

Economic diversification and sustainability – which economic sectors have the highest potential for job creation (and productivity)?

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12 December 2018

West and Central Africa Employers' Organisations Conference, Conakry, Guinea, 12-13 December 2018,
organised by the IOE



ACT/EMP
Bureau for employers Activities

Sustainability- a broad topic!

Let's break it into TWO main elements, both entailing structural changes:

Interrelated

1. Structural change or structural transformation

- Shift to sectors with higher productivity and employment potential

2. Economic diversification

- Shift for minimizing risk of dependency

Environmental + social sustainability critical in both:



Growth-enhancing change in the structure of the economy

Risk or shock reducing change in the structure of the economy

Key message:

- Traditional policy analysis for job creation focuses:
 - Key Sectors – i.e. sectors with more than average backward and forward multipliers (based on input-output; or social accounting matrix analysis)
 - Sectors with high employment elasticity
- Such analysis are quiet useful as they help to reveal certain underlying features about the structure of an economy
- However, what is the point of investing in, diversifying towards, or creating a job in a key sector with a strong employment elasticity if the sector's productivity is low?!
- Diversification and structural expansion should be aimed at sectors with high employment elasticity, high productivity as well as high backward and forward linkages. The focus of policy should be to create conducive business environments to allow this:

Structural change in Africa: Reality check

Should “enhancing structural change or transformation” be the first concern in Africa?

The myth:

“Structural change in Africa is slow (or even absent in certain cases)

Hence the first concern is to enhance it (or kick-start it)!

The reality:

Africa never stopped changing! Structural change has been happening in Africa, albeit at varying pace!

But, in most cases it has been the wrong-type of structural change! One that is growth-reducing (instead of growth-enhancing)!



- Hence, the first concern for Africa is reversing the direction of structural change.
- Let's first establish the fact concerning the wrong-direction of structural change structural change in Africa.
 -If we succeed to do this, we could then discuss about the reasons and reflect on potential measures for reversing the direction.

But, first of all, what is structural change?

Structural change: - direction

- **It could be defined in different ways, but for our purpose:**

- A change through time in the sectorial composition of a country's economy, measured by the share of various sectors in GDP or employment.

- *i.e. For each sector, we ask: “how is the sector's share in value-added (as a share of GDP) or employment (as a share of total employment) changing over time?*
- *i.e. Which sector is expanding (or shrinking), relative to other sectors, in terms of its share of GDP or employment?*

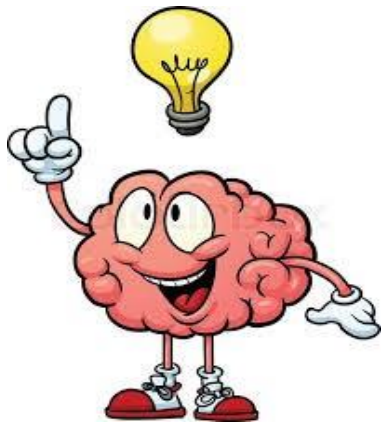
These questions help us understand the direction (or pattern) of the structural change.

Structural change – impact (i)

- **To understand the impact of the patten (direction) of structural change, we must consider the “productivity” of each sector**
 - This will help us to understand whether the direction of the structural change is from lower productivity sectors to higher productivity sectors, or not!
 - *i.e. we ask, is labour share increasing in the sectors with increasing value added or productivity; while decreasing in sectors with declining value-added or productivity?*
 - *i.e. is labour reallocation is taking place from low-productivity sectors towards high productivity sectors?*

Structural change – impact (ii)

- To understand the impact we need to simultaneously see the direction of the structural change and the change in the sectors' productivity
 - *Growth-enhancing or productivity-enhancing structural change occurs when labour share is increasing in sectors with increasing value added or productivity.*
 - *i.e. labour share decreasing in sectors with decreasing value-added or productivity*
 - *i.e. it implies labour reallocation from low value-added or productive sectors to higher value-added or productive sectors*
 - *Growth-reducing or productivity-reducing structural change is occurs when labour share is decreasing in sectors with increasing value added or productivity.*
 - *i.e. labour share increasing in sectors with decreasing value-added or productivity*
 - *i.e. it implies labour reallocation from high value-added or productive sectors to lower value-added or productive sectors*



Reflection

What do we mean when we say structural change in Africa has been growth-reducing?

We mean that the direction of structural change was one in which the share of employment increased in sectors with declining value-added or productivity! It means the share of employment decreased in sectors with increasing productivity or value-added.

Why should we be concerned about this, from sustainability point of view?

- A country can increase its National Productivity (NP) in two ways. Hence, we can decompose overall productivity into these two elements:



1. When sectors' productivity increases even if the share of employment remains unchanged (i.e. sectorial productivity per worker increasing).

Algebraically, $(\Delta P * E)$, this is sectorial productivity change

2. When sectors' productivity remain the same (unchanged) but the share of employment increases in sectors with higher productivity

Algebraically, $(P * \Delta E)$ – this is structural change (its about labour reallocation)

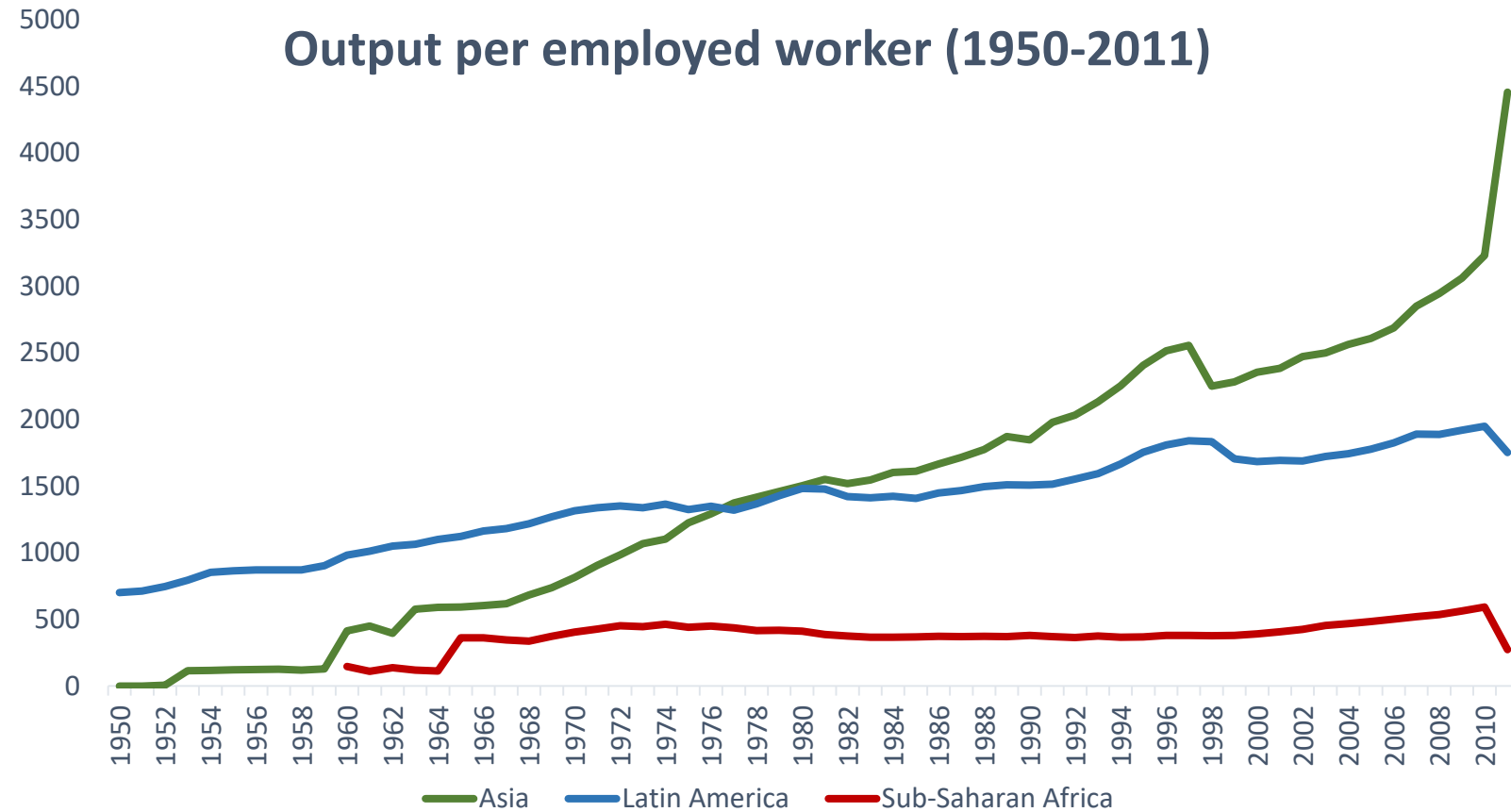
In simple algebraic notation:



$$\underbrace{\Delta NP}_{\text{Overall productivity}} = \underbrace{(\Delta P * E)}_{\text{Within-sector productivity}} + \underbrace{(P * \Delta E)}_{\text{Structural change}}$$

*We can also add a third dimension incorporating an element which captures both change in productivity and change in employment happening simultaneously (i.e. $(\Delta P * \Delta E)$). A situation we call, dynamic decomposition.*

What do you observe?



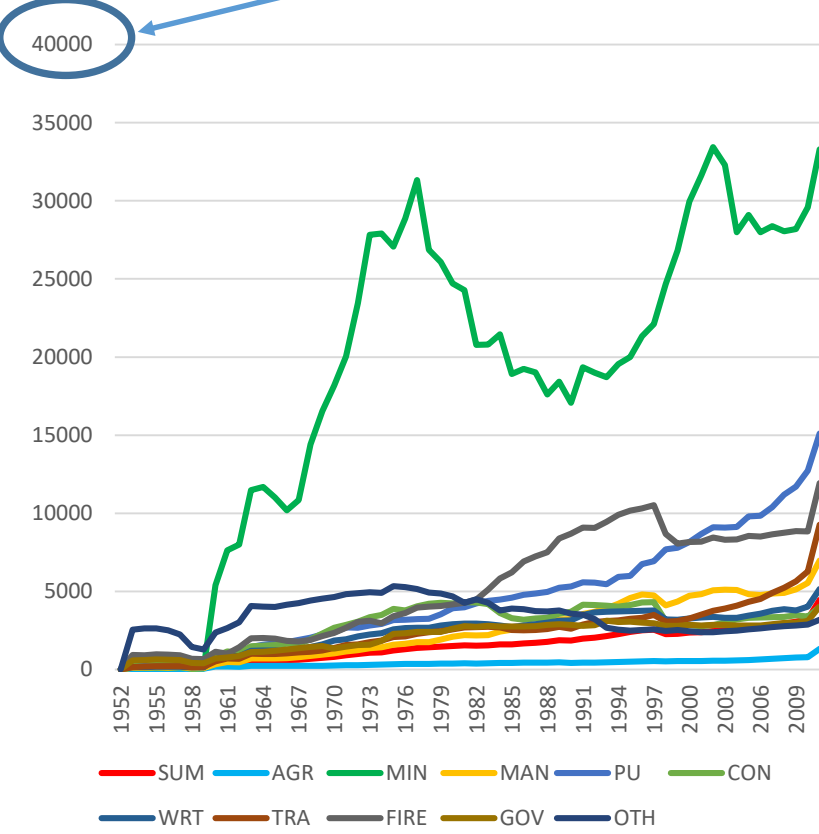
Author's analysis based on Groningen Project's 10-sectors data on productivity

What are behind these diverging trends?

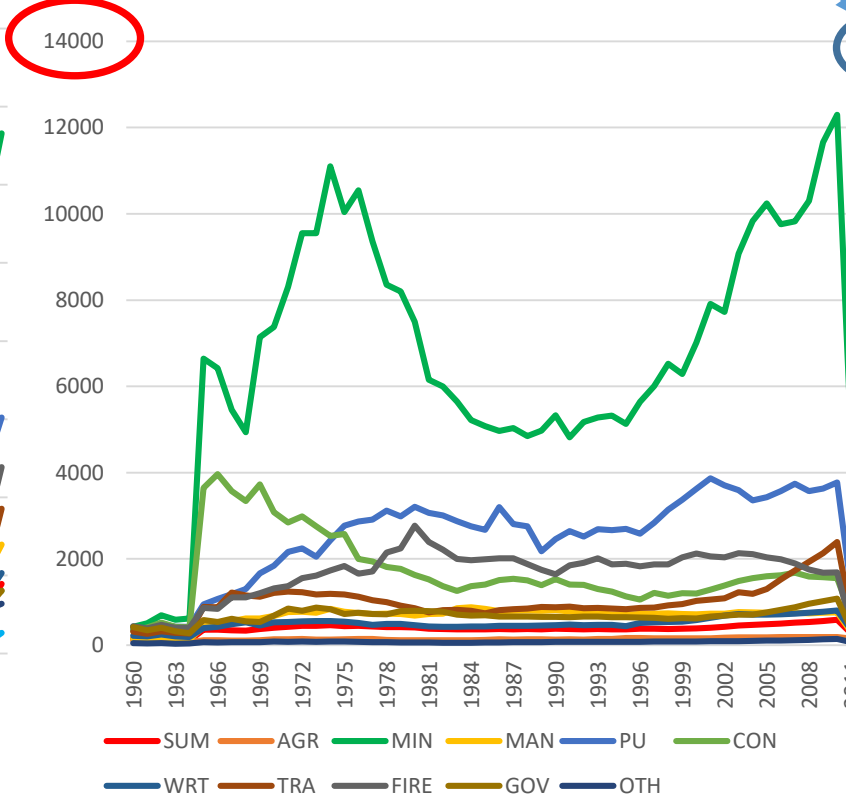
- Do differences in sectorial productivity fully explain the divergence between labour productivity in the three regions?
- What role structural change may have played in the divergence we observe among the three regions?

