# From Farmer to Dalali: Rethinking Structural Transformation Pathway in Tanzania

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# From Farmer to *Dalali*:
## Rethinking Structural Transformation Pathway in Tanzania

Master Thesis

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**Abstract**

The shifting of workers from agriculture to other more productive sectors is defined in academic circles as structural transformation. Tanzania's experience with structural transformation looks different. Instead of manufacturing, labour in Tanzania appears to move from agriculture to the services sector. This structural shift also differs from the development experience in other regions like the United States, Europe, and East Asia. Such a pattern drives us to rethink whether and how the development service sectors can function as an alternative path to achieve sustainable economic growth in Tanzania without a robust manufacturing sector.

This research thesis adopts a mixed method between quantitative and qualitative approaches to understand the role of manufacturing, service and servicification activities in determining the pattern of structural transformation in Tanzania from 1961 to 2021. Two disciplinary approaches are combined. First, the historical description is adopted to present Tanzania's economic development trajectory. Secondly, in this trajectory, methods and materials are adapted from economics, to show with macroeconomic data how the country's national economy has evolved over time. Focus is placed on policies that were implemented as well as the turning points where shifts become obvious in national economic processes.

This thesis found that the service sector could enhance Tanzania's economic growth and development if linked to industrial activities, specifically manufacturing. In general, the structural transformation from agriculture to the industrial sector in Tanzania still generated the highest growth and gains in worker productivity, except after the Arusha Declaration between 1967 and 1985. It is difficult for late industrialised countries, such as Tanzania, which lacks a strong manufacturing core, to pursue industrialisation and compete with what East Asian countries have achieved. However, the servicification of manufacturing provides an opportunity to bypass the manufacturing stage and keep up with the recent trend of global industrialisation.

Keywords:
structural change, productivity, industrialisation, manufacturing, services, servicification

**Abbreviation**

| | |
|---|---|
| ABN | Algemene Bank Nederland |
| AI | Artificial Intelligence |
| BIS | Basic Industrial Strategy |
| CIA | Central Intelligence Agency |
| DCO | Dominion, Colonial, and Overseas |
| EJR | Excess Job Reallocation |
| ERP | Economic Recovery Programme |
| ERS | Export Rebate System |
| FDI | Foreign Direct Investment |
| FFYP | First Five-Year Plan |
| GDP | Gross Domestic Products |
| GGDC | Groningen Growth Development Centre |
| GJR | Gross Job Reallocation |
| GRS | General Retention Scheme |
| GVC | Global Value Chain |
| ICT | Information and Communication Technology. |
| ICLS | International Conference on Labour Statisticians |
| ISIC | International Standard Industrial Classification |
| IMF | International Monetary Fund |
| JC | Job Creation |
| JD | Job Destruction |
| NBC | National Bank of Commerce |
| NEG | Net Employment Growth |
| NESP | National Economic Survival Programme |
| OECD | Organization for Economic Cooperation and Development |
| OLS | Ordinary Least Square |
| OPEC | Organization of Petroleum Exporting Countries |
| PLS | Pooled Least Square |
| RD | Regression Decomposition |
| SFYP | Second Five-Year Plan |
| TAA | Tanganyika African Association |
| TANU | Tanganyika African National Union |
| Tsh | Tanzania shilling |
| TFYP | Third Five-Year Plan |
| TYP | Three-Year Plan |
| UN | United Nations |
| UNECA | United Nations-Economic Commission for Africa |
| UNIDO | United Nations-Industrial Development Organization |
| UNU-WIDER | United Nations University-World Institute for Development Economics Research |
| USD | United States Dollar |
| VETA | Vocational Education and Training Authority |

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# Chapter 1 : Introduction

Twenty hours of flight was the cost of leaving an icy cold January winter afternoon in the Netherlands for the tropical climate of Dar es Salaam, the busiest city, main trade hub, and former capital of Tanzania. At 947,303 square kilometres (approximately eight times the size of Java, the island where I was born in Indonesia), Tanzania is the thirteenth largest country in Africa, located on the continent's east coast near the equator with 1,570 mm average annual rainfall. This geographic position places the country in suitable climatic conditions for fertile soil and abundant arable land with considerable potential for agriculture. Indeed, this sector has become its people's main livelihood.

Previously referred to as Tanganyika in colonial times, the area was the centre of coffee production, and it kept this role after independence, even though coffee was not a native plant to Tanzania. Species of *Coffea arabica* were introduced to the Chagga people by the Germans and cultivated in the northern region near Kilimanjaro Mountain since the nineteenth century (Eckert, 2003). From humble beginnings when it was planted to defray hut tax, coffee flourished and became a cash crop and main export commodity. To optimise its lush land, Europeans brought other crops from America and Asia, such as sisal, cashew nuts, tobacco, maize, tea, and cotton, to be grown in Tanganyika. Most of these produced agriculture commodities were destined to be exported to satisfy demand in European markets, except for maize, which is processed domestically and cooked as *ugali*, the local main staple food.

In this already agricultural society, farming became a mainstay of livelihood for local people. The lion's share of income generated by selling harvested crops is spent to meet daily needs, pay government tax, children's school fees, and sometimes only the remaining small amount for family savings. Almost three decades after its declared independence from German and then British imperial power, farming remained the primary occupation for most of the Tanzanians. This job provides a living for roughly 15.4 million people or 65.9 per cent of the national labour force in 2021, a decrease from around 84 per cent of the workforce in 1991. While there is nothing fancy in this life as a subsistence or peasant farmer (*mkulima*, as called in Kiswahili), the phenomenon of the movement of workers from agriculture to other more productive sectors is defined in academic circles as structural transformation.

Several economists, such as Cinar Baymul from Oxford University and Professor Kunal Sen of the UNU-WIDER, even posit structural transformation as an essential feature of rapid and sustained growth (Baymul & Sen, 2020). They classified structural transformation into three stages derived from the proportion of workers between agriculture, manufacturing, and services related to the level of a country's national income. First a country is designated as "structurally underdeveloped" where agriculture employs more people than any other industry. Second, a country with a higher proportion of workers in services than in agriculture, even if the proportion of workers in agriculture is still higher than that in manufacturing, is said to be "structurally developing". Finally, a "structurally developed" country has a higher proportion of manufacturing workers than agriculture.

A noble laureate, Simon Kuznets, differentiates successful countries from unsuccessful ones based on the speed of their structural transformation (Kuznets & Murphy, 1966). Historically, an economy would have experienced industrialisation as part of an endogenous

structural transformation characterised by gradual changes in the sectoral decomposition of employment and output between agriculture, manufacturing, and services that accompany increases in GDP per capita (Atolia, Loungani, Marquis, & Papageorgiou, 2020). Agriculture, which is often the least productive sector of the economy, dominates at low levels of income per capita, followed by manufacturing, which is typically the most productive sector of the economy, and finally, services. Over time, as the workforce transitions from agriculture to manufacturing and services, the average level of productivity grows, and GDP per capita rises. The first person to propose a theory of push factors that drive structural transformation from agriculture is Sir William Arthur Lewis (1954). His theory of the dual sector model argues that surplus labour in agricultural economies is in the form of underemployment. Therefore, steps to expand employment outside of agriculture would jump-start economic development by engaging these unproductive workers in productive activities, such as manufacturing.

The traditional linear pathway for structural transformation is becoming outdated, particularly as the line between manufacturing and services becomes increasingly blurred. For example, some manufacturing companies become full-service providers when they no longer sell goods but provide solutions to consumers from the goods they manufacture. That transforming phenomenon by the Swedish National Board of Trade (*Kommerskollegium*) (2012) and Charles Cadestin, a statistician, together with Sebastien Miroudot, a trade policy analyst, both from the OECD (Organization for Economic Cooperation and Development) defined as the servicification of manufacturing. It means that the manufacturing sector increasingly relies on services, whether as inputs, activities within companies, or output sold bundled with goods (Miroudot & Cadestin, 2020). The latter term is also known as servitisation.

The rise of servicification goes beyond services but redefines the way manufacturing firms produce value. In practice, servicification refers to a wide range of services used and provided by manufacturing companies, including research and development, marketing and distribution, and aftermarket services. These servicification activities increasingly comprise much of the value added to a product's supply chain in recent years. For example, by bundling services with products or offering after-sales services, servicification embodies the whole life cycle of a product. Depending on where the manufacturing firm is in the supply chain, it could add or sell different services to consumers (Haven & Van Der Marel, 2018).

## Problem statement

Tanzania's experience with structural transformation looks different. Instead of manufacturing, labour in Tanzania appears to move from agriculture to the services sector. This structural shift also differs from the development experience in other regions like the United States, Europe, and East Asia. Such a pattern drives us to rethink whether and how the development service sectors can function as an alternative path to achieve sustainable economic growth in Tanzania without a robust manufacturing sector.

Such arguments and concerns are especially pertinent in Tanzania. Despite being among the fastest-growing countries in the region in recent decades, with 5.54 per cent of average annual economic growth (2012-2021), concern about the role of structural transformation in development is crucial. One reason is that at least 60% of Tanzania's exports until 2021 rely

significantly on producing primary commodities. As a result, this country is vulnerable to fluctuations in global commodity prices. This situation has prompted concerns about the sustainability of Tanzania's recent growth performance in alleviating poverty.

The essential question is whether growth-promoting changes in production structure, technological innovation, and job creation support this rapid growth. A further concern is that a process of deindustrialisation or even stagnation of the manufacturing sector has set in very early in most African countries, with specific services sectors, particularly low-skilled jobs, which are often associated with high levels of informal employment seem to have grown relative rapidly at the expense of manufacturing. This thesis contends that certain African countries in similar circumstances have tremendous opportunities to focus on various services in a specific sector. However, how this sector can support growth and absorb a big chunk of employment is another factor for deeper consideration.

## Research objectives

This thesis examines the role of manufacturing and service sectors in Tanzania's structural transformation pattern from 1961 to 2021. Specifically, this thesis examines productivity growth, productivity gain or losses, and other labour market indicators, such as Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR) of manufacturing and services workers. Moreover, this thesis also aims to identify the place of servicification of manufacturing in Tanzania in more recent years. Overall, these research objectives lead to the following research question:

"In what ways do manufacturing, service, and servicification activities play a role in the structural transformation of Tanzania's economy?"

## Contributions and Thesis Outline

This thesis provides relevant insight into the academic discussion about the feasibility of a manufacturing-led growth versus a service-led growth model for Africa, especially in the case of Tanzania. Two disciplinary approaches are combined. First is the historical appreciation of the evolution of Tanzania's economy. A historical description is adopted to present Tanzania's economic development trajectory. Secondly, in this trajectory, methods and materials are adapted from economics, to show with macroeconomic data how the country's national economy has evolved over time. Focus is placed on policies that were implemented as well as the turning points where shifts become obvious in national economic processes. How these two disciplinary approaches combine to showcase the interplay of forces of change from agricultural to service-led economic experience of Tanzania, as well as the unintended consequences that resulted, are the central highlights of this research. The remainder of this thesis is organised as follows: Chapter 2 contains a presentation on the academic debates of changes in relation, pattern, roles, and importance between manufacturing and services within stages of structural transformation; methodological approaches are highlighted in Chapter 3; Chapter 4 to Chapter 6 contain the results of data analysis and discussions. For this purpose, the analyses are divided into three main sequential historical development episodes, namely: structural transformation under Julius K. Nyerere's presidency in 1961-1985 (Chapter 4), from growth under Structural Adjustment Programmes during President Ali Hassan Mwinyi to

sustainable industrial development as President Jakaya Kikwete's national planning agenda in Tanzania between 1986 and 2013 (Chapter 5), and rise of servicification of manufacturing, 2014-2021 (Chapter 6). And lastly, Chapter 7 concludes.

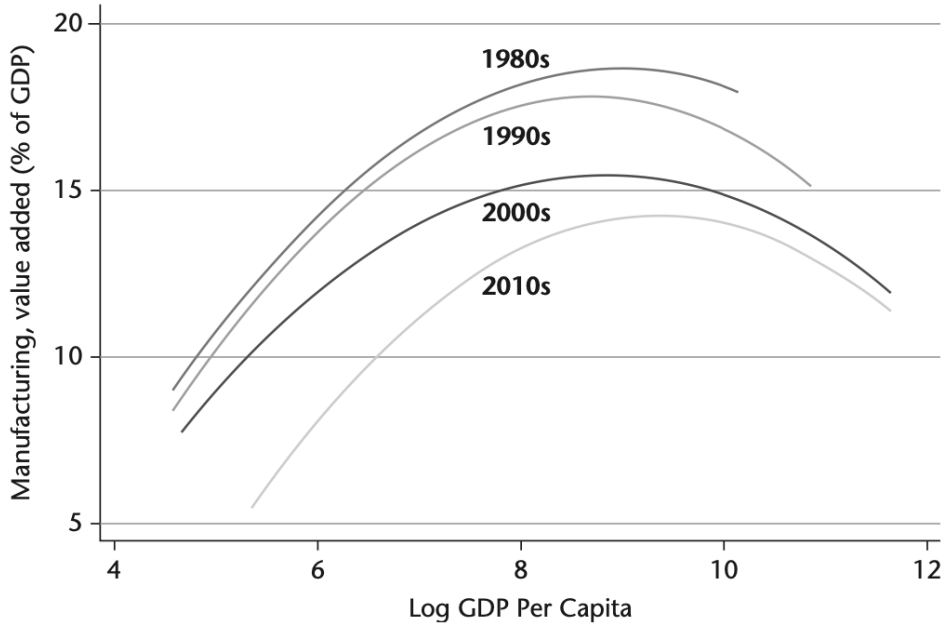
# Chapter 2 : Economic Transformation through Industrialisation

In this chapter, the process of development through economic transformation is discussed as presented in the literature. Firstly, this is to show how economic development is expected as an outcome of industrialisation. Attention will be given to the relationship between manufacturing and per capita income. Characteristics of late industrialisers will also be examined, as well as the process of deindustrialisation. Consideration will later be given to contexts of economic transformation without industrialisation.

According to UNECA (2016), except for a few oil-rich countries and small financial havens, almost no country has achieved and maintained a high quality of living without considerable advancements in its manufacturing sector. The manufacturing sector has a better potential for productivity growth than agriculture and some services due to its capacity to achieve higher levels of capital accumulation, economies of scale, and technological advancement (Szirmai et al., 2013). With many developing countries undergoing premature deindustrialisation, it has recently been stated that industrial development through manufacturing growth has become a more challenging path for current emerging countries to adopt (Eichengreen & Gupta, 2009); (Ghani & O'Connell, 2014); (Rodrik, 2016).

The concept of premature deindustrialisation was initiated by Rodrik (2016), who found that the late industrialisers will reach peak levels of industrialisation as measured by indicators of manufacturing employment share, and manufacturing value-added is quite a bit lower than those experienced by early industrialisers. It is feared that premature deindustrialisation deprives a country of a critical stage of economic growth required to improve living standards by keeping labour stuck in agriculture or causing it to shift to a lower rung of services, which often has poorer productivity growth (Atolia et al., 2020). According to Baccini et al. (2021), the concept of premature deindustrialisation from Rodrik (2016) is a source of concern insofar as it means that low-income countries today cannot take the traditional path to increase per capita incomes. The argument is not that developing countries are staying too focused on agriculture and not moving resources to more productive sectors. It is that they are moving into services and prematurely deindustrialising because of technological change and domestic (trade) policies in major economies.

However, the relationship between manufacturing and per capita income has had an 'inverted U' shape, as shown by the study of Newfarmer et al. (2018) in Figure 2.1. Income growth is related to rapid increases in the share of manufacturing jobs in the early phases of development. Manufacturing's relative importance rises as incomes and real wages grow, and skills develop as countries progress into the upper middle class and diversify into more skill-intensive activities such as services. Nevertheless, this historical relationship has changed because of the global value chain interacting with technological advances in production. Newfarmer et al. (2018) found that the average share of manufacturing in national output for all countries at all national income levels has fallen steadily over the last four decades, as illustrated in Figure 2.1. Whereas in the 1980s, the average proportion of manufacturing in GDP peaked at about 20%, the world average peak in the 2010s was around 14%.




Source: Newfarmer et al., 2018

*Figure 2-1. Manufacturing as a share of GDP on average declines over four decades*

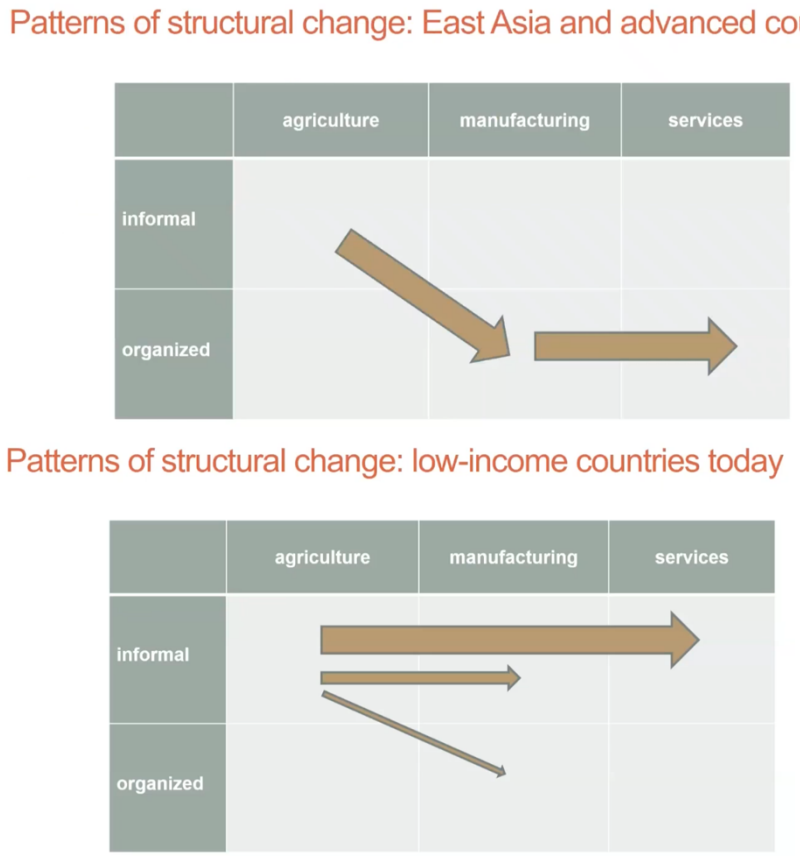
A robust feature of latecomers to industrialisation in Africa is the movement of labour into traditional (non-tradable) services. The study by Enache, Ghani, & O'Connell (2016) in Ethiopia, Ghana, Kenya, Malawi, Senegal, Tanzania, and Zambia documented that the wholesale and retail trade sector has been the largest employment share over the last two decades (1990 to 2010). On the other hand, agriculture and resource-extraction industries are still driving the increase in income for those countries. As they use revenues from the sale of primary commodities to purchase tradable manufactures, demand for traditional, non-tradable services that are complementary to manufactures rises.

While such conditions may generate income growth, the International Monetary Fund (2018) argues it is unlikely to be a long-term growth driver due to its failure to create sustainable increases in productivity and structural transformation, so growth must rely on high productivity in tradable services. A key argument as to why this may be detrimental to growth prospects is that traditional services do not offer the same prospects for sustained productivity growth as manufacturing does and that services activities offer less potential for positive spill-over effects (innovation, linkages, clusters, etc.) (Baccini et al., 2021). Another concern is that many services are, on average, more skill-intensive than the assembly-type tasks featured prominently in manufacturing activities (that drove growth in successful countries in the past). Therefore, it offers less scope to provide jobs for unskilled labour than manufacturing.

Tanzania offers a distinct landscape to contribute to the structural transformation debates. According to the World Bank's World Development Indicators (2022), the service sector (not manufacturing) emerged and replaced the agricultural sector as the most significant contributor to value added in Tanzania's Gross Domestic Product (GDP) since 1998. However, this services-led transformation in Tanzania could be categorised as structurally weak based on a concept developed by Cinar Baymul and Professor Kunal Sen in 2020.

Emerging service-led transformation in Tanzania and several African countries in recent trends is attributed to a fundamental transformation in patterns of structural changes. Professor

Dani Rodrik from Princeton University argues that the recent structural transformation is characterised by two factors: informalization of manufacturing and premature deindustrialisation. In his concept, Rodrik (2023) compares the patterns of structural change experienced between East Asia countries and low-income countries in Africa today, as illustrated in Figure 2.2 below. In East Asia and advanced countries, labour used to move from low productivity, mostly informal in the agriculture sector, to higher productivity and productively dynamic sector, which is traditionally a formal or organised manufacturing sector.




Source: Presented by Rodrik in the World Bank Services and Structural Transformation Workshop 2023.

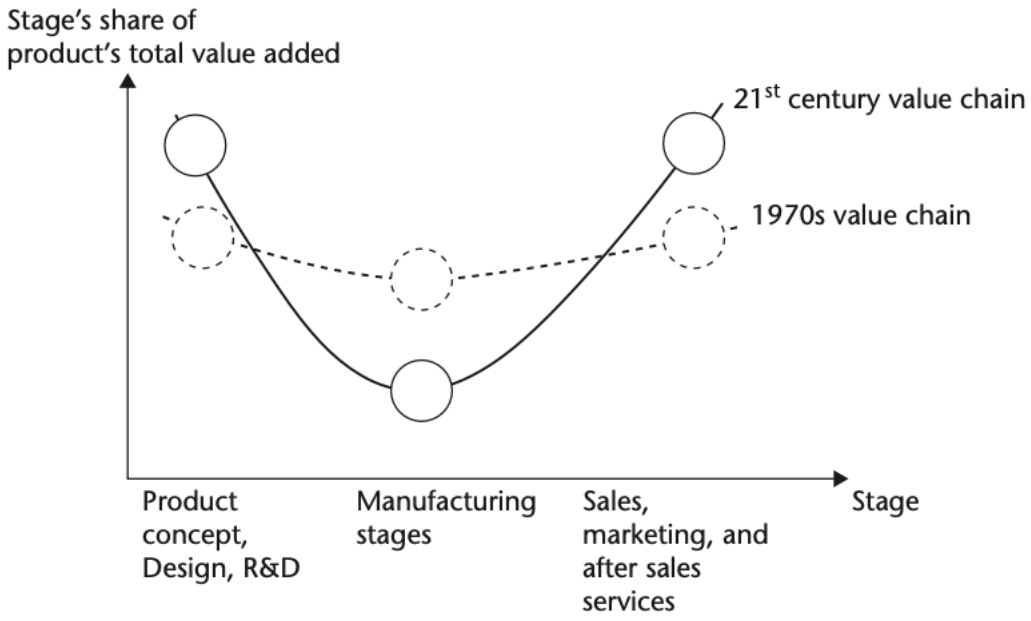
*Figure 2-2. Transformation in the recent pattern of structural change*

Now, the movement is to sectors that may have initially higher productivity (compared to traditional agriculture) but are productively not dynamic, mainly in services but also small-scale, informal manufacturing. Since most workers who move from the agriculture sector are absorbed in informal manufacturing and services sectors, only a small portion can find jobs in formal manufacturing sectors. This symptom, defined by Rodrik (2023) as the "informalization of manufacturing", could trigger what he called in his 2016 study premature deindustrialisation because the formal manufacturing sector could only absorb fewer workers and provide not as many jobs as before. The changing nature of manufacturing technologies impacts this reduced labour absorption capacity. Automatization and artificial intelligence help produce an efficient manufacturing process, but only a few tasks are left to be handled by human power.

In addition, Rodrik (2023) found a negative correlation between the contributions of structural change and within-sector productivity growth in the modern sector. His work shows that greater structural change or between-sector productivity creates lower productivity growth

in the African modern sector. This condition creates a services conundrum about whether services can drive rapid growth. High productivity (tradable) segments of service cannot absorb as much labour as manufacturing since it is typically skill-intensive, such as in business services. Meanwhile, low-productivity (non-tradable) services cannot act as growth poles because their continued expansion relies on others' expansion.

In the meantime, the emergence of Global Value Chains (GVCs) as a feature of latecomer industrialisation has been enabled by the development of several essential support services, such as transportation and means of communication. Technological advances and cost reductions in these critical service functions have allowed multinational companies to relocate production activities to distant countries (Fessehaie as cited in Hansen et al., 2022). In the age of GVCs, services and manufacturing activities are intertwined and become important to link and manage various stages of production in different parts of the world. Recently, the upstream activities, such as research and development and product design services, together with downstream activities, such as branding and marketing services, constitute a large share of value-added, but the actual production stages, such as component manufacturing and final assembly, do not. This emerging trend is illustrated in Figure 2.3 as the 'smile curve' alludes to a U-shaped relationship between the production stage in a manufacturing chain and its contribution to the total value-added to a final product. A condition which feeds the rising of servicification of manufacturing.




Source : Baldwin et al., 2014.

*Figure 2-3. Changing relationship between manufacturing and services*

Apple's iPhone illustrates a case in which merchandise components and their assembly only constitute less than one-third of the product's total value, while several service activities, such as research development, product design, software development, engineering, marketing, retail, and distribution account for the rest two-third (Drake-Brockman & Stephenson, 2012). This servicification of manufacturing in more industrialised countries has been driven mostly by the fragmentation of production in GVCs. Leading firms in high-income countries have

typically retained the more skill-intensive parts of the chain, such as upstream and downstream services, while outsourcing the low-skill, labour-intensive assembly of manufactured goods to other low and middle-income countries. In fact, not only assembly tasks could be outsourced, but several service jobs related to manufacturing can be offshored to lower-wage countries, without an exception in Tanzania.

The increasing trend of servicification of manufacturing also contributes to debates between manufacturing-led and services-led, which come to the surface as drivers for growth-enhancing structural transformation. The quality of the economic development process is now commonly measured by structural transformation (Fox et al., 2017). It is widely accepted that two processes must occur concurrently: a shift in GDP away from agriculture towards modern industrial and service sectors and relocation in employment from agriculture to new non-agricultural activities, which necessitates migration and urbanisation. In the case of Tanzania, the emergence of servicification could possibly redirect that structural transformation pathway, whether to keep pursuing industry or shift to services, which recently emerged as leading sectors of the country's development trajectory. It is generally acknowledged that structural change leads to higher productivity growth, which is a case of successful structural transformation, and both sectors, manufacturing and services share the same features to achieve it.

Most structural transformation studies have concentrated on the relationship between the extent of structural change and productivity increase, implying that the direction of the shift, whether towards or away from high productivity, is critical. If structural change has led to higher productivity growth, it is a case of successful structural transformation. So, there is an apparent link between structural transformation and labour mobility, with the movement of labour itself defining structural change. Conversely, while structural transformation may increase aggregate labour productivity, it may also result in transitory unemployment and reallocating workers to lower-paying jobs or the informal sector. This situation even complicated the conundrum of service-led structural transformation, which emerged in most African countries without exception in Tanzania.

In the attempt to systematically analyse the process of structural transformation, growth decomposition methods may first be understood. These include Regression Decomposition (RD), Purging Method, and Delta Method. These three methods are also commonly used in demographic studies. The first method, Regression Decomposition, abbreviated as RD, is a quantitative technique to analyse parametric indicators based on the assumption of linear relationships between a dependent variable and independent variables. Instead of simple Ordinary Least Square (OLS) with quantitative time series data, RD also included cross-section data or, in practice, is closer to the econometric Pooled Least Square (PLS) technique in economics. The word "decomposition" in its name is related to the primary goal of this method, which is to explain disparity by decomposing linear relationships between dependent and independent variables according to the cross-section of the data or in demographics called subpopulations.

The second approach is called the Purging Method. In practice, this method is like RD but with multiple cross-sections. The main goal of this method is to allow comparison between cross-section data. That could be achieved by eliminating or, in other words, "purging" the confounding factors influencing the relation between each cross-section of data. The last

approach is the Delta Method. In practice, the Delta method is based on the chain rule of the mathematical first differential technique on multivariable equations to obtain the measured indicator. All these methods are concerned with parametric models. RD and the Delta method separate the contribution of the parameters in the total change, while the Purging method eliminates the confounding factors.

The decomposition approach that was initially developed in demographic studies is also implemented in the field of economics. The use of decomposition in the field of economics can be traced in several previous studies, for instance, to comprehend the causes of inequality and poverty (Baye, 2006; Shorrocks, 2013), differences in wages (Blinder, 1973; Oaxaca, 1973), and in educational attainment (Liao et al., 2016). A study by Barrado et al. (2021) used decomposition procedures to understand the economic growth gap experienced between Latin America and East Asia countries. The typical approach to exploring this issue is based on multiple linear regression analysis. However, there are limitations inherent to the use of this approach. For example, a *phi*-value or statistical significance from the result of regression does not measure the size of the contribution of each variable, and it only gives information about the sense of correlation between variables and their significance. Hence, it does not allow researchers to rank explanatory variables in order of importance. The results from Barrado et al. (2021) showed that the decomposition processes allow for a more in-depth examination of the causes of disparities in economic growth.

