Financial Derivatives and Risk Management of Public Sector Organizations in Ghana

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ABSTRACT
This article examines the various financial risks faced by public sector organizations in Ghana and how restrictive clauses in the Financial Administrations Act, 2003 and the Public Procurement Act 2003 effectively prevent Finance Directors of public sector organizations from trading in various derivative products to manage such financial risks. The article discusses the huge opportunity loss incurred by public sector organizations because of the restrictive clauses in the Financial Administrations Act, 2003 and the Public Procurement Act 2003. The paper gives a brief overview of the various derivative products available on the capital market for managing financial risk. The paper then analyses the cash flow patterns of public sector organizations in Ghana, with particular reference to public tertiary institutions and discusses various financial risks associated with such cash flow pattern. Provisions in the financial Administration Act and the Public Procurement Act that make it difficult for public sector organizations to trade in derivatives are reviewed for their impact on modern financial management. The paper makes recommendations for addressing the problem by calling on the various stakeholders of Public Institutions to push for the review of the restrictive clauses in order to make it possible for Public sector organizations to use appropriate derivative products to manage their risk exposure in order to be competitive.

INTRODUCTION
Risk management has become critical in modern financial management mainly due to increased volatility and the complexity of the financial market. Companies have been using various derivative products to manage their exposure to the various financial risks. In Ghana, public sector financial management is governed by two main Acts of Parliament: The Financial Administration Act 2003 Act 654 and the Public Procurement Act, 2003 Act 663. These Acts were both passed in the year 2003 to consolidate different financial management regulations in order to streamline public sector financial management in Ghana. There are however, various provisions in the two acts of parliament that make it very difficult, if not impossible, for public sector organizations to trade in the available derivative products as risk management strategy. The financial market has seen tremendous changes since the Acts were passed. Competition has changed, developments in information technology has provided a global financial market with numerous opportunities and challenges. Many of the clauses in these Acts can no more stand the test of time. Stakeholders of public sector organizations must therefore come together to press for the review of the various restrictive clauses so that they can also take advantage of the various derivative products on the global financial market to manage financial risks.

THEORETICAL BACKGROUND

Derivative Products
Arnold (2002) defines a derivative as “a financial asset, the performance of which is based on (derived from) the behavior of the value of an underlying asset” (P.1042). They are financial assets whose payoffs depend on changes in the price of assets on which they are written. Derivative products include forward contracts, futures contract, options, and swaps.

Forward contracts
A forward contract is an agreement between two parties to exchange assets in future on terms agreed now. In forward contracts all terms of the agreement are locked in immediately for delivery at the
agreed future date (Levy and Post, 2005, P 653). On the expiring date, each party is under obligation to fulfill their portion of the agreement. Forward contracts are usually used to hedge price risk by transferring it to the other party to the transaction. Forward contracts are over-the-counter derivatives which are usually negotiated privately between the contracting parties. This gives the parties the flexibility to negotiate their own terms to suit their peculiar needs.

**Futures**

Futures contracts are similar to forwards contracts in the sense that both entail agreement to exchange assets in future on terms agreed today. However, there are certain features that distinguish futures contracts from forward contracts. First, futures are traded through financial exchanges which act as intermediaries between the contracting parties, whereas forward contracts are negotiated directly between the parties. The exchange helps to reduce credit risk by stepping in to ensure that each party fulfills their part of the contract. Second, futures contracts are standardized so that they can be bought and sold without any private negotiations.

**Options**

Arnold (2002) defines option as “a contract giving one party the right, but not the obligation, to buy or sell a financial instrument, commodity or other underlying asset, at a given price at or before a specified date” (P.1051). This definition implies that options contract can be written on any valuable asset. There are two types of options: a Call option and a Put option. A call option confers to the holder the right to buy an asset whereas a Put option confers to the holder the right to sell an asset. Options are also classified on the basis of the time they can be exercised. European options could be exercised only on the expiring date whereas American Options could be exercised at any time before the expiring date (Whaley, 2007, P. 7). The main feature that distinguishes options from forwards and futures is that the holder is not under any obligation to exercise the option if it is not in his/her favour at the maturity date. An option holder will therefore allow the option to lapse if exercising it will not create any financial benefit.

