



# Competitiveness of Tanzania's exports: A constant market share analysis

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## **ABBREVIATIONS**

CCE – Commodity Composition Effect

CE – Competitiveness Effect

CMS – Constant Market Share

CMSA – Constant Market Share Analysis

EAC – East African Countries

EPZ – Economic Processing Zone

FYDP – Five Year Development Plan

GDP – Gross Domestic Product

GoT – Government of Tanzania

IMF – International Monetary Fund

MDE – Market Distribution Effect

NBS – National Bureau of Statistics

RCA – Revealed Comparative Advantage

REPOA – Research for Poverty Alleviation

SAP – Structural Adjustment Program

SEZ - Special Economic Zone

SITC – Standard International Trade Classification

SSA – Sub-Saharan Africa

TTE – Total Tanzanian Trade

WB – World Bank

WTE – World Trade Effect

## **ABSTRACT**

Tanzania export sector has been growing over the years. The market share of Tanzania increased by 0.29% to 0.08% in EAC and SSA from Period I to Period II respectively. This performance of exports may have been attributed by increased/decreased competitiveness or increased/decreased structural factors such as world trade, focal markets of their products and composition of the exported commodities.

The study focused on competitiveness of Tanzania's exports, with attention to products of Standard International Trade Classification (SITC) 1 digit level. The study employed Constant Market Share Analysis (CMS) techniques to decompose the growth in Tanzania's exports of these products to find out whether it's because of changes in competitiveness or structural factors.

Data used was from UN Comtrade database from (2009-2018) divided in two periods; Period I (2009-2013) and Period II (2014-2018). The analysis focused on finding world trade effect, commodity composition effect, market distribution effect and competitiveness effect. The reference group of countries used for this analysis was East African and Sub-Saharan countries.

Findings of the study show that, the world trade, commodity composition and competitiveness effects were positively associated with increased export growth in Tanzania from Period I to Period II. Export growth for SITC 1 digit level in Tanzania was attributed by increased demand for such products in the world market, and the commodities exported had a faster growing demand. Furthermore, there was increased competitiveness for Tanzania's products directed into the selected group of reference countries.

Market distribution was found to be negatively associated with export growth in Tanzania. Tanzania focused on exportation of SITC 1 digit level products to countries with a slow growing demand for these products. The selected countries had a slow growing demand for SITC 1 digit level exports from Tanzania.

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# INTRODUCTION

## 1.1 Introduction, Background and Overview of the Export Sector in Tanzania

Tanzania's journey towards international trade began around 1980's as an adherence to IMF conditions for economic recovery. In 1967-1985, Tanzania embraced "Ujamaa" a socialist ideology which was characterized by a closed economy with government ownership of all major means of production. During this period, Tanzania economy faced a fall in economic and per capital growth rates. Economic Survival Programs were established in (1981/82-1986) but failed to bring the desired economic uplift. Following continuous economic deterioration and pressure from donors, International Monetary Fund (IMF) and the World Bank (WB), Tanzania accepted comprehensive Structural Adjustment Programs (SAPs) called Economic Recovery Programs (ERP) in order to qualify for loans from IMF and World Bank. Among the key changes after the structural reforms was the liberalization of exchange and trade regimes, liberalization of the financial sector and the **creation of a market oriented regulatory framework.**

## 1.2 Trend and Growth of Exports in Tanzania

### 1.2.1 Policy and Export Strategies Perspective

After the liberalization of the economy, Tanzania export sector has been growing rapidly over the years. Tanzania has had an increased production of SITC 1 digit level exports from period I to period II. Tanzania being a raw material producer, invested highly in industrialization to ensure increase in production. Various policies and development plans aimed at increasing exports production in Tanzania have been formed, some taking place during Period I (2009-2013) of the study and some implemented during Period II (2014-2018). These policies are as follows:

In 2005, GoT also prepared the Mini-Tiger Plan 2020 to implement the Vision. This Plan led to the establishment of special economic zones (SEZs) and export processing zones (EPZs). In 2011, GoT adopted the Integrated Industrial Development Strategy (IIDS) 2011–2025 aimed at building a competitive industrial sector. The National Five-Year Development Plan 2016/17–2020/21 (FYDP II), published in 2016, identifies industrialization as the main policy objective and key driver of economic transformation. Lastly, the Long-Term Perspective Plan 2011/12–2025/26, prepared to facilitate achievement of TDV 2025, paved the way for three strategies each covering five years: FYDP I (to establish the prerequisite infrastructure and energy necessary for industrialization), FYDP II (to promote industrialization as an engine for economic growth) and FYDP III (forthcoming).

The implementation of these policies had led to increased production of the SITC 1 digit level exports since most of these commodities include raw materials. The focus

in industrialization led to increased production and exports growth in Tanzania; however, there are other structural factors besides these policies that have had contribution on export growth as will be discussed here below.

### 1.2.2 Market Perspective

The increase in exports may have been attributed by increased demand for Tanzanian exports in the global and regional markets. During the world economic recession from 2007 to mid-2009, global demand for exports decreased but regained recovery from mid-2009 and rapid economic growth was experienced with increased demand for exports in the world market.

### 1.2.3 Exports as a share of GDP

Export growth is more meaningful if it has an impact on economic growth of countries. Most countries promote exports in light of achieving economic growth and development. Tanzania growth of export sector is expected to bring the same impact to economic growth. Since 2009, after the world economic recession, Tanzania exports increased and had a significant impact in economic growth. The share of export in GDP is used to measure the contribution of exports to total GDP and economic growth of Tanzania. Tanzania's exports as a share of GDP increased at increasing rates from 2009 to 2012 while from 2013, the share of exports to GDP increased at decreasing rates. This may have been attributed by increased contribution of other sectors to GDP. Even though the absolute value of exports has been increasing, its contribution to GDP has been decreasing compared to alternative sectors that contribute more to GDP. The pace of growth of exports is slower compared to the growth pace of GDP, hence the share of exports in GDP decreases.

Table 1 and figure 1 below show the trend of exports as a share of GDP in Tanzania since 2009. The share increased from 2009 to 2011 and maintained in 2012 before continuously dropping from 2013 to 2017.

