Local community
Tafi Atome Monkey Sanctuary	Local community
LA Pleasure Beach	Local community (La, Development Committee)
Various waterfalls (e.g. Wli, Boti, Kintampo)	Relevant District or Municipal Assemblies

Source: Fieldwork, 2015

Such a fragmented nature of the present tourism arrangement as seen in Tables 1 and 2 may be explained by a lack of understanding of tourism and its associated unwillingness to collaborate by the key actors. The present situation in which the tourism establishment does not have agency in the running of the

major attractions is unsustainable but the key problem with the present ownership structure appears to be the challenge of maintaining a balance between the managing entities' core mandates and a satisfactory tourist experience. As noted from Table 2, the agencies which control major tourist attractions (Table 2) have core mandates which are not necessarily tourism-related. Yet, these entities derive substantial incomes from tourist patronage which they otherwise would not receive. Catering for tourists normally requires more than preservation/ conservation and places an even greater premium on service− an aspect to which the managing authorities are not obliged to recognize. Consequently, it is little wonder that studies (e.g. Boakye, & Boohene, 2009; Frimpong, Dayour & Bondzi- Simpson, 2015) have found service to be poorest at attractions sites as compared to other frontline engagements with tourists. With the exception of the Castles and the Kakum National Park, tours at the various attractions are normally conducted by staff of these controlling organizations who have had no professional guiding lessons and thus, are oblivious to the numerous service errors they commit .

In the light of this ideological mismatch, the perennial underfunding and the lack of organization observed in the study become more understandable. It appears the emphasis for government (as expressed in the Tourism Act) is more skewed towards the neo-liberal dictates of industry regulation to the detriment of important issues such as product creation and enhancing the touristic appeal of the tourism attractions and establishing mechanisms through which tourism can deliver developmental outcomes to host communities. Koutra (2007) for example notes that Ghana does not appear to have any clear pro-poor policies through which benefits from tourism can be felt at the community level.

The finding about limited powers of agency is equally revealing. The lack of agency points to policy oversights. Even if there were no budgetary limitations, the public sector operating environment would still be unfavorable owing to the power dynamics shown in Table 1. It is little wonder therefore, that since independence, very few and insignificant portions the country's tourism developmental plans and decisions have ever been implemented (Mensah-Ansah et al, 2011) because the tourism public sector lacks the recognition, power, legitimacy and agency to implement them. But the real problem is not with the placement of the power of agency, but rather the lack of coordination between the tourism establishments and the institutions that wield the relevant power of agency.

The Economic Dimension

The next broad dimension of the operating environment pertains to the economic atmosphere as per the views of the private businesses. Data gathered from industry players suggests that the private sector faces a challenged operating environment as demonstrated in three areas of operation: access to credit; taxation issues and infrastructure.

Access to credit was a commonly- mentioned challenge by the industry

captains. They bemoaned the fact that the credit is largely unavailable and when it is, come with exorbitant interest rates. The following narrative gleaned from an interview reflects the point better:

> *The banks are not helping us at all. They see tourism as both a luxury item and one in which there is high risk and a longer time to repay. The banks would rather give loans to churches or business who import goods from China or Dubai [an industry captain and executive of a trade association].*

The existing fiscal regime was identified as another major challenge posed by the present business operating environment. The challenges related mainly to the taxation system and the incentive regime. Regarding taxation, the industry captains complained of both a high tax rate as well as the multiple layers of taxation they are subjected to. They listed the following taxes/levies they had to contend with on an annual basis:

- Value added tax which has already been worked into all its purchases
- Annual income tax
- Levies by local authorities
- Levies by other professional bodies such as the copyright association

The point is well-espoused in the ensuring narrative:

> *Government officials appear to see the hotels as a ready source of free cash to be mobilized. Anytime there is the need to raise tax revenue, the hotel is the first place of call. They think we make plenty money but in reality we are barely surviving. This year alone the fees we pay to some statutory organizations has increased almost 200 fold [an executive of the hotel association].*

A third aspect of the business operating environment concerned infrastructure challenges. Respondents cited the crippling energy crisis and other infrastructure challenges as having a deleterious effect on their operations. This reality is captured in the ensuing quotes:

> *This energy crisis has really hit us hard. I will not be surprised if you hear of about 20 hotels closing down. We cannot bear the huge fuel bills any longer. Though the energy is fairly stable now, the new bills are simply outrageous. Hotel bills are so high that it is relatively cheaper to run a generator. Do you know that currently for most hotels, utility bills are higher than payroll? Where in the world does this happen? Our overheads have just shot through the roof. We are bleeding! We may have to shut down and let our workers go home [an executive of the Hotels Association of Ghana]*

A similar observation was made similar to other infrastructure such as roads, water and security.

> *Our business is really facing challenges. Although we diligently pay our taxes we cannot be assured of running water and good roads. What is government doing with all our money? We are major collectors of their tourism fund yet there is no benefit to us. Many of our clients complain of poor roads, must we also now get into providing roads to our facilities? In addition, we have to provide our own security. It is only recently that the terror threat meant that some of our members were provided with policemen. Even then we bear the full cost of paying them while on duty at our facilities. [An industry captain].*

Almost all the findings about the hostile nature of the operating environment are not new. Similar observations about the high and multilayered taxes have been made by Akyeampong, (2007). Again, the infrastructure challenges observed in this study had earlier been documented in a study conducted by the Department of Geography and Tourism. Furthermore, a study conducted in 1999 by the Department of Geography and Tourism (as cited in Akyeampong, 2007) showed that hoteliers in the country's Central Region ranked poor utility services as their most pertinent problem. Eight years after, Akyeampong (2007: 227) wrote: "power outages and dry taps have become a hindrance to the operations of hotels". The repetitive nature of the findings about the operating environment may be reflective of the fact that the existing legal/ policy framework has tended to overlook contextual matters, and in particular, the nature of the economy.

The reality is that Ghana's economy is basically weak, and as such creates operational challenges for tourism service providers. High inflation, a high incidence of taxation and a weak currency tend to affect both the demand and operational aspects of any business. Over the last 4 years the situation has worsened on account of a crippling energy crises and an increasing budget deficit. Consequently, the economy which grew at 14% in 2011 could only manage 3.5% in 2015. A 2016 report by the Association of Ghana Industries (AGI) paints a more graphic picture of the increasing tax burden and a stifling economic operating environment. The currency, the Cedi has depreciated by more than 200% during the last six years with the exchange rate sliding from Gh1.5 to the dollar in 2009 to the current Gh 3.9 in 2016. Such a weak economic structure has sent government into excessive borrowing from the local markets which in turn has limited the private sector's access to credit. Given its power to offer higher interest rates, Government has often tended to out borrow the private sector, with banks naturally inclined to serve the higher bidder, leaving little credit to be accessed by the private sector. Consequently, the cost of credit is very high - current interest rates in Ghana average around 35%. The Association of Ghanaian Industries has always complained about this 'credit crunch'. It is little wonder that service providers face limited access to credit,

confirming earlier findings made by Akyeampong (2007). The deleterious effects of high taxes are quite evident in their tendency to reduce growth in any sector (Mak, 2004, Zapalska et. al., 2012).

Conclusion

The country's TOE is characterized by structural deficiencies caused mainly by a misalignment of ideologies, policies and practices. For the public sector, the difficulties include a problematic ideology and its attendant defective policy regime and organization. For the private operators, the weak environment, expresses itself in limited access to credit, high taxes, and poor infrastructure. Clearly, the current TOE is inappropriate for successful tourism operations. Combined, the situation described has three implications for the growth of tourism and its efficacy as a vehicle for socio-economic development. The first concerns the possibility of a restriction of the growth of the sector, especially in terms of adding new attractions. The absence of decision making power and funds may lead to stalled growth. In fact, apart from a few difficult-to access, small-scale ecotourism attractions, the country has barely expanded its tourism product base over the last 20 years. There is little evidence of new attractions being added to the stock after the few landmark ones (Kakum National Park, Cape Coast Castle and Elmina Castle) that were created as a result of a project to develop tourism in the Central Region. A simple assessment of the potential tourism attractions in the country (as outlined by the Integrated Tourism Development Plan, 1996-2010) indicates the existence of a wide range of tourism offerings, yet, only less than 10% of which have been developed.

The second and perhaps more debilitating implication concerns the potential crippling of tourism's powers of economic stimulation as per the multiplier theory. It is mostly the case that tourism's benefits to local communities are realized through the activities of the private sector. Hence, once the sector becomes operationally challenged, the benefits are estopped also. Tourism can then no longer act as the catalyst for generating output, hire the adequate number of people, or, receive the relevant levels of demand which will trigger the backward linkages to stimulate economic activity. It may be argued that the unfriendly tax regime affects other economic activities but exceptions should be made for tourism in that it holds a well-proven blueprint for development. When compared to other economic activities tourism bears the distinct advantage of having one of the strongest potentials to create sustainable jobs and stimulate linkages and growth in other sectors.

Flowing from the first two is the possibility of growing resentment against the tourist trade, leaving in its wake, antagonism and the attendant safety and security concerns. Even though there is evidence in Ghana of major macro-economic gains of tourism, these have not translated into enhanced livelihoods, especially at the individual and communal levels. It does not take long for such

a situation to translate into one of a hostile host community that is antagonistic against tourists and tourism establishments.

On the way forward, it would appear that a system and structure of higher level coordination would serve the purpose of strengthening the operating environment better. First and foremost, there would be the need for the creation of a coordinating body at the cabinet level. Such a body- the Tourism Coordinating Council (TCC) can be chaired by the country's Vice-President and empaneled by the substantive ministers whose area of jurisdiction has implications for the tourist trade (Table 3). A functional and fully operational TCC can ensure proper policy coordination and infrastructure support for tourism and would minimize the problems noted in the text. Hence the TCC provides a forum for the integrated planning of tourism development. Concerning the funding/financing challenge, the establishment of the Tourism Development Fund by Act 817 is a step in the right direction because, if it is managed prudently, it constitutes an innovative and practical solution to reducing the already overbearing financial burden on central government.

Second, government should be more involved as a proactive legislator, and active partner in tourism-related businesses. By so doing, it ensures that the socio, political and environmental reasons for which countries embark on tourism can be realized. With its clout and borrowing power, government is the only actor that can compete with large conglomerates. Two cases in point on the Ghanaian scene buttress the point. There is little doubt that the 2008 partnership of the Ghana government with Vodafone international has yielded positive results, making the service provider very competitive. Again, government's ownership of the largest hotel chain (Golden Beach Hotels) has not stopped it from being profitable. Consequently there is the need to rethink the role of governments in tourism development.

Finally, given the fragmentation observed in the study, it may be prudent for government to consider declaring tourism a priority area. Such an act would translate into a greater level of government commitment towards creating a more conducive environment for businesses to grow through a more flexible tax regime and increased access to credit. Tourism's backward linkages can be best realized when the tourism businesses themselves are, in the first place, vibrant. In summary, in spite of its generally-impressive performance, the tourist trade still faces some challenges which contrive to reduce its capabilities as a tool for development. Future studies can focus on the nature/role of the internal environment of tourism actors (especially the state and private businesses). Preliminary evidence from Ghana's accommodation sector (e.g. Akyeampong, 2007), for example, points to internal weaknesses by operators. Again, greater insight is needed into understanding the impacts (environmental, social, and economic) that tourism has had on Ghana over the past two-three decades that tourism has risen to prominence as an economic activity in the country.

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Enhancing access to institutional financial support for small and medium enterprises in the Sekondi-Takoradi metropolis of Ghana

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ABSTRACT

This paper discusses the factors which affect access to financial support by small and medium enterprise (SMEs) in Sekondi-Takoradi. Financial resources are crucial in the life of all businesses including SMEs. However, access to financial support comes with the problems of information asymmetry, moral hazard and adverse selection. The factors that influence access to financial support are investigated using a non-interventional cross-sectional study design. Quantitative data were collected from 303 randomly selected SMEs using interview schedules, while qualitative data, using an interview guide, were obtained from 21 institutions offering financial support to SMEs in Sekondi-Takoradi. With the use of interpretations of the qualitative data, and descriptive statistics including cross tabulations, the results showed that interest rates, collateral, guarantors and, business and financial information, and financial literacy play a role in the access of institutional financial support by SMEs.

Key words: small, medium, enterprises, access, institutional, financial, support, Ghana.

Introduction

In a 2007 contribution to national development strategies policy notes for the United Nations Department for Economic and Social Affairs (UNDESA), Chandrasekhar argued that successful development should be inclusive and deliver a broad-based improvement in the quality of life, in addition to the focus on productivity growth and per capita gross domestic product. According to Chandrasekhar, growth depends upon the share of national income that is devoted to investment, but in order to realize investment potentials there must be improvement in access to capital. This view is very pertinent with respect to small and medium enterprises.

Small and medium enterprises (SMEs) are considered as very important to the development of countries due to the enormous contributions that they make towards the reduction of poverty and ensuring long-term social stability (Beyene, 2002). It is also argued by Raynard and Forstater (2002) that it is through the promotion of small enterprises that the international communities and the world at large can make progress towards the global target of halving poverty levels by the end of year 2015.This view is supported by Carmichael (2011) who states that even though microfinance alone is not a panacea for poverty reduction, it can make important contributions with respect to improved housing, water supply, education and health services.

According to Lieldholm and Mead (1979) and Gills, Perkins, Roemer and Snodgrass (1987),when a country has a low income per capita, the employment generation of its small business sector tends to be high. In explaining the Harrod-Domar model, Gill et al. argued that, considering the lower saving levels and higher unemployment and underemployment levels of poor countries, these countries have the potential to achieve higher growth rates by economising on capital and utilising as much labour as possible through the development of their SMEs. This is because, as was concluded byGreen, Kirkpatrick and Murinde, (2006) and Agyapong (2010), SMEs contribute to development through employment creation and income generation which ultimately lead to poverty reduction. Such views echoed that of Hussain (2000) who also opined that SMEs have the likelihood to bring about development through poverty alleviation because they provide employment to both rural and urban poor as they are sited everywhere and tend to use more labour-intensive processes of production.

Small businesses bring about increased incomes, diversified livelihood opportunities and provide more secure employment for the poor, thus reducing poverty, especially in developing countries (Admassie & Matambalya, 2002; Duncombe & Heeks, 2005). Furthermore, they provide social benefits to the poor including enhancement of skills, increased self-confidence and security against income loss. Therefore, a school of thought argues that subsidising SMEs is a poverty alleviation tool (Beck, Demirguc-Kunt & Levine, 2005).

In the opinion of Cull, Davis, Lamoreaux and Rosenthal (2005), accessing finance is very critical to SMEs because although SMEs are more often than not established with the entrepreneurs' equity and tend to depend on retained earnings for growth, they need financial resources for working capital, to withstand adverse business conditions and to take advantage of new technologies and opportunities. Cull et al. added that managerial competence is also essential in combining the factors of production so that the production possibility frontier shifts outward as productivity increases leading to growth and development.

Kuzilwa (2005) explains that traditional microeconomic theory regards finance as a corporate factor of production. This stems from the fact that irrespective of the size and age of the firm, finance is normally required for three standard uses. These include capital investment, either for start-up or expansion, in machinery and acquisition of premises, financing working capital during start up or while expanding and for the purchase of operating materials.The pecking order theory also talks about the importance of finance especially through credit to small businesses (Olawale & Odeyemi, 2010). These make access to external sources of finance in the form of credit very important to small enterprises.

The consequence of limited access to financing and long-term capital which, in the view of Asian Productivity Organization [APO] (2007), is the basis on which companies are built, is low productivity. Herrington, Kew and Kew (2008) explained that one of the reasons for high failure rates of new SMEs in South Africa is the non-availability of formal sector financing. Notwithstanding the importance of finance, access to financial resources comes with issues of information asymmetry, moral hazard and adverse selection. According to Green, Kirkpatrick and Murinde (2006), the rationale for providing financial support to SMEs is based on the argument that a fundamental cause of poverty is market failure. Market failure which is a consequence of market imperfections, asymmetric information and the high fixed costs of small scale lending, limits the access of the poor to the formal financial sector. This pushes them to the informal financial sector, and in the extreme scenario, it leads to financial exclusion.

Because of the difficulties associated with access to financial resources, Chandrasekhar (2007), for instance, proposes policies that will ensure financial inclusion. Some of the proposed ideas are branch banking in rural or underserved areas, prevention of credit migration and concentration, directing credit, institutional safeguarding and supply leading role by financial institutions. In their contribution to the debate, Widdowson and Hailwood (2007) argued that financial literacy has a role to play in promoting a sound financial system that can lead to financial inclusion. Meyers (1984), in the pecking order theory, also explained the importance of institutional financing to SMEs.

The arguments and propositions that have been enunciated above can be contextualized within the SME setting in Ghana. According to Abor and Biekpe (2006), the most significant weakness facing SMEs in Ghana, and by extension those in the Sekondi-Takoradi metropolis, is their lack of access to external finance. In this regard, Quarshie, Enu-Kwesi and Mensah (unpublished) explained that the implication of limited or inadequate funding is that SMEs are caught in a vicious cycle of low investment, low incomes, low profits and savings for investment. Some studies have focused on the problem of inadequate funding available to SMEs in Sekondi-Takoradi metropolis and access to institutional financial support, but limited allusions were made to the issues of financial literacy and financial inclusion, which this study incorporated as additional areas that can be addressed in the process of enhancing access. Specific issues examined were the characteristics of SMEs and factors that influence access to financial resources.

The next section of this paper focuses on the theoretical and conceptual issues underpinning this study, followed by the methodology used. This is followed by the discussion of the results. The final section captured the conclusions and the policy implications.

Theoretical and conceptual issues on access to financial resources

The agency theory of Jensen and Meckling (1976), states that an agency relationship is a contract in which one or more persons, the principal(s), engage(s) another, the agent(s). It arises in any situation involving a cooperative effort between two or more parties and as such there might not be a clear cut principal-agent relationship. In view of this, there is the problem of one party, the agent, behaving in a way which is against the interest of the other party, the principal. Information asymmetry which is related to adverse selection and moral hazard is one problem associated with the agent-principal relationship. According to Stiglitz and Weiss (1981), agency problems such as information asymmetry and moral hazard can impact the availability of credit to businesses.

Asymmetric information, according to Hubbard (1994), exists when borrowers possess private information about a financial transaction which is better than the information the lenders have about the borrowers' prospects and use of future funds. Therefore in some situations between a bank and prospective borrowers, the bank is unable to distinguish between those who have the ability to repay the loan and those who do not or those who would divert the loan into riskier ventures and those who would not. Consequently, the bank would charge interest rate which is the average of the rates that it would charge to low risk and high risk borrowers if symmetric information existed (Baye & Jansen, 2002).

In the view of Stiglitz and Weiss (1981), financiers may as a result of asymmetric information, adverse credit selection and monitoring problems, ration credit by offering an array of interest rates that would leave a significant

number of borrowers without access to credit. Rose (2000) also contends that information asymmetry results in the problems of adverse selection and moral hazard, and Miller and Van Hoose (2001) explain that adverse selection occurs when there is the potential for high risk borrowers to go for loans.

Where there is information asymmetry, interest rates are high resulting in a situation where low risk borrowers decide not to borrow, and this often leads to an increase in the proportion of loans issued to high risk borrowers (Baye & Jansen, 2002). In Ganbold's (2008) view, adverse selection pertains when there are high risk borrowers who are categorised as such because while some may be unable to pay their debts, others are simply unwilling to pay their debts and are thus prepared to borrow at high interest rate. When the lenders are aware that this problem exists, they become reluctant to lend, resulting in credit rationing.

Moral hazard is more pronounced with small firms as a result of the blurred line between the business and the entrepreneur (OECD 2006).It occurs in a situation where after the borrower or agent has received the loan or funds from the institution or principal, the former uses the resources in a way which is inconsistent with what was specified in the agreement between the two parties (Abor & Biekpe, 2006).

In order to deal with the problem of information asymmetry and the issues of adverse selection and moral hazard, financiers adopt certain measures which would enable them to make loans available to the borrowers with the ability to repay or to those who will not divert the funds into riskier ventures (Hubbard, 1994; Olawale & Odeyemi, 2010). These strategies include demanding credit reports, collateral and monitoring the activities of the borrower after the facility has been granted.

The pecking order theory by Myer (1984) ranks the sources of funds that firms use to finance their business activities. This hierarchical order indicates that the first option is for businesses to use internally available funds for financing their operations. Sourcing for external debt is the second option, while external equity is the third alternative. Preference ordering reflects the relative costs of the various sources of finance, and this approach is particularly relevant to small firms since the cost of external equity to them may be even higher than for large firms. This order of financing business activities, according to Lemuel (2009), is a common practice among SMEs. Lemuel adds that there is an inverse relationship between profitability of SMEs and their external borrowing. Thus the reliance of SMEs on borrowing or credit declines as they become profitable.

In the case of SMEs, the source of finance with the least cost associated with asymmetric information is often provided by existing managers who, in most cases, are owners of the firm (Bartholdy, Mateus & Oslon, 2010). Since SMEs' management and shareholders are often the same persons, internal equity and internally generated funds have no cost associated with information

asymmetry and is thus the cheapest source. Hence, the first choice of financing for SMEs is internal sources but they would seek credit if this source (internal funds) were unavailable. Inadequate internal funds explain one demand side determinant of access to finance through credit by SMEs.

The agency (Jensen & Meckling, 1976) and pecking order (Myer, 1984) theories show the factors that influence access to finance in the form of credit on both the demand and supply sides. On the demand side, that is, from the side of SMEs, small businesses demand finance through credit when they do not have adequate internally generated funds to finance their business activities. However, where they will demand this finance is informed by the available knowledge which is a function of their financial literacy levels (Widdowson & Hailwood, 2007). On the supply side, that is, on the side of financiers, providers of credit would extend credit to SMEs if certain conditions in the form of the provision of collateral and accurate business information are met by the latter, in addition to a policy environment that encourages financial inclusion (Chandrasekhar, 2007).

Collateral is an asset that is pledged by a borrower to a lender as security against default on a loan (Baye & Jansen, 2002), and is measured by using the presence of property as its indicator (Olawale & Odeyemi, 2010). In the view of Barbosa and Moraes (2004), firms that invest heavily in tangible assets tend to have higher financial leverage since they can borrow at lower rates of interest if their debts are secured with such assets. Collateral requirements also reduce the moral hazard problems discussed in the agency theory since it adds potential cost to borrowers if they do not put up their best effort. When collateral requirements are in place, the perverse incentive of the borrowers' willingness to divert funds towards private use or extract the whole surplus of the project is diminished. This action would increase the chance of the borrower losing the asset pledged as collateral (Barbosa & Moraes, 2004).