See the differences in the scales

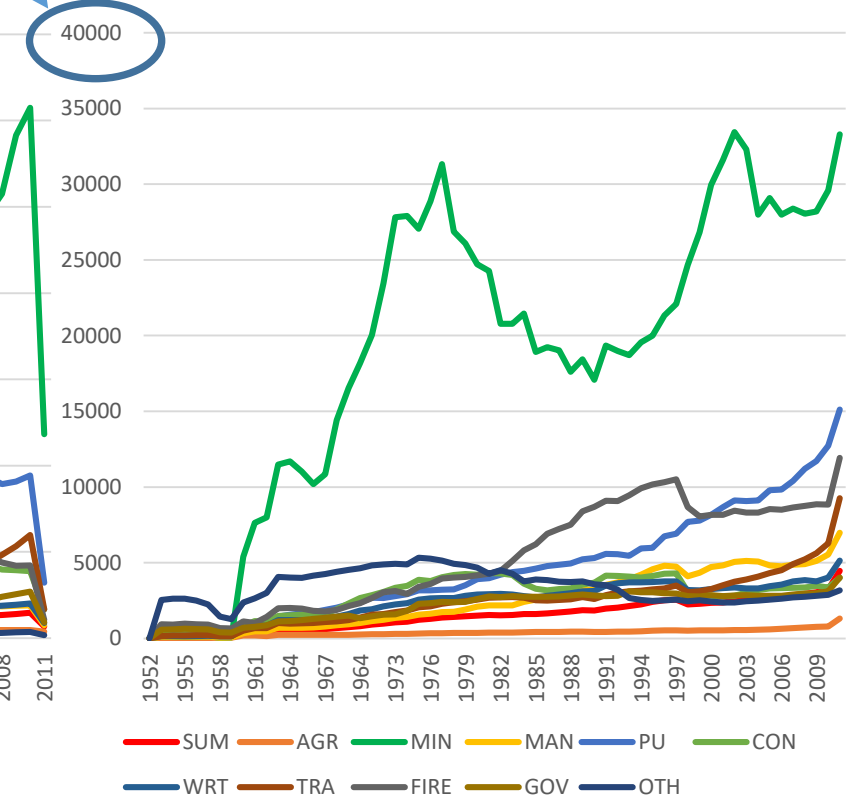
Output per employed worker in Latin America (1952-2010)



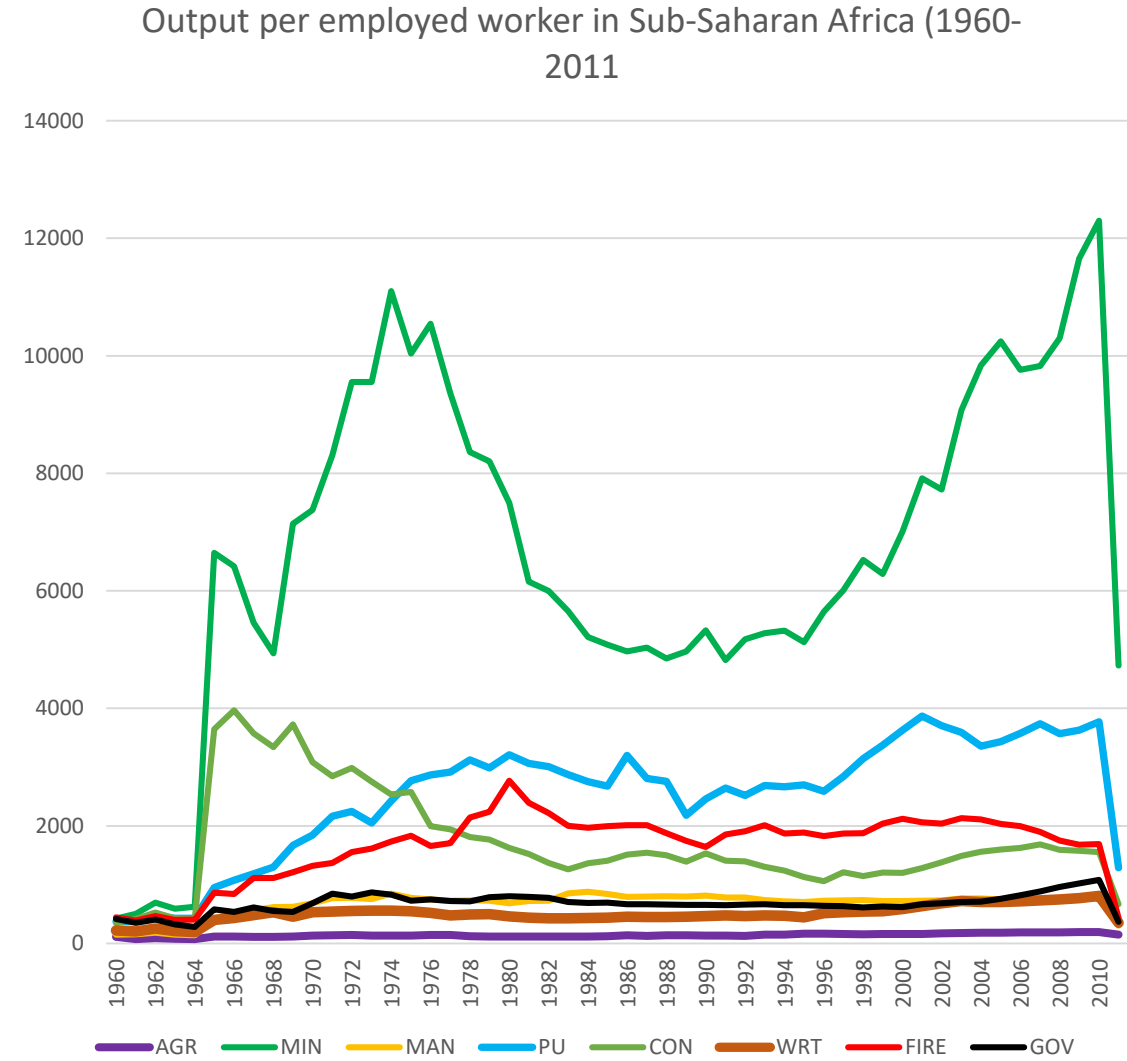
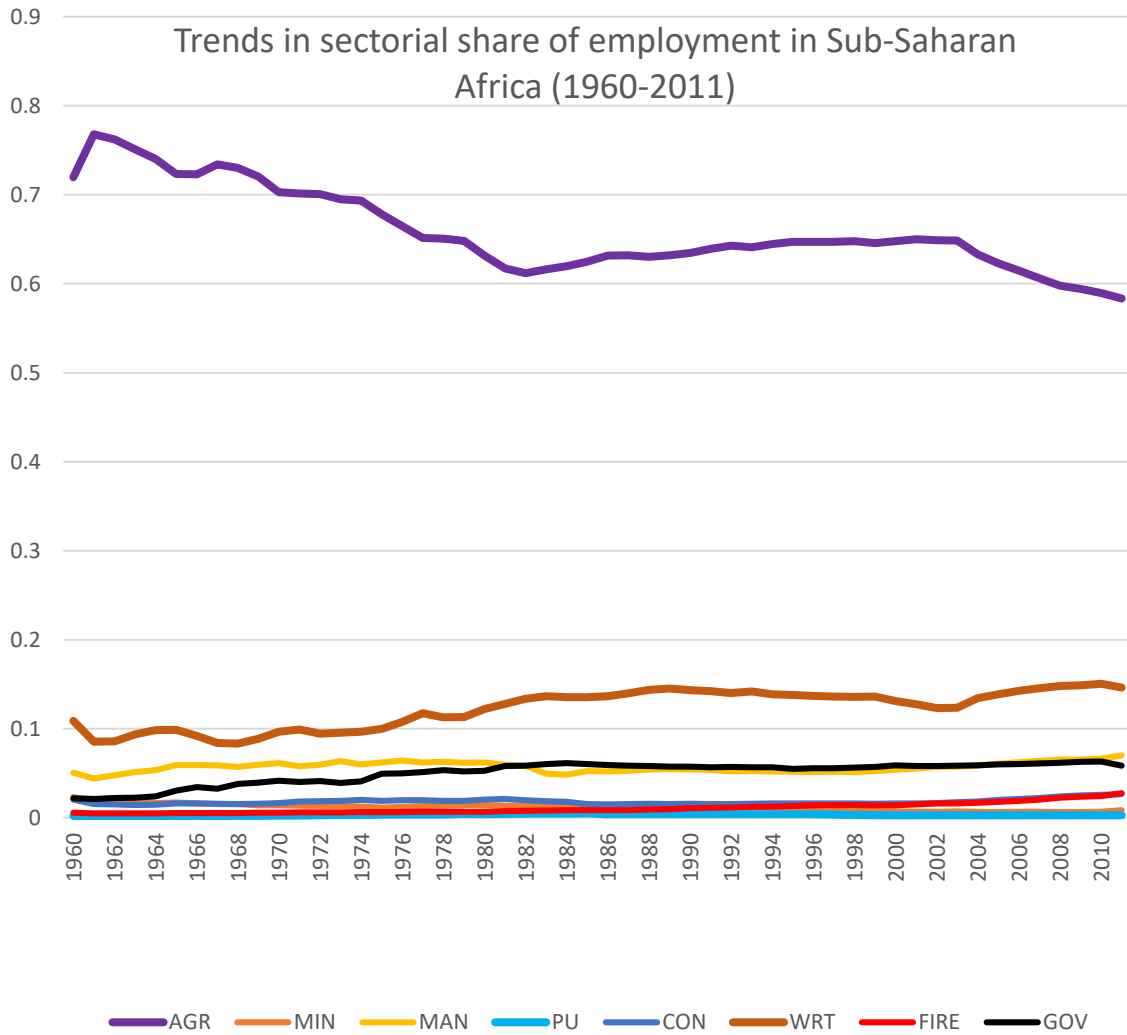
Output per employed worker in Africa (2060-2011)



