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Institutional quality, human capital and structural transformation in Sub-Saharan Africa

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Outline

1. Introduction
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1. Introduction (1/6)

- Kuznets (1979), it is difficult for a country to achieve sustained growth in real GDP per capita over a long period without structural transformation.
- Africa in general, and SSA in particular, is marked by a low level of economic development, which is partly explained by inefficiencies in the production structure. The issue of structural transformation is now an important one in developing countries, which generally experience inefficient reallocation of resources from their sectors of economic activity.
  - UNIDO (2022) shows that global manufacturing output grew by 7.2% in 2021 but fell by 0.5% in the Least Developed Countries. In SSA, the industrial sector's share of GDP is 10.48%, while the primary sector's share is 25% in 2022 (World Bank, 2024). In 2022, agricultural employment represents around 5% of total employment in SSA, compared with 59% in 1991.

1. Introduction (2/6)

- Structural transformation (ST) is defined as a gradual phenomenon involving a reallocation of activities and factors of production, particularly labour, from low-productivity sectors to more modern, high-value-added sectors (McMillan and Rodrik, 2011).
  - Its driving force is the change in productivity in the modern sector dominated by manufacturing and services.

1. Introduction (3/6)

Traditional theories suggest the existence of a traditional low-productivity sector with a surplus of labor earning above marginal productivity, and a modern sector characterized by returns to scale, technological innovation and increased productivity gains (Lewis, 1954).

The new literature considers ST processes to be essential to economic development, as they are not only a source of productivity growth but also of improved per capita income.

The potential determinants of ST include macroeconomic stability, the degree of integration, the exchange rate, human capital, physical capital, the quality of institutions and the initial level of the sectoral employment share (McMillan and Headey, 2014; Marouani and Mouelhi, 2015; and Martins,2019).

1. Introduction (4/6)

Over the period 2002-2022, on average, 95.29% of African countries did not achieve the average net primary school enrolment rate of 75.30% of the region. In most African countries, less than 50% of children are enrolled in secondary school without repeating a year. Higher education remains the least accessible in Africa. Life expectancy has risen from 52 years in 2002 to 86 years in 2022. Differences between 10% and 30% in gross domestic product per capita are attributable to the variability of human capital from one country to another (World Bank, 2019), indicating that human capital is important for economic development.

1. Introduction (5/6)

- According to North (1990) and Williamson (1995) represented a major advance in the literature on economic growth. However, there is a lack of work on the types or forms of institutions that are most conducive to structural transformation in SSA.
- Improving institutional quality and developing human capital can accelerate structural transformation. Indeed, according to UN-Habitat (2023), modern growth and development depend on both the institutional environment and human capital development.

1. Introduction (6/6)

❑ In such a context, we asked ourselves the following question:

What are the direct and interactive effects of institutional quality and human capital development on structural transformation in SSA?

❑ This research analyses both the direct and interactive effects of institutional quality and human capital development on structural transformation in SSA.

3. Methodology and Data (1/3)

Empirical model:

❖ Direct effects

$$TS_{i,t} = \alpha_0 + \alpha_1 TS_{i,t-1} + \beta QI_{i,t} + \theta_1 CH_{i,t} + \theta_2 Ouv_{i,t} + \theta_3 Df_{i,t} + \theta_4 \log(PIBHBT)_{i,t} + \theta_5 Fdi_{i;t} + \theta_6 Urb_{i;t} + \theta_7 Caph_{i;t} + \mu_{i,t}$$

❖Interactive effects

$$TS_{i,t} = \alpha_0 + \alpha_1 TS_{i,t-1} + \beta_1 QI_{i,t} + \beta_2 QI_{i,t} * CH_{i,t} + \theta_1 CH_{i,t} + \theta_2 Ouv_{i,t} + \theta_3 Df_{i,t} + \theta_4 \log(PIBHBT)_{i,t} + \theta_5 Fdi_{i;t} + \theta_6 Urb_{i;t} + \theta_7 Caph_{i;t} + \mu_{i,t}$$

3. Methodology and Data (2/3)

❑ **Data and sources:**

- World Development Indicators (WDI)
- Worldwide Governance Indicators (WGI)

❑ Data of 2002-2022 for a sample of 30 Sub-Saharan African countries

3. Methodology and Data (3/3)

❑**Estimation** : Two-step GMM system

- To account for endogeneity of institutional quality, human capital (reverse causality, measurements errors, omitted variables bias)

- To account for dynamic effects of structural transformation

4. Results (1/2)

Tableau 1: Direct Effects of institutional quality on structural transformation in Sub-Saharan Africa

