www.gprjournals.org

A Study of the Factors Contributing to the Development of Tanzania Derivatives Markets

Justus Techa Chitundu

Lecturer, School of Business and Economics, University of Dodoma, Tanzania

Email: chitundu435@hotmail.com

Abstract

Aim: The study's goal was to identify the key characteristics that drive the establishment of efficient and effective derivative markets in Tanzania.

Methods: The study employed a descriptive research approach. As a consequence of the deliberate non-probability selection approach, the population for the census was taken from the Dodoma Securities Exchange brokers, financial/investment advisors, and senior officials from the Capital Markets Authority of Tanzania. We used both primary and secondary data. The acquired data was checked, corrected, and coded before being analyzed with the Statistical Package for Social Sciences (SPSS) software. To summarize the data, descriptive statistics such as percentages and frequencies were employed. Tables, charts, and diagrams are used to present data.

Results: It was stated that because demand for derivatives is anticipated to be low, derivatives instruments would be scarce for hedging in the local market. Derivatives trading will increase market turnover in the underlying markets while also increasing the country's GDP. The performance of Tanzania's derivatives markets will be heavily impacted by the political climate, derivatives expertise, participant attitude, financial infrastructure, and overseas competition. It was determined that the central government's assistance in the development of derivatives markets could be assessed as reasonable, but investor knowledge of derivatives instruments was rated as poor.

Conclusion: According to the research findings, government expenditure on financial infrastructure is insufficient for effective derivatives markets, and taxes impedes derivatives market growth.

Recommendations: As a result, the report suggests that the government enhance its intervention by increasing expenditure on financial infrastructure and enacting tax policies that do not hinder derivative trading. Sensitization should also be carried out to raise public knowledge about the function of derivatives trading.

Keywords: *GDP, derivative markets, local markets, Tanzania*

www.gprjournals.org

1.0 INTRODUCTION

According to David (2002), a comprehensive picture of capital markets is a four-legged table comprised of securities markets, the banking sector, insurance, and pension funds, and the derivatives markets. Derivative markets are investment markets focused on the buying and selling of derivatives for risk management and price discovery. The derivatives market is separated into two parts: over-the-counter (OTC) and exchange markets. Though both exchange-traded and OTC derivative contracts have numerous advantages, exchange-traded contracts have more strict frameworks than OTC derivative contracts. The exchange-traded derivatives market operates with standardized contracts and a clearinghouse or exchange at its heart. OTC derivatives, on the other hand, are private contracts between two parties, generally between the proprietary market and the public market.

When commercial trading began some years ago, it was intended to overcome the challenges caused by barter trade owing to the nature of the things sold. Trading in barter commerce was not structured or controlled, therefore each side had to trust the other to deal. The majority of the items were natural soil products. Commodity commerce in the Western world used agreements akin to advance contracts during the 16th and 18th centuries. The difficulty was that the agreements were still between parties who had to deal with each other personally for commerce to take place, and the parties had to trust each other.

Derivatives markets can help investors manage their financial risk exposure by allowing them to unbundle and transfer financial risk. In theory, such markets might lead to more efficient capital allocation and cross-border capital movement, more chances for portfolio diversification, risk transfer, price discovery, and more public information (Tsetsekos & Varangis, 2005). Furthermore, they suggested that derivatives exchanges help the development of a country's financial infrastructure by connecting cash markets, hedgers, and speculators.

Ilyina (2004) stressed that financial derivatives are essential for the development of efficient capital markets because of their contribution to a more efficient capital allocation, facilitation of cross-border capital flows, and creation of opportunities for portfolio diversification. David (2002) stated that the economic functions of derivatives are close complements to international capital flows. As a result, derivatives markets emerged along with these forms of capital flows as part of an effort to better manage the risks of global investing. In doing so, derivatives facilitate the flow of capital by unbundling risk and redistributing it away from investors who did not want it and towards those more willing and able to bear it. Further, David (2002) stated that an important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright, creative, well-educated people with entrepreneurial attitudes. They often energize others to create new businesses, new products, and new employment opportunities, the benefit of which are immense.

Historically, significant derivatives exchanges were virtually entirely based in the United States. Today, Europe is the most important area in the global derivatives market, accounting for 44 percent of worldwide outstanding derivatives volume, which is much larger than its share of stocks and bonds. Strong European derivatives exchanges appeared only after deregulation and demutualization in the 1980s and 1990s. These European exchanges were more independent of their users. The European exchanges revolutionized trading by introducing fully electronic trading and by setting industry standards (Dolores, 2008).

