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No PB 24/2022 December 2022

REPOA Brief

Situational Analysis of Firm Level Productivity and Competitiveness in Tanzania

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Key Messages

- High wages sectors such as transport and storage, wholesale and retail traders, and repairs sectors create the highest value added – while those that pay low wages such as mining and quarrying, arts and entertainment, ICT, public administration and services also generated relatively low value addition.
- Higher capital intensity and having a business and strategic plan is associated with higher productivity and competitiveness in the enterprise sector.
- Firms operating in wholesale and retail sector have significantly higher productivity and are more competitive compared to those operating in the manufacturing sector.

Introduction

The study aims to provide input needed for policy analysis of key Government policies, strategies and programmes which requires comprehensive data capturing the entire productive sector of the economy, and for supporting continuous monitoring and evaluation of the dynamic economy. The private sector landscape in Tanzania includes many actors including small farmers; livestock herders; mini, micro, small and medium scale entrepreneurs; social entrepreneurs, commodity, and services brokers, and associations of various entrepreneur groups. Tanzania's private sector has been at the frontline of economic transformation - with its share of non-farm employment increasing to 30.2% from 21.9% in the period 2006-2016. This increase has translated to the decline in the share of agriculture sector in GDP from 28.4% in 2006 to 26.6% in 2019 (URT, 2021). The private sector recorded a 68% increase in capital formation in 2016 - 2019, creating some 716,624 jobs.

Notwithstanding such positive developments, the private sector/enterprise sector is constrained by several challenges including: pervasive informality, weak legal framework which confounds key functional features of private sector operations aimed at enhancing the registration of property, easing access to credit, protecting minority investors, paying taxes, trading across borders, and enforcing contracts; and weak productivity and competitiveness (URT, 2021). These challenges have been compounded by the lack of comprehensive data covering the enterprise sector in Tanzania – which to some degree has limited the ability to monitor and evaluate the impact of government interventions, examine the current situation of the enterprise sector in Tanzania and design appropriate and effective interventions to support sustainable private sector growth in the country.

In recognition of such challenges REPOA recently conducted a comprehensive survey of the enterprise sector in Tanzania aimed at examining productivity and competitiveness of firms.

Data

Our study uses data from the 2022 Tanzania Enterprise Survey Data conducted by REPOA between March and December 2022. TES 2022 covers a total of 1,617 enterprises in 15 economic sectors of Tanzania data and is the first nationally representative dataset covering the universe of

enterprises sector in Tanzania in that the survey is not limited to the manufacturing but includes much more different type of economic activities by size, sector, location and legal status. The dataset provides information on firm characteristics i.e., nature of ownership, location, size and sector among others, production and costs, business environment and firm linkages to mention a few. In addition, we also use the Annual Survey of Industrial Production (ASIP) data 2008-2016 to estimate firm productivity and competitiveness in previous years and compare with the current estimates from TES 2022. Like the TES 2022, ASIP data provides firm-level information including firm level characteristics, production, sales, nature of activities, and costs, among others.

Methodology

Analysis employs an Ordinary Least Square (OLS) regression to analyse the determinants of firm productivity and competitiveness, based on the model by Gehringer et al. (2013) in Equation 1.

$$Ln\, Y_i = \gamma + \sum_{i=1}^{n} \alpha X_i + \varepsilon_i \quad \text{..... (1)}$$

Where LnY_i is an indicator of firm productivity i.e., TFP, VAPW and ULC; X_i is a vector of factors affecting firm productivity including individual firm characteristics such as firm age (age), firm size (size), location of the firm (region) and sector of operation (sector). Other factors that have been included in our empirical analysis include, firm participation in international trade (international trade), access to loan (loan), capital intensity (cap_int), firm participation in linkage with other firms (linkage), foreign owned firms (fdi), operating informally (informal), experiencing power outages or insufficient supply of water (outage), and technology transfer (transfer) This equation is estimated using simple OLS technique.

Findings

OLS regression reveals that a 1% increase in capital intensity is associated with 5.3% increase in Value Added per Worker (VAPW) and 1.3% fall in Unit Labour Costs (ULC). Indeed, higher capital intensity means higher capital to labour ratio which will help to increase productivity and competitiveness. Firms that have a business and strategic plan have 50% and 49% higher VAPW and Total Factor Productivity (TFP) and 24.1% lower ULC compared to those that do not. Indeed, a business strategy plays a crucial role in the performance of a firm because it identifies where the firm aims to reach and how the firm will get there (Gibus and Kemp, 2003). Firms operating in wholesale and retail trade and repair of motorcycles and motor vehicles sector have 39.2% and 40.7% higher VAPW and TFP and have 40.1% lower ULC compared to firms in manufacturing sector. This shows that the wholesale and retail trade and repair of motorcycles and motor vehicles sector has higher productivity and is more competitive compared to manufacturing sector.

