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The Impact of Cross-Border Trade Policies on Maize Business Growth at the Tunduma Border, Tanzania

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KEYWORDS

Cross-border trade, trade policy, business growth, and maize business growth

ABSTRACT

This study assessed the impact of cross-border trade policy on maize business growth in Tanzania, focusing on the moderating role of trade policy in the relationships between capital productivity, labour productivity, opportunity cost, and maize business growth. The study was conducted at the Tunduma border, a major cross-border trading point between Tanzania and Zambia. A cross-sectional research design was employed, and primary data were collected from 311 maize traders using structured closed-ended questionnaires. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings revealed that capital productivity ($\beta = 0.352$, $p = 0.001$), labour productivity ($\beta = 0.284$, $p = 0.004$), and trade policy ($\beta = 0.215$, $p = 0.020$) had significant positive effects on maize business growth, while opportunity cost had a significant negative effect ($\beta = -0.195$, $p = 0.036$). Trade policy significantly strengthened the relationship between capital productivity and maize business growth ($\beta = 0.188$, $p = 0.027$) and significantly moderated the relationship between opportunity cost and maize business growth ($\beta = -0.143$, $p = 0.044$), but had no significant moderating effect on the relationship between labour productivity and maize business growth ($\beta = 0.062$, $p = 0.433$). The model explained 58.4% of the variation in maize business growth ($R^2 = 0.584$). The study concludes that favourable cross-border trade policies, enhanced capital productivity, and reduced business costs are essential for promoting sustainable maize business growth. It recommends strengthening trade policy frameworks, maintaining agricultural support programmes, and investing in market infrastructure to enhance the competitiveness of cross-border maize trade.

1.0 Introduction

The long-term policy framework places agriculture at the center and has evolved various sector- and subsector-level policies, including the Agricultural Sector Development Program (ASDP) II (2016). The Government of the United Republic of Tanzania has been dedicated to enhancing the business and investment climate as part of a comprehensive reform agenda to foster economic growth and prosperity for all citizens (Blueprint, Impact Assessment Report, 2024). Tanzania was a major trade hub for neighboring countries and, even more so, for landlocked Malawi and Zambia (UNCTAD, 2019). In mid-October 2018, the Government of Zambia imposed restrictions on the export of maize grain and maize meal (FAO, 2018). According to the Tanzania Vision 2025, the vision aimed to build a solid foundation for a highly productive, competitive, and dynamic economy. Maize exports for the United Republic of Tanzania were 64,228 thousand US dollars in 2018, and during the 2017 ban, exports were 3,918 US dollars (Knoema, 2019). The expansion of cross-border business activities across various domains was vital for ensuring sustainable economic development (Ukhnal et al, 2025).

A country's proper decision needs a supportive policy, and in the case of cross-border maize trade growth, an implementable trade policy was important. The inability of firms to predict upcoming trade policy generates an uncertain business environment that makes strategic planning almost impossible (LeMay and McMahon, 2026). To identify factors influencing the growth of cross-border trade in the maize business, where trade policy acts as a moderator, goodness-of-fit indicators were identified and can assist in assessing the relationship between the factors. Tanzania was the second-largest maize producer in Africa, with 11.7 million tons harvested in the 2023/2024 season. This was a significant increase in production, thus making Tanzania the third-largest producer of maize on the continent. Tanzania aspires to build a diversified, inclusive, and globally competitive economy; this transformation will be supported by a conducive policy and regulatory framework that promotes business growth (The Tanzania Development Vision 2050). To achieve the full potential of the maize business, it was important to assess the impact of Cross-border Trade Policies on Business Growth at the Tunduma border. The cross-border maize trade shows signs of boosting productivity for its stakeholders if it is monitored by a strong trade policy that strengthens and promotes cross-border trade. Cross-border trade positively influences economic growth in the East African region (Utouh, 2025).