Additionally, Pretorious and Shaw (2004) explain that the business information of SMEs plays an important role in the ability of SMEs to access financial support. According to them, financial information, for instance, is one of the primary measures of the capacity of a business to repay its debts, and this financial and business information can be found in the business plans of firms as well as the financial records. In their opinion, small business owners who make business plans available to banks and other support institutions stand a good chance of obtaining support. This is because creditors use the financial information provided by firms to analyse the present performance of the business as well as predict the future performance of the enterprise (Kitindi, Magembe & Sethibe, 2007).According to Kitindi et al., studies in Botswana indicate that formal lenders require financial statements and audit reports from prospective borrowers.

Many of the foregoing issues or factors can be addressed by financial literacy. Widdowson and Hailwood (2007) used ideas from several authors to

compile a number of elements that determine financial literacy. These elements include basic numeracy skills, an understanding of the benefits and risks associated with particular financial decisions such as spending, borrowing, leveraging and investing, understanding the trade-off between risk and return, main attributes of different types of investments, and financial policies. Other elements are the ability to appreciate the benefits of diversification, the time value of money, and the capacity to seek professional advice. The abilities require financial education (World Bank, 2009) to empower individuals to enable them to analyse diverse options and take actions that further their goals.

Methodology

This was a non-interventional cross-sectional study which used mostly a quantitative approach. The SMEs and financial support institutions in the Sekondi-Metropolis constituted the population for the study. The simple random sampling technique, specifically Excel's RAND function was used to select308 units out of which 303 responded, from a list of 1,547 enterprises provided by the Business Advisory Centre (BAC) of the National Board for Small Scale Industries (NBSSI) in Sekondi-Takoradi, and 31 out of the 32 institutions offering financial support to SMEs. These numbers were determined based on the sample size determination formula by Krejice and Morgan (cited in Sarantakos, 2005), which assumes an error margin of five percent and a 95 percent confidence level associated with the results.

Data collection occurred between April 2011 and July 2011. An interview schedule was used to collect data from the SMEs and a questionnaire was used to collect data from the support institutions. The support institutions include banks, savings and loans companies, microfinance institutions, credit unions and state agencies. With the exception of the banks where 12 instruments were retrieved, all the questionnaires from the other support institutions were recovered and as a result 21 instruments from the institutions were used for the data analysis. The questionnaires from the banks and support institutions were gleaned for emergent general issues that related to access and inclusion. The data from the interview schedules were processed using Statistical Product and Service Solutions (SPSS) version 17.0 and Microsoft Excel 2007. The analysis of the data was done by using descriptive statistics and data presentation tools such as frequencies and percentages, tables and figures and, cross tabulations.

Results and discussion

The first couple of paragraphs focus on the characteristics of the SMEs. These are followed by discussion of the factors that influence access to financial resources. Except where it is explicitly stated, the findings relating to the SMEs are based on the 303 who participated. The SMEs in Sekondi-Takoradi constitute a heterogeneous group with majority (53.1%) of the 303 enterprises in the service sector and the rest in the manufacturing and primary sectors. The

activities that these enterprises undertake include poultry, upholstery and carpentry, and electrical work. The enterprises were dominated by sole proprietorships which constituted about 94.1 percent of the SMEs involved in the study.

The majority of the enterprises are managed in a personalized way because out of the 295 of the businesses owners operating banking accounts, many of the accounts (83.7%) were in the names of the business owners. About49 percent of the 303 businesses did not prepare business accounts and in cases where accounts were prepared, they were done by the managers many of whom have low levels of education and competencies. Enterprises without business registration comprised 67.7% percent of the SMEs.

Factors influencing access to financial resources

The demand side issues affecting access to financial resources are seen in the pecking order theory which says that businesses demand credit from external sources when they have internal resource constraints (Myer, 1984). On the other hand, the supply side factors are derived from issues of information asymmetry in the agency theory where in order to satisfy themselves that their debtors have the capacity to efficiently manage and pay back the loan, support institutions put in place certain conditions and requirements (Baye & Jansen, (2002).

The results showed that the reasons for which SMEs require institutional financial support were unavailable own resources as seen in 41.3 percent of 247 responses and inadequate retained earnings(31.6%) as shown in Figure 1.This finding is similar to that of Lemuel (2009) who concluded that that access to financial resources from external sources is essential to small businesses in view of the fact that many SMEs tend to experience problems of undercapitalisation when the businesses start to grow.

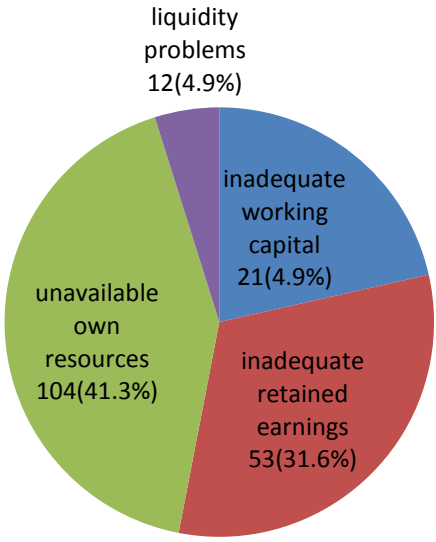

Figure 1: Reason support is required
Source: Field work, 2011

This study revealed that many factors play a role in the determination of the rates of interest that are charged on loans by the banks.These factors include the level of risk associated with the borrower, the ability to meet certain requirements, insurance fee, agency fees, and operational costs. The other support institutions take into account operational costs, agent fees, processing fees and the sustainability of their schemes in fixing the interest rates.

Gleaning of the data provided by the banks involved in the study showed that the insurance and agent fees are usually a percentage of the loan amount and the processing fee is a fixed rate. Similarly, the MFIs and the SLCs incorporate all these charges in the interest rates. However, in the case of the state agencies and the credit unions, processing fees are not part of the interest rate and the borrower has the option to either pay it upfront or have it deducted from the loan amount. These findings are consistent with the conclusions of Tetteh-Ossom (2011) that charges paid by SMEs on loans include processing, facility and legal fees.

The level of risk associated with the borrower is also factored into the interest rate and this could be up to 10 percentage points. This is similar to the

findings of Amonoo et al. (2003) that the risk associated with an applicant constituted 16 percent of interest rates charged by the banks studied. In this study, 8.9 percent of the 303 businesses indicated that they were discouraged from applying for credit due to the high interest rates. Similarly 40.6 percent of the enterprises stated that credit was expensive, a situation that is consistent with Classens' (2006) conclusion that cost is one of the factors which hinder access to financial services.

However, the support institutions in this study, including the commercial banks, explained that they prefer not to give loans to businesses that they are not convinced are capable of repaying. They explained that this makes them avoid adverse selection, a situation where loans are given to borrowers who are incapable or unwilling to repay and are thus prepared to borrow at high interest rates. The assertion by the support institutions also corroborates the observation by Demirguc-Kunt et al. (2008) that involuntary exclusion from access occurs when enterprises are seen to be high risk. This also confirms the issue of adverse selection which states that more risky clients are more likely to go for loans in the face of high interest rates (Olawale & Smith, 2010).

Another issue addressed is financial and business information, which can be placed within the realm of financial literacy as an influencing factor for financial inclusion (Chandrasekhar, 2007; Widdowson & Hailwood, 2007). In order to reduce information asymmetry, support institutions depend on financial and business information from the borrower (Baye & Jansen, 2002). With respect to this issue, 231 SMEs provided multiple responses that totalled 422. The study showed that out of 231SMEs that had requested for support, the institutions demanded financial information 26.5 percent of the time, and business information 15.9 percent of the time. The specific requirements under business and financial information are management structure, business plan, cash flows, credit history and audited accounts. All these are elements of financial literacy as compiled by Widdowson and Hailwood (2007), and the findings concur with those of Olawale and Odeyemi (2010) that business plans, annual financial statements and audited accounts are demanded by banks from prospective borrowers.

The banks involved in this study explained that information such as audited accounts afford them the opportunity to access the financial health of the business. Their views coincide with the conclusion of Pretorius and Shaw (2004) that financial information is one of the primary measures of the capacity of a business to repay its debts. Business information, according to the banks enables them to know about the management structure as well as the competence of the personnel. It also provides a situational analysis of the feasibility of the project and how the funds would be used, thus allowing for monitoring to avoid the diversion of the funds. The requirements by the banks are also consistent with the position of Kitindi et al. (2007) who concluded that lenders use the business

information of the enterprises to assess their performance and make predictions of their future performance as a measure of their ability to repay their debts.

Creditors demand collateral as it enables them to reduce the problem of information asymmetry and moral hazard (Chittenden, Hall, &Hutchinson, 1996).In this study, demanding collateral is a normal practice by the banks, savings and loans companies, and MASLOC, a government set-up also demands collateral security for its individual loans scheme. The results showed that collateral was sought from the SMEs in 30.3 percent of the 422 multiple responses. Out of these 30.3 percent, 47 percent of the responses suggested that the SMEs were not able to meet the requirement and thus could not access the loans.

The reason for the inability to provide collateral is that the SMEs do not have assets that they could use as collateral. According to Stiglitz and Weiss (1992), collateral requirement favours wealthier applicants. In this study, 83.2 percent of the 303 enterprises stated that providing collateral is the factor which constrains them the most when requesting for credit. This is similar to the findings of Abor and Biekpe (2006) which showed that lack of securable assets was a problem for 26.4 percent of SMEs.

According to the enterprises, assets that the lenders preferred as collateral include buildings, land, vehicles, and machinery. Similarly, in cases where the loan is to be used to procure assets such as vehicles, collateral would not be demanded by the banks before the loan is approved. When the item is purchased, it becomes collateral and is registered jointly in the name of the creditor and the borrower until the debt is fully paid up. Two of the banks stated that in cases where the enterprise does have collateral, either the business or the guarantor would be made to operate an investment account whose seed money is at least a quarter of the loan amount, but cannot make claims on it until the loan is paid up. This procedure or arrangement highlights the conclusions of Barbosa and Moraes (2004), that firms which invest heavily in tangible assets tend to have a higher financial leverage since they can borrow at lower rates of interest if their debts are to be secured with such assets.

Table 1: Ability to provide collateral and type of support received

Type of support	Assets as collateral				Total
	Yes		No		
	Frequency	Percentage	Frequency	Percentage	
Training	0	0.0	60	29.9	60
Credit	23	11.4	59	29.4	82
Credit and Training	22	10.9	37	18.4	59
Total	45	22.3	156	77.7	201

Source: Field work, 2011

Furthermore, the results showed that there is a significant relationship between possessing assets that could be used as collateral and the type of financial support that can be accessed (χ^2 =26.358, p-value =0.00). The results, as displayed in Table 1,indicate that all the 60 enterprises which had access to training did not have assets that could be used as collateral. On the other hand the 22.3 percent of the enterprises that secured support in the form of credit or credit and training jointly had assets which could be used as collateral. This is in line with the findings of Olawale and Odeyemi (2010) that enterprises which possess assets that can be used as collateral are more likely to be successful in their credit applications.

Another factor that can influence access to financial support is the provision of guarantors. Guarantors undertake to pay the loan in the event that the debtor defaults on the loan. All the institutions involved in the study demand guarantors before they grant loans with the exception of group loans where the members of the group serve as guarantors for the loan that each member of the group takes. Similarly, the study by Obamuyi (2007) indicated that banks demand personal guarantees for SME loans. The results showed that in 27.7 percent of the 422 multiple responses for loan requests, guarantors were demanded by the support institutions. In 22.2 percent out of 117 applications, this requirement could not be met. The enterprises which were unable to provide guarantors explained that they could not get the number of people required and or people who met the criteria of the institutions. In cases where they got such people they were unwilling to guarantee loans on their behalf.

According to the SMEs, two guarantors were required by the institutions for each loan. However, the criteria for guarantors are not uniform as they are dependent on the institution in question, but generally guarantors should be resident in Ghana. Credit unions, MFIs and SLCs require that guarantors are patrons of their institutions. In addition to this, they should not guarantee for more than one loan at a time and should not be servicing a loan themselves. SLCs want guarantors who have steady incomes that are twice the required monthly loan payments, passing through their accounts. In the case of banks, shareholders, partners, proprietors or board members can guarantee for the loan.

The institutions involved in the study explained that guarantors serve as a security for the loan. This is because under normal circumstances, people guarantee loans for people they know and consider as trustworthy. Guarantors assist to monitor the debtors as they would ensure that the loan is paid. This corroborates the conclusions of Tetteh-Ossom (2011) that peer monitoring minimises default. Furthermore in the event that the clients abscond, the guarantors are used to help trace them. Guarantors are also another way that creditors ensure that they do not lose their money as they are made to pay the loan in the event of default.

In order to know from the respondents which factors they find as most constraining in their quest for financial support, they were asked to indicate

which factors, based on Widdowson and Hailwood's (2007) compilation, constrain them the most when accessing financial support. Six factors stood out, and these were interest rate, guarantor, collateral, business and financial information, appropriateness of product and discrimination. The results displayed in Table 2 indicate that collateral requirement is the factor that majority (83.1%) of the 303 businesses ranked as constraining them the most when they access financial support.

Table2: Rank of constraints of access to financial support

Constraints	1st	2nd	3rd	4th	5th	6th
Interest rate	27	160	111	5	0	0
Guarantor	0	5	78	179	17	24
Collateral	252	51	0	0	0	0
Business information	24	82	82	76	39	0
Appropriateness of service	0	0	27	50	226	0
Discriminatory factors	0	0	0	8	16	279
Total	303	298	298	318	298	303

Source: Field work, 2011

In a related study, Abor and Biekpe (2006) found that the unavailability of collateral topped the problems that the enterprises encountered when accessing credit. The results so far show that there are interactions among interest rate, collateral, guarantors and, business and financial information due to how these factors influence access to financial support as shown in Figure 2. All these factors influence the chances of an SME in accessing support. In the same vein, the ability of the enterprise to meet these requirements would have an effect on the interest rate to be charged on the loan. This is because these requirements are used to assess the level of risk associated with the business which is a factor in the determination of interest rate.

According to Baye and Jansen (2002) conditions such as collateral and business information help reduce the level of risk associated with a business which also plays a role in the interest rate charged on a loan. The factors that have been illustrated in Figure 2 directly or indirectly express elements of financial literacy which need to be acquired through training (Widdowson & Hailwood, 2007; World Bank, 2009) in order to facilitate financial inclusion.

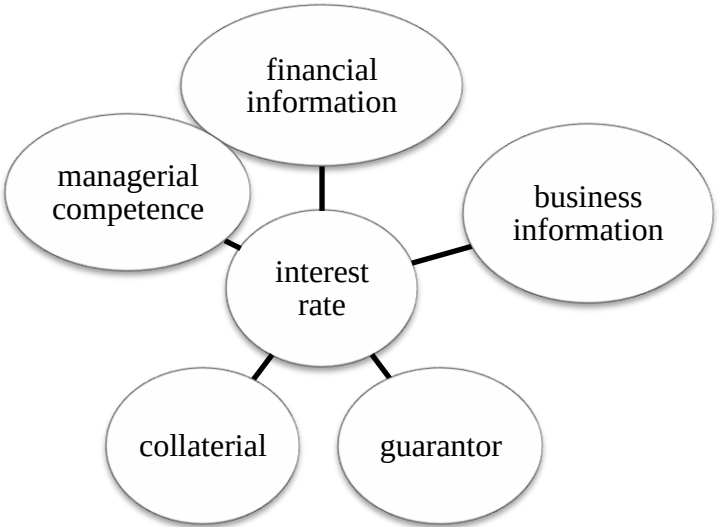

Figure 2:Factors influencing access to credit

Source: Author's construct based on the findings and views from literature, 2011

Another requirement that was discussed concerns the legal status of the applicant. In this study it was found that banks demand documents which show validation of the legal status of the business. Such documents include certificate of incorporation, licenses and permits as well as the share structure of the business, if it is a limited liability company from applicants. According to the banks, these documents show proof that the business is a legal entity that is permitted to undertake the particular type of activity. Therefore, an enterprise which does not have a business registration would not be offered a business loan. The share structure of the business for instance helps the banks to determine the amount that can be given to the enterprise as loan, similar to the findings of Amonoo et al. (2003) that the owner's equity is a condition for lending. The results also show that 47.5 percent of 284 multiple responses referred to business registration as one of the terms and conditions for a loan.

In the view of the banks many small enterprises do not qualify for credit due to the high level of personalisation. Many businesses fail to qualify for business loans because their accounts are in their personal names rather than the names of their businesses. One reason that accounts for this state of affairs is that the business owners do not draw a line between themselves and their businesses, and this reflects limited financial literacy. The results of this study showed that 87 percent of the 295 enterprises with bank accounts had the accounts in the names of the owners. Relatedly, 79 percent of the bank accounts in the names of the owners were also coupled with the fact that these businesses were not registered. The non-registration is another reason which explains the

inability of the SMEs to qualify for business loans, because business registration certificates and licences are prerequisites for the opening of business accounts.

In discussing compulsory savings ,the findings were that this is a condition required by most support institutions with the exception of state agencies. The results indicate that banks, SLCs, MFIs and credit unions give support to only their clients unless they are collaborating with a state agency or an NGO. Similarly, Amonoo et al. (2003) found that banks offer credit to SMEs and also disburse funds from donor agencies.

The minimum period required for saving as well as the amount is dependent on the institution from which the support is being sought, but the minimum period is usually six months. In this study the enterprises have saved with the institutions for a period varying between two and 15 years with the modal number of years being two years. Similarly, Tetteh-Ossom (2011) found in a study of SMEs that the enterprises had a minimum of five years of relationship with the banks that they sought credit from. Though no minimum amount is required, the volume of the transactions in the account determines the amount that can be given as loan. The borrowers are required to save with the institutions after receipt of the loan and should also ensure that the account balance is enough to take care of their monthly payments.

Monitoring and evaluation is another issue addressed and the findings were that the institutions conduct this activity on their patrons. MFIs and state agencies monitor the activities of their applicants before support is extended to them. The banks and SLCs also undertake monitoring and evaluation after the facility has been extended to the business. Monitoring is carried out after extending credit to ensure that the business uses the loan for the purpose for which they were given. Out of a total of 284 multiple responses relating to terms and conditions for loans, 19.7 percent referred to monitoring and evaluation. Monitoring the activities of the borrower is done after the facility has been granted and it is used to determine if the client is using the funds in accordance with the interest of the creditor (Miller & van Hoose, 2001; OECD, 2006).

Conclusion

The evidence adduced suggest that factors that influence access to financial support include interest rates, collateral, guarantors and, business and financial information. The other factors are business registration, compulsory savings and monitoring and evaluation of the business. These are all issues that fall one way or the other into the realm of financial literacy. The results also showed that business request for institutional support when they do not have adequate internal sources of funds.

The implications of the findings are that SMEs that want to improve their access to financial support need to pay attention to financial literacy and seek support from the relevant governmental and non-governmental agencies in that regard. They should adopt prudent management practices such as operating

banking accounts in the names of the businesses rather than the owners of the enterprises, operating their business transactions through their business banking accounts instead of using cash transactions, and depositing their surplus funds at the bank. It is also imperative for the SMEs to keep good records of their businesses, register their enterprises with all the relevant state agencies, especially the Registrar Generals' Department, and avail themselves of and actively participate in training programmes organised for the sector. In order to ensure financial inclusion, the NBSSI, which is a principal state agency responsible for SMEs' success, should provide book keeping and accounting services to SMEs at non-commercial rates.

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SERVICE QUALITY AND CUSTOMER ACCEPTABILITY AT THE CAPE COAST BRANCH OF METRO MASS TRANSIT LIMITED

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ABSTRACT

The paper seeks to examine customer's perception about the state of public transport in Ghana; assess the extent to which customers are satisfied with Metro Mass Transport's (MMT) public bus service delivery; and further establish the relationship (if any) among service quality, customer satisfaction, and customer loyalty. A quantitative approach, using questionnaires, was adopted to survey 377 regular students from the University of Cape Coast, who mostly patronize public transport services, especially on vacations, public holidays and school reopening seasons. Data was analyzed, using descriptive statistics and Pearson's product moment correlation technique. The findings indicate that the respondents' strongest perception about the state of public transportation was its importance to society. Majority of the respondents were generally dissatisfied with MMTs service delivery; and empirically, there was a weak, negative correlation between customer satisfaction in terms of service quality and customer loyalty. It is recommended that Metro Mass Transit Limited management focus on some quality variables such as safety-comfort-cleanliness; information-communication; accessibility; terminal and stop points performance; and online performance, in order to improve and sustain customer loyalty.

Key words: Public transport, Metro Mass Transit Limited, service quality, perception, customer satisfaction, customer loyalty

Introduction

Arguably, the mobility of people is fundamental to their ability to participate in society; However, developing countries face diverse challenges, including inadequate service, poorly arranged schedules, lack of facilities, including bus stops and shelters, and infrequency of services, particularly at off-peak times (Finn & Mulley, 2011), growth in private vehicle ownership, inefficient public transport, and the deteriorating urban environment (Imran & Low, 2005). According to Gowan, Seymour, Ibarreche and Lackey (2001), service provision is more complex in the public sector because it is not simply a matter of meeting expressed needs, but of finding out unexpressed needs, setting priorities, allocating resources and publicly justifying and accounting for what has been done. However, the convenience of these services is severely compromised (Mashiri, Moeketsi, & Baloyi, 2010). Meanwhile, Lai and Chen (2010) argue that public transport systems need to become more market oriented and competitive; and competitive and attractive to the transit seekers (Belwal & Belwal, 2010).

White (2002) defines public transport as all modes available to the public, irrespective of ownership. However, for the purpose of this study, the operational definition of public transport is a state-owned bus that provides transportation services to the general public for a fee. A report by the World Bank (as cited in Wijaya, 2009) hinted that Ghanaians use Metro Mass Transit Limited's (MMT) buses (a public transport service company), *tro-tro* (jitney minibuses that operate informally along specified routes), private cars, taxis and commercial buses as the main modes of transportation, and hinted that large cities in developing countries are highly dependent on road transport. Despite the process of transformation in public transport industry in many developing countries (Randheer, Al-Motawa, & Vijay, 2011), a report by Global Road Safety Facility (as cited in Awal, 2013) indicates that the road-related mortality rate per capita in Africa is the highest in the world at 28.3 deaths per 100,000 at an estimated cost of US$ 3.7 billion, and reported that statistics of accident death in Ghana is too alarming. Ghana is rated among the road accident-prone regions in West Africa (Akongbota, 2011).

Meanwhile, Rodrigue, Comtois and Slack (2009) posit that there exists a positive relationship between transportation and national development. These services improve the life of communities by providing safe, efficient, and economic transport; ensure personal mobility through making available cost effective modes; and benefit society by easing traffic congestion, saving money, and creating and sustaining jobs (Tran & Kleiner, 2005). Beirao and Cabral (2007) maintain that one of the challenges that transport organisations face is that service quality is a complex area of study and its measurement, particularly in public transport, is complicated by the subjective nature of the service. Several researchers have dealt with service quality in public services (Brysland & Curry, 2001); however, studies on service quality delivery in Ghana's

transportation sector are scanty and relatively silent. The shift towards a more customer oriented approach has resulted in a renewed emphasis on public transit service quality (Camen, 2010), an element often overlooked in the past.