**REVIEW OF FINANCIAL ADMINISTRATIONS ACT, AND THE PUBLIC PROCUREMENT ACT IN GHANA**

The Financial Administration Act 2003, Act 654, and the Public procurement Act 2003 Act 663 are two major acts that govern the financial management of public institution in Ghana. These Acts were passed to streamline and standardize the financial management framework of public institutions in Ghana. There is no doubt that the Acts have brought much sanity into the financial administration and public procurement in public institutions in Ghana. Before the acts were passed, financial management and public procurement in Ghana were regulated by many different and largely inconsistent instruments such as:

(a) *The District Tender Board Regulations, 1995 (L.I. 1606)*;
(b) *The Ghana National Procurement Agency Decree, 1976 (S.M.C.D. 55)*; and
(c) *The Ghana Supply Commission Law, 1990 (P.N.D.C.L. 245)*.

Although the two acts have brought consistency and sanity into the financial administration in the public sector, there are various provisions in the acts that do not allow for derivative trading and for that matter efficient risk management in public sector institutions. Various provisions of the Financial Administrations Act in Ghana effectively prevent government funded organizations from trading in derivative products. The act provides that all public funds must be lodged with an account opened with the Bank of Ghana and all payments must be made solely from that account. Section 50 sub-sections 1 and 2 of the Financial Administration Act provides that “a corporation shall pay to the Government such money administered by it as the sector Minister and the Minister consider to be in excess of the amount required for the purposes of the corporation”...Any money paid may be applied towards the discharge of an obligation of the corporation to the Government or may be applied as state revenue.”
In addition, all internally generated funds received by public sector organizations are to be treated as monies held in trust for the government and are subject to restrictive monetary controls. Section 51, sub-section 1 of the Act prevents Public Sector Organizations from indulging in any investment activities with government funds and internally generated fund without prior approval from the sector minister. And subsection 2 specifically prevents public sector organizations from investing moneys in any government securities. This has serious financial implications considering the fact that interest rate on treasury bills are usually higher than the interest rate paid by commercial banks on most their short term investment products.

The Public Procurement Act also contains many clauses that do not allow free market to operate to determine price. The above provisions effectively prevent Finance Directors of public sector organizations from trading in the various derivative products in their financial management activities. Public sector organizations are, however, equally exposed to the risk associated with inflation, exchange rate, interest rate etc. This makes Government funded organizations less competitive relative to their Private sector counterparts.

If financial management of Public sector institutions in Ghana are liberalized by removing the restrictive clauses in the Financial Administrations Act, the institutions can benefit immensely from forward contracts. For example, in public universities most of the fees and incomes are received upfront for use throughout the academic year. The prices of items on which monies are spent are subject to change with the general price levels. This exposes the institutions to significant price risk as allocations and fees are not adjusted with any price index.

The Procurement Act however contains cumbersome procurement procedures for public sector organizations that make forward contracts practically impossible for such organizations. For example, Section 31 of the act restricts all public procurement to competitive tendering except under certain stringent conditions. Section 28 sub-section 2 of the Public Procurement Act provides that:

“A procurement entity shall submit to its Tender Committee not later than one month to the end of the financial year the procurement plan for the following year for approval”.

This clause in the act makes it obligatory for all public institutions in Ghana to submit procurement plan for each year before the year commences and follow the plan throughout the year. Efficient derivative trading requires flexibility and quick response to changing market conditions. The above provisions in the Public Procurement Act forces finance managers of public institutions to follow the approved procurement plans rigidly thereby limiting their responsiveness to changing conditions. Even the contents of tender documents are prescribed by law limiting the ability of finance managers to negotiate terms to meet their peculiar needs.

Public institutions differ greatly in financial needs and risk exposure. Therefore, this “one fit all” prescription in the Act is a hindrance to efficient financial management. Even more restricting is the provision in section 64 that “no negotiations shall take place between the procurement entity and a supplier or contractor with respect to a tender submitted by the supplier or contractor.” This provision effectively rules out forward contracts in Public Sector organizations since forward contracts are traded on the over- the- counter segment of the market and are negotiated privately between the contracting parties.

