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The Bank of Tanzania (BoT) Research Newsletter is an annual publication aimed at disseminating research results of recent studies conducted by the BoT Staff. And those presented at BoT seminar series by non BoT sataff.

The views expressed in this Newsletter are solely those of the authors and do not necessarily reflect the official position of the Bank of Tanzania or its management.

Assessment of Export Performance in Tanzania

Dr. W. Mbowe, P. Mboya, Dr. C. Masenya, and Dr. D. Macha

The study seeks to evaluate factors, which affect export performance in the country. It involved desk review complemented by face-to-face interviews with selected key ministries, departments, agencies, and private sector institutions, particularly those directly or indirectly involved in trade facilitation and promotion both in Tanzania Mainland and Zanzibar. The analysis shows that globally, exports performance is influenced by a combination of domestic and external factors including level of infrastructure (soft and hard), skilled labour, business environment, products and markets diversification, technological content of exports, foreign direct investment, trade barriers, global prices, and exchange rate volatility. For the case of Tanzania factors which have played a critical role in export performance were found to be government's policy initiatives that created a conducive business environment, benign external market environment, foreign direct investment, and infrastructure.

Accordingly, the exports sector registered positive growth from 1999 to 2017, save for 2009 and 2013. Despite this favourable trend, the export sector is still facing some challenges which include high reliance on export of unprocessed products; dependence on narrow line of export products; and relatively low market diversification.

Despite challenges facing the export sector, the on-going government initiatives have a high potential to boost performance of the sector going forward.

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Assessment of Export Performance in Tanzania

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With a view to unlocking the existing potential in the sector, various efforts are being implemented by the government. These include industrialization drive; improvent of trunk and rural roads, air transport, and power infrastructures; together with the re-vigour drive to steer the country towards a middle-income.

[This paper will be available in BOT's Working Paper Series]

Linkages of Tanzania and World Economy

E. Mgangaluma, L. Temba, Dr. C. Masenya and A. Mrema

Linkage of global economies has important implications for investors, business leaders, and policy makers. High linkage may contribute to increase in output; better standard of living; improved quality of goods and services; and advancement of information technology. However, it may also have adverse impacts to the economy such as, loss of jobs; widening income gap between rich and poor; and increased vulnerability against external shocks.

This study seeks to investigate the key channels through which Tanzania's economy is linked to the world and assesses the vulnerabilities arising from external shocks. The technique involved descriptive analysis to appraise the possible channels of economic linkages, trailed by scatter plots to uncover long run relationships between domestic and external variables, and pair wise Granger Causality tests to detect direction of causal effects.

> ***Tanzania's economy is linked to that of the world through trade and financial system, mainly foreign direct investment and transfers.***

The findings suggest that, Tanzania's economy is linked to that of the world through trade and financial system mainly foreign direct investment (FDI) and transfers. Tanzania's economy has been opening up with the share of external trade averaging 43.0 percent of GDP between 2000 and 2017. Imports and exports have also increased significantly since 2002, with imports growing faster than exports until 2014 resulting into widening trade account deficit. Thereafter, trade account improved following slow-down in imports and increase in exports. In addition, terms of trade improved, implying increased ability of exports to finance imports. However, volatility in world commodity prices remains a challenge.

The share of financial inflows to GDP averaged 13.6 percent between 2007 and 2013, and declined to 7.5 percent in 2014 to 2017, largely driven by FDI, development assistance and other financial flows including other investments.

The study highlights key challenges in the domestic economy. These include concentration of exports markets to few destinations; narrow exports base and low value addition; low investment in research and development; high reliance on oil and industrial raw material imports; and dependence on FDI and transfers as the major external sources of finance.

The areas of intervention to improve the country's trade competitiveness and resilience to external shocks include structural transformation by reducing reliance on traditional commodities or natural resources thus diversifying export receipts; fast trucking implementation of major infrastructure projects needed to support structural transformation and innovation; allocation of adequate financial resources to priority projects; and active participation in regional integration initiatives to take advantage of expanded regional markets. That notwithstanding, more effort should be taken to bolster domestic demand for resilient production system, including increasing household incomes and consumption, alongside boosting corporate investment.

[This paper will be available in BOT's Working Paper Series]

New Instruments of Monetary Policy for Tanzania

Dr. C. Kombe, D. Lema, Dr. D. Assey and M. Kailwa

The paper reviews recent developments in fiscal operations and their implications to liquidity management, focusing in particular on the effectiveness of traditional monetary policy tools. In addition, it examines applicability of non-traditional monetary policy (NMP) instruments for Tanzania with the view to enhancing monetary policy effectiveness.

Application of NMP instruments seek to complement the traditional tools and thus ease their limitations in response to evolving circumstances and challenges. Types of NMP instruments to be adopted and duration for their use depend on the overall conditions in the economy, in particular the type of shock; degree of financial market developments; and potential risks of their use, including the independence and credibility of the central bank.

The study recommends two categories of NMP instruments. The first category relates to quantitative easing and involves expansion of the central bank's balance sheet and the second relates to credit easing operations focusing on banking system and non-bank private market segments. In order to enhance the effectiveness of these instruments, clear communication is critically indispensable.

Non-traditional monetary policy instruments can be used to complement the traditional ones. Their adoption depends on the overall conditions of the economy; degree of financial market development; and po- tential risks.