Output per employer worker in Asia (1960-2010)

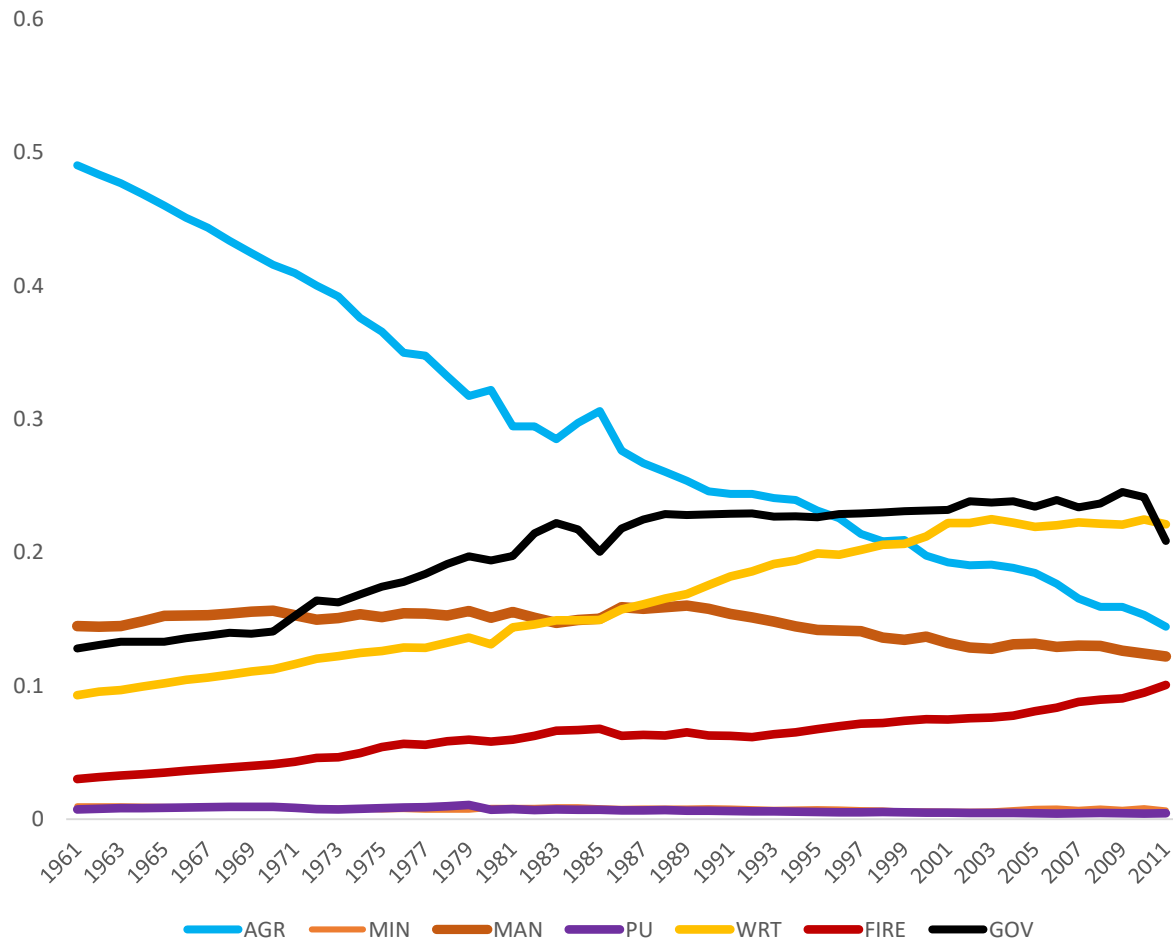


Author's analysis based on Groningen Project's 10-sectors data on productivity

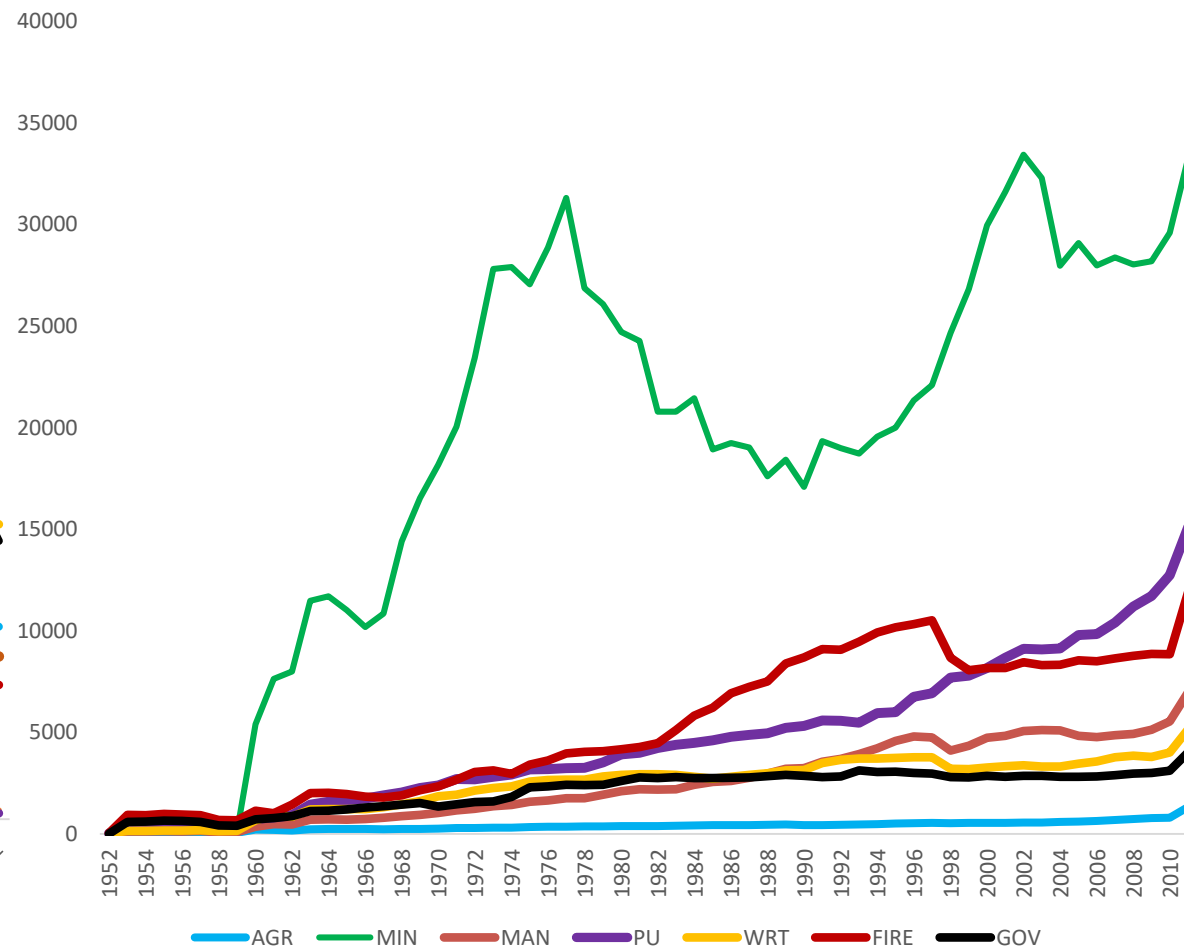


Author's analysis based on Groningen Project's 10-sectors data on productivity

Trends in sectorial share of employment in Latin America (1961-2011)

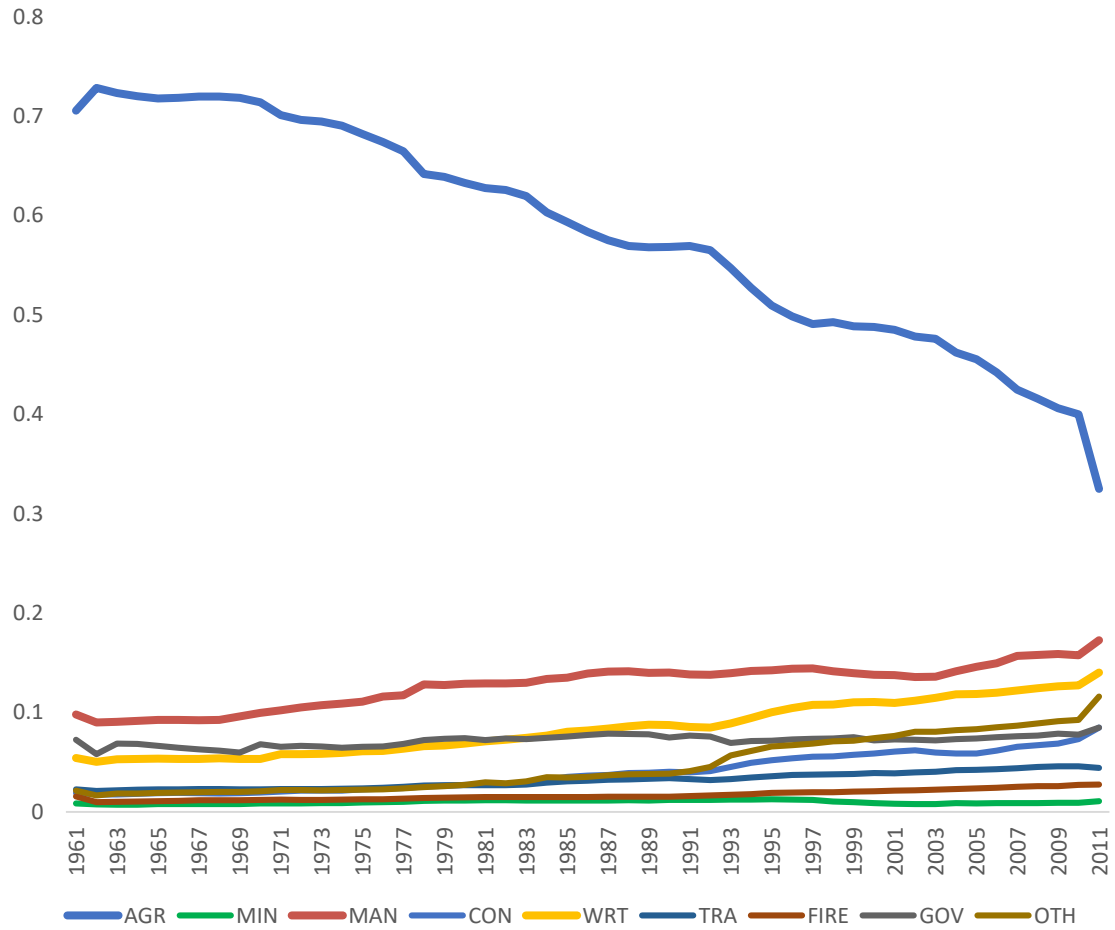


Output per employed worker in Latin America (1952-2010)