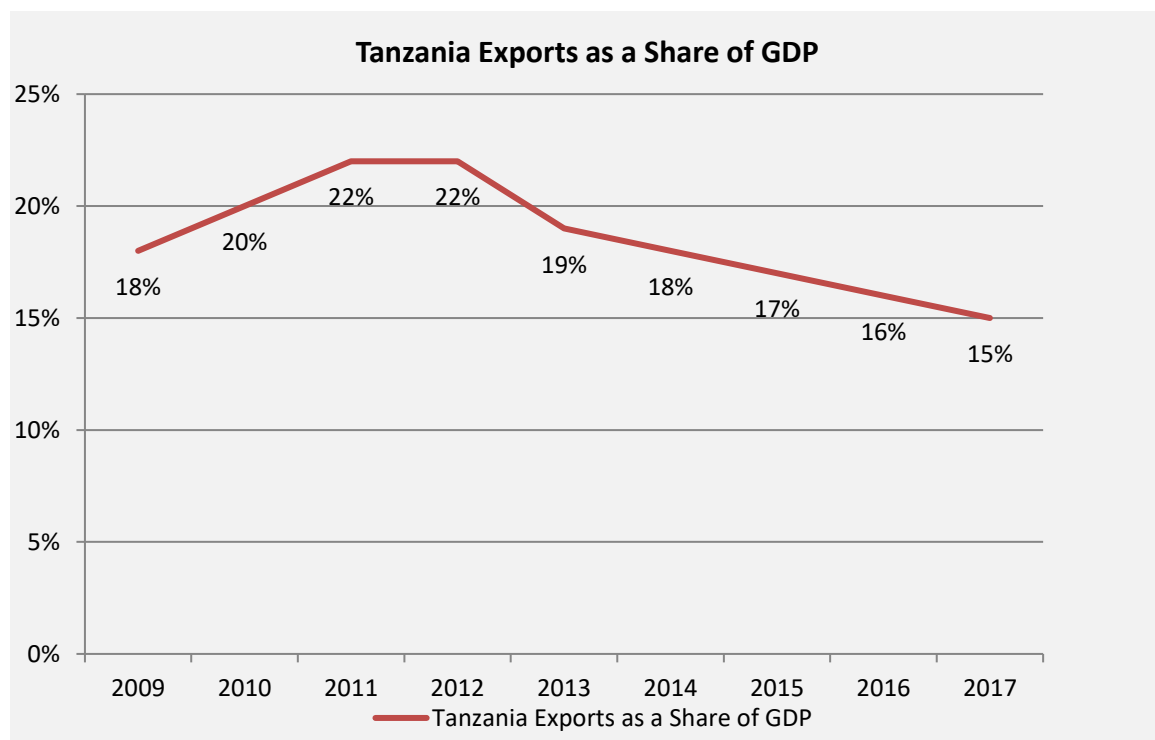
**Table 1: Tanzania Exports of Goods and Services as a Share of GDP since 2009**

Year	Tanzania Export as a Share of GDP (%)
2009	18
2010	20
2011	22
2012	22
2013	19
2014	18
2015	17
2016	16
2017	15

*Tanzania's exports as a share of GDP with respective percentage growth since 2009. Data from NBS National Accounts Statistics from (2007-2014 & 2012-2018).*



**Figure 1: Tanzania Exports as a share of GDP since 2009**



*Tanzania's exports as a share of GDP with respective percentage growth since 2009. Data from NBS National Accounts Statistics from (2007-2014 & 2012-2018).*

### **1.3 Research Objectives**

The main objective of this research is to analyse the development of competitiveness of Tanzania's exports. In order to investigate the international competitiveness of Tanzania, this research aims at decomposing the changes in exports with respect to

- products (i.e., determine the commodity effect for export growth in Tanzania and
- markets (i.e., to determine the regional effect for growth of exports in Tanzania)

### **1.4 Market Share Development for Tanzania Exports to Sub-Saharan African and East African Countries**

Tanzania export partners in the past few years are mainly found in Sub-Saharan and East African countries with a few biggest importers of Tanzania products found in other regions of the world most notably China, India, Switzerland, Indonesia, and Germany. The largest share of Tanzania exports goes to these regions and the study aims at focusing on the above-mentioned groups of countries for reference. The following table shows the distribution of Tanzania exports to these regions since 2008. Table

below reports the values of exports to these regions and the percentage market share of these exports to imports of countries in these regions.