Of special interest to this study is to assess the extent to which customers are satisfied with the public transport services delivery by MMT in Cape Coast. Specifically, this study seeks to:

1. examine customer's perception about the state of public transport in Ghana,
2. assess the extent to which customers are satisfied with MMT's public transport service delivery,
3. assess the correlation between customer satisfaction and customer loyalty as in the case of the MMT transport services.

This paper is structured as follows: introduction; literature review; methodology; results and discussion; and conclusion.

Literature review

Snapshot of Public Transport Industry in Ghana

In 1927, the Accra Town Council operated bus services in Accra, Kumasi, Sekondi–Takoradi and Obuasi. Previous Governments established bus service companies, including Omnibus Services Authority (OSA), State Transport company (STC), City Express Services (CES), and recently Metro Mass Transit (MMT or popularly called Metro) Ltd (www. metromass.com). Poor performance of these companies compelled the then government to divest STC and CES and liquidated OSA in the 1990s. To promote efficient public transportation to increase productivity and economic growth, Ghana Private Road Transport Union (GPRTU), and Cooperative Union have operated and continues to operate transport services alongside the formal sector.

The Government of Ghana recognised the need for transportation and infrastructure development required to promote interregional trade, as well as access to health, education and market facilitation in both rural and urban areas in the country (Ghana Poverty Reduction Strategy, 2003), and subsequently introduced MMT. The three bus services provided by the company are: Bus Rapid Transit System - operating only for the congested roads on the main corridors of Accra and Kumasi; Urban Service - operating in any greater urban area connecting central bus terminals with city outskirts and medium-distance transportation to villages in the surrounding of a regional capital; and Rural Bus services - operating low, but frequent, long distance rural bus service on rough roads and long journeys.

Public Perceptions of Transport Services

Perception is defined as the process of noticing and making sense of information (Aliman & Mohamad, 2013). Abane (2011) contended that public transports in Ghana are faced with poor ventilation, dirty bus conditions (interior), and high exposure to road traffic accidents (safety). Public transport is said to be for the disadvantaged as they are compelled to travel by public buses with accompanying challenges in delay and discomfort (Davison & Knowles, 2006), leading to dissatisfaction (Aidoo, Amo-Gyima, & Ackaah, 2013). Services are frequently insufficient to meet demand (Ali, 2010); rains intravenously cripple traffic within the city; poor compliance to road hierarchy, capacity, and service demand; and service discomfort. Service comfort involves the availability of service aesthetics, which include the availability of seats and space (often referred to as passenger density), smooth journeys, the availability of air-conditioners and the condition of the shelters (Litman, 2008). Meanwhile, Budiono (2009) found that comfort of service was one of the top four factors that positively correlated with overall service satisfaction.

A study by Hanson (1980) hinted that men travel on public bus to lesser extent than women. Mathies, Kuhn and Klockner (2002) also found that in Germany, Switzerland and Australia, women use public transport more than men and reversibly use cars less frequently. Eno Transportation Foundation (2007) maintained that women who had unrestricted access to private car persistently preferred the private car mode to public transport, but, again, posited that there is no connection between affluence and car usage. Alpizar, Carlson and Martinsson (2001) found that travel time and travel cost were the most important determinants of choice of transport mode. Gebeyehu and Takano (2007) posited that peripheral zone residents, who were public or private company employees and had a larger family size, had a higher probability of choosing bus over taxi.

The Disability Act 715 (2006) of Ghana stipulates that public transport vehicles, including road transport, must ensure that the needs of the disabled are taken into account in the design, construction and operation of the transportation network. Commercial buses are required to reserve, at minimum, two seats for persons with disabilities (Persons with Disability Act 715, Sections 23-30, 2006); however, that Act has been totally ignored and poorly enforced. Mazulla and Eboli (2006) argue that public transport operators give too much importance to financial gains at the expense of service quality delivery. Whereas Dridi, Mesghouni and Borne (2005) assert that public transport services must follow regular schedules, be safe and rapid, guarantee high service quality, and utilize resources efficiently, Chakwizira, Bikam, Dayomi, and Adeboyejo (2011) contend that timetables are important, and a lack thereof may be construed as breaking the trust between operators and passengers.

Measuring Service Quality

Some researchers have asserted that service is any act or performance one party can offer to another that is essentially intangible and does not result in the ownership of anything (Adrain, 2011; Kotler & Keller, 2013). Whereas Alok (2013) defines service quality as the extent to which the service, the service process and the service organization can satisfy the expectations of the user, Zeithaml, Berry, and Parasuraman (1996) define it as how well the service meets or exceeds the customers' expectations on a consistent basis. This signifies that customers do not evaluate the quality of a product/service solely at one time experience, but upon sustained and continuous usage of the product/service.

According to Cronin and Taylor (1992), the SEVPERF model is a more direct form of measurement technique, which requires customers to rate a provider's (MMT Ltd's) performance, extending from 1 (extremely dissatisfied) to 5 (extremely satisfied) on a 5-point Likert scale. Cronin, Brady and Hult (2000) also assert that SERVPERF model eliminates the need to measure expectation (as proposed in the SERVQUAL model, by Parasuraman, et al., 1985) on the grounds that customer expectation changes when they experience a service and the inclusion of an expectations measure reduces the content and discriminant validity of the measure. The 22 items proposed in SERVPERF model is modified for the study.

The Link among Service Quality, Customer Satisfaction and Customer Loyalty

Brink and Berndt (2005) assert that customers perceive services in terms of the quality of service provided and the satisfaction level attained. Cronin and Taylor (1992) also hinted that customer satisfaction can influence customer loyalty directly, and, again, found that service quality is a vital antecedent of customer satisfaction. Indeed, service providers must provide services that would appeal to customers' behavioral intentions to patronize by ensuring performance quality and conformance quality (Kotler & Keller, 2013). Satisfaction pertains to a holistic evaluation after a service delivery experience, and acts as a consequence of satisfaction with individual attributes (Lai & Chen, 2010).

Service quality and customer satisfaction have been conceptualized as a distinct, but closely related constructs (Siddiqi, 2011). Service quality leads to customer satisfaction (Kassim & Abdullah, 2010). Eboli and Mazzulla (2012) opine that customer satisfaction is one of the determinants that is used to measure quality of service. Kotler and Keller (2013) also argue that marketers must ensure they provide services that meet or beat customers' expectation to get customers satisfied or ever delighted to cause change in behavioral intentions favorably in the firm's brand. Many empirical studies have shown that customer satisfaction secures future revenues (Bolton, 1998; Fornell,1992), reduces future transactions costs (Reichheld & Sasser, 1990), decreases price elasticity (Anderson, 1996), and minimizes the likelihood of customers defecting if quality falters (Anderson & Sullivan, 1993).

Sum Chau, and Kao (2009) concluded that there is a relationship between service quality and customer loyalty. Jones, Beatty and Mothersbaugh (2002) discovered that there is a positive relationship between service quality and loyalty variables such as repurchase intention, recommendation and resistance to better alternatives. Adrian (2011) reiterated that loyalty involves customers becoming an enthusiastic advocate of a company. Rust, Zahorik and Keiningham (2008) opine that customer satisfaction decides customer loyalty. However, Michael, Christopher, Tzu-Hui, and Michelle (2008) asserted that customer satisfaction is not a guarantee of a repeat patronage (an indicator of customer loyalty) in that satisfied customers sometimes jump ship and the reasons are not always due to customer dissatisfaction; some customers are lost due to indifference, which arises from pure neglect. Conclusively, if marketers provide quality service, customers become satisfied with the service and, consequently, become committed to the experienced brand under consideration.

Methodology

The descriptive research design was adopted for this study. Mark, Philip, and Adrian (2009) opined that descriptive research portrays an accurate profile of persons, events or situations. The target population includes all the 18, 498 regular students (UCC Annual Report, 2014) in the University of Cape Coast, who mostly patronize public transport services, especially on vacations, public holidays and school reopening seasons. Based on the population-sample matrix designed by Kirk (1995), a sample size of 377 was conveniently, but purposively, selected for the study. Despite its limitations, purposive sampling technique appears relevant for the targeted respondents. Supportively, Taylor, Sinha and Ghoshal (2011) posit that purposive sampling technique offers the convenience to the researcher to reach the targeted respondents easily and provide rich source of information for research work.

Githui, Okamura and Nakamura (2010) used a specifically designed questionnaire comprising 25 items, which defined the dimensions of reliability, safety, comfort, affordability and availability of service, to investigate public transport service attributes that influence overall passenger satisfaction and enhance public transport use in Kenya. Modifying their questionnaire design, a specifically designed 30 item questionnaire (5-point Likert scale, rating as *1-1.99=Strongly disagree, 2-2.9=Disagree, 3-3.99=Neutral, 4-4.99=Agree and 5-5.99=Strongly agree*) to measure passengers' perceptions, attitude and behavior was used to collect primary data from students who were queuing for public transportation services at MMT's Cape Coast Terminal. A 100% response rate was recorded. Employing Statistical Package for Social Sciences (SPSS) version 22.0, data was analysed, using descriptive statistics and Pearson's Product Moment Correlation technique.

Results and discussions

The demographic information of respondents is presented in Table 1

Table 1: Demographic information of respondents

	Frequency	**Percent (100%)**
Sex		
Male	218	57.8
Female	159	42.2
Age range		
15-20 years	63	16.7
21-25 years	194	51.5
26-30 years	89	23.6
31-35 years	29	7.7
36 years and above	2	0.5
Level of tertiary education		
Level 100	139	36.9
Level 200	131	34.7
Level 300	68	18.0
Level 400	39	10.3
Employment status		
Working	13	3.4
Not working	364	96.6
Most preferred Mode of road transport		
Personal vehicle	131	34.7
Private commercial Vehicle	49	13.0
MMT vehicle	197	52.3

Source: Field Survey, 2016

In Table 1, the respondents' demographic information shows that 57.8% of the respondents were male whilst the remaining 42.2% were female. This confirms the conclusion by Hanson (1980), but contradicts that of Mathies, *et al.* (2002). Respondents' ages indicated 21 – 25 years (51%) as forming the majority; 26 - 30 years (23.6%); 15 - 20 years (16.7%); 31 to 36 years (7.7%); and 36 years and above (0.5%). All respondents were pursuing tertiary education, but at different levels, as indicated by Level 100 (36.9%) as forming the majority; Level 200 (34.9%); Level 300 (18.0%); and Level 400 (10.3%). Again, majority of the respondents (96.6%) were unemployed, whilst the

remaining 3.4% were both working and schooling. Additionally, preferred mode of transport recorded (MMT) public transport (52.3%); personal private vehicle (34.7%); and private commercial vehicles (13.0%).

Table 2: Type of vehicle respondents are likely to choose for transportation services * Sex distribution of respondents

Count

		Sex distribution of respondents		Total
		Male	Female	
Type of vehicle respondents are likely to choose for transportation services	Personal vehicle	78	53	131
	Private commercial vehicle	25	24	49
	MMT vehicle	115	82	197
Total		218	159	377

Source: Field Survey, 2016

A cross tabulation analysis shown in Table 2 indicates that 197 respondents preferred MMT vehicle for road transport services, of which 115 (58.4%) were male whilst the remaining 82 (41.6%) were female. The 131 respondents who preferred personal private vehicle services, 78 (59.5%) were male and 53 (40.5) were female, and thus contradicts Eno's (2007) study. The 49 respondents who prefer private commercial vehicle 25 (51.0%) were male and 24 (49.0%) were female.

Table 3: Frequent usage of Metro Mass Transit services * Employment status of respondents

Count

		Employment status of respondents		Total
		Working	Not working	
Frequency of usage of Metro Mass Transit services	Not at all	0	2	2
	Somewhat often	3	72	75
	Often	4	125	129
	Very often	6	165	171
Total		13	364	377

Source: Field Survey, 2016

A cross tabulation analysis of how employment status matches frequent usage of MMT services, as illustrated in Table 3, revealed that among the 171 respondents who use public transport very often, 165 (96.5%) were unemployed and 6 (3.5%) were employed. Out of 129 respondents who often use MMT services, 125 (96.9%) were unemployed whiles 6 (3.1%) were employed. 75

respondents who somewhat often patronized the MMT services, 72 (96.0%) were unemployed whilst 3 (4.0%) were employed. Only 2 unemployed respondents do not patronize MMT services.

Table 4: Frequent usage of Metro Mass Transit services * Sex distribution of respondents

Count

		Sex distribution of respondents		Total
		Male	Female	
Frequency of usage of Metro Mass Transit services	Not at all	2	0	2
	Somewhat often	39	36	75
	Often	71	58	129
	Very often	106	65	171
Total		218	159	377

Source: Field Survey, 2016

Table 4 shows that majority of the respondents use MMT services very often and male dominated with a frequency of 106 whilst 65 were female. Of the 129 respondents who patronize the services of MMT often, 71 (majority) were male and the remaining 58 were female. For those who somewhat often use MMT services, 39 were male whilst 36 were female. These findings contradict Hanson's (1980) finding that men travel on public bus to a lesser extent than women, but supports Mathies et al (2002) study that found that men use public transport frequently in Germany, Switzerland and Australia.

Public Perceptions about the State of Public Transport in Ghana

To examine respondents' perceptions about the state of public transport services in Ghana, the findings, as measured descriptively with mean score and standard deviation, are presented in Table 5.

Table 5: Respondents' perception about public road transport

Perceptual variables (Statements)	N	Mean	Std. Deviation
I believe that public transportation is important for society	377	4.5729	.80597
I believe that public transport adds convenience to their travels	377	2.8806	1.44180
I believe that public transport brings cost economy to people	377	4.4244	.85691
I do not feel discomfort sharing public buses with others	377	2.7454	1.46915
I do not consider public transport as a low class form of travel	377	3.6923	1.44427

I do not mind taking public bus while going to work	377	4.1194	1.13881
I do not find any socio-cultural factors affecting the use of public transport in Ghana	377	3.6499	1.42338
I do not mind sharing public transport with opposite sex	377	4.3767	.87293
I believe that public transport is safer than private transport	377	4.3422	.82652

Source: Field Survey, 2016

As presented in Table 5, respondents agreed (in ascending order) that public transportation is important for society (*M*=4.5729; *SD*=0.80597); public transport brings cost economy to people (*M*=4.4244; *SD*=0.85691); respondents do not mind sharing public transport with the opposite sex (*M*=4.3767; *SD*=0.87293); public transport is safer than private transport (*M*=4.3422; *SD*=0.82652); and, finally, respondents do not mind taking public bus while going to work (*M*=4.1194; *SD*=1.13881). Respondents were neutral regarding their perceptions that public transport is not a low class form of road transport (*M*=3.6923; *SD*=1.44427) and do not find any socio-cultural factors affecting the use of public transport in Ghana (*M*=3.6499; *SD*=1.42338). Again, the respondents disagreed that public transport adds convenience to their travels (M=2.8806; SD=1.44180), and do not feel discomfort sharing public buses with others (M=2.7454; SD=1.46915). This supports the view of Corpuz, *et al*. (2006), that car users were concerned with comfort and convenience, associated with shorter travel time and the flexibility of the trip-making.

Quality Service Assessment Results

The study sought to find out the extent to which respondents are satisfied with MMT's quality service delivery. Table 6 shows the state of customer satisfaction regarding the safety-comfort-cleanliness variables.

Table 6: State of satisfaction on safety-comfort-cleanliness

Safety-comfort-cleanliness variables	N	Mean	Std. Deviation
Safety conditions at stops and terminal stations	377	2.7878	1.48666
Safety conditions onboard the vehicle	377	4.3687	.81500
Attitude of the personnel	377	2.6313	1.39314
MMT vehicles, stops and terminal stations' cleanliness	377	1.7347	.91308
Easiness in the embarkment and disembarkment from the vehicles	377	3.0743	1.51053
Deaths and injuries	377	4.4297	.67317
Appearance of MMT staff	377	2.1485	1.19360

Source: Field Survey, 2016

The findings in Table 6 show that respondents were satisfied with the state of deaths and injuries situation at MMT limited (*M*=4.4297; *SD*=0.67317) and the state of safety conditions onboard the MMT's vehicles (*M*=4.3687; *SD*=0. .81500). Some respondents were neutral regarding the state of easiness during embarkment and disembarkment from MMT vehicles (*M*=3.0743; *SD*=1.51053). However, some respondents were dissatisfied with the appearance of MMT staff (*M*=2.1485, *SD*=1.19360); attitude of MMT personnel (*M*=2.6313; *SD*=1.39314); and the safety conditions at stop and terminal stations (*M*=2.7878; *SD*=1.48666). Respondents were extremely dissatisfied with the state of MMT's vehicles and stops and terminal stations' cleanliness (*M*=1.7347, *SD*=0.91308). These findings support Budiono's (2009) and Litman's (2008) view that comfort of service correlates with overall service satisfaction.

Table 7: State of satisfaction on information-communication to passengers

Information-communication variables	N	Mean	Std. Deviation
Current information provision about MMT services	377	3.0186	1.41691
MMT's response to passengers complaints and advices	377	2.3077	1.23157

Source: Field Survey, 2016

The findings in Table 7 demonstrate that respondents were dissatisfied with the response rate from MMT to passengers complaints and advices (*M*=2.3077; *SD*=1.23157). Again, some respondents were neutral regarding the state of satisfaction towards the provision of current information about MMT's services by management (*M*=3.0186; *SD*=1.41691). Provision of better information and communication technology (ICT) systems (including timetables, terminal electronic displays, on-board communication, mobile communications and call centres), will improve communication with passengers. This finding supports Chakwizira et al's. (2011) study that found that timetables are important and a lack thereof may be construed as breaking the trust between the operator and passengers.

Table 8: State of satisfaction with accessibility

Accessibility variables	N	Mean	Std. Deviation
Ease of accessibility by elderly and disabled persons	377	1.9841	1.05425
Distance between the ticket selling point and the embarkment point	377	3.5199	1.28006

Source: Field Survey, 2016

The findings in Table 8 show the state of customer satisfaction regarding accessibility of MMT services. Findings suggest that respondents

were extremely dissatisfied with the ease of accessibility by elderly and disabled persons (*M*=1.9841; *SD*=1.05425) and neutral regarding the distance between the ticket selling point and the embarkment point (*M*=3.5199; *SD*=1.28006). The findings on the ease of accessibility by elderly and disabled persons clearly violate the provisions of the Disability Act 715 (2006). This means the objective for creating convenience for the disabled is not supported by MMT operations.

Table 9: State of satisfaction with terminals and stop points performance (Reliability)

Terminals and stop points performance variables	N	Mean	Std. Deviation
Journey run times	377	2.7056	1.36670
Average speed of MMT vehicles	377	3.2361	1.39336
Vehicles delay at stop points	377	2.8806	1.42697
Vehicles load	377	3.4801	1.19852

Source: Field Survey, 2016

Table 9 shows the findings about the state of customer satisfaction with terminal and stop points performance. Respondents were dissatisfied with the state of journey run times (*M*=2.7056; *SD*=1.36670) and the state of vehicle delays at stop points (*M*=2.8806; *SD*=1.42697). However, some respondents were neutral regarding the state of average speed of MMT vehicles (*M*=3.2361, *SD*=1.39336) and the state of vehicle load (*M*=3.4801; *SD*=1.19852). The findings do not support the views of Dridi *et al*. (2005) that public transport services must follow regular schedules and guarantee quality services.

Table 10: State of satisfaction with line performance

Line performance variables	N	Mean	Std. Deviation
Service provision hours	377	3.2891	1.25635
Waiting time for purchase of tickets	377	2.2281	1.26783
Vehicles operating in off-peak periods	377	3.7533	1.05445
Bus lane violation	377	3.7507	1.12345
Coverage of MMT service network	377	3.8276	1.06914
Sufficiency of ticket selling network	377	4.0531	.79382

Source: Field Survey, 2016

The findings on the state of customer satisfaction with line performance, as presented in Table 10, indicate that respondents were satisfied with the state of sufficiency of ticket selling network (M=4.0531; SD=0.79382), but were neutral regarding the service provision hours (*M*=3.2891; *SD*=1.25635); state of vehicles operating in off-peak periods (*M*=3.7533; *SD*=1.05445); the state of bus lane violation (*M*=3.7507; *SD*=1.12345); and the state of route coverage of MMT service network (*M*=3.8276; *SD*=1.06914). Again, respondents were dissatisfied with waiting time for purchase of tickets (M=2.2281; SD=1.26783). Concerning the overall level of customer satisfaction, majority of the respondents (29%) were generally dissatisfied; satisfied (28%);

extremely dissatisfied (26%); extremely satisfied (11%); and neutral (6%) with the state of MMT service quality delivery. This finding supports Michael et al. (2008) assertion that customer satisfaction is not a guarantee of a repeat patronage.

The findings, as presented in Table 11, show the relationship (if any) among customer satisfaction regarding service quality and customer loyalty.

Table 11: Correlation matrix

		K1	L1	L2	L3	L4	L5	L6	L7
K1	Pearson Correlation	1							
L1		.090	1						
L2		-.138**	-.004	1					
L3		-.050	-.014	-.100	1				
L4		.099	-.074	.039	.010	1			
L5		-.098	-.026	.066	-.027	-.006	1		
L6		-.184**	-.066	.039	.005	.025	.09	1	
L7		-.062	-.044	-.001	.105*	.009	.08	.06	1
	N	377	377	377	377	377	377	377	377

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Source: Field Survey, 2016

The relationship between customer satisfaction with service quality at MMT Limited (as measured by K1) and customer loyalty variables (as measured by L1, L2, L3, L4, L5, L6 and L7) was investigated, using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The findings, as presented in Table 11, indicate that there was a weak, positive correlation between customer satisfaction in terms of service quality (as measured by K1) and customers' recommendation of MMT's services to others (as measured by L1) [r=0.090, n=377, p<0.0005]. It means high level of customer satisfaction with service quality associate high customer recommendations. Additionally, there was a weak, positive correlation between customer satisfaction in terms of service quality (as measured by K1) and customers' having no intention to quit (as measured by L4) [r=0.099, n=377, p<0.0005]. This finding contradicts the views held by Michael, *et al*. (2008) that customer satisfaction is not a guarantee of a repeat patronage.

However, there was a weak, negative correlation between customer satisfaction in terms of service quality (as measured by K1) and state of customer commitment to MMT's services (as measured by L3) [r=-0.050, n=377, p<0.0005]; a weak, negative correlation between customer satisfaction in terms of service quality and the overall customer loyalty of respondents (as measured by L7) [r=-0.062, n=377, p<0.0005]; a weak, negative correlation between customer satisfaction in terms of service quality and the confession that MMT comes into respondents' mind whenever one wants to enjoy quality

transport services (as measured by L5) [r=-0.098, n=377, p<0.0005]; a weak, negative correlation between customer satisfaction in terms of service quality and intention to continuously patronize MMT's services (as measured by L2) [r=-0.138, n=377, p<0.0005]; and, finally, a weak, negative correlation between customer satisfaction in terms of service quality and state of respondents' trust to the MMT's brand (as measured by L6) [r=-0.184, n=377, p<0.0005]. These findings contradict the studies of Jones et al., (2002), and Anderson and Sullivan (1993), but support the conclusions by Michael et al. (2008).

