Inclusive Growth Analytics and the Diagnostic Facility for Shared Growth

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Outline

I. Inclusive Growth (IG) Rationale

II. The IG framework

III. World Bank work on IG
I. Inclusive Growth (IG) Rationale
Why Inclusive?

Growth necessary for substantial poverty reduction
– According to the literature, growth is the most important lever in reducing poverty
– The poorer the country, the more important growth is in explaining poverty reduction (Lopez and Servén 2004)

But sustainable growth in the long-run is typically:
– *broad-based* across sectors
– *inclusive* of the large part of the country’s labor force

*Inclusive growth* implies a direct link between:
– Macro and micro determinants of growth
– Pace and pattern of growth
Inclusiveness: essential ingredient for growth strategies


– Supports the idea that both the pace and pattern of growth are critical for achieving high, sustainable growth

– Views inclusiveness as an essential ingredient of any successful growth strategy
  • Important for efficient use of resources and enhancing potential growth
  • Important for political stability and to avoid conflicts
  • Part of the social welfare function – people care about inclusion
II. The IG framework
IG Analysis

Extended HRV

Physical Capital Investment
Human Capital Accumulation

Identify Constraints to IG

Assess Impact of Removing Constraints
Assess Cost of Removing Constraints

Set Priorities
IG: *Extended HRV*

**Dimensions:**

– Look at determinants of investment in all factors of production, i.e. for **physical and human** capital.

– Look at factors that affect demand **transitorily** rather than only those that affect the steady state.
The HRV Methodology:
As per the Original Contribution

Time for a checkup
A decision tree, such as the one below, can help identify the biggest obstacles to growth.

**Problem: Low levels of private investment and entrepreneurship**

**Possible causes**

- **Low return to economic activity**
  - Low social returns
    - Poor geography
    - Low human capital
  - Government failures
    - Bad infrastructure
    - Micro risks: property rights, corruption, taxes
  - Macro risks: financial, monetary, fiscal instability
  - Information externalities: “self-discovery”
  - Coordination externalities
- **Low appropriability**
  - Market failures
    - Information externalities: “self-discovery”
- **High cost of finance**
  - Bad international finance
  - Bad local finance
  - Low domestic saving
  - Poor intermediation

HRV in Practice: Low Level of Investment

Is it inadequate access to finance or low returns to investment?

Low return to economic activity

If it is low returns, is it low social returns or low appropriability of those returns?

Low social returns

Low appropriability

If it is low appropriability, is it due to high taxes, poor property rights & contracts or coordination externalities?

High cost of finance

If it is high cost of finance, is it due to poor int’l or local finance?

bad international finance

bad local finance

If it is low social returns, is it insufficient investment in complementary factors of production?

poor geography

bad infrastructure

low human capital

micro risks: property rights, corruption, taxes

macro risks: financial, monetary, fiscal instability

information externalities: “self-discovery”

coordination externalities

government failures

market failures

low domestic saving

poor intermediation
Extended HRV Methodology: obstacles to investment in physical and human capital

**IG Analysis**

- **Low Level of Physical Capital Investment?**
  - Returns to physical capital
  - Cost of finance
  - ...

- **Low Level of Human Capital Investment?**
  - Returns to human capital
  - Cost of finance
  - ...

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ECONOMIC POLICY AND DEBT DEPARTMENT
Sound Economics for Growth and Poverty Reduction

THE WORLD BANK
Objective:
To reveal sources and constraints to IG

Aggregate Level
– Trends and Dynamics
– (Where applicable) Benchmarking

Micro Level
– Households
– Sectors/Firms
IG analytics: Trends & Dynamics

Analytical Instruments:

- **Growth Accounting**: decomposes output growth into contributions of the production factors and total factor productivity
- **Sources of aggregate demand**: $Y = C + I + G + (X - M)$
- **Sectoral dynamics**
- **Saving-Investment**
- **Fiscal balance and government debt**
- **Reserves, inflation, RER, ..., etc.**
IG Analytics: Trends & Dynamics

Illustrative Example: Pakistan

**GDP Growth**

- GDP (constant LCU, billions)
- GDP growth (annual %)

**Growth Accounting**

- percent real GDP growth rate explained by capital stock
- percent real GDP growth rate explained by labor force
- percent real GDP growth rate explained by TFP

**Growth Decomposition**

- Private consumption growth
- Government consumption growth
- Investment growth
- Export growth
- Import growth (negative)
- GDP growth rate

Source: World Bank staff calculations
### Savings-Investment Balance (in percent of GDP)

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<td>-8.4</td>
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**Source:** World Bank staff calculations

