Demographic Change and Economic Growth in the BRICS: Dividend, Drag or Disaster?

Presentation based on the 2015/16 Global Monitoring Report (GMR)

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www.worldbank.org/GMR

• First World Bank Group report on global demography since 1984

• What has changed since then?
  o Demographic trends
  o Thinking on demography
  o Globalization
Plan of talk

PART 1: The Global Setting

• What are the patterns of demographic change?
• How does demographic change affect growth and development?
• What role for policies at the national and international levels?

PART 2: The BRICS

• How do demographic trends in the BRICS vary?
• Will demographic change be conducive for growth or spell trouble?
• What policies are critical to bolster outcomes?
Plan of talk

PART 1: The Global Setting

• What are the patterns of demographic change?
• How does demographic change affect growth and development?
• What role for policies at the national and international levels?
Patterns: Global trends are at a turning point

A period of unprecedented global population growth has ended

The working-age share of the global population peaked and the world is now aging

Global population shares by age cohort (percent)
Ages 15-64 on left axis, Ages 0-14 and 65+ on right axis
Patterns: Stark disparities across countries

Cumulative change in population, 2015-50
Patterns: The rise of Sub-Saharan Africa

More than half of global population growth through 2050 will be in Sub-Saharan Africa

Share of global population growth (%)

Working-age population growth is slowing globally but will remain high in Sub-Saharan Africa

Annualized growth rate, ages 15–64 (%)
Impact: Two types of demographic dividend may boost per capita economic growth

Note: A rising working-age population share is positively correlated with GDP per capita growth. An increase of 1 percentage point in the working-age population share is estimated to boost GDP per capita by 1.5 percentage points, on average.
Impact: A new typology of demography and development that helps us disentangle the impact

### Criteria for the demographic typology:

<table>
<thead>
<tr>
<th>Growth of Working-age Population Share, 2015-30</th>
<th>Total Fertility Rate, 1985</th>
<th>Total Fertility Rate, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 0</td>
<td>&lt;2.1</td>
<td>&gt;=2.1</td>
</tr>
<tr>
<td>Post-dividend</td>
<td>Late-dividend</td>
<td></td>
</tr>
<tr>
<td>&gt;0</td>
<td></td>
<td>Pre-dividend</td>
</tr>
<tr>
<td>Pre-dividend</td>
<td>Early-dividend</td>
<td></td>
</tr>
</tbody>
</table>

*Note:* The working-age population is defined as the share of the population aged between 15 and 64 years. Total fertility rate is the average number of births per woman in her lifetime.
Impact: Demographic transition from pre- to post-dividend stage

Four groups of countries can be identified based on the opportunities for growth and development that demographic change presents.
Impact: The world through the lens of the typology

Demographic characteristics
- Pre-dividend
- Early-dividend
- Late-dividend
- Post-dividend
- No data

This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.
Impact: Simulations into 2030 according to demographic type

A. Average change in the share of working age population, 2015-30 (percentage points)

B. Average GDP per capita (annualized) growth, 2015–30 (percentage points)

Other sources of growth
Impact of Demographic Change
Impact: Simulations into 2030 for aggregate economic growth

Average aggregate GDP (annualized) growth, 2015–30 (percentage points)

Impact of Demographic Change
Other sources of growth

Pre-dividend: 0.9
Early-dividend: 0.3
Late-dividend: -0.6
Post-dividend: -0.5
World: 3.0
Policies: Pre- and early-dividend countries

Pre-dividend countries lagging in human development outcomes

Sparkling demographic transition
- Improve maternal and child health
- Expand education without letting girls fall behind
- Empower women
- Improve access to comprehensive family planning services

Example: Niger, Sudan

Early-dividend countries further along in demographic transition

Accelerating job creation
- Invest in human capital
- Enhance labor market mobility
- Reduce barriers to female labor force participation
- Strengthen conditions conducive to savings & job creation

Example: India, South Africa
## Policies: Late- and post-dividend countries

<table>
<thead>
<tr>
<th>Late-dividend countries with shrinking proportions of 15-64 population &amp; aging accelerating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustaining productivity growth</strong></td>
</tr>
<tr>
<td>• Continued mobilization of savings for productive investment</td>
</tr>
<tr>
<td>• Ensure public policies encourage labor force participation of both sexes</td>
</tr>
<tr>
<td>• Design cost-effective, sustainable welfare systems</td>
</tr>
</tbody>
</table>

*Example: Brazil, China, Russia*

<table>
<thead>
<tr>
<th>Post-dividend countries with shrinking proportions of 15-64 population &amp; aging well underway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adapting to aging</strong></td>
</tr>
<tr>
<td>• Reform welfare systems for fiscal sustainability while ensuring social protection</td>
</tr>
<tr>
<td>• Raise labor force participation rates &amp; productivity of everyone, at all ages</td>
</tr>
<tr>
<td>• Pursue policies that encourage fertility rebound, including measures to reconcile childcare &amp; work</td>
</tr>
</tbody>
</table>