**Table 2: Tanzania Exports to East African and Sub-Saharan Countries and the Share of Exports for SITC 1 Digit Level**

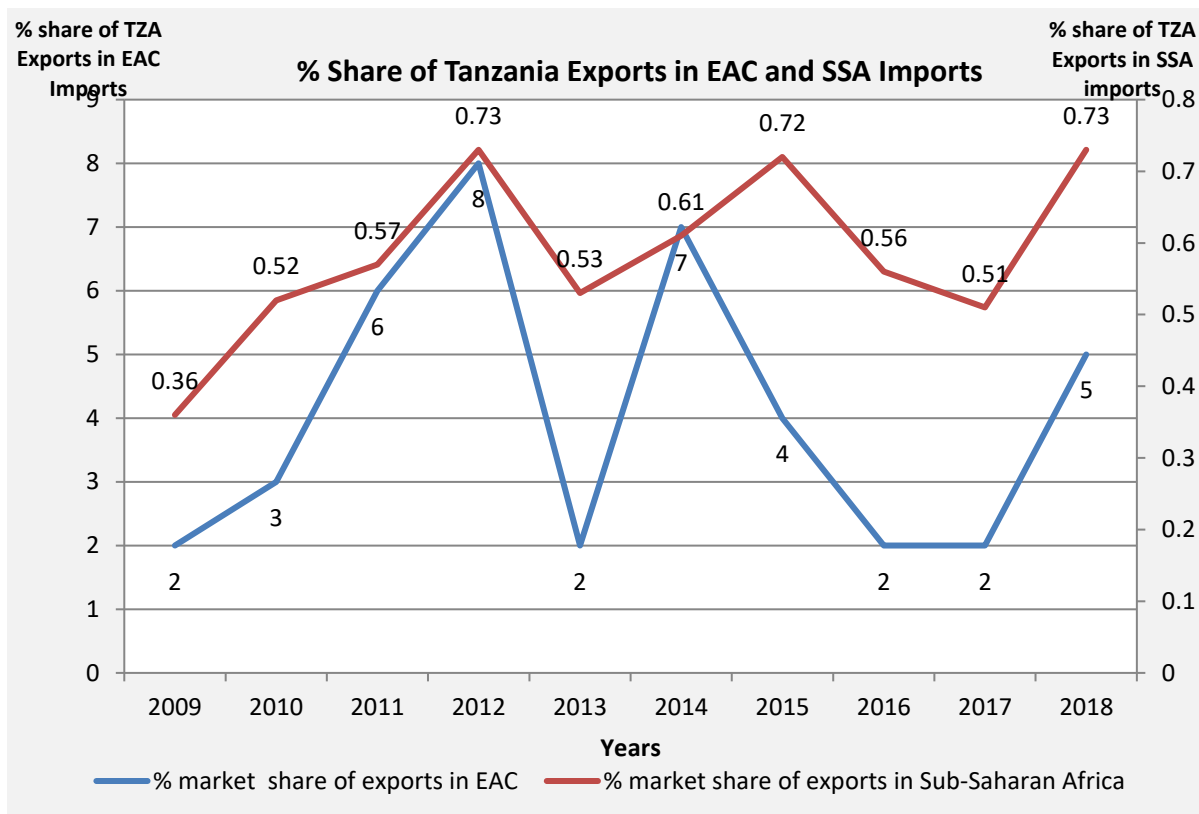
Year	Tanzania Exports of SITC 1 Digit Level to EAC	EAC Imports of SITC 1 Digit Level from the World	% Share of Trade in EAC	Tanzania Exports of SITC 1 Digit Level to SSA	SSA Imports of SITC 1 Digit Level from the World	% Share of Trade in Sub-Saharan Africa
2009	285	15561	2%	725	204013	0.36%
2010	496	18007	3%	1296	251524	0.52%
2011	409	7160	6%	1702	298089	0.57%
2012	615	7562	8%	2149	293256	0.73%
2013	424	24912	2%	1783	338472	0.53%
2014	603	8940	7%	2166	353243	0.61%
2015	925	24517	4%	2280	315737	0.72%
2016	431	22115	2%	1639	290541	0.56%
2017	431	25770	2%	1545	301416	0.51%
2018	1254	27728	5%	2309	318154	0.73%

*Tanzania exports to East African and Sub-Saharan countries as a percentage of imports by the world to these regions. Data source: UN Comtrade and all values are reported in millions of USD.*

Table 2 shows the exports of Tanzania to East African and Sub-Saharan countries and the share of exports that these groups of countries make out of the total Tanzania's exports from 2009 to 2018.

Figure 2 below depicts the development of market share for Tanzania exports of SITC 1 digit level products in imports of the same products in EAC and SSA countries.

**Figure 2: % Share of Tanzania exports of SITC 1 digit level in EAC and SSA imports of the same products**



Development of market share showing Tanzania exports to East African and Sub-Saharan countries as a percentage of imports by the world to these regions. Data source: UN Comtrade and all values are reported in millions of USD.

Tanzania market share of its exports as a percentage of imports for the SITC 1 digit level products in EAC and SSA regions has been increasing and decreasing with almost similar trend despite of differences in magnitude. After the world recession, due to increased demand for these products, Tanzania market share to these regions increased at a fast pace with highest level reached in 2012 whereby the market share was 8% and 0.73% in EAC and SSA markets respectively. 2013 experienced a great fall in market share for both markets with 2% for EAC and 0.53% in EAC. This was due to decreased production and manufacturing in Tanzania, hence reduced its share in imports of SITC 1 digit level products for the reference group of countries of EAC and SSA. Tanzania market share experienced growth again from 2013 to 2015, a quick fall to 2017 and market share increased to 2018.

### 1.5 Significance of the Research

The growth of exports in Tanzania may be attributed by various structural factors and the growing demand of Tanzania's exports. The Constant Market Share Analysis enables decomposition of these effects that have resulted into growth of exports namely, global effect, commodity composition effect, regional/market distribution

effect and competitiveness effect. This decomposition enables Tanzania to distinguish whether the growth and fluctuations in exports are a result of either increase in its competitiveness or due to of other factors such as commodity composition of its exports, and so on. The results of the CMS analysis would enable trade policies formulation to increase competitiveness or promote a basket of commodities with high demand in the market so that Tanzania can benefit from trading.

## **1.6 Scope of the Research**

The research covers Tanzania as a reporter country and reference groups of countries were the East African and Sub-Saharan African countries. The export mainly included goods with SITC 1 digit level revision 4 since there could be more classifications and at different digit levels.

## LITERATURE REVIEW

### 2.1 Empirical Literature Review

The study involves extensive literature review on Constant Market Share analysis in decomposing export performance in various countries. The below matrix presents the authors, year of study, country and region of the study, period covered in the study, products/commodities under the study and the findings of these studies.

Author	Year	Country/ Region	Period	Products	Findings
		<b>ASIA</b>			
Fayaz, M., & Ahmed, M.	2020	India	1980–2016	Fisheries	For most of the markets, competitiveness had been the utmost crucial driving factor of change in the market shares of Indian fish exports over the study period.
Kamal, M. A., Khan, S., & Gohar, N.	2020	Pakistan	2003 - 2017	Pharmaceutical Merchandises	The empirical analysis also indicated that “behind the border” factors confine the exports of Pakistan from reaching to its potential level.
Majdalawi, M., Al-Habbab, M., Al-Assaf, A., Tabeah, M., Araj, S. E., & Al-Antary, T. M.	2020	Jordan	2001-2012	Date Export	All three components of the CMS have showed fluctuations during the studied period, mainly caused by the annual fluctuation in production and import policies of the selected importing countries from Jordan.
Khaliqi, M., Pane, T. C., & Fatoni, R. B. M. I.	2019	Indonesia	2019	Tuna Fish	Results of the estimation CMSA describe the effects of the most dominant

