Financing challenges for human development and macroeconomic trade-offs

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Expert Group Meeting on “Macroeconomic challenges to development policies post-2015: lessons from recent country experiences”

5-6 December, New York, UNHQ
Outline presentation

1. DPAD’s research questions
2. Background of research
3. Premises underlying the analysis
4. Integrated modelling framework
5. Modelling scenarios and results
6. Conclusions and policy implications
1. DPAD’s research questions

- What does it take to achieve the MDGs?
  - What are MDG determinants?
  - How would MDG achievement influence other aspects of economic and social development?

- Do we know how much it will cost and can we afford achieving the goals on time?

- What policy options do we have in financing the MDG strategy? What are the trade-offs when:
  - scaling up aid or borrowing abroad?
  - enhancing domestic resource mobilization?
  - reallocating government spending across sectors?

- How vulnerable is MDG achievement and access to financing to external shocks and global financial crises?
2. Background of research
Background of research – cont.


3. Premises underlying the analysis

- Public interventions are required to achieve the MDGs

- Challenge of financing these interventions driven by:
  - cost of interventions (how much additional spending?)
  - space to mobilize resources
  - debt sustainability
  - effects throughout the economy (macroeconomic trade-offs)
    - domestic resource mobilization → crowding out of private spending?
    - foreign resource mobilization → exchange rate appreciation?

- Cost of interventions driven by:
  - MDG gaps to targets
  - (diminishing) effectiveness of public spending -- in interaction with other socio-economic determinants (see slide 8)
  - effects of public spending and MDG achievement throughout the economy (macroeconomic trade-offs)
    - public spending → exchange rate appreciation?
4. Integrated modelling framework

- **MAMS: Maquette for MDG Simulations**
  - Economy-wide model to analyze MDG financing strategies in different countries.
  - Dynamic-recursive Computable General Equilibrium (CGE) model
  - Dynamic MDG module, with MDG determinants

- **Sector analysis of MDG determinants and of interventions**
  - needed to achieve MDGs in education, health, water and sanitation
  - Microeconomic analysis of determinants of access to schooling, child and maternal mortality, etc. → probabilistic models

- **Microsimulation model**
  - Translate labour market and transfers outcomes of CGE simulations into impact on poverty and income distribution at household level using micro datasets
## Determinants of MDG outcomes in MAMS

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Service per capita or student</th>
<th>Consumption per capita</th>
<th>Wage incentives</th>
<th>Public infrastructure</th>
<th>Other MDGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – Primary schooling</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>4</td>
</tr>
<tr>
<td>4 – Under-five mortality</td>
<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td>7w, 7s</td>
</tr>
<tr>
<td>5 – Maternal mortality</td>
<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td>7w, 7s</td>
</tr>
<tr>
<td>7w – Water</td>
<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>7s – Sanitation</td>
<td>√</td>
<td>√</td>
<td></td>
<td>√</td>
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</tr>
</tbody>
</table>
MAMS scenarios

- **Baseline scenario** (runs from a base year to 2015 or later):
  - GDP growth calibrated to trend from last 5-15 years
  - Continuation of public policies (spending, revenue, financing, debt stock accumulation/repayment) -- as a share of GDP
  - Balanced and sustainable evolution of other macro aggregates (private investment, FDI, remittances, etc.) -- as a share of GDP
  - Non-linearities in the effectiveness of social spending
    - More realistic benchmark to assess whether countries are “on/off track” towards MDGs vis-à-vis studies that project past trends linearly
  - Are MDG targets met under a continuation of economic growth and public policies?

- **Alternative scenarios**, involving separate/simultaneous:
  - stepping up of public spending and financing to meet MDG targets by 2015 or any other year (**MDG-achieving scenarios**);
  - financing public spending through different sources
  - external shocks
5. What do results tell us?
Costly investments with macroeconomic trade-offs

Public spending and GDP growth under two alternative MDG-achieving scenarios, 2010-2015 (deviation from a baseline scenario)
Better late than never!

- The time line to 2015 is too short; more time is needed
- Are targets too ambitious?
- Rapid and sustained economic growth needed to reduce costs
  - public spending (to pursue MDGs) boosts aggregate demand in the short-term; but, depending on the macroeconomic trade-offs of financing
  - supply response: production factors accumulate but productivity spurs economic growth only as better and healthier educated workers become employed in the medium-to long-term
    - children need to go through one or more educational cycles before they become productive workers
    - improved child and maternal health care today pays off in terms of healthier students and workers several years from now
- economic growth is needed to boost the private demand for social services
**Extending the time line (to 2020) helps to reduces costs...**

### Nicaragua: Public spending requirements to meet targets under alternative MDG-achieving scenarios, 2006-2020 (Per cent of GDP)

<table>
<thead>
<tr>
<th></th>
<th>Spending in the baseline scenario</th>
<th>Additional requirements per year required during 2014-2020 in scenarios where targets are met in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>1.63 1.67</td>
<td>6.04</td>
</tr>
<tr>
<td>Health</td>
<td>2.33 2.50</td>
<td>0.00</td>
</tr>
<tr>
<td>Water &amp; sanitation</td>
<td>0.51 0.66</td>
<td>1.22</td>
</tr>
<tr>
<td>Total</td>
<td>4.48 4.83</td>
<td>7.26</td>
</tr>
</tbody>
</table>
... and also the financing requirements

Nicaragua: Foreign public debt under the baseline and MDG-achieving scenarios with foreign borrowing, 2006, 2015 y 2020 (Per cent of GDP)
Productivity bonus of MDG investments is seen in the long term...