Conclusion

The study sought to examine customer's perception about the state of public transport in Ghana; assess the extent to which customers are satisfied with MMT's public transport service delivery; and further establish the relationship (if any) among service quality, customer satisfaction, and customer loyalty. A quantitative approach, using questionnaires, was adopted to survey 377 regular students from the University of Cape Coast, who mostly patronize public transport services especially on vacations, public holidays and school reopening seasons. The data was analyzed using descriptive statistics and Pearson's Product Moment Correlation Technique. It was found that the respondents' strongest perception about the state of public transportation was its importance to society, and majority of the respondents were generally dissatisfied with the service quality delivery by MMT. The most important finding of the study was the empirical evidence that there was a weak, negative correlation between customer satisfaction in terms of service quality and customer loyalty.

The study makes a significant contribution to literature on both public transport studies and public service quality management knowledge and will benefit public service managers and academics investigating the reliability and value of service quality delivery within public transport services. It also offers a better understanding of the theoretical underpinnings of service quality and customer acceptability of public transport services. For government and key policy makers in Ghana's transportation industry, the study contributes to the practical strategies required to ensure road safety, customer delight and productive marketing practices, including the enforcement of the Disability Act (715) of 2006. The study is innovative from an implementation perspective and will help policy makers to think about long-term strategies towards establishing viable public transport solutions-compliance with the road hierarchy, capacity, and transportation demand.

It is recommended that MMT management focus on quality variables such as safety-comfort-cleanliness; information-communication; accessibility; on terminals and stop points performance; and online performance. MMT's waste management and ICT operations require qualified personnel, proper supervisions and periodic reviews, and/or should be outsourced for cost and operational efficiencies. Physical facilities and layout, journey run times,

waiting time for purchase of tickets, and tickets selling points, must be improved. Staff should be trained on customer relationship management practices to promote efficient service quality delivery, flexibility and reliability. Management must also improve the ergonomics of their vehicles to ensure ease of accessibility by elderly and disabled persons. Designing efficient workable customer loyalty initiatives such as gift cards/certificates, discount over time/volumes of travels and buying forward/pre-purchase will positively create, deepen and sustain the MMT's loyalty base, and further provide marketing information for product improvements based on customers' attitudinal survey.

Though the study was limited to the public transport industry and, specifically, to the Cape Coast Branch of MMT in Ghana, the sample is representative of the population and hence, it is possible to generalise the results to other regions in Ghana. However, the results cannot be generalised to other countries in Sub-Saharan Africa and beyond. Future research should, therefore, replicate the study in other countries in order to confirm the results of the findings. Additional studies could examine a comparative study of service quality and customer acceptability of both private and public transport services as well as a longitudinal study of both public and/or private transport services delivery.

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Modelling Fiscal Sustainability in the Middle East and North African Region: A Pooled Mean Group Approach

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ABSTRACT
This paper assesses the sustainability of fiscal policies in a panel of eight Middle East and North African countries over the period 1990 – 2010. Employing recent panel unit root and co-integration techniques, we find that fiscal policies are consistent with inter-temporal budget balance in accordance with the present value approach. The Pooled Mean Group estimator shows that there was no significant causality between government revenues and expenditures in the short-run. However, there is a long-run fiscal synchronization which demonstrates that fiscal sustainability strategies should aim at increasing revenues and cutting spending concurrently to avoid fiscal deficits and its attending problems such as high taxation, reduced savings and investments.

JEL Classification: C23; E62; H62; H63
Keywords: Fiscal sustainability, MENA countries, panel co-integration, Pooled Mean Group, fiscal synchronization

Introduction

In determining the sustainability of fiscal policies, the issue of rising and persistent debt levels are matters of great concern. This subject has become a very significant indicator in World Bank and IMF assessments, since a number of financial crises in the past have been associated with it. This phenomenon has engendered extensive research into the sustainability of budget deficits and public debt levels in both academic and policymaking fronts. The 2008 global financial crisis and the ongoing European Sovereign debt crisis (Lane,2012) have presented great lessons for governments and fiscal policymakers all over the world to strenuously ensure fiscal discipline. The considerable attention given to the subject since the crisis in 1980s has yielded a large body of literature, albeit with unclear conclusion (Hakkio & Rush, 1991; Trehan & Walsh, 1988; Quintos, 1995). Most current researches have been based on the Present Value Budget Constraint (PVBC) methodology, which focuses on the time series properties of government revenues, expenditures, fiscal balance or level of public debt.

The paper focuses on the Middle East and North African (MENA) countries because despite the huge oil and mineral deposits in the region, there have been concerns about the rising levels of debt and deficit that characterise most countries in the region. The region is an interesting case, because, in aggregate, the MENA has recorded a fiscal surplus position since 2003 – increasing from 1.5 percent of the region's GDP in the early 2000s to 14.5 percent by 2006 (IMF, 2012). However, within this high regional surplus are individual countries with high deficits. For instance, while Kuwait realised a surplus of 39.0 percent of GDP in 2007, Lebanon recorded a deficit as high as 10.8 percent of GDP for the same period. In terms of public debt, most countries in the region have seen increasing levels with a number of them running debt levels over 50 percent of GDP. A typical example is Lebanon, with central government gross debt exceeding 130 percent of GDP as at 2011 (IMF, 2012).

High level government debt means a substantial government resources must go into debt servicing by way of interest payment (Foster, 2013). As a strategy of mobilising resources, governments either increase tax or issues debt instrument on the open market. This imposes tax burden on households and businesses. This impacts negatively on savings and private investments as high taxes are disincentive to investments. An alternative to fiscal policy is the monetary policy through the issue of debt instruments by the government, normally on the domestic financial market. However, such a policy results in the crowding out effect – a situation where government debt instrument competes private borrowers. The medium to long term consequences is that businesses finds it difficult to access both equity and debt financing for their operations.

The growing demands for social spending in response to the financial crisis of 2008, the political unrest in the region (since 2010) dubbed the "Arab spring", and the increasing concern over the negative consequences of rising

government debt and fiscal deficits, have crucial implications for fiscal policy formulation. As such, it makes it imperative to revisit the question of debt and fiscal sustainability in the region and proffer policy recommendations on how to ensure sustainability of fiscal stance.

This study follows the recent course and applies a battery of recently developed linear panel unit root and co-integration techniques to data on government revenue (***grev***) and expenditure (***gexp***) for the Middle East and North African countries[1] (hereafter known as MENA). The paper makes contribution to the ongoing debate on fiscal sustainability and adds to the inadequate literature with respect to the MENA region.

We extend the literature on the short-run as well as long-run causal relationship between government expenditure and revenues. Using more advanced dynamic heterogeneous long-run estimation techniques, such as Pooled Mean Group (PMG), the relationship is further explored to establish whether countries in the MENA are characterized by either the tax-spend, spend-tax or fiscal synchronization hypothesis, as it holds critical implications for any fiscal consolidation process in the region. Justifiably, it is important to understand the causal linkages or relationship between expenditure and revenue as; it may provide practical insights into the dynamics and processes involved in fiscal policy adjustments and serve as a guide on how policy makers should approach budget deficits in future.

The remainder of the paper is structured as follows. Section 2 presents a review of the theoretical and analytical framework of public finance sustainability. Section 3 is a brief description of the data and methodology. The different unit root tests along with the battery of co-integration techniques are explained. The results of applying them to the panel data for eight MENA countries are presented in Section 4. We capture the long-run as well as short-run dynamics of the relationship in this section, and present the conclusion in the last section.

Literature Review

In modelling the panel model for fiscal sustainability, a number of key assumptions are considered within the inter-temporal budget constraint of the government. The 'no Ponzi game rule' or transversality condition (Azizi, Canry,Chatelain&Tinel, 2012) necessitates that the public debt must not grow at a rate greater than the interest rate. If this condition is fulfilled, then the inter-temporal budget constraint would bring about equality between the stock of the market value of public debt (Chatterjee, Gibson & Rioja, 2016) and the sum of

[1]The World Bank classifies the following countries as belonging to the MENA region: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza and Yemen

discounted future budget surpluses. If this condition is valid, the IBC theory predicts the fiscal policy of the government to be sustainable.

Based on this assumption, the empirical literature proposes several frameworks to examine the sustainability hypothesis. One direction of the studies suggests test for the stationarity of the primary budget surplus in order to check whether the transversality condition holds. Hamilton and Flavin (1986) make the assumption about the constant real interest rate, and argue that the stationarity of the primary budget deficit is a sufficient condition for fiscal policy to be sustainable. This test based on the univariate properties of public debt has seen a number of applications in the literature (Davig, 2005; Wilcox, 1989). However, Wilcox (1989) derives the condition for sustainable fiscal policy, which suggests that the present value of the stock of public debt must go to zero in the infinite future when allowing for time-varying interest rate. In other words, solvency implies that the government cannot leave a debt with positive expected value asymptotically. This condition predicts that future primary surpluses are sufficient to repay existing as well as future debt at its market value.

Hakkio and Rush (1991), and Quintos (1995) extend this framework to imply examination of co-integration between revenue and expenditure. According to the proponents, given that both revenue and expenditure are non-stationary and of the same order of integration, and the transversality condition holds, a long-run relationship between them must yield a co-integrating coefficient close to unity as the *necessary and sufficient* condition for inter-temporal budget constraint to be valid. When this is the case, it is said that it is strongly sustainable where as a co-integration with slope less than unity is considered weakly sustainable. Hakkio and Rush (1991), and Quintos argue further that, when government revenues and expenditures are expressed as a percentage of GDP (or in terms of per capita), it is necessary to have $b = 1$ in order for the course of the government debt to GDP ratio not to diverge in an infinite horizon.

Based on this theoretical framework, intensive empirical scrutiny has emerged. The disappointing conclusion from these earlier studies based on the stationarity approach has turned away more recent research towards a more flexible co-integration-based test. Although this method has brought some flexibility, the outcome from this approach has not been conclusive either (Afonso, 2005; Bravo & Silvestre, 2002; Papadopoulos & Sidiropoulos,1999).

Arguments have emerged on the possible causes of failure of econometric techniques to establish fiscal sustainability (Westerlund & Prohl, 2010).According to Westerlund and Prohl (2010) this could be attributed to at least two dimensions of defects in most previous studies. The fact is that earlier studies tested the null hypothesis of unit root in debt series or public deficit or no co-integration, and Westerlund and Prohl argue that low power in the tests could be one reason why it has been difficult to use co-integration to establish

validity of the inter-temporal budget constraint. Another source of argument has been based on the application of conventional unit root and co-integration techniques to individual countries. Westerlund and Prohl claim that this approach does not really bring any more information into the analysis and essentially disregards the information contained in the cross-sectional dimension. This has led to the introduction of panel unit root and co-integration methodologies as an attempt to correct these flaws. A number of articles that apply panel techniques have been able to establish fiscal sustainability. In the case of the EU, studies that are based on panel co-integration framework have provided strong evidence to support the validity of the inter-temporal budget constraint (Prohl & Schneider, 2006; Westerlund & Prohl, 2006; Afonso & Rault, 2007). The majority of those studies have centred on the EU 15 and some have properly accounted for possible structural breaks in the dataset.

Panel co-integration methodologies have been tested using OECD countries and there is some evidence to support the validity of fiscal sustainability within the Present Value Budget Constraint. For example, Ehrhart and Llorca (2007) apply panel co-integration to a sample of 20 OECD countries for the period 1975 to 2005. Based on the evidence of a long-run relationship linking revenue and expenditure, they conclude that fiscal policies are consistent with inter-temporal budget constraint. In the same year, Ehrhart and Llorca applied panel techniques to establish that the fiscal sustainability hypothesis could not be rejected using quarterly panel data that covers eight rich OECD countries over 1977 to 2005.

For the fact that the panel approach makes provision for countries with short span datasets, other regions have also benefited from the recent improvement in the literature. For example, the Asian region has recorded a number of studies. Some of these studies have found that, although fiscal sustainability could be established for the region, the evidence points to 'weak' fiscal sustainability (Lau & Baharumshah, 2005; and Adedeji & Thornton, 2010). They suggest that policy measures would be required to put the public finances on a more sustainable basis. Also, for the South-Mediterranean region, the recent application has been tested by Ehrhart and Llorca (2008). They considered the validity of long-run sustainability in the fiscal policies for a panel of six countries (including Egypt, Israel, Lebanon, Morocco, Tunisia and Turkey) and concluded that fiscal policies are sustainable in these countries.

A study by Mahdavi and Westerlund (2011) in the US applied a co-integration-based test within the panel framework to test the Inter-temporal Budget Constraint (IBC) using the fiscal balance, revenue and expenditure. Two different definitions for the fiscal balance were used for a panel of 47 units at the sub-national government level from 1960-2006. The results indicate evidence of strong sustainability (based on co-integrating coefficient that was not significantly different from unity) in relation to the more broadly defined balances and weak sustainability for the narrowly defined balances.

Since the main proposition by Engle and Granger (1987) within the co-integration framework implied causal relationships, the direction of causality between revenue and expenditure has been another strand of empirical discourse. If no co-integration is detected, we say that there is no evidence of causality running between the variables. However, if co-integration is established, three different outcomes are possible since causality implies that a change in one variable necessitates or drives a change in another variable. We can assess whether causality runs from revenue to expenditure, from expenditure to revenue, or in both directions. The tax-and-spend hypothesis is based on evidence of a unidirectional causality running from revenue to expenditure, as championed by Friedman (1978). Friedman argues that tax cuts lead to higher deficits, and if the government cares about its implications it would then reduce its level of spending.

An alternative version of this hypothesis was advanced by Wagner (1976), and Buchanan and Wagner (1978). They found taxes unidirectionally induce negative changes in expenditure. This means that increase in tax would lead to spending cuts. The thrust of Buchanan and Wagner's (1978) argument is that taxpayers suffer from fiscal illusion. They point out that when taxes are cut, the taxpayer will assume that the cost of providing goods and services has fallen and for that matter will demand more programmes from the government. If such programmes are undertaken, it will result in an increase in government spending. As this continues, it will result in higher budget deficits. While tax changes induce changes in spending, the relationship is an inverse one, as postulated by Buchanan and Wagner. Therefore, increase in taxes is the only cure to budget deficits.

The spend-and-tax hypothesis advanced by Peacock and Wiseman (1979) and Barro (1979) are based on causality directed from expenditure to revenue. Under this, the fiscal illusion problem does not apply and proponents argue that an increase in government spending induces tax hikes. On this basis, they suggest that spending cuts is the solution to budget deficit problems. Another hypothesis, termed fiscal synchronization, is based on Musgrave's (1966) classical view of public finance where there is a bidirectional causal relationship between revenue and expenditure. Under this theory, revenue and expenditure are determined simultaneously and the public is said to weigh the benefits of government services to their costs (Musgrave, 1966). Within this theory, the best strategy to deal with problems of fiscal deficit is to cut spending and undertake revenue intensive measures.

The empirical evidences on this aspect have provided mixed results. Studies based on the United States alone have provided contentious results. While some researchers provide support for a positive relationship between revenue and expenditure (Hoover & Shefrin, 1992; Bohn, 1991; Ram, 1988; Blackley, 1986), others have found results to confirm the negative tax-spend relationship (Niskanen, 2002; 2006; Darrat, 1998; 2002). Also, some studies

report findings that maintain the spend-and-tax hypothesis (Ross & Payne, 1998; Jones & Joulfain, 1991; Anderson, Wallace & Warner, 1986), whiles others also suggest that the fiscal synchronization hypothesis holds (see, for example, Owoye, 1995; Miller & Russek, 1990).

Data and Methodology

Data description and sources

This study draws on recent advances in the econometrics of panel unit root and co-integration techniques to investigate the relationship between government revenue (***grev***) and expenditure (***gexp***) for eight Middle East and North African Countries (MENA) over the period 1990 – 2010. Based on the available data, the countries included in the panel are Bahrain, Iran, Jordan, Kuwait, Tunisia, Egypt, Israel, and Lebanon. Since most macroeconomic variables exhibit trend behaviour, the co-integration analysis begins with establishing the data generation properties of the variables. Starting from the present value borrowing or inter-temporal budget constraint of governments, we investigate past fiscal data to see if they follow a stationary process, or if there is co-integration between government revenue and government expenditure as a percentage of GDP. The data are obtained from the World Development Indicators (WDI) database. Going by the usual caveat in the literature, we take the logarithms of both variables.

Panel Unit Root and Stationarity Tests

The analysis involved the application of panel unit root methodology to analyse the time series properties of the data to verify whether or not the variables are integrated of order 1. Several authors have proposed unit root tests based on different sets of assumptions. These include the six distinct panel unit root and stationarity tests as proposed by Levin, Lin and Chu (2002) or the LLC,Im, Pesaran, and Shin (2003) or IPS, Breitung (2000), Hadri (2000) as well as Maddala and Wu (1999). The LLC, Breitung and Hadri tests are based on the common unit root process assumption that the autocorrelation coefficients of the tested variables across cross sections are identical. Conversely, the IPS, PP-Fisher, and ADF-Fisher tests rely on the individual unit root process assumption that the autocorrelation coefficients vary across the cross sections. In the LLC, IPS and ADF-Fisher tests, cross-sectional means are subtracted in order to minimise problems arising from cross-sectional dependence. However, Hadri and Breitung tests allow for cross-sectional dependence. The Schwarz-Bayesian information criterion (BIC) is used to determine the country-specific lag length for the ADF regressions, with a maximum lag of 4 regarding the LLC, Breitung, and the IPS tests. Further, the Bartlett kernel was used to estimate the long-run variance in the LLC and Hadri test, with the maximum lags determined by the Newey – West bandwidth selection algorithm.

Panel Co-integration Methodology

After confirming the unit root and integrated nature of the series, we test for co-integration between government revenue and expenditure in the panel. This was done by employing Pedroni (1999, 2000, 2004), Kao (1999), Maddala and Wu (1999) (Johansen Fisher combined tests) and Westerlund (2005, 2007, 2008). Both Kao and Pedroni tests are based on the two-step co-integration approach of Engle and Granger (1987) and assume the presence of a single co-integrating vector, although Pedroni's test allows it to be heterogeneous across individuals. The proposed Johansen Fisher combined tests are based on the multivariate framework of Johansen (1988). The Westerlund tests are based on structural rather than residual dynamics and do not impose any common parameter constraint. For purposes of this paper, we employ only the Pedroni and Westerlundpanel error correction model (ECM) tests.

The seven co-integration tests for heterogeneous panels provided by Pedroni (1999, 2004) are based on the two-step co-integration approach of Engle and Granger (1987). Although the tests allow for heterogeneity, there are different versions of the test. The four within-dimension ("panel statistics") tests assume homogeneity of the AR term, whilst the three between-dimension ("group statistics") tests allow for heterogeneity of the AR term. The test is based on the equation:

$$r_{it} = e_{it}\beta_i + \delta_i + \theta_i t + \varepsilon_{it} \quad (1)$$

Where $\boldsymbol{r}$ is a vector of the dependent variable, $\boldsymbol{e}$ represents a vector of explanatory variable(s), β is a vector of long-run coefficient, δ_i and $\theta_i$are country and time fixed effects, respectively. Deviations from the long-run relationship are represented by estimated residuals and denotedε_{it}. Also, $i=1,...,N$ represents each country in the panel, and $t=1,...,T$ denotes the time period. The estimated residual has the following structure:

$$\varepsilon_{it} = \rho_i \varepsilon_{it-1} + \varphi_{it} \quad (2)$$

The four tests based on the within-dimension statistics have the alternative hypothesis $\rho_i = \rho < 1$for all i, while the three tests based on the between-dimension statistics have the alternative hypothesis $\rho_i < 1$ for all i.ρ is an autoregressive coefficient of the residuals across sample. One limitation of these tests is the common factor restriction, which suggests that the short-run parameters for the first differences of the variables equate the long-run parameters for the levels of the variables. This condition does not take into account possible cross-country dependence and failure to satisfy it can cause a significant loss of power for the residual-based co-integration tests.

Westerlund (2007) puts forward an extension of Banerjee, Dolado, and Mestre's (1998) four panel co-integration tests. Contrasting the Pedroni residual tests, Westerlund's tests are based on structural dynamics and allow for a large degree of heterogeneity. A data generating process in the form:

$$\Delta r_{it} = \delta_i^{'} d_t + \alpha_i (r_{it-1} - \beta_i^{'} e_{it-1}) + \sum_{j=1}^{pi} \alpha_{ij} \Delta r_{it-j} + \sum_{j=0}^{pi} \gamma_{ij} \Delta e_{it-j} + \varepsilon_{it} \quad (3)$$

where $t = 1, \ldots, T$ and $i = 1, \ldots, N$ indicate the time-series and cross-sectional units, respectively, while d_t contains the deterministic components, for which there are three cases; no deterministic terms, constant, and constant and trend; the parameter α_i measures the speed at which the system $r_{it-1} - \beta_i^{'} e_{it-1}$ reverts back to its equilibrium after an unexpected shock in one of the model variables. If $\alpha_i < 0$, it means there is co-integration and the model is error-correcting. On the other hand, if the parameter $\alpha_i = 0$, there is no co-integration and the system would not return to its equilibrium status after a sudden shock.

The Westerlund tests make provision for possible cross-country dependence and overcome the problem of common parameter constraint. The tests are designed to test the null hypothesis of no co-integration by inferring whether the error-correction term in a conditional error-correction model is equal to zero. A rejection of the null hypothesis of no error-correction can, therefore, be viewed as a rejection of the null hypothesis of no co-integration.

The four different statistics are based on least squares estimates of α_i and its test ratio. The panel statistics, denoted Pa and Pt, test the null hypothesis of no co-integration against the alternative that the whole panel is co-integrated. Also, the group-mean statistics, Ga and Gt, test the null hypothesis of no co-integration against the alternative that at least one constituent in the panel is co-integrated. The tests make no provision for heterogeneity, but provide *p*-values which are robust against cross-sectional dependencies by bootstrapping.

Panel co-integration estimation

The study proceeds to estimate the short-run and long-run coefficients to investigate the causal relationship between ***grev*** and ***gexp*** after establishing the existence of co-integrating relationship amongst the variables by utilizing the pooled mean group (PMG) estimator proposed by Pesaran, Shin, and Smith (1999).In order to ensure robust analysis, results of alternative estimation strategies are reported – the mean group (MG) and the dynamic fixed effects (DFE). The estimator extends the single equation autoregressive distributed lag (ARDL) model andtakes advantage of the error correction representation. It provides information about the contemporaneous shocks and the speed of converging towards the long-run equilibrium position after a shock.