Therefore, decomposition techniques help disentangle and quantify the impact of causal factors. It has the advantage of going beyond determining the correlation between variables. The decomposition method allows for estimating the contribution of every explanatory factor included in the linear and nonlinear models. As a result, it identifies the primary drivers of economic growth. This inspired McMillan & Rodrik (2011) to modify and implement the formula to analyse causal factors underlying economic growth disparity between regions of countries, namely the sectoral productivity gap. Economic growth enhanced by productivity could be more sustainable because it encourages the process of structural transformation. At the same time, the structural transformation would occur if the movement of labour shifted from the low productivity to higher productivity sectors. McMillan & Rodrik (2011) used the decomposition method to determine each sectoral worker's productivity growth contribution to economic growth. Instead of the regression model, they only partially adopted the decomposition method and combined it with the shift-share analysis. Then, they used its mathematical equation to explain the contribution factors of the productivity gap between economic sectors. The productivity gap described here refers to differences in average labour productivity.

Due to its essential position within the study of structural transformation, this thesis addresses the sectoral labour productivity gap as a determined factor in the country's development trajectory. This thesis benefited from the latest modified decomposition method developed by McMillan & Rodrik (2011), which dismantles within-sector and between-sector effects as the driver or contributing factors to the sectoral labour productivity gap. Not only did this thesis adopted McMillan & Rodrik's decomposition method, it was also expanded to consider the dynamic and stagnant (static) sectoral development features. In addition, this thesis also considers several labour market outcomes, such as job creation, job destruction, and job reallocation from agriculture, manufacturing, and services, which also included each sub-

sector to determine the feasibility of the country's structural transformation pattern. More details about the decomposition method used in this thesis are discussed in Chapter 3.

# Chapter 3 : Methodology

This research thesis adopts a mixed method between quantitative and qualitative approaches to understand the role of manufacturing, service and servicification activities in determining the pattern of structural transformation in Tanzania from 1961 to 2021. These approaches are related to the way of collecting both the secondary and primary data needed for the achievement of the main objectives of this thesis. To begin with, most of the analyses in this thesis is based on secondary data sources from colonial archives, reports, documents, local government and international organisation publications, and the works of previous researchers. These sources, as well as the important variables, are specified in the latter parts of this chapter. These data were then processed and further analysed through a quantitative approach. It was solved by modifying several mathematical equations, such as productivity growth decomposition and shift-share analysis of Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR).

In addition, a qualitative approach was used to analyse primary data obtained through interviews with a local manufacturing company, which is used as a case study. Specifically, this qualitative data is intended to identify how the concept of servicification of manufacturing in Tanzania is operationalised. This will be presented later in this thesis, especially in Chapter 6. This part of the analysis is necessary because there is no available secondary statistical data that records servicification that is separate from manufacturing activities. Overall, in the process of data collection, both secondary quantitative and primary qualitative information were gathered during a research internship and fieldwork in Tanzania in February-April 2023.

## Productivity growth decomposition

To better understand the nature of Tanzania's recent structural transformation, this thesis employs the growth decomposition method developed by Mcmillan & Rodrik (2011). This method decomposes labour productivity growth into two components, with the first representing within-sector productivity growth and the second representing reallocation between sectors. This decomposition is expressed as follows:

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \sum_{i=n} y_{i,t} \Delta \theta_{i,t} \quad \text{(I)}$$

$Y$ refers to aggregate labour productivity, $y$ is sectoral labour productivity, $\theta$ is employment share, $\Delta$ is the first difference, $i$ indexes sectors, $t-k$ and $t$ stand for initial and final years.

Within-sector productivity growth is described by Mcmillan & Rodrik (2011) as intra-sectoral productivity generated through capital accumulation, technological change, or reduction of misallocation across plants (factories). This number can be acquired from the first component on the left-hand side in the decomposition equation by the weighted sum of productivity growth within individual sectors. Where the weights are the employment share of each sector at the beginning of the estimated period.

Meanwhile, the second term on the right-hand side of the decomposition equation captures the productivity effect of labour reallocations across different sectors. This is defined

by Mcmillan & Rodrik (2011) as between-sector productivity growth or structural change effect. It is essentially the inner product of productivity levels at the end of the estimation period. When changes in employment shares are positively correlated with productivity levels, this second term will be positive, and structural change will increase economy-wide productivity growth.

Furthermore, this thesis modifies the first growth decomposition equation (I) of Mcmillan & Rodrik (2011) by breaking the second term on the right-hand above into two new equations to answer the postulate from Rodrik (2023), who is concerned about the dynamism of labour productivity growth in recent structural transformation pattern, especially for African countries experiences. This approach was inspired by the work of Solomon Owusu (2021), a former World Bank African fellow who wrote about the role of services, manufacturing and global value chain in powering structural transformation and economic development in Africa to complete his dissertation at UNU-MERIT in Maastricht. This further decomposition combination is arranged as follows:

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \sum_{i=1}^{n} \left[ \frac{\theta_{i,t} - \theta_{i,t-k}}{Y_0} \right] y_{i,t-k} + \sum_{i=1}^{n} \left[ \frac{(\theta_{i,t} - \theta_{i,t-k}) \times (y_{i,t} - y_{i,t-k})}{Y_0} \right] \quad \text{(IIa)}$$

, all the meanings of symbols in this new equation (IIa) are like the first decomposition equation (I) above. The difference lies in the insertion of indicator $Y_0$ to represent the economy-wide productivity level. The final two terms in this equation (IIa) still capture the structural change or between sectors effects but in a slightly different way.

The second term in the middle is the static reallocation effect, which measures the part of productivity growth arising from changes in the sectoral composition of employment. It helps to explain whether labour moves to above-average productivity sectors. The third term on the right-hand side is the interaction or dynamic reallocation effect, which measures the joint effect of changes in employment shares and sectoral productivity. It aims to capture whether productivity growth is higher in sectors that are expanding regarding employment shares. Owusu (2021) found that the results would be positive when labour moves from sectors with lower productivity growth to higher productivity growth. That approach mimics the standard shift-share decomposition method of Mcmillan & Rodrik (2011). Still, the introduction of $Y_0$, as referenced to the economy-wide productivity level, helps identify which sectors contribute positively or negatively to the static shift effect.

In addition, this chapter would not fully stop until here because there is another possibility to dismantle the effect of structural transformation patterns, such as by looking for labour productivity gain, whether it's increasing industrial employment relative to agriculture or increasing services employment relative to agriculture. For these parts, inspiration comes from the report entitled *At Your Services? The Promise of Service-Led Development* was published by Gaurav Nayyar, Mary Hallward-Driemeier, and Elwyn Davies in 2021. All of them were economists from the World Bank. They adapt Mcmillan & Rodrik's (2011) decomposition to show sectoral reallocation. However, the component of reallocation between sectors in the second term of the original Mcmillan & Rodrik (2011) decomposition equation (I) is further split into two new components. First, a component reflecting employment share

changes in the industry relative to agriculture. Second, a component reflecting employment shares changes in services relative to agriculture.

Let $A_t$, $I_t$, and $S_t$ be the sectoral labour productivity of respectively agriculture, industry, and services in the final years, $t$. Then $\Delta\alpha, \Delta\iota,$ and $\Delta\sigma$ are the changes in employment shares respectively agriculture, industry, and services. So, the second term within Mcmillan & Rodrik (2011) decomposition equation (I) can be rewritten as follow:

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \Delta\alpha * A_t + \Delta\iota * I_t + \Delta\sigma * S_t \quad \text{(IIb)}$$

Given that the employment shares add up to 1, so $\alpha + \iota + \sigma = 1$, and the sum of $\Delta\alpha$, $\Delta\iota$, and $\Delta\sigma$ needs to be zero $\Delta\alpha + \Delta\iota + \Delta\sigma = 0$. Based on both assumptions from Nayyar, Hallward-Driemeier & Davis (2021), then it can rewrite again equation above (IIb) as follow:

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + (-\Delta\iota - \Delta\sigma) * A_t + \Delta\iota * I_t + \Delta\sigma * S_t \quad \text{(IIc. 1)}$$

And following mathematical logically then equation (IIc.1) can be further simplified as follows:

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \Delta\iota * (I_t - A_t) + \Delta\sigma * (S_t - A_t) \text{ (IIc. 2)}$$

This equation (IIc.2) consists of two components. The term in the middle represents the labour productivity gain of increasing industry employment relative to agriculture. The third term on the right-hand side represents the labour productivity gain of increasing services employment relative to agriculture. According to Nayyar, Hallward-Driemeier & Davis (2021), labour productivity gain happened if the value of $I_t > A_t$ for the structural transformation from agriculture to industry, or the value of $S_t > A_t$ for the structural transformation from agriculture to services, otherwise will be classified as productivity losses.

## Job creation, destruction, and reallocation of labour market

Furthermore, the impact of structural transformation on labour market outcomes can be measured by how much it affects possible Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR). In this study, I follow works from Bartelsman (2013); Bartelsman et. al (2013); Haltiwanger et. al (2014); and Owusu (2021) as formulated below:

$$JC_{it} = \sum EW_{it} \left( \frac{\Delta PE_{it}}{\bar{\iota}_{It}} \right) \ (III)$$

, where $JC_{it}$ is the Job Creation effect of sector $i$ in year $t$, $\Delta PE_{it}$ is the sum of positive employment changes (employment gains) in an expanding sector over time, $\bar{\iota}_{It}$ is the sector's average employment over time and is obtained by $\bar{\iota}_{It} = 0.5 \left( \iota_{i,t} + \iota_{i,t-k} \right)$. And $EW_{it}$ is the

sector employment weight and is given by the average or mean on employment of sector $i$ divided by the average on employment of the aggregated economy.

$$JD_{it} = \sum EW_{it}\left(\frac{\Delta NE_{it}}{\bar{\iota}_{It}}\right) \ (IV)$$

, where $JD_{it}$ is the Job Destruction effect of sector $i$ in year $t$, $\Delta NE_{it}$ is the sum of the negative employment changes or employment losses in mathematical absolute value in a contracting sector over time. Hereinafter, the difference between $JC_{it}$ and $JD_{it}$ is Net Employment Growth (*NEG*), which shows the total employment changes, $NEG_{it} = JC_{it} - JD_{it}$.

On the other side, the sum of $JC_{it}$ and $JD_{it}$ is the Gross Job Reallocation rate (*GJR*), where $GJR_{it} = JC_{it} + JD_{it}$ . This indicator measures which employment positions are relocated across sectors. Meanwhile, Excess Job Reallocation (*EJR*) is obtained by calculating the difference between the Gross Jobs Reallocation rate (*GJR*) and the absolute value of Net Employment Growth (*NEG*). According to Owusu (2021), the Excess Jobs Reallocation rate is a measure of job reallocation, which is an excess of the amount of job reallocation necessary to accommodate a given Net Employment Growth rate. In other words, such a measure indicates the magnitude of deep restructuring needed to accommodate a given aggregate employment growth rate (De Loecker & Konings, 2006). This latter formula can be written as follows:

$$EJR_{it} = JC_{it} + JD_{it} - |NEG_{it}| \ \ ..(V)$$

## Limitation, Contribution, and Sample Period

Despite the advantages of growth decomposition and shift-share approaches, some shortcomings have been identified in them. The problem arises in relation to the generalization which seems to typically occur in economic analyses. A prominent feature of much of the literature on structural change is the way data are sourced mainly from secondary quantitative large/pooled set of countries. Then they divide the sample of countries into minimum two broad categories: advanced and developing countries, early and late industrializers, East Asian and African experiences, and growth-enhancing and growth-reducing structural changes.

The quantitative pooled data analysis has at least one shortcoming. It treats the data generally with little on aspects of heterogeneity. Instead of a homogenous pattern, structural transformation in Africa need be analysed individually according to countries by taking care of the unique trajectory or pattern embedded within each country. Even the characteristics of economic growth and development between regions in Africa, such as Western versus Eastern Africa, landlocked against ocean-bordered countries are different. So, abandonment of such characteristics would be slightly misleading.

Interestingly, most of the cited structural transformation studies on Africa use pooled countries analysis, such as McMillan & Rodrik (2011); de Vries, Timmer & de Vries (2015); Diao, Kweka & McMillan (2018); Ellis, McMillan & Silver (2018); Kunst (2019); Baymul & Sen (2020); Owusu (2021), and recently Nayyar, Hallward-Driemeier & Davis (2021) from the World Bank. These were sourced their main secondary quantitative data from the Groningen

Growth Development Centre (GGDC). GGDC was founded within the Economics Department of the University of Groningen in 1992. It was originally set up by a group of researchers who worked on comparative analysis of economic performance over time and across countries in the tradition of Professor Angus Maddison. The GGDC provides unique information on comparative trends in the world economy. Their data are made publicly available, which enables students, researchers, and policymakers from all over the world to analyse productivity, structural change, and economic growth in detail.

Nevertheless, in the case country of Tanzania, I found that there are sample periods that did not totally represent the whole economic data of this country. For example, the publication of the Economic Transformation Database in collaboration between GGDC and UNU-WIDER for the number of employment and GDP by sectoral during the period 2014 to 2018 only covered Tanzania's mainland and excluded the islands of Zanzibar. Despite this fact, the archipelago region joined with the Tanganyika (nowadays Tanzania) on 26 April 1964 to form the United Republic of Tanzania, or as we know it as Tanzania. Though Zanzibar only comprise 2.49 per cent of the total Tanzania's employed labour force and 2.93 per cent of the total national GDP in 2021, still its presence within data analysis contributes to drawing a full picture of Tanzania's structural transformation journey.

In this thesis, I realized that the process of collecting secondary quantitative data for most African countries, including Tanzania is like composing a scattered puzzle. Most of the country's macroeconomy data were published by international institutions, such as World Bank, UN, and IMF. Some specific data were published by the university and research institutions, such as GGDC and IPUMS (Integrated Public Use Microdata Series). Several periodic data were published by the country's own statistics office for limited time scales. But the problem arises because many of the local publication are not openly accessible to the public, even not online. For a specific year in the case, even those who have the data are not willing to publish the data. That condition calls for quite an effort as a researcher to gather a set of quantitative secondary statistical data in Africa.

Therefore, in conducting the research for this thesis compiles the quantitative data from various sources. The data for structural transformation, that is the share of workers and GDP in 12 and 10 sectors comes from the Tanzania National Bureau of Statistics for the years 2014 to 2021, and the Groningen Growth Development Centre (GGDC) database for the period 1961 to 2011 with the basis year in 2005, and for the period 1990 to 2018 with the basis year 2015. Meanwhile, the number of formal employments in Tanzania manufacturing for the period 2003 to 2018 is from the UNIDO (UN-Industrial Development Organization). Thus, the added value of my task through this thesis by compiling and arranging these scattered data into a more uniformity for fuller analysis of Tanzania's structural transformation pathway.

The study of structural transformation in Africa is sensitive to the period analysed (McMillan & Headey, 2014). Whereas, the time periods of the sample will be crucial since aspects of global phenomenon, priority in national development planning, and other macro events could possibly impact the movement and performance of whole economic indicators within a country. To deal with this dynamism, this chapter divides estimation periods into several critical timelines according to historical events related to the Tanzania structural transformation pathway and the availability of secondary statistical data that can be verified.

Historical timelines writing is most popular in history books or historical research for discovery and exposition because it is easy to understand their force when visualising sequences or discrete events (Moktefi, 2020). For that purpose, the analyses sections of this thesis will be divided subsequently into five historical industrial development episodes, namely: early post-independence periods (1961-1966), Arusha declaration, *Ujamaa*, and state-led industrial development (1967-1985), growth under Structural Adjustment Programmes (1986-1995), sustainable industrial development as national planning agenda (1996-2013), and the rise of servicification of manufacturing activities (2014-2021). Those first four timelines follow Wangwe et. al (2014), and this thesis aims to continue their work with the insertion of new insights into the analysis of contemporary issues based on my recent fieldwork in Tanzania's structural changes. The whole period is divided according to the centrality of industrialisation development, which became the main theme within all academic debates about structural transformation.

## Case study

There is no available secondary statistical data that records servicification activities separately from manufacturing output value added. In this condition, the case-study approach was added the most suitable method for the analysis especially in Chapter 6 to find out how the servicification of manufacturing works in Tanzania. The case study involves exploratory research on the contemporary phenomenon that has not been previously explored in detail (Yin, 2009). It provides an account of practice through which to explore, contextualise and theorise practice (Miles, 2015). A major advantage of case-study research lies in its ability to produce findings with a high level of internal validity arising from empirical fieldwork (Hansen et al., 2022). Furthermore, empirical findings from case-study research can contribute to theory development by generating new conceptual propositions of theoretical relevance (Eisenhardt & Graebner, 2007).

Primary data from a case study firm is collected through an in-depth interview process during fieldwork in Tanzania from February 1st to April 14th, 2023. Fieldwork was conducted in the food and beverage industry, which is the biggest absorber of employment and main contributor of GDP value added from the manufacturing sector in Tanzania in the last decades. The collected data were combined and analysed with the objective of preparing a narrated 'firm biography' to describe the firm's development trajectory in the servicification of manufacturing activities. The analytical efforts were thus focused on preparing a coherent narrative of the individual firms following a chronological order and focusing on the main events and milestones in their development trajectory. Hence, this study collects information such as the history of the firms, market share, change of leadership or ownership, landmark deals, changes to business strategies, marketing approach, business models, the pursuit of new markets, and some more, which are presented in the analysis chapters of this thesis.

# Chapter 4 : Tanzania's Structural Transformation under President Nyerere in 1961-1985

In this chapter, Tanzania's history of independence and the early days of independence are examined. Specifically, this chapter discussed the process of structural transformation in Tanzania during *mwalimu* Julius Kambarage Nyerere's presidential term from the early post-independence period in 1961-66 until the Arusha declaration, *Ujamaa*, and the state-led industrial development era in 1967-85. This is done to provide a picture of the foundations on which Tanzania's national economy was built, with a focus on early attempts at structural transformation of the country's economy.

## Early post-independence period, 1961-66

Under the Treaty of Versailles signed on 28 June 1919, which marked the end of World War I, Britain received a League of Nations mandate to administer the territory of former German East Africa. This administered territory except for Ruanda-Urundi (nowadays Rwanda and Burundi), which came under Belgian administration and the Kionga triangle (nowadays part of Cabo Delgado province in Mozambique), which went to Portuguese. The remaining territory, under British governor Sir Horace Byatt, was renamed Tanganyika in 1920. Since then, this territory has been under the British colonial government in East Africa.

Following a brief period of military administration, civil government was implemented under the British Crown Colony as the term of the mandate. Sir Donald Cameron, who succeeded Sir Horace Byatt as the second governor in Tanganyika, introduced the system of native administration, popularly known as indirect rule, which he brought from the British colony in Nigeria. This system recognised and tried to govern with and through African chiefs and councils. Tanganyika's local government was formed and is overseen by the Permanent Mandates Commission.

To make Tanganyika more self-sufficient and prosperous, the British pushed for better agricultural methods and sought new export crops, such as groundnuts. But the British colonial government's attention to the development in Tanganyika was slightly slow-paced and seemed more half-hearted than their interest to govern in another British East Africa colony of Kenya and Uganda. That happened because of Tanganyika's status as a mandate rather than as a recognised colony or protectorate. The transition of the Tanganyika territory under the British government coincided with the crisis of Western capitalism during the international great economic depression in the late 1920s. That circumstance halted the restructuring of the Tanganyika's economy and society into British colonial mould.

At the outbreak of World War II in 1939-45, Tanganyika's main task was to make itself as independent as possible and less reliant on the British colonial government in London, whose resources were heavily absorbed into the war. After World War II, under American pressure, the British government decided to place Tanganyika in the trusteeship of the United Nations on 13 December 1946. This agreement, which bound Britain to prepare the territory for independence and empowered it by the UN, also made the political life of freedom and independence begin to take shape in Tanganyika territory. Furthermore, this era provided the landscape for the conception of the African association, which became a means for many

diverse ideas and ambitions to be woven into political nationalism. Tanganyika finally got its independence on 9 December 1961.


Source: Author during his visit to the National Museum of Tanzania in 2023.

*Figure 4-1. Julius Nyerere was in the middle of a crowd celebrating the independence of Tanganyika*

Initially, the British government was reluctant to grant full independence to the Tanganyika territory. With a depleted economy as impacted by the Second World War, colossal debts, and disintegration of its 'sunset' empire territory in Asia, Britain at last needed even Tanganyika's meagre resources (Iliffe, 1979). Therefore, the British government policy in the post-war decade shifted to seriously colonize this territory in the name of 'development planning' through a series of programmes, such as secondary industry, cash-crop expansion, agricultural improvement schemes, educational advancements, and constitutional and local government reform. The Legacy of the 'second colonial occupation' contributed in part to the industrialisation that Tanganyika acquired in the early post-independence period.

Tanganyika's economy was heavily based on labour-intensive primary commodities after independence in 1961. This condition reflects the colonial legacy of British industrial policies aimed at import substitution and is mostly characterised by processing industries and simple consumer goods (Wangwe et al., 2014). The manufacturing sector was very small at the time, with only 220 registered manufacturing enterprises employing ten or more workers, and a few large production factories that existed in food and beverages and agriculture processing, such as Coca-Cola, East African Breweries, Tanganyika Packers, British American Tobacco, Metal Box, and Bata shoes were foreign-owned, with the remainder being small local enterprises (Wangwe et al.,2014; Weiss & Jalilian, 2019).

Out of Tanganyika's 10.3 million inhabitants in 1961, the agriculture sector employed around 4.1 million people. In other words, it absorbed 89.54 per cent of Tanganyika's labour force. Conversely, the industry employs only 49.3 thousand workers or one per cent of the labour force, primarily in the manufacturing sector. Industrialisation and structural transformation are closely intertwined, since industry-led productive transformation has been

identified as a major driver of inclusive and sustainable structural change (UNIDO, 2020). As industrialisation causes and is supported by broader social, institutional, and political-economic changes, causality runs in both directions (Andreoni, et al., 2021). These changes are critical for long-term and inclusive outcomes along the country's development paths.

But in the very early post-independence industrial development period, Nyerere suddenly resigned as Tanganyika's Prime Minister and was replaced by Rashidi Kawawa. Clearly, Nyerere's resignation made it possible for Kawawa to implement a series of tough measures. Under his new cabinet, he removed most of the British officers in command within Tanganyika's Ministry of Finance, Prime Minister's office, and Police. Furthermore, the indirect rule-native administration system inherited from former British governor Cameron was abolished. That local administration system was replaced by elected district councils. Consequently, the chiefs lost all official power, with most of it passed to regional and area commissioners, who serve as political appointees in charge of TANU policy execution in their districts. Kawawa's cabinet also nationalised agricultural land, abolished feudal land tenure, and transformed all land titles into ninety-nine-year leases from the government. Furthermore, Kawawa's government passed a new constitution that replaced Queen Elizabeth II as head of state with a president. As a result of this new constitution, Nyerere was re-elected, this time as President of the Republic of Tanganyika, on 9 December 1962.


Source: Author during his visit to the National Museum of Tanzania in 2023.

*Figure 4-2. Julius Nyerere was appointed as the first president of the Republic of Tanganyika in 1962*

Tanganyika government's attempts to foster industrial development were defined by the implementation of the three-year development plan (TYP) from 1961 to 1964. The TYP sought to promote growth primarily by boosting investments in activities that were believed to yield quick and high returns within the import substitution model, specifically in manufacturing for the local market. This program is implemented by enhancing local and foreign private investments. Within three years of Tanganyika's independence, the private sector began to invest by establishing nine textile factories, another brewery, factories producing corrugated

iron sheets, aluminium cooking utensils, shoes, and cigarettes, three new sisal-spinning factories, another sugar estate and factory, and at least twelve factories that made chemical, plastic, or rubber products from imported ingredients (Coulson, 2013). According to Honey as cited in Coulson (2013), a high number of the factories opened during this period involved the Asian community. The capital was raised in several methods, including directly in agriculture for the Karimjee family, who owned sisal estates. Some were raised through trade, either through the export of manufactured items or the import of consumer goods. This surplus was then channelled into the industry via communal investment banks, such as Aga Khan's Investment Promotion Services.

Against the tide of African independent countries espousing left-leaning economic and political ideology in the 1960s, President Nyerere's government attempted to assuage foreign and private investors' concerns about property nationalisation during the TYP. To reverse the situation, the Foreign Investment Protection Act of 1963 was enacted to attract foreign direct investments (FDI) in Tanganyika. A relatively low level of regulatory control was used to encourage private domestic and international investment in the economy. In addition, tax incentives were provided to increase the pool of capital inflows, and existing investment opportunities were publicised.

In the same way, Tanganyika's government also implemented a 'liberal capitalism' strategy towards the agricultural sector, which was described as an improvement approach. This policy aims to establish farmers' institutions and agricultural services that were seen to be successful during the British colonial period. The first move of that program was the expansion of cooperative movement throughout the country with minimal registration oversight. Then, the agricultural extension service was given increased budgets for training programmes, so it could offer the services to a much wider range of farmers. In addition, credit was made available to small farmers. Finally, the Department of Community Development was established as part of the Ministry of Cooperatives and Community Development. Overall, the policy of improvement approach is based on small-scale agriculture and cooperative marketing to grow agricultural production and exports.

Amid the euphoria of the agricultural and industrial development that occurred in the young nation of Tanganyika, the army of the 1st battalion Tanganyika rifles mutinied on the night of 19 January 1964 in Dar es Salaam and then followed by the 2nd battalion on 20 January 1964 in Tabora and Nachingwea. In general, the mutineers had three main grievances: a substantial increase in *askaris* (*Kiswahili* word for soldier) salaries, the dismissal of all British officers in the military to be replaced by Tanganyikans, and assurances of no subsequent victimisation of the mutineers (Laurence & MacRae, 2007). For several days, President Nyerere fled into hiding, leaving Dar es Salaam at the mercy of the mutineers. After six days, the revolt was put down with the arrival of sixty British Royal Marines from No.45 Commando who landed by helicopter on the hockey pitch at Colito barracks of Lugalo military base, outside of Dar (Listowel as cited in Coulson, 2013). They came as a response to the appeal from President Nyerere, who asked the British government to help re-establish a constitutional government in Tanganyika. More than 500 people were detained, including all trade union leaders in Dar es Salaam and elsewhere who were suspected of being the anti-TANU party. After all, only one trade union was allowed under the National Union of Tanganyika Workers

Act, and it had to be affiliated with the TANU, with the general secretary nominated by the President.

Similarly, a revolt had also happened a week earlier in Zanzibar, an island state in the Indian Ocean off the east coast of Tanganyika. On January 12th, 1964, or to be precise 32 days after its independence from Great Britain, around 3:00 a.m., the coalition opposition group of *Umma* and *Afro-Shirazi* Party (ASP), with the support of a group of revolutionary armies recruited and organised by John Okello raided two police armouries and seized the Zanzibar radio station (Conley, 1964; Lofchie, 1965). Then, these groups shifted to the government office and, within six hours, succeeded in overthrowing the predominantly Arab government under the Zanzibar Nationalist Party (ZNP) and Zanzibar and Pemba People's Party (ZPPP) and forcefully expelled Sultan Seyyid Jamshid Bin Abdullah. This coup will come to be remembered as the Zanzibar revolution. Within a short time after the coup, *Umma* merged with the ASP to form the revolutionary government of Zanzibar to replace the monarchy. Former trade union leader and ASP leader, Abeid Amani Karume, took over as President of the People's Republic of Zanzibar.

This newly revolutionary government in Zanzibar began to face critical problems due to the coup coinciding with the economic crisis caused by the collapse of clove prices in the world commodity market. Cloves had become the most important crop and source of export revenue for this small island nation. The clove industry is the basic mainstay of the Zanzibar economy. President Karume's government's efforts to rebuild its domestic economy were hampered by financial difficulties since most critical sources of production, such as cloves plantations, shops, and factories, were mostly owned by the Arabs and thus became the main targets to be plundered during the riots. These difficult conditions made President Karume look to neighbouring countries for support. The ASP had traditionally held close ties with TANU. Hence, the ASP-led revolution in Zanzibar had the sympathy of Tanganyika's president, Julius Nyerere.

## The unity of Tanganyika and Zanzibar

Three months later, Nyerere flew to Zanzibar to meet with Karume and signed articles of union, which declared a constitutional merger of their two countries (Tanganyika and Zanzibar) on 26 April 1964. The newly merged state was initially called the Republic of Tanganyika and Zanzibar and later was renamed the United Republic of Tanzania. President Nyerere became President of Tanzania, and there are two vice presidents, Karume (former President of Zanzibar) and Kawawa (former Vice President of Tanganyika).

On July 1st, 1964, President Nyerere launched Tanzania's first five-year development plan (FFYP). The FFYP succeeded the TYP in 1964 and laid the roadmap for Tanzania's industrialisation for the next five years, from 1964 to 1969. Three main government priorities to be addressed within the FFYP are import substitution industrialisation, mechanisation and irrigation in agriculture, and manpower planning by investment in secondary and vocational education (Pratt, 1967; Coulson, 2013). The FFYP was like the TYP, which expected investment in local industry predominantly funded by foreign money.