Atozo and Ndalilah (2024) studied the impacts of informal cross-border trade on Kenya-Uganda foreign relations and examined the factors influencing the potential of cross-border trade to increase import volumes. Charles (2024) conducted a study to investigate the challenges of an informal cross-border trade (ICBT) facilitation initiative in Tanzania. Specifically, it identifies the regulatory framework governing cross-border trade (CBT) and investigates the challenges of facilitating ICBT. The variables underlying Ricardo's comparative advantage theory in 1817 were labour productivity, capital productivity, technological advancement, infrastructure, education and skill levels, and opportunity cost. The role of trade policy in moderating these factors was required. The process of globalization has linked rising shares of output, consumption, and employment to imports, exports, and foreign direct investment, a fact that holds for countries at all levels of income and development (UNCTAD, 2018). The above-reported studies did not directly assess trade policy as a moderator between the intended independent variables. A favorable trade policy increased production and sales turnover, reduced transportation and storage costs, reduced border delays, and attracted more cross-border dealers. A favorable trade policy will increase maize business investments, maize production, and increase returns on investment. These factors can also

help improve the trade policy environment. According to Kweka and Michael (2019), Tunduma was the busiest border handling transit trade in the country (48%), followed by Rusumo (20%). Tunduma town lies between the Highway and the TAZARA railway line from Dar es Salaam. Tunduma is a vibrant border town between Zambia and Tanzania, where cross-border business of maize grain has been conducted for many years.

2.0 Literature Review

Cross-border trade policies encompass all measures related to cross-border trade, such as tariffs, import and export licenses, import quotas, voluntary export restraints, local content requirements, embargoes, currency devaluation, and trade restrictions, to name a few. This study addressed three policies: government subsidies, tariffs, and voluntary export restraints. The absolute advantage theory was first introduced by Adam Smith in 1776. It explained that a country should produce and export goods that can be produced more efficiently than other nations, and import goods where it is less efficient. Smith assumed that labour was the only input, that countries aimed to maximize productivity, and that free trade existed without restriction.

The theory is also known as the Heckscher-Ohlin Theorem, which was formally developed in 1933, explaining that countries tend to export goods that use their abundant, relatively inexpensive factors of production while importing goods that require scarce, costly factors. The theory is based on several assumptions, including two countries, two goods, and two factors of production: labour and capital. The new trade theory, as advanced by Krugman in 1979, argued that international trade can occur even between similar countries due to economies of scale and product differentiation. The theory emphasizes the role of economies of scale, defined as cost advantages arising from large-scale production, and monopolistic competition, under which countries produce similar yet differentiated products. The theory raises concerns regarding small farmers and producers who operate with limited economies of scale.

David Ricardo's theory, published in 1817, focused on a country's ability to produce a particular good or service at a lower opportunity cost than another country. The Ricardian model was based on several strict assumptions: first, there are only two countries and two commodities, and second, there are no transportation costs or time involved in trading between the two countries. Thirdly, there is perfect competition in all markets. Fourthly, free trade is undertaken between the two countries, meaning trade barriers and restrictions on the movement of commodities are absent, and there is no government intervention in trade or other economic activities. Fifthly, there is free mobility of capital and labour within each country, but not between countries. Factors of production are fully employed in both countries. The theory also assumes a constant cost.

Cross-border enforcement networks are rapidly emerging as important mechanisms to tackle illicit transnational markets (Legrand and Leuprecht, 2021). According to the World Bank (2022), Maize export restrictions are its primary policy instrument for coping with production and price volatility. In years when maize surpluses were perceived as declining or when domestic prices of mealy meals were, these policies have taken a variety of forms, including ad hoc export bans and government-to-government export deals. Developing countries have frequently used export bans in an attempt to ensure domestic food supplies and insulate domestic market prices from international price hikes (Diao and Kennedy, 2016). Many countries worldwide share borders that offer several benefits, such as easier access, faster knowledge transfer, and more efficient trade

diplomacy (Tandra, Mahendri, and Sujianto, 2025). This was concluded in their study on the impact of trade with the border effect on GDP per capita.

