DOES INSTITUTIONAL ENVIRONMENT MATTER FOR STRUCTURAL TRANSFORMATION IN THE ECOWAS BLOC?

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ABSTRACT

Purpose- This paper examines whether political, legal and economic institutions influence structural transformation in the Economic Community of West African States (ECOWAS) bloc.

Design/Methodology/Approach –The paper employs the pooled OLS estimation technique to analyse panel data on all fifteen (15) member countries of ECOWAS from 1980-2020.

Findings- The findings indicate that the institutional environment matters for structural transformation within the ECOWAS bloc. Specifically, strengthening political, legal and economic institutions such as democracy, constraint on executive power, protection of property rights, and economic freedom influence structural transformation in the ECOWAS bloc.

Policy implications– Deepening economic freedom, democracy, constraint on executive power, and protection of property rights in countries where such institutions are either poor or non-existent would help influence structural transformation within the bloc.

Originality/value – By examining the nexus between structural transformation and institutions, the article contributes to the scholarly debate by offering valuable policy recommendations tailored to the specific needs and contexts of ECOWAS countries. These* recommendations *encompass reforms to strengthen institutions, enhance regulatory frameworks, foster innovation, and promote entrepreneurship, all essential for fostering economic diversification and resilience.

Keywords: Institutions, Democracy, Economic Freedom, Constraints on the Executive, Structural Transformation, and ECOWAS bloc.

JEL Classification Codes: F15, O13, O14, and O43.

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Introduction

In contemporary discourse, structural transformation within scholarly literature has been of notable importance, highlighting its pivotal role as a catalyst for promoting inclusive growth and development. The structural change theory directs attention to how less developed economies shift their domestic frameworks away from traditional subsistence agriculture towards a contemporary, urbanised, industrially diverse landscape encompassing manufacturing and service sectors. As the literature further posits, when countries grow more prosperous, there is expected to be a paradigm shift in their allocation of labour and expenditure across the three main sectors of the economy, namely, agriculture, industry (i.e. manufacturing) and services (Święcki, 2017). Specifically, employment shares in agriculture and services are expected to decline, while those in manufacturing would increase. According to MacMillan et al. (2014), this paradigm shift increases overall productivity and income, thus reducing poverty. On the contrary, findings by Buera Kaboski (2012) and Maddison (1991), among others, reveal that structural transformation for many countries, according to Zulkhibri, Roca & Cheong (2015), entails three distinct forms: a decline in agriculture, a rise in services, and a mound-shaped pattern in manufacturing labour shares.

The pattern of structural change in the Economic Community of West African States (ECOWAS) owing to diverse economic structures, limited industrialisation, weak institutions and governance, infrastructure deficits, regional integration challenges, youth unemployment and large informal sector, and security challenges is quite complicated. The complications emanate from the fact that among the three traditional sectors of the bloc, the agricultural sector had the highest share of total employment until 2017 when the services sector outperformed the agricultural sector employment with a share of 43.3 per cent (WDI, 2020). Since then, services have dominated employment shares in the region. This pattern is lacklustre since both sectors (agriculture and services) have lower productivity compared to the industrial sector (i.e. manufacturing). Consequently, labour mobility from agriculture to higher productivity industry has been identified as a significant contributor to productivity growth in the industrialisation process (Helble et al., 2019).

The other strand of the argument in the literature posits that good institutions can also influence structural transformation. Good institutions manifest in the form of protection of property rights, a more friendly business environment, and efficient regulation that could spark structural change (Acemoglu, Johnson and Robinson, 2005). In the ECOWAS bloc, the weak institutional environment characterised by corruption and other rent-seeking activities, rampant coup d'état, and lack of rule of law, among others, further impede structural transformation in the subregion. Likewise, the study by Collier (2002) argues that the assumed Africa's comparative advantage in primary commodities was not due to its intrinsic endowments nor location but to an inhibiting policy-related investment climate. Thus, according to Collier, overcoming the inhibiting policy environment requires a range of coordinated policy improvements, including providing aid (especially for post-conflict countries, though not sustainable), diversification (manufacturing or services), and greater transparency in corporate payments of primary commodity rents to governments. Thus, there is a gap in policy to influence structural transformation in Africa as a whole and in the ECOWAS bloc as a subset. In addition to the policy gap, not many studies have been undertaken to examine how the quality of institutions affects structural transformation within the ECOWAS bloc. The studies in the literature, instead, mainly focus on the effect of institutions on economic growth and development (Fosu, 1992; Próchniak, 2013; Wanjuu & Roux, 2017; Wanjuu and Roux, 2017; Zhao et al., 2021; among others).

Motivated by the research and policy gaps, this study seeks to analyse the effect of institutions (both political and economic) on structural transformation in the ECOWAS bloc, using panel data from 1980 to 2020. Following the introduction, the rest of the paper is structured as follows: Section 2 presents a brief narrative of primary commodity dependence and structural transformation in the Sub-Saharan Africa region, particularly within the ECOWAS bloc. The theoretical and empirical literature is reviewed in Section 3, highlighting the gaps in the literature and how this study seeks to fill some of the gaps. Section 4 discusses the theoretical framework and methods, whilst Section 5 presents and discusses the empirical findings. Section 6 concludes the paper.