					influence on Indonesian tuna exports in the world market is the competitiveness effect.
Taj, Z., Wani, N. U. H.	2019	Afghanistan	2005-2017	Exports	Afghanistan was less successful in directing its geographic specialization pattern toward those regions with fast growing demand, in comparison with those commodities. Its exports remained concentrated in low and medium sectors.
Maqbool, M. S., Anwar, S., & Hafeez-Ur-Rehman, M. T	2019	Pakistani	2003-2014	Leather Products	Total effect, structural effect, commodity effect, general competitive effect, specific competitive effect were positive, while average competitive effect and market effect were negative from 2003-08. Furthermore, effects were positive, whereas competitive effect, commodity effect, and the general competitive effect were negative from 2009-14.
Bagaria, N., & Ismail, S.	2019	China	2002-2014	High Technology, Medium Technology and Low Technology	Export performance is mainly attributed to its competitive strength in the global market. Product structure effect, on an

					average, has turned out to be negative, geographical structure effect has positive impact on export performance of high-technology based exports whereas it has negative impact on export performance of low-technology and medium-technology based exports.
Buana, E. E., Huang, W. C., & Hanani, N.	2018	Indonesian	2018	Canned Tuna Skipjack	Competitiveness, commodity composition and growth effect affected canned tuna export in the world market.
Nanwul, D. A.	2018	Vietnam & China	2000-2014	Rice	Structural effect and growth effect have been more significant in affecting the export growth of these two parties. China rice exports have suffered a highly intense competitiveness from Vietnam exports.
Hutabarat, N. A. P.	2017	Indonesia	2017	Cassava	Maintained their share in the world market during the Global Economic Crisis.
Oktaviana, N., Masyhuri, M., & Hartono, S.	2017	ASEAN	2011-2014	Tea	The major weakness of tea exports in Indonesia is competitiveness effect, while the strengths are the effect of world exports growth and the effect of market distribution.

Jain, M.P	2017	China & India	2003-2015	Cotton	Both India and China have increased the export competitiveness post MFA, however China increased its export competitiveness more than that of India.
Ahmed, A., & Wizarat, S.	2015	Pakistan	2003-12	Exports	The study shows that Pakistan has the potential to increase its exports to the DMEs, but targeted diversification is required with respect to commodities and Pakistan's exports are competitive in the DMEs.
Singh, K.	2014	India	1991-2011	Exports	Export performance was mainly attributed to their competitive strengths in the global export market. Negative composition effect came out as the most disturbing aspect of India's export performance. market distribution has laid marginally positive impact on export performance.
Haque, A., Anwar, N., & Ibrahim, Z.	2013	Malaysia	2000-2011	Furniture Product	Export gain of Malaysian furniture product is to a great extent a result of the size of the market as well as its competitive effect.
Kaur, A., & Nanda, P	2011	India	1990-2005	Manufactured Exports	The competitiveness effect was found to be unfavourable for



					chemicals during the second and third sub-period and for machinery & transport equipment during the first and second sub-period.
Sedaghat, R.	2010	Iran	1991-2002	Pistachio	The market distribution effect and competitiveness effect played a major role in changes of Iran's export during period I (1996–1999), whilst commodity composition effect and market distribution effect were the major sources of export changes in period II (2000–2003).
Mahmood, A., & Akhtar, N.	1996	Pakistan	1996	Exports	The market distribution and competitiveness of Pakistani exports have improved significantly.
		<b>AUSTRALIA</b>			
Liu, Y., Shi, X., & Laurenceson, J	2020	Australia	1989-2017	LNG	Results of the study reveal that apart from the aggregate unfavorable market effect and favorable adaptation effect, the competitiveness effect has contributed the most to Australia's LNG export performance over the past three decades, particularly in

					Australia's existing LNG markets.
Ragacs, C., Resch, B., & Vondra, K.	2011	Australia	1995-2006	Manufacturing	Competitiveness remained limited.
Skriner, E.	2009	Australia	1990-2006	Merchandise Exports	The disadvantages in competitiveness of the Austrian foreign sector have vanished, however, the market and product structure effects show negative trends after 2000.
		<b>EUROPE</b>			
Backinezos, C., Panagiotou, S., & Rentifi, A.	2019	Greece	2009-2018	Exports	The effect of the product composition of exports was almost neutral, while the competitiveness effect eroded more than half of the gains in the structure effect.
Buturac, G., Lovrinčević, Ž., & Mikulić, D	2018	Croatia	2010 onwards	Food Industry	The analysis revealed rather disappointing results in terms of the competitive position of the Croatian food industry in the period after 2010.
Pavličková, V.	2013	Slovakia	1999-2011	Foreign Trade	Its production is competitive in the European market, although mainly with prices.
Juhász, A., & Wagner, H	2013	Hungary	2000-2010	Agri-Food	Results of the commodity (market composition) and competitiveness effects produced varied results and were not so positive.
Athanasoglou, P.,	2010	Greece	1996-2001	Exports	Results show a considerable change

Backinezos, C., & Georgiou, E					in export structure, mainly the geographical structure, with a favorable effect on market shares.
Türkekul, B., MIRAN, B., Canan, A. B. A. Y., & GÜNDEN, C.	2010	Turkey, Spain, Italy, Greece and Tunisia	2000-2008	Primary Olive Oil	Findings show that during the periods covered, Tunisia was the most competitive in the target markets. All countries showed decreased competitiveness during the periods analysed.
Backinezos, C., Panagiotou, S., & Rentifi, A.	2010	Greece	1996-2001	Exports	Considerable change in export structure, mainly the geographical structure, with a favourable effect on market shares.
Cafiso, G.	2009	Euro Area	1996-2007	Exports	The Euro Area marginally lost export market share while France and Italy experienced greater losses in share, and Germany gained share. The structure effect had a beneficial impact on their export performance as they specialized in products and destination markets which grew relatively rapidly in comparison to the world average.
Atis, A. G., Saygili, F., &	2009	Turkey	1995-2011	Exports (SITC) Revision 3	Increase in Turkey's export performance stemmed from