The country of India's Derivatives markets has existed in some form or another for a long time. In the commodities market, the Bombay Cotton Trade Association established futures trading in 1875. In 1952, the Government of India banned cash settlement and options trading. Trading in derivatives has transferred to informal futures markets. In recent years, government policy has shifted in favor of an increased role of market-based pricing and less suspicious derivatives trading. Derivatives trading commenced in India in June 2000 after the Securities and Exchange Board of India (SEBI) granted the final approval for the reintroduction. Since its introduction in 2000, the financial derivatives market in India has shown remarkable growth both in terms of volumes and numbers of traded contracts (Vashishtha & Kumar, 2010)

The Tanzanian government is putting together a derivatives exchange. At present, there are no exchange-traded derivatives or documented over-the-counter derivative markets in the country. The first steps have already been made in this direction as relevant legislation is being put in place. The then finance minister in the 2011 budget talked of the development of a derivatives exchange which is a very welcome move. The capital markets authority of Tanzania is in the process of establishing the exchange and established a department to cater to this and the request for proposals has already been done with the submission of the financial proposals in progress. Currently, Tanzanian companies/ firms that need to hedge use foreign exchanges through brokers.

1.2 Statement of the Problem

Derivatives markets, as stated in the paper's parts of literature, enable increased access to finance by allocating funds to the most appropriate investments; enable financial risk management by providing businesses with the option of obtaining insurance against price fluctuations; and enhance financial market deepening and assist economies to meet the challenges of globalization by contributing to the development of stock markets and influencing cross-border flows. According to Olive, (2009), developing economies are characterized by shallow financial markets and insufficient access to credit, which is a key problem that derivatives trading will substantially aid in resolving. Currently, there is no trading on derivatives at the TSE, even though derivatives are known to augment other types of funding and insurance in the market.

1.3 Objectives of the Study

1.3.1 General objective

The study's overarching goal was to identify the key elements influencing the establishment of efficient and effective derivative markets in Tanzania.

1.3.2 Specific objectives

1. To assess how macroeconomic and structural policies affect the derivatives market.
2. To ascertain the impact of the legal and regulatory framework on the growth of the derivatives market.
3. Determine the best derivatives instrument for the Tanzanian market.
4. To evaluate the importance of liquidity in a well-functioning derivatives market.
5. Determine the role of derivative markets in the Tanzanian economy.

Global Journal of Economics and Trade
ISSN 2958 - 406X (Online)
Vol.1, Issue 1, pp 52 – 64, 2022
www.gprjournals.org

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Theory of market microstructure

This derivatives market research is based on the idea of market microstructure, which is a branch of economics and finance concerned with the specifics of how exchange occurs in markets, most notably financial markets. The microstructure theory examines how various trading processes influence the price formation process. Market microstructure study generally investigates how a market's operating mechanism influences trading costs, pricing, volume, and trading behavior (Sewel, 2007). According to Ohara (2007), the market microstructure is the study of the processes and effects of trading assets according to a certain set of rules. In addition, market microstructure examines trading in instruments. These instruments according to Harris (2002) include common stocks, preferred stocks, bonds, convertible bonds, warrants, options, futures contracts, foreign exchange contracts, swaps, reinsurance contracts, commodities, pollution credits, water rights, and other betting contracts. The market structure and design focus on the relationship between price determination and trading rules of the derivatives. One of the important questions in microstructure research is how market structure affects trading costs and whether one structure is more efficient than another.

According to Harris (2002), the market structure consists of trade rules, the physical layout, information display systems, and information transmission systems. This defines what traders can do and what they can know, altering power dynamics among traders and their profitability. Market infrastructure is necessary for the smooth and effective running of the derivatives exchange and should thus be carefully constructed. A well-structured market will enable effective price discovery, low-cost risk management, and capital market capitalization (David, 2007). The growth in information and computing technology has changed how people trade and how trade will occur in the future. Information and computing technologies have a big role to play in markets since markets are essentially information processing mechanisms. Markets process information about who wants to trade, how much to trade, and at what prices. The resulting prices aggregate information about fundamental values (Harris, 2002).