CASH FLOW PATTERNS OF PUBLIC TERTIARY INSTITUTIONS

Public tertiary institutions have three main sources of income namely: Government Subventions, Academic Facilities User Fees, and Internally Generated Fund. Government subventions include monies allocated to the institutions from the consolidated fund and allocation from the Ghana Education Trust fund. Academic facilities user fees are revenue generated by the institutions from academic facility user fees charged to students; and Internally Generated Fund are those funds generated from all other income generating activities undertaken by the intuition. Of the three sources of income, Government Subventions account for an average of 70%, Academic facilities user fees
accounts for 21% and Internally Generated Fund account for 9%. Ghana (Statistical Service Quarterly Bulletin, June 2009). Approximately 65% of the government subventions are for salaries and other remunerations, and these are received monthly. The remaining 35% of government Subventions are for development and are allocated at the beginning of the year (Kumasi Polytechnic, Annual Financial Report 2009). In addition, all Academic Facilities User Fees are collected at the beginning of the academic year. This implies that approximately 46.5 of the total income are received at the beginning of the academic year.

Major expenditure items paid apart from salaries and remunerations include allowances, utility charges, stationery, and printing, consumables, repairs and renewals fuel, seminars and workshops. Payments on the above expenditure lines occur quite evenly throughout the year. There is therefore a long timing difference between income and expenditure.

**RISK EXPOSURE OF PUBLIC SECTOR ORGANIZATIONS**

The cash flow pattern of public sector organizations shows that there is a big timing difference between revenue and expenditure. This exposes the government institutions to financial risk that need to be managed with various derivative products. The real values of the expenditure depend on various factors such as inflation, exchange rate, and interest rate. The volatility of the above financial indicators is very high in Ghana exposing the institutions to high financial risks.

**Inflation risk**

Inflation risk or market risk can be defined as potential loss of purchasing power of money resulting from increases in the prices of goods and services. It could be seen from Table 1 below that inflation in Ghana has been high and fluctuating over the years. Prices of goods and services change frequently. This trend exposes organizations to serious market risk that need to be managed by all astute finance managers. In the case of public sector organizations, the risk is more serious because their incomes are fixed at the beginning of the year and are rarely adjusted with the retail price index. Therefore, measuring and managing inflation risk is critical in the financial management of public sector organizations in Ghana. Various derivative products may be used to manage interest rate risk. However, cumbersome procedures established by restrictive clauses in the financial Administrative Act and the Public Procurement Act make it practically impossible to utilize these products to manage public sector financial risk.

**Foreign Exchange Risk**

Another major source of financial risk faced by public sector organizations in Ghana is frequent adverse changes in the exchange rate between the Ghana Cedi and all the other major international currencies. The Bank of Ghana is operating a floating exchange rate regime which allows economic factors to determine the exchange rate between the Ghana Cedi and other currencies. The Cedi has suffered a consistent fall in value against all the major trading currencies over the years. For example the exchange rate of the Ghana Cedi to the US Dollar has increased from GH₵1.48523 to US$1 on 1st January 2011 to GH₵1.90682 to the Dollar as at 2nd December 2012 ([http://www.exchange-rates.org/history/GHS/USD/T](http://www.exchange-rates.org/history/GHS/USD/T)).

This high exchange rate volatility has serious financial implications to public sector organizations in Ghana since it exposes them to transaction risk. It is estimated that over 98% of all consumables used in the public sector organizations in Ghana are imports that are denominated in foreign currencies (Bank Of Ghana Quarterly Bulletin March 2009). For foreign currency denominate imports, the Cedi value of the foreign currency payments depend on the exchange at the time the transactions are entered into. However, for public sector organizations, revenue allocations are made in Ghana Cedi. In addition, some public sector organizations, especially the public tertiary institutions, pay huge amount of foreign currency in various forms of scholarships, international travels, conference fees, and sponsorships. Therefore, the currency risks associated with import transactions are borne by the importing public sector organizations without recourse to any extra government funding. It is therefore important for such organizations to measure and manage exchange rate risks.
Interest rate risk
Public sector organizations are also exposed to interest rate risk. In addition to the negative impact of uncertain interest rate on the major macro and micro economic variables, public sector organizations face a peculiar interest rate problem. Section 51 subsections 1 and 2 of the Financial Administration Act state as follows:

“A corporation may invest the moneys of the corporation in such manner as the Minister may approve and in consultation with the Minister may reinvest any of its investments. Notwithstanding subsection (1), a corporation shall not invest its money in government securities.”