Ayten, K. A. Y. A					positive market share and commodity composition effects. The commodity adaptation effect was mostly negative during the same period.
		<b>AMERICA</b>			
Wu, J., Wang, J., & Lin, W	2016	US & China	2005- 2012	Primary Forest Products	Decline of import scale and structural changes of the target markets had a negative impact on the wood products export of the two countries. The competitiveness of forest products from the United States remained stable with slight variation; however, the forest products exported by China showed a strong increasing competitive trend.
		<b>AFRICA</b>			
Ndou, P., & Obi, A	2013	South Africa	2013	Citrus Industry	Positive performance for oranges and lemons was recorded, which was linked to the industry's inherent competitiveness in the selected markets. Soft citrus quantities were almost stable to decreasing for most markets save for the Middle East, Americas and South East Asia.
Hatab, A. A	2009	Egypt	1990- 2006	Cotton	The study findings revealed a high

					degree of geographic concentration of ECE in India, Italy, the Republic of Korea, and Japan.
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## 2.2 Conclusion

The studies used in this study used constant market share analysis to decompose export performance of the countries. The following lessons and observations were made while reviewing the literature. First, most of the studies were from developed countries of Asia, Australia, and Europe with large market shares in the global market and very few studies from African context. Also, the studies focused mostly in a single specific product/commodity that a country has advantage over others in the global market and comparison was made for some of the studies between countries that were competitive in the global market in a certain product.

Therefore, this study aims to find competitiveness of Tanzania exports which will generate knowledge of competitiveness and development of market share for Tanzania's exports at the same time, checking its competitiveness in specific markets/regions in which they trade the most. The study focuses on SITC 1 digit level products, hence leave room/gap for further studies on competitiveness of exports.

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

The growth in Tanzanian exports may have been attributed to either increased competitiveness of Tanzanian exports or from other structural factors. This research employed Constant Market Share Analysis as it is explained hereafter.

### **3.2 Data Source**

The data used for this study are fetched from the United Nations Comtrade Database (UN Comtrade) which is an international trade statistics database reporting global trade including exports for all countries to different regions, countries, and specific group of countries.

Another data source is the National Bureau of Statistics which produces Tanzania trade statistics on yearly basis. These publications were reviewed to extract the required data for analysis of the competitiveness of Tanzania exports.

### **3.3 Data collection**

The data for this research covered a period from (2009-2018) whereby the desired variables have been fully reported. For the previous years, most of the data has not been reported in the UN Comtrade database and the latest publication of trade statistics by NBS is that of 2018. Therefore, for the case of CMS analysis, the dataset covered a period from (2009-2018) while for the case of descriptive analysis of trend of trade in Tanzania, the same period was covered for uniformity purposes. Furthermore, for analysis purposes, this time period was divided into two periods of 5 years each; Period I which covered the years from 2009 to 2013 (2009-2013) and Period II (2014-2018). The data covered years from 2009 when the world economic recession was waning, and economies were recovering which led to global trade boost.

The reference groups of countries for the CMS analysis were the East African (EAC) of Kenya, Uganda, Burundi, and Rwanda and Sub-Saharan African (SSA) countries with exception of South Sudan. South Sudan has not been included in the analysis since there is no data present or trade between it and other East African countries for some years and for the years which data was reported, and the amounts were insignificant to influence the outcome/result of analysis. These two markets/regions have proved to be the most trading countries in terms of groups compared to other groups since on average, they account for 8% and 23% of Tanzania's exports respectively - despite having fewer number of countries. i.e., EAC has 5 countries and SSA has 46 countries.

The analysis involved goods and commodities of Standard International Trade Classification (SITC 1 digit level) fourth revision level one (1-digit). These goods include food and live animals, beverages and tobacco, crude materials, inedible except fuels,

mineral fuels etc., animal and vegetable oils and fats, chemicals, and related products, n.e.s., basic manufactures, machinery, transport equipment, miscellaneous manufactured articles and goods not classified elsewhere.

**Table 3: Standard International Trade Classification-1 (single digit) Fourth Revision Commodities**

Commodity Code	Name of the Commodity
0	Food and live animals
1	Beverages and tobacco
2	Crude materials, inedible, except fuels
3	Mineral fuels, lubricants, and related materials
4	Animal and vegetable oils, fats and waxes
5	Chemicals and related products, n.e.s.
6	Manufactured goods classified chiefly by material
7	Machinery and transport equipment
8	Miscellaneous manufactured articles
9	Commodities and transactions not classified elsewhere in the SITC

For the areas of analysis for CMS, the world trade of exports used the same level of products for simplification since exports may include various products. This enabled to find commodity effect which is determined by the types of commodities exported while using the same level of products.

### 3.4 Data Analysis

Data analysis used the CMS technique as used by Milana (1988). CMS method decomposes the export growth to offer a better understanding of whether this growth is coming from augmented competitiveness or resulting from various other structural factors. Constant Market Share (CMS) technique aids to comprehend about export performance of a selected country or group of countries vis-à-vis to their competitors in choosing fast growing markets (product or destination or sectors).

The CMS analysis model that decomposes exports of Tanzania is as follows:

$$X^1 - X^0 = r \sum_i X_i^0 + \sum_i (r_i - r) X_i^0 + \sum_i \sum_j (r_{ij} - r_i) X_i^0 j + \sum_i \sum_j (X_i^1 j - X_i^0 j - r_{ij} X_i^0 j). \text{(i)}$$

Whereby

$$X^1 - X^0 = \text{Total Effect} \dots \dots \dots \text{(ii)}$$

$$r \sum_i X_i^0 = \text{World Trade Effect} \dots \dots \dots \text{(iii)}$$

$$\sum_i (r_i - r) X_i^0 = \text{Commodity Composition Effect} \dots \dots \dots \text{(iv)}$$

$$\sum_i \sum_j (r_{ij} - r_i) X_i^0 j = \text{Market Distribution Effect} \dots \dots \dots \text{(v)}$$

$$\sum_i \sum_j (X_i^1 j - X_i^0 j - r_{ij} X_i^0 j) = \text{Competitiveness Effect} \dots \dots \dots \text{(vi)}$$

1=terminal time period

0=initial time period

$X$ =total Tanzania exports

$X_i$ =total exports of Tanzania to country  $i$

$X_{ij}^t$ = the value of Tanzania export of commodity  $i$  to market  $j$  at time  $t$

$r$  = the rate of growth of world exports

$r_i$ =the rate of growth of world exports of commodity  $i$

$r_{ij}$ = the rate of growth of world exports of commodity  $i$  in market  $j$



## FINDINGS AND RESULTS

### 4.1 Descriptive Findings

The research covers a period from 2009-2018. The time period is divided into two, Period I which covers years (2009-2013) and Period II covering (2014-2018). In the reported time, the table below shows Tanzania's share of exports in the world for SITC 1 digit level commodities.