Source: Author during his visit to the National Museum of Tanzania in 2023

*Figure 4-3. Julius Nyerere and Abeid Karume mixed the soils from Dar es Salaam's state house and Zanzibar's state house into one calabash to mark unity after both parties signed articles of union as the United Republic of Tanzania*

Tanzania experienced an investment boom in 1965. Instead of the instantaneous impact of the FFYP, it was more a result of the Kampala agreement signed on April 29th, 1964. The pact aimed to redress trade imbalances between Kenya, Tanzania, and Uganda. It attempted to break the industrial concentration in Kenya by shifting new industrial projects to Tanzania or Uganda to supply the combined market of all three countries. In the case of tobacco, East African Tobacco Co. Ltd (a subsidiary of British-American Tobacco) sent some machinery to Dar es Salaam to construct a new factory capable of supplying ninety per cent of Tanzania's cigarette consumption. In the case of footwear, the Bata company, which supplies approximately seventy per cent of the East African market, constructed a new plant in Dar es Salaam that specialised in a line of shoes with leather uppers and rubber soles. Bata's plant in Tanzania would have a production value of at least 85,000-pound sterling a year, and it also supports another plant in Limuru, Kenya (International Legal Materials, 1964). East African Breweries Ltd, which owns Kilimanjaro Breweries, upgraded its Dar es Salaam factory to double production of beers. Standard Portland Cement (Bamburi) collaborated with Cementia AG Zurich to establish a new cement plant outside Dar es Salaam. In addition, the impact of the Kampala agreement could be seen in radio, motor vehicle tyres and tubes, which agreed to be manufactured in Tanzania.

Compared with the industrial sector, the Tanzanian government introduced a new agricultural policy within FFYP called the transformation approach. It became the second

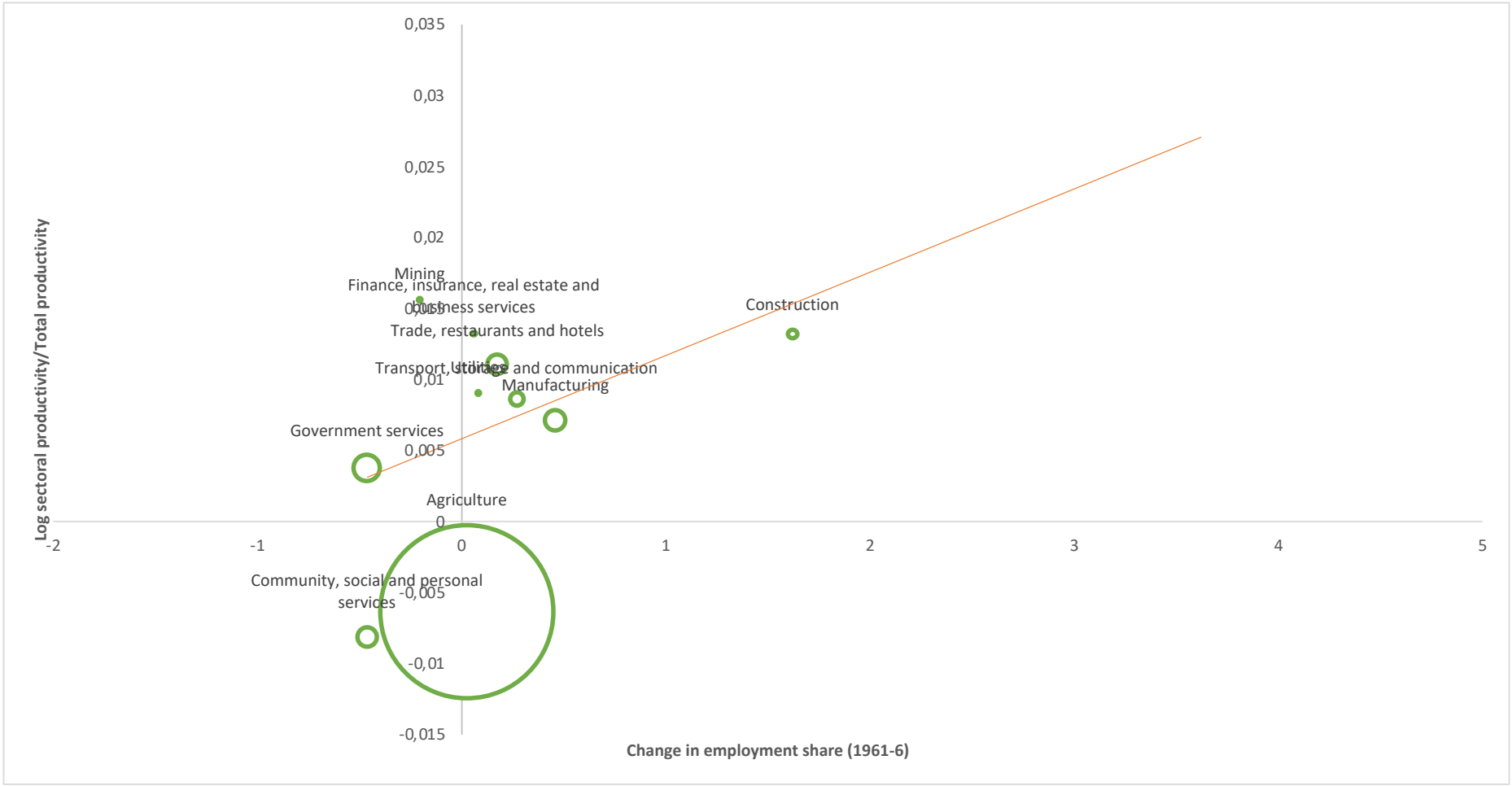
strand of the rural policy after the improvement approach under TYP. This policy was formulated under the guidance of the World Bank, which offers an alternative version of capitalist farming under government control. Its design was based on the experience of British colonial policy with the Swynnerton Plan in Kenya, where peasant land holdings were reorganised and mapped to provide each farmer with a single plot. That program is being replicated and applied in a few areas in Tanzania with the creation of settlement schemes on unoccupied land. In like manner, farmers would be given land on condition that they obey rules and regulations to adopt modern agricultural techniques, namely mechanisation. Another form of the transformation approach was the development of Lake Tanganyika River basins for planned irrigation farming.

## Patterns and Sources of Structural Transformation in 1961-66

This chapter built a dataset using GGDC's 10 Africa sector database to examine the importance of structural transformation in Tanzania. This GGDC database provides long term-series from 1960 to 2011. The indicators used in this chapter are employment and GDP shares by ten broad economic sectors. The indicator of GDP by sector is recorded in local currency, Tanzania Shillings (Tsh) current prices. Then, it is divided with the deflator to obtain the real GDP value. This procedure was done to allow easy comparison of indicators between periods. Constant price in 2005 was used as the reference or basis year due to the data availability of the GDP deflator, and this year was regarded as a relatively stable period in terms of price fluctuation. This primary assumption was needed in the economic time series model. Meanwhile, the indicator of workers' productivity per sector used in the analysis for the entire chapter was obtained by dividing the real GDP by the number of workers engaged in each economic sector.

The nexus between employment patterns and sectoral worker productivity in Tanzania from 1961 to 1966 is shown in Figure 4.4. Tanzania was predominantly agrarian. Between 1961 and 1966, the share of the Tanzania labour force making their living in the agriculture sector increased from 89.54 to 91.78 per cent. Agriculture provided living for at least 4.65 million Tanzanians in 1961. Nevertheless, as shown in the bottom left quadrant below, this sector is one of the least productive, with only slightly better than low-skill domestic personal services. On average, Tanzanian farmers earned an income of around Tsh 280,000 or USD 250 annually, which means just less than USD 21 per month.[1]

[1,] Calculated with the currency value of the US Dollar to Tanzania Shilling in 2005 as the year base of the price index.
[2] Ibid.




Source: The author's calculation is based on data from the GGDC 10 sector database (2021).

*Figure 4-4. Sectoral productivity and employment changes in Tanzania from 1961-66*

By contrast, employment in mining was regarded as the most productive sector, with an average annual income of Tsh 22.9 million or USD 20,483, as illustrated in the upper left quadrant of Figure 4.4.[2.] Alternatively, from mining, which could only absorb a tiny share of the labour force, employment shares increased in various non-agricultural sectors, most of which are significantly more productive than agriculture, such as construction, manufacturing, trade services and transport services. The investment boom experienced in Tanzania within the last six years, from 1961 to 1966, also contributed positively to rapid employment growth in those sectors. The manufacturing share in total employment, although marginally increasing, has remained around less than two per cent for the same period. Apart from this, the sector contributes about 10.18 per cent of the share of Tanzania's economy, compared to 40.01 per cent for agriculture and 8.21 per cent for construction sectors.

Then, to better understand the nature of Tanzania's economywide labour productivity growth, this study employs the growth decomposition methodology created by McMillan & Rodrik (2011), as stated previously in equation I of Chapter 3 of this thesis. For this analytical purpose, this chapter still used the secondary statistical data published by the GGDC 10-sector database. Specifically, Table 4.1 highlights the main results of the growth decomposition exercise. To begin with, Tanzania's economy in 1961-66 is divided into ten major subsectors, and then economywide labour productivity is decomposed into that which can be attributed to within-sector productivity growth and that which can be attributed to the between-sector or structural change.

Over the period 1961-66, the annual average aggregate labour productivity growth was 28.4 per cent. Of this 28.4 per cent, the result from growth decomposition shows that 98.9 per cent of Tanzania's labour productivity growth in 1961-66 was attributable to structural change, as noted in the last rows of Table 4.1 below. On the contrary, aggregate productivity growth from within the sector only accounted for 1.1 per cent. Therefore, structural change has been growth-enhancing for six years of early post-independence, though in the context of weak overall intra-sectoral productivity generated through capital accumulation and technological change.

However, the observed structural change effect was driven by the static reallocation effect, while the dynamic effect was negative. These findings imply that structural change in Tanzania during 1961-66 involved a movement towards sectors with higher initial productivity levels but with lower productivity growth rates, for instance, in mining, construction, government services, and personal services sectors. For example, declining employment proportions in the mining sector contributed more to productivity growth than worker productivity levels. Whereas booming in construction sectors was impacted by the growing numbers of factories built during this early post-independence period regarded as static effects since increasing employment growth could not be translated into increasing sectoral productivity level.

By the same token, Table 4.1 shows that the highest annual Job Creation rate (JC) is sourced mainly from agriculture at 13.1 per cent. That number represents 77.39 per cent of the annual Job Creation rate in Tanzania from 1961 to 66. This is followed by the service sector from aggregating the different service sectors, such as trade, restaurant, hotels, transport, storage, communication, finance, insurance, real estate, business services, government services, community, social, and personal services, which totally account an annual Job

Creation rate of 2.9 per cent. Then, the manufacturing sector with a Job Creation rate of 0.6 per cent, and the non-manufacturing industrial sector, which consists of mining, utilities, and construction with a total Job Creation rate of 0.3 per cent over the same period.

In general, Job Creation rates (JC) outnumbered Job Destruction rates (JD) in all sectors. The Job Destruction rate only happened in the community, social, and personal services sectors at one per cent annually. Thus, it has an impact on the negative employment growth rate of these low-productivity domestic services. Moreover, Excess Job Reallocation (EJR) in the personal services sector, as stated in Table 4.1, is 1.3 per cent, which is the highest of all the sectors. It reveals significant underemployment within that kind of service sector.

Apart from this, the relatively fast rate of Gross Job Reallocation (GJR) in the service sector, particularly in personal services, government services, transportation services, and trade services, indicates the high degree of volatility associated with vulnerable employment growth in the sectors. Although the data was unavailable during the early post-independence period, it could be deduced that those services sectors seem to have a high informality, translating into relatively high fluctuations in employment growth. Although many jobs created within low-skill services are in the informal sector and productivity was statics over time, those jobs still provide a higher and often more stable form of income for large numbers of people, especially for those moving out of agriculture and off the farm.

To conclude, between 1961 and 1966, productivity gain was generated by the structural transformation from agriculture to manufacturing and non-manufacturing industrial sectors. Using GGDC data, the result of the estimation equation II.c.2 of Chapter 3 obtained a value of 3.25 for the structural transformation from agriculture to industry. In contrast, increasing services employment relative to agriculture recorded a value of -1.19, which implied productivity losses. In other words, both agricultural policies namely transformation and improvement approaches, and the investment boom within import substitution industrialisation schemes significantly determined the pattern of workers reallocation between sectors in the early post-independence period.

*Table 4.1. Tanzania's labour productivity growth by economic sectoral from 1961-66 (2005=100)*

| Economic sectors | Aggregate | Within | Between | Static | Dynamic | JC | JD | NEG | GJR | EJR |
|---|---|---|---|---|---|---|---|---|---|---|
| Agriculture | 0,226 | 0,202 | 0,007 | 0,010 | 0,002 | 0,131 | 0,000 | 0,131 | 0,131 | 0,000 |
| Mining | 0,317 | 0,000 | -4,720 | -0,009 | -0,003 | 0,000 | 0,000 | 0,000 | 0,001 | 0,000 |
| Manufacturing | 0,034 | 0,000 | 1,921 | 0,040 | 0,001 | 0,006 | 0,000 | 0,006 | 0,006 | 0,000 |
| Utilities | 0,225 | 0,000 | 0,497 | 0,001 | 0,000 | 0,001 | 0,000 | 0,001 | 0,001 | 0,000 |
| Construction | -0,546 | -0,001 | 23,093 | 0,145 | -0,079 | 0,002 | 0,000 | 0,002 | 0,002 | 0,000 |
| Trade, restaurants, and hotels | 0,270 | 0,003 | 1,609 | 0,030 | 0,008 | 0,005 | 0,000 | 0,005 | 0,005 | 0,000 |
| Transport, storage, and communication | 0,164 | 0,001 | 1,513 | 0,016 | 0,003 | 0,006 | 0,000 | 0,006 | 0,006 | 0,000 |
| Finance, insurance, real estate, and business services | 0,293 | 0,000 | 0,841 | 0,001 | 0,000 | 0,000 | 0,000 | 0,000 | 0,001 | 0,000 |
| Government services | 0,935 | 0,042 | -0,989 | -0,046 | -0,043 | 0,011 | 0,000 | 0,011 | 0,011 | 0,000 |
| Community, social and personal services | 0,931 | 0,025 | -0,091 | -0,003 | -0,002 | 0,006 | 0,010 | -0,004 | 0,016 | 0,013 |
| **Total** | **0,284**[3] | **0,274** | **23,680** | **0,186** | **-0,113** | **0,169** | **0,011** | **0,159** | **0,180** | **0,014** |
| Contribution to economywide labour productivity growth in 1961-66 | | 0,008 | 0,000 | | | | | | | |
| | | 0,000 | -0,197 | | | | | | | |
| | | 0,000 | 0,080 | | | | | | | |
| | | 0,000 | 0,021 | | | | | | | |
| | | 0,000 | 0,964 | | | | | | | |
| | | 0,000 | 0,067 | | | | | | | |
| | | 0,000 | 0,063 | | | | | | | |
| | | 0,000 | 0,035 | | | | | | | |
| | | 0,002 | -0,041 | | | | | | | |
| | | 0,001 | -0,004 | | | | | | | |
| | | **0,011** | **0,989** | | | | | | | |

Source: The author's calculation is based on data from the GGDC 10 sector database (2021).
[3]An average aggregate productivity growth

## Arusha declaration, *Ujamaa*, and state-led industrial development, 1967-85

By the end of 1966, President Nyerere was dissatisfied with Tanzania's economic structure and performance in agriculture and industry. The structure of agriculture in Tanzania that was inherited from the British colonial administration, which was based on plantations, settlers, and capitalist farmers, were still in most cases was owned by foreigners. To be more precise, the capitalist farmers who were mostly large-holder farmers contributed disproportionate shares of marketed agriculture production. In contrast, the settlement schemes for peasants as part of the government policy of transformation approach at Urambo district for tobacco, and at Nachingwea district for mechanised production of groundnuts, soya beans, and maize experienced many failures.

Similarly, most of the industrial investment came from the private sector and was concentrated in either foreign investors or ethnic minority nationals, such as Indians and other Asians. The progress of industrialisation under import substitution policies was slowed-paced, characterised by more capital than labour-intensive activities built by the private sector, and firms could only operate under the protection of high import tariffs and duties. Also, they heavily depended on monopoly power in the local market from the government. Moreover, the way industries started to process export or import substitution based on imported raw materials and components provides little scope for intermediate goods production, thus almost no space to produce capital goods.

Besides while it was clear that the agriculture settlement schemes would not be viable, and private investment in the industrialisation process of this country was lower than anticipated, Tanzania also encountered diplomatic disputes with its donor countries (Coulson, 2013; Edwards, 2014). Firstly, the dispute with West Germany because of the union between Tanganyika and Zanzibar. East Germany was among the first countries to recognise Zanzibar's independence, they sent technicians and provided financial aid. West Germany, on the other hand, had a strict foreign policy of rejecting recognition to any country that acknowledged the existence of East Germany. For this reason, the merger of Tanganyika and Zanzibar posed a diplomatic difficulty since the Zanzibaris did not want to lose East German aid and technical help, but if East Germany was recognised, the Tanzanian would lose West German aid. It was the third greatest donor to the Tanzania mainland at the time, after the United Kingdom and the United States.

Then, there was Tanzania's dispute with the US. The conflict arose because of allegations made by Oscar Kambona, a former secretary general of the TANU party and Tanganyika minister of defence. He accused the Americans through its CIA (Central Intelligence Agency) of planning to overthrow President Nyerere as they had done to oust Premier Minister Patrice Lumumba and President Joseph Kasavubu in the Democratic Republic of Congo (Zaire). Although this did not lead to a formal diplomatic break, President Nyerere discouraged the continuance of close political relations between Tanzania and the US.

Lastly, a dispute arose from Tanzania's distrust of British policy in Rhodesia which was perceived to be equivocal because it had not acted against the Unilateral Declaration of Independence of Southern Rhodesia (Zimbabwe) proclaimed by the white settler's minority under Ian Smith as prime minister. On 15 December 1965, Tanzania, and Guinea, then followed by four

other African countries (Ghana, Mauritania, Republic of Congo, and Egypt) severed diplomatic ties with the UK. In response, the British froze a 7.5-million-pound sterling loan which initially had been agreed in principle to Tanzania (Coulson, 2013).

By 1966, relations with Tanzania's three most crucial foreign donor countries had broken down. Due to strained relations with Western bloc donors, Tanzania's foreign policy was refined towards non-alignment, though its movement was more oriented towards countries on the political left axis. A year before, President Nyerere visited Beijing from 16 to 23 February 1965. The Chinese Communist government under Chairman Mao Zedong had first promised to build a new single-track railway, which connected the port of Dar es Salaam to Kapiri Mposhi in Zambia. Since the World Bank, the United States, the United Kingdom, and Japan had all turned down the infrastructure project the year before, it constituted a watershed moment in Sino-Tanzanian relations.


Source: Author during his visit to the National Museum of Tanzania in 2023.

*Figure 4-5. President Nyerere (on the right side) was in conversation with Mao Zedong, Liu Shaoqi, and other fellow Chinese Communist Party leaders, during his visit to Beijing in February 1965*

## Arusha Declaration

Upon his return from Beijing and confronted political disputes with its major aid donor countries, in early 1967, President Nyerere reinstated his thinking of a self-reliance policy based on African socialism. February 1965 was his first state visit to China, and he appeared to be blown away by the country's achievements, especially the collectivization of the agricultural sector into communes. It forged Nyerere's thoughts about the necessity of frugality and eliminating economic dependency on Western bloc countries (Nyerere, 1968). Then, the Arusha Declaration was

published on February 5, 1967. The Arusha Declaration is a party document based on a paper submitted to the TANU party committee by President Nyerere a week before. Indeed, President Nyerere drafted the Arusha Declaration, and the ideas and approach were entirely his. Nyerere was heavily influenced by China's experience when drafting the Arusha Declaration and charting the way to African socialism. That declaration propelled the ideals of socialism and self-reliance on major means of economic production. In other words, it advocated for the use of local resources as a primary factor endowment in manufacturing.

In practice, the Arusha Declaration effectively signified the end of low-direct regulatory oversight. It also marked the end of reliance on foreign private investors which had previously fuelled industrialisation during the early post-independence period from 1961 to 1966. The principal result of the Arusha Declaration was a change in ownership structure in which the key factors of economic production were nationalised, and most of the investments were made and directed to state-owned enterprises.

On 6 February 1967, one day after the Arusha Declaration was published, President Nyerere announced the swift nationalisation of eight foreign banks and one local bank in Tanzania. This went against the approach adopted in 1961-66. The commercial banks that were nationalised included Algemene Bank Nederland (ABN), the National Bank of Pakistan, the Bank of Baroda Limited, Bank of India, Tanzania Bank of Commerce Limited, Commercial Bank of Africa (Kenya), and three British banks: Barclays (Dominion, Colonial, and Overseas, DCO), Standard, and National and Grindlay (Foreign and Commonwealth Office, 1967). The latter three nationalised British banks controlled over eighty per cent of the Tanzanian banking business at the time (Onah, Okoyeuzu & Uche, 2022). After all, those commercial banks were merged into only one state-owned bank, namely, the National Bank of Commerce (NBC). The NBC was established to conduct Tanzania’s national banking activity, and all nationalised bank assets were transferred to it. In addition, the government grants NBC a right to monopoly commercial banking in Tanzania.

Subsequently, within a couple of months, a total of eight milling companies related to food manufacturing (seven of them owned by Asians) and six largest foreign-owned import-export corporations were also nationalised (Dias, 1970). The National Agricultural Products Board acquired the right to manage the nationalised mills and food manufacturing enterprises. Meanwhile, the State Trading Corporation, a new government-owned enterprise, was created to take over the import-export business. Furthermore, the National Insurance Corporation was nationalised as part of the nationwide nationalisation programme. Then, it was granted a monopoly right in the Tanzanian insurance market.

The nationalisation programme continued with the government's announced plans to take the majority holdings on seven foreign-owned manufacturing firms. They are British-American Tobacco, Bata Shoe company, Tanganyika Metal Box, Tanganyika Extract, Tanganyika Portland Cement, and two breweries (Coulson, 2013). Behind this plan was the intention of the government to vest these shares into a new parastatal, namely, the National Development Corporation (Dias, 1970). In the same way, the Tanzanian Sisal Corporation was set up to run the sisal industry after entire private factories were completely taken over. The newly formed National Distribution

Company was awarded the monopoly on food distribution, meanwhile, consumer cooperatives will gradually take over the retail business in foodstuffs. Overall, the Tanzanian government nationalised the entire economic sector in 1967, which lasted until 1970. The Tanzanian nationalisations represented the first comprehensive program of nationalisation to be undertaken in East Africa (Dias, 1970).

Another presidential paper titled "Education for Self-Reliance" was issued by President Nyerere in March 1967. That document served as a policy directive on education post-Arusha declaration. It was an attempt to reform the educational system in Tanzania. He argued that the education provided by the German and British colonial governments, which now shape Tanzania, served a different purpose. It was not intended to prepare young people for service in their own country. Instead, it was motivated by a desire to instil colonial society principles and train individuals as local clerks and junior officials for the service in the colonial state.

Moreover, Nyerere (1968) in his speech argues that the educational system modelled by the colonialist emphasis on subservient attitudes and white-collar skills encouraged the individualistic instincts of mankind. Those in contrast with cooperative values embedded in Tanzanian society and against the principles of *ujamaa* as the basis for African socialism. Apart from this, in Tanzanian society, there are three values that govern practically all groups in terms of power relations: production, distribution, and consumption, those in *Kiswahili* namely, *undungu* (familial or kinship links), *umoja* (solidarity), and *ushirika* (informal and formal cooperation) (Mihyo, 2018). Kinship and household ties shape property ownership and control, as well as production and coping mechanisms based on family or household labour. Except for marriage, these relationships are permanent and constant. People are born into kinship groupings and, except for marriage, have no authority to leave them.

### *Ujamaa*

Thus, President Nyerere translated the *Kiswahili* word of *ujamaa* as familyhood and posits the foundation of African socialism is the extended family. He defined socialism as an attitude of mind, a matter for the individual and his conscience. The fundamental difference between a socialist and a capitalist society, according to Nyerere, is not in their ways of producing wealth, but in how wealth is dispersed. Therefore, socialism is an issue of distribution, not of what is produced and how production is conducted. This political thought constituted the conceptual foundation of post-Arusha nationalisation, the creation of parastatal enterprises, and later rural development policies launched in late 1967.

President Nyerere issued the second post-Arusha presidential paper in September 1967. This paper explores the meaning of socialism in Tanzania's rural areas and advocates for the construction of *ujamaa* villages, cooperative communities in which people live and work together for the benefit of all. That conceptual framework then quoted into a new government policy in rural development, namely, *ujamaa vijijini* or socialism in the village (Coulson, 2013). This policy aims to achieve Nyerere's vision of socialism in Tanzania, which he defined as a society in which all members have equal rights and opportunities to live in peace with their neighbours without

being exploited (Nyerere, 1968). Thus, Tanzania's development policy was re-directed toward rural areas and identified agriculture production as the basis for its development path. That development strategy was set forth in the second five-year development plan (SFYP) for the period from 1969 to 1974, which commenced on 1 July 1969.

Initially, Nyerere's concept of *ujamaa* first appeared in the pamphlet on African socialism in 1962. This new kind of settlement scheme recorded slow progress since, in practice, it is a voluntary organisation of people who freely choose to live together and work together for their common good with unclear practical guidance from the government. That condition swiftly changed in late 1967, whereas the idea of the *ujamaa* village coupled with the idea of villagization as a strategy of rural development. Nyerere argued that it would consist of a small number of politically committed farmers, working together on a communal farm, and pooling their savings to buy equipment that would benefit the group (Coulson, 2013).

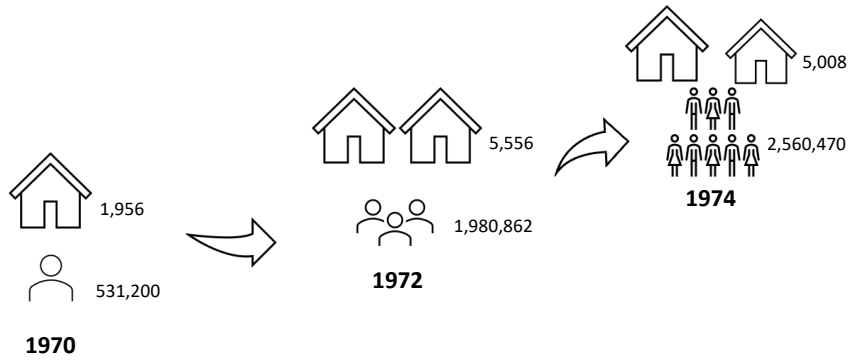
Source: Nyerere on his book *Uhuru na Ujamaa*, 1968.

*Figure 4-6. A view of Liwete, an ujamaa village in the Ruvuma Region*

Two adjustments were made in early 1969 to accelerate the process of villagization. Firstly, Presidential Circular No.1 of 1969. It directed government departments to prioritize village spending in their budgets. Secondly, President Nyerere authorized the use of coercion to relocate villagers to planned areas, such as in the case of peasants in the Rufiji Valley. The government began to relocate residents of less densely occupied areas of the countryside from dispersed homesteads to larger planned development villages.

At the end of 1969, the number of registered *ujamaa* villages was 809. Immediately after villagization was enforced by the government, that number increased and more than doubled in just one year to 1,956 villages with at least 531,200 inhabitants in 1970. Then, the number of registered *ujamaa* villages rose very fast and attained its peak at 5,556 units, with almost two

million people living there in 1972. In other words, the figures in 1972 show that *ujamaa* grew twice and three times larger in number of villages and population than two years ago, as illustrated in Figure 4.7 below. In 1974, the number of villages was slightly adjusted to 5,008, but the people residing in *ujamaa* settlement areas kept growing up to 2.5 million. By the end of 1974, the residents of *ujamaa* villages consisted of 16.64 per cent out of 15.39 million of the total Tanzania population.




