Four possible pathways: structural transformation and inequality in India

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Overview

▪ Introduction - Structural transformation and inequality
▪ Two questions:
  1. Was structural transformation or lack thereof, a main factor behind inequality dynamics?
▪ Two episodes
  2. What can India do to push forward with national structural transformation?
▪ Four pathways
What is the structural transformation?

- Kuznets (1955) focused on labour abundant developing countries and the sectoral transfer of labour from rural to urban areas as the primary driver of economic development.
- Shift in employment would occur in tandem with rising income inequality in the early stages of development – ‘upswing’ and then later fall in the ‘downswing’ = inverted U or the Kuznets curve.
- The Kuznets process of widening inequality with structural transformation (movement of workers away from the rural sector) has two subprocesses:
  - Between sector inequality – which includes a movement of people from a sector characterised by lower mean income to a sector of higher mean income.
  - Within sector inequality – the movement of people from a sector with low within sector inequality to a sector with higher within sector inequality.
What is structural transformation?

- If both of the above processes work in the same direction – then structural transformation will unambiguously increase inequality.

- McMillan and Rodrik (2011) contend that the central insight of development is that it entails structural change.

- Rodrik (2014) - combining insights of the neoclassical model (Solow) focusing on the growth process of the modern sectors, while the dual economy model (Lewis, Fei Ranis) focuses on relationships between sectors.

- Structural transformation is the movement of workers from low productivity to high productivity activities and sectors. It is defined as the ‘reallocating of economic activity across the three broad sectors’ i.e., agriculture, industry and services (Herrendorf et al., 2014).

\[ \Delta Y_t = \sum_{i=n} \theta_{i,t-k} + \sum_{i=n} y_{i,t} \Delta \theta_{i,t}, \] where \( Y_t \) and \( y_{i,t} \) refer to economy wide and sector labour productivity. \( \theta_{i,t} \) is the share of employment in sector \( i \), while \( \Delta \) denotes the change in productivity or employment share between \( t-k \) and \( t \). The first term denotes the weighted sum of the productivity growth within individual sectors, where the weights are the employment share of each sector at the beginning of the time period. The second term captures the productivity effect of labour reallocations across difference sectors and is the inner product of productivity levels (at the end of the time period) with change in employment shares across sectors. This term is referred to as structural change. When changes in employment shares are positively correlated with productivity levels, this term will be positive and structural change will increase economy wide productivity growth (McMillan and Rodrik (2011)).
Employment composition India (1960-2012)

- Sectoral share of agriculture to employment fell from 71.8% in 1960 to 54.6% in 2010
- Less than that of value added from this sector (52.7% in 1960 to 15.3% in 2010)
- Share of manufacturing increased from 9.6% in 1960 to 11.5% in 2010
- Significant increase in employment share of utilities & construction from 1.6% in 1960 to 7.4% in 2010
- Non business services share in employment increased from 16.1% in 1960 to 23.6% in 2010

Structural transformation In India (1960-2010)

- Structural transformation was more successful in terms of value added share than employment share
- Industrialization was limited in terms of employment - in the manufacturing sector, neither value added nor employment share increased significantly in the 50 year period – secular de-industrialisation
- In utilities & construction, increase in share of value added was limited, the increase in share of employment was significant – primary industrialisation
- Tertiarization in value added and employment
- Confirmed by Rodrik et al. (2016), Kochhar et al. (2006), Kotwal et al. (2011), Diao et al. (2017)
Gross and net income Gini (1960-2012)

- Important also to look at the distribution of income or consumption for the whole population and its dynamics over time
- Gross and net Gini – inequality fell in the first part of the period but rose thereafter

Source: UNU-WIDER.

Four pathways: structural transformation and inequality in India
Was structural transformation or lack thereof, a main factor behind inequality dynamics?
Gross income Gini and manufacturing value added share, non business value added share (1964-2012)

Source: Timmer et al. (2015), GGDC 10-Sector Database Version 2015; UNU-WIDER.
Developers’ dilemma

- Highlights the tradeoff faced by developing countries as they attempt structural transformation and inclusive growth.
- Not so apparent when we focus on the value added share of the different sectors of the Indian economy – value added share of manufacturing and non-business services – for the period before 1980s, fall in sectoral share and stability in inequality rates.
- Dilemma is absent in terms of value added in the first period (1960-1980) but present in the second period (1980-2010).
- Dilemma apparent when we focus on employment, fall in sectoral share of employment before 1980s and stability in inequality rates. After 1980s, sectoral share of employment and inequality rises.
Gross income Gini and manufacturing employment share, non business employment share (1964-2012)

Source: Timmer et al. (2015), GGDC 10-Sector Database Version 2015; UNU-WIDER.
Two episodes

- **1960-1980**: first episode – inequality is stabilised and negligible structural transformation - very small increases or decreases in employment share in any of the five nonagricultural sectors - negligible structural transformation during this period. Very little increase in the employment share of the higher productivity sectors, the Kuznetsian channel to higher inequality is restricted – this episode resolves the dilemma by stabilizing inequality in the economy.