Reduced policy uncertainty lowered US prices and increased consumers' income by the equivalent of a 13-percentage-point permanent policy decrease (Kyle and Limao, 2017). Kyele addressed policy uncertainty, trade, and welfare: theory and evidence for China and the United States. A study on cross-country maize market linkages in Africa: integration and price transmission across local and global markets by Pierre and Kaminski (2019), their main purpose was to fully embed multilateral trade flows as a way to better structure local price transmission, and get a more comprehensive picture of food price shocks propagation to twenty-seven Sub-Saharan Africa domestic maize markets. Changes in cross-border trade policy alter the market behavior of the maize business. The urgency of achieving a sustainable economy, maintaining peace and security, and reducing poverty and inequality has mobilized many governments to employ all available public policy tools to address these global challenges (World Trade Organization, 2023).

The presence of Non-Tariff Barriers increases business costs due to delays caused by roadblocks (Mnondwa, Rwela & Mgale, 2024). The recent changes in Trade policy have significantly impacted trade flows (Alejandro, Monica, and Christian, 2024). The study on how trade policy is reshaping multinational firms' location, exploiting changes in US import tariffs in 2018-2018. A review of Cross-border trade in the Horn of Africa by Edjigu and Brenton (2021) offered an analysis of key traded products, particularly food crops and livestock, and the challenges facing cross-border trade within the region. Trade facilitation, by reducing trade costs and raising the efficiency of moving goods across borders, was integral to international trade (Kim, Mariano & Abesamis, 2022). Reducing trade costs was essential to achieve Asian integration (Duval, Wang & Kravchenko, 2019). The European Union seems to be guided by the idea that an increase in cross-border flows contributes to a more European unit (Decoville, 2018). Decoville's study explored cross-border integration in Europe. Decoville's emphasis was placed on lowering customs tariffs and encouraging the free movement of goods and people. Cross-border relations and trade do not necessarily translate into increased border-spanning governmental activism, and government cross-border institutionalization does not necessarily transmute into increased economic integration (Brunet-Jailly, 2022). Brunet-Jailly reviewed regional cross-border coordination and cooperation worldwide, with a focus on cross-border relations across various regions. Siu (2018) examined the effect of the operation of One Stop Border Posts (OSBPs) on Informal Cross-border Trade between Uganda and its neighbors.

From this perspective, the use of public policy needed a specific policy, especially a trade policy. Therefore, assessing the impact of trade policy on business growth was important.

3.0 Methodology

Explanatory research aims to investigate the cause-and-effect relationship (Indian Institute of Materials Management, 2024). The study examined the relationships among labor productivity, capital productivity, opportunity cost, and maize business growth, with maize business growth as the dependent variable. The Tunduma border had 1393 maize cross-border traders, and the study sample was 311. Sekarani (1992) suggested that the sample size should range between 30 and 500. The sample size was obtained from the formula provided by Yamane (1967). The Tunduma

border had 1393 maize cross-border traders. Thus, the sample size of the study was obtained by using the following formula:

$$n = \frac{N}{1+Ne^2}$$

Whereby;

n = Sample Size

N = Total number of the population

e = level of precision (sampling error or margin of error) = 5% (0.05).

The Tunduma border area was selected because it is a vibrant border town between Zambia and Tanzania, where cross-border trade in maize grain has been conducted for many years. In the Tunduma area, there were the Tunduma International Cereal Market and the unauthorized TAZARA Cereal market, which is very close to the border. These markets are famous because Zambians and Tanzanians cross-border traders meet there to do business, including maize trading. Zambia is a landlocked country where most of its commodities pass through the Tunduma border. Variables in this study were measured by a Likert-scale (five points), answers like Strongly agree, agree, neutral, disagree, and strongly disagree were used. Whereby, strongly agree and agree are termed as agree, while disagree and strongly disagree are termed as disagree. Likert-style rating questions are those that allow respondents to indicate how strongly they agree with a statement (Saunders, Lewis & Thornhill, 2019). The study used technological advancement, maize supply, labour market performance, input supply, and time used in production. productivity and tested the moderating policies on the areas of tariff, voluntary export restraints, and government subsidies policy. The study examined three independent variables: labour productivity, capital productivity, and opportunity cost. The dependent variable was maize business growth, moderated by the trade policies variable.