Price formation and discovery are concerned with the process of determining the price of an item, which includes both static concerns such as the drivers of trading costs, and dynamic issues such as the process by which prices impound information over time (Madhavan, 2000). The growth of technology has had a significant impact on the exchange architecture. A derivatives exchange, according to modern finance theory, is an informal process or a system that allows information creation and transmission among agents and constituencies, with the ultimate goal of promoting fair price discovery (Tsetsekos, 2005). The transaction cost and time cost examine the effect of transaction costs on investment returns and execution techniques.

Order processing costs, adverse selection costs, inventory holding costs, and monopolistic power are all examples of transaction costs. Transaction costs, according to Harris (2002), comprise all expenditures involved with the trade. These costs include explicit expenses, implicit costs, and lost trade opportunities. To trade profitably, traders must efficiently control their costs. The information and disclosure emphasize market information and transparency, as well as the influence of information on market players' behavior. Transparency is defined as market players'

capacity to view the information in the trading process (Ohara, 2007). Information-based microstructure models have shown that the information available in the trading process can influence market players' trading strategies. As a result, market equilibrium is determined by the degree of transparency.

Differences in transparency may be important in the production of liquidity. Transparency, as a determinant in traders' strategic decisions, might impact their desire to engage in the trading process. Transparency is also an important element in market rivalry for trading volume, and hence in the potential for increased liquidity fragmentation. The derivatives market microstructure focuses on how derivatives trade; contract cycles, clearing house activities in contract execution, and the impact of arbitrage on market efficiency. It also considers the effect of liquidity in making arbitrage cheap and convenient by allowing arbitrageurs to erase minor price differences (Harris, 2002: Madhavan, 2000; & O'Hara, 2005)
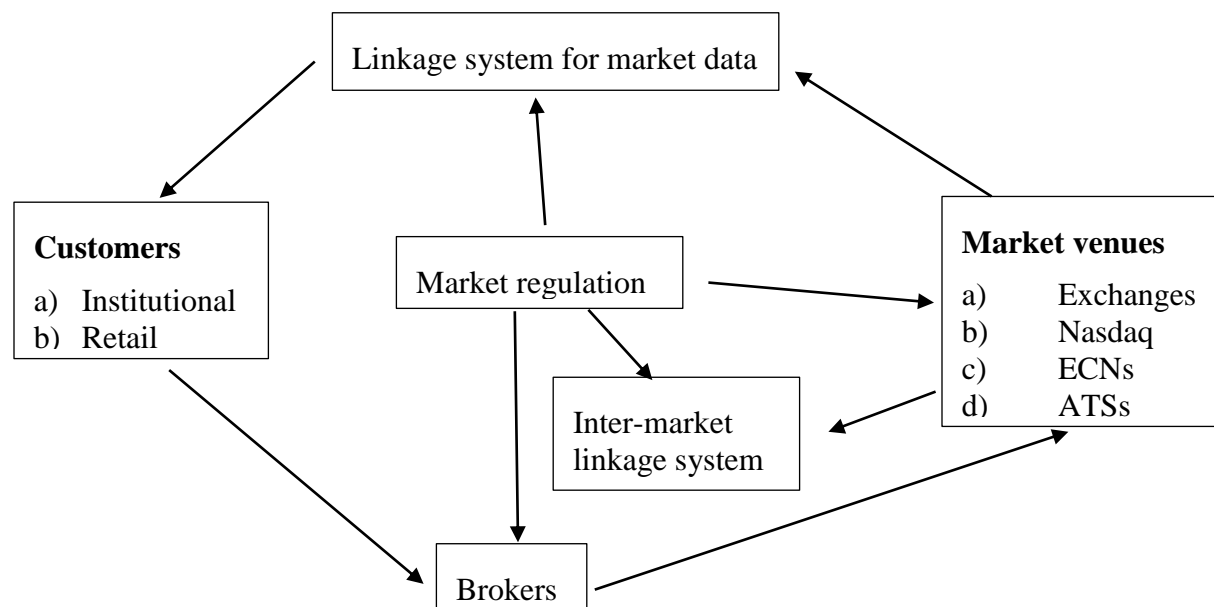
Figure 1: Market components and relationships

2.1.2 Liquidity and derivatives

When one wishes to trade, liquidity is the capacity to move big amounts of money swiftly and cheaply. It is the most crucial feature of a well-functioning market (Harris, 2002). Liquidity is frequently conceived of in terms of trading fast, dealing in huge quantities, and trading at a low cost. Liquidity is a bilateral search in which buyers seek vendors and sellers seek buyers. When a buyer finds a seller willing to sell at mutually acceptable conditions, the buyer has discovered liquidity; similarly, when a seller finds a buyer willing to sell at acceptable terms, the seller has found liquidity.

