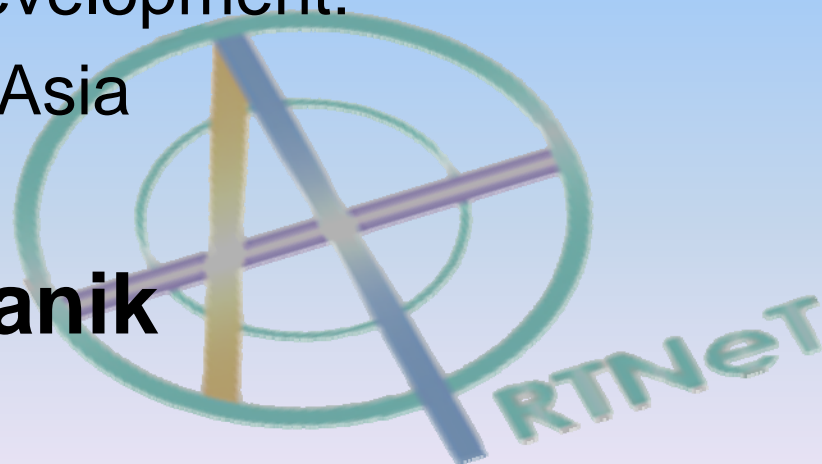


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Trade and Social Development:
The Case of Asia

Nilanjan Banik



Asia-Pacific Research and Training Network on Trade

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Trade and Social Development: The case of Asia?

Nilanjan Banik

Associate Professor

Institute for Financial Management and Research

Chennai, India

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Outline of the Presentation

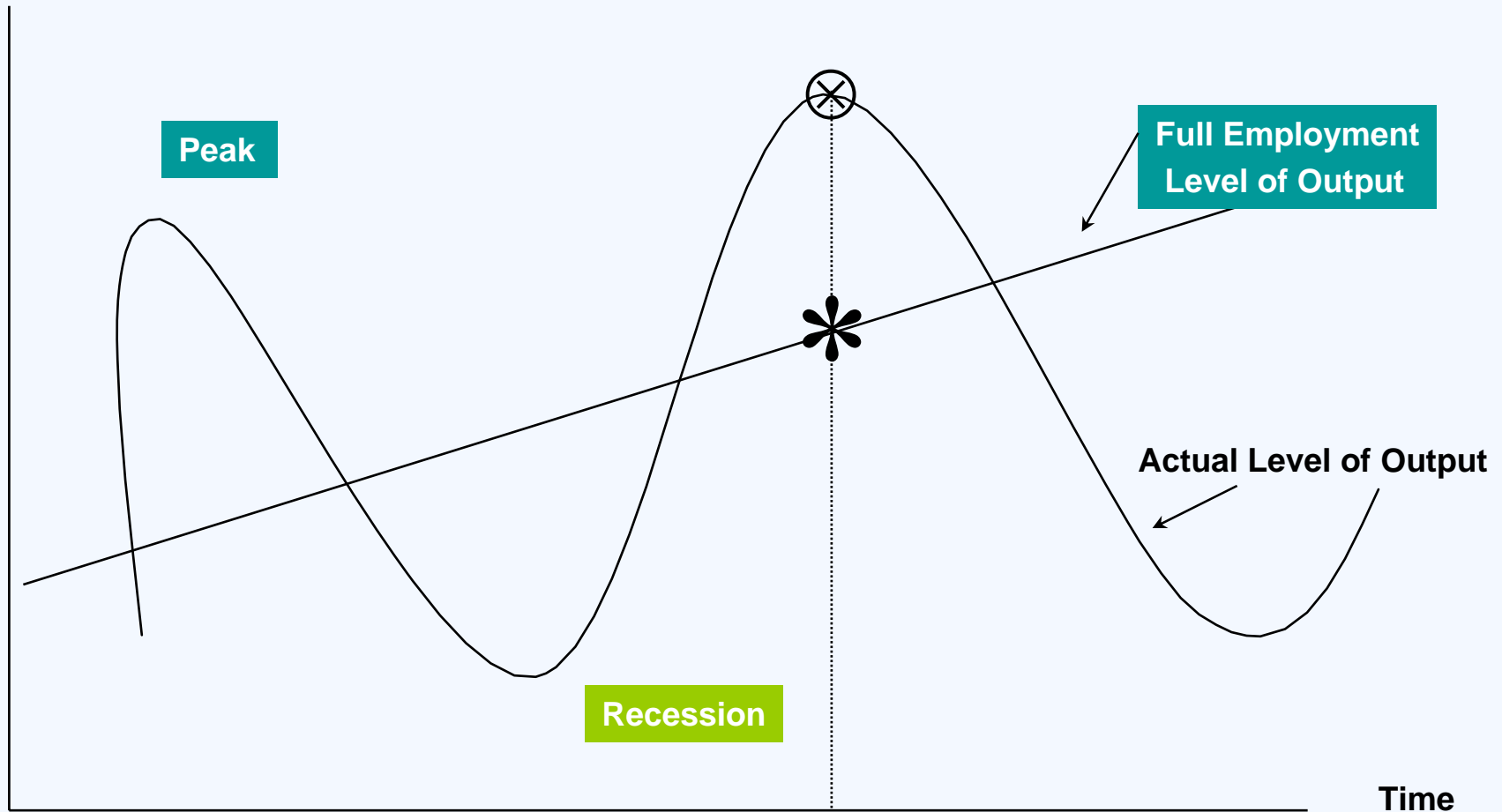
- Research Question
- Empirical Evidence
- Model Formulation
- Result
- Future Direction