Decomposed GDP growth in two MDG-achieving scenarios (period annual averages, deviation from the baseline)

<table>
<thead>
<tr>
<th></th>
<th>Bolivia</th>
<th></th>
<th>Costa Rica</th>
<th></th>
<th>Yemen</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth (per cent)</td>
<td>-0.6</td>
<td>0.2</td>
<td>0.9</td>
<td>0.9</td>
<td>0.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Total factor employment (index)</td>
<td>-0.6</td>
<td>0.2</td>
<td>0.8</td>
<td>0.4</td>
<td>0.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Total factor productivity (index)</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.5</td>
<td>0.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Real exchange rate (index)</td>
<td>-4.9</td>
<td>0.2</td>
<td>-3.6</td>
<td>0.1</td>
<td>-4.4</td>
<td>1.3</td>
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<td>-4.4</td>
<td>4.0</td>
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</tbody>
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**fbor/mix**: MDG-related public spending increases until meeting targets in 2015 and remains unchanged as a share of GDP in 2016-2030.

**fbor**: foreign financing through 2030

**mix**: foreign financing through 2015, direct-tax revenue in 2016-30
... but may face limits without structural changes

Unemployment rate of the most highly skilful workers under the baseline and MDG-achieving scenario (per cent)
Economic payoffs and MDG achievement are also undermined by global financial crises...

Impact of the 07-09 global financial crisis on MDG achievement by 2015, selected countries (percentage point increase in the gap towards the 2015 target, unless otherwise indicated)

<table>
<thead>
<tr>
<th>MDG</th>
<th>Indicator</th>
<th>Bolivia</th>
<th>Ecuador</th>
<th>Nicaragua</th>
<th>Kyrgyzstan</th>
<th>Uzbekistan</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDG 1: Poverty ($1.25 a day, PPP)</td>
<td>0.8</td>
<td>0.8</td>
<td>2.2</td>
<td>1.3</td>
<td>n.a.</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>MDG 2: Completion rate of primary education</td>
<td>0.6</td>
<td>2.4</td>
<td>0.3</td>
<td>0.1</td>
<td>0.1</td>
<td>6.4</td>
<td></td>
</tr>
<tr>
<td>MDG 4: Child mortality</td>
<td>1.7</td>
<td>1.3</td>
<td>1.3</td>
<td>3.2</td>
<td>0.1</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>(deaths per 1,000 live births)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDG 5: Maternal mortality</td>
<td>8.0</td>
<td>6.1</td>
<td>4.7</td>
<td>5.3</td>
<td>0.1</td>
<td>12.0</td>
<td></td>
</tr>
<tr>
<td>(deaths per 1,000 live births)</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>MDG 7a: Access to drinking water</td>
<td>0.9</td>
<td>2.1</td>
<td>0.5</td>
<td>0.0</td>
<td>0.1</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>MDG 7b: Access to basic sanitation</td>
<td>2.2</td>
<td>4.8</td>
<td>1.8</td>
<td>1.8</td>
<td>0.2</td>
<td>0.7</td>
<td></td>
</tr>
</tbody>
</table>

Note: For each indicator the difference between a baseline scenario with observed growth during the global financial crisis and an alternative scenario with pre-crisis growth during the global financial crisis is presented.
... making MDG achievement more costly

Additional public spending needed to meet MDG targets for education, health and water and sanitation by 2015 as a result of the 07-09 global financial crisis (Per cent of GDP; average annual cost for 2010-2015)

- Nicaragua: 1.5
- Bolivia: 0.7
- Kyrgyzstan: 0.5
- Uzbekistan: 0.2
- Ecuador: 1.1
- Philippines: 1.0

(pre-crisis, crisis)
But it doesn’t take a crisis to see these setbacks

Nicaragua: Net (on time) primary completion rate and incidence of national extreme poverty in MDG-achieving scenarios using foreign borrowing and 2020 as target year, with and without external shocks, 2020 (Per cent)

Notes:
- reductions of 20% in the world price of coffee (pcoff-dec), textiles (ptext-dec) or refined oil (poil-inc).
- reductions of 2 percentage points of GDP in inflows of FDI (fdi-dec) and remittances (rem-dec).
6. Conclusions and policy implications

Policy makers need to address the following concerns in their assessments of feasible financing strategies for development:

- Pursuing human development goals might demand the investment of significant public resources – which can in part be contained by rising the efficiency of service delivery.

- Financing strategies need to be carefully assessed in order to establish the feasibility and optimality of alternative strategies to minimize negative macroeconomic impacts.

- In view of the real access to, and the macroeconomic feasibility of using a particular source of finance, most developing countries likely require a financing strategy including both domestic and foreign sources.
Conclusions – cont.

- In view of the high costs, countries may also need to reconsider redesigning the setting of their human development targets in terms of magnitude and the timing at which they can be realistically met.

- Rapid and sustained economic growth is necessary to make the financing more feasible – because private spending on social services is a key determinant of MDG achievement.

- Long-term economic growth payoffs of human development investments depend on the creation of employment opportunities for better-educated graduates entering the workforce
  - improve the environment for stimulating a structural change towards technologies and activities that absorb larger amounts of skilled labour
  - improve the content of education and ensure that skills created by the education system are in high demand by the productive sector
Conclusions – cont.

- The ability to meet MDG targets is highly vulnerable to external shocks – at least in small-open developing economies. 
  - modest external shocks undermine growth and depress private spending on social services; hence achieving MDGs is more costly for the government.
  - countercyclical spending policies supported by higher and sustained economic growth should be readily available to counteract external vulnerabilities of human development.