The above provision makes it illegal for public sector organizations to invest in government treasury bills.

Public sector organizations usually leave their monies in bank deposit accounts which usually pay far less than the Treasury bill rate. For example, the Bank of Ghana one year Treasury rate was 16% on March 22nd 2010, whilst Standard Chartered bank deposit rate was 8.3% at the same time (Daily Graphic, 22nd March 2010). It is estimated that. Most of the commercial banks in Ghana invest over 50% of their deposits in government treasury bills. (Bank of Ghana Quarterly Bulletin March 2009). This implies that interest revenue that would have accrued to public sector organizations are indirectly transferred to the banks when they deposit funds into these banks.

DERIVATIVES AND PUBLIC SECTOR FINANCIAL RISK MANAGEMENT

If appropriate reviews are made to the public sector financial management regulations, various derivative products could be employed to manage the risk exposure of the public organizations.

Managing Inflation risk
With appropriate liberalization and financial autonomy, public institutions could manage inflation risk with forward contracts. Most public sector organizations provide the same services evenly throughout the year. It is therefore easy to predict in advance the types and quantities of various consumables to be used throughout the year. They could therefore enter into forward contracts with suppliers and service providers to lock in the price of the consumables and services at the beginning of the year. Inflation risk can also be managed with commodity swaps. Institutions can enter into agreements with suppliers to swap floating prices for the various consumables that they use periodically. These agreements could be used to lock the price at which items whose prices fluctuate.

Managing Exchange Rate Risk
Exchange rate risk can be managed with currency forwards or normal forward contracts. To be an effective hedge against exchange risk in import transactions, forward contracts must be denominated in the local currency. This transfers the risk of Cedi depreciation to the exporter. Currency forward has been defined as “an agreement to buy or sell a given amount of foreign currency at a certain point in time at an exchange rate fixed today” (Döhring, 2008, P.2). Public sector institution could contract with financial institutions to buy foreign currency in future at an exchange rate fixed at the beginning of the year.

Managing Interest Rate Risk
Public sector organizations are not allowed to buy government securities. The idea behind this prohibition is that the government should not pay interest on her own funds. The laws however allow public institutions to open accounts with commercial banks. Funds deposited into such accounts earn far less than the Treasury bill rate and most of the banks lend these funds to the government by buying treasury bills. This has created a situation where government pays interest to the commercial banks instead of to the public institutions. This defeats the rational for the restrictive clause in the Financial Administration Act.

A repeal of the prohibition clause will be in the interest of the government and the public institutions. In addition, the institutions will have the opportunity to trade in various interest rate derivatives to manage their financial risk.
CONCLUSIONS AND RECOMMENDATIONS

Both public sector organizations and private sector organizations operate in the same financial market. They are equally exposed to the risk associated with changes in prices, exchange rates and interest rates. Public sector organizations in Ghana are particularly more exposed to financial risk because they are committed to fixed income allocations that are rarely adjusted when the financial variables move against them. In addition, the expenditure of public sector organizations includes high import content. There is therefore the need for the finance managers of public sector organizations to pay more attention to financial risk management. The most efficient method of managing financial risk in the modern financial market is trading in derivative products such as forward, futures, options, and swaps. These products can be used separately or in combination to hedge almost all financial risk. However, there are various provisions in the Financial Administrations Act and the Public Procurement Act that make it practically impossible for them to use financial derivatives to manage risk. Many cumbersome and slow procurement procedures are enshrined in the Procurement Act. For example, most public sector purchases must be subjected to lengthy tendering processes and approvals. The Financial Administrations Act also contains so many restrictive clauses that make derivative trading very difficult and in some cases illegal.

For public sector organizations to be efficient and compete favorably with their private sector counterparts there is the need to have a second look at the financial regulations governing public sector financial management in Ghana. It has been nine years now since the Financial Administrations Act, 2003 and the Public Procurement Act 2003 were passed by parliament. The financial market has seen tremendous changes since the Acts were passed. Competition has changed, developments in information technology has provided a global financial market with numerous opportunities and challenges. Many of the clauses in these Acts can no more stand the test of time. Stakeholders of public sector organizations must therefore come together to press for the review of the various restrictive clauses so that they can also take advantage of the various derivative products on the global financial market to manage their financial risks.

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