Primary Commodity Dependence and Structural Transformation of the ECOWAS Bloc

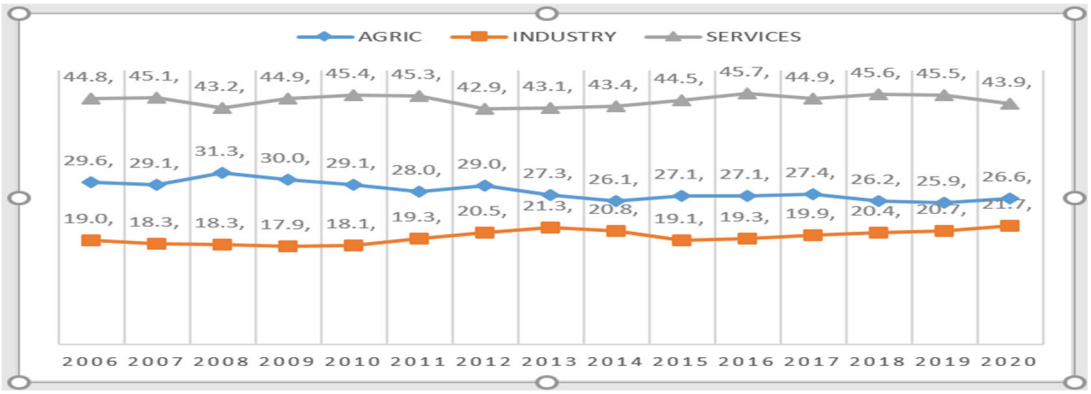
Structural transformation, according to Goel and Restrepo-Echavarria (2015), refers to the reallocation of economic activity across the distinct sectors of agriculture, industry (including manufacturing and construction), and services of an economy (Herrendorf et al., 2014). As highlighted by Arthur Lewis and others, the structural transformation theory suggests that economies transform from predominantly agrarian to industrial as they develop. However, as industrialisation occurs, labour shifts from agriculture to industry, where productivity and wages tend to be higher. Technological advancements in agriculture, urbanisation, and changes in consumer demand could drive this shift. This section presents an overview of primary commodity dependence and structural transformation of the ECOWAS bloc in terms of sectoral output changes over time, sectorial employment changes over time and changes in the sectorial composition of exports.

2.1 Sectorial Output Changes over Time

Concerning sectoral output, economic growth recorded in the African continent between 2000 and 2014 was a strong clip that fueled the narrative of an "Africa rising." However, since 2015, growth across Sub-Saharan Africa (SSA) has weakened, and the poor economic expectation for commodity prices now casts doubt on the "Africa rising" narrative (Omotor and Jimoh, 2019). Although the economic environment is becoming less favourable for African economies due to global challenges, particularly in West African countries (where there is the need to diversify to withstand future exogenous shocks), accelerating the pace of structural transformation and industrialisation equally matter.

Structural transformation (in terms of sectoral shares of GDP) has been static in ECOWAS in the last 15 years (2006-2020). The service sector has remained relatively dominant and had the highest GDP share during the period. As Figure 1 entails, agricultural (including forestry and fishing) and industrial sectors followed successively.

Figure 1: Sectoral Shares of GDP in the ECOWAS Bloc



Source: Authors Construct based on WDI data, 2020.

Among the three traditional sectors, the agricultural sector (including forestry and fishing) had the highest share of total employment until 2017, while the services sector outperformed the agricultural sector with an employment share of 43.3 per cent (Figure 2). Since 2017, the services sector has dominated sectoral employment shares with proportions of not less than 44 per cent due to several interconnected factors. For example, urbanisation rates in ECOWAS countries have been rising, leading to a growing demand for services such as retail, transportation, healthcare, education, and financial services in urban areas. As people move from rural to urban areas for better opportunities, the services sector expands to meet their needs, resulting in higher employment levels.

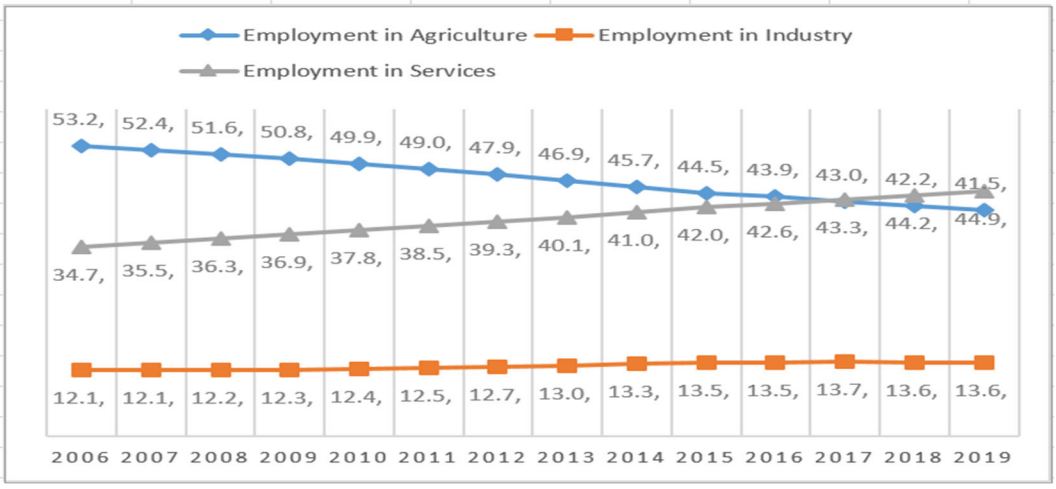
Other leading factors that drive the demand for service sector contribution in ECOWAS are demographic trends enthused by young and rapidly growing populations, which expands the services sector, particularly in education, healthcare, and entertainment. Deliberate government policies promoting tourism, financial services, ICT, and other service industries contribute to the sector's expansion and employment generation. The large informal sector also fuels the services sector and encompasses various activities. Informal services such as street vending, domestic work, and small-scale retailing significantly absorb surplus labour in ECOWAS countries. Finally, most services in ECOWAS countries are labour-intensive and require relatively lower levels of capital investment than manufacturing or agriculture. This characteristic makes the services sector particularly attractive, especially for countries like Nigeria, with abundant labour resources (Manuh, Sulle, & Lokenga, 2019; Fosu & Dacosta, 2019; AfDB, 2017; Arndt, Hussain, & Jones, 2017; Page, 2021).

2.2 Sectorial Employment Changes over Time

The changes in the industrial sector's share of GDP in the ECOWAS bloc have been sluggish. It has remained the lowest compared to the agricultural and services sectors over the period under consideration. Also, countries in the ECOWAS bloc tend to have low industrial cum manufacturing output shares and high service output shares (Figure 2). This differs from the structural transformation path followed by developed and emerging Asian economies with relatively higher industrial output shares and service shares (Bah, 2009). The low industrial share of GDP within the ECOWAS bloc may be attributable to factors such as high political instability-coup d'états (in Guinea, Mali, and Burkina Faso), poor infrastructure, energy crises, and rapid depreciation of domestic currencies. According to the African Economic Outlook (2021), other factors are high inflation and the high risk of debt distress, which have culminated in the slow growth rate of the Nigeri-

an economy. These factors deter the inflows of Foreign Direct Investment (FDI) to the industrial sector of the bloc, particularly to the manufacturing sub-sector. In addition, adverse shocks in recent times, such as the Russian invasion of Ukraine, the ongoing monetary tightening in advanced economies, and the vulnerability to new waves of COVID-19 infections, are key (IMF, 2022). These have adversely disrupted the global supply chain, adversely impacting manufacturing enterprises in the ECOWAS bloc.

