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The Effect of Regulatory Requirements on the Effectiveness of Cross-Border Clearance of Goods: Lessons from Selected Border Posts in Tanzania

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Abstract

This study examined the extent to which regulatory requirements affected the effectiveness of cross-border clearance of goods at six major border posts in Tanzania. Specifically, it assessed the effect of cross-border clearance procedures, the time spent by traders at borders, the ease of getting cross-border permits and tax clearances, as well as corruption on the perceived effectiveness of clearance of goods at border posts. A survey of 944 cross-border traders was done to generate the data used to test the study hypotheses. The results indicate that simplified cross-border procedures had a positive effect on the perceived effectiveness of cargo clearance. In contrast, time spent at the border, difficulties in obtaining permits, the complex process of obtaining tax clearance, and corruption: all had negative effects on the perceived effectiveness of cross-border clearance of goods. Furthermore, the positive influence of a simplified procedure on the perceived effectiveness of cross-border clearance of goods was lower for firms that experienced procedural delays than for those which did not experience this challenge. Accordingly, in the light of trade facilitation literature, we propose a collaborative approach of integrating border and behind-the-border processes to enhance the effectiveness of cross-border trade, and hence reduce its cost.

Keywords: *cross-border clearance, bureaucracy, clearance effectiveness, regulatory clearance challenges*

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1. Introduction

A growing commitment of countries to multilateral and bilateral trade agreements to reduce or remove trade barriers (Adomako et al. 2024; Gupta et al., 2011) has gradually increased the flow of goods and business opportunities amongst different countries in the world (Charles, 2023). However, the literature reports that cross-border trade (CBT), which is a part of international trade with immense business opportunities, faces several impediments and challenges (Chikiwa, 2021). One of the frequently reported challenges of CBT is the delay and cost of the clearance of goods from border posts, especially in developing countries where there is a multitude of red tape that increases the cost of trade (de Oliveira Santos et al., 2022). It has been asserted that CBT is always time-consuming due to documentation requirements,

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lengthy clearance processes, burdensome inspection requirements, poor border-crossing coordination among institutions involved in the clearance of goods, border traffic, and the lack of clarity in border-crossing rules (Gupta et al., 2011). However, as these challenges are not universal across all countries due to the differences in the quality of infrastructure, laws, regulations, policies and procedures, and institutions involved in CBT (Gupta et al., 2011; Tansakul et al., 2018), further analysis is needed to understand them in specific contexts. As such, earlier studies (e.g., Tansakul et al., 2018; Charles, 2023; de Oliveira Santos et al., 2022) recommend further research on the challenges facing the clearance of goods in specific borders to better understand CBT issues, and advance knowledge on how to address them.

Consequently, in recent years there has been a growing interest in analysing the CBT regulatory environment in different countries and regions to understand how the trading environment affects the effectiveness and volume of trade (Hoekman & Shepherd, 2015). The research interest in this area has also been inspired by the adoption of the free trade agreement (FTA) advocated by the World Trade Organisation (WTO) (UNCTAD, 2016; Sakyi & Afesorgbor, 2019) and regional economic communities (RECs) (Nugent & Soi, 2020). The primary goals of the WTO and RECs are to enhance the cross-border regulatory and compliance processes (Siu, 2019); mitigate costs incurred at border posts (Willie & Chikabwi, 2021); and reduce trade costs (Bensassi, Jarreau, & Mitaritonna, 2019; Ama, Mangadi & Ama, 2014). In line with these goals, scholars and policymakers are continuing to advocate for a reduction in CBT costs (Moïsé & Florian Le, 2013), and the simplification of the cross-border clearance process (Lesser & Moise-Leeman, 2009), predominantly because this process is among the most problematic links in CBT that accounts for low trade volumes (Afreximbank, 2019).

However, the emphasis on this subject-matter has been on analysing the official charges for services rendered at border posts, such as paying clearing agents, customs service fees, bond fees, and statutory payments in compliance with the formalities of other government agencies (Willie & Chikabwi, 2021); while less attention has been paid to border management issues and regulatory challenges, such as trade permits, clearance procedures, and the time involved in getting tax clearance, and how these requirements restrict CBT (World Bank Group, 2012). This is surprising, considering that border management challenges—such as documentation and customs compliance requirements, protracted administrative procedures, and other delays—contribute to transaction costs, amounting to an estimated range of 2–24% of the value of traded goods (Moïsé & Florian Le, 2013).

To contribute knowledge to the trade facilitation and cross-border management discourse, we examined the extent to which cross-border regulatory requirements affected the effectiveness of cross-border clearance of goods at the major border posts in Tanzania. Based on a survey of cross-border traders, we measured the extent to which clearance procedures, getting border permits and tax clearances, the time taken to complete various processes at the borders, and corruption affected traders'

perception of the effectiveness of cross-border clearance of goods. Our analysis expands the scope of previous studies of the cross-border regulatory environment in various ways. Firstly, although previous studies have shown that regulatory processes and their compliance requirements account for delays and inefficiency at border posts (Tsegaye & Endris, 2012), they were limited to using the qualitative approach at one border post (e.g., Charles, 2023; Hoekman & Shepherd, 2015). Secondly, by assessing which regulatory issues affect cross-border clearance of goods from the point of view of traders we expand the literature on cross-border management, which has largely analysed public agencies that regulate and facilitate CBT (Rippel, 2011).