Source: The author's illustration is based on the Economic Survey 1973-74 data from Coulson (2013).
*Figure 4-7. Registered ujamaa villages and their population in 1970-74*

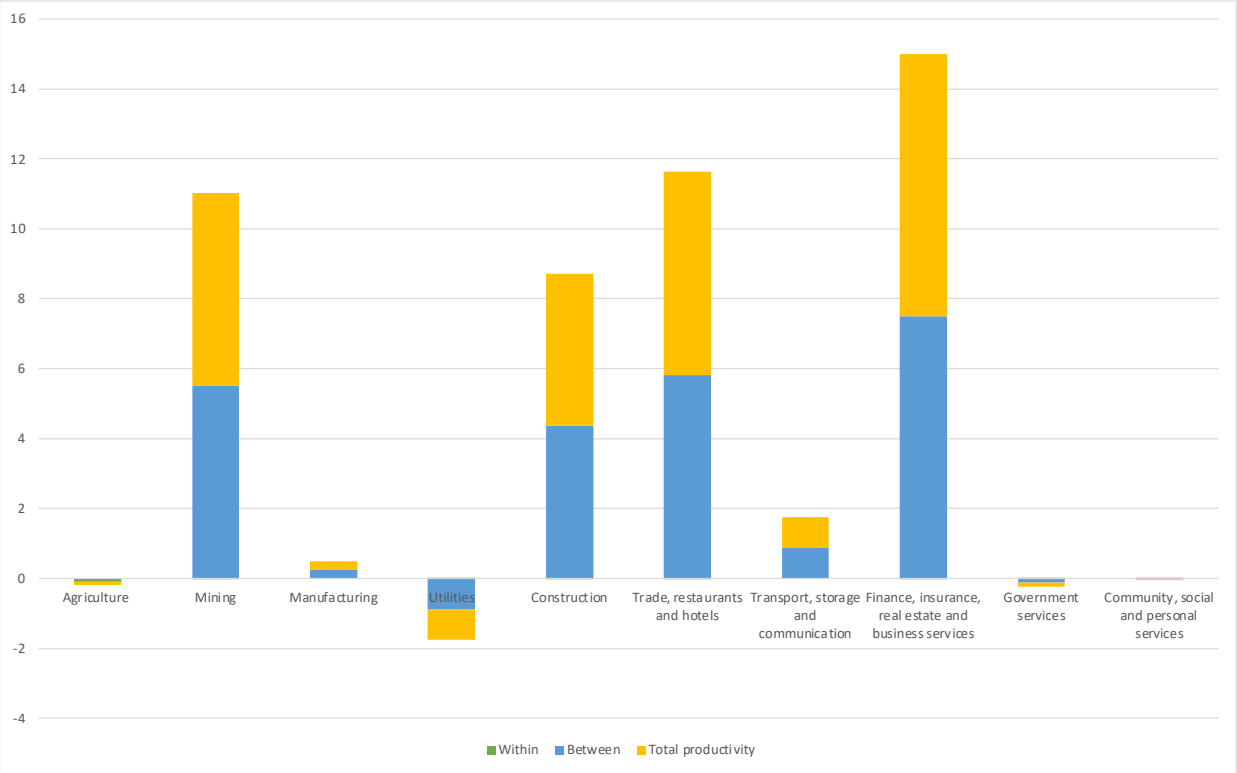
## State-led development era

Even with the *ujamaa*, from 1967 to 1974, GDP valued in 2005 prices grew at an annual average of 4.31 per cent. During this period, Tanzania's economic growth has been characterised by the rapid increase in industry and services, in which both sectors rose at least 6 per cent per year. In aggregate, industry contributes about 17.44 per cent of the share of Tanzania's economy, compared to 35.89 per cent for agriculture and 46.66 per cent for services sectors. Workers in both industry and services sub-sectors also recorded positive productivity growth, as demonstrated in Figure 4.8. Labour employed in business finance, trade, mining, and construction experienced the highest productivity growth over the period from 1967-74.

Between 1967 and 1974, productivity gain was generated by the structural transformation from agriculture to manufacturing or non-manufacturing industrial and services sectors. Using the GGDC 10 sector database, the result of the estimation equation II.c.2 of Chapter 3 for the period 1967-74 obtained a value of 1.21 for the structural transformation from agriculture to industry. In the same way, a structural transformation from agriculture to services scored 1.16, which means there is no wide gap for the productivity gain that could be acquired from the mobility of workers to shift between both sectors.

Nevertheless, Figure 4.8 also contested the idea that structural transformation or simply the movement of labour from low-productivity to high-productivity sectors, for example, between agriculture to trade, agriculture to mining, etc., was the only source of productivity growth. In contrast, within the sector productivity growth or productivity of workers generated through capital accumulation and technological change from those sectors did not exist. Only agriculture experienced within-sector productivity but recorded negative growth during this period. It was

important to look after the agriculture sector. The government recognised that the only way to improve the lives of most Tanzanians was to revolutionise agriculture, which could only be accomplished by mobilising the people. However, the forced reallocation as the result of the villagization program had negative consequences on labour productivity performance in the agriculture sector.



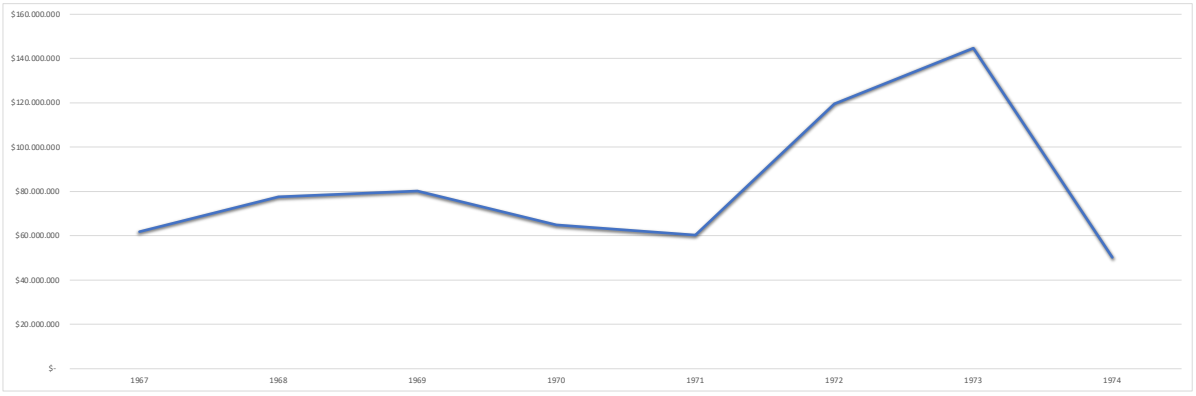

Source: The author's calculation is based on data from the GGDC 10 sector database (2021).

*Figure 4-8. Within and between sector contribution to Tanzania's workers productivity growth in 1967-74*

Villagers who were relocated under villagization frequently encountered hurdles, particularly in adapting to life in the new areas planned by the government. In most cases, the dwellings are too far away from the planting plots, and the soil profiles in the designated location are unmatched with the farmers' skills (Coulson, 2013). That hampered planting time since farmers needed more time to prepare the land by themselves while adjusting to the new crops. On the other hand, the dream of communal work was difficult to operate in the field (Nyerere, 1968; Coulson, 2013; Edwards, 2014).

Besides that, armed forces made former villager houses generally uninhabitable by tearing off doors, breaking the windows, and making holes in the mud walls, even by lighting fire to the thatched roofs to ensure that people would stay in the new settlement areas. It is evident that the relocation was not voluntary in the sense that anyone who did not choose to move might have remained where they were. Villagers who are willing to move to the planned villages and do sufficient communal work could be registered as an *ujamaa* village in return for a water supply, school, dispensary, and famine relief from the government. However, since planting was often late,

and the land was not properly prepared to be cultivated, the communal agricultural production was never sufficient. Consequently, the foreign exchange reserves were depleted to finance the soaring import of foods, as illustrated in Figure 4.9 below.



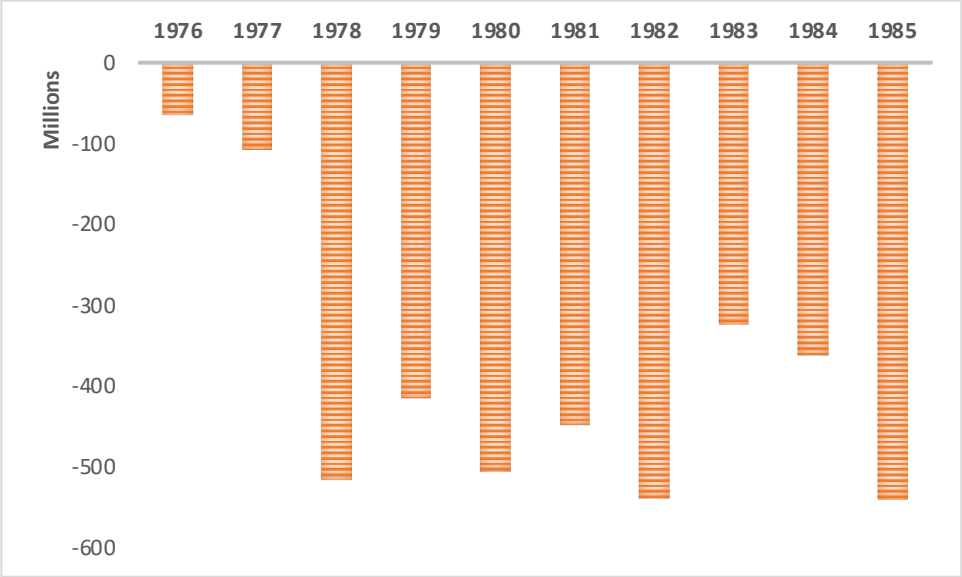

Source: The author's illustration is based on the Word Development Indicators data from the World Bank (2023).

*Figure 4-9. Tanzania's foreign exchange reserves in USD from 1967-74*

By the end of 1974, Tanzania's foreign exchange reserves reduced to USD 50.2 million. That amount is just enough to cover 1.08 months of imports. At the same time, the global oil crisis in 1973 began taking shape to mount pressure on Tanzania's Balance of Payment. That condition encourages the Tanzanian government to maintain the currency value of the Shilling unchanged at Tsh 7.14 per USD since 1967 as the preferred objective. This monetary policy was implemented as a measure to reduce the impact of imported inflation while maintaining domestic consumer purchasing power. However, that strategy overvalued the price of Tanzania's export commodities and made it relatively more expensive in the global market, thus weakening the competitiveness of Tanzania's exports.

The government's more pro-import stance has not improved the performance of the industrial sector, particularly manufacturing, which appears to be unable to thrive without government protection and privileges. The government's policy of preserving the import substitution industry weighed on the country's balance of payments and drained its foreign exchange reserves. Meanwhile, falling global prices for Tanzania's primary export commodities, such as sisal, coffee, and cashew nuts, as well as lower cash crop production owing to the drought and villagization, all contributed to a decline in Tanzania's export revenue. As a result of this situation, Tanzania's trade balance deficit in 1975 reached minus Tsh 2.9 billion, or USD 40 million.[2]

[2] The author's calculation uses the World Development Indicators time series data published by the World Bank in 2023.




Source: The author's illustration is based on the Word Development Indicators data from the World Bank (2023).

*Figure 4-10. Tanzania's trade balance position in USD from 1976-85*

In response, the government implemented the 1975 Basic Industrial Strategy (BIS), which emphasised structural reform, self-sufficiency, and state-led industrialisation (McMillan, Page & Wangwe, 2017). This twenty-year industrial strategy was developed to strengthen the country's industrial foundation and be implemented in four 5-year plans. It specifically aimed to enhance the relative importance of the manufacturing sector while decreasing reliance on imports. According to the BIS plan, the final industrial goods produced, as well as intermediate and capital goods, were intended to supply the domestic consumers. Meanwhile, exports were supposed to emerge from a domestic market expansion.

However, oil prices continued to rise in 1976, and the global recession meant that the lion's share of Tanzania's foreign currency was spent to acquire food and gasoline. This left little financial space available to assist the industry, resulting in shortages, particularly for replacement parts of the industrial equipment (Lawrence, 2019). Yet, Tanzania's trade balance deteriorated further and continued to show a deficit of USD 65.29 million in 1976 and minus USD 108 million in 1977. The drop in cash crop exports had a negative impact on widening the trade balance gap because those commodities are the main source of the country's foreign exchange.

On the other hand, inflation is another issue that Tanzanians had to contend with in the mid-1970s. In 1975, the monthly minimum wage in Dar es Salaam was Tsh 380. That amount has climbed two and a half times since 1969. However, as demonstrated in Table 4.2, the increased minimum wage could not keep up with the pace of inflation. At the same time, the index of retail prices in Dar es Salaam was 249, indicating a 149 per cent increase from the base year of 1969. Between 1976 and 1977, it continued to increase 58 per cent and 109 per cent higher than in 1975. That made the inflation rate 50 per cent annually just within two years. As a result, by 1977, someone who earned the minimum wage in Dar es Salaam got only 80 per cent of the real income they would have received nine years earlier.

*Table 4.2. Standard of living of minimum wage earners in Dar es Salaam in 1975-78 (1969=100)*

| Year | Minimum wage (Tsh per month) | Minimum wage index | Retail price index | Standard of living index |
|---|---|---|---|---|
| 1975 | 380 | 224 | 249 | 90 |
| 1976 | 380 | 224 | 307 | 73 |
| 1977 | 380 | 224 | 358 | 80 |
| 1978 | 380 | 224 | 419 | 53 |

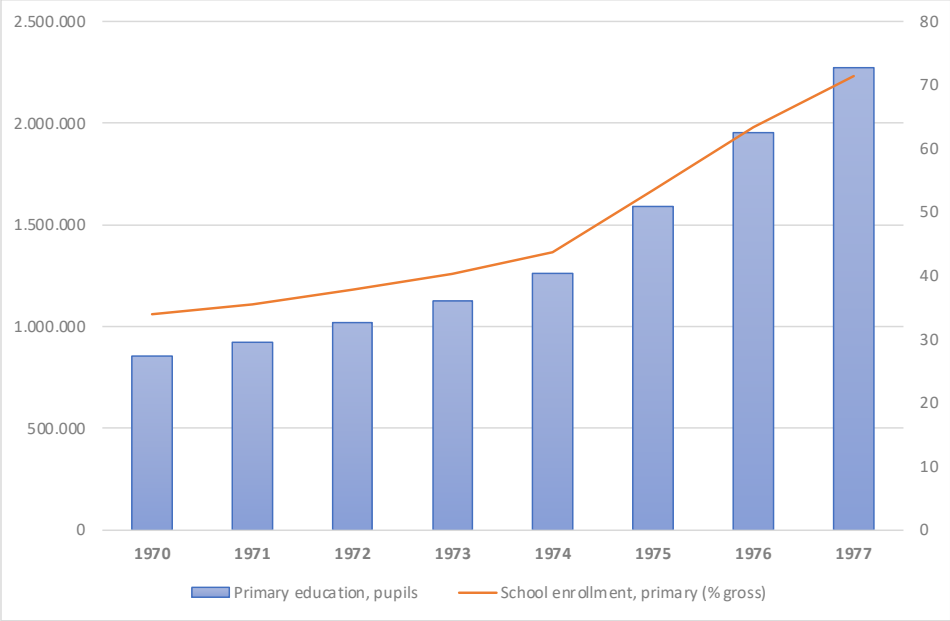
Source: The author's illustration is based on the Economic Survey 1965-1978 data from Coulson (2013).

In a report entitled "The Arusha Declaration Ten Years After" submitted by President Nyerere to the TANU party in 1977, it describes some of what he accomplished and considered successful, as well as some obstacles that continue to impede Tanzania's development progress. Nyerere (1977) admitted three major good progress within a decade post-Arusha Declaration. Firstly, the nationwide nationalisation of existing industries and services took place immediately after the Arusha Declaration. President Nyerere was very proud and asserted that it had meant a reduction in the outflow of Tanzania's wealth in the form of interest and profits of the former multinational companies.

Then, another post-Arusha Declaration achievement was in education. Rural development through *ujamaa* villages indeed made it easy for the government to provide basic public infrastructure services, such as schools, water supply, and dispensaries. As a result, the number of children attending primary school has increased dramatically. In 1967, there were around 825,000 pupils in Tanzanian primary schools (Nyerere, 1977). Figure 4.11 demonstrated that in 1975, the comparable figure was 1,592,396 students, and that number continued to rise sharply in 1977 to 2,274,167 students who attended primary school in Tanzania.

In fact, the percentage of primary school enrolment was shown to have doubled from 1970 to 1977. In 1970, the gross primary school enrolment or the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown was 34.02 per cent. That number increased to 71.36 per cent in 1977. Apart from increasing children's participation in school, Nyerere was equally concerned with the concept that learning is what people learn. Since the release of the presidential paper entitled "Education for Self-Reliance" in 1967, which represented a watershed moment in Tanzania's curriculum revolution, Nyerere (1977) admitted that teaching at all levels has become more relevant to the needs of Tanzanian society. Technical and agricultural education has received a new space to learn in primary schools.

Lastly, President Nyerere (1977) acknowledged that improvement in health services was slower in satisfying the needs of individuals in rural areas. However, the new emphasis began in 1972 and has gained momentum since then. In 1967, for example, there were only 42 rural health centres in operation, by 1976, that number was increased to 162, and there were 610 maternal and childcare clinics had been built (Nyerere, 1977). Consequently, the infant mortality rate has gone down from 224.8 per thousand live births in 1967 to about 187.1 per thousand live births in 1977. Moreover, within a decade, Tanzania's life expectancy at birth increased from an average of 45.67 years in 1967 to 49.61 years in 1977.




Source: The author's illustration is based on the Word Development Indicators data from the World Bank (2023).

*Figure 4-11. Participation of children attending primary school in Tanzania from 1970-7*

Apart from the achievements in education and health services, Tanzania's economic situation had worsened ten years after the Arusha Declaration. Agricultural output was down, inflation was high, shortages were growing at all levels, and there were regular blackouts in every corner of the country. As noted previously in Figure 4.10, in 1978, the trade balance deficit increased fivefold over the previous year, to minus USD 516.47 million. Moreover, the real economic growth rate also fell sharply to around 1.02 per cent in 1978 or only one-fifth of the 1967 growth rate. Similarly, the agriculture sector, which is the primary source of income for rural households, has performed poorly. An average of annual aggregate productivity per worker in the agriculture sector has dropped 9,5 per cent from Tsh 274,33 thousand in 1967 to Tsh 248 thousand in 1978, that value equals about USD 219 in 2005 prices.

In response to that already predicted worsened macroeconomy situation, Tanzania's third five-year development plan (TFYP) was launched on July 1st, 1976, as a roadmap for national development until 1981. However, the latter government development strategy, which stressed the need to strengthen domestic industry, increase food production and consolidate the villagization programme, encountered many difficulties when implemented. For instance, a BIS that emphasises industrialisation through the production of a few key intermediate products from local raw materials encountered many challenges during this period. In practice, one of the prescribed industrial strategies within BIS, namely, competitive production on a global scale, may necessitate a plant size larger than Tanzania's domestic demand for the product itself.

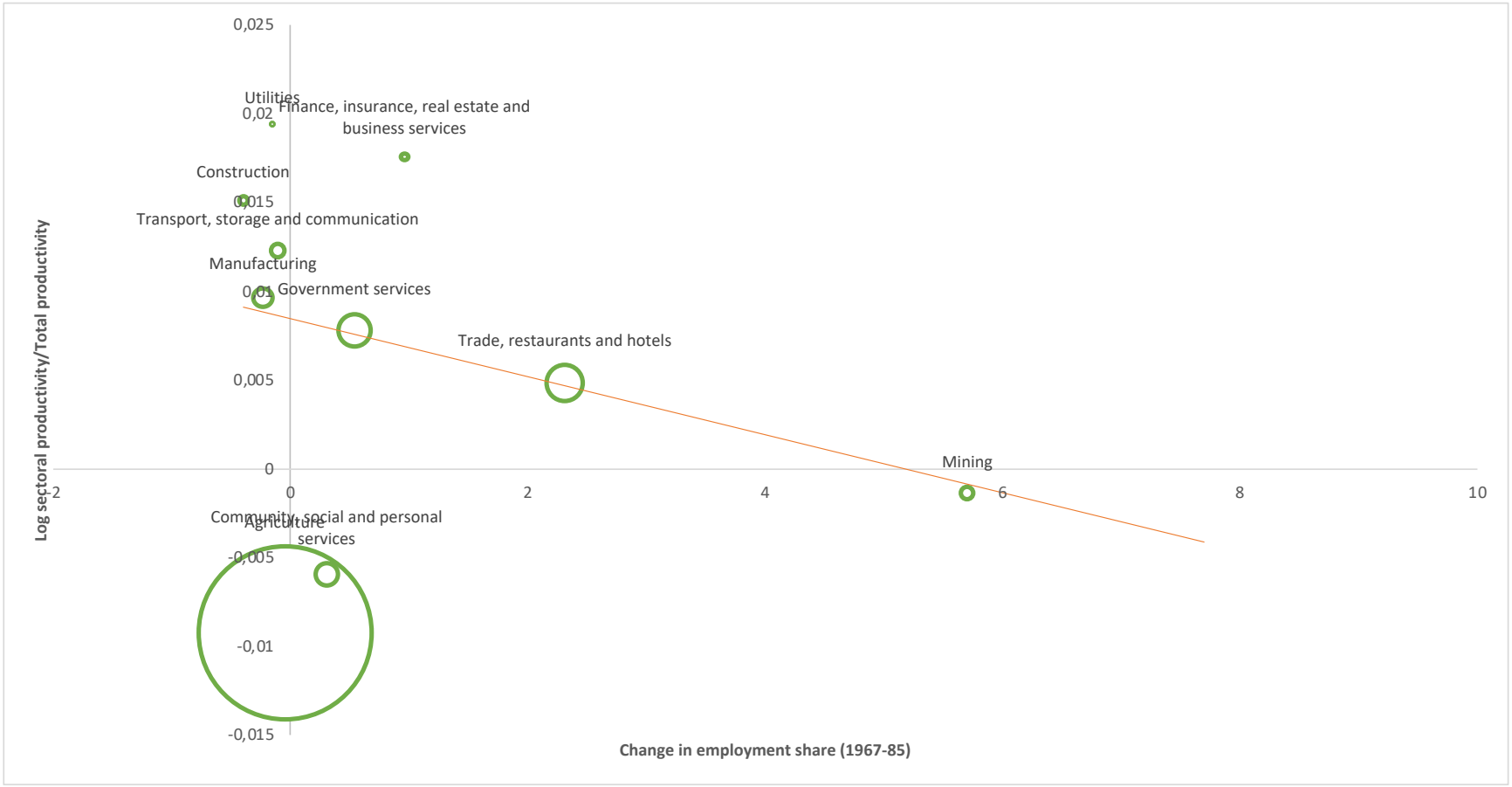
Obviously, Tanzania alone could not consume seven million tonnes of steel per year in the 1970s as mandated in BIS, which was the size of a single efficient plant in Japan, even for many years to come (Coulson, 2013). However, Clive Youlande Thomas, a Guyanese economics

professor from the University of Guyana, who also became part of the advisory board or designer of the BIS plan, contends that the extra costs of below-optimal scale production are minor. He also argued that a country like Tanzania should bear it to save food surpluses and foreign cash spent on importing basic manufacturing goods. At that time, the idea was clearly too expensive and unrealistic. Indeed, *ujamaa* and villagization in practice was the decentralisation of governmental authority from the centre to the regional districts. Unfortunately, it did not make the chain of distribution of commodities easier, but rather complicated it through a cumbersome bureaucracy under the parastatals and state-owned corporations.

The economic downturn in 1978 was further exacerbated by the war between Tanzania and Idi Amin's totalitarian regime in Uganda. This war lasted nearly six months, from the end of 1978 to the turn of the year 1979. This war began when the Tanzanian government responded to the Ugandan military troops' annexation of the Kagera region in the country's northwest on November 1st, 1978. That war had big consequences for Tanzania's falling economy since it rerouted government financial resources from developing basic manufacturing industry and rectified the villagization programme to participate in the military fight. It was estimated to cost USD 500 million, more than doubling defence spending as a per centage of GDP (Klugman as cited in Lofchie, 2019). Its most devastating impacts were felt in the country's most crucial agricultural region, the north-central and north-western area near Lake Victoria.

Tanzania's economy tethered on the verge of collapse by the early 1980s, in the aftermath of the Uganda conflict. Global economic conditions in 1979 were also not much in favour of Tanzania. The Iranian revolution which continued with the wars between Iran and Iraq, the two main members of the Organization of Petroleum Exporting Countries (OPEC) triggered the Second World Oil Crisis from 1979 to 1980. The central Bank of Tanzania preferred to peg the value of the Tanzanian Shilling at Tsh 8 per USD with a maximum of 3 per cent of fluctuation to be tolerated. That made the currency overvaluation and weakened the export industry in the early 1980s.

In the meantime, the lack of foreign exchange and imported intermediate inputs were harming industrial performance. The total foreign exchange reserves in 1981 were only enough to cover 0,17 months or just sufficient to pay approximately 5 days of Tanzania's import value. In response to these circumstances, an Export Rebate System (ERS) was established in 1981 as a subsidy for horticultural goods producers, with a General Retention Scheme (GRS) enabling exporters to deposit a portion of their foreign exchange gains for the purpose of buying inputs (Wangwe et. al, 2014). To deal with the crisis, more home-grown adjustment programmes were developed. For example, the National Economic Survival Programme (NESP) was established in 1981-82 with the goal of revitalising the economy by utilising the nation's internally generated resources. It did not, however, achieve its objectives since persistent economic malaise persisted.




Source: The author's calculation is based on data from the GGDC 10 sector database (2021).

*Figure 4-12. Sectoral productivity and employment changes in Tanzania 1967-85*

Over the period 1967-85, annual labour productivity growth was 8 per cent or on average 0.4 per cent per year, a rate which is low when compared with the 28.4 per cent productivity growth from 1961 to 1966. As demonstrated in Table 4.3, this 8 per cent productivity growth in 1967-85 is solely sourced from structural change or the effect of reallocation of workers between sectors. Although structural change has been growth-enhancing, it was based on weak overall productivity performance. Even though the agricultural share of employment has fallen from 91.84 per cent to 87.39 per cent, the primary beneficiary is the trade service sector which is about eight times more productive than *ujamaa* agriculture. The structural change effect, however, has been driven by the static reallocation effect, with the dynamic effect being negative. The results thus suggest that structural change in 1967-85 involved a movement towards a sector with higher initial productivity levels but with lower productivity growth rates.

In the case of Tanzania, by comparing Table 4.1 and Table 4.3 of this Chapter, agricultural productivity has remained unchanged since independence being around Tsh 220-240 thousand per year, while at the same time, this sector is still creating more jobs despite declining and shedding fewer workers. As demonstrated in Figure 4.12, those workers who moved because of the failure in *ujamaa* agriculture tended to the urban sector and engaged in trading services rather than manufacturing. This trend to some extent has contributed to the result of the estimation equation II.c.2 of Chapter 3, which obtained a value of 1.98. It means productivity gain was generated by the structural transformation from agriculture to service sectors. On the contrary, increasing industrial employment relative to agriculture recorded a value of -0.19 which implied productivity losses. After all, President Nyerere stepped down on 5 November 1985 and was succeeded by Ali Hassan Mwinyi. A new president who would reverse many of Nyerere's development policies is further discussed in Chapter 5. He would later be remembered as the one who signed a standby loan agreement with the IMF and a Structural Adjustment Program with the World Bank in the following years.

*Table 4.3. Tanzania's labour productivity growth by economic sectoral from 1967-85 (2005=100)*

| Economic sectors | Aggregate | Within | Between | Static | Dynamic | JC | JD | NEG | GJR | EJR |
|---|---|---|---|---|---|---|---|---|---|---|
| Agriculture | -0,089 | -0,082 | -0,012 | -0,018 | 0,002 | 0,489 | 0,000 | 0,489 | 0,489 | 0,000 |
| Mining | -0,966 | -0,001 | 4,653 | 0,187 | -0,181 | 0,009 | 0,002 | 0,007 | 0,010 | 0,004 |
| Manufacturing | 0,005 | 0,000 | -0,989 | -0,024 | 0,000 | 0,010 | 0,005 | 0,005 | 0,015 | 0,010 |
| Utilities | 1,860 | 0,002 | -2,823 | -0,001 | -0,003 | 0,001 | 0,000 | 0,001 | 0,001 | 0,000 |
| Construction | -0,211 | -0,001 | -3,829 | -0,040 | 0,008 | 0,009 | 0,008 | 0,001 | 0,018 | 0,016 |
| Trade, restaurants, and hotels | -0,787 | -0,010 | 4,757 | 0,423 | -0,333 | 0,057 | 0,000 | 0,057 | 0,058 | 0,001 |
| Transport, storage, and communication | 0,087 | 0,001 | -0,682 | -0,008 | -0,001 | 0,006 | 0,002 | 0,004 | 0,008 | 0,004 |
| Finance, insurance, real estate, and business services | -0,278 | 0,000 | 13,363 | 0,035 | -0,010 | 0,003 | 0,000 | 0,003 | 0,003 | 0,001 |
| Government services | 0,340 | 0,008 | 1,732 | 0,043 | 0,015 | 0,025 | 0,005 | 0,020 | 0,031 | 0,011 |
| Community, social and personal services | 0,842 | 0,011 | 0,125 | 0,001 | 0,001 | 0,014 | 0,005 | 0,009 | 0,019 | 0,010 |
| **Total** | **0,080**[3] | **-0,073** | **16,293** | **0,598** | **-0,501** | **0,624** | **0,028** | **0,595** | **0,652** | **0,057** |
| Contribution to economywide labour productivity growth in 1967-85 | | -0,005 | -0,001 | | | | | | | |
| | | 0,000 | 0,287 | | | | | | | |
| | | 0,000 | -0,061 | | | | | | | |
| | | 0,000 | -0,174 | | | | | | | |
| | | 0,000 | -0,236 | | | | | | | |
| | | -0,001 | 0,293 | | | | | | | |
| | | 0,000 | -0,042 | | | | | | | |
| | | 0,000 | 0,824 | | | | | | | |
| | | 0,000 | 0,107 | | | | | | | |
| | | 0,001 | 0,008 | | | | | | | |
| | | **-0,004** | **1,004** | | | | | | | |

Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021) and GGDC (2021).