Figure 2: Sectoral Shares of Employment in the ECOWAS Bloc



Source: Authors Construct based on WDI Data, 2020.

2.3 Changes in Sectorial Composition of Exports

The economies of countries in the ECOWAS bloc depend mainly on primary products. Table 2 provides exhaustive information on the classification of commodity dependence of ECOWAS countries. Countries whose economies depend on agricultural products, fuel exports, minerals, ores, metals, and non-commodity are indicated with light green, blue and red colours, respectively (Table 1). Specifically, among countries in the ECOWAS bloc, five (5) are classified as dependent on exports of agricultural products, one (1) as dependent on crude oil (fuel) export, while 8 (eight) as dependent on exports of minerals, ores, and metals. In contrast, one (1) is classified as the only non-commodity-dependent country whose primary export is fishery products (Table 1). The eight (8) economies that depend mainly on exports of minerals, ores, and metals are Burkina Faso, Ghana, Guinea, Liberia, Mali, Niger, Sierra Leone, and Togo. At the same time, the five (5) economies that depend on the exports of agricultural products are Benin, Côte d'Ivoire, The Gambia, Guinea-Bissau, and Senegal. On the other hand, Nigeria is the only economy that depends on fuel export, while Cabo Verde is the only non-commodity-dependent economy whose primary export is fishery products.

Table 1: ECOWAS Countries Commodity-Dependent Countries and Country Classifications

Key

	Dependence on exports of agricultural products
	Dependence on fuel exports
	Dependence on exports of minerals, ores and metals
	Non-commodity dependent countries

Countries and Commodity-dependent countries	Development status of the country			Development status of the country			
	Least Developed Country	Landlocked developing country	Small Islands Developing State	Low	Lower Middle	Upper Middle	High
Benin	■			■			
Burkina Faso	■	■		■			
Cabo Verde			■		■		
Côte d'Ivoire					■		
Ghana					■		
Guinea	■			■			
The Gambia	■			■			
Guinea-Bissau	■			■			
Liberia	■			■			
Mali	■	■		■			
Niger	■	■		■			
Nigeria					■		
Senegal	■			■			
Sierra Leone	■			■			
Togo	■			■			

Source: UNCTAD, 2019.

Literature Review

This section reviews theoretical and empirical literature regarding institutions and economic structural change. Furthermore, research gaps are identified as part of the empirical literature; thus, this paper attempts to fill some gaps.

3.1 Review of Theory

This study is conducted through the lens of the Lewisian framework, also known as the "The Dual Economy Model." According to Lewis (1954), two economic sectors always exist: the traditional agricultural and modern industrial sectors. Lewis argues that since wages in the traditional agricultural sector are below competitive levels, surplus labour will always be from that sector to the modern industrial sector, where wages are relatively higher. This causes structural transformation and promotes industrialisation and, hence, sustained development. Furthermore, in the model, the modern industrial sector is assumed to adopt a capital-intensive production process, whilst the traditional agricultural sector adopts a purely labour-intensive production method. Consequently, the potential for investment and capital formation within the manufacturing sector grows over time as profits accrued by capitalists are reinvested into expanding the capital stock.

In Lewis' model, it is understood that wages in the agricultural sector remain constant as long as the marginal

productivity of labour in that sector is below that obtained in the modern industrial sector. Competition in the labour market across the entire economy means that the modern industrial sector must pay a wage equal to, or somewhat above, earnings in the traditional agricultural sector to attract workers, which modern industrial firms can afford thanks to their capital endowment and better technology. These firms thus operate as if faced with what Lewis called, in his famous 1954 paper, an 'unlimited supply of labour'.

In short, within the Lewisian framework, development involves a structural transformation of the economy. The anticipation is that as capital accumulates in the modern industrial or formal sector, there will be corresponding growth in demand for workers, gradually diminishing the surplus laborers entering the informal sector. If accumulation outpaces population growth, the portion of employment and output stemming from the traditional agricultural sector within the informal economy declines alongside capital accumulation in the modern sector.

The Institutionalist Theory of State Intervention by Chang (1994), on the other hand, emphasises that government has a crucial role in the structural change process. According to Chang's theory, supported by Welfare Economics and Neoliberalism, two key roles of the state that facilitate structural change are entrepreneurship and the establishment of new institutions. 'Management of conflicts,' which unavoidably arise during structural change, has also been identified among them. According to Chang's theory, building new institutions can trigger structural change, as emphasised by North and Thomas (1973). In North and Thomas' view, the fundamental reason for disparities in growth is differences in institutions. According to North (1990, p.3), institutions are '*the rules of the game in a society or, more formally, as the humanly devised constraints that shape human interaction*'. Two main types of institutions exist in the literature: economic and political. Examples of economic institutions include the structure of property rights (a subset of economic freedom), and the presence and perfection of markets. Examples of political institutions include the form of government (i.e., democracy vs. dictatorship or autocracy) and the extent of constraints on politicians and political elites (Acemoglu et al., 2005). Economic and political institutions influence the structure of economic incentives in society. They also help allocate resources to their most efficient uses (Acemoglu et al.,2005), particularly to the conventional sectors of agriculture, industry, and services. These institutions ensure that labour and capital are effectively allocated to the sectors in which they have comparative advantages (ibid.).

3.2 Review of Empirical Studies

In recent times, discourse on the structural transformation of African economies has received a lot of attention, and likewise, efforts to uncover the forces that drive the process undertaken empirically (Bah, 2009; Harttgen, Klasen, and Vollmer, 2013; de Vries, Timmer, and de Vries, 2015; Adesida & Adetunji, 2015; Diao, Harttgen, and McMillan, 2017; Salisu & Akanni, 2018; Fosu & Dacosta, 2019; Manuh, Sulle & Lokenga, 2019).