The dynamic heterogeneous panel regression based on Pesaran*et al.* (1999) can be incorporated into an error correction model using the autoregressive distributed lag (ARDL) (p,q)[2] technique represented as follows:

$$\Delta r_{it} = \sum_{j=1}^{p-1} \gamma_{ij}^{'} \Delta r_{it-j} + \sum_{j=0}^{q-1} \delta_{ij}^{'} \Delta e_{it-j} + \varphi^{i} [r_{it-1} - \{\beta_0^i + \beta_1^i e_{it-1}\}] \varepsilon_{it} \quad (4)$$

[2]p represents the lag of the dependent variable, and q is the lag of the independent variable.

Where ***r*** is the dependent variable, ***e***is a vector of independent variable(s), γ' and δ' represent the short-run coefficients of lagged dependent and independent variables respectively, βcontain information about the long-run impacts, and φ is the error correction term (or speed of adjustment) to the long run equilibrium. The subscripts ***i*** and ***t*** represent country and time effects, respectively. The square brackets contain a term that provides information about the long-run regression.

Besides, while the short-run coefficients are allowed to vary across the sections of the panel (i.e. heterogeneous), the long-run coefficients are assumed to be identical across panels (i.e. homogeneous). Also, the MG estimator, which allows the long-run parameters to be heterogeneous and the DFE estimator which assumes homogeneity for both the short- and long-run parameters are included. In order to see whether there are significant differences among these three estimators and choose the most consistent estimates, the Hausman h-test was applied. The test has a null hypothesis that the difference between PMG and MG or PMG and DFE estimation is not significant.

Results and Discussion

Table 1 shows the results of the panel unit root tests. The results provide evidence that the null hypothesis of unit root processes in both the ***grev*** and ***gexp*** variables for the panel of eight MENA countries cannot be rejected. The Hadri test which has the null hypothesis of stationarity provides strong evidence that all the variables have unit roots in levels. This implies that the panel variables are non-stationary in levels. In order to confirm the order of integration as I(1), we found the unit roots of first differences and demonstrated that both variables are I(1).

Table 1: Panel Unit Root tests in Levels

	LLC t-stat	Breitung t-stat	Hadri z-stat	IPS w-stat	ADF-Fisher X^2	PP-Fisher X^2
gexp	-0.18 [0.43]	1.13 [0.87]	4.37* [0.00]	-1.57*** [0.06]	12.62 [0.70]	7.19 [0.96]
grev	3.06 [0.99]	0.26 [0.60]	3.02* [0.00]	-1.20 [0.11]	5.30 [0.99]	5.97 [0.99]

*Notes: Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality. Automatic selection of lags based on SIC: 0 to 2. The Newey-West bandwidth is selected using a Bartlett kernel. *, **, and *** indicates significance at 1%, 5% and 10% levels respectively.Values in [ ] are p-values. We assume constant and trend in the variables.*

The results, thus, evaluate whether logarithm of revenue and its covariates as well as logarithm of expenditure and its associated covariates share a common stochastic trend. According to the results shown in Table 2, the different tests provide strong support for the presence of co-integration, particularly when logarithm of revenue was taken as the dependent variable. In the case of the Pedroni Residual tests, with the exception of the Panel v-statistics, which fails to reject the null of no co-integration, there is evidence of co-integration. There is also evidence of co-integration, according to three out of the four tests proposed by Westerlund reported in Table 3. Only the Ga statistic fails to reject the null of no co-integration. The findings imply in a panel perspective, ***grev*** and ***gexp*** are co-integrated, so that fiscal policies are sustainable in the long run.

Table 2: Pedroni Residual Co-integration Tests with Revenue as Dependent Var

Test	Alternative Hypothesis	Statistic	Prob.
Panel v-Statistic	Within-dimension	-0.42	[0.66]
Panel rho-Statistic	Within-dimension	-3.52*	[0.00]
Panel PP-Statistic	Within-dimension	-3.07*	[0.00]
Panel ADF-Statistic	Within-dimension	-4.10*	[0.00]
Group rho-Statistic	Between-dimension	-1.68**	[0.04]
Group PP-Statistic	Between-dimension	-3.49*	[0.00]
Group ADF-Statistic	Between-dimension	-4.37*	[0.00]

*Notes: Results generated by Eviews 7.2. Pedroni's panel statistics assume homogeneity of the AR term. The group statistics tests assume heterogeneity of the AR term. *, **, and *** indicates significance at 1%, 5% and 10% respectively.*

Table 3: Westerlund ECM panel co-integration tests with Revenue as Dependent Var

Statistic		Z – value	Prob.
Gt	Group	-2.50**	[0.01]
Ga	Group	-0.85	[0.20]
Pt	Panel	-3.29*	[0.00]
Pa	Panel	-4.20 *	[0.00]

*Notes: Results generated by xtwest command in Stata 12. Values in [ ] are robust p-values. *, **, and *** indicates significance at 1%, 5% and 10% respectively.*

Also, with ***gexp*** as the dependent variable, we confirm that all the tests support the presence of co-integration except Pedroni's Panel *v*-statistics and Westerlund's Gatests.

The long-run and short-run estimates, the convergence coefficients based on the different estimation strategies along with results of the Hausman test, are reported in different columns of Table 4. The results indicate that the lag of the ***gexp*** variable has a negative impact on the current values of ***grev***. This means that an increase in ***gexp*** causes a decline in ***grev***. Similarly, the lag of the ***grev*** variable has a negative impact on the current values of ***gexp***. Again, we found an increase in ***grev*** causes a fall in ***gexp***. However, based on the PMG results the coefficients are not significant in both cases. This means that the effect of ***grev*** or ***gexp*** on the other is not significant in the short-run. This implies that there is no strong evidence to support short run causality between ***grev*** and ***gexp***. Although this may seem insignificant, we argue that such a behaviour resembles the fiscal illusion theory posited by Wagner (1976), and Buchanan and Wagner (1978).

In all three instances, the error correction terms or convergence coefficients that capture the speed of adjustment are statistically significant at the one percent significant level. This strong significance lends more support to the evidence of long-run relationship or causality between the variables. This means further evidence of co-integration is established by the error correction term (convergence coefficient), which is statistically significant. Again, the error correction terms are negative. This negative adjustment is expected as it implies that for any deviations of ***gexp*** in the previous period, there would be a positive change in ***grev***. In the same manner, if ***grev*** in the past period have overshot the equilibrium, then it is forced to come back towards equilibrium.

Table 4: Long-run Coefficient Panel Estimation Results

Dependent variable	***grev***				***gexp***		
	PMG	**MG**	**DFE**		**PMG**	**MG**	**DFE**
Convergence coefficients	-0.30* [0.00]	-0.52* [0.00]	-0.26* [0.00]		-0.29* [0.00]	-0.48* [0.00]	-0.36* [0.00]
Long-run coefficients	0.83* [0.00]	0.31 [0.32]	-1.40* [0.00]		0.68* [0.00]	0.16 [0.44]	-0.02 [0.91]
Short-run coefficients	-0.14 [0.42]	0.06 [0.62]	-0.47* [0.00]		-0.06 [0.63]	0.05 [0.55]	-0.54* [0.0]
Hausman test		0.78 [0.38]	3.02*** [0.08]			2.80*** [0.09]	0.13 [0.72]

*xtpmg command in Stata 12 was used to generate the mg, pmg and DFE estimates. Values in [ ] are p-values. *, ** and *** indicate significance at 1%, 5% and 10% significant levels. Based on the Schwartz Bayesian criterion we impose the lag structure (1, 1) for both variables. According to the Hausman test, the PMG is favoured in both instances.*

Also, the somewhat large magnitudes imply that the model returns to its equilibrium state immediately after a shock has pushed it away from the original arrangement. There is a strong tendency to revert back to the equilibrium relationship after unexpected shocks or deviations are experienced by the model. Both ***grev*** and ***gexp*** adjust in response to deviations and approach the long-run equilibrium condition.

Furthermore, Table 3 indicates that the long-run coefficients are positive and statistically significant based on the PMG. This connotes that ***grev*** and ***gexp*** have a significant positive impact on each other and by that an increase in ***grev*** or ***gexp*** would bring about a response from the other variables in a similar direction. This supports the evidence of long-run fiscal synchronization hypothesis. The fiscal synchronization hypothesis asserts that expenditure and revenue decisions are made simultaneously by national authorities. It implies that, in an attempt to tackle the problem associated with persistent rising levels of budget deficit, MENA governments need to be cautious, as pointed out by Manage and Marlow (1986), about simply cutting expenditures, increasing revenue or simply altering both revenues and expenditures without taking into consideration that the dependence of one variable on the other variable may lead to ambiguity in their impacts on fiscal situation.

Our evidence lends support to findings of studies by Manage and Marlow (1986), Joulfaian and Mookerjee (1990), Bhat *et al* (1993), Baffes and Shah (1990, 1994), Owoye (1995), Ewing and Payne (1998), Cheng (1999) and Nyamongo, *et al*. (2007), who provide evidence of the fiscal synchronization hypothesis.

Conclusion

Fiscal policies in the region are in harmony with their inter-temporal budget constraints, indicating the ability to repay financial obligations in the form of debt without explicit default. Sustainable fiscal policies can be continued in perpetuity without changes in policy directions, and when there is validity of inter-temporal budget constraint in present value terms.

The short-run evidence based on the error correction models hint of fiscal illusion problems, albeit insignificant. Conversely, we find that there is a long-run bidirectional causality between them, suggesting that both government revenue and government expenditure help push the budget towards equilibrium should there be deviations from the long-run relationship. This finding supports the hypothesis of fiscal synchronization demonstrating the impact fiscal and

institutional reforms have had on budgetary outcomes in the region over the study period. In order to be able to tackle issues of persistent fiscal deficits in the region, policymakers need to come out with strategies intended to increase revenues and cut government spending concurrently. Such strategies should be devoid of policies that result in the crowding out effect and huge tax imposition on households and businesses, especially private investments.

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APPENDIX

Table 1: Panel Unit Root tests in Levels

	LLC t-stat	Breitung t-stat	Hadri z-stat	IPS w-stat	ADF-Fisher X^2	PP-Fisher X^2
gexp	-0.18 [0.43]	1.13 [0.87]	4.37* [0.00]	-1.57*** [0.06]	12.62 [0.70]	7.19 [0.96]
grev	3.06 [0.99]	0.26 [0.60]	3.02* [0.00]	-1.20 [0.11]	5.30 [0.99]	5.97 [0.99]

Table 2: Pedroni Residual Co-integration Tests with Revenue as Dependent Var

Test	Alternative Hypothesis	Statistic	Prob.
Panel v-Statistic	Within-dimension	-0.42	[0.66]
Panel rho-Statistic	Within-dimension	-3.52*	[0.00]
Panel PP-Statistic	Within-dimension	-3.07*	[0.00]
Panel ADF-Statistic	Within-dimension	-4.10*	[0.00]
Group rho-Statistic	Between-dimension	-1.68**	[0.04]
Group PP-Statistic	Between-dimension	-3.49*	[0.00]
Group ADF-Statistic	Between-dimension	-4.37*	[0.00]

Table 3: Westerlund ECM panel co-integration tests with Revenue as Dependent Var

Statistic		Z – value	Prob.
Gt	Group	-2.50**	[0.01]
Ga	Group	-0.85	[0.20]
Pt	Panel	-3.29*	[0.00]
Pa	Panel	-4.20 *	[0.00]

Table 4: Long-run Coefficient Panel Estimation Results

Dependent variable	***grev***				***gexp***		
	PMG	**MG**	**DFE**		**PMG**	**MG**	**DFE**
Convergence coefficients	-0.30* [0.00]	-0.52* [0.00]	-0.26* [0.00]		-0.29* [0.00]	-0.48* [0.00]	-0.36* [0.00]
Long-run coefficients	0.83* [0.00]	0.31 [0.32]	-1.40* [0.00]		0.68* [0.00]	0.16 [0.44]	-0.02 [0.91]
Short-run coefficients	-0.14 [0.42]	0.06 [0.62]	-0.47* [0.00]		-0.06 [0.63]	0.05 [0.55]	-0.54* [0.0]
Hausman test		0.78 [0.38]	3.02*** [0.08]			2.80*** [0.09]	0.13 [0.72]

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Effects of Exchange Rate Volatility On Non-Traditional Exports In Ghana

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Abstract
The government of Ghana has implemented a number of policies to strengthen the production and export of non-traditional products as a way of diversifying exports in Ghana with very little success. Foremost among these policies is the liberalisation of exchange rate. Meanwhile, the exchange rate has been very volatile. The study, therefore, examines the effects of exchange rate volatility on non-traditional exports in Ghana.This study employed Autoregressive Distributed Lag (ARDL) cointegration estimation technique for the investigation. The results indicate that exchange rate volatility negatively impacts Ghana's non-traditional exports. Also, the effect is greater in the long-run than it is in the short-run. Other results also show that world income, growth rate of the economy and Treasury bill rate promote non-traditional exports, but real effective exchange rate does not. rThe value of the paper lies in the discussion of the short-run and long-run effects of exchange rate volatility on non-traditional exports in the Ghanaian context.

Keywords*: Exchange rate volatility, Non-Traditional Export, Autoregressive Distributed Lag, Ghana.*

Introduction

A major characteristic of the current floating exchange rate system is its volatility. Exchange rate volatility is rapid fluctuations in the value of a local currency against those of the rest of the world. Precisely, exchange rate volatility creates uncertainty in trade flows and therefore makes it difficult for exporters to plan. It has the potential to affect exports positively or negatively, depending on the degree of risk averse of the exporter (De Grauwe, 1988). Exchange rate volatility presents two main effects. These are the substitution effect and the income effect. For the substitution effect, the fear of losing export revenue when the exchange rate is very volatile will compel an exporter to produce for the domestic market instead of the world market. This will reduce exports. In the case of the income effect, the fear of losing revenue will make an exporter to export more in order to get more revenue. This will make exports increase even when the exchange rate is very volatile. Clearly, the effect of exchange rate volatility on exports is ambiguous in the theoretical literature. By extension, the impact of exchange rate volatility on non-traditional exports (NTEs), a component of exports and the focus of this study, is also unclear.

At the empirical level, the impact of exchange rate volatility on NTEsis also unsettled. While some researchers (for example, Musonda, 2008) have found a negative relationship between NTEs and exchange rate volatility, other studies (Akinlo & Adejumo, 2014) have found a positive effect of exchange rate volatility on NTEs. The inconclusiveness of the effect of exchange rate volatility on NTEs in the empirical literature could plausibly reflect the reaction of exporters to the risk created by exchange rate volatility in trade flows, as espoused by De Grauwe (1988). That is, whether the substitution effect or the income effect dominates, it is simply a matter that in their bid to cover up for the risk created by exchange rate volatility exporters add risk premium to the cost of NTEs leading to higher prices and lower exports. Related to the above is the fact that time has implications for the magnitude of impact of exchange rate volatility on exports. Thus, exchange rate volatility is likely to create uncertainty and a significant impact on export volumes in the long-run than in the short term (Williamson, 1983 and De Grauwe, 1988, as cited in De Vita & Abbott, 2004). Clearly, the effect of exchange rate volatility on NTEs is country specific. Notwithstanding the uncertain relationship between exchange rate volatility and NTEs, several countries, including Ghana, have adopted the floating exchange rate system to boost their NTEs.

Ghana's NTEs policy since the economic recovery programme (ERP) launched in 1983 has been to increase the value of semi-processed, processed, and manufactured export content of total exports. The transformation of the exchange rate from a fixed regime to the current floating regime as part of the economic reforms served as a major boost to NTE. In addition, a number of incentives that included import and export tax exemptions were introduced and the Ghana export promotion council (GEPC) was

established to promote NTE. Currently, the NTEs basket of Ghana include cashew nuts, medicinal plants and parts, fresh or chilled tuna, pineapples, banana, mangoes, papaya, citrus, shea nuts, cocoa paste, articles of plastic, canned tuna, machinery and parts, veneer, hides and skins, ceramic products, traditional musical instruments, kente products and beads (ISSER, 2013). Even though the basket of NTEs has expanded over time, traditional exports, in the form of cocoa beans, minerals and timber, continue to dominate export value in Ghana.

Recent studies done by Alagidede and Ibrahim (2016), and Tarawalie, Sissoho, Conte, and Ahortor (2013) provide evidence of high exchange rate volatility (ERV)in Ghana. Alagidede and Ibrahim (2016) further provide evidence to support the claim that deviations resulting from shocks to the exchange rate market take about 15 years to be corrected in Ghana. Even though flexible exchange rate is supposed to be self-correcting, at least, theoretically, the long and slow adjustment period, in reality, could generate higher risk with deleterious effects on exports volumes (Williamson, 1983; De Grauwe, 1988 as cited in De Vita & Abbot, 2004). What is more, the NTE sector of Ghana that is supposed to help diversify exports is dominated by small and medium scale enterprises, majority of which do not use exchange rate risk hedging facilities and also adjust prices to reflect currency fluctuations (Abor, 2005). The legitimate questions to ask at this stage are: Is the volatility of the exchange rate having any effect on NTEs? If it does, is the short-run effect different from the long-run effect? What are the other drivers of NTEs in Ghana? This study interrogated these questions.

The rest of the paper is organised as follows: Section 2 contains a review of literature. This is followed by Methodology in section 3. Results and discussion are presented in section 4 and section 5 deals with the conclusions and policy implications.

Literature Review

The section presents both theoretical and empirical literature review. The theoretical literature has focused mainly on identifying the transmission mechanism from exchange rate volatility to export volumes. One key channel identified is the risk appetite of the exporter. Thus, the reaction of exporters to exchange rate volatility depends on their disposition to risk. Exporters with low risk appetite, for instance, will reduce their exports when exchange rate volatility rises (Hooper & Kohlhagen, 1978 and IMF, 1984 as cited in Tarawalie, et al 2013). De Grauwe (1988), extends the risk-aversion channel and argues that the exact impact on exports of exchange rate volatility rests on the latter's substitution and income effects (Tarawalie et al, 2013). Thus, an exporter who is very sensitive to risk will divert goods meant for exports to the domestic market as a coping strategy against the risk posed by exchange rate volatility.

On the contrary, the risk-averse agent will export more if s/he sees the possibility of making more profit from the volatile exchange rate. It is evident that the theoretical literature presents two clear divergent positions on the impact of exchange rate volatility on exports. One strand of the literature supports a positive link between exchange rate volatility and exports (Franke, 1991; Sercu & Vanhulle, 1992, as cited in Tarawalie, et al 2013). The other group, on the contrary, points to a negative effect of exchange rate volatility on exports (Cote, 1994). There is yet a third position that subscribes to no effect of exchange rate variability on exports (Serenis & Tsounis, 2015). From the theoretical perspective, it is clear that the impact of exchange rate volatility on exports is unclear.

The empirical results are also mixed as the type of results obtained depends on the measure of volatility used in the study, the time period for the study, the estimation strategy employed, the data used for the study and the type of country. A study on exchange rate volatility and export performance in the WAMZ countries conducted by Tarawalie, Sissoho, Conte, and Ahortor (2013), employing the Dynamic OLS (DOLS) estimation technique, revealed mixed findings. In particular, the results showed a negative relationship between exchange rate volatility and exports of Liberia, Nigeria and Sierra Leone, positive relationship with exports of the Gambia, and no effect on exports of Ghana and Guinea. Tchokote, Uche and Agboola (2015) also found mixed results for some selected West African Countries (Ghana, Gambia, Togo, Cote d'Ivoire and Nigeria) in their study on the effect of exchange rate volatility and exports, using the Johansen cointegration estimation technique. Again, Serenis and Tsounis (2015) examined the effect of exchange rate volatility on sectoral exports of Germany, Sweden and the UK covering the period 1973 to 2010. The autoregressive distributed lags (ARDL) estimation technique was employed and the findings indicated that with respect to U.K. and Germany, there existed a long-run relationship between exchange rate volatility and the level of exports. However, the results showed no effects on exports in Sweden.

Other studies that have concentrated on single countries are those by Tatliyer and Yigit (2016) and De Vita and Abbott (2004). Tatliyer and Yigit (2016) investigated how exchange rate volatility influences foreign trade in Turkey. The study used quarterly time series data covering the period 1990 to 2015. The Johansen cointegration test, VECM, as well as the VAR Granger causality test were employed for the study. The findings showed that exchange rate volatility had no long-run effect on exports in Turkey. Using the ARDL bounds testing approach to cointegration, De Vita, Abbott et al. (2004) examined exchange rate volatility on U.S. exports to the rest of the world. It was found out that exchange rate volatility significantly affects the volume of exports in most cases, though the magnitude and signs varied across markets of destination.

Yet other studies have examined the effect of structural factors on the competitiveness of exports (Agur, 2016; Anand, Perrelli, & Zhang, 2016). Anand, Perrelli, and Zhang (2016) used a dynamic heterogeneous panel estimation technique to study the role of structural factors in reducing the responsiveness of South Africa's exports to exchange rate depreciation, using firm level export data. The results showed that electricity bottlenecks, limited product market competition and labour market constraints reduced the responsiveness of firm's exports to the rand depreciation. However, a firm's ability to diversify its exports helped it to benefit more from currency movements. In a related study, Agur (2016) used a provincial level disaggregated manufacturing export panel data set and basic panel regression as well as factor-augmented approach to control for multicollinearity among the structural variables to investigate the structural determinants of export competitiveness of Canada. The results of the study indicate that exchange rate, relative prices, real wages, labour productivity, R&D investment, physical capital stock, inward FDI and vocational training for adults enhanced export growth.

Some studies, such as those by Akinlo and Adejumo (2014), Olufayo and Babafemi (2014), Musonda (2008) and Elbadawi (1998), focused specifically on exchange rate volatility and NTEs. In a study on the effect of exchange rate volatility on non-traditional exports in Zambia for the period 1965 to 1999, Musonda (2008) employed Generalized Autoregressive and Conditional Heteroskedasticity (GARCH) to measure exchange rate volatility and used the Johansen cointegration technique to investigate the relationship between the two main variables. The results of the study indicated that exchange rate volatility negatively affects nontraditional exports in both the long-run and short-run. Akinlo and Adejumo (2014) examined the effect of exchange rate volatility on non-oil exports for Nigeria and found exchange rate to have a positive and significant effect on non-Oil exports. Studying the effects of exchange rate volatility on the export performance of oil and non-oil exports in Nigeria for the period 1980 to 2011, Olufayo and Babafemi (2014) employed Generalized Autoregressive Conditional Heteroscedasticity (GARCH) to estimate exchange rate volatility and applied the Seemingly Unrelated Regression (SUR) for the investigation. The results suggest that exchange rate volatility had an inverse but insignificant relationship with both the oil and non-oil exports. Elbadawe (1998) investigated the effect of exchange rate on NTE performance for a panel of 60 developing countries over 1989/90 and 1994/95. The results from random effect regression show that exchange rate volatility does not favour NTE. The results further showed that terms of trade volatility negatively affected NTE. However, human capital, proxied by schooling ratio, and imports of machines, proxied by capital goods imports or investment in capital goods, positively promoted NTE.