The data were collected and analyzed using SmartPLS4. This study successfully achieved its objectives, including generating significant findings; however, a few limitations should be acknowledged. First, given the geographical limitations, the data were collected at two markets, the Tunduma International Cereal Market and the Tazara market at the Tunduma border, which may not adequately represent the broader population in Tanzania. However, the extent to which the findings can be generalized to different contexts and borders is unclear. Regions and/or countries. Second, given the methodological limitations, the selected research design and methods appropriately addressed the research objectives. The research design was explanatory, explaining factors influencing the growth of cross-border maize trade and the maize business growth variable, with trade policy as a moderating factor. The study used closed-ended questionnaires that limit respondents' expression of the phenomena under examination. Third, due to contextual and environmental limitations, the policy changes and political circumstances during the study period have influenced participants' responses. These limitations do not undermine the study's validity and relevance.

(i) Trade Policy was the Moderating variable with 3 indicators.

M=Trade policy; moderator variable, Y=Maize Business Growth; Dependent variable, X = Labour Productivity (LP); Opportunity Cost (OC) and Capital Productivity (CP) independent variables, $\beta 1$ = direct effect of the independent variable, $\beta 2$ = direct effect of the moderator, $\beta 3$ = moderation effect (interaction coefficient), ($X.M$) = moderating effect, and ε=The error term. Tariffs, voluntary export restraints, and government subsidies were the indicators for a moderating variable in the formative model.

$$Y = \beta 0 + \beta 1X + \beta 2M + \beta 3(X.M) + \varepsilon$$

(ii) Maize Business Growth was a Dependent variable with 2 indicators

: y1 = revenue, y2=profit, λ=factor loading, and ε=measurement of errors of y indicators.

$$y1 = \lambda M + \varepsilon 1$$

$$y2 = \lambda M + \varepsilon 2$$

4.0 Findings and Discussion

4.1 Path coefficient

The structural model results presented in Table 4.1 indicate that capital productivity, labour productivity, opportunity cost, and trade policy all exert direct effects on maize business growth. Capital productivity exhibited the strongest positive direct effect on maize business growth (β = 0.352, t = 3.421, p = 0.001), suggesting that improvements in capital utilization significantly enhance business performance. Labour productivity also showed a positive, statistically significant influence (β = 0.284, t = 2.915, p = 0.004), indicating that the efficient use of labour contributes to maize business growth.

Opportunity cost had a statistically significant negative effect on maize business growth (β = −0.195, t = 2.103, p = 0.036), suggesting that higher opportunity costs reduce business growth by diverting resources from productive maize-related investments. Trade policy had a positive, statistically significant direct effect on maize business growth (β = 0.215, t = 2.341, p = 0.020), indicating that supportive trade regulations facilitate business expansion.

The moderation analysis revealed mixed results. Trade policy significantly strengthened the positive relationship between capital productivity and maize business growth (β = 0.188, t = 2.212, p = 0.027). This finding suggests that favorable trade policies increase the benefits derived from productive capital investment.

Moreover, the interaction between labour productivity and trade policy was not statistically significant (β = 0.062, t = 0.785, p = 0.433), indicating that trade policy does not substantially alter labour productivity's influence on maize business growth. Furthermore, trade policy significantly moderated the relationship between opportunity cost and maize business growth (β = −0.143, t =

2.015, p = 0.044). The negative interaction coefficient implies that under less favorable trade policy conditions, the adverse effect of opportunity cost on maize business growth becomes stronger. Findings demonstrate that while trade policy independently promotes maize business growth, its moderating influence differs across explanatory variables: it strengthens the effect of capital productivity, exerts no significant effect on labor productivity, and intensifies the negative effect of opportunity cost.

Table 4.1 Path Coefficient (Direct Effects)

Path	Path Coefficient (β)	T-Statistics	P-Values
Capital Productivity (CP) → Maize Growth	0.352	3.421	0.001
Labour Productivity (LP) → Maize Growth	0.284	2.915	0.004
Opportunity Cost (OC) → Maize Growth	-0.195	2.103	0.036
Trade Policy (TP) → Maize Growth	0.215	2.341	0.020
CP × Trade Policy → Maize Growth	0.188	2.212	0.027
LP × Trade Policy → Maize Growth	0.062	0.785	0.433
OC × Trade Policy → Maize Growth	-0.143	2.015	0.044

Source: Research data. 2025

4.2 Total effects

Table 4.2 presents the total effects of the study variables on maize business growth. Since the structural model contains no mediating variables, the total effects are identical to the direct effects. Therefore, each coefficient represents the overall influence of the predictor variable on maize business growth. Among the predictor variables, capital productivity recorded the largest positive total effect (β = 0.352), followed by labour productivity (β = 0.284) and trade policy (β = 0.215). Opportunity cost maintained a significant negative total effect (β = −0.195), indicating that increases in opportunity costs reduce maize business growth.