**Table 4: Tanzania Average Exports for SITC 1 digit level Commodities for the Periods (2009-2013) and (2014-2018)**

Code	Commodity	Tanzania Average Exports for SITC 1 digit level to the World		% Change
		Period I Average (2009-2013)	Period II Average (2014-2018)	
0	Food and live animals	937414	1107286	18%
1	Beverages and tobacco	126745	144420	14%
2	Crude materials, inedible, except fuels	639776	625725	-2%
3	Mineral fuels, lubricants, and related materials	2375762	1894596	-20%
4	Animal and vegetable oils, fats, and waxes	81575	85257	5%
5	Chemicals and related products, n.e.s.	1767190	1954693	11%
6	Manufactured goods classified chiefly by material	2020736	2156260	7%
7	Machinery and transport equipment	5352895	6228133	16%
8	Miscellaneous manufactured articles	1792484	2105468	17%
9	Commodities and transactions not classified elsewhere in the SITC	835255	1035533	24%

Table 4 above shows export values of Tanzania to the World. All export values are reported in millions of USD.

Table 4 above presents period average of exports of all SITC 1 digit level commodities in the two time periods. There has been an increase in average exports of all commodities except for mineral fuels, lubricants, and crude materials which decreased from 2009-2013 to period 2014-2018. The highest recorded increase in exports was in food and live animals, miscellaneous manufactured articles and machinery and transport equipment which increased by 18%, 17% and 16% respectively. Mention decreases as well!

The next step is to decompose this growth in exports of SITC 1 digit level commodities into various effects. The effects are namely World Trade Effect (WTE) which is attributed to general increased demand for such commodities from Tanzania in the world market; Commodity composition market which causes export growth due to growing demand for specific commodities - that are produced by the country in the world market. Also, it is attributed to market distribution effect which causes export growth as a result of growth of demand for commodities to a certain market relative to the world market and competitiveness which causes export growth as a result of increased

competitiveness of Tanzania exports for the above-mentioned commodities in the world and specific regional markets.

## 4.2 World Trade Effect

World Trade Effect measures the proportion of growth in country's export if exports of the concerned country are expected to grow at par with the world average. This means that if there is some growth/decline in country's export, some part of this growth is attributed to the general growth/decline in world exports.

**Table 5: World Trade Effect for SITC 1 digit level Results**

	Average - Period I (2009-2013)	Average - Period II (2014-2018)
<b>Tanzania Total Export to the World</b>	4346	4830
<b>Change in Tanzania Total Export to the World</b>	484	
<b>World Total Export</b>	15929833	17337371
<b>r</b>	9%	
<b><math>\sum Xi^0</math></b>	2982	
<b>World Trade Effect = <math>r\sum Xi^0</math></b>	<b>264</b>	
<b>Contribution of World Effect to TTE</b>	<b>54%</b>	
<b>Market Share</b>	<b>0.027%</b>	<b>0.028%</b>
<b>Export Growth Rate: Tanzania</b>	<b>11.140%</b>	
<b>Export Growth Rate: World</b>	<b>8.836%</b>	

*World Trade Effect for Tanzania SITC 1 digit level commodities from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher.*

Table 5 above presents the results of the World Trade Effect. The change in average exports of SITC 1 digit level from Tanzania to the world between Period I (2009-2013) and Period 2 (2014-2018) is USD 484 million. The market share of Tanzania exports in the world market increased by 0.001% from Period I to Period II.

The total world exports for SITC 1 digit level increased by 8.8% from period I to period II. The growth rate of Tanzania exports for SITC 1 digit level increased by 11.1% from Period I to Period II. This means that, generally, the average growth of exports of SITC 1 digit level from Tanzania to the world is 2% greater than world average export growth rate for SITC 1 digit level commodities in the world market.

## 4.3 Commodity Composition Effect

This effect measures the size of concentrations of country's export composition in products/commodities where import demands are high. This effect checks whether the country's exports are concentrated on commodities where the demand is growing/falling with a higher/lower rate as compared to aggregate growth rate (r) of world exports.

**Table 6: Commodity Composition Effect for SITC 1 digit level Results**

Code	Commodity	World Average Export		R <sub>i</sub>	R	(R <sub>i</sub> -R)	X <sup>0</sup> <sub>i</sub> (2009)	(R <sub>i</sub> -R)X <sup>0</sup> <sub>i</sub>
		2009-2013	2014-2018					
0	Food and live animals	937414	1107286	18%	9%	9%	571	53
1	Beverages and tobacco	126745	144420	14%	9%	5%	107	5
2	Crude materials, inedible, except fuels	639776	625725	-2%	9%	-11%	812	-90
3	Mineral fuels, lubricants	2375762	1894596	-20%	9%	-29%	21	-6
4	Animal and vegetable oils, fats, and waxes	81575	85257	5%	9%	-4%	17	-1
5	Chemicals and related products, n.e.s.	1767190	1954693	11%	9%	2%	80	1
6	Manufactured goods classified	2020736	2156260	7%	9%	-2%	259	-6
7	Machinery and transport equipment	5352895	6228133	16%	9%	8%	154	12
8	Miscellaneous manufactured articles	1792484	2105468	17%	9%	9%	45	4
9	Goods not classified elsewhere in the SITC	835255	1035533	24%	9%	15%	916	139
<b>CCE</b>	<b>Commodity Composition Effect</b>	$\sum(R_i - R)X^0_i$						<b>112</b>
	<b>Change in Tanzania Total Exports</b>							<b>484</b>
	<b>Contribution of CCE to TTE</b>							<b>23%</b>

*Commodity Composition Effect for Tanzania SITC 1 digit level commodities from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher.*

Table 6 above presents the findings of the commodity composition effect. Commodity Composition Effect was found to be positively influencing growth of exports in Tanzania. The value of commodity composition effect was 112. This implies that, growth rate of SITC 1 digit level exports by Tanzania was higher than world growth rate for SITC 1 digit level exports from period I to period II. This means that Tanzania has been concentrating in production of commodities (herein SITC 1 digit level) which have a high growing demand in the world market and hence has increased its exports for SITC 1 digit level. Due to high demand of SITC 1 digit level commodities, commodity composition effect has attributed to export growth in Tanzania by USD 112 million which is equivalent to 23% contribution to total export growth of SITC 1 digit level in Tanzania. Focus on production of SITC 1 digit level commodities in general, have increased total exports for SITC 1 digit level from period I to period II in Tanzania.