Liquidity in the underlying market means that there is interest in the asset itself, and hence a need for investors to hedge their exposure to that asset via derivatives. The lack of sufficient liquidity in most freshly established markets results in relatively high hedging costs and limits contract

expansion (David, 2002). And if the cross markets provide more liquidity, the investors will prefer to use the cross markets even if they may have a lower hedge than the country's market. The role of liquidity is in making arbitrage cheap and convenient. If transactions costs are low, then the smallest mispricing on the derivatives market will be removed by arbitrageurs, which will make the derivatives market more efficient.

2.1.3 The possible impact of the derivatives market on the Tanzanian economy

Internationally, the introduction of derivatives has been linked to significant improvements in market quality in the underlying equities market. Once derivatives trade, liquidity and market efficiency in Tanzania's equities market will increase. Diversification helps remove many hazards in the financial markets (Ahuja, 2006). Foreign investors entering Tanzania would feel more at ease if the hedging instruments often utilized by them across the world were available to them. The introduction of derivatives markets is a logical next step in the development of human capital in Tanzania, as skills in the financial industry have risen dramatically in recent years as a result of market structural changes (Asani, 2006).

At the macroeconomic level, well-functioning derivatives markets boost the market efficiency of the underlying cash market (BIS, 2008). It will strengthen the market's capacity to carefully steer resources toward projects and sectors with the best rate of return, hence improving market allocation efficiency. A given stock of investible money would be better employed in attaining the best feasible GDP growth for the country if allocation efficiency is improved. As a result, the true links will be from derivatives to market liquidity and efficiency, and from market efficiency to GDP growth.

2.3 Empirical Review

According to Tsetsekos and Varangis (2005), the process of launching successful derivative goods is extensive, and both government rules and a self-regulatory framework are often required. There is a delicate balance between the regulatory function of the government and the self-regulation of an exchange. The essential premise is that a well-functioning derivatives market is in everyone's best interests. Governments might promote and assist studies of the viability of such markets, as well as ensure wide domestic and international involvement in the process and a well-defined and implemented regulatory framework. It is up to market players and exchanges to create goods, trading processes, and self-regulatory systems that are appropriate for the level of market development (Chance, 2005).

David (2002) noted that there are public interest issues about derivatives in developing nations, and he divided these concerns into two categories: derivative abuse and derivative misuse. The former endangers the integrity of markets and the information content of prices, whereas the latter endangers the stability of the financial sector and the overall economy by increasing systemic risk, the risk of contagion, and possibly acting as a catalyst or accelerator to financial disruption or crisis. He also stated that the presence of poorly designed and insufficiently managed derivatives markets might produce new risks that refresh current risk levels and create new economy-wide vulnerabilities. Further, he warned that even though individual firms and investors successfully hedge by shifting risk from those who can least beat it to those who are more willing and able to do so, the entire financial sector now includes new and greater risks from the presence of this trading activity and the resulting outstanding derivatives contracts. IMF (2002) found that the most

common problems that constrain the development of local derivatives markets are relatively underdeveloped markets for underlying instruments, weak or inadequate legal and market infrastructure, and restrictions on the use of derivatives by local and foreign entities.

According to Mugo (2009), who introduced a derivatives exchange based on Asia's emerging markets, the study concluded that derivatives trading has enormous benefits and emphasized that emerging markets should strive to establish derivatives markets to enjoy the same benefits as most developed markets. Miller (2012) also stated that derivatives markets help to establish stock markets in many nations. Though she stressed that the development of new markets should not be done blindly, but rather after assessing the current situation in a specific economy. Mugenda (2003) also made suggestions on how emerging markets should go about creating exchanges. The first suggestion is that the emerging markets can introduce the markets as independent exchanges or as departments or divisions of the existing stock market, secondly, they can form joint ventures with already successful derivative exchanges by which they will benefit from the technology and know-how of existing exchanges, thirdly, the emerging markets can first design and list their products in well-established derivatives exchanges to gain popularity and lastly, she suggested that markets in the same geographical region especially those that have cross-listed companies in their capital markets can establish regional derivatives market.