Thirdly, we expand the trade facilitation literature which is based mostly on studies conducted by international development agencies (e.g., OECD, 2005; UNCTAD, 2016; USAID, 2007; World Bank, 2020) by providing empirical evidence about specific border and behind-the-border issues that affect CBT from the traders' point of view. In this way, we provide policymakers with an integrated framework to identify priorities for reforming CBT to effectively facilitate the movement of goods and services across borders, taking into account country-specific circumstances and implementation capacities. Fourthly, our study adds to several qualitative studies on CBT in Africa (e.g., Klopp, Trimble & Wiseman, 2022a; Ama, Mangadi & Ama, 2014; Masocha, 2012; Tsegaye & Endris, 2012; Moïsé & Florian Le, 2013), which call for quantitative analysis of the regulatory environment of CBT, because it would shed more light by revealing specific areas on which to focus to enhance CBT to improve the clearance of goods; namely by addressing both border and behind-the-border regulatory challenges.

The following section covers the literature reviewed and the hypotheses of the study, followed by the methodology and presentation of the findings. Finally, we present the discussion, implications, and conclusions.

2. Literature Review and Hypotheses

The theoretical setting for this study is informed by the trade facilitation literature which advocates for the simplification of trade interface between business and government actors, with a focus on reducing on-the-border transaction costs, other than tariffs, while safeguarding compliance with customs and border control regulations (Grainger & Morini, 2019; Koh et al., 2018; Maur, 2008). The extant literature reports that the costs of CBT are largely increased by high logistical costs and stringent regulatory environments that delay the clearance of goods (de Oliveira Santos et al., 2022; Sakyi & Afesorgbor, 2019). This means, inefficient trade procedures and an uncoordinated border environments contribute to delays in the clearance of goods; leading to higher transaction costs to traders (Bensassi, Jarreau, & Mitaritonna, 2019). To reduce costs to traders, various authors argue for a reduction of cumbersome CBT procedures to make it easier and more effective to move goods across borders (Engman, 2009). Measures in this regard include addressing beyond-the-border issues, such as infrastructure quality, transparency and domestic regulations (Koh et al., 2018).

However, the border environment comprises a variety of actors with conflicting interests that affect the coordination of their functions. The major regulators are border agencies that have specific mandates and roles, such as collecting revenue, issuing permits, and checking compliance with phytosanitary, transport and food safety requirements (Charles, 2023). Of course, these agencies are expected to collaborate in executing their roles to simplify the process and speed up the clearance of goods at borders, and so scholars theorise that trade facilitation should entail simplifying border procedures to reduce trade costs and increase the flow of exports and imports (Sakyi & Afesorgbor, 2019; Ahsan et al., 2021; Ayesu, Sakyi & Baidoo, 2022). It is advanced that this facilitation should improve the process governing the movement of goods across national borders, simplify customs procedures to make the clearance of goods more efficient (Tsegaye & Endris, 2012), and minimise trade costs (Sakyi & Afesorgbor, 2019), with the aim of improving the flow of trade (Sakyi et al., 2018). To support this, it has often been argued that improved cross-border management ought to ensure more effective cross-border processes and a timely clearance of goods (Wong Villanueva, Kidokoro & Seta, 2020). Accordingly, the literature argues for collaborative cross-border processes, which are likely to simplify procedures of the clearance of goods (Mawanza, Ncube & Mpofu, 2018), shorten the time taken at borders (Engman, 2009), and minimise bureaucracy and corruption (de Jong & Bogmans, 2011).

Although the literature argues for trade facilitation and improved cross-border management, the issue of delays in clearing goods at borders has frequently been reported in empirical studies. For example, Willie and Chikabwi (2021) estimated the impact of cross-border delays on CBT in COMESA using a gravity model of cross-sectional data for 16 member states, and found that a 1% increase in border delays by both importing and exporting countries reduced bilateral annual export flows by approximately US$2m; with exporting countries being affected less than importing ones. For example, a 1% increase in border delays reduced annual bilateral COMESA trade by approximately US$700,000 for exporting countries, and US$1.3m for importing countries. Peng (2009) found that even though an effective facilitation of export practices significantly lowered the time and cost of exporting, CBT was hindered by delays caused by the lack of effective trade simplification practices. Willie and Chikabwi (2017) reported that the causes of delays at border posts in Africa included border agency multiplicity, complex procedures, insufficient or late payment of duty and taxes, multiple fee-payment points, corruption, and errors in declarations. Similarly, McLinden et al. (2011) found that two-thirds of delays in trading activities occurred due to bureaucratic and managerial problems in other government institutions, while the remaining one-third was attributed to the failure of customs authorities. In this regard, it is reported that border delays increase transport costs that are passed on to traders in the form of high transport prices, demurrage fees, drivers' subsistence allowance, and unofficial payments to seek quick passage (Teravaninthorn & Raballand, 2009).