There are also studies that have investigated in greater detail the effects of external resources on export supply. An example of such study is that of Njong and Tchakounte (2011). The authors investigated the spillover effect and the supply capacity effect of foreign direct investment (FDI) in Cameroon for the period 1980 – 2003. Employing the Engle-Granger two-step cointegration approach, they found that FDI inflows supported higher supply capacity and spillover effects, leading to higher export growth in Cameroon.

Methodology

This subsection deals with the theoretical model, empirical model, description of the variables and estimation strategy.

Theoretical model

The study derives its theoretical underpinning from the two-country international trade theoretical model that expresses a country's supply of exports as a function of both demand and supply factors. Savvides (1992) developed the model and it was adopted by Musonda (2008) to study the impact of exchange rate volatility on non-traditional exports in Zambia. In the model, the demand for exports is expressed as a function of real foreign income and relative foreign prices. Thus,

$$Expd_t = f_1\left(fY_t, fPx_t\right) \quad (1)$$

In equation 1, the variables, $ExpD$, fY and fPx represents demand for exports of a country, level of real foreign income and relative prices of exportables abroad, respectively.

The supply of exports is modeled as a function of domestic relative prices $ExpS$, exchange rate volatility $rervol$ (rerVol) as follows:

$$Exps_t = f_2\left(DPx_t, rervol_t\right) \quad (2)$$

The relative price of exportables abroad is then defined as

$$fPx_t = \frac{Px_t}{rer_t}$$

where $rer_t = \frac{EfPx_t}{P_t}$ is the exchange rate.

Replacing fPx in equation 1 with Px_1/rer_t and expressing equations 1 and 2 in log form, yields:

Replacing fPx in equation 1 with $\frac{Px_1}{rer_t}$ and expressing equations 1 and 2 jn log form yields

$$\exp d_t = a_o + a_1 fy_t - a_2 px_t + a_3 rer_t + m_t \quad (3)$$

$$\exp s_t = b_o + b_1 Px_t - b_2 px_t + b_3 rervol_t + u_t \quad (4)$$

m and u are uncorrelated error terms.

At equilibrium in the export market, expd=exps=exp and solving Px_t from equation gives:

$$Px_t = \frac{b_o}{b_1} + \frac{1}{b_1}\exp_t - \frac{b_2}{b_1} rervol_t - \frac{b_1}{b_1} u \quad (5)$$

Replacing Px in 3 with 5 and solving for exp results in the reduced form equation 6:

$$\exp = \frac{a_o b_1 + a_2 b_2}{k} + \left(\frac{a_1 b_1}{k}\right) fy_t + \left(\frac{a_3 b_1}{k}\right) q_t + \left(\frac{a_2 b_2}{k}\right) rervol_t + w \quad (6)$$

withk $=a_2+b_1$ and $w=v+(b_1u)n$.

From equation 6, a country's exports are expressed as a linear function of foreign real income, real exchange rate and exchange rate volatility.

Empirical model

Guided by equation 6, the empirical literature and using world GDP as a proxy for foreign income, the estimable model was specified as equation 7 taking into consideration data availability:

$$\ln te_t = c_o + c_1 lWGDP_t + c_2 rer_t + c_3 rervol_t + c_4 GDPr_t + c_5 Tbill_t + z_t \quad (7)$$

where $Lnte$ represents value of non-traditional exports for Ghana; L is log operator; $lWGDP$ is world GDP, a proxy for world income. It is expected that world income will have a positive effect on $lnte$, because an increase (decrease) in world income will lead to a rise (fall) in the demand for non-traditional exports (Musonda, 2008; Tarawalie et al, 2013). $lrer$is real effective exchange rate and we expect a rise (fall) of it to result in an expansion (contraction) in non-traditional exports (Musonda, 2008). $rerVol$is real exchange rate volatility, generated using GARCH (1, 1). It is the measure of the uncertainty and, hence, the risk associated with exchange rate variation and its effect on exports depends on the extent of risk aversion of exporters. $GDPr$ is the growth rate of the economy of Ghana, a proxy for the export supply capacity of the economy, and it is expected that a rise (fall) in the growth rate will lead to increase (decrease) in non-traditional export supply (ADB, 2005). Finally, $tbill$ is the Treasury bill rate, a proxy for the cost of capital in Ghana. We expect a rise (fall) of the $tbill$ rate will make capital expensive (less expensive) and, hence, lead to a fall (rise) in non-traditional exports (Rodrik (1995,1994a).

Modeling Exchange rate volatility

The variable of interest of this study is exchange rate volatility. Since exchange rate volatility is not observable, it had to be generated. Various methods have been employed to generate exchange rate volatility in the literature. These include the moving average standard deviation, autoregressive conditional heteroskedasticity (ARCH) and generalized autoregressive conditional heteroskedasticity (GARCH). There are several versions of the GARCH model but this study settled on the GARCH (1,1) model, because of its parsimony and ability to capture volatility in most time series (Tarawalie et al., 2013).

The GARCH modeling process commences with mean equation (8), which expresses changes in the real effective exchange rate, rer, as a function of its lagged value. The error term, et, is normally distributed with zero mean and a variance, h_t. The variance, h_t, is then used to specify the GARCH (1,1) model of interest as in equation (8).

$$\Delta(LnRER)_t = c_t + \beta\Delta(LnRER)_{t-1} + e_t \quad (8)$$

$$e_t \approx N(0, h_t)$$

$$h_t = c_2 + e_{t-1}^2 + h_{t-1} \quad (9)$$

where: $\Delta(LnRER)$ = difference log of the real effective exchange rate from period t to t-1

h = variance of the error term e_t

e_{t-1}^2= the ARCH term
h_{t-1}= the GARCH term

For purposes of conducting sensitivity analysis, exchange rate volatility was derived using an alternative method, the EGARCH, represented by equation 10.

$$\log h_t = w + b \log h_{t-1} a\left[\left|\frac{Z_{t-1}}{\sqrt{h_{t-1}}}\right| - \sqrt{\frac{2}{p}}\right] + g\left|\frac{Z_{t-1}}{\sqrt{h_{t-1}}}\right| \quad 10$$

The EGARCH equation stated in equation 10has the following components: $\log h_t$ represents the log of the conditional variance, $\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}}$ is the standardized residual, α is the coefficient of the absolute values of the difference between the standardized residual and its expected value ($E\left(\left|\varepsilon_{t-1}/\sqrt{h_{t-1}}\right|\right) = \sqrt{2/\pi}$), β represents the GARCH term, γ represents the asymmetric (Leverage) component and ω is a constant. The leverage term is exponential, because the dependent variable is in logs. This makes the forecast of the variance positive even if the parameters are negative. The EGACH model test whether or not news drives volatility. If the leverage term is not equal to zero, if means news is an important determinant of volatility, otherwise news does not play any role in volatility.

Data Sources
The data used for the study was annual, spanning the period 1983 to 2015. The volume of non-traditional exports was obtained from the Ghana Export Promotion Authority (GEPA). The real exchange rate volatility was generated using GARCH (1,1) and EGARCH. The remaining data, that is, world GDP, real effective exchange rate, Treasury bill rate, and growth rate of Ghana were all sourced from World Bank, 2016.

Estimation Strategy
The study employed the auto regressive distributed lag (ARDL) estimation technique because of two main reasons: first, the data points used for the study is short. In particular, the data points are 32 and since ARDL has been proven to be efficient when dataset is short and there is a high probability of a different order of integration amongst variables (Pesaran et al., 2001; Pesaran & Shin, 1999), it was employed in this study. Secondly, and more important, the ARDL was deemed to be the appropriate methodology to ensure the achievement of the

main objective of the paper of estimating the short-run and long-run effects of exchange rate volatility on non-traditional exports in Ghana. In implementing the strategy, the study assessed the stationarity properties of the variables using the unit root tests, ADF and PP, tested for cointegration using the bounds test of Pesaran et al (2001) and then estimated the long-run and short-run equations, using OLS.

Unit root test

As a way of preparing the variables for the estimation, their Stationarity properties were verified, using the Augmented Dickey-Fuller test (ADF)(1979; 1981) and Phillips-Perron (PP) test (1988). The tests were conducted to ensure that the time series variables were stationary so as to avoid spurious regression results. Besides ensuring that the variables were stationary, the unit root test was conducted to ensure that the variables were stationary at most at first difference, that is, they are I(0) and I(1) to justify the use of the ARDL technique. The test involved an examination of the Stationarity properties of the variables in equation (7) with the null hypothesis that there is unit root against the alternative that there is no unit root.

Bounds test for cointegration

Having satisfied the criteria that the variables were a mixture of I(0) or I(1), the ARDL bounds test for cointegration (Pesaran et al., 2001) was carried out. The general form of the ARDL specification used for the test is as follows:

$$\begin{aligned}\Delta LNTE = {} & \beta_0 + \beta_1 NTE_{t-1} + \beta_2 WGDP_{t-1} + \beta_3 LRER + \beta_4 RERVOL_{t-1} \\ & + \beta_5 LGDPr_{t-1} + \beta_6 TBILL_{t-1} + \sum_{i=o}^{P} \theta_{1i} \Delta LNTE_{t-i} \\ & + \sum_{i=o}^{P} \theta_{2i} \Delta WGDP_{t-i} + \sum_{i=o}^{P} \theta_{3i} \Delta LRER_{t-i} \\ & + \sum_{i=o}^{P} \theta_{4i} \Delta RERVOL_{t-i} + \sum_{i=o}^{P} \theta_{5i} \Delta GDPr_{t-i} \\ & + \sum_{i=o}^{P} \theta_{6i} \Delta TBILL_{t-i} \\ & + \varepsilon_t \qquad (11)\end{aligned}$$

Where p = optimal lags based on the AIC, SBC and HQC criteria, Δ is the difference operator, and i =0, 1,2, ...,.

The study tested the long-run cointegration among the variables by estimating equation 11using ordinary least squares (OLS). By comparing the calculated F-

statistic with the lower critical bound, (I(0)), and the upper critical bound (I(1)) (see Pesaran et al., 2001), the specific null hypothesis that there is no long-run relationship among the variables was tested against the alternative hypothesis that there is long-run relationship among the variables.

Long-run estimation

The study obtained the long-run coefficients by determining the optimal lag length based on the Akaike's Information Criterion (AIC), Schwarz Bayesian Criterion (SBC) and Hannan-Quinn Criterion (HQC) and applying the ARDL approach.

Short-run Error Correction Model

Confirmation of long-run relationship among the variables also ensures the estimation of the short-run model, using the ARDL technique specified as follows:

$$\begin{aligned}\Delta LNTE_t = \theta_0 &+ \sum_{i=0}^{P} \theta_{1i} \Delta LNTE_{t-i} + \sum_{i=0}^{P} \theta_{2i} \Delta WGDP_{t-i} + \sum_{i=0}^{P} \theta_{3i} \Delta LRER_{t-i} \\ &+ \sum_{i=0}^{P} \theta_{4i} \Delta RERVOL_{t-i} + \sum_{i=0}^{P} \theta_{5i} \Delta GDPr_{t-i} \\ &+ \sum_{i=0}^{P} \theta_{6i} \Delta TBILL_{t-i} + \xi ECT_{t-1} \\ &+ \epsilon_t \end{aligned} \quad (12)$$

where ECT_{t-1} is the error correction term. The absolute size of the error term, ECT_{t-1}, determines the speed of adjustment of the model to long-run equilibrium when it is shocked. The Schwarz Bayesian Criterion (SBC) was the basis for determining the optimal lag length for the short-run estimation.

Results and discussion

This section contains descriptive statistics of the variables used in the study, results of the estimation of exchange rate volatility, unit root test, Bounds test, long-run results, short-run estimation results, diagnostic test and sensitive test.

Descriptive statistics

In this section, the descriptive statistics of the relevant variables used for the study are presented in Table 1.

Table 1: Descriptive Statistics

	RER	NTE	WGDP	GDPr	TBILL
Mean	141.4219	1068.150	8146.273	5.536269	24.69531
Median	104.8996	403.0500	7998.887	4.847879	22.70000
Max	545.9783	6784.800	10169.15	14.04600	47.88000
Min	69.46227	23.80000	6375.058	3.300000	9.600000
Std. Dev.	96.53471	1659.330	1180.892	2.227004	10.40749
Skewness	2.995805	2.170273	0.239975	2.104441	0.759655
Kurtosis	12.02801	6.917594	1.696591	7.919199	2.971571
Jar. Bera	158.5392	45.58383	2.572301	55.88427	3.078812
Prob	0.000000	0.000000	0.276332	0.000000	0.214508
Sum	4525.501	34180.80	260680.7	177.1606	790.2500
S.S.Dev.	288887.5	853546.36	43229663	153.7460	3357.790
CV	0.682601	1.553462	0.144961	0.402257	0.421436
Obs	32	32	32	32	32

Note: Max represents Maximum; Min represents Minimum; Std. Dev. represents Standard Deviation; Jar. Berra represents Jarque Berra; Prob represents Probability; S. S. Dev. represents Sum of Squared Deviation; CV represents coefficient of variation while Obs also represents Observation.
Source: Computated using Eviews 9.0

It can be observed from Table 1that all the variables have positive values for mean and median. The standard deviation shows that non-traditional export (NTE) has a higher variability as confirmed by the coefficient of variation (CV) of 1.553462. In terms of Skewness, all of the variables are positively skewed. The values of the kurtosis and Skewness for real effective exchange rate (RER), NTE, GDP growth rate (GDPR) show that they are not normally distributed. This assertion is confirmed by their high Jarque-Bera statistic. Finally, the coefficient of variation shows that NTE is the most variable of all the variables.

Estimation of Real Effective Exchange rate Volatility

The estimation of real effective exchange rate volatility was done using monthly real effective exchange rate data. The obtained volatility variables were averaged to arrive at annual volatility values. The estimation results are shown in Table 2. In Table 2, all the variables of GARCH model (Model 1) are

statistically significant at 1% level. The results further show that the sum of the ARCH and GARCH coefficients is very close to one, meaning that volatility shocks are persistent.

Table 2: Estimation of Real Effective Exchange rate Volatility

Variable	Model 1	Model 2
$\Delta(LnRER)_{t-1}$	1.169302***	-0.042528
	(82.27603)	(-0.154744)
RESID(-1)^2	0.162019***	
	(36.75114)	
GARCH(-1)	0.837981***	
	(190.0813)	
C2		-0.201463***
		(-4.858594)
C3		0.517902***
		(33.52049)
C4		0.105294***
		(17.13139)
C5		1.017681***
		(148.7531)

Figures in brackets are z-statistics.
Source: Computed using Eviews 9.0

Unit Root Test

The stationarity Status of the variables was checked to ensure that none of them was stationary at second difference. This is a requirement for the application of the ARDL estimation approach. The ADF and PP unit root tests were employed in this exercise and the results are reported in Tables 3 and 4.

Table 3: Unit Root Tests at Levels

	Augmented Dickey-Fuller Test		Philips-Perron Test		Order of Cointegration
Variable	Trend & Intercept	Intercept	Trend & Intercept	Intercept	
LNTE	-2.895823	0.338166	-6.356222	0.529315	
LRER	-4.17095	-10.72891	-13.43612	-9.079259	I(0)
LWGDP	-2.088564	-0.604868	-2.294133	-0.607492	
Tbill	-2.156888	-1.80436	-2.141753	-1.836819	
GDGR	-1.403414	-0.021497	-1.512579	-0.124467	
RERVOLG	-3.551388	-2.374766	-3.547628	-2.333722	

Source: Computed using Eviews 9.0

Table 3 reports the unit root test results at levels for all the variables. The results show that, with the exception of real effective exchange rate, all the variables are non-stationary. As a result, the first difference tests were carried out for all the variables, except real effective exchange rate and the results, as presented in Table 4, show that they are all stationary at first difference. The results of the unit root tests indicate that the variables of interest are a mixture of I(0) and I(1), thus providing enough justification for the use of the ARDL estimation technique for this study.

Table 4: Unit Root Tests at First Difference

	Augmented Dickey-Fuller Test		Philips-Perron Test		Order of Integration
Variable	Trend & Intercept	Intercept	Trend & Intercept	Intercept	
LNTE	-12.26101	-11.89711	-11.31749	-11.03076	I(1)
LWGDP	-4.533104	-4.619348	-4.488057	-4.61275	I(1)
Tbill	-5.099724	-5.188381	-5.129119	-5.22002	
GDPR	-4.449548	-4.458739	-4.449903	-4.457145	
RERVOLG	-7.562547	-7.605737	-8.005638	-7.703228	

Source: Computated using Eviews 9.0

Bounds Test

The Bounds test was carried out to ensure that there was long-run relationship among the variables that were used in the study. The null hypothesis of the Bounds test is that there is no cointegration among the variables, while the alternative hypothesis indicates that there is cointegration among the variables. The test result for model 1, shown in Table 5 indicates that the Bounds test statistic, 9.45, is higher than the upper bound at all levels and so the null hypothesis is rejected. That is, there is a long-run relationship or cointegration among the variables of interest.

Table 5: ARDL Bounds Test

Critical Value Bounds		
Significance	Lower Bound	Upper Bound
10%	2.08	3.0
5%	2.39	3.38
2.50%	2.70	3.73
1%	3.06	4.15
Test Statistic	Value	k
F-statistic		5

Source: Computed using Eviews 9.0

Long - run estimation results for non-Traditional Exports

Having established the existence of cointegration among the variables, the long-run effects of real effective exchange rate, volatility of real effective exchange rate, world GDP, GDP growth rate for Ghana and Treasury bill rate for Ghana, on NTEs were investigated and the results are presented in Table 6.

Table 6: Long-run results for non-Traditional Exports

Variable	Model 1	Model 2
LRER	0.566436	-6.973769
	(0.841971)	(-1.52215)
RERVOLG	-0.562050**	
	(-3.050811)	
RERVOLE		-2.600290*
		(-1.993785)
LWGDP	5.329397*	-17.323997
	(1.838169)	(-0.984254)
GDPR	0.899005**	3.215886
	(2.510892)	(1.639926)
TBILL	0.064280***	0.088361**
	(5.457074)	(2.215771)
C	-67.080239	119.436472

*** =1%, ** = 5%, *=10%

Values in brackets are T-Statistics.

Source: Computed using Eviews 9.0

The results from Table 6 indicate that the variable of interest, real effective rate volatility (RERVOLG, obtained from GARCH model 1) does not favour NTE and it is significant at one per cent. Specifically, a one per cent increase in real effective exchange rate volatility will cause a decrease of 0.56 per cent in non-traditional exports. The effect of exchange rate volatility on non-traditional exports is because exchange rate volatility introduces exchange rate risk. Given that non-traditional exporters are unsure of how much they will earn from exports, they will divert more of their produce to the domestic market when the exchange rate of the local currency gets volatile. This is particularly so when the exchange rate appreciates. The result obtained confirms the findings of Musonda (2008) and Elbadawi (1998), who found that real effective rate volatility negatively affected non-traditional exports. It is, however, contrary to the finding of Akinlo and Adejumo (2014), who found exchange rate volatility to have a positive and significant effect on non-Oil exports in Nigeria.

Other significant variables include the log of the GDP of the world (LGDP), a proxy for world income. The expectation was that an increase in world income should increase the demand for non-traditional exports. The result confirms the finding of De Vita and Abbott (2004). In particular, the results show that a percentage increase in world income causes the supply of non-traditional exports to increase by 5.33per cent. The finding points to a high dependence of non-traditional exports supply in Ghana on world economic activity with a high-income elasticity (De Vita & Abbott, 2004). The GDP growth rate of Ghana (GDPR) is also significant at the 5 per cent level of significance. This means that growth in the economy of Ghana will lead to the production and supply of more non-traditional exports. The result confirms the Flying Geese theory that posits that growth in an economy leads to the production of goods and services, including non-traditional exports and the finding of Njong and Tchakounte (2011). The Treasury bill rate (Tbill) is significant at the 1 per cent level of significant, but it carries the unexpected sign. The Treasury bill rate was used as a proxy for the cost of capital and so was meant to measure domestic constraints onthe supply of non-traditional exports. The expectation was that the sign would be negative. However, it turned out to be positive, which was contrary to expectation. The positive relationship between Treasury bill rate and NTEs is due to the fact that being the rate at which the government borrows from the public, a rise in the Treasury bill rate will entice many people to buy Treasury bill. Government then uses the resources to provide social and economic infrastructure, which have been found to boost private sector initiatives (Frimpong & Marbuah, 2010; Asante, 2000). Finally, even though the real effective exchange rate (lrer) had the expected sign, it was not statistically significant. This finding endorses Elbadawi (1998), who found that when the

level of the real exchange rate is combined with real exchange rate misalignment in the same model for NTE, the level of real exchange rate adds nothing further to NTE performance. Hlatshwayo and Saxegaard (2016) obtained a similar result for South Africa and attributed it to policy uncertainty.

Short - run estimation results for non-Traditional Exports

The short-run estimation shows how a deviation from short-run equilibrium in the non-traditional export supply would be corrected in the long-run. Using a mixture of lag lengths, as indicated in the title of Table 7, the estimation results are presented in Table 7.

Variable	Model 1	Model 2
D(LNTE(-1))	-0.331199***	0.731060***
	(-3.657787)	(-5673761
D(LRER)	0.384307	2.060385***
	(1.579811)	(3.279369)
D(LRER(-1)		2.375590***
		(3.515661)
D(RERVOLG)	-0.142552***	
	(-4.341153)	
D(RERVOLE)		-0.272494***
		(-3.962689)
D(RERVOLE(-1)		0.002724
		(0.136135)
D(LWGDP)	8.509823***	5.053569***
		(3.302053)
D(LWGDP(-1))	7.035953***	7.960715***
	(5.132316)	(4.511667)
D(GDPR)	0.650604***	0.628785***
	(4.859085)	(3.629102)
D(GDPR(-1))	0.440251***	
	(3.604326)	
D(TBILL)	0.011987***	0.008424**
	(4.595088)	(2.866408)
D(TBILL(-1))	-0.006747**	
	(-2.284796)	
Ecm(-1)	-0.530101***	-0.194311***
	(-10.086414)	(-9.383500)

Table 7: Short-run results for non-Traditional exports (1,1,0,1,1,1)
*** =1%, ** = 5%, *=10%
Values in brackets are T-Statistics.
Source: Computed using Eviews 9.0

Table 7shows that exchange rate volatility, world GDP, growth in the economy of Ghana, Treasury bill rate of Ghana, lag NTE and the error term have the right sign and are statistically significant. In model 1 (exchange rate volatility is obtained from GARCH), the results show that a rise in real effective exchange rate volatility contemporaneously reduces non-traditional exports. Specifically, a percentage increase in exchange rate volatility reduces non-traditional exports by 0.14 per cent. This result corroborates the result obtained for Zambia by Musonda (2008) and contradicts the finding of Tarawalie et al (2013) for Ghana. Musonda studied the effect of real effective exchange rate volatility on the performance of non-traditional exports in Zambia and found the former to negatively impact the latter. In the case of Tarawalie et al, their study was on the effect of exchange rate volatility on total export performance of the West African Monetary Zone (WAMZ) countries and they found exchange rate volatility not to influence total export performance in Ghana. The result of the current study is revealing in that it shows that even though aggregate exports for Ghana do not respond to exchange rate volatility, a component of it, non-traditional exports, does respond to exchange rate volatility.