Table 4.pdf

4. Results (2/2)

VARIABLES	(1)	(2)	(3)	(4)
Lag. Manufacturing value added	0.6841***	0.9497***	0.9707***	0.9355***
	0.0766)(	(0.0331)	(0.0343)	(0.0231)
Human capital	0.0250***	0.0097*	0.0112***	0.0094**
	(0.0072)	(0.0051)	(0.0035)	(0.0044)
Interaction QI*CH	2.5086***	0.5595***	0.5807***	0.4655***
	(0.9257)	(0.2054)	(0.1328)	(0.1548)
Institutional quality	0.9051***			
	(0.3328)			
Control corruption		2.5846***		
		(0.7825)		
Government effectiveness			2.5703***	
			(0.5795)	
Regulatory quality				2.6194*
				(1.4958)
Control variables	Yes	Yes	Yes	Yes
Constant	0.3083	-0.2767	-0.4075	0.2888
	(1.2023)	(0.3044)	(0.3883)	(0.3459)
Observations	420	420	420	420
Hansen test (p-value)	13.69	15.96	15.51	18.31
	(0.689)	(0.527)	(0.415)	(0.370)

4. Discussion (1/5)

- **Directs effects of institutional quality and human capital on ST in SSA**

- The level of previous ST explains the level of current ST. Indeed, if the level of past ST was one percentage point, it improves the level of current transformation by 0.79 percentage point.
- The institutional quality has a positive and significant effect on ST in SSA. It therefore plays a significant role in structural transformation in Africa. Although all dimensions of institutional quality have positive and significant effects on structural transformation, they have varying effects : **Rule of Law , control of corruption, regulatory quality, government effectiveness, voice and accountability, political stability**

4. Discussion (2/5)

- **Rule of law :** Strong institutions guarantee investment protection, encouraging capital accumulation and innovation. Farmers and entrepreneurs have more incentive to invest in productivity-enhancing technologies and activities.
- **Control of corruption : Control of corruption** reduces economic distortions and encourages the emergence of a dynamic private sector. Corruption diverts resources to less productive sectors and hampers economic diversification and structural transform.
- **Regulatory quality :** Strong institutions foster public investment in infrastructure, improving trade and the integration of economic players into global value chains.

4. Discussion (3/5)

- **Government effectiveness :** governments capable of formulating and implementing effective public policies facilitate the reallocation of resources to the most productive sectors.
- **Voice and accountability :**Democracy fosters the accountability of those in power, encouraging more inclusive public policies geared towards economic development. Democratic regimes tend to invest more in strategic sectors such as education, infrastructure and health, essential pillars of structural transformation. In South Africa, the transition to democracy has led to economic reforms favoring industrialization and economic diversification.
- **Political stability :** Institutional stability is essential to avoid social conflict during periods of structural change. Inclusive institutions ensure a fair distribution of the benefits of development, reducing inequalities and promoting social mobility.

4. Discussion (4/5)

- **Human capital has a positive and significant effect on ST at the 1% threshold. This means that the more skilled the workforce, the higher the level of ST.**
- A high level of skills and qualifications enables workers to adopt advanced technologies and improve their efficiency in high value-added sectors.
- For example, an educated workforce facilitates the introduction of modern machinery in agriculture, freeing up manpower for the industrial and service sectors.
- East Asia example : Massive investment in education has led to a rapid rise in skills, fostering the development of the manufacturing industry.

4. Discussion (5/5)

- **Interactive effects of institutional quality and human capital on ST in SSA**

- These results mean that human capital amplifies the effect of institutional quality on ST and vice versa .
- Control of corruption, government effectiveness and regulatory quality play the most important and significant interactive effects on structural transformation in SSA.
- This confirms previous results, particularly those of UN-Habitat (2013), which show that the interaction between the institutional environment and the availability of appropriate human capital is an important factor in modern growth and development.

5. Conclusion and Policy Implications (1/2)

- This research investigated the direct and interactive effects of institutional quality and human capital on ST in SSA. It employed the two-step GMM system on an unbalanced panel of 30 countries covering the period 2002-2022.
- The results show that improving institutional quality increases ST in the region. In addition, the control of corruption, government effectiveness and regulatory quality are the major specific forms of institutions that improve ST in SSA. In addition, developing human capital can accelerate ST in SSA. Moreover, the results show that human capital can be used as a lever to improve the effect of institutional quality on ST in SSA and vice versa.

5. Conclusion and Policy Implications(2/2)

- **Implications:**

❖ The implementation of institutional reforms aimed at improving IQ, effectively controlling corruption, increasing transparency in the management of public affairs, more government effectiveness and better market regulation. As a result, the public authorities can encourage good practice, increase the digitalization and punish offenders.

❖ The public decision-makers should improve the level of human capital through the establishment of a high-quality and equitable education system to strengthen the acquisition of skills required for market needs and ST. It can put in place modern educational and training infrastructures and improve the skills of supervisors.

THANK YOU FOR YOUR ATTENTION !