[3] An average aggregate productivity growth.

# Chapter 5 : Tanzania's Structural Transformation Pattern in 1986-2013

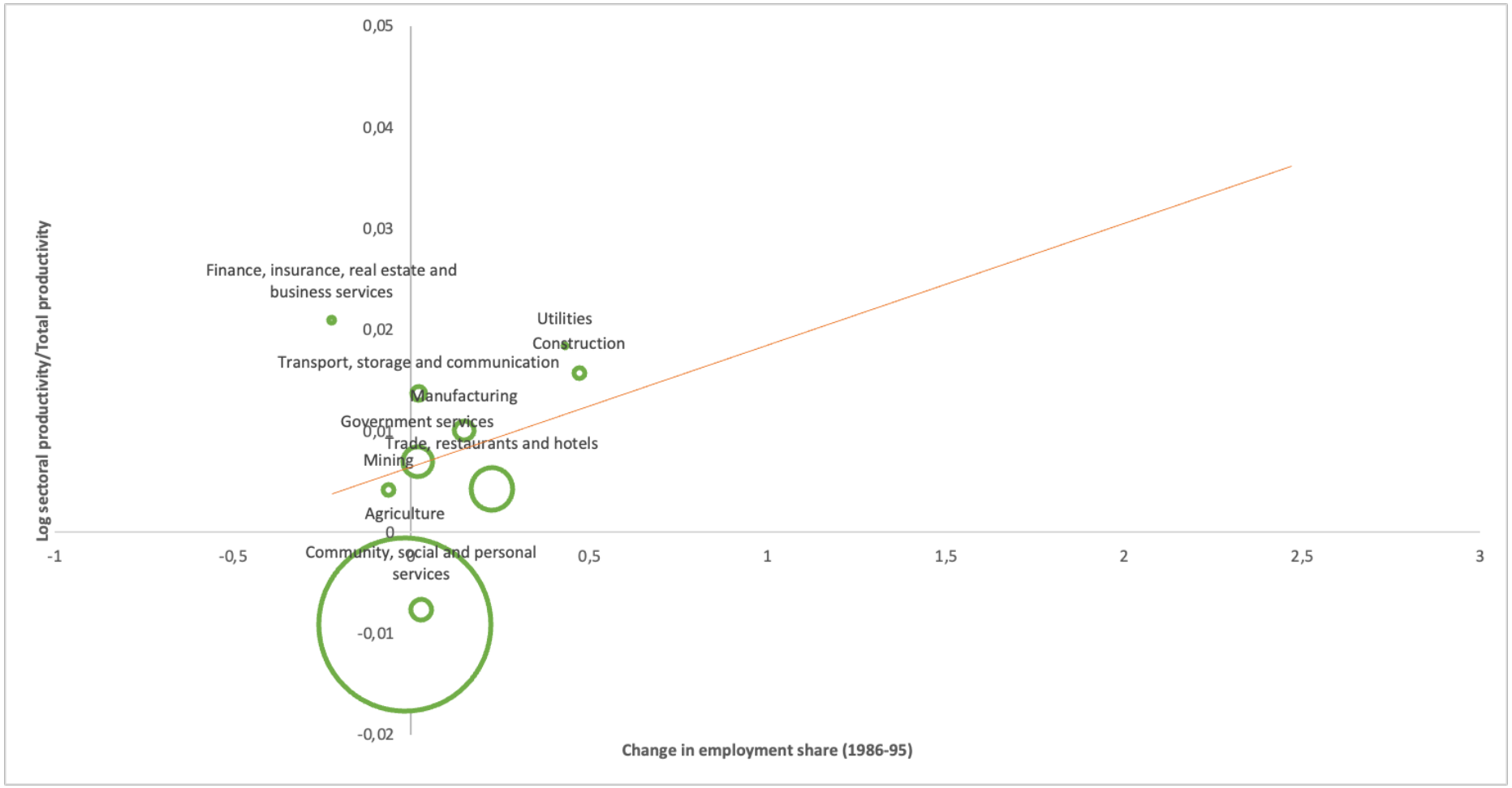
In 1985, Julius K. Nyerere was reputed to have 'voluntarily, gracefully, and honourably bowed out of governance'. Along came Ali Hassan Mwinyi, who replaced him at the 1985 general elections, pursued economic liberalisation, removed some of Nyerere's favourites from cabinets who opposed his reforms, which was regarded as an abandonment of his socialist ideals (Bjerk, 2017). In the first half of this chapter, I examine the role of economic liberalisation on the path of servicification of Tanzania's economy under Mwinyi.

## Productivity Growth under Structural Adjustment Programmes, 1986-95

Structural Adjustment Programmes (SAP) was the main policy embraced by President Mwinyi, and the pattern of structural transformation in this era is presented in Figure 5.1. It was based on the estimation from the GGDC 10-sector database, which covers the period from 1960 to 2011 in Tanzania. All indicators transformed into a real or constant value with 2005 as the basis year to allow better comparison between historical industrial development time frames, such as between 1961-66, 1967-85, and 1986-1995. As stated in the previous chapter, the indicator of labour productivity per sector used in the analysis was obtained by dividing the real GDP by the number of workers engaged in each economic sector.

A shift of labour resources away from low-productivity agriculture activities is observed in the bottom left quadrant. This pattern mimics what happened in 1961-66 but this time with a greater proportion of services employment though its productivity remained below the manufacturing sector. However, at this time, productivity gain was generated by the structural transformation from agriculture to either industrial or service sectors. Both directions generated positive values, with a slightly higher value of 0.71 for the structural transformation from agriculture to industry than 0.22 for increasing services employment.

The outcome for manufacturing was stagnant. Its real GDP share averaged 8.31 per cent for 1986-95 and its average annual growth was -0.46 per cent, slightly improved from -0.59 per cent in 1967-85. But it plummeted from a 7.09 per cent growth rate per year during the early post-independence period in 1961-66. Stagnation in manufacturing was converging with real GDP per capita which only increased by around USD 7 within a decade, from USD 226 in 1986 to USD 233 in 1995, as illustrated in Figure 5.2.

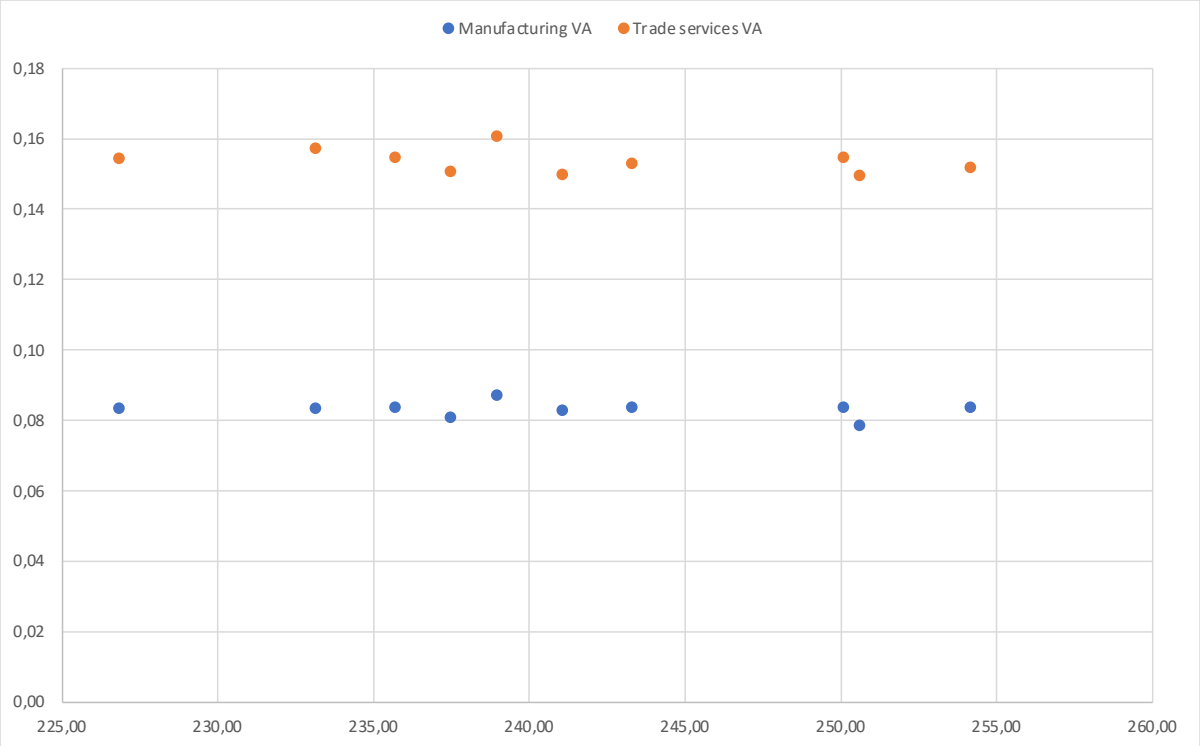



Source: The author's calculation is based on data from the GGDC (2021).

*Figure 5-1.Sectoral productivity and employment changes in Tanzania 1986-95*

In the same way, trade services value added to real GDP in 1986-95 was static. On average, its share remained unchanged at approximately 15 per cent over this period. It was moderately decreased from 16.69 per cent between 1967 and 1985. This condition is interesting to note because these two sectors have their own role in the development process in Tanzania. It is no secret that manufacturing has been the main target of the industrialisation development agenda since the early post-independence era. This is proven by the rapid growth of the manufacturing sector between 1961 and 1966.

On the other hand, this sector turned out to be less priority for the government after the Arusha Declaration in 1967. Although it continued with the state-led import substitution-based industrialisation program, its impact on the Tanzanian economy, such as employment share, was still relatively small. Meanwhile, in response to the lack of success of the *Ujamaa* agricultural scheme in Tanzanian villages, the service sector, especially trade services, emerged and transformed itself as a provider of employment opportunities for urbanized migrants who are seeking better income in the cities.




Source: The author's calculation is based on the data of national accounts from the World Bank's World Development Indicators (2022) and GGDC (2021).

*Figure 5-2. Share of manufacturing and service value added to real GDP and Tanzania's real GDP per capita in 1986-95, (2005=100)*

These two important sectors for Tanzania's economy, manufacturing and services, apart from being stagnant, also negatively correlated with GDP per capita in this structural adjustment period from 1986 to 1995. The statistical estimation results using Pearson's correlation test obtained a figure of -0.22 for the relation between GDPs per capita in constant prices and manufacturing value-added share to real GDP. Meanwhile, a score of -0.39 was obtained for the relation between trade services value-added share and real GDP per capita. Correlation in other words measures how closely related two variables are in statistical terms.

A negative correlation indicates that as one variable increases, the other tends to decrease. A value between 0.2 – 0.39 is considered a weak statistical correlation. In short, weakened and stagnant were two words to describe Tanzania's industrialisation from 1986 to 1995.

Tanzania adopted the Economic Recovery Programme (ERP), another name for the IMF standby loan program, which came into force on August 28th, 1986. It was a milestone in transforming Tanzania's economy from being wholly state-owned post-Arusha declaration to more involving private sectors in production processes (Msami & Wangwe, 2016). To begin with, Tanzania's balance of payments status was to be gradually improved under the program. The centrepiece of it was a significant devaluation of the national currency, Tanzania's Shilling (Tsh).

In general, the aim of the program promoted by the IMF was the same as the preceding seven years when the group mission led by a Swede economist, Bo Karlstrom, expressed their recommendation and, in return, was expelled from Dar es Salaam by President Nyerere. At that time, Nyerere was in favour of pretending the fixed exchange system and against any foreign recommendation or intervention in his country's monetary policy stance. Seven years later, the macroeconomic situation had changed, and there were different political demeanours between President Nyerere and his successor, Ali Hassan Mwinyi.

But, in the same way as 1979, the 1986 IMF programme also had many conditions, such as: performance criteria indicators, which extended beyond pure macroeconomic variables to include several measurements related to the economy's structural functioning. According to Edwards (2014), the fourteenth most crucial conditions are the following. Firstly, significantly reducing the number of goods subject to price controls. Secondly, bringing the central government cash deficit down to 11 per cent of GDP from at the time 16-17 per cent of GDP. To achieve this, new fiscal revenue measures must be adopted, including a new tax on petroleum products. In the meantime, specific commodities taxes were to be converted to ad valorem taxes. Then, broadly defined money supply or the M1 would only grow by 11 per cent in 1986-87. Also, there would be a gradual reduction in external arrears. Credit from the banking system would be closely controlled if directed to the seven largest commodities marketing boards (coffee, cotton, tobacco, tea, sisal, cashew nuts), including the mighty state-owned enterprise, National Milling Corporation.

Subsequently, a crawling peg exchange rate regime with an actual annual devaluation of one per cent would be implemented. Meanwhile, several exchange rate practices were to be phased out. Moreover, the export revenue retention programme would be expanded. No trade or exchange restrictions would be imposed more than those approved by the IMF through Article XIV consultations. There would be a generalised increase in agriculture producer prices to an average of no less than 60 per cent of its export prices. Subsidies to consumers for petroleum goods would be discontinued. External debt held by the Bank of Tanzania, the government, and public corporations would be strictly limited. Lastly, the operating procedures of parastatals and marketing boards would be significantly reformed to boost efficiency and reduce losses.

The outcomes of the implementation of these conditions are presented in Table 6.1 using the indices of Job Creation (JC), Job Destruction (JD), and Job Reallocation rates (GJR, EJR) in Tanzania for the structural adjustment period from 1986 until 1995. These indices were constructed from the same data as the growth decomposition, namely the GGDC 10-sector

database. In this crisis and economic stagnation period in Tanzania, the agricultural sector has once again emerged and acted as a saviour by becoming the largest contributor to Job Creation. This sector contributed 77.6 per cent of the total Job Creation between 1986 and 1995. Agriculture in Tanzania is predominantly subsistence-based, heavily dependent on nature, and prone to natural disasters and drought. In addition, Tanzanian farmers in 1986-95 compared with early post-independence in 1961-66 and post-Arusha declaration period in 1967-85 remained unchanged as the lowest productivity. This inherent legacy is because of its labour-intensive nature and relatively less dynamic or static sector. On average, Tanzanian *mkulima* (*Kiswahili* word for farmer) earned Tsh 257 thousand annually in 1986. This income is equivalent to USD 227 per year with an estimated price level of 2005 USD. With devaluations in exchange rates, it meant that their real monthly income was only USD 18.97. Also, as agricultural productivity per worker increased 16 per cent to Tsh 299 thousand in 1995, this converted to USD 265 per year, meaning a monthly average of USD 22 per month. That amount was still an extremely low figure to meet a minimum standard of living. Even if they were lived in 2005, their income would not be enough just to fulfil very basic needs.

*Table 5.1. Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR) in Tanzania from 1986 to 1995*

| Economic Sectors | JC | JD | NEG | GJR | EJR |
|---|---|---|---|---|---|
| Agriculture | 0.219 | 0.000 | 0.219 | 0.219 | 0.000 |
| Mining | 0.002 | 0.001 | 0.000 | 0.003 | 0.003 |
| Manufacturing | 0.006 | 0.000 | 0.005 | 0.006 | 0.001 |
| Utilities | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 |
| Construction | 0.008 | 0.004 | 0.004 | 0.012 | 0.008 |
| Trade, restaurants, and hotels | 0.030 | 0.000 | 0.030 | 0.030 | 0.000 |
| Transport, storage, and communication | 0.003 | 0.001 | 0.002 | 0.003 | 0.001 |
| Finance, insurance, real estate, and business services | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| Government services | 0.010 | 0.005 | 0.005 | 0.014 | 0.009 |
| Community, social and personal services | 0.004 | 0.001 | 0.003 | 0.005 | 0.002 |
| **Total** | 0.283 | 0.012 | 0.270 | 0.295 | 0.025 |

Source: The author's calculation is based on the data from GGDC (2021).

Meanwhile, the value-added shares of agriculture to the real GDP in 1986-95 gradually increased from 37.34 per cent to 40.19 per cent, in contrast with the falling trend from 1961 to 1966, which continued during 1967-85. It's signalled reverse structural changes. With the stagnant manufacturing situation, the service sector became the main recipient of the workers exiting the agriculture sector. Unfortunately, as demonstrated in Table 5.2 below, no service sub-sectors could be regarded as dynamic sectors over this crisis period. An economic sector would classify as dynamic if expanding employment shares simultaneously in line with its worker's productivity growth rate. In other words, a shift of employment from agriculture towards these fewer dynamic sectors means that structural transformation in Tanzania has been

weaker than it would have been if labour had moved to the manufacturing or non-manufacturing industry.

Turning the productivity decomposition, as reported in Table 5.2, shows static gains and dynamic losses from structural change across the period 1986 to 1995. While the service sector is aggregately more productive than the agricultural sector, the beneficiary of the reallocation has mostly been trade, restaurant, and hotel services, which have a productivity of 46 per cent less than could be generated by manufacturing. This has been particularly the case for trade services since the period after the failure of the collective agricultural system under *ujamaa* with its sector employment shares continuing to go up while average per-worker productivity gradually declining.

*Table 5.2. Decomposition of labour productivity growth in Tanzania from 1986 to 1995*

| Economic Sectors | Aggregate | Within | Between | Static | Dynamic |
|---|---|---|---|---|---|
| Agriculture | 0.167 | 0.146 | -0.005 | -0.006 | -0.001 |
| Mining | 1.201 | 0.006 | -0.110 | 0.000 | -0.001 |
| Manufacturing | -0.071 | -0.001 | 0.562 | 0.012 | -0.001 |
| Utilities | -0.393 | 0.000 | 4.976 | 0.013 | -0.005 |
| Construction | -0.189 | -0.001 | 3.766 | 0.028 | -0.005 |
| Trade, restaurants, and hotels | -0.116 | -0.005 | 0.400 | 0.035 | -0.004 |
| Transport, storage, and communication | 0.014 | 0.000 | 0.132 | 0.002 | 0.000 |
| Finance, insurance, real estate, and business services | 0.287 | 0.001 | -3.594 | -0.012 | -0.004 |
| Government services | -0.177 | -0.005 | 0.045 | 0.003 | 0.000 |
| Community, social and personal services | -0.101 | -0.002 | 0.011 | 0.000 | 0.000 |
| **Total** | 0.062 | 0.139 | 6.182 | 0.074 | -0.021 |

Source: The author's calculation is based on the data from GGDC (2021).

To sum up, Tanzania experienced very little structural change as indicated by the development of the manufacturing sector as an important contributor to the real GDP and employment shares, being in much the same position as at the start of independence. Near zero value of within-sector productivity score for the whole economic sector growth means that economic activities did not involve continuous development and adaptation for the technology embodied because of innovation and invention. Technological learning and acquisition of technological capability were not an important part of the process of industrial deepening and changes in the structure of production in Tanzania (Wangwe et. al, 2014).

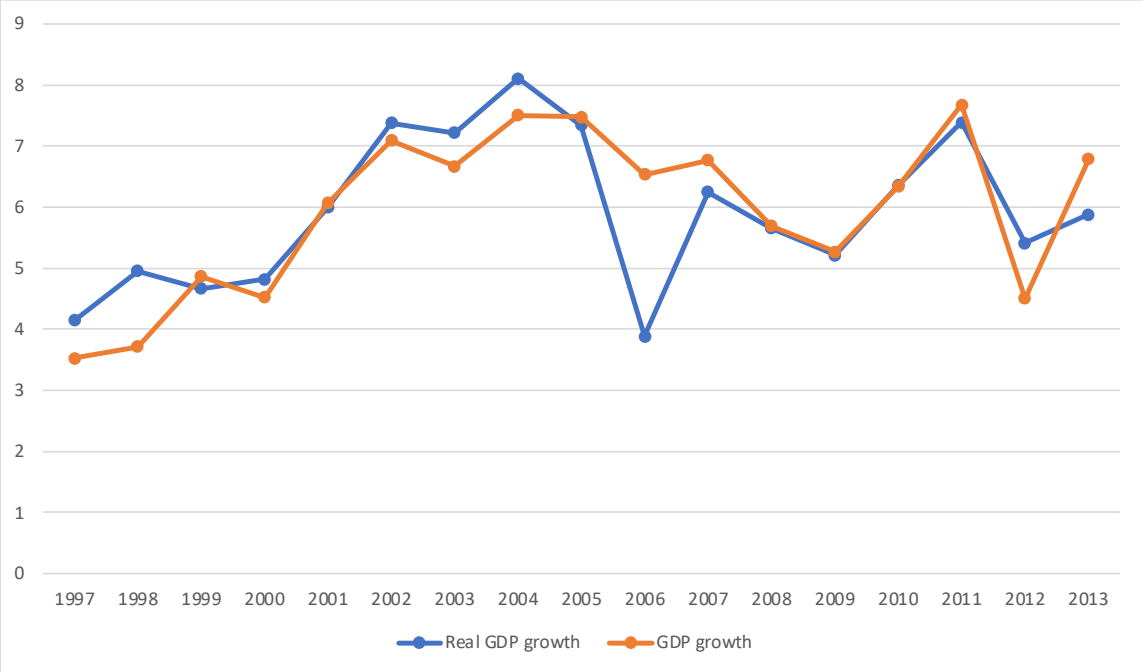
Moreover, changing the structure of ownership from private companies to the state parastatals as inherited after the 1967 Arusha declaration did not contribute seriously to the link between industrial development and the domestic resource base. In the case of Tanzania, industrialisation has largely involved the production of basic consumer goods or the final assembly of semi-advanced consumer goods using imported components. This resulted in little of the final products' value-added accruing to the national economy. In fact, it needs at least thirty-four years since independence for the top of government and political actors in Tanzania

to realize and beg the question of why there had been little change in the structural transformation of the national economy.

## Sustainable industrial development as national planning agenda, 1996-2013

In the second half of this chapter, I continued to examine Tanzania's structural transformation, specifically during the era of Benjamin Mkapa and then Jakaya Kikwete between period 1996 and 2013. Benjamin Mkapa succeeded Ali Hassan Mwinyi as the President of the United Republic of Tanzania in 1995, based on a popular anti-corruption campaign and buoyed by the strong support of former president *mwalimu* Nyerere. Mkapa notably privatised state-owned corporations and instituted free market policies (Heilman & Ndumbaro, 2002). These were aimed at attracting FDI for the promotion of economic growth and his policies were roundly supported by the World Bank and the IMF, and one of the outcomes was the cancellation of Tanzania's foreign debts. The question again in the rest of this chapter is whether these policy steps contributed to the structural transformation of Tanzania's economy.

The typical starting point for a discussion of economic change is to look at GDP growth. GDP data combines statistics on output and employment from various sectors of the domestic economy to provide a single figure for economic performance. Tanzania experienced a turnaround in GDP growth after a period of low growth from the post-Arusha declaration, which began to take shape in the mid-1970s and stagnated under the Structural Adjustment program in the mid-1980s. A period of rapid GDP growth began in 1997, and this was sustained for a decade with slight adjustments that occurred in 2006 and 2012, owing to the impact of the global food crisis. Figure 5.3 highlights the average rate of Tanzania's annual GDP, both in nominal and real terms, from taking off in 1997 to 2013.




Source: The author's calculation is based on the data of World Development Indicators from the World Bank (2022) and GGDC (2021).

*Figure 5-3. Tanzania's annual GDP growth rate in percentage forms from 1997 to 2013*

Tanzania's economic surge started in 1996 and came into effect immediately a year later. The country's nominal GDP grew at 3.52 per cent in 1997 compared to just around one per cent in the early 1990s. That figure in 1997 in constant value even rose higher to 4.14 per cent. From 1996 (the early years of Mkapa's tenure), the government's stance indicated a return to the development strategy of industrial advancement in the framework of market orientation and private sector-led development. To achieve this, a new twenty-five-year Sustainable Industrial Development Policy (SIDP) for Tanzania was launched in October 1996 to strengthen the industrial sector's long-term development.

The government's goal for the period 1996-2020 was to achieve sustainable industrial sector growth, which focused on producing higher levels of employment, economic transformation, equitable development, import substitution industrialisation, and export promotion. In other words, SIDP prioritised job creation, economic transformation, and equitable development while attempting to achieve the right balance between import substitution industrialisation and export orientation. At this time, the private sector was identified as the primary vehicle for direct investment in the economy, with the government shifting its role to provide an enabling business environment.

As shown in Figure 5.3, this figure fluctuated between 1998 and 2000 before rising steeply to reach a peak of 8.10 per cent of real GDP growth and 7.5 per cent of nominal GDP growth in 2004. From then, however, it decreased steadily both in nominal and real value of the GDP growth to a level of 5.2 per cent in 2009. Still, these figures in 2009 were higher than of the previous decades, and it almost increased two times of that value in 1997. Tanzania's economy, expressed both in nominal and constant or real values, continued to increase significantly in 2010 and reached another peak of 7 per cent in 2011. Then it fluctuated before levels off around 5-6 per cent of growth in 2013.

*Table 5.3. Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR) in Tanzania from 1996 to 2013*

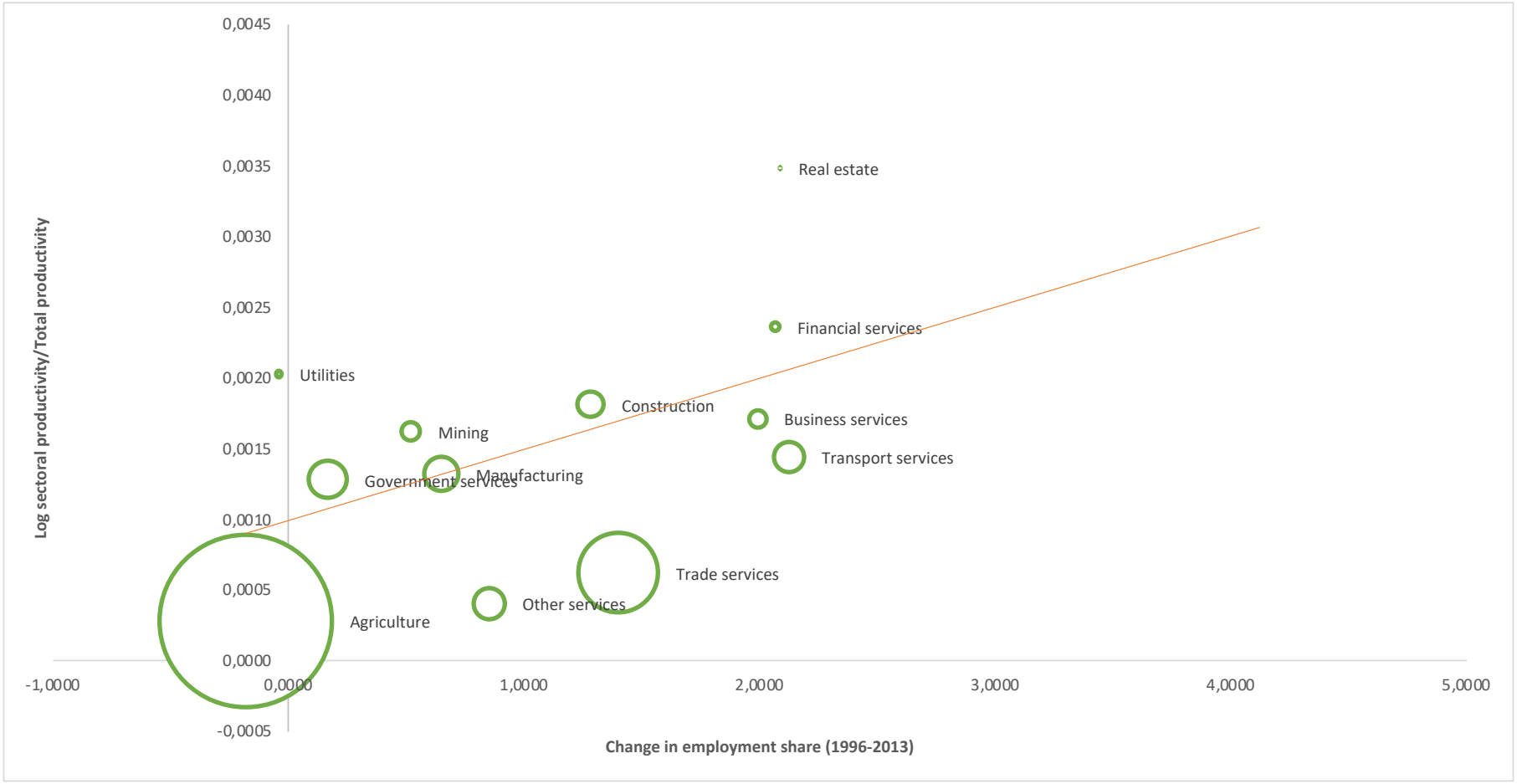
| Economic Sectors | JC | JD | NEG | GJR | EJR |
|---|---|---|---|---|---|
| Agriculture | 0.2532 | 0.0051 | 0.2481 | 0.2582 | 0.0101 |
| Mining | 0.0064 | 0.0011 | 0.0053 | 0.0075 | 0.0022 |
| Manufacturing | 0.0234 | 0.0011 | 0.0223 | 0.0245 | 0.0022 |
| Utilities | 0.0022 | 0.0014 | 0.0008 | 0.0036 | 0.0028 |
| Construction | 0.0141 | 0.0001 | 0.0140 | 0.0143 | 0.0003 |
| Trade services | 0.1213 | 0.0000 | 0.1213 | 0.1213 | 0.0000 |
| Transport services | 0.0191 | 0.0001 | 0.0189 | 0.0192 | 0.0002 |
| Business services | 0.0083 | 0.0000 | 0.0083 | 0.0083 | 0.0000 |
| Financial services | 0.0026 | 0.0004 | 0.0021 | 0.0030 | 0.0009 |
| Real estate | 0.0003 | 0.0000 | 0.0003 | 0.0003 | 0.0000 |
| Government services | 0.0238 | 0.0005 | 0.0233 | 0.0242 | 0.0009 |
| Other services | 0.0492 | 0.0214 | 0.0278 | 0.0706 | 0.0428 |
| Total | 0.524 | 0.031 | 0.493 | 0.555 | 0.062 |

Source: The author's calculation is based on the data from GGDC (2021).

