

# Services-Led Structural Transformation in East Africa

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# Motivation

- Traditional manufacturing-led development is struggling to take off in Africa (Diao et al, 2024; Kruse et al., 2023; McMillan and Zeufack, 2022; Rodrik, 2016)
- Characterized by lower-productivity, informal manufacturing activities (Diao et al., 2024; Fosu, 2018; Kruse et al., 2023; McMillan & Zeufack, 2022)
- Emerging discussion on services as alternative pathway (African Development Bank, 2024a; Atolia et al., 2020; Sen, 2023; Peters et al. 2026)
- Within-sector changes for the structural transformation process, particularly within the services sector ( Gollin and Kaboski, 2023; Duarte and Restuccia, 2020)

## Research Question

- Rigorous new analysis of structural transformation in India has shown the potential for services (Fan et al., 2023)
- There remain few empirical explorations in the context of Africa
- Is East Africa now becoming an centre of services-led structural transformation?
- Why East Africa? Breadth of coverage of mobile money financial services
- Focus: labour productivity growth, value added in exports, and jobs embodied in exports
- Shift-share, Rodrik deindustrialization regressions, and input-output analysis

## Overview of Findings

- New sectoral data for the period 1990-2019
- structural conditions: sizable scope for structural transformation
- Rapid deindustrialization since 1990 alongside servicification
- Structural transformation has contributed positively to aggregate labour productivity growth in each decade
- Growth driven by within-sector gains in services
- EA productivity grew 1.4 pp faster than SSA in the 2010s due to within-sector gains
- Input-output analysis: Services expansion primarily driven by domestic demand

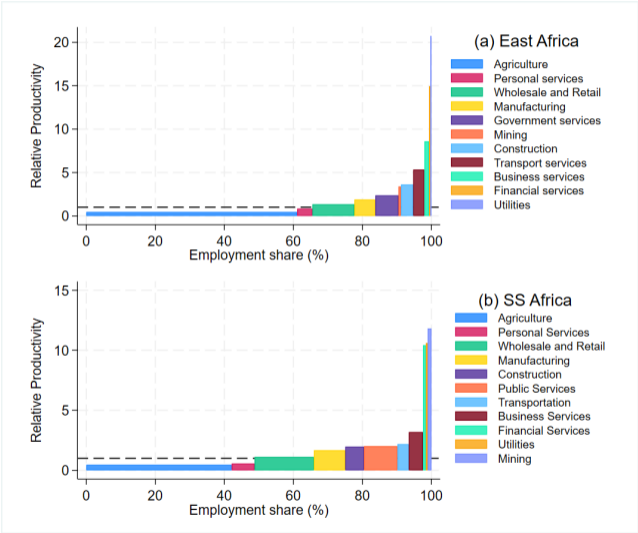
# Changing Nature of Manufacturing and Emerging Potential of Services

- Technological progress and geopolitical shifts have resulted in fundamental changes
- Only the manufacturing sector exhibited unconditional convergence across countries (Rodrik, 2013)
- Among 'modern' sectors, manufacturing had a unique capacity to absorb low-skilled labour
- However, Rodrik (2022) acknowledged that this landscape may have changed, and that services now represented the bulk of future job creation
- Herrendorf et al. (2022) casts doubt on the unique convergence properties of the manufacturing sector
- Forslid (2023) envision a world 'where manufacturing is jobless and services tradeable'