Furthermore, Ansón et al. (2017) employed the gravity model to analyse the impact of transit time on the flow of trade in both developed and developing countries. Their

study revealed that each additional day spent in transit led to a reduction in the volume of exports by approximately 1%. The inefficiency of government ministries and regulatory authorities largely contributes to significant delays, resulting in ineffectiveness in the clearance of goods (World Bank Group, 2012). According to the World Bank (2016), unnecessary bureaucracy and redundant procedures further escalate the time and costs associated with border and documentary compliance across most economies. Similarly, in their assessment of the challenges, causes and effects of trade facilitating agencies in the freight-forwarding industry, Mawanza, Ncube and Mpofu (2018) found that inefficiencies in transport and customs documentation increased lead time due to delays in clearing consignments. Their study recommended that trade facilitation agencies fully adopt and implement trade facilitation standards, including simplifying the clearance procedure—which involves streamlining activities and formalities related to data collection, presentation, communication and the process involved in the international trade in goods—ultimately reducing transaction costs (Lesser & Moise-Leeman, 2009).

By avoiding excessive documentation and multiple inspections, a simplified import/ export trade has the potential to shorten clearance time and make the process more efficient (Djankov et al., 2010). Despite claims that simplifying cross-border procedures is critical for making the clearance of goods more effective (Yimam, 2022), these assertions lack strong empirical evidence, particularly from traders' perspectives, which is especially true in developing countries where few surveys on CBT and its barriers have been carried out. Currently, there is sparse evidence demonstrating that simplified trade procedures significantly make CBT more effective. Therefore, more empirical evidence is needed to ascertain the extent to which the simplification of cross-border procedures would contribute to improved clearance of goods. In the light of this, we proposed the following hypothesis:

HI: Simplified clearance procedures positively influence the perceived border-clearance effectiveness

As noted in the introduction, long clearance time and delays are still the challenges facing cross-border traders (Adomako et al., 2024). Accordingly, several authors have addressed the challenge of delays at border posts and their effect on trade. For instance, Rocha and Freund (2010) conducted a study on constraints faced by Africa's exports, and reported that bureaucracy was the leading constraint that caused an average of 19 days delay in processing goods for export. An analysis of the World Bank Doing Business data revealed that processing export documents in Angola, Zambia and Niger took 36 days; while in Swaziland it only required 5 days to complete all the necessary export documentation. Furthermore, OECD (2005) estimated that border-related costs and expenses due to clearance delays ranged from 2–15% of the total value of traded goods. Djankov et al. (2010) used the difference gravity equation to assess the effect of time delays on the volume and value of exports in 126 countries, and found that a 1% increase in export time in a landlocked country resulted in a 1% reduction in trade.

Vorshilov and Ulzii-Ochir (2016) included a variable capturing the time to cross a border in their model and established that a 1% increase in this time led to a 0.89% reduction in Mongolia's exports. Notably, cargo clearance processes in most African countries, including Tanzania, involve lengthy procedures, requiring interactions with multiple authorities, and the submission of redundant documents, as firms clearing cargo must provide similar documents to different authorities multiple times (Charles, 2023). This bureaucratic environment forces firms trading across borders to spend a long time complying with the requirements, making the clearance process inefficient. As a result, anecdotal evidence indicates that numerous firms in Tanzania perceive the time taken to clear goods at border posts to be a significant challenge. Hence, to establish a robust evidence supporting this claim, we proposed the following hypotheses:

H2a: Firms perceiving cross-border clearance time as a significant challenge are inclined to view cross-border clearance as less effective compared to those that do not face this challenge.

H2b: The perceived positive effect of simplified cross-border clearance procedures on perceived cross-border clearance effectiveness is lower for firms facing the clearance time challenge than for firms unaffected by this challenge.

Another critical factor that often contributes to the complexity of clearing goods at border posts pertains to obtaining cross-border permits. This complexity arises from the multiple regulatory requirements imposed by border control agencies, which frequently result in redundant formalities and inspections, thereby escalating compliance costs and causing delays (Charles, 2023). Similarly, a study of trade and logistics in developing countries conducted by Devlin and Yee (2005) revealed that various exporters encountered considerable difficulties when dealing with customs authorities and malfunctioning duty-drawback mechanisms. For instance, their findings indicated that the process of clearing goods through customs in Egypt required 32 signatures on documents to be filed and coordination with a multitude of government agencies (ibid.).

Moreover, the World Bank (2019) highlighted that while customs agencies have traditionally been responsible for collecting revenue, managing the border and preventing fraud, issuing permits emerged as a substantial challenges when clearing goods at most border posts in developing countries. The challenges associated with obtaining permits lead to delays in clearing cargo at border posts, thereby causing the process to be ineffective (ibid.). However, given that the World Bank's assessment was from a global perspective, this study aimed to gather more evidence from the context of developing economies to ascertain the extent to which acquiring cross-border permits influences the effectiveness of the clearance of goods. In this connection, we hypothesize that:

H3: Firms perceiving the acquisition of cross-border permits as a serious challenge tend to perceive cross-border clearance as less effective than those that do not face this challenge.