The remaining variables are significant in either productivity regression or competitiveness regression. A 1% increase in firm age is associated with 10.4% and 10.1% increase in VAPW and TFP of a firm which may imply that a firm tends to learn and converge to a more efficient way of operating as time goes on. Firm participating in international trade have 25.4% and 24.7% higher VAPW and TFP compared to those that do not participate in international trade. This is because international trade participation exposes firms to greater competitive pressure, while giving them access to more and better inputs and providing an opportunity to learn from overseas customers. Indeed, similar results have also been observed in Mengistae and Pattillo (2004) and McGregor et al (2013). Large size firms have 48.5% and 46.1% higher VAPW and TFP compared to Micro, Small and Medium Scale Enterprises (MSMEs). This is because most large firms have characteristics that are highly associated with higher productivity including participation in international trade and high capital intensity among others.

Firms operating informally have 43.7% and 43% less VAPW and TFP compared to formal ones. This

is because the informal firm category mainly picks firms which are small, do not have business and strategic plans and those that do not participate in international trade which makes the category highly associated with lower productivity. Indeed, Diao et al (2018) identified similar features among firms operating in the informal sector in Tanzania and does find low productivity level among firms operating in the sector. Loan and utility accessibility (water) are also observed to be significant drivers of productivity. Firms accessing loans have 20.9% and 20.8% higher VAPW and TFP respectively compared to those that did not access loan while firms facing water shortage have 66.7% and 67.6% lower VAPW and TFP compared to those that do not face water shortage problems respectively.

Firms experiencing technology transfer from Foreign Direct Investment (FDI) firms operating in Tanzania have 30.4% and 30.6% higher VAPW and TFP compared to those that did not experience any form of technology transfer. Indeed, technology has gradually become the fundamental factor in determining the long-term development of a firm. The technological development level has a significant impact on a firm's productivity and competitiveness. For enterprises lacking R&D ability and with low technology, technology transfer is an important factor for enhancing firm technology and ultimately productivity.

Firms operating in agriculture, forestry and fishing sector have 79.5% and 80.4% lower VAPW and TFP compared to firms operating in manufacturing sector. It is well known that low productivity is a significant challenge in Tanzania agriculture sector that has originated from low application of good technology or good agricultural practices and low investment in the sector among other factors (see URT 2021). Firms operating in education, human health and social work activities have 57.1% higher ULC compared to firms operating in manufacturing sector.

Conclusions

This study examined the level of productivity and competitiveness of enterprise sector in Tanzania and analysed firm level drivers of the same. The following key findings emerge from the analysis:

One, different enterprise sectors have different level of productivity and competitiveness. We find that sectors which pay relatively high wages such as transport and storage, wholesale and retail traders, and repairs sectors also create the highest value added – while those that pay low wages such as mining and quarrying, arts and entertainment, ICT, public administration and services also generated relatively low value addition. This is why governments and other development actors in developing countries emphasize on moving towards high value addition activities to help increase individual incomes and reduce poverty. Based on ULC indicator, mining and quarrying, wholesale and retail traders and repairs, financial and insurance activities, construction and transport and storage sectors were found to be cost competitive while ICT, electricity, education and human health and public administration and public activities were found to not be cost competitive.

Two, some firm level characteristics (aside from sector) such as exporting, operating formally and male owned businesses have higher ULC compared to firms in the opposite categories i.e., non-exporting, informal and women owned businesses. Part of the reason for high ULC for exporting firms is the very high wages paid although they also create more value addition than non-exporting firm. Informal firms are found to have relatively low ULC because their category is picking up a lot of small firms the latter of which has the lowest ULC compared to medium and large sized firms, majority of which are formal. Although women owned firms are relatively more cost competitive, they are found to pay lower wages and create lower value added than men owned enterprises.

Three, our regression analysis found that higher capital intensity and having a business and strategic plan is associated with higher productivity and competitiveness in the enterprise sector. Furthermore, firms operating in wholesale and retail sector have significantly higher productivity and are more competitive compared to those operating in the manufacturing sector. Having access to loans and participating in linkages were associated with higher productivity while operating informally and insufficient supply of utility were associated with lower productivity. Firms operating in agriculture and education sectors had lower productivity compared to those in manufacturing sector.

Policy Recommendations

Following our findings, we propose the following three main policy recommendations:

- One, address business environment challenges particularly relating to utility and access to loans. This will help to enhance productivity of the enterprise sector in Tanzania.
- Two, the government should continue and strengthen implementation of blueprint action plan and increase participation in Regional Trade Agreements/Free Trade Agreements such as African Continental Free Trade Agreement (AfCFTA) and the EAC-EU Economic Partnership Agreement (EPA) to address the declining trends to FDI in Tanzania. Ultimately, this will increase investment and thus enhance productivity and competitiveness in Tanzania.
- Three, implement measures to strengthen the capacity of firms and their opportunities to participate in international trade and increase. This includes enhancing awareness of firms on potential export markets and requirements, participating in different trade agreements and continuing to address non-trade barriers.

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This policy brief was produced with the financial support of the Foreign, Commonwealth & Development Office (FCDO), through the British High Commission Dar es Salaam.

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