An increase in world income by 1 per cent raises non-traditional exports contemporaneously by 8.51 per cent and also by 7.04 per cent a year after. This result is a confirmation of Keynesian theory that says that an increase in world income increases demand for exports including non-traditional exports. The result is also a confirmation of the finding of Tarawalie et al (2013). The growth rate of the economy of Ghana has positive effect on exports of non-traditional exports contemporaneously and a year after. In particular, an improvement in the economy of Ghana causes non-traditional exports to rise by 0.65 per cent in the same year and 0.44 per cent a year after. Treasury bill rate is positively signed and significant contemporaneously and becomes negative a year after. A unit increase in the Treasury bill rate raises non-traditional exports by 0.012 per cent in the immediate year, but the effect turns negative 0.007 per cent after one year. However, the net effect is still positive (0.005), which is contrary to expectation. The finding indicates that the investments government fund with resources obtained from the sale of Treasury bills complement private investment in Ghana (Frimpong & Marbuah, 2010; Asante, 2000). Finally, the error term is negative and significant at the 1 per cent significance level. More than half of the deviation from short-run equilibrium is corrected in a year. Even though the error term obtained in this study is smaller than what Musonda (2008) obtained for Zambia, it is important to note that both error terms are

negative and significant at the 1 per cent level of significance.

Diagnostics Test Results

To ensure that the model and estimates were devoid of any econometric problems, various diagnostic tests were conducted and the results for Model 1 are presented in Table 8.

Table 8: Diagnostic test results

Test	F-statistic	P-value
Serial Correlation	2.802936	0.1132
Heteroskedasticity	1.003521	0.5068
Normality	0.337715	0.8446
Functional form	0.443429	0.6669

Source: Computed using Eviews 9.0

Table 8 shows that the Breusch-Godfrey Serial Correlation LM test reveals the absence of serial correlation among the variables, as the F-statistic of 2.802936 was not statistically significant per the P-value of 0.1132. The Breusch-Pagan-Godfrey test for Heteroskedasticity also reported a statistically insignificant F-statistics of 1.003521 with a P-value of 0.5058, thus indicating the absence of heteroskedasticity among the error terms. The Ramsey-RESET stability test for the correct functional form of the model shows that the model was correctly specified, since the F-statistics of 0.443429 was insignificant, with a P-value of 0.6669. Finally, based on Jacque-Bera normality test, the study found evidence that the series in the model are normally distributed, as the F-statistics of 0.337715 was insignificant with a P-value of 0.8446.

Stability Test Results

A further check on the stability of model 1 was carried out using the CUSUM and CUSUMQ tests. The results are shown in Figures 1 and 2. The CUSUM test, shown in Figure 1, shows that the model is stable.

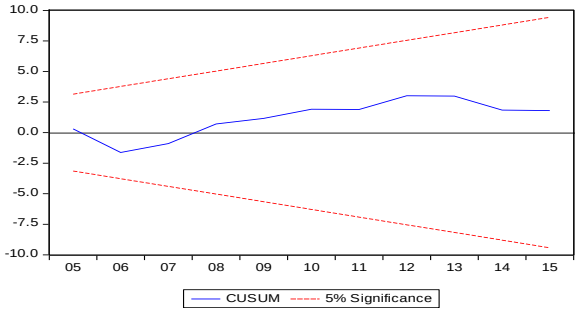

Figure 1: CUSUM Test

The CUSUMSQ test, as displayed in Figure 2, also shows that the parameters of the model are stable.

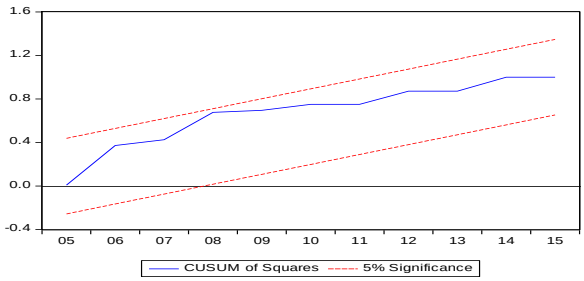

Figure 2: CUSUMSQ Test

Sensitivity Analysis

To check the robustness of the results, the short-run and long-run models were re-estimated, using exchange rate volatility generated, using the EGARCH model and the results, are shown in model 2 of Tables 6 and 7. As shown in the two Tables, exchange rate volatility (RERVOLE) is significant and negative, indicating that exchange rate volatility is an important driver of non-traditional exports in Ghana. Also, the diagnostic tests of Model 2 are shown in Tables 9, 10 and Figures 3 and 4 in the Appendix.

Conclusions

In this paper, the short-run and long-run determinants of NTEs for Ghana were investigated. The results show that exchange rate volatility, world income, growth rate of the economy, Treasury bill rate are the short-run and long-run drivers of NTEs in Ghana. Specifically, exchange rate volatility exerts a debilitating effect on non-traditional exports in both the short-run and in the long-run in Ghana. A closer look at the results reveals that the harmful effects of exchange rate volatility on non-traditional exports is severer in the long-run than in the short-run. Moreover, world income, growth rate of the economy and Treasury bill rate favour the development of NTEs in Ghana.

The policy implications of the findings are that, first, the Bank of Ghana should step-up its exchange rate stabilization efforts to reduce the exchange rate risk imposed on exporters of non-traditional exports. Second, a conscious effort must be made by the Ghana export promotion authority to encourage exporters to use appropriate hedging facilities, such as the foreign exchange option of the Standard Chartered Bank to manage exchange rate risk. Third, commercial banks are also enjoined to develop more hedging products and educate exporters on the need to use those products to manage their foreign exchange risk. Four, there is the need for government to approach monetary and fiscal policies in a way that will ensure macroeconomic stability and also provide the needed fiscal space to undertake appropriate investments to grow the economy of Ghana. Growth rate of the economy has been shown to be a key driver of NTE in Ghana.

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Appendice

Table 9: ARDL Bounds Test for Model 2

		Critical Value Bounds	
Significance	Lower Bound		Upper Bound
10%	2.08		3.0
5%	2.39		3.38
2.50%	2.70		3.73
1%	3.06		4.15
Test Statistic	Value	k	
F-statistic		5	

Source: Author's own computation

Table 10: Diagnostic test results for Model 2

Test	F-statistic	P-value
Serial Correlation	2.479396	0.13235
Heteroskedasticity	0.846087	0.6251
Normality	1.589802	0.451626
Functional form	0.529913	0.4819

Stability Test Results For Model 2

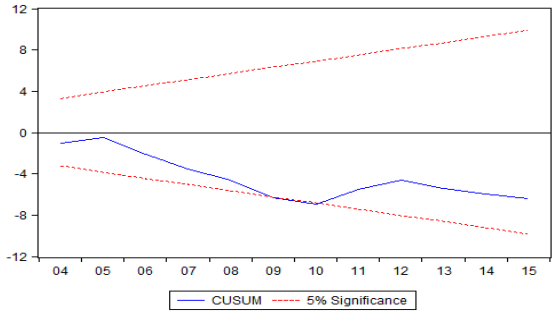

Figure 3: CUSUM Test

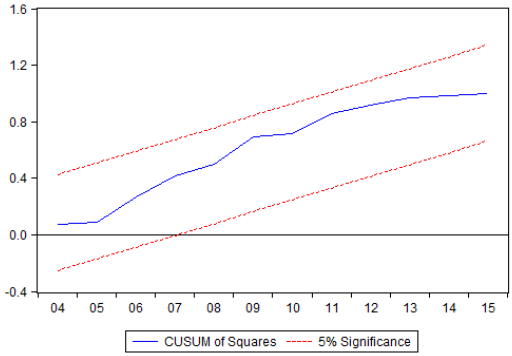

Figure 4: CUSUMSQ Test

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Determinants of Capital Flight In Ghana

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Abstract

The study investigated the short-run and long-run determinants of capital flight in Ghana using the autoregressive distributed lag (ARDL) estimation technique. The long-run and short-run results show that real GDP growth rate, higher domestic real interest rate over foreign interest rate, financial development, good governance and strong property rights reduce capital flight, while external debt to GDP leads to increase in capital flight in Ghana. However, lagged external debt to GDP and lagged financial development had negative and positive effect respectively in the short-run. The study recommends that government should adopt more pro-growth policies and resort to domestic borrowing to reduce external debt. The Central Bank of Ghana should improve on the development of the financial sector and ensure competitive domestic interest rates. It is also recommended that Public Accounts Committee (PAC) in Ghana should continue to ensure accountability and transparency to strengthen the interest of domestic investors.

Keywords: *Capital, Portfolio, Autoregressive, distributed, lag.*
JEL Classifications: C 32, F 21, F 40, G 11.

Introduction

Capital flight is one of the debated topics in development and financial economics. While most of the debates have centered on how capital flight affects economic growth (Cervena, 2006; Gusarova, 2009; Olawale & Ifedayo, 2016) , others have equally focused on what drives capital flight (Dim & Ezenekwe, 2014; Harrigan, Mavrotas, & Yusop, 2002; Raheem, 2015). Capital flight refers to part of domestic savings sent abroad. The ongoing debate on capital flight emanates from its numerous long-term adverse effects as scarce economic resources lost through capital flight do not contribute to enhance social welfare of residents (Škare & Sinković, 2013). The long-term adverse effects of capital flight include worsening capital scarcity and further reductions in resources available for domestic investment, leading to a fall in the rate of capital formation. Given the investment-growth nexus, capital flight has contributed to the sluggish growth in affected economies. It also reduces government tax revenue and its debt servicing capacity, since income earned abroad cannot be taxed. Moreover, capital flight has adverse implications on balance of payment, exchange rate, and it can compound the foreign finance problems of heavily indebted countries if creditors refuse to give further assistance as a result of capital outflows (Ajayi, 1995; Ndikumana & Boyce, 2008; Ng'eno, 2000).

Theoretically, the standard portfolio choice theory has been used to explain the reason behind capital flight and has served as a basis to unearth determinants of capital flight. The theory postulates that capital flight occurs due to agent desires to optimize yields on capital for a given level of risk (Collier, Hoeffler, & Pattillo, 2001a). Nevertheless, the motivation for capital flight is more specific, especially with regard to different economic settings.

A number of empirical studies have identified various factors responsible for outflows of capital in developing countries. These factors include exchange rate misalignment, interest rate differentials, fiscal deficit, increasing external debt, accelerating inflation, slowing economic growth rate, rising taxes, weak financial sector, political instability, weak property right and poor governance (Ajayi, 1995; Ali & Walters, 2011; Conesa, 1987; Dim & Ezenekwe, 2014; Fedderke & Liu, 2002; Harrigan et al., 2002; Lawanson, 2007; Le & Zak, 2006; Lensink, Hermes, & Murinde, 2000; Makochekanwa, 2007; Markowitz, 1952; Murinde, Hermes, & Lensink, 1996; Ndikumana & Boyce, 2003; Olopoenia, 2000; Onwioduokit, 2001; Raheem, 2015). In spite of the above factors, empirical studies have also produced mixed results for determinants of capital flight in developing countries (Ali & Walter 2011; Ndikumana & Boyce, 2012; Ng'eno, 2000; Nyoni, 2000; Olopoenia, 2000; Onwioduokit, 2001; Pastor, 1990; Raheem, 2015). The reason for mixed empirical results is that most of these empirical studies(Ali & Walters, 2011; Boyce & Ndikumana, 2012; Raheem, 2015) on the determinants of capital flight are mainly cross-country studies. While these studies have broadened

knowledge on determinants of capital flight phenomenon, the findings cannot adequately reflect country specific experience. This is because the effects of individual economic and political factors that determine capital flight vary from country to country due to heterogeneity in the macroeconomic and political environment among countries. Hence, it is difficult to provide country specific conclusions and policy recommendations. As a result, the determinants of capital flight is an empirical exercise. Besides, no study has been done for Ghana. This study, therefore, proposes to fill the lacuna, using Ghana as a case study.

Ghana presents an interesting case study because, like other African countries, she has carried economic reforms to correct most of the macroeconomic imbalances in the economy. Ghana has witnessed a concurrent inflow of foreign capital associated with simultaneous outflow of domestic capital**.** In fact, net foreign direct investment inflows to Ghana in 2012, 2013, 2014 and 2015, for instance were US$3,294,520,000, US$3,227,000,000, US$3,363,389,444.4 and US$3, 192, 320, 530.8 respectively according to International Monetary Fund. However, Boyce and Ndikumana (2012) estimated that Ghana lost $1184.0 million and $678.0 million in 2010 and 2009 respectively to capital flight.

An inevitable question which arises is: why is the economy experiencing capital flights while such capital is needed for domestic investment? In an attempt to answer the pertinent question, this paper investigated determinants of capital flight in Ghana. Specifically, the paper sought to explore the long run and short-run determinants of capital flight in Ghana. The paper draws motivation from Sustainable Development Goals (SDGs), specifically goal number eight, which stresses on resource mobilization to promote inclusive and sustainable economic growth, employment and decent work for all. The rest of the paper is organized as follows: the next section presents a review of relevant literature and it is followed by the methodology. Next after the methodology is the results and discussion, and, finally, the conclusions.

Literature Review

This section presents a review of relevant literature regarding determinants of capital flight. It focused on theoretical issues and empirical literature that explained capital flight.

Definitional issues

Generally, there is no one accepted definition for capital flight, even though its activities have been identified for periods dating back to the late 1970s and 1980s. The definitions associated with the concept of capital flight are many with different meanings implied. From a wider perspective, it has been characterized to incorporate every private capital outflow from developing

countries (Khan, 1989), while, from a narrow perspective, it encapsulates only illegal capital exports (Lessard & Williamson, 1987). The broad extreme takes into account all private capital outflows from a developing economy. Based on this definition, every private capital outflow from developing countries, either long-term or short-term, portfolio or equity investments, could be termed capital flight. The reason is that developing countries, generally, are seen to be short of capital and, hence, should be net borrowers in the development process, supplementing domestic savings with external finance.

In consonance with the above difficulties in defining capital flight, Walter (1987) defined capital flight as all capital that "flees" regardless of the motive. Also, according to Cuddington (1986), the term "capital flight" typically refers to short-term speculative capital outflows and it includes "hot money" that responds to political or financial crises, heavier taxes, a prospective tightening of capital controls or major devaluation of the domestic currency, or actual or incipient hyperinflation. Alternatively, capital flight can be seen as the change in the private sector's net foreign assets (Chang & Cumby, 1991; Erbe, 1985; Morgan Guaranty Trust Company, 1986; World Bank, 1985). The above definitions justified the fact that there is no conventional definition of capital flight. However, this study defined capital flight as part of domestic private savings sent abroad.

Determinants of capital flight

Theoretically, the determinants of capital flight have been discussed by portfolio adjustment theory and debt driven capital flight thesis, among others. The portfolio adjustment theory argued that capital flight occurs due to unstable macroeconomic and political environment in developing countries and the concurrent existence of better investment opportunities in advanced countries, like high foreign interest rates (Dim & Ezenekwe, 2014). According to the Debt Driven Capital Flight Thesis, heavy external debt of a country, is the main cause of capital flight (*ibid*). It explains that increasing domestic debt discourages saving and investment in an economy based on the assumption that high foreign debt is an indication for exchange rate depreciation, fiscal crisis, and the likelihood of crowding out of domestic capital and expropriation of assets to pay for the debt. As a result, domestic investors transfer their funds to foreign countries where the risk of loss is low *(ibid)*.

Based on portfolio adjustment and debt driven theories of capital flight perspective, the main factors that determine capital flight can be summarized into endogenous "push" factors and exogenous "pull" factors, as presented in Table 1.

Table 1: Push and pull factors of capital flight

	(Internal) Push Factors	(External) Pull Factors
Political and Institutional Factors	Political upheaval; social instability; bad governance; corruption.	Opacity and loose banking regulatory framework; accommodative financial policies.
Macroeconomic Factors	Low or negative real interest rates, overvalued exchange rates; inflationary pressure; capital account liberalization; rising external indebtedness.	High external real interest rates, strong and stable exchange rates of hard currencies.
Microeconomic Factors	Banking undercapitalization; liquidity crisis; institutional weaknesses of the financial system; rise in corporate income taxes; unregulated financial system; stock market crisis.	Strong asset management competitive advantage; dynamic offshore financial systems; offshore tax havens; booming stock markets in foreign countries.

Source: Bouchet, 2012.

Numerous empirical studies have been undertaken in attempts to explain the significance of identified economic and institutional factors (push and pull factors) that cause capital flight. For instance, Nyoni (2000) and Alam and Quazi (2003) found that GDP-growth rate causes capital flight in Tanzania and Bangladesh respectively. However, Lawanson (2007), in his study on capital flight from Nigeria based on portfolio choice approach using data from 1970-2001, found that GDP growth rate has a negative significant effect on capital flight in the short-run. The results also revealed that higher external debt-GDP ratio, increase in real interest rate differential and increase in inflation rate drive capital flight in Nigeria. Also, Ndikumana and Boyce (2003), BejaJr et al. (2005), and Geda and Yimer (2015) established that increase in external debt stock drives capital flight in South Asia (Indonesia, Malaysia, The Philippines and Thailand), Ethiopia and Sub-Saharan Africa respectively. Moreover, Collier *et al.*(2001a), and Ndikumana and Boyce (2003) used M2/GDP and *M3/GDP* respectively as proxy to financial development and found that financial

development is insignificant in determining capital flight in Sub-Sahara Africa. However, Raheem (2015) re-examined determinants of capital flight using twenty eight Sub-Sahara Africa countries and found that M2/GDP has positive and significant coefficient. It can be explained that improvement in financial development reduces capital flight because financial development reduces information and transactional cost of economic activities (Demirgüç-Kunt, Levine, & Detragiache, 2008). Le and Zak (2006) presented a portfolio choice model that relates capital flight to return differentials, risk aversion, and three types of risk: economic risk, political instability, and policy variability. In their estimation of the equilibrium capital flight equation for a panel of forty-five developing countries over sixteen years, all three types of risk had a statistically significant impact on capital flight. Quantitatively, political instability was the most important factor associated with capital flight. In addition, Al-Fayoumi, Alzoubi and Abuzayed (2012)found that previous year capital flight have spillover effect. This implies that amount of capital flight in previous year influence capital flight in the current year. The reviewed literature shows that determinants of capital flight are numerous, however, their significance varies across countries and therefore this study proceeds to identify what determines capital flight in Ghana.

Methodology

This section presents the theoretical and empirical model used for the study. Specifically, the study adopted portfolio choice theory developed by Markowitz (1952) and the empirical model was developed based on the portfolio choice theory.

Theoretical Model

This empirical study draws from the theoretical explanation of causes of capital flight provided in the portfolio choice model developed by Markowitz (1952). Portfolio choice model was used, because we assumed that economic agents send their capital abroad to invest in a portfolio that maximizes the expected utility of their final wealth. Following Le and Zak (2006), and Ali and Walters (2011), the theoretical model for determinants of capital flight is specified as equation (1)

$$\ln\left(\frac{NKF_t}{Y_t}\right) = -\ln\left[E\left(r_t^d - r^f\right)\right] + \ln\left(Y_t\right) + \ln\left[Var\left(r_t^d\right)\right] \quad (1)$$

Where r_t^d , r^f , Y_t and NKF_t represent domestic interest rate at time 't', risk-free foreign interest rate, gross domestic product at time 't' and net capital flight at time 't' respectively. Also, $Var(r_t^d)$ denotes variance and it captures risk associated with domestic interest rate.

Assuming that risk associated with domestic interest rate emanates from economic and non-economic factors, $Var(r_t^d)$ can be decomposed into two (i.e., economic factors and non-economic factors). Let $\delta_{e,t}^2$ denote risk from economic source and $\delta_{o,t}^2$ denote risk from other sources. Also, assuming that each type of risk is independently distributed, the risk of domestic investment can be specified as:

$$Var(r_{t+1}^d) = \delta_{e,t+1}^2 + \delta_{o,t+1}^2 \quad (2)$$

Using equation (2) to substitute for $Var\left(r_t^d\right)$ in equation (1) yields the theoretical model for determinants of capital flight specified as equation (3a).

$$\ln\left(\frac{NKF_t}{Y_t}\right) = -\ln\left[E\left(r_t^d - r^f\right)\right] + \ln\left(Y_t\right) + \ln\left(\delta_{e,t}^2\right) + \ln\left(\delta_{o,t}^2\right) \quad (3a)$$

Let, $NKF_t / Y_t = CF_t$; $E(r_t^d - r^f) = ID_t$; $Y_t = GDP_t$

$$\ln\left(CF_t\right) = -\ln\left(ID_t\right) + \ln(GDP_t) + \ln(\delta_{e,t}^2) + \ln(\delta_{o,t}^2) \quad (3b)$$

Where CF_t , ID_t , GDP_t , $\delta_{e,t}^2$ and $\delta_{o,t}^2$ represent ratio of capital flight to gross domestic product , interest rate differential, gross domestic product , risk caused by macroeconomic factors and risk emanating from other sources (like governance and property right) respectively. Equation (3b) indicates that when estimating determinants of capital flight, one must control for the return differential, and gross domestic product (GDP). Besides these controls, the model predicts that capital flight will rise with increasing domestic economic risk $(\delta_{e,t}^2)$ and other non-economic risk $(\delta_{o,t}^2)$.

Empirical Model Specification

An empirical version of equation (3b) is a follows:

$$\ln(CF_t) = f(\ln GDP_t, \ln ID_t, \ln DBT_t, FD_t, GOV_t, PR_t) \quad (4a)$$

Where $\delta^2_{e,t} = f(\ln DBT_t, FD_t)$ and $\delta^2_{o,t} = f(GOV_t, PR_t)$.

CF denotes ratio of capital flight to GDP, GDP is gross domestic product and it is proxied by real gross domestic product growth rate (RGDPG) in equation (5), ID is interest rate differential measured as difference between real domestic interest rate and foreign interest rate (domestic – foreign), DBT is external debt to GDP ratio, FD is financial development, GOV is governance and PR is property right. The economic model in equation (4a) above can be written as an econometric model specified as:

$$\ln(CF_t) = \beta_0 + \beta_1 RGDPG_t + \beta_2 \ln ID_t + \beta_3 \ln DBT_t$$

$$+\beta_4 FD_t + \beta_5 GOV_t + \beta_6 PR_t + \varepsilon_t \quad (5)$$

Where the co-efficient β_1, β_2, β_3, β_4, β_5 and β_6 are the parameters of the respective variables, β_0 is the constant term (drift), t denotes time, in denote natural log operator and ε is the error term. The following are expected.

$$\beta_1 < 0, \beta_2 < 0, \beta_3 > 0, \beta_4 < 0, \beta_5 < 0, \beta_6 < 0$$

3.3 Measurement of Variables

Capital flight refers to outflow of resident capital which is motivated by economic and political uncertainties in the home country. It is measured as a summation of change in external debt stock outstanding, adjusted for exchange rate fluctuations, net foreign direct investment, trade misinvoicing, remittance inflow discrepancy minus the sum of current account deficit and net additions to the stock of foreign reserves (Boyce & Ndikumana, 2012).