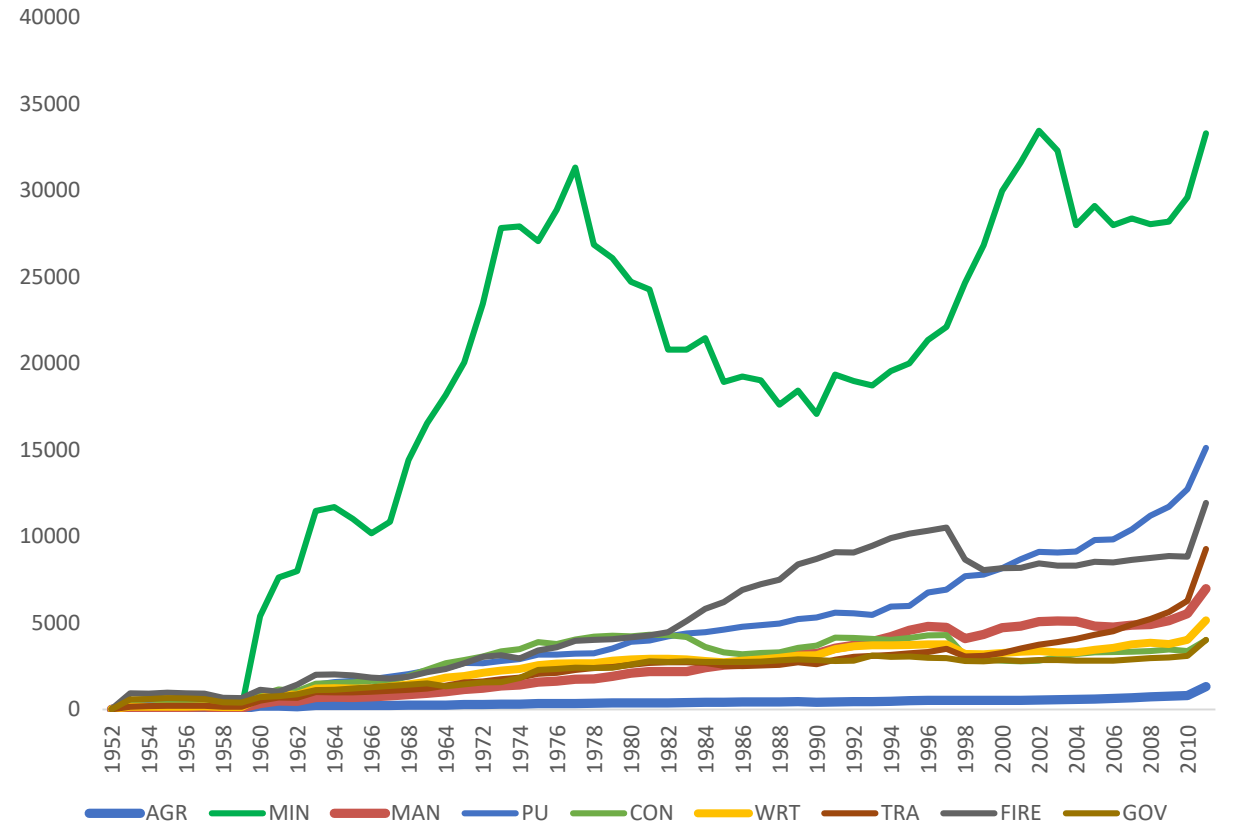


Author's analysis based on Groningen Project's 10-sectors data on productivity

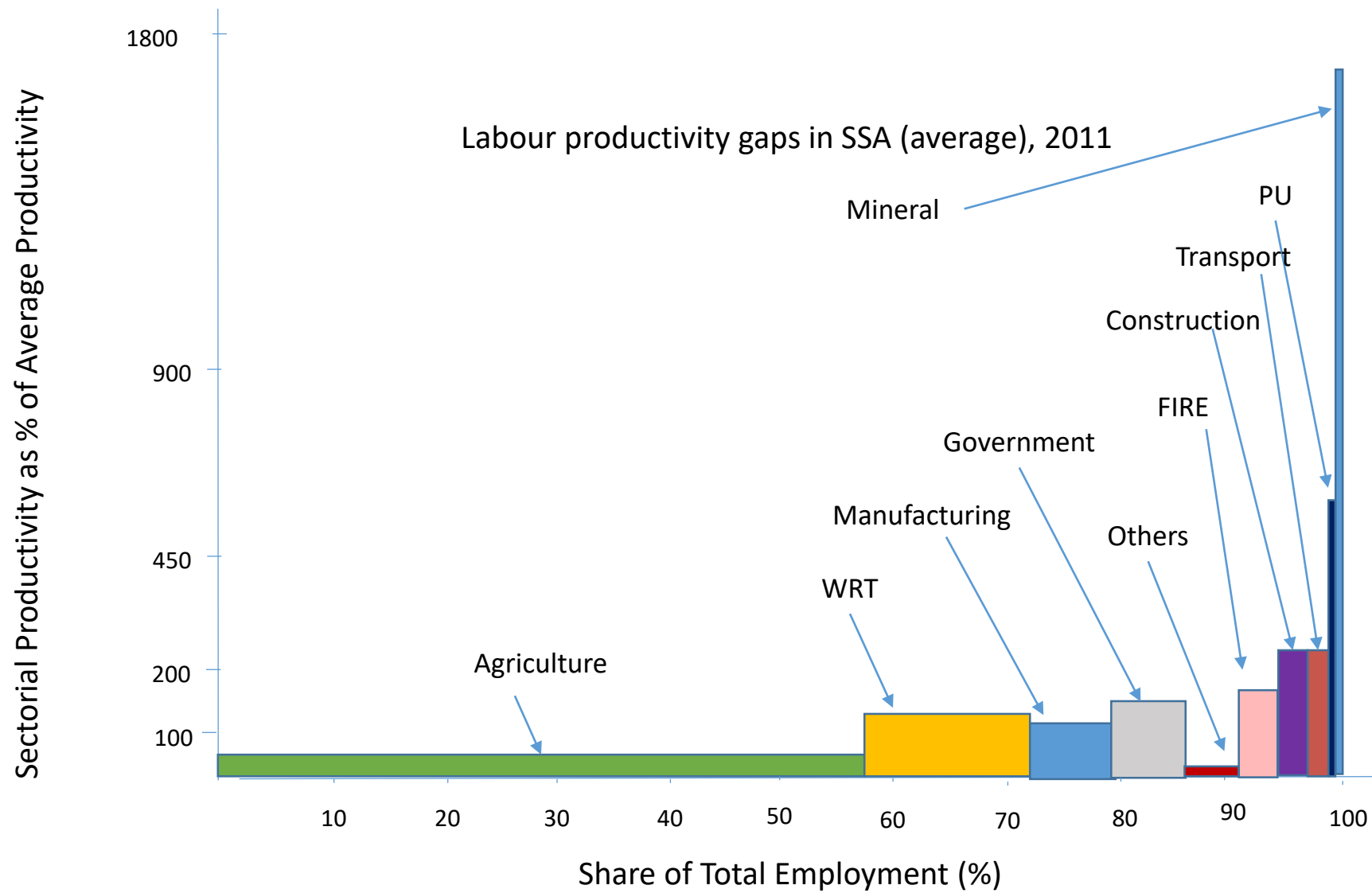