Research Questions

- Does it make sense to include distribution of income as an additional variable while calculating Human Development Index?
- Does trade helps to build capabilities?

Supply and Demand Component of GDP

Output (GDP)



Growth, Development, Inequality

- Growth is a uni-variate concept and measured as per capita GDP.
- Development is a multivariate concept; essentially takes into account per capita real GDP, mortality rates and literacy rates.
- Inequality is measured in the context of Lorenz curve and Gini Coefficients.

Why Income Distribution?

- Development of capabilities – income, education and health.
- *Means* to be separated than *Ends*.

Examples

If the distribution of income in Brazil (0.61) were as equal that in Malaysia (0.49) school enrolments among poor children would have been 40 percent higher in Brazil – UNDP Human Development Report, 2003.

Comparison of statistics from Human Development Report 1998, demonstrates that the average citizen of Mauritius is considerably better off than the average citizen of Madagascar in terms of income, health and education; although Mauritius has a lower HDI ranking.

Targeting Inequality

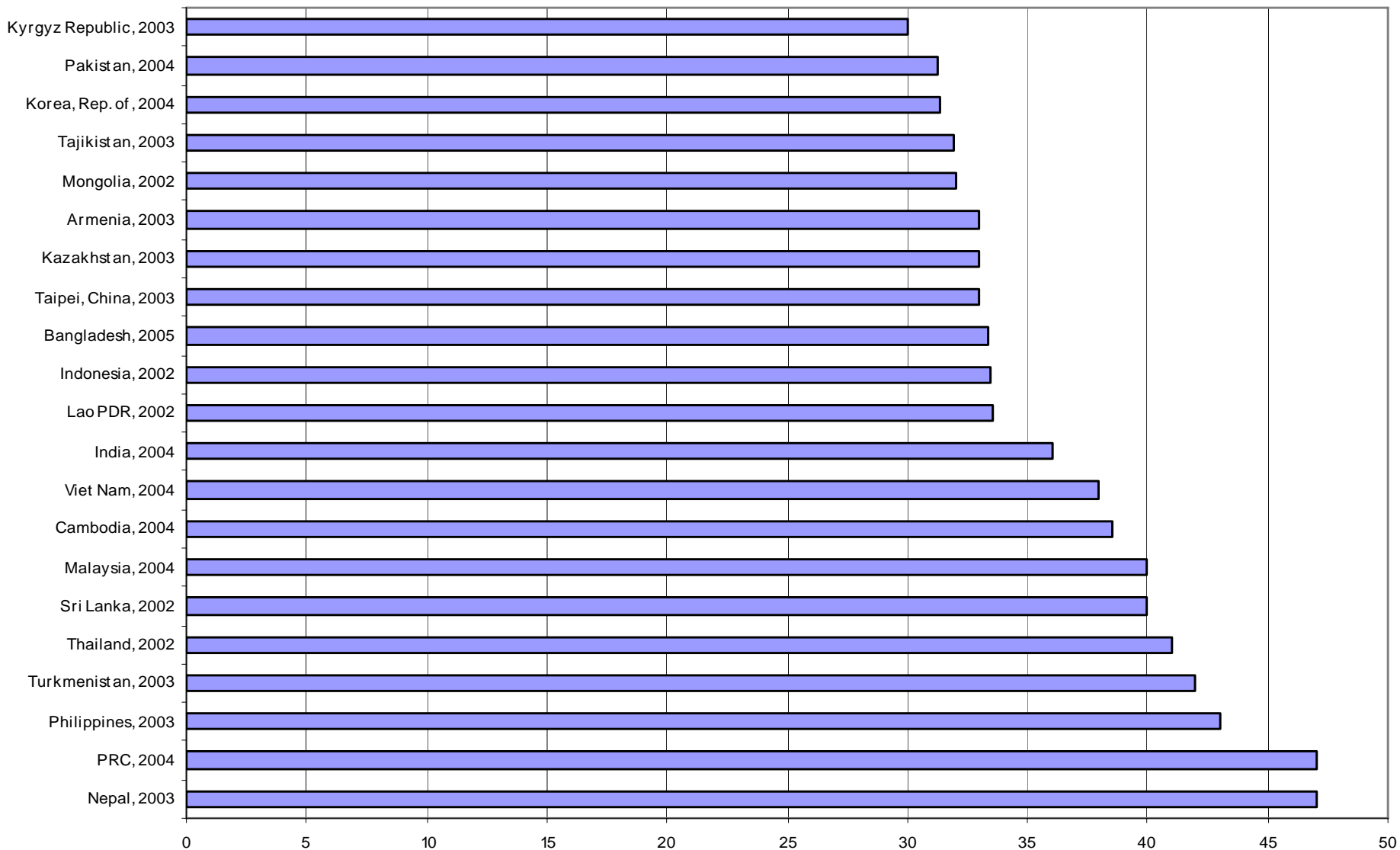
Circumstances

- Caste (India)
- Natural Disaster (Bangladesh)
- Gender (India)
- War (Viet Nam)
- Regional (China)

Policy

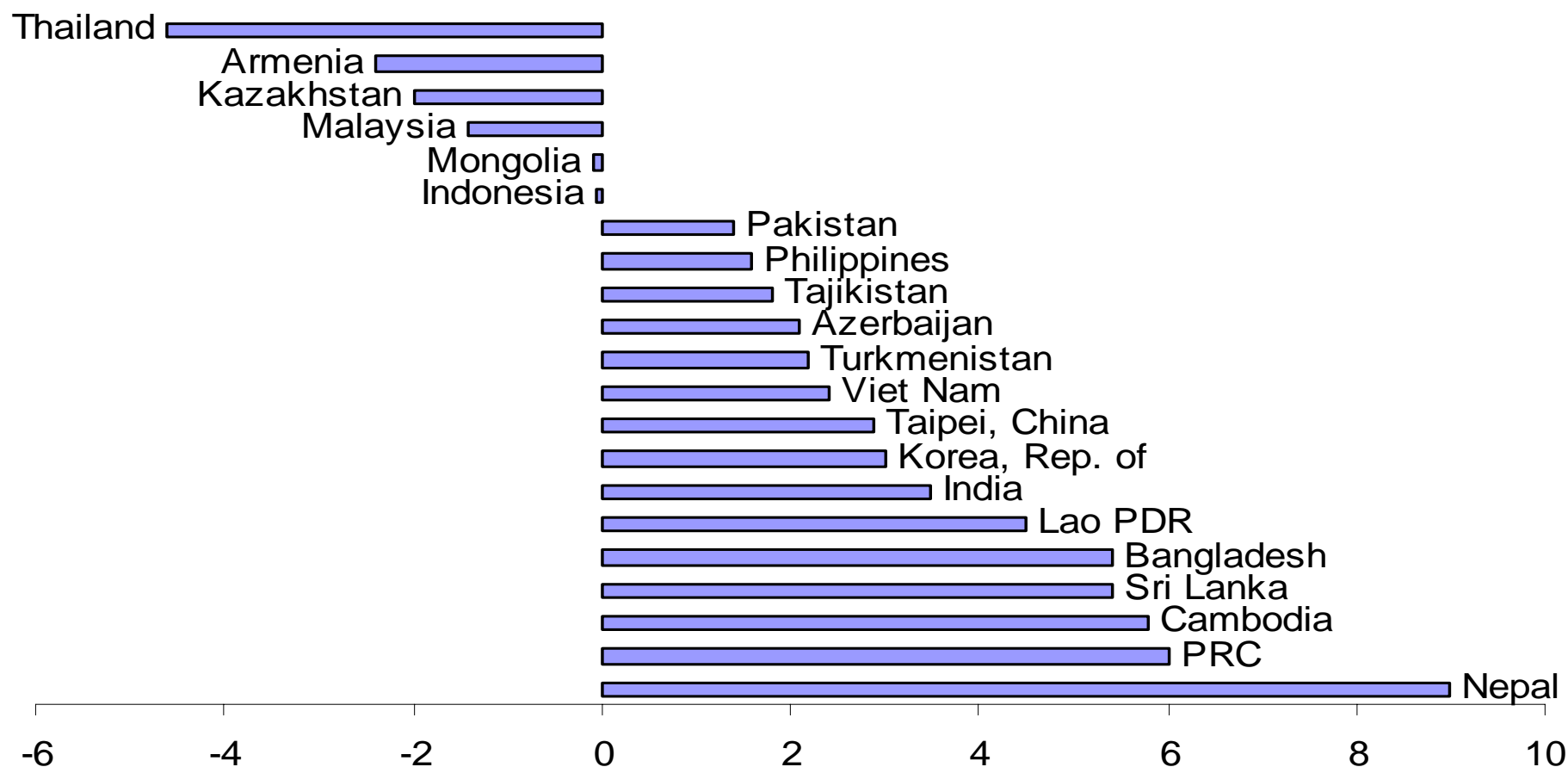
- Rural Infrastructure/Market (Indonesia)
- Accessibility to credit and insurance (Bangladesh)
- Macroeconomic stability (Bangladesh)