Real gross domestic product growth refers to the rate at which a nation's gross domestic product (GDP) changes from one year to another. It is measured as annual percentage growth rate of GDP at market prices based on constant local currency (World Bank, 2015). A negative relationship is expected between capital flight and domestic real GDP growth rate.

Interest rate differential is the differences between real domestic interest rate and real foreign interest rate. It is measured as the difference between average real deposit rate at time t in the country and US Treasury bill rate at time t (domestic real interest rates minus US 91 day Treasury bill rate), with 91 days US Treasury bill rate used as a proxy for foreign real interest rate, because it is risk-free. A negative relationship is expected between capital flight and interest rate differentials.

External debt, following Harrigan et al. (2002), is used with intention to measure the risk of private asset expropriation. The risk of expropriation, for example, in the form of expected higher future taxation is very likely when there is an increase in the debt–income ratio. A positive relationship between the external debt (including long-term public debt) and capital flight is expected. It was proxied by ratio of external debt to GDP (*ibid*).

Financial development measures the size of the financial system in the country. It was measured as M2 as a percentage of GDP where M2 is the sum of currency outside bank and demand deposits plus quasi-money of central bank and commercial banks. According to Demirguc-Kunt et al. (2008), financial development reduces information and transaction costs of economic activities and, hence, increases domestic investment. Therefore, a negative relationship is expected between financial development and capital flight.

Governance describes how public institutions conduct public affairs and manage public resources. In line with Ali and Walters (2011), the Polity2 score, which captures the constraints placed on the chief executive, the competitiveness of political participation, and the openness of executive recruitment, was used as a proxy for governance. Higher value for governance signifies good governance, indicating less likelihood of political instability and, consequently, reduces capital flight since a politically stable economy is favourable for domestic investment. Hence, a negative relationship is expected between capital flight and governance.

Property right is defined as a law created by governments with regard to how individuals can control, benefit from and transfer property. It is believed that government enforcement of strong property right encourages individuals to hold more assets in their domestic economy. Following Acemoglu *et al*. (2003), and Ali and Walters (2011), property right protection was proxied by Polity IV's 'constraint on the executive'. Polity IV's 'constraint on executive' is used as a proxy for property right protection, because it measures the limit placed on the powers of the executive or the State in confiscating or expropriating individuals' privately owned asset.

Sources of Data

The study employed annual time series data covering the period 1986 to 2015 to investigate the statistical significance of the variables that relate to capital flight. The brevity of the sample period was dictated by the availability of consistent

data, compiled on an annual basis. All data series, with the exception of CF, was taken from IMF International Financial Statistics (2015), World Bank World Development Indicators (2015), Centre for Systemic Peace Polity IV (2015) and FRED (2015). Capital flight data for 1986-2010 was sourced from Boyce and Ndikumana (2012). Due to data constraint on the variables used by Boyce and Ndikumana (2012) in their capital flight estimate, capital flight data was extrapolated to 2015 where the average values were used from 2011-2015.Capital flight, interest rate differential and external debt data were transformed into logs in order to reduce outliers.

Results and Discussion

The section presents the empirical results. The results discussed here include unit root test for order of integration of the variables, structural break test, long run results and short run results.

Unit root test

The empirical report commences with a report of the results of unit root test. The test was conducted to ensure that the variables are stationary and that none of them was of an order greater than I (I). The Augmented Dickey-Fuller and Philip Perron tests for unit root were used and the results are presented in Tables 6, 7, 8, and 9 in the appendix. From the tables, it shows that at 0.01, 0.05 and 0.1 alpha levels the null hypothesis of non-stationary is rejected for some variables at their levels and others at their first difference. This indicate that the series is made up of I(0) and I(1) variables.

Structural break test

Between the periods 1986 to 2015, Ghana has witness a lot of economic crises (domestic and international) and policy interventions including: the adoption of highly indebted poor country initiative in 2001, currency re-denomination that led to an illusion or artificial improvement in the exchange rate in 2007 and the global economic crisis that started to emerge in 2007 and led to the turmoil in 2008. Against this background, conducting structural breaks test is very crucial. Therefore, the study implemented the Zivot and Andrews (ZA) (1992) unit root test, which considers single unknown structural break within the series. The results of the ZA unit root test, presented in Table 2, show that there was a structural break in economic growth in 2010, which could be attributed to a number of factors, including the rebasing of the economy (Kwakye, 2010; Ministry of Finance and Economic Planning, 2010). For instance, changing the base year of the national accounts from 1993 to 2006 pushed the country into a lower-middle income country status. The promulgation of a consumer protection law in the same period led to souring consumer confidence in the economy and forced an impressive improvement in private household consumption, and inflow of foreign financial resources for

various infrastructural projects (Bank of Ghana, 2006). Also, a structural break appeared in capital flight and this could be attributed to the year 2000 general elections, which led domestic investors to secure their funds by sending it abroad. Furthermore, structural break occurred in financial development in the year 2006, and this could be also attributed to the paper works on redenomination of the Ghana cedi in 2006.

Table 2: Results of the Zivot and Andrews (1992) unit root test.

Variable	**T-Statistic**	**Break Year**	**Decision**(break in variable)
*ln*CF	-14.017***	2000	Accept
RGDP	-5.880***	2010	Accept
*ln*ID	-3.599	2010	Reject
*ln*DBT	-3.809	1990	Reject
FD	-4.992**	2006	Accept
GOV	-2.600	1991	Reject
PR	-3.156	1992	Reject

*** p<0.01, ** p<0.05

Result of the bounds test for

Due to the small sample size as a result of data constraints and order of integration of variables in the equation (5), the study employed autoregressive distributed lag model and the model is estimated based on maximum likelihood estimation technique. Table 3 presents the results of the bounds test for co-integration between capital flight and its determinants. The result depicts that the joint null hypothesis of no co-integration is rejected at 0.01 alpha level as the calculated F-statistic value of 6.8537 exceeds the upper bound critical value of 4.540 at 99% level. This implies that there is an existence of long-run relationship between capital flight and the determinants used in this paper.

Table 3: Results of Bounds Test for the Existence of Co-integration

	90 % Level		95% Level		99% Level	
Intercept with no trend	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
K=6	2.141	3.250	2.476	3.646	3.267	4.540
Dependent Variable					F-Statistics	
$F_{\ln CF}\left(\ln CF \mid RGDP, \ln ID, \ln DBT, FD, GOV, PR\right)$					6.8537 [.007]***	

Note: Critical values were obtained from Pesaran and Pesaran (2010), Apendix B, Case II, Statistical Table; *** denotes statistical significance at 1% level and K is the number of regressors.
Source: Computed by the authors.

Short run results

After establishing long-run relationship between capital flight and the independent variables by estimating the long-run model, the next step in the ARDL approach to is to model the short-run dynamic relationship among the variables within the ARDL framework. The short run model includes the level as well as lagged of each variable. The estimated model is selected based on SBC. Table 4 reports the results of the estimated error-correction model of capital flight in Ghana using the ARDL approach.

From Table 4, the results showed that the effect of lag of capital flight on current values of capital flight in the short-run is positive and statistically significant at 0.01 level. This finding suggests a tendency for capital flight to persist overtime (habit formation hypothesis) and it stresses the spillover effects of previous capital flight on to the current period's capital flight. This result is in line with those of empirical studies by Al-Fayoumi, AlZoubi, and Abuzayed, (2012); Geda and Yimer, (2015); Ndikumana and Boyce, (2008); and Nyoni (2000).

Except lag of external debt to GDP and lag of financial development, the signs of the short run co-efficient concur with long-run estimates. The negative coefficient of external debt to GDP indicates that a dollar increase in last year's external debt to GDP will lead to approximately 0.09 percent reduction in capital flight in the country in the short-run, holding all other variables constant. This negative effect of last year's external debt to GDP on capital flight in the short-run can be explained that previous year's borrowed funds served as inflows of external capital. Also, borrowed funds do not mature in the short-run and, hence, investors do not form expectations about possible inflationary tax by the government, since loan repayment occurs after the loan is matured in the long-run. Also, lag of financial development had unexpected positive coefficient and is statistically significant at 0.01 alpha level. This means that previous year's financial development will increase capital flight by about 0.17 percent in Ghana in the short-run. This positive effect of the previous year's financial development on capital flight in the short-run can be explained that in the previous year financial development was in its early stage, where information cost and other costs of undertaken investment activities in the country were still be high. Therefore, domestic investors took refuge in foreign investment leading to capital flight. The results also show that there is short-run relationship between capital flight, real GDP growth, interest rate differential, external debt to GDP ratio, financial development, governance and property rights.

Table 4: Estimated Short- Run Coefficient Using the ARDL Approach

ARDL (2,0,0,2,2,0,0) selected based on SBC Dependent Variable: lnCF

Regressors	Coefficient	Standard Error	T-Ratio	[P-Values]
Constant	-.0079	.0207	-0.3816	[.706]
ΔlnCF(-1)	.4565	.0194	23.5309	[.000]***
ΔRGDPG	-.0016	.0007	-2.2857	[.044] **
ΔlnLID	-.0493	.0089	- 5.5393	[.000] ***
lnDBT	.0451	.0109	4.1376	[.001]***
lnDBT(-1)	-.0889	.0109	-8.1560	[.000]***
ΔFD	-.0020	.0005	-4.000	[.001]***
ΔFD(-1)	.0017	.0005	3.4000	[.008]***
ΔGOV	-.0060	.0020	-3.0000	[.008]***
ΔPR	-.0156	.0055	-2.8364	[.011]***
ECM(-1)	-.8208	.0188	-43.6596	[.000]***

R-Squared .9955 R-Bar-Squared .9923
DW-statistic 2.0142 F-stat. F(10, 19) 374.3202 [.000] ***

Note: ***, **, denote significance level at 1% and 5% respectively.

Source: Computed by the authors.

Long-run results

Table 5 presents long-run estimates of determinants of capital flight in Ghana. The results in the table show that all the co-efficient have their apriori expected signs in the long-run. From the results, the coefficient of real gross domestic product growth is negative and statistically significant at 0.05 alpha level. The result indicates that, holding all other variables constant, if real gross domestic product in Ghana grew by one percent capital flight will reduce by approximately 0.2 percent. This means that increasing real gross domestic product has the potential of reducing capital flight in Ghana. It can be argued that higher real GDP growth rates signal the presence of attractive investment opportunities at home. Such opportunities encourage investors to undertake more domestic investments, thereby reducing capital flight. This empirical

finding provides some support for the hypothesis that capital flight is higher when a country's rate of economic growth is low. This implies that low economic growth is an indication of low profitability of domestic investment and, therefore, capital will thus tend to flee the country. The negative effect of real gross domestic product growth rate on capital flight concurs with the findings of Lawanson (2007), and Alam and Quazi (2003) in their study for Nigeria and Bangladesh respectively. Lawanson concluded that deterioration in the performance of an economy increases the proportion of private wealth portfolio held abroad. However, it contradicts the findings of Ng'eno (2000), who found the coefficient to be positive and significant.

Table 5: Estimated Long- Run Coefficient Using the ARDL Approach

ARDL (2,0,0,2,2,0,0) selected based on SBC Dependent Variable: CF

Regressors	Coefficient	Standard Error	T-Ratio	[P-Values]
Constant	-.0097	.0252	-0.3849	[.706]
RGDPG	-.0020	.0009	-2.2222	[.048]**
LID	-.0600	.0108	-5.5556	[.000]***
LDBT	.0678	.0128	5.2969	[.000]***
FD	-.0019	.0008	-2.3750	[.022]**
GOV	-.0073	.0024	- 3.0417	[.008]***
PR	-.0190	.0067	- 2.8358	[.011]**

Note: ***, **, denote significance level at 1%, and 5% respectively
Source: Computed by the authors.

The coefficient of interest rate differential had the expected negative sign and is statistically significant at 0.01 alpha level. Thus, if the country's interest rate differential increases by one percent, capital flight will reduce by approximately 0.06 percent in the long-run, all other things being equal. This indicates that a higher domestic interest rate as compared to foreign interest rates has a significant reduction effect on capital flight in Ghana. It also implies that higher domestic interest rates, as against foreign interest rates, will attract inflows of capital from abroad and also encourage domestic investors to undertake more investments locally, thereby reducing capital flight. The result is in line with portfolio choice theory, which was pioneered by Markowitz (1952). The result also confirms most findings of the empirical studies in the literature. Specifically, it is consistent with findings by Le and Rishi (2006) and Raheem (2015) that interest rate differential negatively and significantly impacts capital flight.

Moreover, in line with expectation, the coefficient on external debt to gross domestic product is positive in sign and it is statistically significant at 0.01

alpha level. The coefficient of external debt stock to gross domestic product indicates that holding all other variables constant, one percent increase in external debt stock to gross domestic product will lead to increase in capital flight by approximately 0.07 percent in the long-run. It can be argued that growing foreign debt in the country may increase expectations about exchange rate depreciation and increase in taxation, which provides a stimulus to hold foreign assets and, hence, capital flight in the long-run. The result supports the empirical findings of Makochekanwa (2007). He concluded that external debt in Zimbabwe determines capital flight in the long-run. The result also concurs with those of Ndikumana and Boyce (2003), Beja Jr et al., (2005), and Geda and Yimer (2015), who found a positive relationship between capital flight and external debt stock.

Again, the proxy used to measure financial development, that is, M2 to GDP ratio, had its expected negative sign, and it was also statistically significant at 0.01 level. The results implied that financial development in the country can reduce capital by approximately 0.19 percent in the long-run. It can be argued here also that, in the long-run, financial development reduces information and transaction costs of economic activity (Demirgüç-Kunt et al., 2008) and, hence, economic agents will be motivated to undertake domestic investment due to low investment cost and consequently reduce capital flight. This result supports the findings of Raheem (2015) in his study involving twenty eight Sub-Sahara Africa countries. It also concurs with the findings of Kipyegon (2004) on determinants of capital flight in Kenya. However, Collier *et al* (2001b), and Boyce and Ndikumana (2003), using M2/GDP and *M3/GDP* respectively as proxy to financial development, found the coefficient to be negative and insignificant. This contradiction may be due to the fact that these other studies used cross country data set. The empirical finding in this study suggests that financial development in Ghana can reduce capital flight.

Governance, which was used to explore the effect of how public institutions conduct public affairs and manage public resources on capital flight, is also statistically significant at 0.01 level and carried the expected negative sign. The results explain that improvement in governance in Ghana can reduce capital flight by approximately 0.73 percent in the long-run. This is because good governance is a pre-requisite for politically stable environment which is friendly for domestic investment. Therefore, this finding suggests that poor governance in Ghana is a driver of capital flight in the long-run since poor governance gives indication for possible political upheaval. However, Ali and Walters (2011), in their study on the 'Causes of Capital Flight from Sub-Saharan Africa', found governance to be insignificant in causing capital flight.

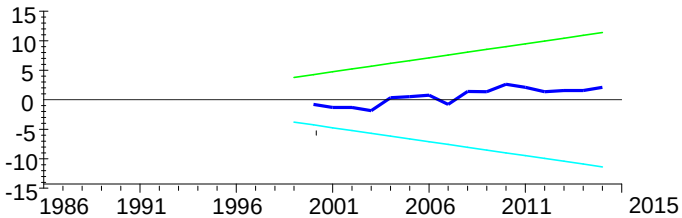
Finally, the coefficient of property right had its expected negative sign and is significant at 0.05 level. This indicates that there is a negative relationship between capital flight and stronger property rights. It suggests that if the country constrains arbitrary state action in confiscating privately owned assets, it tends

to have lower shares of capital flight in gross domestic product. This finding is in line with that of Ali and Walter (2011), in their study on causes of capital flight from Sub-Saharan Africa.

The results suggest that there is long-run relationship between capital flight, real GDP growth rate, interest rate differential, financial development, ratio of external debt to GDP, governance and property right.

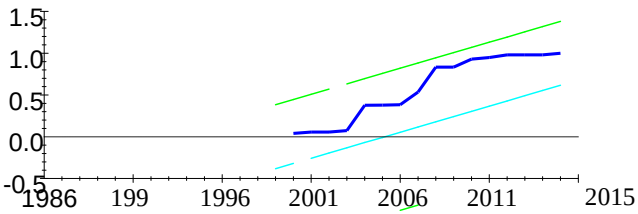
Model Stability Test

Model stability test was conducted to justify the credibility of the results of the estimated model. The cumulative sum of recursive residuals and cumulative sum of squares of recursive residuals plots are depicted in Figures 1 and 2 respectively. The null hypothesis is that the coefficient vector is the same in every period and the alternative is that it is not. The cumulative sum of recursive residuals and cumulative sum of squares of recursive residuals statistics are plotted against the critical bound of 5 percent significance level. The decision rule is that if the plot of these statistics remains within the critical bound of 5 percent significance level, the null hypothesis cannot be rejected. Based on Figures 1 and 2, the plot suggests the absence of instability of the coefficient, since the plots of all co-efficient fall within the critical bounds at 5 percent significance level. Thus, all the co-efficient of the estimated model are stable over the entire period used for the study.



The straight lines represent critical bounds at 5% Sisignificance level

Figure 1: Plot of Cumulative Sum of Recursive Residuals



The straight lines represent critical bounds at 5% significance level

Figure 2: Plot of Cumulative Sum of Squares of Recursive Residuals

Conclusion The estimated long-run and short run results shows that increase in real gross domestic product, higher domestic interest rates over foreign interest rates, improvement in financial development, good governance and strong property rights reduce capital flight. However, in the long-run these variables will reduce capital flight more as compare to short-run. Also, lag of external debt to GDP ratio was found to reduce capital flight in the short-run. The results indicated that accumulation of external debt cause capital flight in the long run while lag of financial development and lag of capital flight causes capital flight in the short run. Based on the findings, the policy implications are that: Governments in developing countries should adopt pro-growth economic policies. Precisely, the government of Ghana should implement strategies (such as, strengthening export promotion measures) to support the private sector for more growth. It is recommended that Bank of Ghana (BoG) needs not only to ensure positive real domestic interest rates, which guarantee interest on capital without being eroded by inflation tax, but also to reduce the differential with foreign interest rates to provide a competitive ground to attract capital into the country and, hence, reduce capital flight. Also, external borrowing needs to be reduced by government and that government should use more domestic debt instruments (example, government bonds) to take advantage of domestic borrowing to finance government expenditure where necessary. Moreover, Bank of Ghana (BoG) should improve on developing the financial sector in order to reduce information and transactional cost of doing business in Ghana to stem capital flight and also to attract inflow of capital. Furthermore, there is the need for accountability, transparency, and participation from government to ensure good governance. Lastly, National Civil Commission should educate the populace on laws covering property right and also such laws need to be strengthened by government to safeguard domestic investors from fear of property confiscation.

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APPENDICE

Table 6: Results of Unit Root Test with constant only: ADF Test

At Levels			At First Difference			
Variable	ADF-Statistic	Prob. Value	Variables	ADF-Statistic	Prob. Value	I(O)
lnCF	-18.9198	.0001***	ΔlnCF			I(0)
RGDPG	-0.3344	.9070	ΔRGDPG	-7.7875	.000***	I(1)
lnID	1.0220	.9957	ΔlnID	-10.6263	.0001***	I(1)
lnDBT	-1.3761	.5799	ΔlnDBT	-5.4137	.0001***	I(1)
FD	-1.7258	.4082	ΔFD	-5.7125	.0001***	I(1)
GOV	-1.5389	.5001	ΔGOV	-4.9744	.0004***	I(1)
PR	-5.0418	.0003***				I(0)

Note: *** indicate the rejection of the null hypothesis of non-stationary at 1% level of significance, Δ denote first difference, and I(0) is the order of integration. The values in parenthesis are the P-values.
Source: Computed by the authors.

Table 7: Results of Unit Root Test with intercept and Trend: ADF Test

At Levels			At First Difference			
Variable	ADF-Statistic	Prob. Value	Variables	ADF-Statistic	Prob. Value	I(O)
lnCF	-13.4971	.0000***	ΔlnCF			I(0)
RGDPG	-4.1648	.0139**	ΔRGDPG			I(0)
lnID	-1.0595	.9189	ΔlnID	-6.1816	.0001***	I(1)
lnDBT	-2.4689	.3397	ΔlnDBT	-5.3311	.0009***	I(1)
FD	-2.0094	.5720	ΔFD	-5.7415	.0003***	I(1)
GOV	-1.0445	.9214	ΔGOV	-5.2686	.0011***	I(1)
PR	--5.5157	.0006***				I(0)

Note: *** and ** indicate the rejection of the null hypothesis of non-stationary at 1% and 5% level of significance respectively, Δ denote first difference, and I(0) is the order of integration. The values in parenthesis are the P-values.

Source: Computed by the authors.

Table 8: Results of Unit Root Test with intercept only: PP Test

At Levels			At First Difference			
Variable	PP-Statistic	Prob. Value	Variables	PP-Statistic	Prob. Value	I(O)
lnCF	-3.3136	.0235**	ΔlnCF			I(0)
RGDPG	-2.6701	.0914*	ΔRGDPG			I(0)
lnID	1.1283	.9968	ΔlnID	-5.5942	.0001***	I(1)
lnDBT	-1.1128	.6970	ΔlnDBT	-5.6279	.0001***	I(1)
FD	-1.6912	.4250	ΔFD	-5.7504	.0001***	I(1)
GOV	-1.7022	.4196	ΔGOV	-4.9651	.0004***	I(1)
PR	-5.0488	.0003***				I(0)

Note: ***, ** and * indicate the rejection of the null hypothesis of non-stationary at 1% , 5% and 10% level of significance respectively, Δ denote first difference, and I(0) is the order of integration. The values in parenthesis are the P-values.

Table 9: Results of Unit Root Test with intercept and trend: PP Test

At Levels			At First Difference			
Variable	PP-Statistic	Prob. Value	Variables	PP-Statistic	Prob. Value	I(O)
lnCF	-3.2059	.1030	ΔlnCF	-12.3014	.0000***	I(1)
RGDPG	-4.2295	.0120**	ΔRGDPG			I(0)
lnID	-1.0190	.9255	ΔlnID	-6.1886	.0001***	I(1)
lnDBT	-2.5493	.3042	ΔlnDBT	-5.5691	.0005***	I(1)
FD	-2.0628	.5439	ΔFD	-5.7415	.0003***	I(1)
GOV	-0.8209	.4196	ΔGOV	-5.5894	.0004***	I(1)
PR	-5.5644	.0005***				I(0)

Note: *** and ** indicate the rejection of the null hypothesis of non-stationary at 1% and 5% level of significance respectively, Δ denote first difference, and I(0) is the order of integration. The values in parenthesis are the P-values. Source: Computed by the authors.