RELATIONSHIP BETWEEN INCOME INEQUALITY AND STRUCTURAL TRANSFORMATION IN DEVELOPING ECONOMIES

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Outline

➢ Overview:
  ▪ Income Inequality- trends
  ▪ Structural transformation

➢ Inequality-structural transformation linkage: Empirical Analysis
  ▪ Data and Methodology
  ▪ Results

➢ Findings and Conclusion
Income inequality trends
Income inequality trends

- Considerable diversity in the level of inequality across countries and regions.
- There is a widespread between the highest inequality countries in LA & SSA, and the lowest inequality countries in Scandinavia.
- LAC: very high levels of inequality, but many experienced a decline in the level from 1990 to 2015.
- SSA: Heterogeneity in income inequality levels within the region – increase trend among many countries from 1990 to 2015.

Source: Povcal (2018), The Chartbook of Economic Inequality (2017), Kandbur et al. (2017) Table 1.B
Note: Estimates are based on household survey data of either incomes or consumption. All countries for which comparable surveys within five years of each reference year were available are shown.
Gini Index-Latin America & Caribbean and Sub-Saharan Africa

Source: Standardised World Income Inequality (SWIID) database, version 8
Structural transformation

• Structural transformation is a process whereby labour moves from low productive to higher productive sectors, and this reallocation raises labour productivity which contributes to economic growth (Martins, 2019).

• In developing countries, labour productivity in agriculture is considerably lower than in the non-agricultural sector (Gollin et al., 2014).

• This suggest reallocation of labour from agriculture to industry and services would considerably boost aggregate productivity and economic growth in developing countries.
Structural transformation ctd.

- Agricultural share in value added has decreased across regions, but still high in Sub-Saharan Africa (SSA) and South Asia (SA), though in Latin America and Caribbean region it has fallen.
- Considerable increase in the contribution of service sector across regions.
- Interesting fact: the share of industry has not picked up in any of the developing regions.
- Signals premature-deindustrialization.

Source: UNSD dataset of national accounts

11/9/2019
Structural Transformation ctd.

Source: UNSD dataset of national accounts

Source: World Employment and Social Outlook (WESO) database of ILO

11/9/2019
Structural Transformation ctd.

Source: UNSD dataset of national accounts

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11/9/2019
Structural Transformation ctd.

Value added (%)

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Employment (%)

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Source: UNSD dataset of national accounts

Source: World Employment and Social Outlook (WESO) database of ILO
Structural Transformation ctd.

Value added (%)

Employment (%)

Source: UNSD dataset of national accounts

Source: World Employment and Social Outlook (WESO) database of ILO
Structural transformation and inequality Relation

Source: Standardised World Income Inequality (SWIID) database, version 8, and WESO dataset
Structural transformation and inequality Relation : Empirical Analysis

- Data source: WESO (ILO), UNSD and WDI (World Bank).
- Time Period: 2001 to 2016
- Countries: 19 countries - Middle income countries in LAC, SSA and South Asia.
- Research question: How does the structural transformation component in labour productivity affects the income inequality in the developing regions.
- Methodology:
  - Shapley decomposition of labor productivity (Martins 2019).
  - System GMM technique.
Methodology: Shapley decomposition

- Changes in output per capita
  - Changes in aggregate output per worker
  - Changes in the employment rate
  - Changes in demographic structure

Within sector effects
- Between Sector effects (=ST)

Source: Martins (2019)
Methodology Ctd.

- Dynamic panel estimation: System GMM technique

\[ Y_{i,t} = \delta Y_{i,t-1} + \beta X_{i,t} + \mu_i + \phi_t + e_{i,t} \]

- Dependent Variable \((Y_{i,t})\): Gini Index (Model 1), Income share of lowest 10% (Model 2)

- Explanatory variable: Structural transformation (between sector effect on change in labour productivity from Shapley decomposition)

- Other Control Variables: Log GDP, LFPR, Population growth rate and GFC growth rate
## Descriptive statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td><strong>Gini index</strong></td>
<td>279</td>
<td>42.3</td>
<td>10.097</td>
<td>24</td>
<td>59.5</td>
</tr>
<tr>
<td><strong>Lowest 10% income share</strong></td>
<td>265</td>
<td>2.090</td>
<td>1.136</td>
<td>0.4</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Structural transformation</strong></td>
<td>303</td>
<td>0.002</td>
<td>0.241</td>
<td>-0.984</td>
<td>0.813</td>
</tr>
<tr>
<td><strong>Log GDP</strong></td>
<td>304</td>
<td>24.660</td>
<td>1.553</td>
<td>21.947</td>
<td>28.506</td>
</tr>
<tr>
<td><strong>LFPR</strong></td>
<td>304</td>
<td>66.716</td>
<td>7.103</td>
<td>45.378</td>
<td>81.712</td>
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<tr>
<td><strong>Growth rate of population</strong></td>
<td>304</td>
<td>0.681</td>
<td>0.985</td>
<td>-2.170</td>
<td>2.554</td>
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<tr>
<td><strong>Growth rate of GFC</strong></td>
<td>304</td>
<td>23.105</td>
<td>1.578</td>
<td>20.217</td>
<td>26.97</td>
</tr>
</tbody>
</table>
## Income inequality-structural transformation relationship

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Gini index Model (1)</th>
<th>Lowest 10 percent income share Model (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lag Gini Index</td>
<td>0.687***</td>
<td></td>
</tr>
<tr>
<td>Lag value of Lowest 10 percent income share</td>
<td>0.970***</td>
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<tr>
<td>Structural transformation</td>
<td>0.981**</td>
<td>-0.211***</td>
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<tr>
<td>Log GDP growth rate</td>
<td>-0.0377*</td>
<td>1.73</td>
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<tr>
<td>LFPR</td>
<td>-0.1008</td>
<td>0.211*</td>
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<td>GFC growth rate</td>
<td>-3.269*</td>
<td>0.071</td>
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<tr>
<td>Population growth rate</td>
<td>0.006</td>
<td>0.0003</td>
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<tr>
<td>constant</td>
<td>-6.598</td>
<td>0.507</td>
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<tr>
<td>AR(2)</td>
<td>0.725</td>
<td>0.992</td>
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<td>Hansen</td>
<td>0.97</td>
<td>0.999</td>
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<tr>
<td>Difference-in-Hansen</td>
<td>0.488</td>
<td>1.000</td>
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</tbody>
</table>
Findings and Conclusion

• Realllocation of labour across sectors can influence the income inequality in the economy.

• Premature-deindustrialisation and rising informal service sector might influence income distribution in the developing countries.

• Considering the heterogeneity across countries and regions- both in inequality and structural transformation trends- emphasising any single sector will not be the solution.

• The challenging task ahead - generate more productive and formal employment opportunities in the service sector, given the threat of deindustrialisation trend especially in SSA and LAC.
THANK YOU