Page (2012) explores the potential for services-led industrialisation in Africa, including West African countries. It examines the factors shaping the services sector's growth, such as urbanisation, demographic changes, globalisation, and policy frameworks, and discusses economic development and structural transformation implications. Fosu and Dacosta's paper analyses trends and drivers of the services sector in ECOWAS countries, focusing on factors such as urbanisation, demographic changes, globalisation, and policy initiatives. It

discusses the implications of the growing services sector for economic development and structural transformation in the region. Manuh, Sulle, & Lokenga (2019) study examines the role of the services sector in driving economic development in ECOWAS countries. It explores the challenges and opportunities coupled with services-led growth, including the impact of urbanisation, consumer demand, globalisation, and policy interventions.

Most of these studies offer valuable insights into the dynamics of the services sector in ECOWAS countries and provide empirical evidence and analysis to support the reasons for its dominance in sectoral employment. They contribute to a better understanding the opportunities and challenges associated with services-led growth and structural transformation in the region.

Specifically, Próchniak (2013) examines how the institutional environment influences worldwide economic growth and development differences by employing data on 180 countries from 1993 to 2012. Próchniak finds a considerable positive impact of the quality of the institutional environment in driving economic development. Wanjuu and Roux (2017) also analyse the economic institutions' effect on economic growth in the ECOWAS bloc using Vector Error Correction and Co-integration regression models. Their study finds that economic institutions (measured by the property rights index) engender real Gross Domestic Product Per Capita (RGDPPC) growth in the ECOWAS bloc. The research concludes that favorable economic institutions, private investments, and governmental intervention foster economic growth within the ECOWAS bloc. In an analysis investigating the correlation between political instability and economic development in Sub-Saharan Africa, Fosu (1992) determines that political turmoil detrimentally affects economic growth in the region. Apart from empirical studies regarding the effect of institutions on economic growth, a few studies have been conducted on the impact of institutions on structural change. For instance, Benhamouche (2018) examines the effects of the quality of institutions on structural change using data from 11 African countries, 11 Asian countries, and 8 Latin American countries. The findings indicate that institutions positively impact structural change (i.e., labour reallocates from low productivity to high productivity sectors) in the medium term in lower-income countries. However, their analysis is not based on recent data, and their data spans from 1950 to 2011. Economic and political institutions may have evolved between 2011 and 2020. For instance, weak political institutions led to a series of attempted and real coup d'états in West Africa (specifically, Niger, Guinea-Bissau, Mali, Cote d'Ivoire, Benin, The Gambia, and Burkina Faso) between 2011 and 2020. On the other hand, Olivetti (2012), in extending the earlier work by Goldin (1995), provides evidence from a large sample of developed and developing countries that connect female labour force participation to structural transformation. Specifically, Olivetti finds that as countries develop, the share of women who work in the agricultural sector relative to all employed women decreases faster than the share of men who work in the same sector relative to all working men.

Zhao et al. (2021) examine institutional reforms' effect on investment and economic growth using panel data of 122 developing countries from 1996 to 2019. Specifically, they apply the treatment analysis using the difference-in-differences technique to measure the effects of reforms. Their findings suggest that economic reforms are more significant than political reforms in terms of their impact on investment and growth. Furthermore, Dias and Tebaldi (2012), in a study using cross-country panel data from 1965 to 2005, examined the relationship between human capital, institutions, and economic growth. The findings are that structural institutions influence long-term economic performance, while political institutions are uncorrelated with productivity and long-term economic growth. Siddiqui and Ahmed (2013) also employed

84 countries for five years to examine the effect of institutions on economic growth using the Generalized Method of Moment dynamic panel estimation. In a nutshell, they find that favourable institutions positively affect economic growth.

On the other hand, Feijo et al. (2019) discusses the relationship between financial integration and structural change using a Minsky-Kregel approach. The motivation for their paper is derived from the fact that the opening of the Brazilian economy in the 1990s did not create a structural change capable of increasing the weight of higher technological sectors in the manufacturing industry. Their econometric results found that in the year 2000s, financial integration and dependence on foreign savings, captured by an international liquidity proxy and dummy variables to incorporate the external financial instability in the period studied, condensed the share of Brazilian industry in GDP.

In Morrocco, Moussir and Chatri (2019) examine whether Morocco has undergone a structural transformation process. Their examination of Morocco's economic structure uncovers a persistent structural inertia associated with a volatile agricultural sector, which exhibits poor and weak integration into the industrial and service sectors. Their decomposition results show that the intersectoral component (within) would account for much of labour productivity growth. Their econometric analysis also examined the determinants of this structural transformation. Their findings suggest that increased income levels encourage diversification of FDI and new opportunities for innovation. This provides impetus for the need to invest in education and human capital.

Mühlen and Escobar (2020) analysed the extent Foreign Direct Investment (FDI) impact on structural change. They conduct an empirical analysis covering the period 2006 to 2016. A fixed-effects estimator is employed where the observation unit is a Mexican state, and they calculate structural change from the reallocation of labour between and among sectors. The results suggest that FDI has a positive effect on growth-enhancing structural change. According to the study, this effect depends critically on the lag structure of FDI. Evidence suggests that the positive impact primarily emerges from Foreign Direct Investment (FDI) inflows within the industrial sector. Secondly, it is evident in the reallocation of medium and low-skilled labour.

In Brazil, Bustos et al. (2020) find that agricultural productivity growth can bolster savings and the supply of capital, thus expanding the manufacturing-intensive sector. They highlight this mechanism in a simple model and test its predictions within the context of a significant and exogenous increase in agricultural productivity due to the adopting of genetically engineered soy in Brazil. Consequently, their findings indicate that while agricultural productivity growth led to increased savings, these funds were not reinvested within local contexts. Instead, capital outflows from rural areas were observed. Additionally, their research highlighted how the level of financial integration influenced the pace of Brazil's structural transformation.

Employing a panel dataset of 99 countries from 1980-2015, Donges et al. (2020) analyse the simultaneous effect of infrastructure capital and institutional quality on economic growth. The results show that the interaction terms between infrastructure capital and institutional quality indicate a positive and statistically significant impact on economic growth. Their findings suggest that maximising returns from infrastructure capital calls for enhancement in the quality of institutions.