3.0 Methodology

This chapter covers in full the methodology used in this study in terms of the variables influencing the growth of Tanzania's derivatives market. The research design, target population, sampling design, sample size, data collecting procedures and instruments, and data analysis methodologies would all be highlighted.

4.0 Research Findings and Discussion

4.1 Response Rate

This survey addressed 34 respondents from NSE broker businesses and the CMA. However, questionnaires were provided to two responders for each of the 17 NSE broker businesses and 17 for the CMA. However, due to research limitations, 31 replies were obtained, representing a 91 percent response rate. This was the foundation for the analyses offered in this chapter.

4.1.2 Age of the respondents

The majority of respondents (64%) were between the ages of 30 and 39, while 26 percent were between the ages of 20 and 29, and 10% were between the ages of 40 and 49. This implies that the majority of financial/investment advisers in the selected companies were between the ages of 30 and 39, whilst those above the age of 50 are not engaged as securities market consultants.
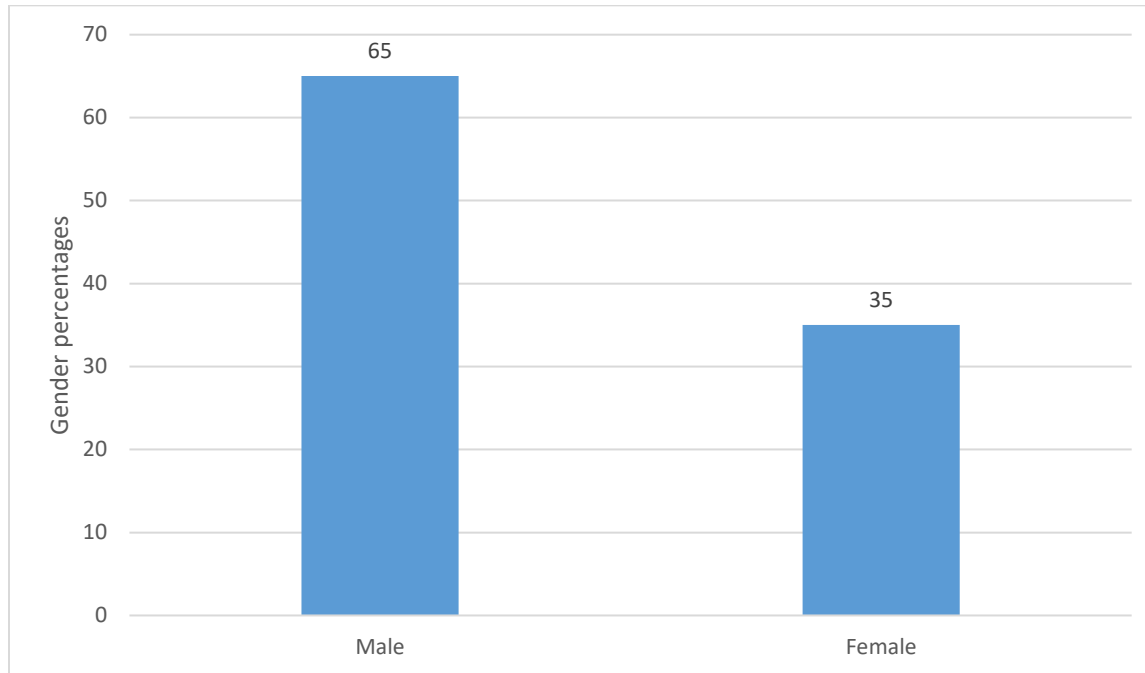
Table 1: Age of the respondents

Age categories	Frequency	Percent
20-29	8	25.8
30-39	20	64.5
40-49	3	9.7
Total	**31**	**100.0**

Source: Researcher, 2022

4.1.3 Gender of the respondents

According to the data, the bulk of respondents (65%) were male, while female respondents made up 35%. This means that the men responses outnumbered their female counterparts.

Figure 2: Gender of the respondents

4.1.4 Education level of the respondents

The majority of respondents (52%) held a bachelor's degree or above, 45 percent had a postgraduate education, and only 3 percent held diplomas. This means that the vast majority of financial/investment advisors/analysts were well-versed in the securities markets.