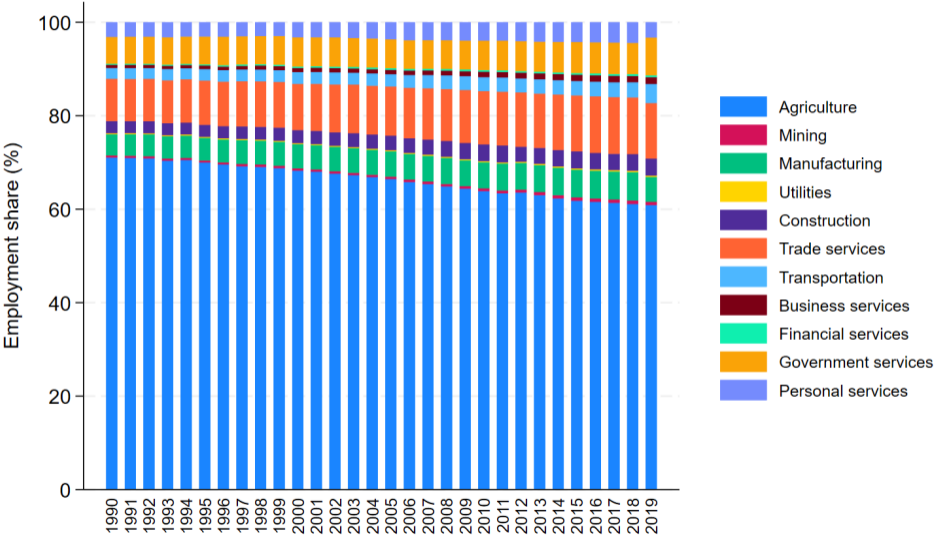
# Data

- New database ETD-EA: Employment and VA data from 12 EA countries (1990–2019)
- ETD: Ethiopia, Kenya, Rwanda, Tanzania, and Uganda
- Harmonize data from:
  - UN Official Country Data and UN National Accounts Estimates of Main Aggregates for seven of the remaining East African countries
  - Burundi, Comoros, Djibouti, Eritrea, Somalia, South Sudan, Sudan
- ILO estimates for employment data for these seven countries
- ASUT database: Input-output data for 4 EA countries
- Ethiopia, Kenya, Rwanda, Tanzania

# Structural Conditions in East Africa



# Sectoral Shifts Over Time



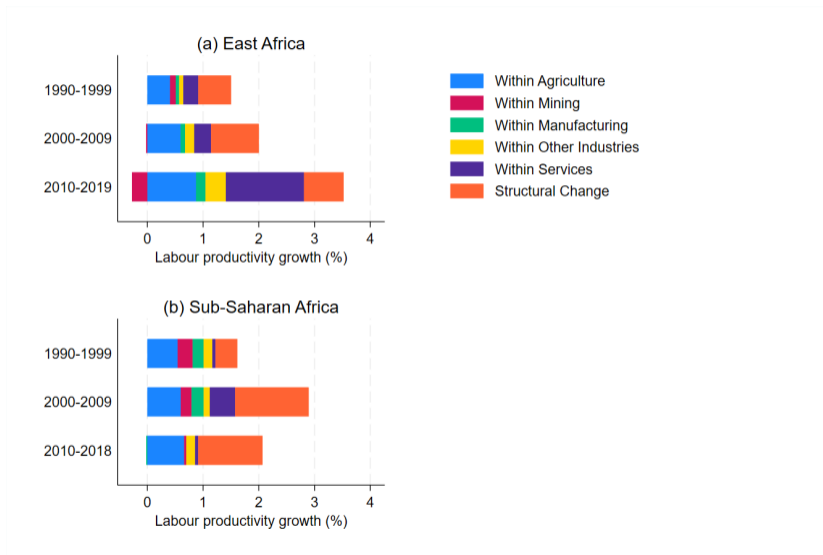
# Shift-Share Decomposition

$$p_t = \sum_i p_{i,t} s_{i,t} \quad (1)$$

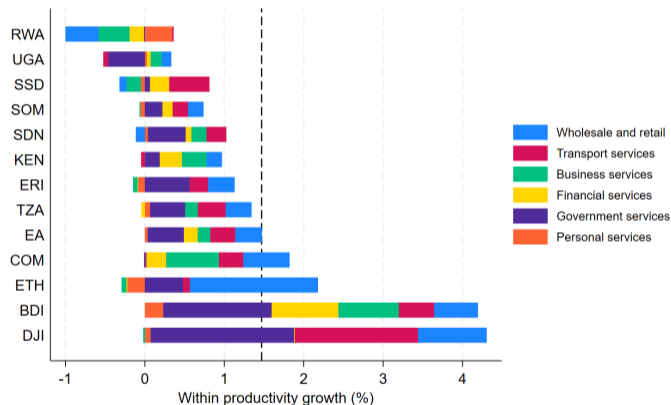
where  $p_t$  is aggregate labour productivity in year  $t$ ,  $p_{i,t}$  is labour productivity of sector  $i$  in year  $t$  and is calculated as  $p_{i,t} = \frac{VA_{i,t}}{L_{i,t}}$ , where  $VA_{i,t}$  is real value added in sector  $i$  and  $L_{i,t}$  is the number of persons employed in sector  $i$ , both in year  $t$ .  $s_{i,t}$  is the employment share in sector  $i$  defined as the ratio of employment in sector  $i$  to total employment in the economy at time  $t$ . Equation 1 can be decomposed as:

$$\dot{p} = \frac{\Delta p}{p^{t-1}} = \sum_{i=1}^N \left[ \frac{(p_i^t - p_i^{t-1}) s_i^{t-1}}{p^{t-1}} \right] + \sum_{i=1}^N \left[ \frac{(s_i^t - s_i^{t-1}) p_i^t}{p^{t-1}} \right] \quad (2)$$

# Decomposition Results



# Within-Services Productivity Growth by Country



- Diversified sources of services growth
- Tradable vs Non-tradable services
- Country-specific results.

# Regression Approach

$$IndShare_{i,t} = \alpha_0 + \alpha_1 \ln Y_{i,t} + \alpha_2 (\ln Y_{i,t})^2 + \alpha_3 \ln P_{i,t} + \alpha_4 (\ln P_{i,t})^2 + \gamma PD_t + \delta_i + \epsilon_{i,t}$$

where the dependent variable  $IndShare_{i,t}$  is the industry (manufacturing or services) share of employment or real value added in country  $i$  at year  $t$ .

The model controls for income and demographic trends via the inclusion of the logarithms of GDP per capita ( $Y_{i,t}$ ) and population ( $P_{i,t}$ ) and their quadratics, and includes country fixed effects ( $\delta_i$ ).

# Servicification Dominates

	<i>Man_EMP</i>	<i>Man_VAQ</i>	<i>Serv_EMP</i>	<i>Serv_VAQ</i>
In Pop	-0.005 (0.004)	-0.016*** (0.005)	-0.010 (0.011)	0.034 (0.023)
In Pop <sup>2</sup>	0.000 (0.000)	0.001*** (0.000)	-0.000 (0.001)	-0.002 (0.001)
In GDP <sub>pc</sub>	0.059* (0.034)	0.097*** (0.030)	-0.161*** (0.057)	0.093 (0.111)
In GDP <sub>pc</sub> <sup>2</sup>	-0.003 (0.002)	-0.005** (0.002)	0.016*** (0.004)	-0.008 (0.008)
2000s	0.004*** (0.001)	-0.008*** (0.002)	0.015*** (0.003)	0.035*** (0.006)
2010s	0.007*** (0.002)	-0.018*** (0.003)	0.026*** (0.004)	0.089*** (0.010)
N	322	317	322	317
R <sup>2</sup>	0.871	0.932	0.963	0.913

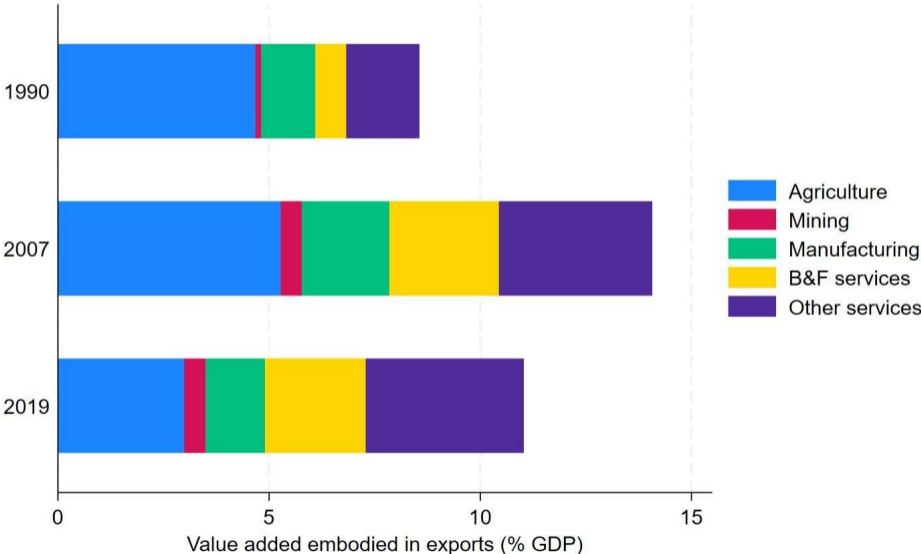
Robust standard errors in parentheses. \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