*Example: Japan, Germany*
87 percent of the world’s poor lived in centers of global poverty in 2015 while the engines of global growth accounted for 78 percent of global economic growth since 2000.
Policies: Demographic divergences

Global working-age population growth will be dominated by the centers of global poverty

Aging already advanced or accelerated in the engines of global growth

Annual growth of population 15-64 (percent)

- Pre-dividend
- Early-dividend
- Late-dividend
- Post-dividend

Share of population, ages 65+ (%)

- Pre-dividend
- Early-dividend
- Late-dividend
- Post-dividend
Policies: Leveraging greater globalization

- Scope for leveraging demographic differences between countries for own growth as well as positive development spillovers
  - Trade
  - Capital flows
  - Migration
- Channels are complementary
- Generally, migration more constrained than trade and capital flows
PART 2: The BRICS

- How do demographic trends in the BRICS vary?
- Will demographic change be conducive for growth or spell trouble?
- What policies are critical to bolster outcomes?
Patterns: Diminishing population growth for all BRICS

Brazil

Russia

India

China

South Africa
Patterns: Working-age population shares peak much earlier in Brazil, China and Russia

Late-dividend BRICS: share of working-age population (percent)

Early-dividend BRICS: share of working-age population (percent)
Patterns: Russia and South Africa would be further along in the transition if not for their earlier mortality and HIV/AIDS crises.
Patterns: Working-age population growth rates expected to decline considerably in China and Russia

Average change in the share of working age population (percentage points)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BRICS</td>
<td>0.32</td>
<td>0.40</td>
</tr>
<tr>
<td>BRA</td>
<td>0.27</td>
<td>0.30</td>
</tr>
<tr>
<td>RUS</td>
<td>0.11</td>
<td>0.15</td>
</tr>
<tr>
<td>IND</td>
<td>0.32</td>
<td>0.13</td>
</tr>
<tr>
<td>CHN</td>
<td>0.40</td>
<td>-0.35</td>
</tr>
<tr>
<td>ZAF</td>
<td>0.30</td>
<td></td>
</tr>
</tbody>
</table>
Patterns: Elderly shares rising fast, with 20-28% of the populations of Brazil, Russia, and China over 65 years by 2050

A. Share of population aged 65+ in Late-Dividend BRICS

B. Share of population aged 65+ in Early-Dividend BRICS
Impact: Economic performance and outlook of the BRICS

Average annual real GDP growth rate, percent

<table>
<thead>
<tr>
<th></th>
<th>2000-04</th>
<th>2005-09</th>
<th>2010-15</th>
<th>2016-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>2.8</td>
<td>3.7</td>
<td>3.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Russia</td>
<td>6.1</td>
<td>3.3</td>
<td>6.7</td>
<td>7.6</td>
</tr>
<tr>
<td>India</td>
<td>6.1</td>
<td>7.8</td>
<td>7.6</td>
<td>9.4</td>
</tr>
<tr>
<td>China</td>
<td>3.5</td>
<td>3.1</td>
<td>6.0</td>
<td>11.4</td>
</tr>
<tr>
<td>South Africa</td>
<td>3.5</td>
<td>1.8</td>
<td>2.1</td>
<td></td>
</tr>
</tbody>
</table>

Source: World Economic Outlook April 2016
Impact: Cyclical and structural drivers of growth

Actual and potential real GDP growth: BRICS, 2000-14

Note: Unweighted average
Impact: Simulations illustrate considerable direct impact through the first and second demographic dividend

Average per capita GDP (annualized) growth, 2015–30 (percentage points)

<table>
<thead>
<tr>
<th>Country</th>
<th>Brazil</th>
<th>Russia</th>
<th>India</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact</td>
<td>1.5</td>
<td>0.7</td>
<td>5.9</td>
<td>4.6</td>
</tr>
<tr>
<td>Other sources of growth</td>
<td>1.3</td>
<td>1.2</td>
<td>0.3</td>
<td>-0.8</td>
</tr>
</tbody>
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Average aggregate GDP (annualized) growth, 2015–30 (percentage points)

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</thead>
<tbody>
<tr>
<td>Impact</td>
<td>2.1</td>
<td>0.2</td>
<td>6.6</td>
<td>4.8</td>
</tr>
<tr>
<td>Other sources of growth</td>
<td>1.9</td>
<td>0.7</td>
<td>0.3</td>
<td>-0.8</td>
</tr>
</tbody>
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Note: separate simulations conducted for South Africa (see later slide)
Impact: Downside risks to first demographic dividend if job creation insufficient to absorb new workers

Source: World Development Indicators 2016, World Economic Outlook 2016
Impact: Downside risks to second demographic dividend if demographic change does not lead to greater savings