The interaction terms similarly mirror the direct moderation effects. Trade policy significantly enhanced the contribution of capital productivity to business growth, but significantly weakened performance when opportunity costs increased. However, no significant moderating effect of trade policy on labour productivity was observed. These findings suggest that policies aimed at improving capital utilization and reducing business costs are likely to generate the greatest improvements in maize business growth.

Table 4.2 Total effect

Path	Total Effect	T-Statistics	P-Values
Capital Productivity (CP) → Maize Growth	0.352	3.421	0.001
Labour Productivity (LP) → Maize Growth	0.284	2.915	0.004
Opportunity Cost (OC) → Maize Growth	-0.195	2.103	0.036
Trade Policy (TP) → Maize Growth	0.215	2.341	0.02
CP × Trade Policy → Maize Growth	0.188	2.212	0.027
LP × Trade Policy → Maize Growth	0.062	0.785	0.433
OC × Trade Policy → Maize Growth	-0.143	2.015	0.044

Source: Research data, 2025

4.3 Specific Indirect Effects

Table 4.3 presents the specific indirect effects estimated in the structural model. All indirect path coefficients were equal to zero with non-significant p-values (p = 1.000). This outcome was expected because the conceptual framework did not specify any mediating relationships among the variables.

Instead, labour productivity, capital productivity, opportunity cost, and trade policy were modeled as directly related to maize business growth, with trade policy functioning exclusively as a moderating variable rather than a mediator. Therefore, the structural model indicates that the effects of the explanatory variables on maize business growth occur directly rather than indirectly through trade policy.

Table 4.3 Specific Indirect Effects

Indirect Path	Indirect Effect (β)	Standard Deviation	T-Statistic	P-Value
Capital Productivity → Trade Policy → Maize Growth	0.000	0.000	0.000	1.000
Labour Productivity → Trade Policy → Maize Growth	0.000	0.000	0.000	1.000
Opportunity Cost → Trade Policy → Maize Growth	0.000	0.000	0.000	1.000

Source: Research data, 2025

4.4 The trade policy in the model

The model did well at predicting the dependent variable, maize business growth. In this study, the moderating variable was trade policy, encompassing tariffs, voluntary export restraints, and government subsidies.

4.4.1 Tariff policy influences the maize business growth

The governments of Tanzania and Zambia have simplified export procedures; the challenge is complying with them and providing the required documentation. The procedures needed registration and permits, such as registration as a company limited or sole proprietor, obtaining a Tax Identification Number (TIN) Certificate, registering as an Exporter, obtaining a Business License, Food Crop Export Permit, Phytosanitary Certificate, SADC Certificate of Origin, Radioactivity analysis certificate, and other necessary export documents. The study considered tariffs as duties paid on the export or import of maize grain; tariff collection was mostly conducted through formal channels.

Most of Tunduma CBT stakeholders found themselves engaged in international business without realizing it. In the Tunduma cereal international market, for example, maize traders from Zambia and Tanzania meet and do business together. This was considered an indirect export business in which a company or individual sells maize to customers in Zambia through an intermediary, such as a distributor, export management company, transporter, or agent, rather than selling it directly to the end user. The export business environment facilitated indirect exporting at the Tunduma border.

4.4.2 Voluntary export restraint policy influences the growth of the maize grain business

Tanzania and Zambia continued to use a voluntary export restriction policy strategy. For example, the Republic of Zambia's export restraints from 10th April to 15th May 2024 resulted in a reduced maize price to Tshs 48,000.00 from Tshs. 72,000.00 per bag of 108 kg. This means that maize cross-border traders and producers were directly affected by this policy.