# Hypothetical Extraction Method

- Use ASUT and hypothetical extraction method (Los et al. 2016)
- Trace VA and employment embodied in exports (from Mensah and de Vries, 2024)

$$GDP_H = v_H \begin{bmatrix} x_H \\ x_F \end{bmatrix} = v_H(I - A^*)^{-1} Y^* i + v_H(I - A^*)^{-1} \begin{bmatrix} e_H \\ 0 \end{bmatrix} \quad (3)$$

# Value Added in Exports



## Jobs Embodied in Exports

- Large increase in the proportion of services value added in exports
- Limited jobs underpin services exports

	Jobs (thousands)			Share (%)		
	1990	2007	2019	1990	2007	2019
<b>Agriculture</b>	3,104	6,161	6,115	9.1	11.2	6.7
<b>Mining</b>	9	87	90	0.0	0.2	0.1
<b>Manufacturing</b>	140	523	529	0.4	1.0	0.6
<b>B&amp;F services</b>	18	42	54	0.1	0.1	0.1
<b>Other services</b>	227	445	476	0.7	0.8	0.5
<b>Total</b>	3,497	7,257	7,264	10.3	13.2	7.9

# Potential Reasons for East Africa's Services Productivity

## Early Adoption of mobile money:

### ① **Composition effect: expansion of finance.**

Mobile Money is part of financial services; finance is the *highest-productivity* services sub-sector in SSA, so a larger finance share lifts within-services productivity. (*This paper and Hamilton, 2025*)

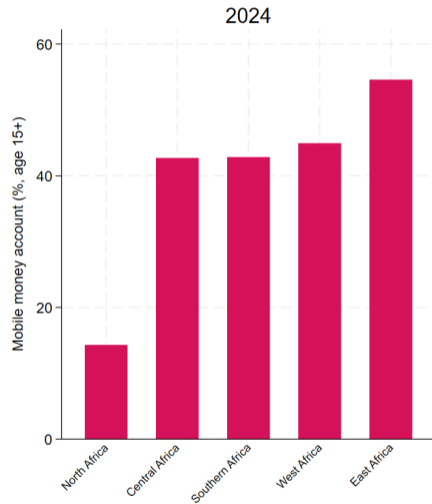
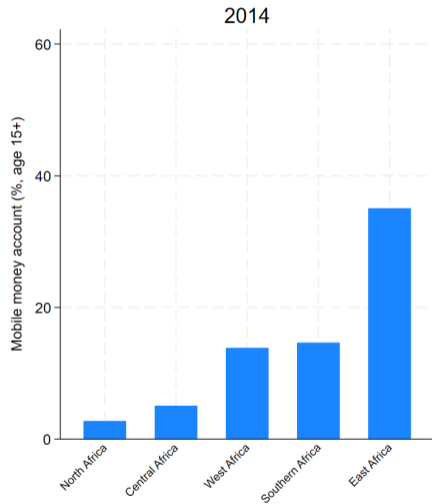
### ② **Structural transformation via remittances & migration.**

Mobile Money raises remittances, facilitates shifts out of agriculture, and supports rural-to-urban migration—boosting urban services demand. (*Batista & Vicente, 2025; Jedwab et al., 2025*)

### ③ **Spillovers to other services.**

Improved payments increase rural demand for local non-tradables and enhance within-country tradability (remote hiring, safer cashless transactions). (*Beck et al., 2018; Lensink et al., 2022; Adjasi et al., 2023*)