Gini Coefficients in Developing Member Countries



Source: Asian Development Bank, 2007

Changes in Gini Coefficient for Expenditure/Income Distributions, 1990s-2000s (%)



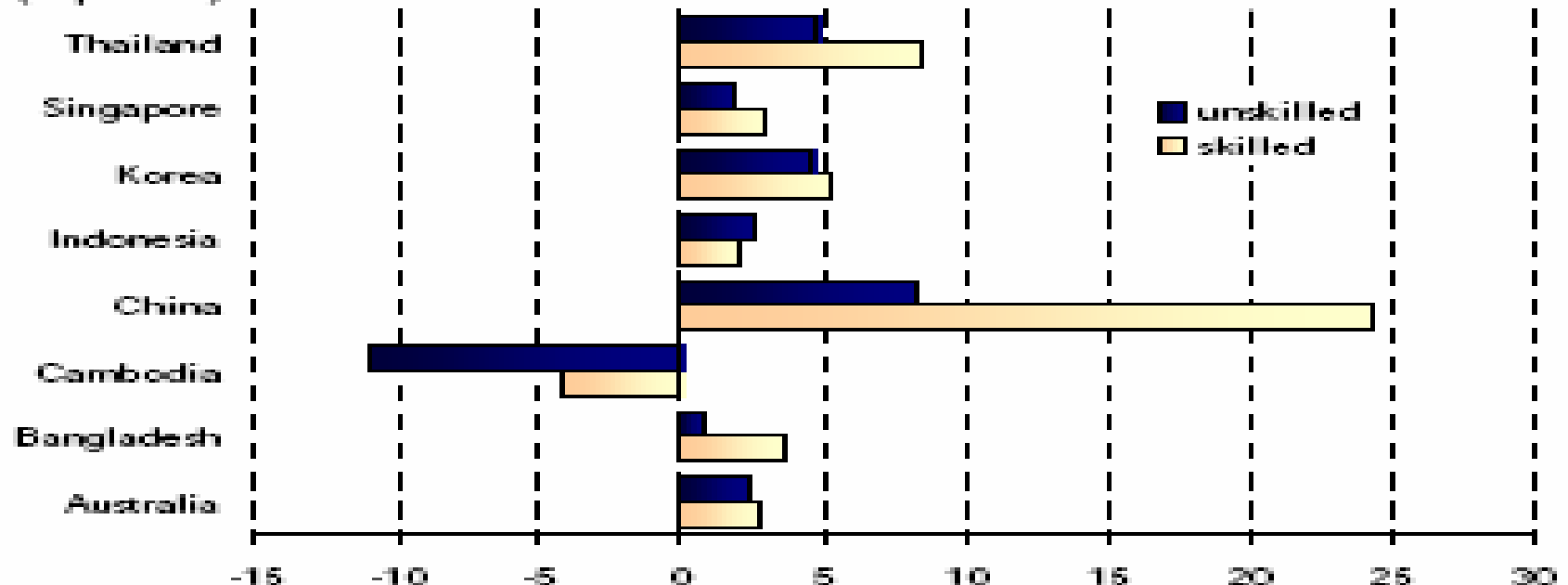
Notes: Years over which changes are computed are as follows: Armenia (1998-2003); Azerbaijan (1995-2001); Bangladesh (1991-2005); Cambodia (1993-2004); People's Republic of China (1993-2004); India (1993-2004); Indonesia (1993-2002); Kazakhstan (1996-2003); Republic of Korea (1993-2004); Lao PDR (1992-2002); Malaysia (1993-2004); Mongolia (1995-2002); Nepal (1995-2003); Pakistan (1992-2004); Philippines (1994-2003); Sri Lanka (1995-2002); Taipei, China (1993-2003); Tajikistan (1999-2003); Thailand (1992-2002); Turkmenistan (1998-2003); and Viet Nam (1993-2004); Income distribution for Republic of Korea and Taipei, China; expenditure distribution for the rest.