But this period of sustained high GDP growth did not improve Tanzania's status as a low-income country as real per capita GDP increased from barely USD 530 annually in 1996 to USD 888 per year in 2013. One of the fundamental problems that arose was the driver or sectoral basis in the path of its economic transformation. Analysis of the GGDC 12-sector database is presented in Table 5.3, and results shows that 25.32 per cent of job creation was in the agriculture sector within the seventeen-year period from 1996 to 2013, with an average annual Job Creation rate was 1.49 per cent. This rate of annual Job Creation from the agriculture sector represents 48.34 per cent or almost half of the annual Job Creation rate of the total 12 Tanzania's economic sectors from 1996-2013. Then, that rate is followed by trade services, which comprise economic activities related to wholesale and retail trade, repair of motor vehicles and motorcycles, and accommodation and food service activities with an annual Job Creation rate of 0.71 per cent, other low-skill domestic service activities such as household employer with Job Creation rate of 0.29 per cent annually, the government services employee with an annual Job Creation rate of 0.14 per cent, and lastly manufacturing with an annual Job Creation rate of 0.14 per cent.

Job Creation (JC) rates generally dominated Job Destruction (JD) rates in all sectors between 1996 and 2013. Though Job Creation is higher than Job Destruction, it was insufficient to accommodate an average of 2.69 per cent of the labour force growth rate each year that will enter the labour market to seek jobs in Tanzania. These conditions are reflected in employment growth in Tanzania, which is characterised by the static sectors. Figure 5.4 aims to capture this static effect of whether expanding employment shares are generated higher by the lower productivity than high productivity growth sectors. It found that trade services which became a destination for labour who moved out from agriculture had a lower productivity growth rate than an average growth of economywide aggregate productivity per worker. This is illustrated by the position of the agriculture and trade services bubble charts below the thin red line in Figure 5.4. In other words, the pattern of employment mobility is from low to other low-productivity sectors.

From the foregoing it is evident that the average labour productivity in Tanzania's trade services sector is almost twice that of the agriculture sector. But it is only a quarter of the average manufacturing labour productivity. Table 5.4 highlights the result of the labour productivity growth decomposition. This estimation was based on GGDC's 12 Africa sector database. This GGDC 12-sector was an updated version of the GGDC 10-sector database, but it provides a time series from 1990 to 2018. The indicators used in this analysis are employment and GDP shares by twelve broad economic sectors. The indicator of GDP by sector is recorded in local currency, Tanzania Shillings (Tsh) current prices. Then, it is divided with the deflator to obtain the real GDP value. This procedure was done to allow easy comparison of indicators between periods. At this time, constant price in 2015 was used as the reference or basis year due to the updated data availability of the GDP deflator, and this year was regarded as a relatively stable period in terms of price fluctuation, specifically in the period after the global financial crises in 2008-09. This primary assumption was necessary in the economic time series model. Meanwhile, the indicator of workers' productivity per sector used in the analysis was obtained by dividing the real GDP by the number of workers engaged in each economic sector.




Source: The author's calculation is based on the data from GGDC 12-sector database (2021).

*Figure 5-4. Sectoral productivity and employment changes in Tanzania from 1996 to 2013*

The results confirm that close to 99 per cent of Tanzania's growth in labour productivity between 1996 and 2013 is attributable to the structural change effect or caused by the reallocation of workers between economic sectors. Employment shares dropped in agriculture, the sector with the lowest average labour productivity. In 1996, about 84 per cent of Tanzanian employment was in agriculture. This figure gradually declined to 69 per cent in 2013.

Linking together the result of Table 5.3, Figure 5.4, and the growth decomposition presented in Table 5.4 does tell us that structural change in Tanzania was the result of 'simply' labour reallocation between sectors, mostly from agriculture to service sectors, which are more productive but still under the industrial sectors. That result also confirms labour productivity gain was generated by the structural transformation from agriculture to manufacturing and non-manufacturing industrial sectors and services. However, increasing industry employment relative to agriculture obtained a value of 11.38, or it scored higher than 5.53 for the structural transformation from increasing services employment relative to agriculture.

*Table 5.4. Decomposition of labour productivity growth in Tanzania from 1996 to 2013*

| Economic Sectors | Aggregate | Within | Between | Static | Dynamic |
|---|---|---|---|---|---|
| Agriculture | 0.4182 | 0.3538 | -0.3023 | -0.0741 | -0.0310 |
| Mining | 0.9367 | 0.0060 | 9.4507 | 0.0128 | 0.0120 |
| Manufacturing | 0.1756 | 0.0032 | 6.8760 | 0.0441 | 0.0078 |
| Utilities | 0.1388 | 0.0002 | -1,5493 | -0.0009 | -0.0001 |
| Construction | 0.4045 | 0.0032 | 32.7611 | 0.0758 | 0.0307 |
| Trade services | -0.4415 | -0.0279 | 4.2642 | 0.1984 | -0.0876 |
| Transport services | -0.5032 | -0.0038 | 27.8183 | 0.1740 | -0.0875 |
| Business services | -0.3629 | -0.0011 | 42.2980 | 0.0808 | -0.0293 |
| Financial services | 0.1473 | 0.0001 | 140.2745 | 0.0420 | 0.0062 |
| Real estate[6] | -0.5577 | 0.0000 | 1054.2480 | 0.0871 | -0.0486 |
| Government services | 0.8121 | 0.0257 | 1.6460 | 0.0118 | 0.0096 |
| Other services | -0.5080 | -0.0068 | 1.7529 | 0.0196 | -0.0100 |
| Total | 0.111[7] | 0.353 | 265.290 | 0.584 | -0.179 |

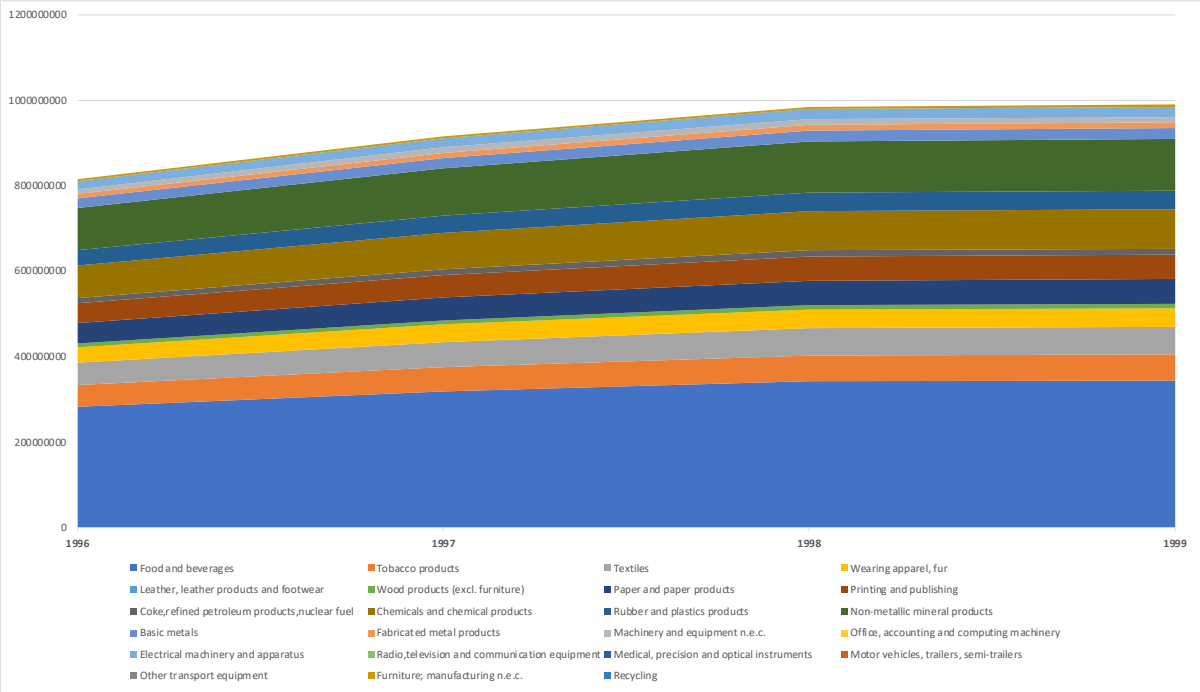
Source: The author's calculation is based on the data from the GGDC 12-sector database (2021).

Nonetheless, manufacturing as a share of real GDP was estimated to be 6.83 per cent in 1996 and moderately increased to 8.35 per cent in 1999. This figure was too small as a sector to be a powerhouse of economic growth in the case of Tanzania. The manufacturing structure from 1996 to 2013 is illustrated in Figure 5.5, was based on 'early' basic industries, with food and beverages dominated by 34 per cent, followed by non-metallic mineral products at 12.11 per cent, chemical products at 9.35 per cent, and tobacco products and textiles each accounting

[6] Worker productivity in the real estate sector between 1996 and 2013 is quite misleading to interpret since the value of property buildings greatly skews the overall average productivity. Hence, the case of labour productivity in Tanzania's real estate was an outlier and excluded to be further analysed.

[7] An average aggregate productivity growth.

for 6 per cent. Then, paper products, printing, and publishing manufacturing activities by 5.8 per cent.

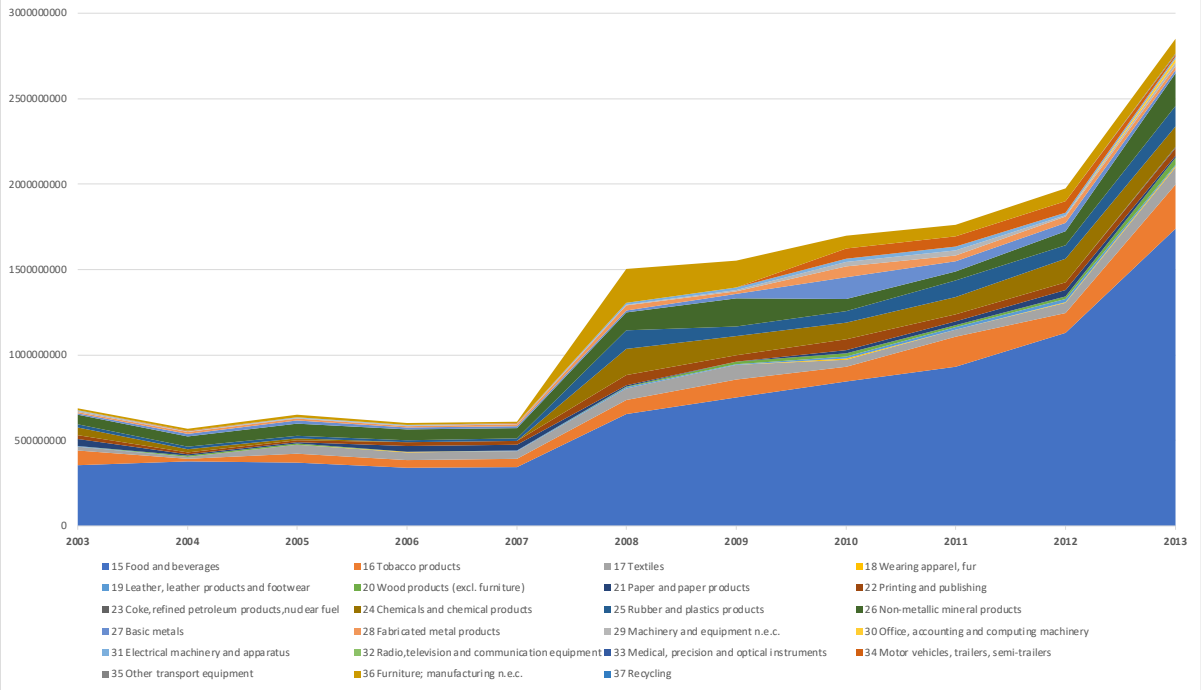



Source: The author's calculation is based on national accounts' data from the UNIDO (2021) and GGDC (2021).

*Figure 5-5. Manufacturing sector by the structure of output in Tanzania 1996-99*

Those manufacturing output structures remained unchanged between 2003 and 2013, as illustrated in Figure 5.6. Even though in 1999, the country's economy adopted another enhanced industrialisation policy recognised as Vision 2025, which aims for the nation to be semi-industrialised by making the industry the leading sector in transforming the economy. The bar chart in Figure 5.6 shows the proportion of output produced by each manufacturing activity in Tanzania from 2003 to 2013. There is no difference in the sequence structure of manufacturing products being produced, subsequently from food and beverages, non-metallic mineral products, chemical products, tobacco products and textiles. The main difference within this period is that the share of the food and beverage industry is growing and considerably dominated by 61.05 per cent of output from the manufacturing sector. In addition, the food and beverage industry were the highest employment provider in Tanzania's manufacturing sector, which accounted for 43.2 per cent of the total manufacturing workers in 2013.

Finally, expanding the manufacturing sectors of Tanzanian economies, as a means of stimulating its growth and diversification is still an uneasy task within the period 1996 to 2013. Since this country has yet to be able to achieve the required threshold levels of manufacturing sector size, structure, and dynamism. The manufacturing sector in Tanzania during 1996 and 2013, likewise the previous years, remains relatively small, with most activities concentrating on the production of simple consumer products such as foods, beverages, tobacco, textiles, and light industrial goods from non-metallic mineral and basic chemical components. Despite its small size, however, the sector continues to be of considerable importance to the Tanzanian economy and is still highly productive.




Source: The author's calculation is based on national accounts' data from the UNIDO (2021) and GGDC (2021).

*Figure 5-6. Manufacturing sector by the structure of output in Tanzania 2003-13*

# Chapter 6 : Servicification of Manufacturing and Structural Transformation in Tanzania, 2014-21

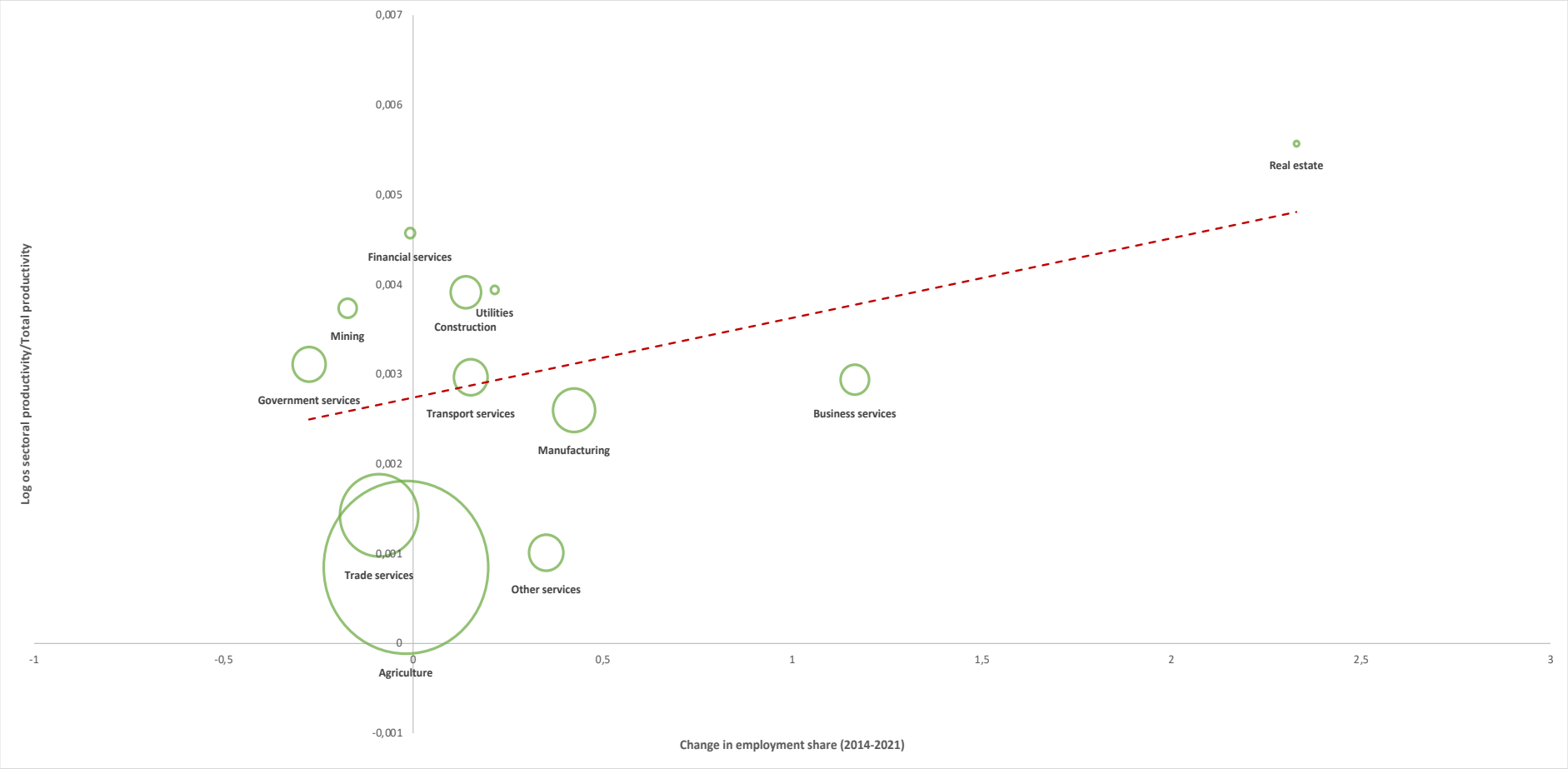
As Tanzania progresses in its development, it will face a global economy vastly different from the previous story of late industrializing East Asian countries. Newfarmer, Page, & Tarp (2018) found four global trends present new opportunities or threats for Africa, such as a revolution in trade in services, a dramatic shift towards servicification of manufacturing production, an increase in global value chains, and major development in technology markets may permit African countries to leapfrog their structural transformation pathway.

Employment and GDP data were sourced from the GGDC 12-sector database from 2014 to 2018 and from the official national accounts published by Tanzania's National Bureau of Statistics for 2019 to 2021. However, we construct an updated dataset for the Tanzania country data from the GGDC 12-sector database to include the statistics from the Zanzibar Island. Based on this thesis examination, the several sample periods from the GGDC 12-sector dataset only represent Tanzania mainland for the published data. For example, in between 2014 and 2018. This expanded dataset is used in the analysis of this chapter.

The indicator of GDP by sector is recorded in local currency, Tanzania Shillings (Tsh) current prices. Then, it is divided with the deflator to obtain the real GDP value. This procedure was done to allow easy comparison of indicators between periods. Constant price in 2015 was used as the reference or basis year due to the updated data availability of the GDP deflator, and this year was regarded as a relatively stable period in terms of price fluctuation, specifically in the period after the global financial crises in 2008-09. This primary assumption was necessary in the economic time series model. Meanwhile, the indicator of workers' productivity per sector used in the analysis was obtained by dividing the real GDP by the number of workers engaged in each economic sector.

Figure 6.1 depicts the nexus between employment patterns and sectoral worker productivity in Tanzania from 2014 to 2021. Based on the size of the bubble chart, Tanzania remains predominantly agrarian, though between 2014 and 2021, the share of the Tanzania labour force making their living in the agriculture sector slightly decreased from 66.89 to 65.6 per cent. This sector, as shown in the near bottom left quadrant of Figure 6.1, is regarded as the least productive. On average, in 2021, Tanzanian farmers could earn an income of around Tsh. 2.17 million annually in 2015 prices or in real just USD 91 per month.

By the same token, labour resources are shifted away from low-productivity agriculture activities (in the bottom left quadrant). But much of the shift has been directed toward services-based activities, such as trade, business, and transport services, as well as the non-manufacturing industry, such as construction and utility sectors. Labour in these sectors are sequentially 1.69 times, 6.77 times, 6.94 times, 16.48 times, and 16.89 times more productive than agriculture workers. To put it more simply, aggregate productivity is the average amount of income that could be earned per worker from producing an output in each economic activity.




Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021) and GGDC (2021).

*Figure 6-1. Sectoral productivity and employment changes in Tanzania from 2014-21*

Moreover, workers in those emerging sectors also generated one-third, 1.36 times, 1.4 times, 3.32 times, and 3.41 times more money than manufacturing labour. Even in the case of workers in the financial sector (upper quadrant), which is the most productive sector over this period, they are remarkably thirty times and six times higher than labour occupied in the agriculture and manufacturing industry. The job profession in real estate services, like property agent or in *Kiswahili* word is called *dalali* even obtained a more staggering income of around Tsh 162 million or USD 81,000 annually in 2021. But worker productivity in the real estate sector is quite misleading to interpret since the value of property buildings greatly skews the overall average productivity. Hence, the case of labour productivity in Tanzania's real estate was an outlier and excluded in further analyses.

Apart from Figure 6.1 above, to better understand the nature of Tanzania's recent structural transformation, this chapter employs the growth decomposition methodology developed by Mcmillan & Rodrik (2011) and Owusu (2021) in Chapter 3 of this thesis and presented in Table 6.1 below. Between 2014 and 2021, the annual average aggregate labour productivity growth was 22.17 per cent. The result from the growth decomposition confirms that 99.17 per cent of this 22.17 per cent of Tanzania's labour productivity growth in 2014-21 is attributable to structural change, as noted in the last rows of Table 6.1.

On the contrary, aggregate productivity growth from within the sector only accounted for less than one per cent. Therefore, structural change has been growth-enhancing for the last eight years from 2014 to 2021, though in the context of weak overall intra-sectoral productivity generated through capital accumulation and technological change. In another way, the growth in labour productivity in Tanzania from 2014 to 2021 is 'simply' due to the movement of their worker out from agriculture in villages to the industrial and service sectors in urban areas. In fact, with the very low level of innovation within these sectors, as indicated by the value of its within-sector productivity, increasing competition due to a greater number of workers absorbed into this sector will reduce each worker's productivity level.

In addition, Tanzania's structural transformation pattern depicts that the observed structural change effect was driven by the static reallocation effect. This static effect means a shift of labour to sectors with smaller productivity gaps and employment shares not expanding (Owusu, 2021). Yet, the dynamic effect or shift of labour to sectors with higher productivity growth and expansion in terms of employment shares was negative, as shown in column sixth from the left-hand side of Table 6.1. These findings imply that structural change in Tanzania during 2014-21 involved a movement towards sectors with higher initial productivity levels but with lower productivity growth rates, for instance, in government public services, trade services, and mining sectors.

Clearly, as shown in column fourth from the left-hand side of Table 6.1, which sums up the within and between effect, the service sectors are more productive than agriculture. Specifically, trade services benefit the most from the reallocation of workers (structural change), as illustrated by the size of the bubble charts in Figure 6.1. Its productivity levels are well below what is categorized as global innovator services and manufacturing, though still higher than agriculture. For example, the result of growth decomposition, as highlighted in Figure 6.1 and Table 6.1, shows that declining employment proportions in trade services contributed more to the productivity growth rate than its worker productivity levels.

*Table 6.1. Tanzania's labour productivity growth by economic sectoral from 2014-21 (2015=100)*

| Economic sectors | Aggregate | Within (a) | Between (b) | Total (a) +(b) (Per cent) | Static | Dynamic |
|---|---|---|---|---|---|---|
| Agriculture | 0.2059 | 0.1378 | -0.0406 | 0.0972 | -0.0057 | -0.0012 |
| Mining | 0.7843 | 0.0085 | -5.2492 | -5.2406 | -0.0081 | -0.0064 |
| Manufacturing | -0.0442 | -0.0014 | 4.5799 | 4.5785 | 0.0376 | -0.0017 |
| Utilities | 0.0039 | 0.0000 | 7.9146 | 7.9146 | 0.0033 | 0.0000 |
| Construction | 0.6226 | 0.0131 | 4.9805 | 4.9937 | 0.0164 | 0.0102 |
| Trade services | 0.2345 | 0.0389 | -0.3294 | -0.2905 | -0.0112 | -0.0026 |
| Transport services | 0.1870 | 0.0049 | 2.3040 | 2.3088 | 0.0128 | 0.0024 |
| Business services | -0.3227 | -0.0031 | 17.1867 | 17.1835 | 0.0624 | -0.0202 |
| Financial services | 0.0458 | 0.0001 | -0.5133 | -0.5132 | -0.0004 | 0.0000 |
| Government services | 0.6913 | 0.0267 | -4.7038 | -4.6772 | -0.0272 | -0.0188 |
| Other services | 0.0300 | 0.0007 | 0.8865 | 0.8872 | 0.0050 | 0.0002 |
| **Total** | **0.2217**[6] | **0.2263** | **27.0158** | **27.2421** | **0.0849** | **-0.0380** |

| | | | |
|---|---|---|---|
| Contribution to economywide labour productivity growth in 2014-21 | 0.0051 | -0.0015 | 0.0036 |
| | 0.0003 | -0.1927 | -0.1924 |
| | -0.0001 | 0.1681 | 0.1681 |
| | 0.0000 | 0.2905 | 0.2905 |
| | 0.0005 | 0.1828 | 0.1833 |
| | 0.0014 | -0.0121 | -0.0107 |
| | 0,0002 | 0,0846 | 0,0848 |
| | -0.0001 | 0.6309 | 0.6308 |
| | 0.0000 | -0.0188 | -0.0188 |
| | 0.0010 | -0.1727 | -0.1717 |
| | 0.0000 | 0.0325 | 0.0326 |
| Total | **0.0083** | **0.9917** | |

Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021) and GGDC-12 sector database (2021).

Trade services recorded -0.2905 for the indicator of structural transformation measured by the sum from within and between effects. Moreover, trade services also recorded negative scores for the indicators to measure the static and dynamic effects of the sectors. That is to say, the marginal productivity level per worker in trade services would be decreased as more people joined to get a job within the sector. Those situations, combined with the low rate of within-sector productivity, could pose a pseudo pattern for Tanzania's structural transformation pathway. It is possible because the emerging services and non-manufacturing industry sectors could not maintain to absorb employment without sacrificing their productivity level.

Within narrowly defined industries or sectors, simultaneous job creation and destruction may occur during structural transformation (De Loecker & Konings, 2006). This could have an influence on job stability in certain economic sectors. To that purpose, this chapter goes beyond the standard labour productivity decomposition and investigates empirical links between sectoral transitions and key labour market outcomes. Between 2014 and 2018, Job Creation (JC) rates outnumbered Job Destruction (JD) rates in all sectors in Tanzania's. Job Creation is defined as positive employment changes or employment gains because of the expansion of the sector over time. The agriculture provided the highest Job Creation, with over

[6] An average aggregate productivity growth.

seven per cent from 2014 to 2018, or 1.4 per cent annually, followed by trade services, with just less than two per cent in the same period or 0.3 per cent per year. Meanwhile, Job Destruction is defined as the negative employment changes or employment losses from a contracting economic sector over time. Indeed, the Job Destruction rate only happened in the agriculture sector at 1.3 per cent from 2014-18 or 0.2 per cent rate per year. But it has no impact to drag this low-productivity sector to a negative net employment growth rate. Still, agriculture contributes the biggest to employment growth in Tanzania over this period under study.