Trends in sectorial share of employment in Asia (1961-2011)



Output per employer worker in Asia (1960-2010)

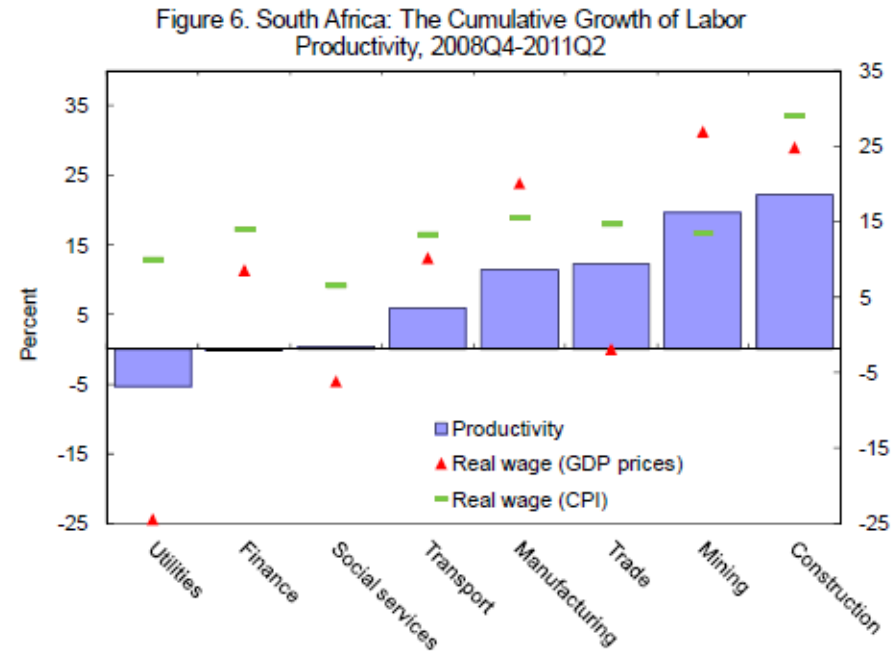
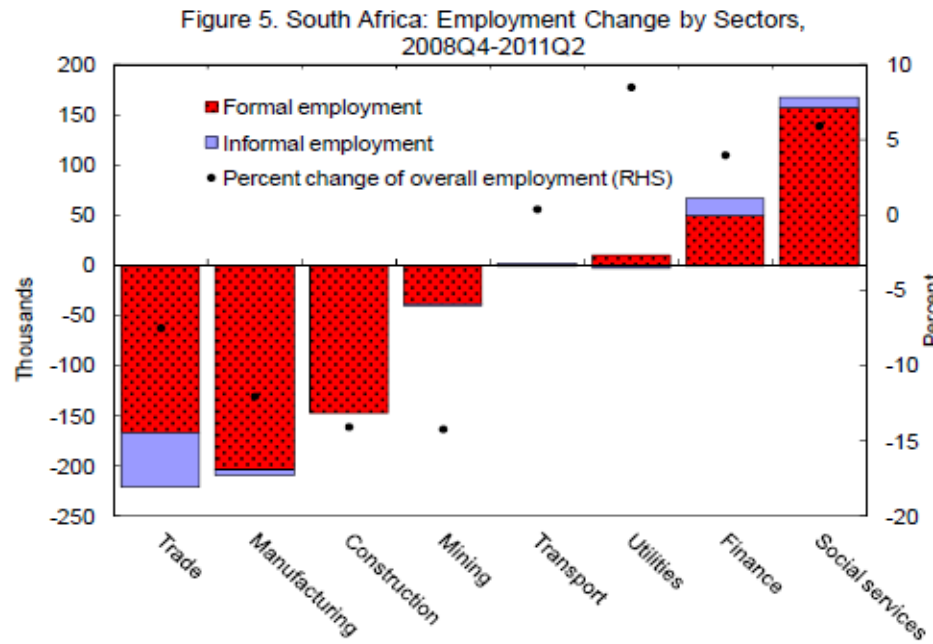