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### Current account analysis

#### Savings-Investment Balance (in percent of GDP)

- **Private savings**
- **Private investments**
- **Private savings/investment gap**
- **Public savings**
- **Public investment**
- **Public savings/investment gap**
- **Current account balance**

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**Source:** World Bank staff calculations

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**IG Analytics: Trends & Dynamics**

**Illustrative Example: Pakistan**

**Overall fiscal deficit (% of GDP)**

![Graph showing overall fiscal deficit (% of GDP)](image)

**Source:** World Bank staff calculations
IG goes beyond the aggregate level

From the perspective of different economic actors assess constraints to sustained, broad-based growth

– Different types of firms: Data from ICAs
  • Micro, small, medium, large
  • Formal, informal
  • Exporters, local
  • Foreign-invested, locally-owned
  • Public, private
– Different types of households: Data from HH Surveys
  • Poor, rich, middle-income, farm
  • Farm, non-farm
  • Urban, rural
  • Migrants, local workers
Example from Micro Data

• Using ICAs for identifying bottlenecks to growth based on firm-level data
• Firm level surveys provide information on the effect of the investment climate on firm productivity
  – Investment climate includes the following groups of variables: (i) infrastructure; (ii) red tape, corruption, and crime; (iii) finance and corporate governance; (iv) quality and innovation; (v) labor skills; (vi) other
• Covers firms identified by: sector, region, size, vintage, etc.
• Applied for assessing investment climate and productivity effects on exports, FDI, wages, and employment
Carrying out Extended HRV: Along the Branch of Physical Capital

Q: *Is it low returns to economic activity (low marginal product of capital) or is it high cost of finance (high r)?*

– The first step is to identify and measure the relevant variables
– The second step is to identify the forces explaining the data (identification)
Measure the relevant variables

• Cost of financing:
  - No single interest rate to summarize cost of financing accumulation. Thus:
    • Look at interest rate reported by the central bank, but remember: quoted interest rates may differ substantially from realized interest rates!
    • Look at a vector of rates of interest on loans to the private sector, on loans to the public sector (or bonds) in the domestic and in the international market
    • Analysis of the level of lending to the private sector

• Rate of Return on Capital (RoRK):
  - Crude approximation of marginal productivity of capital (mpk):
    \[ mpk = \text{growth rate/share of investment} \]
  - More precisely: value of national income accrued to capital (YKt) to the value of the national capital stock (Kt): \[ RoRK = \frac{YKt}{Kt} \]
Rates of Return: 
*Illustrative Example of Ukraine*

**RoRK Overall Economy**

- **Rule of thumb**
- **Capital Share (B&G Region Dummies)**
- **Capital Share (dynamic)**
- **Average RoRK (over dynamic shares, rule of thumb and B&G)**

*Source: World Bank staff calculations*
Low Returns on Stem from ...?

Illustrative Example of Pakistan

Weight of each block of IC variables on average firm performance measures

Source: World Bank staff calculations
Low Returns on Capital Stem from Poor Infrastructure?  
*Illustrative Example of Zambia*

- Land-locked county with poor access to international markets
- Access to air transport is low for Zambia’s level of per capita income

*Source: World Bank staff calculations*
Carrying out Extended HRV: The Branch of Human Capital

• Human capital as an input of production
• Similarly to questions asked on the physical capital branch:

  Q: Does low levels of human capital stem from low returns (on education, health, etc.) or high financing costs?
Is it low returns or high cost ... 

Illustrative Example of Zambia

Major difference in mean years of education between the rich and poor households in urban areas, and limited access to higher education in rural areas

Mean years of schooling of household head in 2002/03

<table>
<thead>
<tr>
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<th>All</th>
<th>Poorest 20%</th>
<th>Richest 20%</th>
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<tbody>
<tr>
<td>Rural</td>
<td>5.3</td>
<td>4.4</td>
<td>6.2</td>
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<tr>
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<td>9.3</td>
<td>6.6</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Source: World Bank
Setting Priorities: Country-specificity matters!