Table 2: Education level of the respondents

Education level	Frequency	Percent
Diploma	1	3.2
Degree	16	51.6
Post graduate degree	14	45.2
Total	**31**	**100.0**

4.1.5 Attendance to a course on financial derivatives

The vast majority of respondents (65%) had taken a financial derivatives course, whereas 35% had not. This might imply that the majority of financial/investment advisers have the necessary abilities and expertise to incorporate the element of financial derivatives in their respective firms.

Attendance of a Course on Financial Derivatives
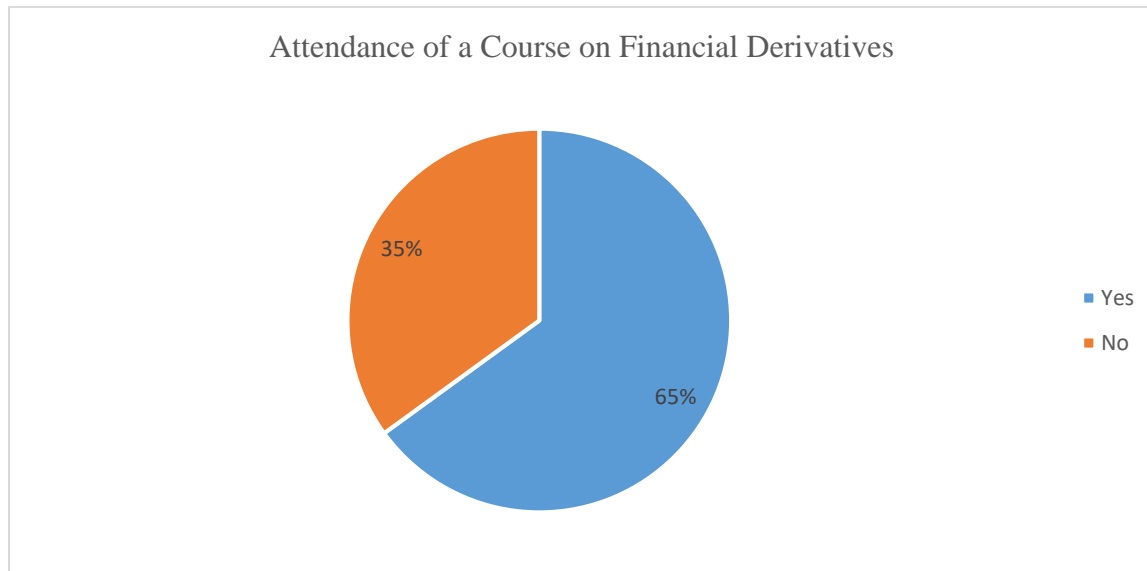
Figure 3: Attendance of a course on financial derivatives

4.1.6 Duration with which the respondents wad worked with their organization

According to the data, the majority (48.4 percent) of respondents had between 0 and 5 years, 48.4 percent had between 6 and 10 years, and 3.2 percent had worked with their companies for 11 to 15 years. This means that the majority of investment/financial advisors/analysts in their businesses were young.

Table 3: Duration with which the respondents had worked with their organization

Duration	Frequency	Percent
0-5 years	15	48.4
6-10 years	15	48.4
11-15 years	1	3.2
Total	**31**	**100.0**

4.1.7 Position of the respondent in the organization

The majority of responders (26%) were financial analysts, while 19% were investment analysts, 19% were product development officers, 13% were compliance officers, 13% were policy analysts, and 10% were economic analysts.

Table 4: Respondent's position in the organization

Position	Frequency	Percent
Compliance officer	4	12.9
Economic analyst	3	9.7
Financial analyst	8	25.8
Investment analyst	6	19.4
Policy analyst	4	12.9
Product development officer	6	19.4
Total	**31**	**100.0**

www.gprjournals.org

4.2 How Macroeconomic and Structural Policies Affect the Derivatives Market

4.2.1 Government expenditure on financial infrastructure is insufficient to ensure the development of derivatives markets.