Notably, to get import or export permits, traders are required to pay taxes and get tax clearances. Taxes are collected by customs authorities, resulting in several processes that involve registering with the tax-collecting organisation, filing annual tax returns, filing returns that indicate a payment liability, receiving an assessment, paying the tax, and getting tax clearance (Kangave et al., 2021). In this regard, tax clearance is issued by a revenue authority after certifying that a trading firm has paid all its taxes. However, available evidence indicates that most traders experience some difficulties in getting tax clearance certificates because of bureaucracy, unreliable information systems, and the corruption of tax officials (de Jong & Bogmans, 2011). In some cases, it takes a very long time for traders to get the required tax clearances although the process of clearing goods cannot be completed without it. Thus, firms experiencing difficulties in getting tax clearances find cargo clearance to be less effective. Accordingly, we proposed the following hypothesis:

H4: Firms experiencing the challenge of getting a tax clearance certificate perceive cross-border clearance as less effective than those which do not.

In addition, the bureaucracy of getting import/export permits is said to elicit corruption among government officials (Siu, 2019). Therefore, due to the bureaucracy involved in clearing goods, CBT in developing economies, and Africa in particular (Adomako et al., 2024), remains highly vulnerable to corrupt practices (World Bank, 2017). In Tanzania, for instance, corruption remains a major challenge facing cross-border traders (Charles, 2023). In reality, corruption is reported to be a part of both formal and informal cross-border trading journeys mainly because of bureaucracy and delays experienced at border posts (Klopp, Trimble & Wiseman, 2022b). For example, a study by USAID in 2007 examined the corruption of customs officials at transit points along the northern corridor in Kenya, Uganda, Tanzania, Rwanda, Burundi and the Democratic Republic of Congo, and found that delays and high taxes were the major constraints to cross-border business; and one of the greatest opportunities for bribery. The incidence of corruption ranged from 15% in Kenya to 59% in Tanzania, while, as a whole, 28% of all shipments were subject to bribery; the value of the bribe being based on the value of a consignment (USAID, 2007). Similarly, a study of bribe payments by Bensassi, Jarreau and Mitaritonna (2019) established that approximately 80% of traders paid a bribe in CBT at the border posts of Benin; and further observed that traders of products facing import bans paid bribes about two times higher than that paid by traders of other products.

Moreover, other scholars report that non-transparent, burdensome rules and procedures constitute vulnerabilities that can breed corrupt behaviour (Chene, 2018); and that even when businesses pay bribes, they still face long delays and incur greater capital costs (ibid.). Thus, corruption perpetuates delays and inefficiency and increases costs; and ultimately has a negative impact on economic growth and development (World Bank, 2017). Moreover, corruption is likely to incite some cross-border traders to engage in illegal practices, such as under-

invoicing and/or using unofficial routes and crossings to avoid having to disburse such payments (Lesser & Moise-Leeman, 2009). However, while there is some data on the perception of corruption in border control agencies in general, most figures and assessments are limited to assessing the prevalence of corruption in customs. Therefore, it is important to ascertain the views of traders on corruption along the trading journey, and how it affects the cross-border clearance of goods. In view of this, we hypothesized that:

H5: Firms considering corruption a major challenge perceive cross-border clearance to be less effective than those which do not.

3. Research Methods

3.1 Data and Research Context

This study used cross-sectional data collected by Trias-Tanzania, a non-governmental organisation that strengthens the capacity of farmers' and entrepreneurs' member-based organisations to advocate for an improved business environment. Data were generated from the European Union-funded 'Building Bridges' project, which entailed a comprehensive analysis of the business environment in Tanzania. The project was implemented from January 2020 to June 2022 in 10 regions of Tanzania, and it supported the collection of data on the regulatory environment to produce a report that would inform the government of ways to improve the business environment and enhance private sector participation in trade. One of the aspects covered in this project was the collection of data on CBT at the Kasumulu, Tunduma, and Isongole borders in the Songwe region, Itungi port in Mbeya region, and the Sirari border in Mara region, which are among the most popular and busiest borders in the country.

This study used a structured questionnaire, developed in collaboration with Trias-Tanzania and the Tanzania Chamber of Commerce, Industry and Trade (TCCIA). The first version of the questionnaire was developed after consultation and interviews with CBT experts, traders and government dignitaries affiliated with border posts from the regions being studied. This version was improved further after consultation with three Chambers of Commerce (TCCIA Mbeya, TCCIA Mara, and TCCIA Songwe) for content validity (Sohail et al., 2016). The improved questionnaire was then piloted to 90 cross-border traders; 30 from each region involved in the study. An analysis of the pilot data did not show any significant challenges to the data collection structure and instrument. As such, the final questionnaire was then produced for the main data collection.