Author's analysis based on Groningen Project's 10-sectors data on productivity



Author's analysis based on Groningen Project's 10-sectors data on productivity

Further illustration

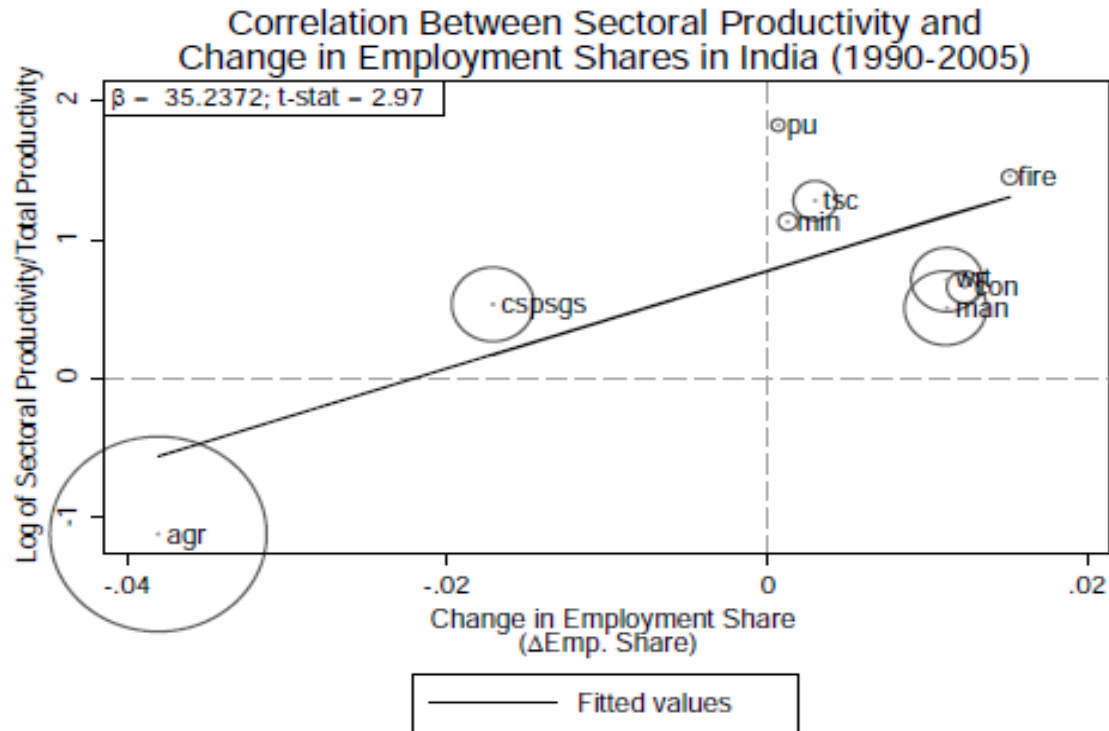


Source: StatSA and International Monetary Fund staff's calculations.

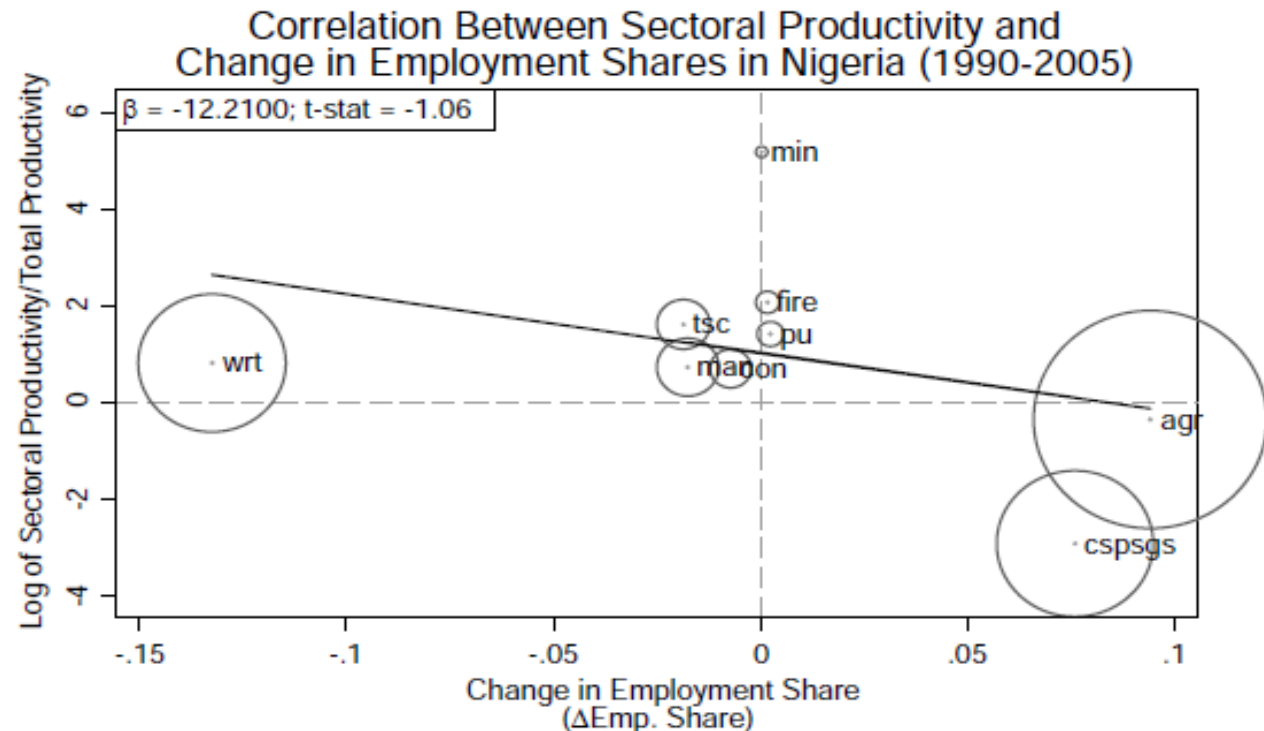
Source: Klein Nirr, 2012, IMF WP, 12/92

Further illustration: India vs. Nigeria

What do we observe?