Results indicate that most (65%) of the respondents agreed with the statement that Government spending on financial infrastructure is inadequate for successful derivatives markets, 19% strongly agreed, 13% neither agreed nor disagreed while 3% of the respondents disagreed with the statement that government spending on financial infrastructure is inadequate for successful derivatives markets. This could mean that the support from the government is still inadequate for any successful derivatives and that the government may need to improve on its spending on financial infrastructure to have successful derivatives markets.
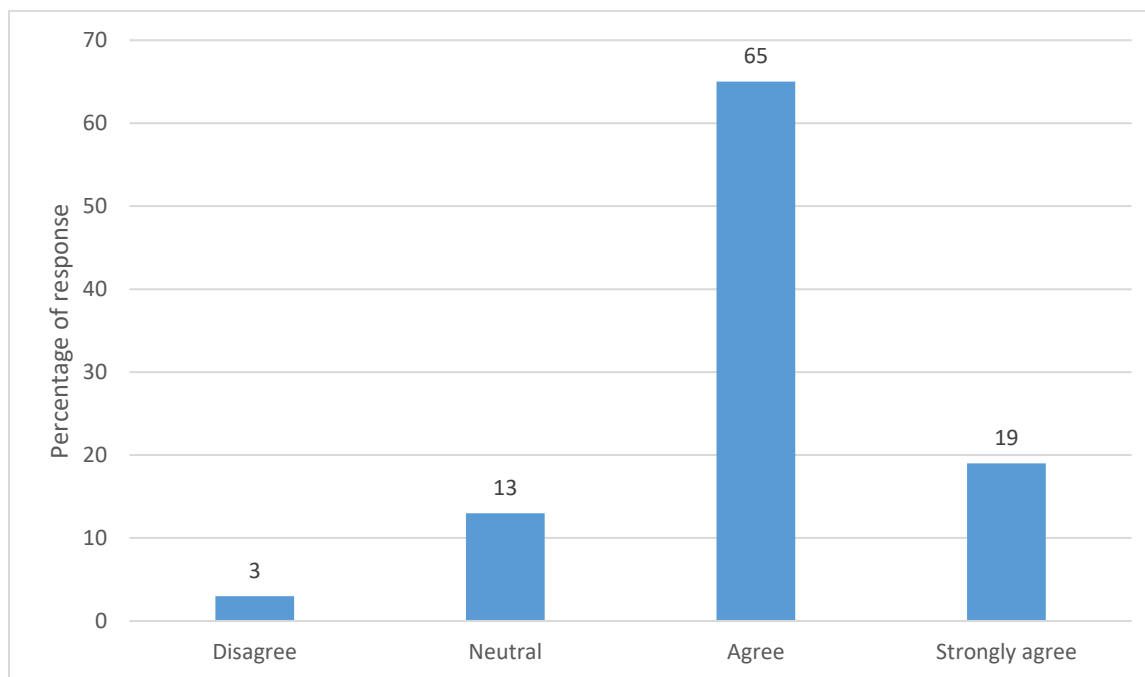
Figure 4: Government spending on financial infrastructure is inadequate for successful derivatives market

4.3 The impact of derivative markets on Tanzania's economy

4.3.1 Derivatives markets will result in enhanced openness in company practices through increased information sharing.

According to the survey findings, 55 percent of respondents agreed, while 13 percent strongly agreed, that the derivatives markets will contribute to improved openness in company practices through enhanced information sharing. However, 19% of respondents neither agreed nor disagreed, while 13% disagreed with the notion that the derivatives markets will contribute to improved transparency in company practices through increased information sharing.

www.gprjournals.org

Table 5: Derivatives markets will lead to increased transparency in the way of doing business through increased information disclosure

Statement	Frequency	Percentage
Disagree	4	12.9
Neutral	6	19.4
Agree	17	54.8
Strongly agree	4	12.9
Total	**31**	**100.0**

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on the findings, it is possible to conclude that the government's investment in financial infrastructure in Tanzania is insufficient for effective derivatives markets and that derivatives taxes would impede the development of derivatives markets in Tanzania. Furthermore, the study shows that derivatives cannot weaken monetary policy's ultimate power over inflation levels, even when shallow financial systems constrain fiscal, monetary, and exchange rate policy options. It can also be concluded that the government intervention in the exchange rate will hamper the success of currency derivatives and that trading on derivatives will improve the GDP of the country; however, the country's GDP level will greatly determine the success of the derivatives markets. On the other hand, high levels of foreign exchange reserves will greatly enhance derivatives trading since they are a consequence of increased volatility in interest rates and exchange rates. Derivatives do not cause increased volatility in interest rates and exchange rates but instead will facilitate cross-border capital flow.