Well-trained questionnaire administrators interviewed the owners/managers of cross-border enterprises, and filled in 944 questionnaires. This practice of having a questionnaire completed by a questionnaire administrator rather than respondents eliminated the problem of unusable questionnaires, and improved the quality of data. From the collected data set, this study focused on traders' perceptions of the effectiveness of cross-border clearance of goods as a dependent variable, and tried to examine factors that influence this perception. Specifically, it examined five

variables as influencing factors (independent variables): namely, the simplicity of cross-border procedures, bureaucracy in getting import/export permits, difficulties in obtaining tax clearance certificates, corruption, and long clearance time. The perceived effectiveness and simplicity of a cross-border procedure were measured on a five-point Likert scale, ranging from strongly disagree (1), to strongly agree (5). The cross-border challenges were operationalised as dichotomous variables, with 1 representing the respondents who considered a particular challenge to be huge, and 0 otherwise.

The study adopted a correlational explanatory research design to examine the relationship between the dependent and independent variables. To ensure the robustness of our analysis, two control variables were introduced: the registration status of the firms, and their experience in the cross-border business. Registration status was operationalised as a dichotomy variable, with 0 representing unregistered firms; and 1 representing registered firms. Cross-border business experience, on the other hand, was operationalised in years with four groups: 2–3, 4–5, 6–7, and 8 and above years of experience.

3.2 Data Validation and Collinearity Assessment

Several measures were taken to ensure the content validity of the measurement scale before the data collection exercise, including having the questions in the questionnaire being reviewed by experts in CBT for clarity and relevance. After collecting the data, we used statistical techniques to assess the validity of our scale. Since all variables were operationalised in single items, the reliability and discriminant validity were not appropriate. Instead, we focused on nomological validity, which was assessed using the zero-order correlation matrix (see, Hair et al., 2020; Bhatia & Batt, 2023), as presented in Table 1.

Table 1: Descriptive Statistics, Zero-order Correlations and Collinearity Statistics

Variables and Statistics	1	2	3	4	5	6	7	8	9
1. Cross-border clearance effectiveness	1								
2. Cross-border business experience	-.059	1							
3. Registration	.009	.124**	1						
4. Getting Permits	-.209**	-.009	-.115**	1					
5. Tax clearance certificate	-.071*	.029	.053	.141**	1				
6. Corruption	-.152**	.014	-.121**	.006	-.031	1			
7. Simplicity of clearance procedure [c]	.460**	-.006	.153**	-.154**	.065*	-.157**	1		
8. Clearance time	-.196**	.033	-.012	.014	.043	-.029	-.028	1	
9. Simplicity of clearance procedure [c] × clearance time	.099**	.005	.067*	.005	.062	.002	.352**	-.069*	1
Mean	3.13	3.72					0.00		-0.008
Standard deviation	1.06	1.14					1.01		.36
Variance Inflated Factor		1.02	1.07	1.06	1.03	1.05	1.26	1.02	1.16

Notes: *p < 0.05 (2-tailed); **p < 0.01 (2-tailed). [c] Mean centred variables.

All significant correlations were logically valid. Bureaucracy in getting export/ import permits, difficulties in getting tax clearances, corruption and long clearance time were negatively correlated with perceived cross-border effectiveness as expected; while simplicity in clearing goods was positively correlated with perceived cross-border effectiveness. These findings provided preliminary evidence of the association between our dependent variables. Moreover, the highest correlation among the research variables was between the simplicity of a clearance procedure, and perceived cross-border effectiveness (r = 0.46), which is far below the cut-off point of 0.7 for multicollinearity, the absence of which is further demonstrated by variance inflated values (VIFs) of less than the recommended conservative threshold of 3 (Hair et al., 2014; Nalakath & Mardini, 2019; Opoku et al., 2021).

4 Results

4.1 Profile of Respondents and Descriptive Analysis Results

Table 2 presents the profile of the 944 respondents interviewed and firms involved in this study. The results show that at least 89% of the firms were registered, while 11% were unregistered; which may be accounted for by the requirement to formalise a business to enable them export and/or import goods. Around 60% of the key informants were males, perhaps because traders who engage in formal CBT are men; while women dominate informal CBT (Afrika & Jumbos, 2012). In terms of age, almost 60% were youth, ranging from 18 to 35 years of age. Regarding education level, the majority of the people involved in CBT had received primary and secondary education (82.6%), while only 15.8% had received vocational and tertiary education.

Table 2: Respondents' Profile

Variables	**Statistics**		
	Categories	***Frequency***	***Percent***
Gender	Female	380	40.3
	Male	564	59.7
Age group	Youth	549	58.2
	Adult	395	41.8
Education level	None	17	1.8
	Primary	482	51.1
	Secondary	295	31.3
	Vocational	73	7.7
	Tertiary	76	8.1
Registration Status	Unregistered	104	11.0
	Registered	840	89.0

As a part of the analysis, we assessed the perception of respondents of the intensity of the regulatory challenges of CBT, whereby they were asked to indicate whether the issues shown in Figure 1 were amongst the major challenges. Although none was perceived as a major challenge, difficulties in getting import/export permits (32%), and corruption (19%) appeared to be the leading concerns. However, the

respondents agreed that all the challenges affected the effectiveness of CBT at their respective borders. Likewise, corruption, delays, slow clearance procedures (Afrika & Ajumbo, 2012; Brenton & Soprano, 2018), difficulties in getting import/export permits (Ogolo, 2010; Jawando et al., 2020), and tax clearance: these have been reported as the challenges of CBT in Africa (de Jong & Bogmans, 2011).