Some studies have also examined the impact of institutions on innovation, which is a determinant of eco-

nomic growth. For instance, Donges et al. (2016) explore the effects of institutions on innovations by employing the geography and timing of the French occupation of the diverse regions of Germany after the French Revolution of 1789 as an exogenous shock to the institution of those regions. Using country-level data on Imperial Germany with data on patents per capita, their study finds that countries with more inclusive institutions due to the French occupation are more innovative. Their findings point to institutions as a first-order determinant of innovation and stress the role of innovation as a critical mechanism through which institutions may lead to economic growth.

For the ECOWAS block, few studies have been carried out on the institution-structural transformation space. Fosu (2015) analyses the role of institutions in driving structural transformation in sub-Saharan Africa, which includes many ECOWAS countries. Fosu argues that strong institutions facilitate economic diversification, industrialisation, and technological innovation. The study finds that improvements in institutional quality, such as governance, rule of law, property rights, and regulatory frameworks, are positively associated with structural transformation and economic development outcomes in the region.

Geda, Shimeles and Udoma's (2014) paper examines the relationship between institutions and economic development in sub-Saharan Africa, drawing implications for ECOWAS countries. The authors highlight the importance of inclusive institutions that promote property rights, contract enforcement, political stability, and the rule of law in fostering structural transformation and sustainable economic growth. They argue that weak institutional quality, characterised by corruption, political instability, and regulatory inefficiencies, hinders investment, innovation, and productivity growth, thereby impeding structural transformation efforts in the region.

Fosu and Owoo (2018) focus specifically on the role of institutions in economic development in West Africa, including ECOWAS member countries. Fosu and Owoo analyse the impact of institutional quality on crucial development outcomes such as GDP growth, poverty reduction, and human development. They find that improvements in institutional quality, particularly governance and regulatory effectiveness, are associated with higher levels of economic development and structural transformation in the region. However, they also highlight the persistence of governance challenges and the need for continued institutional reforms to sustain economic progress.

These studies collectively emphasizes the critical role of institutions in shaping the trajectory of structural transformation and economic development in ECOWAS countries. They underscore the importance of building and strengthening inclusive institutions that promote transparency, accountability, and the rule of law to unlock the full potential of these economies and drive sustainable growth and development.

Examining these empirical studies reveals a substantial body of research investigating the influence of institutions on economic growth, development, and innovation. However, some notable research gaps concerning the impact of institutions on structural transformation, especially within the ECOWAS bloc. The few studies that have been carried out, for example, Benhamouche (2018), do not focus on the effect of institutions on structural transformation within the ECOWAS bloc. Secondly, less attention has been given to the empirical narrative, driven by political and institutional issues such as constraints on the executive arm of government and its impact on structural transformation. Thus, to fill this lacuna in the empirical literature, this study seeks to analyse the effect of institutions (both economic and political institutions) on structural transformation within the ECOWAS bloc. Secondly, to assess the importance of quality institutions in a

structured context, the paper seeks to analyse the role of economic and political institutions (proxied by the economic freedom summary index, degree of constraint on the executive and democracy index) in influencing structural transformation with those of other control variables such as infrastructure, investment, trade openness, and economic growth.

4. Methodology

This section presents the analytical framework, specifications of the empirical model, and data sources.

4.1 Analytical Framework

The analytical framework emanates from Chang's (1994) Institutionalist Theory of State Intervention, which states that government has a crucial role in the structural change process. Specifically, according to Chang, the government has a role in establishing new institutions to stimulate structural change. Establishing institutions such as property rights, democracy, and good governance, among others, can trigger a labour movement from the low-productivity sector (i.e., agriculture) to a high-productivity sector (industry). Such activity increases the value added, leading to rapid technological change that boosts economic growth (Dennis and Iscan, 2009). This supports the idea that structural transformation enhances growth and generates significant changes in aggregate productivity growth (Echevarria, 1997) through an income or price effect (Herrendorf et al., 2013). Figure 3 throws more light on Chang's postulation. The Figure indicates that institutions, be they economic or political, influence the distribution of resources and the structure of incentives, which eventually causes structural transformation (see Figure 3).

Figure 3: Transmission Mechanism of the Effect of Institutions on Structural Transformation

Source: Authors' Construct Based on Chang's 1994 Institutionalist Theory of State Intervention

In the context of Chang's theory, there is an anticipation that economic and political institutions will reshape the distribution of resources and the incentive framework, primarily manifesting as shifts in sectoral employment patterns over time.

4.2 Specification of the Empirical Model and Estimation Technique

We specify our structural transformation equations based on the Lewisian (1954) model and Chang (1994) *Institutionalist Theory of State Intervention* as follows:

$$\frac{A}{I} = F(K, G, O, I, R) \quad (1)$$

Where $\frac{A}{I}$ is the ratio of agriculture to industry employment (agriculture-industry employment ratio), K is Gross Fixed Capital Formation (constant 2015 US$), G is economic growth, O is trade openness, I is institutional variables (such as democracy index, protection of property right index, economic freedom index and constraint on executive power), R captures infrastructure variables (such as electricity, telephone and internet).

$$\frac{I}{S} = F(K, G, O, I, R) \tag{2}$$

Where $\frac{I}{S}$ is the ratio of employment in industry to employment in services (industry- services employment ratio), whilst K, G, O, I, R and F are as previously defined in equation 1.

$$\frac{A}{S} = F(K, G, O, I, R) \tag{3}$$

Where $\frac{A}{S}$ is the ratio of employment in agriculture to services employment (agriculture-services employment ratio), whilst K, G, O, I, R and F are as previously defined in equation 1.

Thus, based on our hypothesised functional relationship between sectoral employment ratios and the independent variables stated in Equations 1, 2 and 3, we specify our empirical equations as follows:

$$\frac{A}{I}_{it} = \alpha_0 + \alpha_1 \ln K_{it} + \alpha_2 G_{it} + \alpha_3 {G_{it}}^2 + \alpha_4 O_{it} + \alpha_5 {O_{it}}^2 + \alpha_6 E_{it} + \alpha_7 XCONST_{it}$$
$$+\alpha_8 D_{it} + \alpha_9 P_{it} + \alpha_{10} EL_{it} + \alpha_{11} \ln T_{it} + \alpha_{12} \ln IT_{it} + \varepsilon \tag{4}$$

Where $\frac{A}{I}$, K, G and O are as previously defined in equation 1. The institutional variables are E, XCONST, D and P. Specifically, E is the economic freedom summary index, which is a proxy for economic institution, XCONST is a constraint on executive power (a proxy for political institution), D is a democracy index (a proxy for political institution), and P is an index of protection of property right. E ranges from 1 to 10 (with 1 being least economically free and 10 being most economically free), whilst XCONST is a categorical variable (with 1 being no regular limitations on the executive's actions, 2 being slight to moderate limitations on executive's efforts, and 3 being substantial limitations on executive actions). D ranges from 0 to 10 (with 0 being least democracy and 10 being maximum democracy), whilst P is an index of protection of property rights, with 1 being the least score and 10 being the maximum score. The infrastructure variables are EL, T and IT, respectively. EL is defined as the percentage of the population with access to electricity, T is fixed

42 variables were used by Fraser Institute to construct the summary index and to measure the degree of economic freedom in five broad areas namely 1) Size of government 2) Legal structure and security of property rights 3) Access to sound money 4) Freedom to trade internationally and 5) Regulation of credit, labour and business.