- **1980-2010**: second episode – significant structural transformation and large increase in inequality - Structural transformation is significant in all sectors except mining, significant structural transformation taking place in this period within the higher productivity sectors—particularly business services and to a certain extent also utilities & construction—the Kuznetsian channels of increasing inequality play an important role during this period. This explains the rising inequality in this episode.
Decomposition of labour productivity (1960-2010)

- Decomposition of this growth into two parts: (i) labour productivity growth within sectors (‘within’) and (ii) labour productivity growth due to movement of labour to other sectors (‘between’).
- Productivity growth was reasonable for the whole period, mostly due to much higher growth in the second episode, made up for the lower growth in the first episode.
- Productivity growth in the first episode - within sectors, and structural transformation has a negative effect on ‘within’ growth by moving labour into less productive sectors.
- In the second episode, more than one-third of the productivity growth was due to structural transformation, i.e. between sectors. Structural transformation enabled higher overall growth in the second episode.

## Kuznetsian tension

<table>
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<tr>
<th>INEQUALITY</th>
<th>STRUCTURAL TRANSFORMATION</th>
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<tbody>
<tr>
<td>INCREASING</td>
<td>Kuznetsian tension:</td>
<td>Weak ('Adverse')</td>
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<td></td>
<td>Episode II</td>
<td>(1980-2010)</td>
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<td>STABLE OR</td>
<td>Kuznetsian tension:</td>
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<td>DECLINING</td>
<td>Episode I</td>
<td>(1960-1980)</td>
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Four pathways: structural transformation and inequality in India
Was structural transformation or lack thereof, a main factor behind inequality dynamics?

- How does ST affect inequality?
- Distinction between within and between sectors
- Within sectors – not due to ST
- Between sectors – due to ST
- Ahsan and Mitra (2017) - As long as labor productivity is different across sectors, movement of workers between sectors will lead to some changes in average labor productivity in the economy. If workers move from low-productivity sectors into relatively high-productivity sectors, there is positive productivity growth in the economy as a whole (through structural change).
  
- While the contribution of within-sector growth to overall productivity growth in an economy is measured by the weighted sum of productivity growth rates in the various parts of the economy called sectors (with employment shares of the sectors as weights), the contribution of structural change comes about through the movement of workers across sectors with differing labor productivities.

- Rodrik et al. (2017) Structural change contributed to growth in India which has seen a less rapid decline in the employment share of low-productivity agriculture, exacerbated by the lack of a boom in labor-intensive manufacturing for export.
What can India do to push forward with national structural transformation?
Changes in labour productivity and employment share (1960-1980), (1980-2010)

Source: Timmer et al. (2015), GGDC 10-Sector Database Version 2015; UNU-WIDER.
Choices and trajectories

- In Trajectory 1, we assume that in future, the world trade environment is characterized by low global growth and protectionist policies towards developing countries. We also assume that political competition remains intense in India. If this combination holds, then, much as in the first episode, the economic policy paradigm might turn anti-globalization, protectionist, and focused on controlling inequality. As in that episode, this would give rise to very little structural transformation and growth, although inequality might remain under control.

- In Trajectory 2, we assume that in future, world trade becomes favourable to developing countries, but political competition remains intense in India, with no consensus on supply-side reforms. This would enable India to continue the kind of transformation that was experienced in the second episode. This means achieving higher levels of de-agriculturalization, but with limited manufacturing industrialization. Since the manufacturing sector usually absorbs low-skilled workers, slower rates of manufacturing growth would also lead to higher levels of inequality. In such a case, the State would have to manage this Kuznetsian tension by increasing anti-poverty policies.

- In Trajectory 3, we assume a future where world trade is favourable to developing countries and political competition does not derail a consensus on supply-side reforms. This will enable India not only to achieve significant structural transformation, but also to enjoy significantly increasing shares of manufacturing industrialization. The higher levels of manufacturing growth will also ensure higher levels of inclusiveness, keeping down the Kuznetsian tension in this case. Needless to add, this is the kind of structural transformation that would enable India to achieve truly inclusive growth.
### Structural transformation and inequality: the way ahead

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<th>Domestic (Political Competition)</th>
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<td>Freer Trade</td>
<td>Trajectory 2</td>
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<td>Significant ST, Inequality</td>
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<td>Increases</td>
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<td>Protectionism</td>
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<td>Inequality Controlled</td>
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<td>Increases</td>
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Four pathways: structural transformation and inequality in India
What can India do to push forward with national structural transformation?

- Trajectory 4 – No ST, inequality goes up (worst case scenario)
- Which of these trajectories are possible?
- Since 2014, political competition is less and so factor market reforms are possible
- However, on the globalization front, there are contradictory signals (from the US, protectionist language for creation of domestic jobs)
- On the other hand, due to the large fiscal stimulus, there could be demand leakage
- Could push it towards trajectory 3 – best case scenario
THANK YOU

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