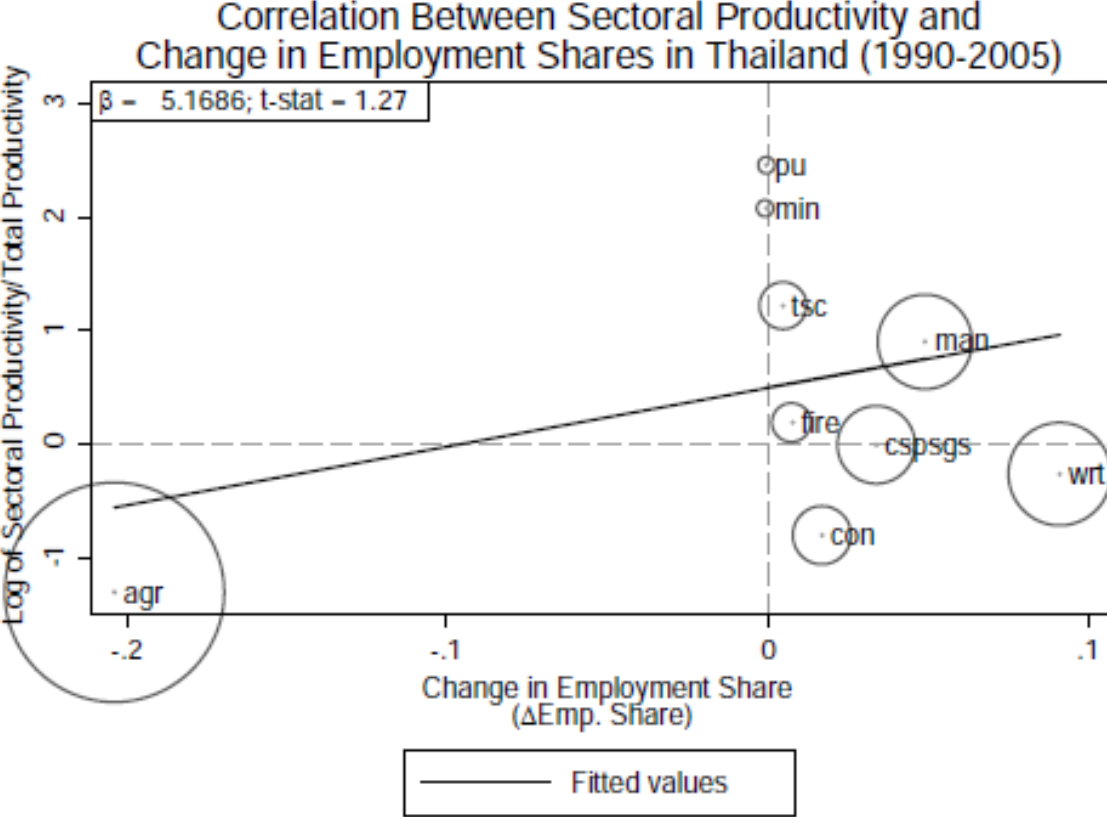
*Note: Size of circle represents employment share in 1990
 **Note: β denotes coeff. of independent variable in regression equation:
 $\ln(p/P) = \alpha + \beta \Delta \text{Emp. Share}$



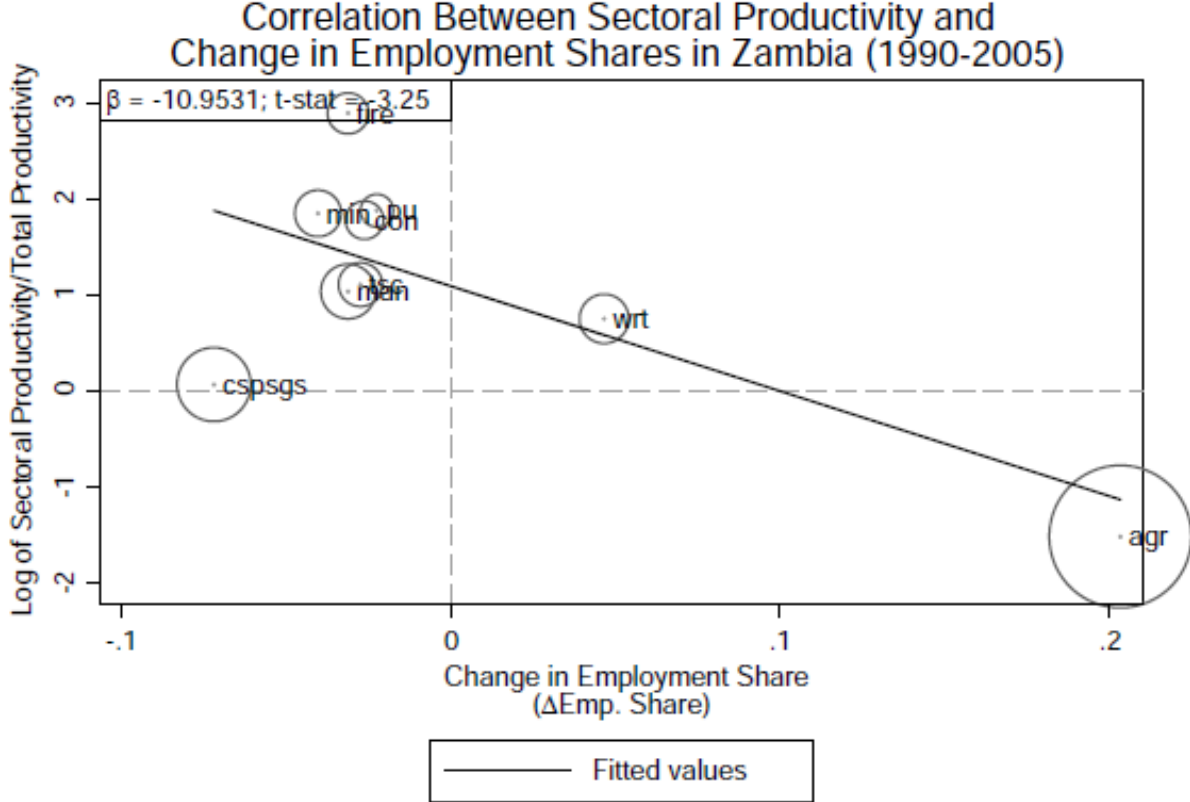
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Source: McMillan and Rodrik, 2011

Further illustration: Thailand vs. Zambia



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Determinants of Structural change: preliminary findings based on econometrics analysis

- **Negative contributors (i.e. those contribution to growth-reducing structural change):**
 - Currency overvaluation – due to the “Dutch disease effect”
 - High government consumption (because of its crowding out effect on the private sector)
 - Political and other forms instability – discourages productive investment and encourages survivalist/subsistence activities
 - Trade barriers – protects low productive sectors and limits opportunity for high-performing sectors
- **Current ACT/EMP Research – econometrically testing the extent to which differences in business environment in different regions account for the divergence of structural changes among the regions both in terms of the pattern and the magnitude of the change.**

Thank you