Operationally, this variable refers to the extent of institutionalized constraints on the decision making powers of chief executives, whether individuals or collectivities. Such limitations may be imposed by any "accountability groups." In Western democracies these are usually legislatures. Other kinds of accountability groups are the ruling party in a one-party state; councils of nobles or powerful advisors in monarchies; the military in coup-prone polities; and in many states a strong and independent judiciary

telephone subscriptions per 100 people, and IT is defined as internet subscriptions per 100 people. ε is the random error term.

$$\frac{I}{S_{it}} = \alpha_0 + \alpha_1 \ln K_{it} + \alpha_2 G_{it} + \alpha_3 {G_{it}}^2 + \alpha_4 O_{it} + \alpha_5 {O_{it}}^2 + \alpha_6 E_{it} + \alpha_7 XCONST_{it} + \alpha_8 D_{it} + \alpha_9 P_{it} + \alpha_{10} EL_{it} + \alpha_{11} \ln T_{it} + \alpha_{12} \ln IT_{it} + \varepsilon \quad (5)$$

Where $\frac{I}{S}$, K, G and O are as previously defined in Equation 1, whilst the rest of the variables are the same as defined in Equation 4.

$$\frac{A}{S_{it}} = \alpha_0 + \alpha_1 \ln K_{it} + \alpha_2 G_{it} + \alpha_3 {G_{it}}^2 + \alpha_4 O_{it} + \alpha_5 {O_{it}}^2 + \alpha_6 E_{it} + \alpha_7 XCONST_{it} + \alpha_8 D_{it} + \alpha_9 P_{it} + \alpha_{10} EL_{it} + \alpha_{11} \ln T_{it} + \alpha_{12} \ln IT_{it} + \varepsilon \quad (6)$$

Where $\frac{A}{S}$, K, G and O are as previously defined in Equation 1, whilst the rest of the variables are the same as in Equation 4.

The justification for including Gross Fixed Capital Formation (investment variable) as an independent variable stems from the findings by Dvorkin and Machado (2018), among others. Dvorkin and Machado's results show that investment in manufacturing is associated with a decline in the labour share, indicating a shift of resources from labour-intensive to capital-intensive sectors as economies transform. Other investment-structural transformation studies which focus on the ECOWAS region are Adesida and Adetunji (2015), Owusu-Sekyere and Ampofo (2017), and Salisu and Akanni (2018).

As per the study by Święcki (2017) and Dessy, Mbiekpo and Pallage (2010), trade openness is expected to influence structural transformation (i.e. it is expected to decrease the agriculture-industry employment ratio). Furthermore, growth is included in the structural transformation equation because as countries begin the process of economic growth with high employment in agriculture, it is expected that later in the growth stage, labour will move from agriculture to industry (Anderson and Ponnusamy, 2022). Thus, we expect an inverted U relationship between growth and agriculture-industry employment ratio and an inverted U relationship between growth and agriculture-services employment ratio.

On the other hand, the inclusion of institutional variables in the structural transformation equation is motivated by Benhamouche's (2017) findings that institutions positively impact structural change. Given this finding, we expect a negative relationship between the institutional variables and the agriculture-industry employment ratio and between the institutional variables and the agriculture-services employment ratio. However, the relationship between the institutional variables and the industry-services employment ratio is unknown. Lastly, we include infrastructure variables such as electricity, access to telephones, and the internet because such variables can spark structural transformation.

We seek to estimate the structural transformation of equations 4, 5 and 6 for the agricultural, industrial, and service sectors using either the pooled OLS regression, panel fixed effects or random effects technique

based on pre-diagnostic tests (i.e. the Breusch-Pagan Lagrangian Multiplier and Hausman Tests). The Breusch-Pagan Lagrangian Multiplier test is used to decide whether a pooled Ordinary Least Squares (OLS) regression is appropriate for estimating the random effect. If the test determines that pooled OLS is the more suitable method for the study, there would be no need to conduct the Hausman test. Thus, we settle on the pooled OLS regression.

4.3 Sources of Data

The study employs unbalanced panel data of all the fifteen (15) countries in the ECOWAS bloc, namely Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. The data span from 1980 to 2020, a period of 41 years. Table 2 presents the regression variables and their sources.

Table 2: Regression Variables and their Sources

Type of Variable	Variable Name	Data Source
Dependent variable	Agriculture-Industry Employment ratio($\frac{A}{I}$)	World Bank: World Development Indicators (WDI)
Dependent variable	Industry-Services Employment ratio($\frac{I}{S}$)	World Bank: World Development Indicators (WDI)
Dependent variable	Agriculture-Services Employment ratio ($\frac{A}{S}$)	World Bank: World Development Indicators (WDI)
Independent variable	Gross Fixed Capital Formation (K)	World Bank: World Development Indicators (WDI)
Independent variable	Economic Growth (G)	World Bank: World Development Indicators (WDI)
Independent variable	Protection of Property Right (P)	Heritage Foundation and Fraser Institute
Independent variable	Economic Freedom Summary Index (E)	Heritage Foundation and Fraser Institute
Independent variable	Constraint on Executive Power (XCONST)	Polity V datasets
Independent variable	Democracy index (D)	Polity V datasets
Independent variable	Percentage of population with access to electricity (EL)	World Bank: World Development Indicators (WDI)
Independent variable	Internet subscription per 100 people (IT)	World Bank: World Development Indicators (WDI)
Independent variable	Fixed telephone subscriptions per 100 people (T)	World Bank: World Development Indicators (WDI)
Independent variable	Trade openness (O)	World Bank: World Development Indicators (WDI)

5. Summary Statistics, Results, and Discussion

This section presents the summary statistics as well as results and discussion.