Source: Asian Development Bank, 2007

Growth in Wage Rates

Annual Growth of Real Wages by Skill or Education, Last Ten Years¹

(In percent)



Sources: ILO, KILM 3rd edition; and CEIC Data Company Ltd.

¹ Australia (1989-2000, programmer vs laborer); Bangladesh (1999-2005, skilled vs unskilled); Cambodia (2000-2005, skilled vs unskilled construction worker); China (1990-98, accountant vs laborer); Indonesia (1991-2003, tertiary vs primary education); Korea (1990-2001, programmer vs laborer); Singapore (1985-2000, programmer vs laborer); Thailand (1985-95, programmer vs laborer).

Social Development Index (SDI)

- Equality index plus HDI.
- Equality Index: $1 - \text{Gini Coefficient}$.
- Equality Index because we are using Principal Component Analysis.

Results

Components	Weight for HDI	Weight for PCHDI	Weight for DAHDI	Weight for DAPCHDI
Life Expectancy Index	0.33	0.33	0.25	0.29
Education Index	0.33	0.32	0.25	0.30
GDP index	0.33	0.34	0.25	0.29
Equality Index	0.00	0.00	0.25	0.13

Results

- HDI and distribution augmented HDI (PCHDI) are very similar.
- Principal component weights are similar to the simple average weights used for computing HDI.
- Ranking of countries does not change much whether done on the basis of HDI, or PCHDI.

Results

- First principal component captures 73 percent of the variation.
- This variation seems reasonably good considering modest correlations (0.50, 0.28 and 0.32) of the equality index with the education, GDP and life expectancy indices.
- Lower weights on equality index reflects noise in the data.

Comparing PCHDI and Per Capita Growth

- From the perspective of Growth, countries doing better are India, China, Vietnam, Hong Kong, China.
- From perspective of Development, countries doing better are Japan, Indonesia, and Rep. of Korea.
- Slow on growth and slow on development: Nepal.

Does trade helps to build Capabilities?

- Trade induced change in income distribution can happen through income channel and/or consumption channel
- While trade positively effect mean income its impact on inequality is ambiguous
- Trade embodies flow of resources that can be used for setting up education and healthcare type services

Element of Interdependence

- Income, education, and health are interrelated.
- Endogenous growth theory recognizes the role of education on growth.
- Education help build awareness about new technology; property rights; health; opportunities to earn income.

Data and Estimation

$$sdi_j = \beta_0 + \beta_1 yhat_j + \beta_2 (yhat_j)^2 + \beta_3 imi_j$$

105 data points which are accessed from the UNCTAD report titled “Developing Countries in International Trade”, 2007.

Results

Variables	Estimates
Constant	-0.3379 ^{***} (0.0950)
Log of income	1.8979 (0.2082)
Log of income square	0.8408 ^{**} (0.0499)
Input Measure Index	0.0807 ^{***} (0.0852)
Adjusted R ²	0.6934

Problems

1. Weak correlation between availability of public resources and delivery of actual services (World Development Report, 2004)
2. Weak design of policy –
 - ▶ Identification;
 - ▶ Free rider problem;
 - ▶ Corruption
 - ▶ Force majeure clause

Future Direction

- Gini coefficients are based on income and expenditure data. There is a need to build uniform data to reduce noise in the equality index.
- We have worked with Macro level data. Work with high frequency data to understand vulnerability.
- Build a simultaneous equation modeling framework to capture marginal effect of public investments on growth, inequality, and poverty.

Policy Recommendations

- Better policy designing
- Creator of high frequency data, like, infant mortality rates, or self perceived happiness index
- Prioritization of government fund on the basis of marginal impact