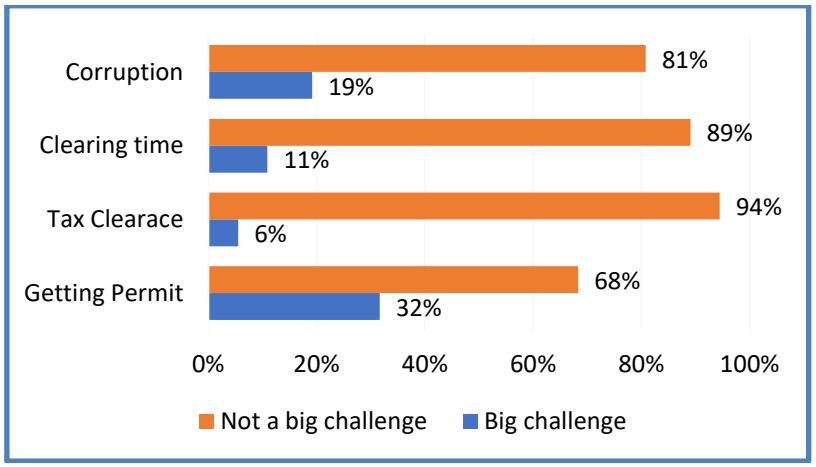

Figure 1: CBT Challenges

4.2 Model Estimation and Hypotheses Testing

The study's hypotheses were tested using ordinary least square regression. The variables were added in the models hierarchically. While the first model (Model 1) was formed by control variables, the second model (Model 2) was formed by adding the main research variables in Model 1, and the last model (Model 3) was formed by adding the interaction between clearance procedure simplicity and clearance time in Model 2. Adding variables in blocks in an incremental fashion enabled the analysis of the effect of individual variables and groups of variables on the dependent variable.

$$EFFECTIV = \beta_0 + \beta_1 EXPER + \beta_2 REG \ldots\ldots\ldots\ldots\ldots\ldots \text{(Model1)}$$

$$EFFECTIV = \beta_0 + \beta_1 EXPER + \beta_2 REG + \beta_3 SIMPL + \beta_4 CTIME + \beta_5 PERMIT + \beta_6 TAXCLEA + \beta_7 CORRUPT \ldots\ldots\ldots\ldots\ldots\ldots \text{(Model2)}$$

$$EFFECTIV = \beta_0 + \beta_1 EXPER + \beta_2 REG + \beta_3 SIMPL + \beta_4 CTIME + \beta_5 PERMIT + \beta_6 TAXCLEA + \beta_7 CORRUPT + \beta_8 SIMPL \times CTIME \varepsilon_1 \ldots\ldots\ldots\ldots\ldots\ldots \text{(Model3)}$$

Where *EFFECTIV* = Perceived cross-border clearance effectiveness, EXPER = Experience in cross-border business, *REG* = Firm registration status, *SIMPL* = Simplicity of clearance procedure, *CTIME* = Clearance time, *PERMIT* = Getting a permit, *TAXCLEA* = Tax clearance certificate, and *CORRUPT* = Corruption.

The results of the estimation of the models above are presented in Table 3. Unlike Model 1, which was insignificant ($F(2,920) = 1.55$, $p > 0.1$), Model 2 was significant ($F(7,915) = 51.49$, $p<0.001$), and predicted about 27.7% ($R_{Adj}^2 = 0.277$) of the variance in the perceived effectiveness of cross-border clearance. Similarly, Model 3 was significant ($F(8,914) = 45.79$, $p<0.001$), and predicted about 28% ($R_{Adj}^2 = 0.280$) of the variance in the perceived effectiveness of cross-border clearance.

Table: 3: Hierarchical Ordinary Least Square Regression Model with Perceived Cross-Border Effectiveness as the Dependent Variable

Variables and Statistics	Model 1		Model 2		Model 3	
	β	*t-Values*	*β*	*t-Values*	*β*	*t-Values*
Control variable:						
Cross-border business Experience	-.058	-1.76*	-.036	-1.27	-.036	-1.26
Registration	.012	.35	-.086	-2.97**	-.084	-2.92**
Main effects:						
Clearance Procedure simplicity(H1)			.435	14.99***	.458	14.81***
Clearance Time (H2)			-.182	-6.48***	-.186	-6.61***
Getting Permits (H3)			-.133	-4.60***	-.129	-4.47***
Tax clearance certificate (H4)			-.060	-2.12*	-.058	-2.05*
Corruption (H5)			-.105	-3.67***	-.101	-3.53***
Interaction Effect:						
Clearance Procedure simplicity [c] × Clearance time (H5b)					-.064	-2.13*