5.1 Summary Statistics

Table 3 reports the summary statistics of the dependent and independent (explanatory) variables. Specifically, regarding the summary statistics of our dependent variables, the agriculture-industry employment ratio has a mean of 5.7 with maximum and minimum ratios of 0.5 and 27.8, respectively (Table 3). This ratio implies that on average, in every 10 people employed in the industrial sector, there is a corresponding 57 persons employed in the agricultural sector. The industry-services employment ratio has a mean of 0.4, with

0.2 and 0.8 being the minimum and maximum ratios, respectively (Table 3). This implies that, on average, of every 4 persons employed in the industrial sector, 10 are employed in services. Conversely, the Agriculture-services employment ratio has a mean of 2.0, with 0.2 and 12.4 being the minimum and maximum ratios, respectively (Table 3). This implies that, on average, in every 20 persons employed in agriculture, there is a corresponding 10 persons employed in services (Table 2). These statistics indicate that in the ECOWAS bloc, agriculture employs most of the ECOWAS population relative to the other sectors. Thus, the bloc needs structural change from agriculture to industry and services.

Regarding the summary statistics of our independent or explanatory variables, Table 3 indicates that Gross Fixed Capital Formation (K) has a mean of US$ 7,840 million with minimum and maximum values of US$ -43.5 million and US$ 109,000 million, respectively. Economic growth has a mean of 3.6 per cent, with minimum and maximum values of -30.1 per cent and 26.4 per cent, respectively (Table 2). Trade openness has a mean of 56.7 per cent, with minimum and maximum values of 6.3 per cent and 131.5 per cent, respectively. Regarding our institutional variables, the protection of property rights has a mean index of 4.3 with minimum and maximum values of 1.5 per cent and 6.3 per cent, respectively (Table 3). Democracy index (D) has a mean of 3.4 with minimum and maximum values of 0 and 10, respectively, whilst the economic freedom summary index (P) has a mean of 5.8 with minimum and maximum values of 2.7 and 7.7, respectively (Table 2). In terms of constraint on executive power, 30% of the sample (4 countries) have no regular limitation on executive power, whilst 20% (3 countries) have slight to moderate limitation on executive power (Table 3). However, the statistics indicate that 50% of the sample (about 8 countries) have substantial limitations on executive power (Table 3).

Table 3: Summary Statistics of Variables

Variables	Observations	Mean	Minimum	Maximum
Dependent Variables:				
Agriculture-Industry Employment ratio ($\frac{A}{I}$)	435	5.7	0.5	27.8
Industry-Services Employment ratio($\frac{I}{S}$)	435	0.4	0.2	0.8
Agriculture-Services Employment ratio ($\frac{A}{S}$)	435	2.0	0.2	12.4
Independent Variables:				
Gross Fixed Capital Formation in a million US$ (K)	398	7,840	-43.5	109,000
Economic Growth (G)	614	3.6	-30.1	26.4
Trade openness (O)	608	56.7	6.3	131.5
Protection of Property Right (P)	615	4.3	1.5	6.3
Economic Freedom Summary Index (P)	288	5.8	2.7	7.7
Constrain on the Executive (XCONST): No regular limitation (Reference)	553	0.3	0.0	1.0
Slight to moderate limitation	553	0.2	0.0	1.0
Substantial limitation	553	0.5	0.0	1.0
Democracy Index (D)	585	-1.28	-88	10
Percentage of population with access to electricity (EL)	369	34.5	1.3	94.1
Internet subscription per 100 people (IT)	215	0.4	0.0	4.5
Fixed telephone subscriptions per 100 people (T)	599	1.2	0	15.9

Source: Authors' construct based on Dataset

Concerning the infrastructure variables, about 34.5% of a country's population has access to electricity, whilst the rest do not. Internet subscription per 100 of the population averages 0.4, while fixed telephone subscriptions per 100 are 1.2.

5.2 Results and Discussion

First, before estimating our econometric equations of interest (i.e., equations 4, 5 and 6), we conduct the Bresuch and Pagan Lagrangian Multiplier test to ascertain whether the random effects or the pooled OLS is more appropriate for the analysis. Our test results reveal Chibar test statistic values of 2.53 with a probability value of 0.027 for equation 4, 6.70 with a probability value of 0.000 for equation 5 and 5.50 with a probability value of 0.00 for equation 6. Thus, we reject the null hypothesis that the preferred model is random effects. We conclude that the pooled OLS model is the most appropriate for estimating equations 4, 5 and 6, and consequently, there is no need to check for cross-sectional independence.

The pooled OLS estimates based on equations 4, 5 and 6 generally reveal that the institutional environment matters for structural transformation within the ECOWAS bloc. Specifically, our results in Table 4 indicate

that increasing democratisation (a proxy for political institutions) impacts structural change, specifically from services to industrial employment. This means that increasing democratisation does not promote the transformation of the services sector but favours the industrial sector. Protecting property rights (a proxy for legal institutions) influences structural change from industrial to service employment (i.e. reallocates labour from industry to services).

Furthermore, the results indicate that increasing economic freedom (a proxy for economic institutions) influences the reallocation of labour in the agricultural, industrial, and services sectors (Table 4). Specifically, results from our first model show that increasing economic freedom influences the reallocation of labour from industry to agriculture, whilst it also influences the reallocation of labour from services to industry. Increasing economic freedom can also affect the reallocation of labour from agriculture to services.

Constraints on the executive (a proxy for political institutions) were found to influence structural transformation in the ECOWAS bloc. Specifically, in terms of the magnitude of the effect, moderate limitations on executive's efforts (i.e., from no regular limitation to slight-to-moderate limitation) lead to a positive and significant reallocation of labour from industry to the services sector.