## 4.4 Market Distribution Effect

The market distribution effect (MDE) is a measure of the magnitude of country's export concentrations to those markets (importing countries) where the demand is growing relatively higher or slower rate as compared to total growth of world exports of particular commodity in those markets.

### 4.4.1 Market Distribution Effect to East African Countries

Tanzania has been exporting to different partners but most of its trade has been directed to East African countries which are among the major trade partners in terms of regions. The initial analysis showed that East African countries (4 countries) compose about 8% of Tanzania total exports and this is the highest in terms of regions/markets but for individual country.

In this reference group, markets considered were the East African countries of Burundi, Kenya, Rwanda and Uganda as separate countries and to East African countries as a whole.

**Table 7: Market Distribution Effect for SITC 1 digit level Results**

Country/Markets	Burundi	Kenya	Rwanda	Uganda
<b>Market Distribution Effect (MDE) per Country</b>	-33	-157	-48	-45
<b>Total Market Distribution Effect to EAC Countries</b>				<b>-283</b>
<b>Change in Tanzania Total Exports</b>				<b>484</b>
<b>Contribution of Market Distribution Effect to TTE</b>				<b>-58%</b>

*Market Distribution Effect for Tanzania SITC 1 digit level commodities from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher.*

Table 7 above reports the results of the market distribution effect of Tanzania with reference to East African countries separately and the combined distribution effect to the whole East African Market. The results show that all values of the market distribution effect to be negative - depicting a slower growth of demand for SITC 1 single digit level exports from Tanzania compared to the demand growth of the same products in the world market.

### Tanzania and Burundi

The market distribution effect of Tanzania to Burundi is -33. This means that, Burundi is a slowly growing market for SITC 1 digit level. Tanzania concentrated its exports of SITC 1 digit level to Burundi in which demand growth for SITC 1 digit level exports is at a slower rate compared to the rate of demand growth for the same products in the world market.

### **Tanzania and Kenya**

The findings show that market distribution effect of Tanzania to Kenya is -157. This means that export of SITC 1 digit level to Kenya has a lower impact in Tanzania's export growth of SITC 1 digit level. The rate of demand growth in Kenya is slower compared to the world growth rate of SITC 1 digit level exports, hence results into declining growth of SITC 1 digit level exports.

### **Tanzania and Rwanda**

Similar to their East African counterparts, Rwanda had a slower growth of SITC 1 digit level demand from Tanzania (-48) compared to the world demand growth rate for these commodities. As a result, Tanzania concentration on export of these products to Rwanda has led to a lower growth rate of exports of SITC 1 digit level compared to the growing demand of the same products in the world.

### **Tanzania and Uganda**

The market distribution effect was -45 for Tanzania to Uganda. This means that, Tanzania exports to Uganda, a slow demand market for SITC 1 digit level exports from Tanzania has resulted to lower growth of Tanzania exports of SITC-1. World growth rate of demand for SITC 1 digit level exports from is greater than the rate of growth of demand from Uganda. Hence, export growth rate of SITC 1 digit level becomes slower by concentrating in Ugandan market.

### **Tanzania and East African Countries**

Tanzania focus on East African market has resulted to a slower rate of export growth for SITC 1 digit level. This is because the market distribution effect was found to be -282.65 which mean that Tanzania concentration of its SITC 1 digit level exports to this market results into declining exports growth of SITC 1 digit level compared to the world market. Kenya had the greatest market distribution effect, followed by Rwanda, Uganda and lastly Burundi.

#### **4.4.2 Market Distribution Effect to Sub-Saharan African Countries**

Another major trade partner in terms of region is the Sub-Saharan Africa. The initial analysis showed that Sub-Saharan African countries compose about 23% of Tanzania total exports. The Sub-Saharan African consists of 46 countries. Therefore, this study considers the SSA as a region and not by individual countries.

**Table 8: Market Distribution Effect for SITC 1 digit level to Sub-Saharan African Countries**

Country	Sub-Saharan Africa (SSA)
<b>Market Distribution Effect to SSA Countries</b>	<b>-69</b>
<b>Change in Tanzania Total Exports</b>	<b>484</b>
<b>Contribution of Market Distribution Effect to TTE</b>	<b>-14%</b>

*The Market Distribution Effect for Tanzania SITC 1 digit level commodities to SSA from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher.*

Table 8 above reports the results of the market distribution effect of Tanzania to Sub-Saharan African countries combined market for SITC 1 digit level exports. The results show market distribution effect to be negative. This means that Tanzania concentrates on export of SITC 1 digit level to SSA market which has a slow growing demand for these commodities than that of the world.

## 4.5 Competitiveness Effect

The measurement of country's competitiveness assesses the difference between actual change in focus country's exports and changes that would have taken place if the constant market share has been sustained in those markets by the focus country.

### 4.5.1 Competitiveness Effect in EAC Countries and Region/Market

Competitiveness in EAC considered focus of Tanzania export of SITC 1 digit level to the East African Market and countries of Burundi, Kenya, Rwanda and Uganda both individually and the market as a whole.