Model Summary	Model 1	Model 2	Model 3
F-Values (Degrees of freedom)	1.55 (2,920)	51.49***(7,915)	45.79***8,914)
Adjusted R^2	.001	.277	.280
Change in R^2	.003	.279	.004
F-values for R^2 change	1.56	71.22	4.54
Sig. of F-change	.212	0.001	0.033

The main effect hypotheses were tested from Model 2, which revealed that simplicity of cross-border procedures significantly and positively influenced the perceived effectiveness of CBT ($\beta = 0.435$, $t = 14.99$, $p<0.001$), supporting H1. The findings also revealed that the perceived effectiveness of CBT was negatively influenced by the major challenges of clearance time (H2), getting cross-border permits (H3), getting tax clearance permits (H4), and corruption (H5). This showed that the effectiveness of CBT was perceived to be significantly lacking by firms that regarded cross-border clearance time ($\beta = -0.182$, $t = -6.48$, $p<0.001$), getting cross-border permits ($\beta = -0.133$, $t = -4.60$, $p<0.001$), getting tax clearance ($\beta = -0.06$, $t = -2.12$, $p<0.05$) and corruption ($\beta = -0.105$, $t = -3.67$, $p<0.001$) as the greater challenges than those which did not.

Furthermore, the results demonstrated the presence of a significant and moderate interaction effect of clearance time on the association between the simplicity of cross-border procedure and the effectiveness of cross-border clearance ($\beta = -0.064$, $t = -2.13$, $p<0.05$), supporting H2a. This moderation hypothesis was further analysed using

Hayes' SPSS process, Micro version 4, with 5000 bootstrapping samples (see Table 4). This analysis revealed that the effect of the simplicity of cross-border procedures on cross-border effectiveness is stronger for traders struggling with clearance time challenges (perceived clearance time as a major challenge) (β = 0.4851, t = 15.2021, p<0.001) than for those unaffected by this challenge (do not perceive clearance time a major challenge (β = 0.3013, t = 3.294, p<0.001).

Table 4: The Effect of Clearance Time Challenge on the Association Between Simplicity of Cross-Border Procedure and Cross-Border Effectiveness

Clearance time	Effect size (β)	SE	t-Values	[LLCI; ULCI]
Not a major challenge = 0	.4851	.0319	15.2021***	[.4225; .5477]
Major challenge = 1	.3013	.0816	3.294***	[.1412; .4613]

Notes: *** indicates significance at p< 0.001; SE = Standard error, LLCI = Lower Limit Confidence Interval, ULCI = Upper Limit Confidence Interval; The results are based on 5000 bootstrap samples.

5. Discussion of the Findings

This study used the trade facilitation perspective to examine the effect of regulatory requirements on the effectiveness of the clearance of goods at border posts in a context where there are cumbersome procedures and processes. The study's analysis of traders' viewpoint reveals the effect of getting trade permits and tax clearances, clearance procedures, clearance time, and cross-border official corruption practices on the effectiveness of cross-border clearance of goods. It shows that simplified cross-border procedures would significantly and positively influence traders' perceptions of the effectiveness of cross-border clearances of goods. In view of this, the idea of a simplified trade regime (Djankov et al., 2010) to ensure the effectiveness of CBT (Yimam, 2022), and reduce its costs (Lesser & Moise-Leeman, 2009) is supported. In line with what is proposed by the WTO (Sakyi & Afesorgbor, 2019), the African Continental Free Trade Agreement (AfCFTA) and regional economic communities (RECs)—including East African Community (EAC) and Common Market of Eastern and Southern Africa (COMESA)—it is evident that simplified border procedures are likely to boost CBT (World Bank, 2020; Mbakhwa, 2022). Moreover, our findings reveal that the effectiveness of CBT was perceived to be significantly lacking by firms which found that cross-border clearance time, getting cross-border permits, getting tax clearances, and corruption as the major challenges. This demonstrates that, although RECs—and Tanzania in particular—advocate facilitating CBT through a simplified trade regime (Charles, 2023), cross-border traders still experience border management challenges that affect the effectiveness of trading activities. These challenges emanate from both customs and non-customs regulatory procedures and processes.

For example, delays at border posts were perceived as a major challenge by most cross-border traders; which is also reported by other authors (e.g., Rocha & Freund, 2010; OECD, 2005). Essentially, the long procedures and delays in getting permits and tax clearances may have accounted for the reported corruption. This

corroborates the findings by Chene (2018): that burdensome rules and procedures can breed corrupt border behaviours. In Tanzania, for instance, CBT is governed by at least 15 agencies, entailing an unintegrated process that leads to long procedures and delays (Charles, 2023). While customs officials are frequently criticised for border clearance delays and high costs, undoubtedly both customs and non-customs government agencies play a role in processing and clearing goods. Consequently, traders are compelled to bribe border and non-border officers to facilitate a smooth movement of goods across the formal borders and, in some cases, opt for informal routes.