The positive and significant effects of political institutions on the structural transformation of the ratio of industry-to-services employment (I/S) have several policy and economic implications. First, the findings suggest that strengthening political institutions would facilitate structural transformation by providing a conducive policy environment for economic diversification and industrialisation. Thus, policies that aim at institutional reforms to enhance transparency, accountability, and democratic governance to promote sustainable development and inclusive growth should be prioritised. Political institutions are crucial in shaping policy outcomes and providing stability and predictability for investors and businesses. Policymakers should ensure policy consistency and continuity to foster investor confidence, encourage long-term investments, and support structural transformation across sectors. Meanwhile, the political class should ensure political stability.

As noted earlier in the literature, political institutions influence the investment climate and business environment, influencing the attractiveness of different sectors for investment. Strengthening political institutions, therefore, can improve regulatory frameworks, protect property rights, and enforce contracts, thereby enhancing investor confidence, stimulating entrepreneurship, and facilitating capital flows into productive sectors.

The implication of the above is that political institutions shape sectoral development priorities and resource allocation decisions and influence the pattern of structural transformation. Enhancing trade agreements, market access, and foreign direct investment inflows are essential for promoting structural transformation and economic development; thus, strengthening political institutions is vital. Strengthening political institutions and promoting good governance practices can create an enabling environment for economic transformation and prosperity.

In terms of the effects of other variables on structural transformation, trade openness influences the reallocation of labour from agriculture and services to industry. Thus, trade openness affects structural change positively. Infrastructural development (i.e., electricity, telephone and internet expansions) influences structural transformation in the ECOWAS bloc. Specifically, the expansion of electricity influences the reallocation of labour from agricultural to industrial employment, industrial to service employment and agricultural to service employment. Thus, electricity expansion in the subregion is critical to triggering structural transfor-

mation. However, in terms of telephone expansion, increasing telephone network influences structural change from agriculture to industry and services. Lastly, our results show that increased internet subscriptions influence structural change from agriculture and industry to services. Consequently, the estimates of the control variables do not change qualitatively.

With respect to our variable of interest (role of economic institutions, proxied by Economic Freedom Summary Index, E), the ratio of agriculture-to-industry employment (A/I) and industry-to-services employment (I/S) estimations are statistically significant at 5 per cent. The results suggest that (on average) improvement in economic institutions by 0.1 percentage points would be associated with an increase in the structural transformation indicators by 0.132 employment change.

The economic implications are that improved economic institutions can contribute to economic diversification by reducing reliance on agriculture and promoting the growth of services. A diversified economy is more resilient to external shocks and better positioned to sustain long-term growth. As a result, structural transformation driven by improved economic institutions has the potential to promote inclusive growth by creating employment opportunities, reducing poverty, and narrowing income inequalities.

Overall, the positive effects of economic institutions on structural transformation underscore the importance of effective governance and regulatory frameworks in driving economic development. By addressing institutional weaknesses and implementing appropriate policy measures, ECOWAS countries can unlock their growth potential, promote structural transformation, and achieve sustainable and inclusive development.

6. Conclusion and Policy Recommendations

The study seeks to determine whether the institutional environment matters for structural transformation within the ECOWAS bloc. To achieve this objective, the study estimates three equations with dependent variables, namely, the agriculture-industry employment ratio, industry-services employment ratio, and agriculture-services employment ratio (proxies for structural transformation). The key explanatory variables, on the other hand, are the democracy index (a proxy for political institutions), constraint on executive power (another proxy for political institutions), protection of property rights (a proxy for legal institutions) and economic freedom summary index (a proxy for economic institutions). Based on the diagnostic result of the Bresuch and Pagan Lagrangian Multiplier test, the study estimates the effects of institutions on the structural transformation variables using the pooled Ordinary Least Squares (OLS) regression. We find that the institutional environment does matter for structural transformation in the ECOWAS bloc. Specifically, democracy and constraint on executive power (proxies for political institutions), economic freedom (a proxy for economic institutions) and protection of property rights (a proxy for legal institutions) influence structural change in the bloc.

Thus, we mainly recommend that economic freedom, democracy and protection of property rights should be deepened in countries within the bloc where such institutions are either low or non-existent. In addition, policymakers should ensure that growth benefits are equitably distributed and that vulnerable groups can access economic opportunities and social protection programs.

Given the significant effects on employment ratios, policymakers should design labour market policies that facilitate workforce transition and skill development across sectors. This may include investing in education and vocational technical training programs tailored to the evolving needs of the labour market and promoting labour mobility to support structural transformation.

Moreover, policymakers may need to implement sector-specific policies to support the transition from agriculture to industry and industry to services. This could involve investing in infrastructure, providing access to finance, fostering technological innovation, improving trade openness in the bloc and promoting entrepreneurship in critical sectors to stimulate employment creation and productivity growth.

Table 4: Result of the pooled OLS Regression (estimates of Equations 4,5 and

	Agriculture-Industry Employment ratio ($\frac{A}{I}$)		Industry-Services Employment ratio($\frac{I}{S}$)		Agriculture-Services Employment ratio ($\frac{A}{S}$)	
Independent Variable	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Log of Gross Fixed Capital Formation (InK)	-0.106	-0.41	-0.004	0.684	-0.132	-1.36
Economic Growth (G)	0.001	0.01	-0.000	-0.07	-0.002	-0.65
Economic Growth Squared (G^2)	0.000	0.07	0.000	0.28	0.000	0.84
Trade openness (O)	-0.132*	-1.83	0.015***	6.09	-0.010	-0.36
Trade openness (O^2)	0.001	1.65	-0.000	-5.93	0.000	0.11
Economic Freedom Summary Index (E)	0.167***	5.25	0.097***	4.66	-0.705***	-3.16
Constraint on the Executive (XCONST):						
Slight to moderate limitation	-3.175**	-2.60	0.224***	5.21	-0.650	-1.41
Substantial limitation	0.362	0.19	-0.098	-1.44	0.146	0.20
Democracy Index (D)	-0.098	-0.44	0.034***	4.39	0.043	0.52
Protection of property right (P)	0.155	0.26	-0.035*	-1.69	0.243	1.09
Percentage of population with access to electricity (EL)	-0.037*	-1.69	-0.004***	-5.35	-0.022**	-2.62
Fixed telephone subscriptions per 100 people (T)	-0.766*	-1.97	0.006	0.41	-0.397***	-2.72
Internet subscriptions per 100 people (T)	0.074***	0.47	-0.019***	-3.39	-0.078***	-1.31
Adjusted R-squared	0.4129		0.6944		0.5260	

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