*Table 6.2. Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR) in Tanzania from 2014 to 2018*

| Economic sectors | JC | JD | NEG | GJR | EJR |
|---|---|---|---|---|---|
| Agriculture | 0.072 | 0.013 | 0.059 | 0.085 | 0.027 |
| Mining | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 |
| Manufacturing | 0.005 | 0.000 | 0.005 | 0.005 | 0.000 |
| Utilities | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Construction | 0.003 | 0.000 | 0.003 | 0.003 | 0.000 |
| Trade services | 0.016 | 0.000 | 0.016 | 0.016 | 0.000 |
| Transport services | 0.003 | 0.000 | 0.003 | 0.003 | 0.000 |
| Business services | 0.001 | 0.000 | 0.001 | 0.001 | 0.000 |
| Financial services | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Real estate | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Government services | 0.003 | 0.000 | 0.003 | 0.003 | 0.000 |
| Other services | 0.010 | 0.001 | 0.009 | 0.012 | 0.003 |
| Total | **0.114** | **0.015** | **0.099** | **0.129** | **0.030** |

Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021) and GGDC (2021).

Excess Job Reallocation (EJR) in the agriculture sector, as stated in Table 6.2, is 2.7 per cent for the period 2014-18, likewise, the highest of all the sectors. Excess Job Reallocation is obtained through the sum of Job Creation and Job Destruction minus the mathematical absolute value of net employment change. According to Owusu (2021), the Excess Job Reallocation rate is a measure of job reallocation, which is an excess of the amount of job reallocation necessary to accommodate a given net employment growth rate. In other words, such a measure indicates the magnitude of deep restructuring that is needed to accommodate a given aggregate employment growth rate (De Loecker & Konings, 2006). It is revealing significant underemployment within the agriculture sector. Therefore, the postulate from Sir William Arthur Lewis more than six decades ago is still relevant to describe the recent condition of labour in Tanzania's agriculture sector. His theory of the dual sector model in 1954 argues that there is surplus labour in agricultural economies in the form of underemployment, hence, steps to expand employment outside of agriculture would jump-start economic development by engaging these unproductive workers into more productive activities. But this time, the answer for Lewis (1954) in the case of Tanzania is not manufacturing.

Apart from that, the relatively fast rate of Gross Job Reallocation (GJR) occurred in the service sector, particularly in trade services and other domestic services, such as human arts, entertainment, recreation, and household services workers. GJR measures which employment

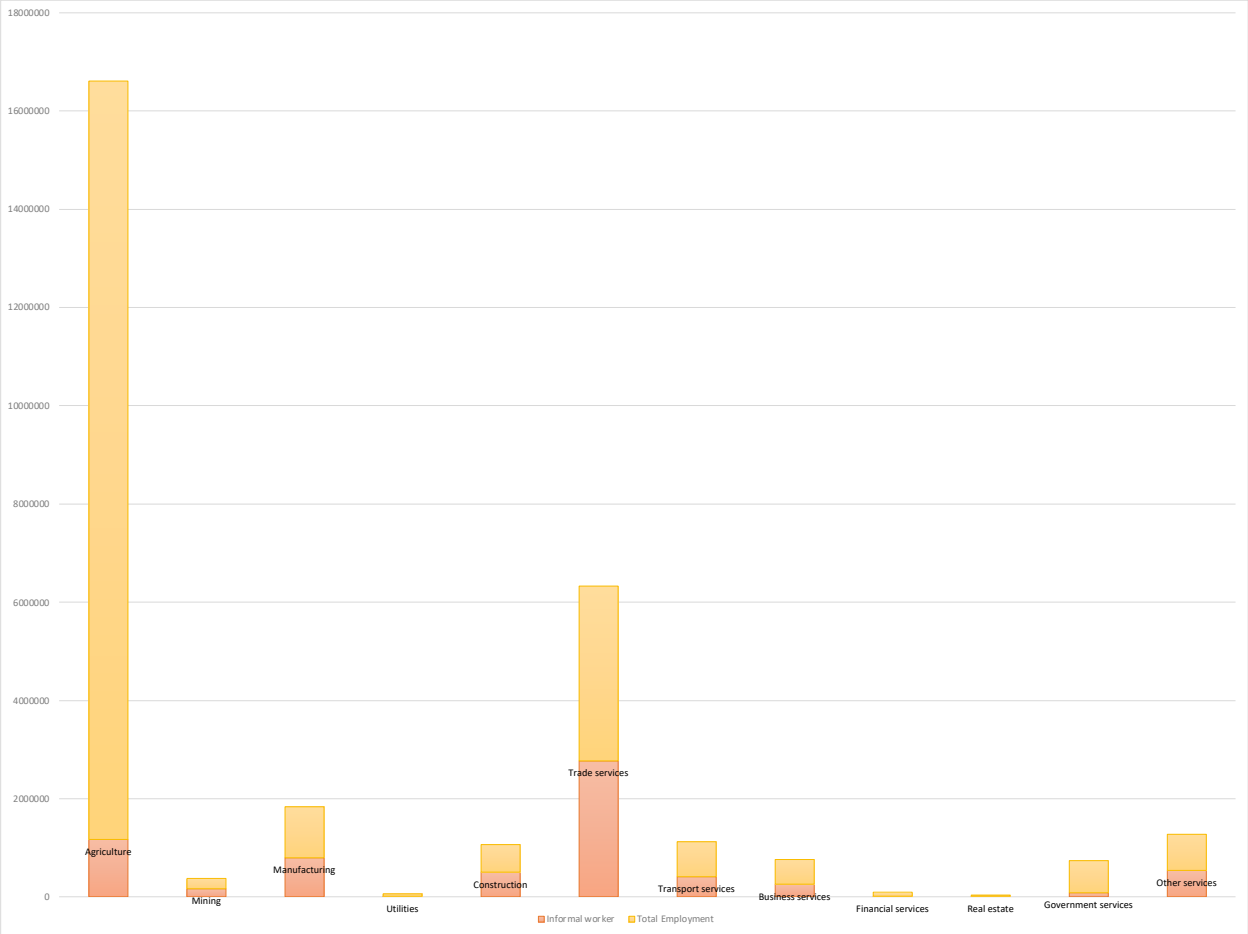
positions are relocated across sectors. In other words, these indicate the high degree of volatility associated with vulnerable employment growth in the sectors. Although the data of informal workers was not available for each specific of the twelve main economic sectors between 2014 and 2018. But it could be deduced that those services sectors seem to have a high informality, translating into relatively high fluctuations in employment growth. Many jobs created within low-skill services are in the informal sector and productivity statics over time, but those jobs still provide a higher and often more stable form of income for large numbers of people, especially for those moving out of agriculture and off the farm in 2014 to 2018.

## Informalization of manufacturing

The Tanzania National Bureau of Statistics began to publish official data for employment in the informal sector by economic activities in 2021. They define the informal sector based on the 15th ICLS (International Conference on Labour Statisticians) with some modifications to adjust the situation in Tanzania. The informal sector includes business entities that produce goods or provide services with the goal of creating jobs and income for those involved. Specifically, it does not constitute a financial separation of the production activities from the business and other activities from the owner, is not registered under specific forms of national legislation, and has the number of employees of less than five persons. In addition, informal employment refers to the kind of jobs that generally lack basic social or legal protections and no employment benefits.

Figure 6.2 shows the proportion of Tanzanian labourers employed in informal jobs in particular economic activities by sectors in 2021. The agricultural sector still dominates as the largest provider of employment in Tanzania. At least 65 per cent of the total 23.5 million employed labour force in 2021 earned their livelihood in this sector. The remaining 35 per cent or at least 8 million people widespread to work in eleven other sectors. From Figure 6.2, it is interesting to note that seven per cent of the proportion of the employed labour force in agriculture, or approximately 1.17 million people, are classified as informal workers. That data I obtained from the publication by the Tanzanian National Bureau of Statistics itself in 2021. However, it seems inconsistent since, in the meantime, they also adopted a definition of the informal sector based on the 15th ICLS, which excluded activities in agriculture from being classified as informal.

Apart from that, there are approximately 2.7 million people out of a total of 3.5 million workers employed in the trade sector whose activities are classified as informal. This number is quite large, whereas 77 per cent of jobs in Tanzania's trade sector, such as in wholesale and retail trade, repairs, accommodation, and food services, are mostly informal. Another service sector that is closely related to informal activities in Tanzania is transportation. However, the level of informality in this service sector is relatively lower compared to other service sub-sectors. There are 58 per cent of workers whose activities are considered informal in the transportation sector. The emergence of application-based online ride-sharing transportation services such as Uber and Bolt since 2018 in several large Tanzanian cities, such as Dar es Salaam and Arusha, has played a big role in absorbing and changing the status of these gig workers into formal employees. That does not necessarily make the online ride-sharing app driver happy because part of their income is currently deducted as tax and must be paid to the government.




Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021).

*Figure 6-2. Share of informal workers to the total Tanzania's sectoral employment in 2021*

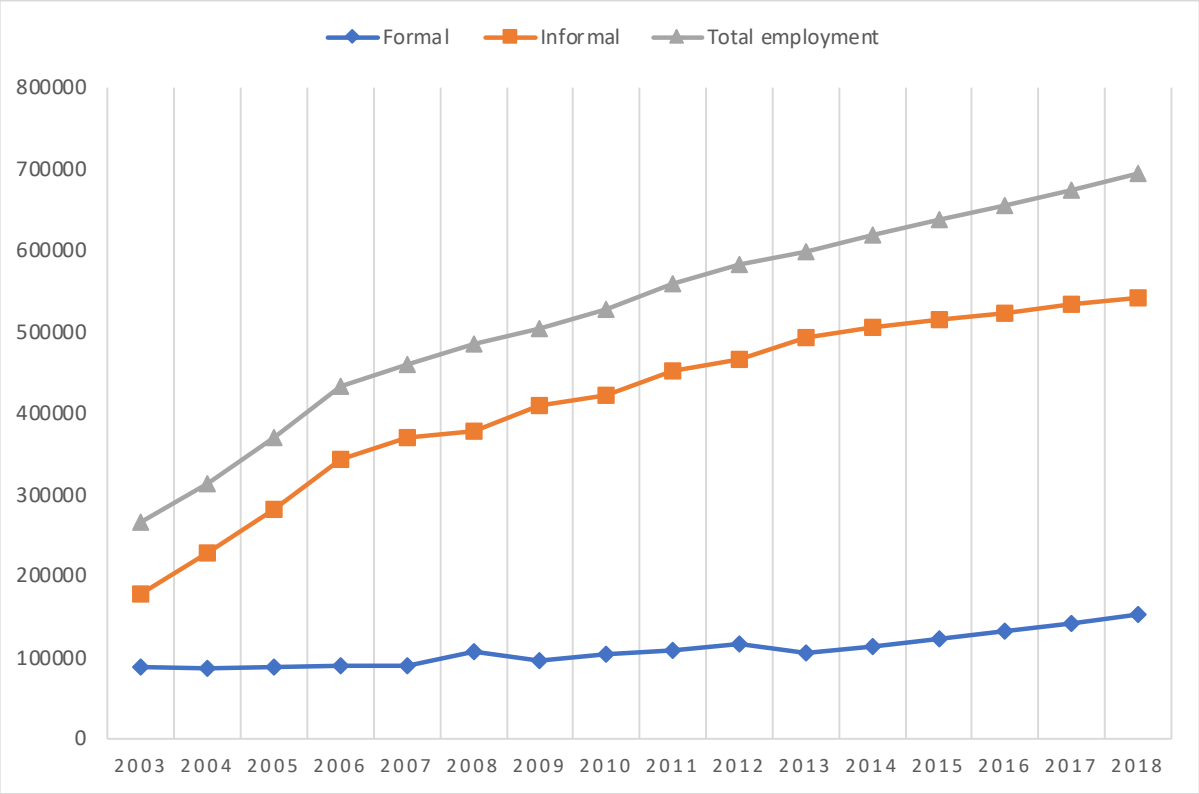
Similarly, a high rate of informality also occurs in Tanzania's industrial sector. In the case of informal jobs, the construction sector is at the forefront. In comparison, 88 per cent of workers in the construction sector are classified as informal workers. That number is approximately a half million people out of a total of 564 thousand employed labour force in the construction sector in 2021. Even though the non-manufacturing industrial sector workers are three times more productive than labour employed in manufacturing.

On the other hand, there is a new emerging phenomenon within Tanzania's structural transformation in the last decades, namely, the informalization of manufacturing. This symptom was defined by Rodrik (2023), who observed that the formal manufacturing sector in recent years could only absorb fewer workers and provide not as many jobs as before. Many workers who move from the agriculture sector are absorbed in informal manufacturing or belong to the services sectors: only a small share of them can find jobs in formal manufacturing sectors.

Figure 6.3 aims to dismantle that emerging phenomenon suggested by Rodrik (2023). There is no officially available statistical data which recorded informal employment by economic activities in Tanzania prior to 2021. This chapter determines the number of informal workers in the manufacturing sector by subtracting the total number of employments from the expanded GGDC-12 sector database with the number of formal workers in the manufacturing

sector published by UNIDO. The difference between them is considered as the number of workers whose activities are categorized as informal but still related to the manufacturing sector.

Then, Figure 6.3 shows the number of Tanzania's manufacturing employment by status divided between formal and informal workers over the period 2003-18. In 2003, about 67 per cent of labour employed in the manufacturing sector was regarded as informal workers. This figure increased substantially from 2004 to 2006. In 2004, there were approximately 227 thousand informal workers out of a total of 313 thousand workers in manufacturing. That amount contributes to 73 per cent of employed labour within the sector. Its share continued to increase in 2006 at 79 per cent. From then on, it increased steadily to reach 80 per cent in 2010 and grew gradually to around 78-79 per cent of total employment in manufacturing. Clearly, the manufacturing sector in Tanzania was growing significantly, which could absorb almost seven hundred thousand labourers in 2021. In addition, between 2003 and 2018, this sector provided nearly a half million new jobs for Tanzanians. However, it was later seen that most manufacturing jobs over that period were informal.




Source: The author's calculation is based on the data of national accounts from the UNIDO (2021) and GGDC (2021).

*Figure 6-3. Manufacturing employment in Tanzania by job status from 2003 to 2018*

Clearly, the number of workers employed in formal manufacturing from 2003 to 2018 remained stable at around 20 per cent of total employment. Most of the formal manufacturing sector workers in Tanzania are in the food and beverages industry, which accounted for 43 per cent of total manufacturing employment in 2018 (UNIDO, 2020). Even though, in terms of numbers, it grew from just 87 thousand people in 2003 to at least 152 thousand people employed in formal manufacturing, its growth rate could not keep up with the pace of job

creation from informal manufacturing. This reduced formal labour absorption capacity from manufacturing provides the answer to the result of productivity decomposition estimation regarding the low value of within-sector productivity and the claim that manufacturing in Tanzania is a static sector. In other words, the symptoms of informalization of manufacturing also explain that the growth of this sector throughout the 2003-2018 period was sourced from micro and small-scale manufacturing enterprises, which are commonly characterised by having workers of no more than five persons.

Also, the manufacturing sector in Tanzania does not demonstrate any sign of premature deindustrialisation, as Rodrik (2023) predicted, which found that most countries in Sub-Saharan Africa will experience it. Instead, the proportion of GDP in the manufacturing sector in Tanzania stagnated around eight per cent over three decades. Indeed, the growth occurs not directly from this sector but comes from other informal activities related to the manufacturing sector. In the meantime, the data in Figure 6.1, Table 6.1, and Table 6.2 show that services can deliver productivity growth. In the case of Tanzania, some service sectors even could produce higher productivity than manufacturing.

What matters for the longer-term prospect of services-led development is whether the features of the industrialisation in the manufacturing sector that have enabled scale, innovation, and spillovers along with job creation for unskilled labour as in East Asian countries experienced are increasingly shared by the case of the services sector in Tanzania. Unfortunately, the emerging high-productivity service sector could only provide fewer jobs (as demonstrated previously by the sectoral bubble graph size in Figure 6.1) than manufacturing, since the characteristics of these sectors are skill-intensive. Only less than one per cent of the Tanzanian labour force occupy business and financial services jobs. On the other hand, traditional trade services which are more productive than agriculture but just one-third of the manufacturing sector, still provide 15.1 per cent of jobs for Tanzanian workers. This creates a services conundrum about whether services can drive rapid growth.

In fact, between 2014 and 2021, productivity gain was generated by the structural transformation from agriculture to manufacturing and non-manufacturing industrial sectors. Using an expanded GGDC 12-sector data, the result of the estimation equation II.c.2 of Chapter 3 obtained a value of 4.31 for the structural transformation from agriculture to industry. In contrast, increasing services employment relative to agriculture recorded a value of -0.04, which implied productivity losses. These results replicate what was experienced in Tanganyika during the early independence period in 1961-66.

In short, this chapter discovered that Tanzania's structural transformation path from 2014 to 2021 cannot be stated as sufficiently sustainable as a powerhouse of economic growth and development in this country. As previously indicated, labour mobility to the service sectors will not produce gain or increase worker productivity. Meanwhile, the manufacturing sector, which has been pursued and has always been the priority and main topic of Tanzania's government development since it was Tanganyika in 1961, remains lower than planned. It also does not create bright prospects, as shown in the story of East Asian countries' industrialisation, because Tanzania's growth is based on the informal manufacturing sector.

## The pathway of servicification activities

A fundamental transformation in the pattern of structural change, the weakening of structural change as a growth engine, and the rise of services sectors made the future of economic development in Tanzania not like the past industrialised countries went through. The services sector's potential for economic scale, innovation, and spillovers has typically been hampered by the simultaneous nature of consumption and production, the inherent involvement of labour, and limited links to other sectors. These distinguishing features that differentiate services from manufactured goods have traditionally prompted many scholars to mistrust the sector's ability to lead productivity growth and enable Tanzania to catch up, particularly when compared to manufacturing.

However, with the development of digital technology and enhanced service traceability, this possibility appears to be changing. The introduction of the trend of servicification manufacturing makes this possible. Manufacturing characteristics that were traditionally thought to be uniquely special for productivity growth may be increasingly shared by some service sectors, especially with the advancement of ICTs (information and communication technologies). Services companies in the present day have more opportunities to improve efficiency through scale, labour-augmenting innovation, and backward or forward linkage with other industries.

Following Nayyar, Hallward-Driemeier & Davis (2021), twelve service subsectors based on ISIC Revision 4$^{th}$ can be grouped into four categories, namely, global innovator services, low-skill tradable services, skill-intensive social services, and low-skill domestic services. The groups were sorted into the share of value-added, share of employment, and per worker productivity level. The comparison of trends within this sector typology can show how a country can gain by producing in various service subsectors and it could become a preliminary assessment to estimate the scope of servicification of manufacturing in this country.

Table 6.3 demonstrates the typology and scope for servicification of manufacturing in Tanzania based on the national accounts from the official data of the National Bureau of Statistics office in 2021. Occupation as professional, scientific, and technical activities, financial and insurance, and information and communication are classified as global innovator services since they are highly traded in international markets, and most employees in these services subsectors are skilled workers. Furthermore, these services can perform servicification activities in manufacturing because they are traded in the global market through remote cross-border supply. Therefore, they are amenable to offshoring and even conducting strategic tasks within GVCs. Of these subsectors, information and communication services, as well as professional, scientific, and technical services, are also distinguished by high research and development intensity, which became necessary features of servicification. While information and communication services, along with financial and insurance activities, are relatively capital-intensive. Overall, these service subsectors also have greater linkage with other economic sectors.

The global innovator services account for three per cent of services employment in Tanzania. Although consisting of a meagre share of service workers, these subsectors created 15.37 per cent of the total service real GDP value added in 2021. Productivity per worker in

financial and insurance services was above all, with an average of Tsh 65.57 million annually or USD 2,743 monthly. Other jobs within service subsectors, such as information and communication and professional, scientific, and technical, also produce quite high productivity. Subsequently, workers employed in these service activities respectively could earn an average income of Tsh 53.63 million per year and Tsh 13.34 million per year or approximately USD 2,244 per month and USD 558 per month if valued in 2015 prices. Those kinds of jobs provide quite high amounts of money to have a good monthly standard of living in Tanzania, whereas the country's annual real GDP per capita was USD 1,074 or, on average, just USD 89.57 per month.

*Table 6.3. Typology and scope for servicification of manufacturing activities in Tanzania 2021*

| **Service subsectors** | **Share to total service value added** (%) | **Share of employment** (%) | **Aggregate productivity per worker** (Tsh. mil.) | **Category/ Typology** |
|---|---|---|---|---|
| Wholesale dan retail trade, repairs | 22.01 | 46.04 | 4.04 | Low-skill tradable |
| Transport and storage | 20.24 | 11.32 | 15.09 | Low-skill tradable |
| Accommodation and food services | 2.88 | 10.94 | 2.22 | Low-skill tradable |
| Information and communication | 4.79 | 0.75 | 53.63 | Global innovator |
| Financial and insurance activities | 8.79 | 1.13 | 65.57 | Global innovator |
| Real estate | 7.27 | 0.38 | 162.62[7] | Low-skill domestic |
| Professional, scientific, and technical activities | 1.79 | 1.13 | 13.34 | Global innovator |
| Administrative and support service | 7.25 | 6.04 | 10.14 | Low-skill domestic |
| Public administration and defence | 10.85 | 1.89 | 48.56 | Skill-intensive |
| Education | 6.72 | 6.04 | 9.39 | Skill-intensive |
| Human health and social work | 3.92 | 2.64 | 12.54 | Skill-intensive |
| Household, and other service activities | 3.49 | 11.70 | 2.52 | Low-skill domestic |

Source: The author’s calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021).

Unfortunately, much of the increase in the employment share among service subsectors in Tanzania is sourced from low-skill tradable and low-skill domestic services. In 2021, the collective share of these subsectors was 86.42 per cent of employed labour in Tanzania’s service sectors. Among low-skill tradable services, 67.4 per cent of it was in wholesale and retail trade and repair services. These service jobs also absorb the biggest chunk of employment, with 46 per cent of Tanzanians making a living within this sector. However, it was one of the least productive among all service subsectors. Tanzanians who are employed in wholesale and retailer trade activities produce an average annual income of around Tsh 4 million or USD 2,026 per year. That number, compared with jobs grouped into the global innovator services, is equal to one month's salary in information and communication services, likewise, in financial services. Meanwhile, several global innovator service subsectors, for

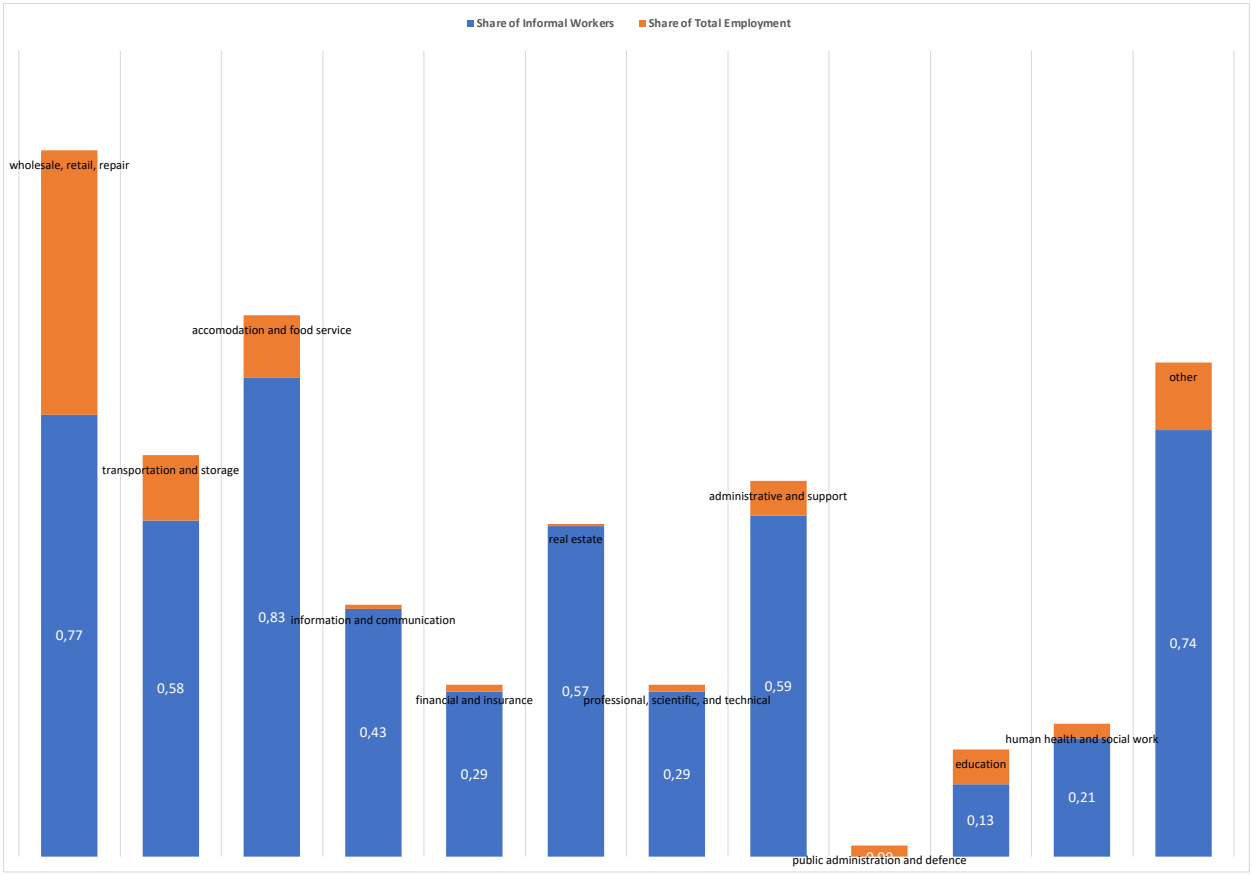
[7] Capital stock per worker in the real estate sectors greatly skews it aggregate productivity because of the rising value of buildings, so makes it outlier and unrealistic.

example, professional, scientific, and technical services could earn a similar amount of annual income as wholesale and retail traders in just four months. Nevertheless, these low-skill tradable services comprise the biggest share of Tanzania's service sector GDP in 2021 at 45.12 per cent.

As those estimations have demonstrated, the patterns of employment expansion in Tanzania are consistent with the two waves of services sector output growth, as identified in a previous study by Eichengreen & Gupta (2011). This chapter shows that much of the services sector's increased share of employment in Tanzania between 2014 and 2021 is attributable to low-skill services confirmed to the 'first wave', which consists primarily of traditional services, such as low-skill tradable and domestic services as simultaneously this country's GDP per capita moves from low income toward low-middle income. According to Loayza & Raddatz (2010), that finding has important implications for economic inclusion because cross-country evidence from their study found that poverty reduction is stronger when growth has a labour-intensive inclination. Their findings, if implemented in the case of Tanzania, suggest that the poverty alleviation effects from growth within wholesale, retail trade, repair services, and transportation services are close to the effects of equal growth in either the agriculture or manufacturing sectors, at times even exceeding those sectors such as also found within the previous study by Dorosh & Turlow (2018). The effects are further strengthened by the inclusion of informal economy workers and women into the low-skill services. It was no secret that the informality rate is high within the lowest tier of services subsectors.

Figure 6.4 shows the percentage of informal workers in each service subsector in Tanzania for 2021. On average, the informality between the twelfth sectors is 45 per cent, or almost half of the jobs within these sectors are related to informal work. Among low-skill trade services, accommodation and food services were the highest with 83 per cent, followed by wholesale, retail trade and repair services with 77 per cent. The service subsectors, which are grouped into global innovator services, produced the least informal jobs. These joined with the skill-intensive education sector, which accounts for only 12 per cent of its total employment, are informal. Meanwhile, the emerging trend of gig and freelance workers related to start-ups and technology-based business incubation, which is mushrooming in neighbouring Kenya and widespread in Tanzania, creates a high informality in the information and communication sectors. Though this sector produces enormous high productivity, it is also considered as an unstable job environment with a 43 per cent informality rate, as shown in the bar chart of Figure 6.4 below.

Over time, an increase in productivity will be central to creating better-paying or good jobs. The increase in the share of low-skill tradable and domestic services in value-added has yet to be commensurate with that in employment. The share of wholesale, retail trade, and repair services in total employment, in fact, decreased by 8.9 per cent between 2014 and 2021. At the same time, its share of GDP dropped even further by 14.84 per cent. On the other hand, the increasing trend of business services, which consist of global innovator services activities such as information and communication, professional, scientific, and technical activities, could be a catalyst for the servicification of the manufacturing ecosystem in Tanzania. To conclude, all means of structural transformation would be good if productivity per worker increased. Hence, servicification of manufacturing emerges as a channel to achieve or accelerate it.




Source: The author's calculation is based on the data of national accounts from the Tanzania National Bureau of Statistics (2021).