# Early Adoption of mobile money

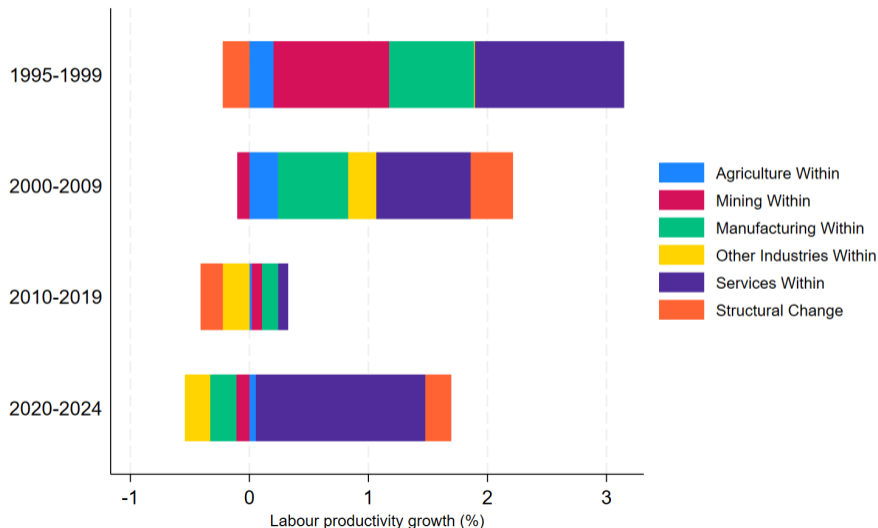


# Potential Reasons for East Africa's Services Productivity

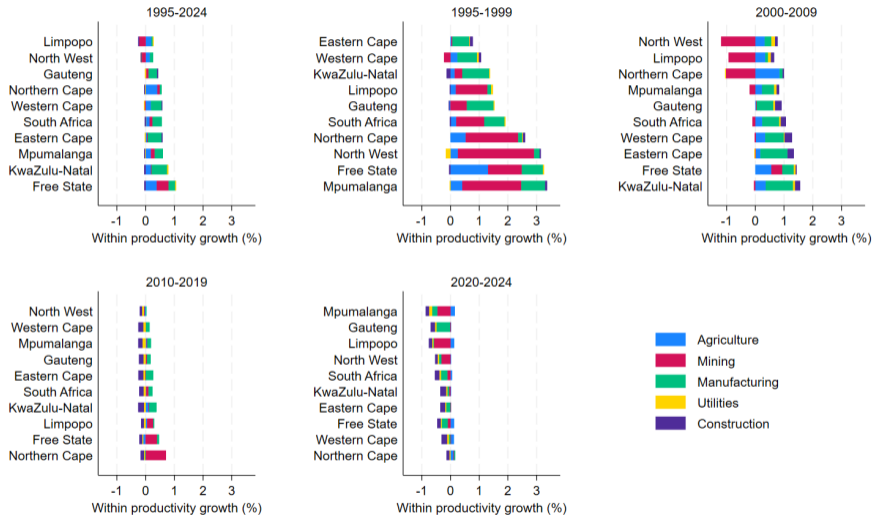
- **Regional integration.** Higher regional integration facilitates cross-border services trade and local value chains. (*Na, 2019*)
- **Stable, open investment climate.** Longstanding pro-investment policies → East Africa is a top recipient of FDI in Africa, especially into services. (*African Development Bank, 2024b; Na, 2018; Subramanian, 2000*)
- **External demand in key services.** East African countries are leading exporters of *tourism* and *high-value-added transport services*. (*Daly & Gereffi, 2018*)
- **Value-added channel despite non-tradable jobs.** Even if many service jobs are in non-tradables, foreign demand raises sectoral value added, helping sustain high productivity growth. (*as discussed in Section 5.3*)
- **Tourism & transport as main external drivers.** These likely account for a large share of the international demand supporting services VA growth. (*Daly & Gereffi, 2018*)
- **Not a single-cause story.** Multiple forces jointly explain the exceptional within-services productivity growth since 2010

# Non-transformative Services-Led Structural Transformation: South Africa\*

\*From Hamilton & Mensah (2026) *The Structural Change Emergency in South Africa*



# Non-services within sector growth by province: South Africa



# Conclusion

- EA has become a regional leader in services-led transformation
- Growth comes from both sectoral shifts and within-sector gains,
- implying services-led structural transformation is not self-extinguishing
- For services to drive growth, three key conditions must be met:
  - ▶ Workers must move from lower productivity sectors such as agriculture to services.
  - ▶ The services sector must continue to experience within-sector productivity growth.
  - ▶ Workers must shift from less to more productive service activities.
- East Africa is meeting the first two
- Process is domestically driven and potentially sustainable
- But rapidly expanding service sector productivity is not always enough