5.2 Recommendations

Government intervention should be enhanced by greater expenditure on financial infrastructure, regulation of derivatives taxes, and implementation of measures to boost the country's GDP. This will allow for efficient currency and interest rate hedging on international liabilities. Improve BOP through cross-border flows, as well as establish a flourishing, efficient derivative market in Tanzania.

The CMA should implement steps to boost investor trust in the derivatives markets, particularly in terms of client protection, collateral deposit requirements, and market dealer and financial institution licenses. There is a requirement for reporting derivatives transactions as a prerequisite for their legal enforceability, and clearing house privileges legislation is critical for derivatives trading and should be prioritized. At the same time, government regulation of Tanzania's derivatives market should be favored above market self-regulation. This will increase openness and voluntary disclosure in other corporate operations.

There is a need to boost liquidity in the present capital markets since it was discovered that the current levels of liquidity in the NSE were insufficient to maintain derivatives trading in Tanzania, as well as the fact that liquidity affects market efficiency. This will also contribute to increased efficiency in the underlying markets. Before beginning, policymakers should hold seminars on the use of derivatives to improve awareness and comprehension of the derivatives markets. These lectures should also be held in schools to raise awareness of the importance of financial skills in

the derivatives market. This will result in solid derivatives understanding as well as interest in the field. Once the derivatives markets are operational in Tanzania, a study of the derivatives markets from the trading perspective on the various derivatives contracts is required.

Funding Sources

Conflict of Interest

The authors declares no conflict of interest.

REFERENCES

Ahuja, N. L. (2006). Commodity Derivatives Market in India: Development, Regulation and Future Prospects

Asani, S. (2006) Indian Derivatives Markets. Oxford University Press publishers, New Delhi http://www.newyorkfed.org

BIS, (2008).Financial deepening without financial excesses, Speech by HervéHannoun Deputy General Manager of the BIS.43rd SEACEN Governors" Conference, Jakarta

Chance, D.M. (2005) A Chronology of Derivatives, Derivatives Quarterly 2 (Winter), 53- 60.

David, R. (2002). Consequences of Liberalizing Derivatives Markets, Washington D.C. September, Financial Policy Forum Derivatives Study Center

Dolores, M.D.C. (2008). Purposive Sampling as a Tool for Informant Selection: Ethnobotany research & applications. A journal of plants, people and applied research

Harris, L. (2002). Trading & Exchanges: Market Microstructure for Practitioners, Oxford Press, Oxford, 2002

Ilyina, A. (2004). „The role of financial derivatives in emerging markets" in D.J. Mathieson, J.E. Roldos, R. Ramaswamy, and A. Ilyina eds. 2004 Emerging Local Securities and Derivatives Markets, global financial stability report, Washington, IMF.

IMF, (2002c) Global financial stability report, world economic financial surveys (Washington: international monetary fund, (September)

IMF, (2003).World Economic and Financial Surveys Global Financial Stability Report Market Developments and Issues (March)

Madhavan, A. (2000). "Market Microstructure: A Survey." Journal of Financial Markets

Miller M.J, (2012). RES 600: Graduate Research Methods: Reliability and validity. Western International University http://michaeljmillerphd.com/res500_lecturenotes/Reliability_and_Validity.pdf

Mugenda, (2003). Research methods. African Centre for Technology Studies, Nairobi.

Mugo W. F. (2009). Introducing Derivatives Exchange: Asia"s Emerging Markets Experience, Graduate School of International Studies Sogang University, Seoul Korea

O'Hara, M. (2007) Market Microstructure Theory, Blackwell, Oxford, 1995

Olive, J.E. (2004). Financial deepening, economic growth and development: Evidence from selected sub-Saharan African countries. Department of Economics University of Calabar Calabar, Nigeria

Sewel, M. (2007) Market Microstructure; http://finance.martinsewell.com/microstructure retrieved march 2012

Tsetsekos, G & Varangis P. (2005). The Structure of Derivatives Exchanges: Lessons from Developed and Emerging Markets, the World Bank, (Washington), Dec.

Vashishtha, A. & Kumar S. (2010) Development of Financial Derivatives Market in India- A Case Study. International Research Journal of Finance and Economics ISSN 1450-2887 Issue 37