Indeed, as goods go through multiple processes that entail obtaining several permits and tax clearances, traders are frustrated and opt for bribing the officers responsible for these processes (Bensassi, Jarreau & Mitaritonna, 2019). This supports the view that stringent regulatory requirements and processes account for corruption (World Bank, 2017) and informal CBT in Africa (Afreximbank, 2020; Lesser & Moise-Leeman, 2009). Because long procedures and delays arise from inadequate cross-border management and a poor coordination of regulatory agencies (Klopp, Trimble & Wiseman, 2022a), we argue for collaborative cross-border and behind-the-border processes to shorten the time taken to clear goods, and minimise bureaucracy and corruption as suggested by Mawanza, Ncube and Mpofu (2018), and de Jong and Bogmans (2011). In view of this, we recommend a cross-border collaborative approach entailing coordination, collaboration and integration of the various processes and procedures of clearing goods at border posts and beyond.

While we agree with most authors advocating trade facilitation as a strategy to increase the volume of trade (UNCTAD, 2016; Nugent & Soi, 2020), and the simplification of trade regimes (Nugent & Soi, 2020), we indicate that traders still experience several regulatory challenges when crossing borders, some—such as tax clearance and getting trade permits—of which emerge from the behind-the-border regulations. This implies that merely simplifying a trade regime, in the context of export and import trade, may not increase the effectiveness of CBT, as the behind-the-border regulatory challenges need to be addressed. From the perspective of traders, both border-related and behind-the-border challenges undermine the effectiveness of the clearance of cross-border goods, and impact the flow of trade. This means that the agenda of trade facilitation and simplification of trade regimes can only be achieved if both the border and behind-the-border processes and procedures are integrated so as to minimise border time spent by traders.

Accordingly, we propose that trade facilitation should incorporate measures that directly affect border operations, as well as behind-the-border processes and procedures that account for delays, bureaucracy and corruption. While we support interventions such as automation—i.e., the adoption of information and communications technology for border procedures to improve the processes governing the movement of goods across national borders (Wong Villanueva, Kidokoro & Seta, 2020)—we suggest improving the behind-the-border processes of

issuing permits, paying taxes, and issuing tax clearances. For instance, allowing traders to submit all import, export and transit information required by regulatory agencies via a single electronic gateway, rather than submitting the same information innumerable times to different government entities, would enhance CBT.

6. Theoretical and Managerial Implications

This study has various theoretical and managerial implications. Theoretically, it reveals the cross-border processes that reduce the effectiveness of the clearance of goods; proposing a collaborative approach to border governance as a mechanism for reducing CBT transaction costs. By drawing on the trade facilitation literature, the study demonstrates how collaborative border governance is likely to increase the effectiveness of the clearance of goods and reduce CBT transaction costs. In addition, by taking into account both border and behind-the-border processes, it demonstrates how business regulations, typically outside the purview of trade and customs authorities, affect CBT. This adds some insights to the trade facilitation literature, which puts more emphasis on border-related processes, procedures and costs, without giving adequate attention to behind-the-border processes.

In terms of managerial implications, our findings suggest that trade officials should develop cooperation and coordination channels with other institutions in charge of different types of cross-border regulatory governance. In view of this, we suggest that some measures be taken to address the regulatory challenges affecting the cross-border clearance of goods; which would comprise simplifying and streamlining trade-related rules, procedures and documentation, establishing or improving single windows for the delivery of services at cross-borders, improving cross-agency coordination, and simplifying the regulatory behind-the-border requirements. Ideally, this will minimise the duplication of requirements and the time spent complying with them.

Moreover, we recommend a trade facilitation approach that goes beyond the traditional customs-specific trade facilitation agenda to a new and more comprehensive 'whole-of-government' approach to reform, which relies less on institution-specific reform but more on one that focuses on a trade supply chain that is designed to tackle the major barriers traders face when navigating the frequently complex regulatory requirements that governments impose on trade. This calls for harmonizing, streamlining and simplifying border management systems and procedures of all border and behind-the-border agencies; which would in turn create a helpful avenue for the dissemination of information to traders by establishing dedicated information signposts and centres. This envisioned network of information kiosks would be strategically situated at various locations to provide cross-border traders with lucid and succinct information, effectively bridging the information gap in regulatory requirements.

7. Conclusion and Possible Research Areas

The results of this study demonstrate that simplified cross-border procedures positively influence the perceived effectiveness of the clearance of goods, even

though the influence is lower for firms experiencing delays at border posts. It is also evident that time spent at cross-borders, difficulties in obtaining permits, complex processes of obtaining tax clearances, and corruption: all have negative effects on the effectiveness of the clearance of goods at border posts.

Although this study was based on a survey that can permit generalisation of the results, it was undertaken in one country and at selected borders. Therefore, future studies could expand their scope to other borders and trading partners of Tanzania. Some topics require more in-depth analysis for the purpose of providing more informative findings. For example, despite the growing menace of border-related corrupt activities, the empirical and theoretical academic literature on border corruption is surprisingly limited. Future studies could, therefore, investigate the way in which bureaucratic border processes are connected with corruption at border posts. In this study, we have introduced the issue of collaboration of border and behind-the-border agencies. Accordingly, we recommend more studies on the interconnection between border and behind-the-border regulatory challenges, and how they impact CBT; which might provide further insights into the measures that could be taken to improve the effectiveness of CBT.

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