Country examples:

• Zambia: Growth without poverty reduction
  – Focus on equality of opportunities
• Mongolia: Resources rich, Dutch disease effected countries
  – Broad-based growth fundamental
• Tajikistan: Remittances fueling consumption-driven growth
  – Need for domestic productive employment
• Benin: Very poor, low-growth country
  – Focus on getting the fundamentals for growth right
Identifying Binding Constraints and Assessing the Cost for their Removal

Identifying Constraints to IG:

• (Extended) HRV - a sequence of questions to establish priorities
• But HRV does not discuss analytical tools to select the most binding constraints

Thus, when feasible, value the contribution of removing distortions:

• Use applied welfare economics techniques to estimate costs of intervention
• Evaluate impact of concrete policy intervention, assigned and economy-wide (general equilibrium modeling, microsimulation, etc.)
Impact of Removing Binding Constraints

Illustrative Example: Pakistan

Definitions of the Four Education Scenarios

Fast Track (FT)
The most optimistic scenario; assumes that all countries will achieve certain ambitious milestones (99% primary by 2015, 50% secondary by 2030 and 90% by 2050, 60% tertiary by 2050)

Global Education Trend (GET)
Assumes that a country’s future educational expansion will follow an expansion trajectory based on the historical global trend

Constant Enrolment Rates (CER)
Assumes that educational transition rates remain frozen at the 2000 level.

Constant Absolute Enrolment Numbers (CEN)
Assumes that the absolute number of students in each country remains frozen at the 2000 level.

Source: IIASA.
III. World Bank Work on IG
Diagnostic Facility for Shared Growth (DFSG)

**DSFG**
- Established in 2007 to support PREM initiatives related to the IG agenda

**Objective**
- to improve our understanding of issues of inclusive growth
- to identify the sources and prioritize the constraints to broad-based economic growth
- through a combination of micro and macro analyses

**Donor**
- DSFG supported by the Governments of France, Germany, The Netherlands, Sweden, Switzerland, and the United Kingdom
DFSG Outputs:
(i) Country Studies

- DFSG funds competitively selected, innovative country studies with a focus on IG, or aspects of it
- IG country studies feed into operational outputs (CEMs, CASs, policy notes, other AAA, regional strategies at the Bank)
- Studies Inform Major World Bank Reports; Examples:
  - Country Economic Memorandums (CEMs): e.g. Cambodia, Burkina Faso, Syria, Jamaica, Sao Tome and Principe
  - Public Expenditure Reviews (PERs): e.g. Rwanda
  - Poverty Assessments (PAs): e.g. Romania
- Studies have turned into stand-alone reports:
  - Cameroon study: selected out of 20 papers as best practice along with three other papers at the 2009 PEGNet conference on “Growth and Equity”
- Build local capacity:
  - Romania, Cameroon, Syria, Egypt, Ukraine, and others
DSFG Outputs:
(i) Country Studies

• 22 studies funded; completed ones available on our web

• First and Second Calls with emphasis on:
  – Inclusive growth strategies: e.g. China’s Western provinces, Rwanda, Guatemala
  – Determinants of sub-national growth: e.g. Indonesia
  – Labor market and employment: e.g. Cambodia

• Third call with focus:
  – Finding obstacles to inclusive growth
    • At the national level: e.g. Jamaica, Syria, Sao Tome Principe
    • At the subnational level: e.g. Sri Lanka, Indonesia (East Java)
  – Constraints within specific sectors important for inclusive growth
    • Agriculture : e.g. Philippines
    • Infrastructure: e.g. Kenya
    • Resource sector: e.g. in Ghana
  – Institutional foundations of growth (e.g. Tanzania)
(Current) Fourth Call focus:

- **fragile states**: understanding the process of growth and job creation in a conflict-affected environment
- **innovation**: understanding how improvements in the available set of products, production processes, and organizational changes, through commercialization by enterprises (being brought to market and scaled-up), can contribute to a process of economy-wide growth and job creation
DFSG Outputs:
(ii) Diagnostic Tools

- DFSG supports the development of tools contributing to the assessment of constraints to growth
  - *Export Diversification Tool*: available on WB intranet, upcoming public release
  - *Rate of Return on Capital Tool*: development work in progress
  - *IG Tool for Assessing Total Factor Productivity*: partially available on WB intranet, on-going work

- These are global public goods all to become available on our web page ([www.worldbank.org/inclusivegrowth](http://www.worldbank.org/inclusivegrowth))
Knowledge Management

• DFSG supports a range of training, outreach events, open to WB and donors
• *Inclusive Growth Conference* in Fall 2010 showcasing results
  Forum to discuss challenges countries face in efforts to engender broad-based growth
  Participants: developing countries, donors, academia, civil society
• Issues papers and cross-country studies with focus on:
  *Analyzing Constraints to Growth in Fragile States*
  *Financing Growth Post-Crisis*
  *Human Capital as a Constraint to Growth*
  *Innovation and Inclusive Growth*
  *Obstacles to IG: Political Economy and Institutions*

Advisory Services

• DFSG carries external advisory panels on country specific IG issues
Thank You

For more information:
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http://www.worldbank.org/inclusivegrowth