4.4.3 Government subsidies policy on the most used agro-inputs, like fertilizer, influences the maize production and business

According to the United Republic of Tanzania Ministry of Agriculture (2025), fertilizer subsidies will continue for maize farmers, and the registration system will continue through the Tanzania Fertilizer Regulatory Authority (TFRA). Due to fertilizer subsidies over the past three years, Tanzania saw a significant increase in maize production, and the local government in Momba district reported a significant increase in revenue from crop cess. Momba district, for example, increased by 84% during the 2023/2024 crop season, since the government began implementing this policy from 2020/2021 to 2023/2024.

4.5 Coefficient of Determination (R-squared)

The coefficient of determination (R^2) presented in Table 4.5 indicates that the structural model explained 58.4% of the variation in maize business growth. This suggests that capital productivity, labour productivity, opportunity cost, trade policy, and their interactions jointly account for a substantial proportion of the observed variability in maize business growth.

The adjusted R^2 of 0.571 indicates that, after accounting for model complexity, approximately 57.1% of the variation in maize business growth is explained by the predictor variables. According to commonly accepted guidelines for PLS-SEM, an R^2 value above 0.50 indicates moderate to

substantial explanatory power and suggests that the model has satisfactory predictive capability. The remaining 41.6% of the variation may be attributed to other determinants that were not included in the present study, such as market accessibility, entrepreneurial capability, technological adoption, infrastructure, access to finance, and climatic conditions.

Table 4.5 R-Square for Trade Policy and Maize Business Growth

Variable	Type of Variable	R-square	R-square adjusted
Maize Business Growth	Dependent Variable	0.584	0.571

Source: Research data, 2025

4.6 Effect Sizes

Table 4.6 presents the effect sizes (f^2) of the structural relationships. Capital productivity exhibited a medium effect size ($f^2 = 0.165$), indicating that it makes the largest practical contribution to explaining maize business growth among the predictor variables. Labour productivity ($f^2 = 0.112$), trade policy ($f^2 = 0.055$), opportunity cost ($f^2 = 0.048$), and the interaction between capital productivity and trade policy ($f^2 = 0.061$) each demonstrated small effect sizes. Although statistically significant, these variables contribute only modest practical improvements to the model's explanatory power.

The interaction between labour productivity and trade policy showed a negligible effect size ($f^2 = 0.004$), supporting the earlier finding that trade policy does not significantly moderate the relationship between labour productivity and maize business growth. These results indicate that capital productivity is the most influential predictor in the structural model, while the remaining predictors provide complementary contributions toward explaining maize business growth.

Table 4.6 Effect Sizes

Path	Value	Effect Size Rating
Capital Productivity (CP) → Maize Growth	0.165	Medium
Labour Productivity (LP) → Maize Growth	0.112	Small
Opportunity Cost (OC) → Maize Growth	0.048	Small
Trade Policy (TP) → Maize Growth	0.055	Small
CP × Trade Policy → Maize Growth	0.061	Small
LP × Trade Policy → Maize Growth	0.004	No Effect
OC × Trade Policy → Maize Growth	0.031	Small

Source: Research Data, 2025

4.7: Construct Reliability and Validity

Before testing the structural paths and moderating relationships, the measurement model was evaluated to ensure appropriate levels of internal consistency reliability, convergent validity, and discriminant validity for all reflective latent variables.

As displayed in Table 4.7, internal consistency reliability was confirmed across all constructs. The Cronbach's alpha coefficients ranged from 0.791 to 0.876, and the composite reliability metrics all exceeded the conservative threshold of 0.70 recommended by Hair et al. (2019). The lowest reliability scores were observed for Labour Productivity (alpha = 0.791), while the highest were recorded for the endogenous variable, Maize Business Growth (alpha = 0.876),

Convergent validity was assessed using Average Variance Extracted (AVE) values. All latent variables exceeded the required 0.50 threshold, indicating that each construct explains more than half of its indicators' variance. Specifically, the AVE values ranged from 0.538 (Labour Productivity) to 0.627 (Maize Business Growth).