In addition, it is vital to create capacity to avoid the potential conflicts that may arise in the simultaneously use of NMP and traditional monetary policy instruments. Such a capacity will involve undertaking some offsetting transactions to ensure banks' reserves holding at the central bank are fully insulated. This can be done by paying the prevailing interbank cash market interest rate to reserves induced by NMP, thus eliminating the possibility for arbitrage.

[This paper will be available in BOT's Working Paper Series]

Influence of Consumer Trust on Mobile Payments Adoption: The Case of Urban Tanzania

By Dr. William Ayub Mng'ong'ose

Sending or receiving money for either payment of salaries, settlement of business transactions, or for family support is a common phenomenon for both businesses and individuals. For this to be realized it requires consumer trust on service provider together with efficiency, reliability and affordability of services.

This study evaluates the role of consumer trust in adoption of mobile payment systems in urban Tanzania. The research was conducted using structured questionnaire administered in selected urban areas in Tanzania with relatively high adoption of mobile payments. Consumers trust was measured using the following indicators: reputation of mobile service provider, payment vendor and technology; confidentiality; integrity of mobile payment systems and availability of service.

The study found that consumers develop trust in mobile payment systems through characteristics of mobile payment vendors and technology; confidentiality; and integrity of mobile payment systems.

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Influence of Consumer Trust on Mobile Payments Adoption: The Case of Urban Tanzania

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However, characteristics of mobile service providers and availability of system were found to be insignificant.

> ***Consumer trust has positive influence on adoption of mobile payment systems through characteristics of mobile payment vendors and mobile technology, confidentiality and integrity of mobile payment system***

In order to have higher adoption of mobile payments, the study recommends that vendor should improve mobile technology attributes in order to increase consumer trust.

This indicates that mobile payment designers and practitioners should incorporate relevant technology and services, including providing clear security mechanisms and providing timely support. In addition, the study has recommended that providers should ensure confidentiality and integrity of mobile payment systems.

[This paper will be available in BOT's Working Paper Series]

Estimating Shadow Economy in Tanzania: An Analysis with the MIMIC Approach

By Dr. Ngulingwa Balele

The paper estimates the Tanzanian shadow economy[1] from 2003 to 2015 and tests the statistical relationships between the shadow economy and its potential causes and indicators using econometric analysis based on a multiple indicators multiple causes (MIMIC) model. To calibrate the shadow economy from the estimates, the value of 55.4 percentage of the shadow economy to official GDP is adopted from the literature for the base year 2005.

The findings show that the shadow economy ranges from a minimum of 51.7 percent of official GDP in 2004 to a high value of 60.7 percent in 2006. The share stood at 56.1 percent in 2015. Factors contributing to this trend include; inflation, unemployment, tax burden, and capital controls. The recent decrease in shadow economy can partly be explained by property and business formalization initiatives targeting individuals, and micro and small enterprises in the country.

> ***The shadow economy in Tanzania is still high but has been declining over time following initiatives to formalize property and businesses.***

In order to minimize the shadow economy, the following is recommended: broadening the tax base; reduce tax rates and bureaucracy in payment of taxes; expand technological options for tax payment; improve rural socio-economic infrastructure to minimize rural-urban migration; modernization of agriculture; among others.

[Full paper is available in the Journal of Economic Studies Vol. 45, No 1]

[1] Shadow economy refers to all market-based legal production of goods and services that are deliberately concealed from public authorities to avoid the payment of taxes or social security contributions, or compliance with certain administrative procedures.

Financial Sector Reforms and Innovations and Their Implications on Monetary Policy Transmission in Tanzania

By Dr. N. Balele, Dr. N. Kessy, Dr. E. Mung'ong'o, Dr. Z. Mpemba, G. Sije, F. Aminiel and Dr. W. Mbowe

The study takes stock of the reforms and innovations in the financial sector with a view to gauging the level of efficiency, while identifying their implications on monetary policy transmission mechanism. In particular, the study reviews reforms and innovations on the development of an efficient and inclusive payment systems, legal and regulatory frameworks, mobile payment systems, establishment of the credit reference system, liberalization of capital account, and institutional innovations. The effects of these developments on monetary policy transmission are analyzed using the vector auto-regression (VAR) approach,through the interest rate channel.

Despite considerable achievements in the financial sector brought about by reforms and innovations, the monetary policy transmission through the interest channel has remained weak.

The findings show that considerable achievements have been recorded in the structural change of the sector, as well as quantity and quality of the financial services. Notable achievements are in relation to: expansion in size, coverage and access to financial services; market determined interest and exchange rates that respond to macroeconomic fundamentals; innovations in delivering financial services; and improved credit risk management and lowered costs of borrowing following the introduction of credit reference system. Indicators for financial depth and efficiency of the banking sector also show that the sector is healthy and growing.

Empirical results on transmission mechanism through interest channel suggests a weak pass-through to inflation, partly reflecting remaining structural constraints in the financial sector including market concentration; and absence of a secured credit transactions, collateral registry, and development finance guarantee facility.

The study recommends the following interventions for better monetary transmission outcomes going forward: increasing transparency in the inter-bank cash market; enhance regulatory framework for financial markets development; development of a platform for micro-investment in government securities to accommodate participation of low income investors through the use of electronic based bidding and taking the advantage of advancement in information communication technology.

[This paper will be available in BOT's Working Paper Series]

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