Gross domestic savings, share of GDP, percent

Source: World Development Indicators 2016
Policies: Key demographic challenges for India

- Absorbing the potentially high number of entrants into the working-age population

- Critical dimension of this is skills formation and education
  - Not just quantity, but also quality

- Eliminating persistently high gender gaps throughout education
Policies: Closing gender gaps, especially in India

Labor force participation rate by gender, 2014, percent

Share of labor force that is female, 2014, percent

Source: World Development Indicators 2016
Policies: Despite tremendous improvements, India lags in education

Years of schooling

Source: Barro and Lee 2013
Policies: Key demographic challenges for South Africa

• High and increasing share of population in working-age having challenges in finding employment
  
  • Unemployment is extremely high, more than 25%
  • Figure is higher when considering underemployment
  • Labor force participation low (60% in 2001, 57% in 2014)
  • Unemployment rates particularly high for youth (50% of youth aged 15-24)

• Skills gap

• Labor productivity growth subdued
Policies: Impact of early-dividend policies in South Africa (1)

**Business as usual:**
Unemployment rate stays at 25%

- Average Real GDP Growth Rate between 2015 and 2030: 3.7%
- Income per person in 2030: $10,055
- Extreme poverty in 2030: 2.7%
- Gini co-efficient in 2030: 0.638

**Accelerated job creation:**
Job creation 3 times faster
Unemployment rate falls to 5.8%

- Average Real GDP Growth Rate between 2015 and 2030: 4.6%
- Income per person in 2030: $11,356
- Extreme poverty in 2030: 1.6%
- Gini co-efficient in 2030: 0.634

*share of population living on < $1.25 per day (PPP adjusted)*

Source: South Africa Economic Update August 2015, Volume 7
Note: Poverty estimates based on $1.25 poverty line and 2005 PPP weights.
If new job creation is coupled with improvements in educational attainment and productivity improvements, the larger labor force can have a greater impact.

Unemployment rates fall to 5.8%, % population with 9+ years schooling rises to 72% from 61%

Output per worker growth is 30% percent higher and equal to that of BRICS average.

Source: South Africa Economic Update August 2015, Volume 7
Note: Poverty estimates based on $1.25 poverty line and 2005 PPP weights.
Policies: Key demographic challenges for Brazil

- Shrinking share of working age population will require an urgent increase on productivity per worker.

- With lower number of children in the population, it is necessary to improve human capital as a key driver of growth. Focus should be on quality of education.

- Increase savings to promote investments in infra-structure will require additional efforts, particularly from public sector, facing the fact that savings did not grow over the window of the 1st demographic dividend.

- Adapt the pension system to face a fast ageing population, while improving the quality of health and education systems.
Policies: Improve education attainment and achievement in Brazil to raise productivity growth

Despite improvements on education, Brazil is lagging behind in educational quality, particular for the B40

Output per worker in Brazil has stagnated for more than a decade

Share of students demonstrating basic competency in PISA math test, 2012 (%)

Output PPP converted GDP Laspeyres per person counted in total employment at 2005 constant prices
Policies: Key demographic challenges for China

- Shrinking labor force will lead to pressures on wages, which may make China less competitive in the global market for labor intensive goods.
- Growth led by high savings and investment will need to be rebalance towards more consumer and service-led economy.
- Despite the recent abolishment of the one child policy, fertility rate may not increase significantly in the short term.
- Rising share of elderly creates need for expansion of social protection system.
Policies: Providing old-age security in China

The working age population in China is shrinking in both absolute and relative terms

By 2050 there might be more than 2 elderly for every child in China

Changes in the share of working age population (percentage points)

Working age population

Ratio of elderly (> 64) per child (0-14)

Number of children (0-14)
Policies: Key demographic challenges for Russia

- On the cusp of becoming a post-dividend country

- Fiscal challenges from higher spending on pensions and healthcare
  - Without policy changes protracted deficits could boost 2015 debt-to-GDP ratio of 20% to over 100% by 2050
  - Pension share of GDP higher than OECD average

- Policy reform necessary, as well as behavioral change by firms and workers

- If workers are healthier for longer, they can postpone retirement
Policies: Enhancing labor force participation for older workers in Russia

Note: Data from ILO
Concluding remarks: Dividend, drag or disaster?

- The BRICS face very different demographic starting points, presenting unique opportunities and challenges

- Demographics matter greatly for growth in the BRICS
  - First and second demographic dividends
  - National and cross-border effects
  - Direct and indirect effects

- But it’s not all about demographics
  - Cyclical and structural
  - Demographic and other

- Moreover, the impact of demographic change is not deterministic, underpinning a role for policy to bolster outcomes

- Depending on starting points, transmission, and policies, demographic trends in the BRICS can produce a wide range of outcomes

The report is available on:

www.worldbank.org/gmr

Thank you.