*Figure 6-4. Share of informal workers among Tanzania's service subsectors in 2021*

Currently, no official statistics data are available to describe the value of servicification of manufacturing activities. There is still no distinction in statistical methods to explain whether an economic activity is simply finally counted as a service or is also used to produce a manufactured product. Aside from that, there has not been a mechanism to explicitly assess how much of a service activity is used as a share of the value of manufactured goods. For instance, how could we even know the proportion of the services in the upstream research and development stages in terms of price formation of a manufactured product? Apart from this, the scope of servicification of manufacturing is traceable through the value chain activities. It is implied in their job task preference whether to outsource or offshore and which to produce by themselves. For this purpose, there is a story from a case study of a manufacturing firm that had been identified to perform servicification activities. This qualitative narrative was solely based on the findings during ten weeks of fieldwork in Tanzania in early 2023. Specifically, it is explained in Box 1 below:

## Box 1. Case Study Company

### From Surabaya to Dar es Salaam: The servicification story of manufacturing Africafe

*Africafe* is the trademark brand of a canned instant coffee product sold by Afri Tea & Coffee Blenders (1963) Ltd. This brand is very popular with a wide range of consumers in Tanzania. Its cans are easy to find, adorning most supermarket shelves and grocery stores in every corner of Dar es Salaam. Behind the story of its fame, *Africafe* apparently has its own story in the eyes of the owner of this company, Mr. Abulhakim Mulla.

Mr. Abdulhakim Mulla is the fourth generation of the Mulla family. He was a descendant of the Shirazi. This ethnic group is often found in Pemba Island of the Zanzibar archipelago. Their ancestors were originally immigrants from Iran who came to trade, and then gradually settled over a period of years until several of them married locals, had children, and assimilated on this island. The unification of Zanzibar into Tanzania resulted in the Shirazi also being granted Tanzanian citizenship.

Mr. Mulla was an opportunist businessman. Formerly, he was a diamond trader in the Indian market. He does not have any background or experience related to coffee. Its company, which now manufactures *Africafe*, was initially part of the parastatal in trading tea commodities, namely, Tanzania Tea Blenders. However, he initially chose to continue this former state company's business trajectory in tea. He did this since the company's long history in 1963 was in the tea trading sector. According to him, this company was previously called Brooke Bond Tanganyika Ltd. This company was part of the Brooke Bond conglomerate from the United Kingdom, which is famous for its black tea for breakfast.

This British colonial company was still operating until it was taken over by the Tanzanian government in the early 1970s as part of a massive nationalisation programme targeted foreign-owned companies following the Arusha declaration in 1967. Then, this company came under the control of the Tanzanian Tea Authority. The economic crisis that hit Tanzania from the 1980s to the early 1990s impacted the stagnation of the national manufacturing sector, including this company. Finally, this state-owned enterprise was privatised by the Tanzanian government in 2002 and bought by Lushoto Tea company, a firm which was partly owned by the Mulla's. Then, he changed the name of its new company to Tanzania Tea Blenders (2002). The year 2002 was added to his company to mark when it was privately acquired.

He changed again the company's name to Afri Tea & Coffee Blenders (1963) Ltd in 2008. The company's new name also implies they are expanding business into coffee products. The most popular coffee brand from their product lines is *Africafe*. Even though they do not manufacture it. To be precise, they prefer to outsource and offshore the manufacturing stages of Africafe in Indonesia at PT Aneka Coffee Industry, which is in Sidoarjo, an industrial town outside of Surabaya, the second biggest city in Indonesia, and the capital of East Java province. Mr. Mulla simply reinstated his reason for sending the assembly task far away, more than eight thousand kilometres across the Indian Ocean, because its company did not have raw materials for packaging, tin cans. Moreover, based on his calculation, it would keep producing profit even after adding the manufacturing and transportation cost of shipment from the port of

Surabaya to Dar es Salaam harbour. On the other hand, they continue to keep the upstream activities, such as research and development to create instant coffee recipes, and some remaining downstream activities, such as the marketing and distribution chain of *Africafe*, to be conducted by themselves in Dar es Salaam. The rest of the manufacturing process is handled by PT Aneka Coffee Industry.

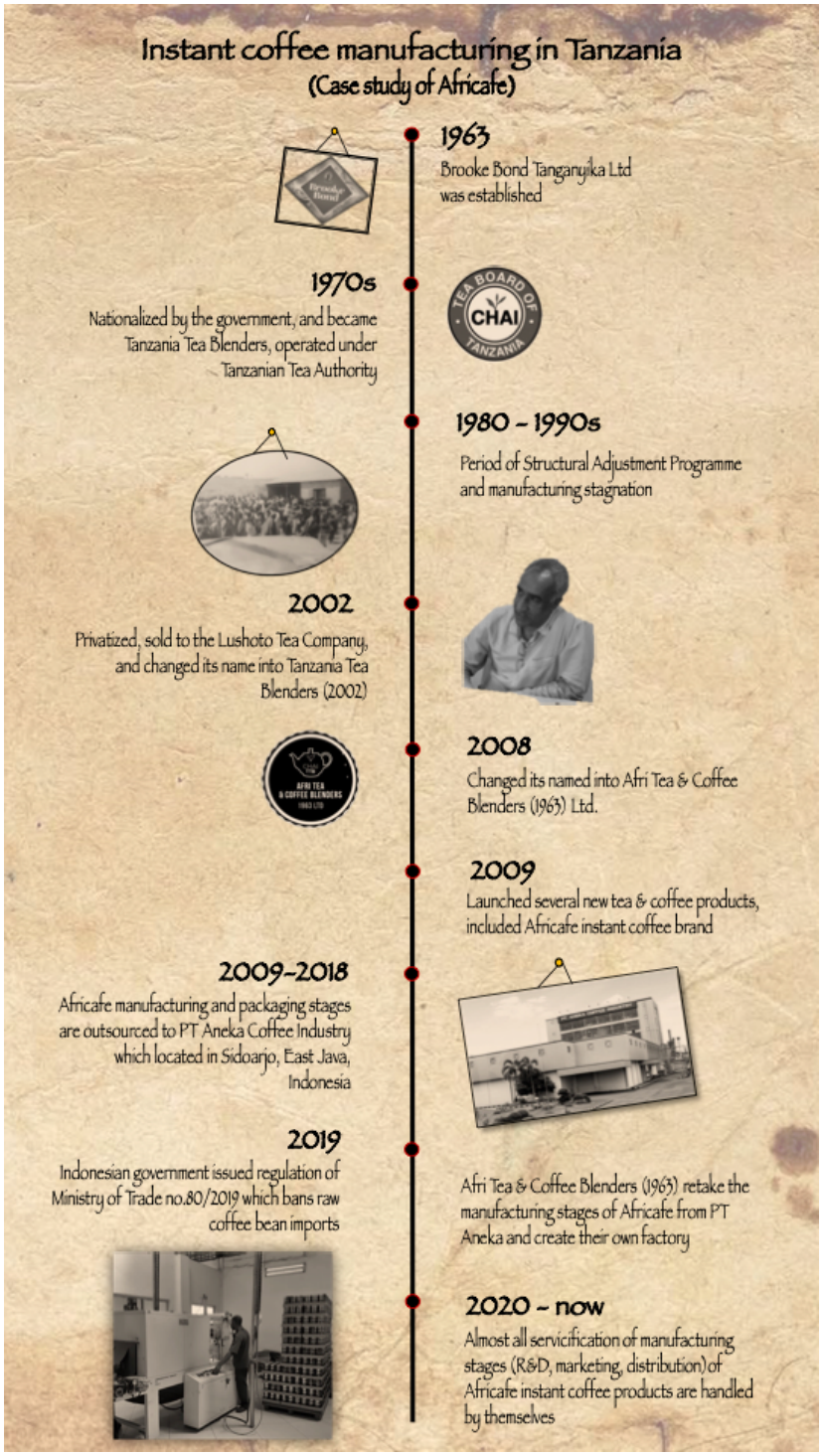
Firstly, the bulk of coffee beans and other raw blended ingredients were prepared by Afri Tea & Coffee Blenders (1963) Ltd. That mixed composition to produce *Africafe* was kept secret. Then, this raw material was shipped to the PT Aneka manufacturing plant in Sidoarjo. *Africafe* is manufactured through the spray-dried instant coffee mechanism, a technology from PT Aneka. After all, tons of *Africafe* canned coffees were shipped back and took a long journey from the port of Tanjung Perak in Surabaya via Colombo to Jebel Ali - Jeddah, and finally arrived at the main destination in Dar es Salaam. From there, it is transported to the company headquarter and storage facility at Bandari Road, near gate 4 DSM, Port Kurasini. This location was chosen not far from the main port to facilitate the distribution process of *Africafe*, which is mostly intended for re-export. Most of it was destined to supply the European market, mainly to Germany. Mr. Mulla mentioned that domestic market demand in Tanzania is too low because of the culture of Tanzanians who prefer tea to coffee. But the tea consumed by locals was totally different, and its flavour was just fitted to satisfy the domestic market since the tea had to be mixed with herbs and spices, and popularly known by the name *Chai-Tea* or lemongrass-tea.

Apart from the manufacturing stages, Afri Tea & Coffee Blenders (1963) Ltd. took the distribution and marketing of *Africafe* in Tanzania. They manage the whole logistical process from the main warehouse in Dar es Salaam to nine branches in the entire country and up to their kiosk, which mostly handles demand for retail traders. For these purposes, the company also owned its lorries line-up. After a decade, this cooperation between Afri Tea & Coffee Blenders (1963) Ltd and PT Aneka Coffee Industry to produce *Africafe* ended in 2018. That happened when the Indonesian government issued a regulation of the Ministry of Trade No 80/2019, which bans raw coffee bean imports. In response, PT Aneka argues to buy the coffee beans sourced from Indonesia instead of importing from Tanzania as has generally been implemented over this period. However, Mr. Mulla rejected that idea because the blended formula and coffee beans as raw materials were specifically the highest value-added within the production chain which could be acquired, and it must belong to his company.

After all, since 2020, Mr. Mulla, through his company, Afri Tea & Coffee Blenders (1963), took over all production chain of *Africafe* and began to manufacture it by themselves with the creation of a new instant coffee manufacturing plant in Bukoba, located near Lake Victoria in Northwest of Tanzania. But that does not make his company increase expansion to other markets for exports since a significant chunk of its resources must be shifted to produce the whole process of *Africafe.* Then, he realised that his company could not manufacture more efficiently than the PT Aneka Coffee industry did.

As this story has been described, between 2009 and 2018, Afri Tea & Coffee Blenders (1963) Ltd. engaged in the servicification of manufacturing by producing *Africafe* coffee. They decided to focus solely on the upstream activities, namely research and development in developing recipes for their coffee brands, and on the downstream activities, including marketing and distribution of *Africafe* products to retailers. On the other hand, manufacturing stages are outsourced to other companies, which are valued to have a more competitive

advantage in conducting it. This is possible due to the fragmentation of production in the global supply chain. The decision to just focus on upstream and downstream service activities in the *Africafe* production chain is the most profitable because the highest economic value-added is created during these two stages of production.




Source: The author's illustration is based on the interview with Mr Abdulhakim Mulla and Mr Baudin, both respectively, the owner and the supply chain manager of the Afri Tea & Coffee Blenders (1963).

*Figure 6-5. Historical timelines of instant coffee brand "Africafe" manufacturing and servicification-related activities*

Servicification can play a pivotal role in stimulating product differentiation, improving competitive advantage, and enhancing firm productivity, allowing firms to move up the value chain (Sundin et al., 2009). Greater use of services as inputs further implies that those services are likely to be produced or outsourced from the most efficient producers, leaving the firm, such as Afri Tea & Coffee Blenders (1963) Ltd, to specialise in its area of core competence. Such products end up being more sophisticated, of higher quality and can be vertically differentiated through branding (Bamieh et al., 2020). Furthermore, servicification could promote export performance from the manufacturing firms through diversification and sophistication of the product. From the *Africafe* production story, it can be concluded that servicification of manufacturing is profitable for the company. Instead of whole production stages, they only focus on specific nodes of the production chain, which are services activities, but competitive enough and generate the highest value-added for them. So, they have excess resources to diversify their business activities to develop other products, such as new tea product variants. This certainly has an impact on increasing company revenue. However, their decision to retake the manufacturing stage resulted in the stagnation of this company's business because they had to do activities that they were incapable of doing at all.

## Servicification of Manufacturing in Post-Covid World

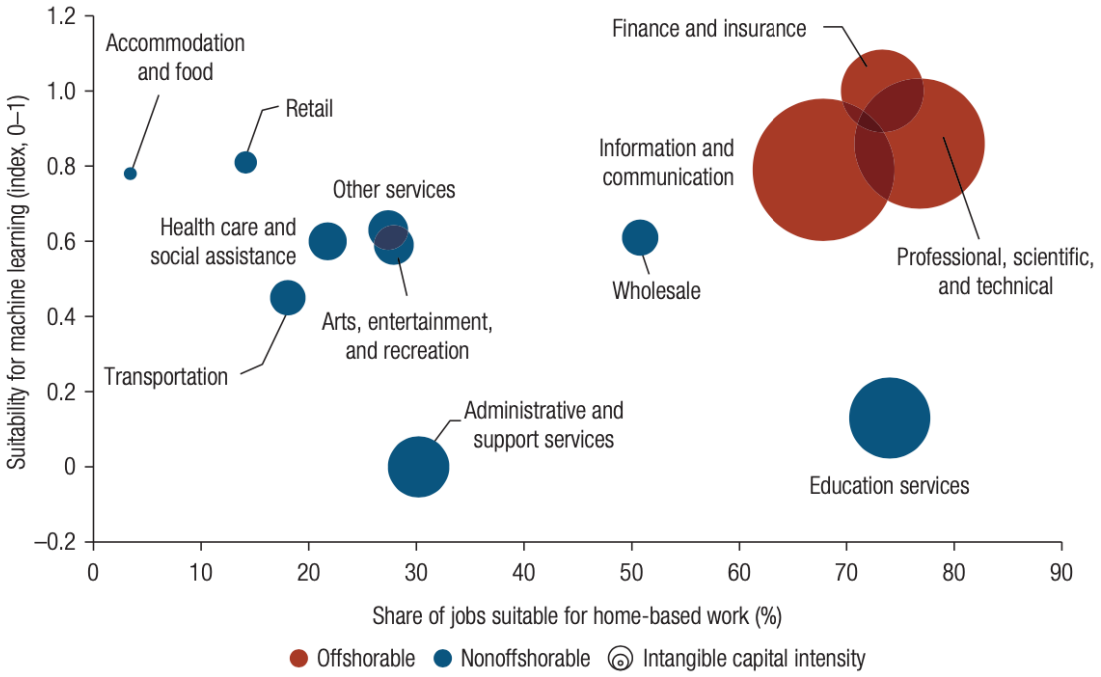
The Covid-19 outbreak that hit all countries in the world in 2020-2022 changed everything, including the way economic transactions, work, and manufacturing production lines are done. Apart from that, Covid-19 also has an impact on the acceleration of digitalisation, which was previously used as an alternative way to avoid face-to-face contact but has now become a commonplace norm. Beyond this health disaster, it provides great opportunities for developing service sector activities, especially in several jobs classified as global innovator services.

With the rise of online outsourcing via digital platforms, new exporting opportunities in ICT and professional, scientific, and technical services have emerged. As shown in Figure 6.6, these subsectors have the highest proportion of occupations that may be done remotely. The bubble size in Figure 6.6 indicates the expenditure on intangible capital, which is measured as spending on research and development and software within the sector. Then, it is statistically normalised by the number of workers employed. Specifically, red bubbles indicate sectors that can be easily offshored, and blue bubbles are those whose jobs are not offshorable, according to Nayyar, Hallward-Driemeier & Davis (2021).

Nowadays, companies can expand operations more easily with intangible capital boosted by data and software than with physical capital. For example, Uber and Bolt can service more passengers in Dar es Salaam with their existing software, whereas the local taxi company must purchase more vehicles. As technology progresses, it facilitates the dematerialisation of consumption, shifting demand away from just goods toward goods embedded with services. These new opportunities for scale and innovation in the services sector are set to grow.

These trends are also important for employment creation. Because physical closeness between producers and consumers is less important, service jobs can be done anywhere, including remotely at home, even across international borders. This condition represents the possibility of numerous new occupations in the gig economy provided by digital platforms. At the same time, the inception of Artificial Intelligence (AI) and Machine Learning algorithms

has the potential to automate jobs in the services sector increasingly. For the most part, these trends matter for global innovator services. For instance, jobs related to financial and insurance, information and communication, and professional, scientific, and technical services could expand to the supply production chain of manufacturing firms. It could fulfil pre-production activities in upstream and aftermarket services. These global innovator services could even grow without a strong manufacturing base and create what is called 'factoryless' good producers.




Source: Nayyar, Hallward-Driemeier & Davis (2021).

*Figure 6-6. Share of service jobs amenable to home-based work and its suitability for Machine Learning*

To sum up, the emergence of services-led structural change in Tanzania could be advantageous if it was intended to serve servicification activities related to manufacturing sectors. This does not mean that it is exclusively limited to supply only the local manufacturing sector. But several high-productivity workers from global innovator services may be able to expand and export their skills to meet demand in the international market. Why is the servicification of manufacturing important? The results of this study found that the service sector can be a driver of the Tanzanian economy if it is still linked to industrial activities, whether manufacturing or non-manufacturing. Because only structural changes from agriculture to the industrial sector may result in gains or productivity growth for workers in Tanzania. Thus, servicification of manufacturing is an unavoidable option for the structural transformation pathway of this country. It is uneasy to pursue industrialisation for late industrialised countries, such as Tanzania, which lacks a strong manufacturing core, to compete with what East Asian countries have achieved. However, servicification provides an opportunity to bypass it.

# Chapter 7 : Concluding Remarks

## Summary and Conclusion

The objective of the thesis was to examine the patterns of structural transformation in Tanzania from 1961 to 2021 and investigate the role of manufacturing, services, and servicification activities in promoting growth-enhancing structural change in the country. To achieve this objective, the thesis draws heavily on secondary macro-level statistical data to measure productivity growth, productivity gains or losses, and other labour market indicators, such as Job Creation (JC), Job Destruction (JD), and Job Reallocation (GJR, EJR) of manufacturing and services workers. Furthermore, the primary qualitative data obtained through a case study specifically intended to examine the servicification of the manufacturing phenomenon in Tanzania.

The entire thesis was organised into six chapters. Underlying some of these chapters is the opportunity to highlight and understand how policy directions of government regimes were crucial to the outcomes of the economic transformation of Tanzania. Thus, Chapter 1 provided a general introduction and thesis outline. Chapters 2 and 3 provided academic debates and growing methods to observe the relation, patterns, roles, and importance between manufacturing and services within stages of structural transformation. Chapter 4 examined the role of manufacturing and services during the early post-independence period in 1961-66 and after the Arusha Declaration in 1967 to the implementation of *Ujamaa* and the beginning era of state-led industrial development in Tanzania until its wane in 1985. Chapter 5 examined the role of manufacturing and services during the period of the Structural Adjustment Programme from 1986 until 1995 and during the shifting role from the government to the private sector as the leading actor in Tanzania's industrial development from 1996 to 2013. Finally, Chapter 6 investigated the role of the servicification of manufacturing in enhancing growth and affecting Tanzania's structural transformation pathway in 2014-21.

This thesis provides relevant insight into the ongoing academic debates about the feasibility of a manufacturing-led versus service-led growth model for Africa, especially in the case of Tanzania. Analyses of the Tanzanian context shows that structural transformation or the phenomenon of movement of workers from agriculture to other more productive sectors accounts for 98 per cent of labour productivity growth in Tanzania from 1961 to 2021. Whereas within-sector productivity growth, which is described by Mcmillan & Rodrik (2011) as intra-sectoral productivity generated from capital accumulation and technological change only contributes 2 per cent over the same period. In terms of real GDP, this country is experiencing structural changes from agriculture to a service-based economy. However, in terms of the structure of labour, agriculture is still the mainstay for most Tanzanians. According to Baymul & Sen (2020), this situation is classified as *structurally underdeveloped* where the proportion of workers in agriculture is higher than in any other sector. A further and thorough investigation of this thesis revealed the agriculture sector also contributed the largest Job Creation (JC) in the entire sample period under observation, even during the crisis in the mid-1980s. The problem arose because agriculture had little impact on the sector's economic value-added. Its workers' productivity remained unchanged or only slightly improved since the country's independence in 1961 until more recent years in 2021.

As discussed in Chapter 4 to Chapter 6 of this thesis, Tanzania's structural transformation pattern showed that most of those workers who have moved out from agriculture ended up engaging in urban low-skill service sub-sectors, such as wholesale, retail trade, repair services, transport and storage services, accommodation and food services, and household employees. Labour mobility to these types of service sectors will not produce gain or significantly increase worker productivity. This structural transformation path, which was recorded from 1985 to 2021, cannot be described as sufficiently sustainable as a driver of economic growth and development in this country. Service subsectors such as wholesale, retail trade, and repair services also had quite high scores on the indicator of Gross Job Reallocation (GJR), which means a high degree of volatility or unstable employment growth.

Beginning in the 1960s, Tanzania implemented various industrial policies from state-led import substitution industry to private sector-led economic transformation. However, those policies have yet to shift enough manpower to manufacturing to the point where the sector could create decent and sufficient jobs to accommodate millions of Tanzanians who entered the labour market each year in the last decades. Instead of demonstrating any sign of premature deindustrialisation as Rodrik (2023) predicted, the proportion of GDP in the manufacturing sector in Tanzania has stagnated around eight per cent over three decades.

Tanzania's manufacturing growth provided nearly a half million new jobs between 2013 and 2018, but most of it have been informal economic activities. This finding supports the study of Rodrik (2023) who became the first researcher to conceptualize this phenomenon as the informalization of manufacturing. This decreasing formal manufacturing labour absorption capacity provides an answer to a low value of within-sector productivity measured by productivity growth decomposition in this thesis. It also supports the postulate that manufacturing in Tanzania is a static sector, otherwise, stagnant after 1967 and its growth throughout the 2003 - 2018 period was sourced from informal manufacturing, which is commonly characterised by micro and small-scale enterprises with the number of workers less than five persons. The manufacturing sector, which has been pursued by Tanzania's government and dominated development themes since early post-independence in 1961, remains lower than planned. It also does not create bright prospects, as experienced in the story of East Asian countries' industrialisation.

This thesis also revealed that the emergence of services-led structural change in Tanzania could be advantageous if it is directed to serve or still related to manufacturing sectors. However, it is not limited to exclusively supplying the local manufacturing sector. Because of high productivity workers from global innovator services have opportunities to export and satisfy the demand of their skills in the international market. Several types of services are promoted as global innovators, such as information and communication, professional, scientific, and technical activities. These global innovator services are considered a catalyst for the servicification of the manufacturing ecosystem in Tanzania.

It is also evident that the concept of servicification was adopted in some Tanzanian firms, as presented in Chapter 6, in the case study of *Africafe* instant coffee manufacturing. The narrative story provides lessons learned: instead of whole production stages, this firm only focused on certain nodes of services within the manufacturing stages that generated the highest value-added. As a result, the company have an excess resource to diversify its business activities and develop other profitable products. Furthermore, servicification contributes to job

creation by generating demand for global innovator service workers in the upstream and downstream service activities of manufacturing stages, such as in the research development, marketing, and distribution stages of manufactured products.

To sum up, this thesis found that the service sector could enhance Tanzania's economic growth and development if linked to industrial activities, specifically manufacturing. In general, the structural transformation from agriculture to the industrial sector in Tanzania still generated the highest growth and gains in worker productivity, except in the period after the Arusha Declaration between 1967 and 1985. It is difficult for late industrialised countries, such as Tanzania, which lacks a strong manufacturing core, to pursue industrialisation and compete with what East Asian countries have achieved. However, the servicification of manufacturing provides an opportunity to bypass the manufacturing stage and keep up with the recent trend of global industrialisation.

## Policy Implication of Thesis

This thesis shows that services can deliver productivity growth. In the case of Tanzania, some service sectors even could produce higher productivity than manufacturing. However, the emerging high-productivity services, namely, global innovator services, which consist of occupations from information and communication, professional, scientific, and technical activities, only provide fewer jobs than manufacturing since the characteristics of these sectors are skill-intensive. For example, less than one per cent of the Tanzanian labour force is occupied in business and financial services. In contrast with traditional trade services, which are more productive than agriculture but just one-third of the manufacturing sector productivity, still provide 15.1 per cent of jobs for Tanzanian workers.

The emergence of the service-led structural transformation mandates the government to improve Tanzania's manpower capacity and skills. It is not a secret formula that the human capital factor is the primary key to the service sector's growth. This can be achieved through two channels, namely, the education system and infrastructure. Obviously, the government should focus more on vocational education and training centres to enhance human skill capacity. According to the human capital theory, education is a key determinant in enhancing a person's skills for higher productivity in the workplace, which in turn will bring a higher wage to the person.

Curriculars in Tanzania's vocational education and training system should aim to address the challenges of mismatching the skills imparted and those required in recent global and local labour market demand. With services-led structural change becoming the pattern of the country's economy and labour share, servicification of manufacturing is an important strategy to optimise those embedded situations without being left behind with the recent feature of GVCs. In this case, Tanzania's Vocational Education and Training Authority (VETA) would naturally have an active role in transforming the courses and workshops offered in its schools and training centres to be adaptive to the recent trend of servicification activities.

Instead of preparing technical and hard skills to develop students as an electrician, automotive repairer, masonry worker, carpenter, welder, hotel staff, plumber, tailor, and administrative clerk, VETA may need to design more additional courses related to high-productivity jobs in services, such as ICTs developer, business start-up, and digital gig worker.

Simultaneously, teaching staff in vocational schools and mentors in job training centres should level up their skills with further training, internships, and comparative studies with other countries. This will expose facilitators and teachers to more recent knowledge and experience to prepare the students to compete in the Industrial Revolution 4.0. Therefore, Tanzania's vocational education and training centres will seamlessly bridge the existing skill gap among low-skilled occupations and facilitate the transition of workers into more servicification activities.

Apart from increasing human capacity and skills, the government still needs to develop supporting infrastructure so that the servicification ecosystem can function in a better way. This will entail business incubator assistance, improving internet connectivity among regions and expanding the location of training centres throughout Tanzania. Servicification could provide an answer to what matters for the longer-term prospect of services-led development, whether the features of the industrialisation in the manufacturing sector that have enabled scale, innovation, and spillovers along with job creation for unskilled labour increasingly shared by the case of the services sector in Tanzania.

On the other hand, as discussed in this thesis, the career development of digital gig workers, specifically in the ICT services sector among young Tanzanians, experienced high instability in job growth. Even though they have high productivity, those insecure conditions make them vulnerable to sudden dismissal and lack of protection of workers' rights, all of which constitute a problem for productive employment. This situation is indicated by the high rate of informality among workers in ICT services. Thus, the Tanzanian government needs to design social protection schemes, such as unemployment insurance, that also cover workers in this emerging service sector.

## Limitations and Suggestions for Future Research

This thesis presented novel contributions to the literature on structural transformation patterns in Tanzania by examining the contributing role of manufacturing, services, and servicification activities. However, some limitations should be acknowledged to stimulate future research in under-researched parts of the topic. More and better data availability will be useful in future studies on the subject. Particularly in our analysis of servicification of manufacturing, one challenge we faced and is yet to be addressed is the lack of continuous statistical secondary data sourced directly from African countries, particularly Tanzania, which are regularly or periodically accessible. The reliance on secondary data published by other countries and international organisations is fine, but only to an extent because such data commonly embed discrepancies in their figures because of different statistical methods, samples, and motives. Such conditions caused extra time and resources to validate the secondary data for this thesis.

Servicification of manufacturing is still a relatively new phenomenon in academic debates in Tanzania, and whether it could be working in this country is still at infancy due to the lack of additional research and more comprehensive data to examine this postulation. It was one of the main considerations for the choice of a case study as a method. The examination of specific examples through case study is a common approach in disciplines such as law, medical and psychological research where the particular and extreme are documented (Miles, 2015). While the case study offers flexible spaces for combining different disciplines, it however

becomes an unusual method for studying the economy, particularly for the topic related to the global value chain.

As an emerging new phenomenon, the servicification of manufacturing needs more grounded and explorative research in nature by focusing on sectoral-specific firms. Instead of macro input-output and general equilibrium analysis, this emerging concept also requires a qualitative ethnography technique to analyse how the servicification of manufacturing works. For this purpose, the thesis further suggests that research design with individual firm-level data can be adopted in contexts of comprehensive data deficiency.

This thesis additionally adopted a qualitative case-study approach to explore in what ways servicification of manufacturing has been implemented in Tanzania. It was discussed extensively in Chapter 6. However, its narrative was limited and constructed solely based on the experience of a single manufacturing company. This situation is due to the researcher's limited financial resources and the relatively short time span of the fieldwork. As noted above, the servicification of manufacturing is a new phenomenon and needs more explorative research, which means in practice, it must be conducted qualitatively with 'snowball informant' companies or, in other words, more than one firm narrative to provide comparative investigation. This effort to explore every conceivable possibility would require enormous time and resources. Indeed, this research design is the most ideal but relatively expensive to implement. Future research on this topic should make attempts to reflect on these challenges.

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