**Table 9: Competitiveness Effect for SITC 1 digit level with EAC Countries**

Country	Competitiveness Effect (CE) per country
<b>Burundi</b>	<b>30</b>
<b>Kenya</b>	<b>306</b>
<b>Rwanda</b>	<b>122</b>
<b>Uganda</b>	<b>52</b>
<b>Total Competitiveness Effect to EAC Countries</b>	<b>511</b>

*Competitiveness Effect for Tanzania SITC 1 digit level commodities from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher*

Table 9 above presents the results of competitiveness of Tanzania's exports with reference group of East African countries. The values were all positive showing that

there has been an increase in competitiveness of Tanzania’s exports towards markets of these countries and East Africa at large. Tanzania growth of SITC 1 digit level exports has been contributed by increase in competitiveness of its exports whereby it has become more competitive in Kenyan market with value of 306, Rwandan market 122, followed by Uganda 52 and lastly Burundi 30.

This means that, export growth of SITC 1 digit level in Tanzania is positively associated with increased competitiveness of Tanzania’s SITC 1 digit level exports from Period I (2009-2013) to Period II (2014-2018).

#### 4.5.1 Competitiveness Effect in Sub-Saharan African Region/Market

The study also analyzed the competitiveness of Tanzania SITC 1 digit level exports with reference to the Sub-Saharan Africa region which included a total of 46 countries together.

**Table 10: Competitiveness Effect for SITC 1 digit level with Sub-Saharan Africa Region/Market**

Country	Sub-Saharan Africa (SSA)
<b>Competitiveness Effect to SSA countries</b>	<b>626</b>

*Competitiveness Effect for Tanzania SITC 1 digit level commodities to SSA from Period I to Period II. All trade values are reported in millions of USD. Data Source: UN COMTRADE Database & Calculations by Researcher*

Table 10 above presents the results of competitiveness of Tanzania’s SITC 1 digit level exports to Sub-Saharan Africa region. The result of competitiveness is positive which means that there is an increased competitiveness of Tanzania exports of SITC 1 digit level commodities directed to this market. The value of competitiveness effect is 626 from Period I to Period II marking an increase in competitiveness.

## **5.0 DISCUSSION ON FINDINGS AND CONCLUSION**

### **5.1 World Trade Effect, Commodity Composition Effect, Market Distribution Effect and Competitiveness**

Findings of the study show that, changes in the world trade have greatly influenced export growth in Tanzania. The increased demand of SITC 1 digit level exports in the world market has resulted to growth of exports for the same products from Tanzania. Tanzania has had a greater growth rate of SITC 1 digit level exports than the world growth rate. Tanzania exports grew by 11.14% while the world growth for SITC 1 digit level exports grew by 9% on average from Period I to Period II. As a result of increased demand for these exports in the world market, Tanzania benefited by increasing its exports while maintaining its initial market share. As the economy of the world recovered from the global great depression (2007-2009), demand for SITC 1 digit level and other raw materials increased since economies aimed at recovery by increasing production.

Commodity composition effect was found to be positive such that Tanzania focuses its production on products with a high demand growth in the world market. Most of SITC 1 digit level is food and raw materials which generally are highly demanded for consumption and production of other goods. Since the study focused on SITC 1 digit level, the findings showed that there is a positive effect of concentrating in production of SITC 1 digit level to total export growth in Tanzania.

Market Distribution Effect (MDE) was found to be negative for both EAC and SSA regions. This means that Tanzania has been focusing on exporting SITC 1 digit level to countries with a smaller growth rate of demand for SITC 1 digit level compared to the world demand for the same products. For the case of EAC, Tanzania and the selected counterpart group of countries (Kenya, Uganda, Rwanda, and Burundi) all are found along the same geographical area. This led them to focusing on production of similar products. The SITC 1 digit level commodities are mainly raw materials, and East African Countries have focused on production of these commodities at large. Due to nature of their relationship, the rate of demand for these products from these countries is slower than the demand growth for the same products in the world market. If commodities selected for this study were other than SITC 1 digit level and focused on re-exports, then market distribution would have been positive since countries such as Burundi, Uganda and Rwanda are all landlocked and most of their imports come through Tanzania and Kenya with sea ports.

On market distribution effect to Sub-Saharan market, despite this region having a 23% of export share for Tanzania products, still there is a slow demand for SITC 1 digit level exports. This is because most of the African countries are raw material producers hence do not import SITC 1 digit level in large quantities like developed countries. Nature of



commodities in SITC 1 digit level are primary production and Africa at large produces similar products, hence demand for such products within the intra-African trade is growing slowly compared to the demand of the same products in the world market.

On Competitiveness, the findings were positive for both, all EAC countries and EAC region and SSA region as a whole. This means that Tanzania has become more competitive in the market for SITC 1 digit level exports in these regions. Tanzania has improved quality of its production and export of SITC 1 digit level through targeted industrial policies aiming at increasing production and exports. Also, in the countries within the reference groups, Tanzania's competitiveness has increased because of high rate of growth in productivity from Period I to Period II. Therefore, export growth for SITC 1 digit level in Tanzania is attributed by its increased competitiveness to EAC and SSA countries.

Trade policies played a major part on increasing Tanzania's competitiveness. Tanzania being in an economic integration with countries in the reference group has enabled reduction of barriers to trade (such as tariffs), easy mobilization of resources; improved infrastructures have all together contributed to improved competitiveness.

## **5.2 Conclusion and Policy Implications**

Tanzania trade has been increasing over the years. Export for SITC 1 digit level has grown by 11.4% from Period I (2009-2013) to Period II (2014-2018). This is a result of favorable but still insufficient policies and trade environment which aimed at trade growth.

The Government should focus efforts on production of SITC 1 digit level exports to increase its advantage over neighboring countries. This will increase both competitiveness and share of trade in trade partners markets and the world market as a whole. On marketing, Tanzania should concentrate its exports to countries where the demand is high compared to its current trade partners who have a slower rate of demand growth compared to the world market.

Despite its increased competitiveness, the share of trade in the global market is very insignificant and growing at a slower pace. Tanzania still does not focus on markets that are growing and the magnitude of exports is very minimal to the extent that, even if Tanzania stops participating, it will have insignificant impact in the world market.

Therefore, Tanzania needs to focus on exports of specific goods through which it has advantage over its neighboring countries, and partners that produce the same products in the market. Specialization will enable allocation of resources to production of high demand commodities, hence help to increase its market share and competitiveness at large in the world market.

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