Table 4.7: Construct Reliability and Validity

Latent Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Capital Productivity (CP)	0.842	0.849	0.612
Labour Productivity (LP)	0.791	0.798	0.538
Opportunity Cost (OC)	0.815	0.822	0.574
Trade Policy (TP)	0.833	0.841	0.598
Maize Business Growth	0.876	0.885	0.627

Source: Research Data, 2025

4.8 Discriminant Validity

Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio. As shown in Table 4.8, all HTMT values were below the recommended threshold of 0.85, indicating satisfactory discriminant validity. The highest HTMT value (0.689) was observed between capital productivity and maize business growth, remaining well below the critical threshold. This confirms that each construct measures a unique theoretical concept and that multicollinearity arising from overlapping constructs is unlikely to threaten the validity of the structural model. Consequently, the measurement model demonstrates adequate discriminant validity, supporting subsequent interpretation of the structural relationships.

Table 4.8 Discriminant Validity

Latent Variable	CP	LP	OC	TP	MBG
Capital Productivity (CP)					
Labour Productivity (LP)	0.412				
Opportunity Cost (CP)	0.285	0.334			
Trade Policy (TP)	0.511	0.467	0.198		
Maize Business Growth (MBG)	0.689	0.614	0.382	0.593	

Source: Research Data, 2025

5.0 Conclusion and Recommendations

5.1 Conclusion

The study assessed the impact of cross-border trade policy on maize business growth by examining the direct effects of capital productivity, labour productivity, opportunity cost, and trade policy, as well as the moderating role of trade policy. The findings demonstrate that trade policy plays an important role in promoting maize business growth both directly and through its interaction with selected business factors.

The structural model revealed that capital productivity was the strongest positive determinant of maize business growth, indicating that investments in productive assets, improved technologies, storage facilities, transportation equipment, and financial capital substantially enhance business performance. Labor productivity also had a significant positive influence on maize business growth, suggesting that efficient labor utilization contributes to higher productivity and profitability among maize traders.

Opportunity cost was found to have a significant negative effect on maize business growth, suggesting that higher production and transaction costs discourage investment and limit business expansion. Furthermore, trade policy had a significant positive direct effect on maize business growth, confirming that supportive trade policies, including appropriate tariff structures, government subsidies, and predictable export regulations, create an enabling environment for cross-border maize trade.

The moderation analysis produced mixed results. Trade policy significantly strengthened the positive relationship between capital productivity and maize business growth, indicating that favourable trade policies enable businesses with greater capital investments to realize higher growth. Trade policy also significantly moderated the relationship between opportunity cost and maize business growth, suggesting that trade policies influence the extent to which business costs affect enterprise performance. However, trade policy did not significantly moderate the relationship between labor productivity and maize business growth, suggesting that improvements in labor productivity contribute to business growth regardless of the prevailing trade policy environment.

The coefficient of determination ($R^2 = 0.584$) indicates that the model explains 58.4% of the variation in maize business growth. This demonstrates that capital productivity, labour productivity, opportunity cost, trade policy, and the interaction effects jointly provide substantial explanatory power, although other factors not included in the model also contribute to business growth. The study concludes that strengthening productive capacity while maintaining favorable, predictable cross-border trade policies is essential to promoting sustainable growth of the maize business in Tanzania.

5.2 Recommendations

Based on the study's findings, the following recommendations are proposed.

(i) Recommendations to the Government

The Government of Tanzania should strengthen stable cross-border trade policies, maintain fertilizer subsidy programmes, invest in trade-supporting infrastructure, and reduce production and transaction costs to enhance maize business growth and competitiveness.

(ii) Recommendations to Maize Traders

Cross-border maize traders should invest in productive assets and labour efficiency while staying abreast of changes in regional trade policies to enhance productivity, profitability, and business resilience.

(iii) Recommendations to Local Government Authorities

Local government authorities should improve market infrastructure, simplify business procedures, and provide support services that facilitate cross-border maize trade and increase local revenue.

(iv) Recommendations for Policy Makers

Policy makers should regularly review trade policies, including tariffs and export regulations, and integrate trade policy reforms with programmes that promote investment in productive assets and modern agricultural technologies.

(v) Recommendations for Future Research

Future research should examine additional determinants of maize business growth, including access to finance, infrastructure, digital technologies, and institutional factors, using longitudinal designs to understand better the long-term effects of trade policy on business growth.

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