

Towards an Inclusive Human Development Index: A New Panel Dataset for 181 Countries over 1980-2013

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Outline

- 1 Motivation
- 2 Data and methodology.
- 3 Results



Inclusive human development: the concept

Inclusive Development (ID) as a top priority for the world. Emphasis on a sustained human welfare rather than on the economic growth progress.

"Development can be inclusive - and reduce poverty - only if all groups of people contribute to creating opportunities, share the benefits of development and participate in decision-making. Inclusive development follows UNDP's human development approach and integrates the standards and principles of human rights: participation, non-discrimination and accountability" UNDP.

Broad-based involving inputs from a large number of people; a result of nondiscriminatory participation standing for equal opportunities (Klasen, 2010). ID benefits many people (the poor, but also ethnic, gender or regional groups) and enlarges employment.

Several dimensions of human development including access to essential services (health, education, and sanitation etc.), basic civil rights, employment, physical and human capital developments and so on.



Measurement challenges

Little is known about the effectiveness of ID policies due to a limited amount of empirical research because of a lack of reliable and comprehensive data over a long period.

- Operationalizing indices" accounting for the previous various dimensions including environment, non-economic aspects of welfare (Genuine Progress Indicator (GPI), Index of Sustainable Economic Welfare (ISEW), Weighted Index of Social Indicators (WISP), Human Economic Welfare Index (HEWI), Social Progress Index (SPI) (Noorbakhsh, 1998; Anielski and Rowe, 1999; Lawn, 2003; Estes, 1997; Jacobs and Slaus, 2010; Porter et al., 2013).
 - **Attractive but complex, fuzzy and limited for empirical analysis.**
 - Available only for a handful of developed countries and cities.
- Attempts to measure inclusive growth are exposed in Ranieri and Ramos (2013) but also limited in time and country coverage.



Main contribution

Goal: *Proposal of an Inclusive Human Development Index for a wide range of countries in the World over a very long period (1980-2013).*

To help macroeconomic empirical studies with a synthetic and consistent dataset that allows larger cross-country comparisons over time.

We keep the general principles of construction of the HDI as a basis, taking advantage of its international legitimacy, partly due to its relative simplicity and transparency.



Data and Methodology

We use quantitative objective data relying on analytical or theoretical basis on inclusiveness (see Gupta et al., 2015). General principles of construction of the HDI as a basis and keep adjustments as simple as possible for the sake of transparency.

$HDI_{it} = f(\text{Education}, \text{Health}, \text{GNIpercapita})$

$InclusiveHDI_{it} = f(\text{Education}, \text{Health}, \text{HouseholdConsumption}, \text{Employment})$ with i :country and t =Period

$InclusiveIHD I = HI^{1/4} . EI^{1/4} . EduI^{1/4} . HCI^{1/4}$ with

HCI= Index Household consumption PPP real per capita, HI=Health Index (Geometric formula of Life expectancy and the reverse of the under-5 infant mortality rate), EduI=Education Index (Barro and Lee (2013)) and EI=Employment Index (aged 15 years and over).

However, calculating Education Index and Index Household consumption PPP are challenging.



Data and Methodology: Education and Household consumption indices imputation

Step 1: Pairwise correlation with ultimate measure: UNDP Education Index and Castellacci and Natera (2011), FERDI and World Bank secondary school enrollment: $pwcorr = 0.94$ and 0.99 at 1%. respectively

Household consumption PPP per capita of World Bank and real Household consumption per capita (US) from UNDATA: : $pwcorr = 0.97$ at 1%



Education and household indices imputation

Step 2: Predicted value of Education Index and Household Consumption Index:

$UNDPEducationIndex_{it} = c + 0.0238 * Cana + .0051 * time + id_fixed_eff;$
 t cana=14.4; t time=30.04; Adj R-squared = 0.98. For the remainder:

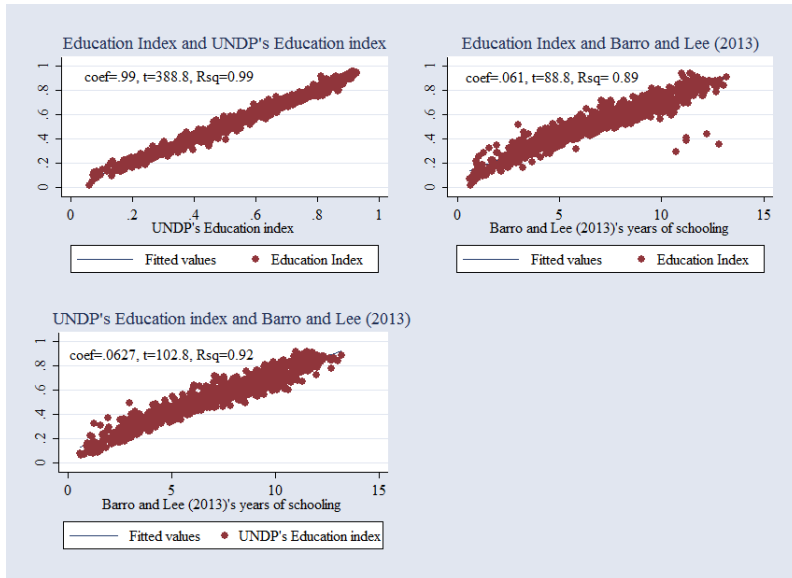
$UNDPEducationIndex_{it} =$
 $c + 0.00177 * 2ndschoolenrollment + 0.0054 * time + id_fixed_eff;$
 t 2nd school enrollment=18.62; t time=46.31; Adj R-squared = 0.98

$HouseholdPPPpc_{it} =$
 $c + 0.851 * HouseholdUNDATA + year_fixed_eff + id_fixed_eff;$
 t HouseholdUNDATA =150.51; Adj R-squared = 0.99.



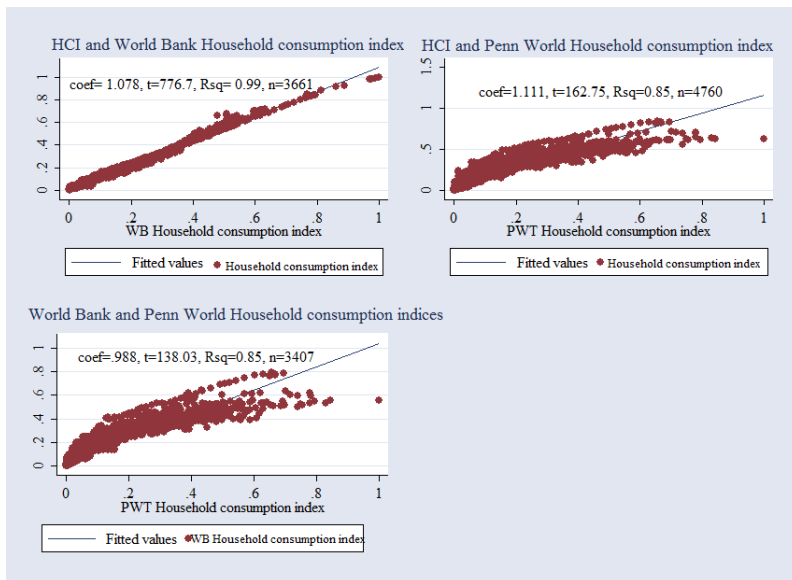
Descriptive data

Figure: Estimated index of education, UNDP index and [?]



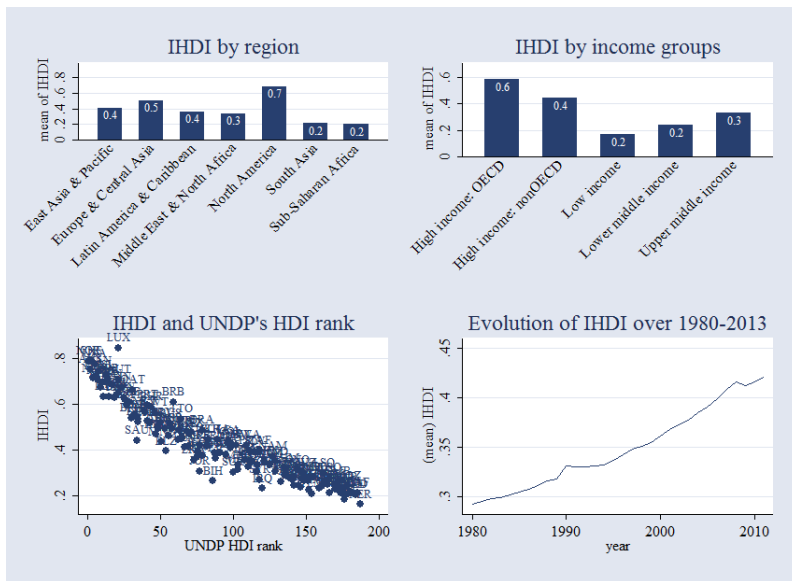
Descriptive data

Figure: Computed HCI and indices from PWT and World Bank data



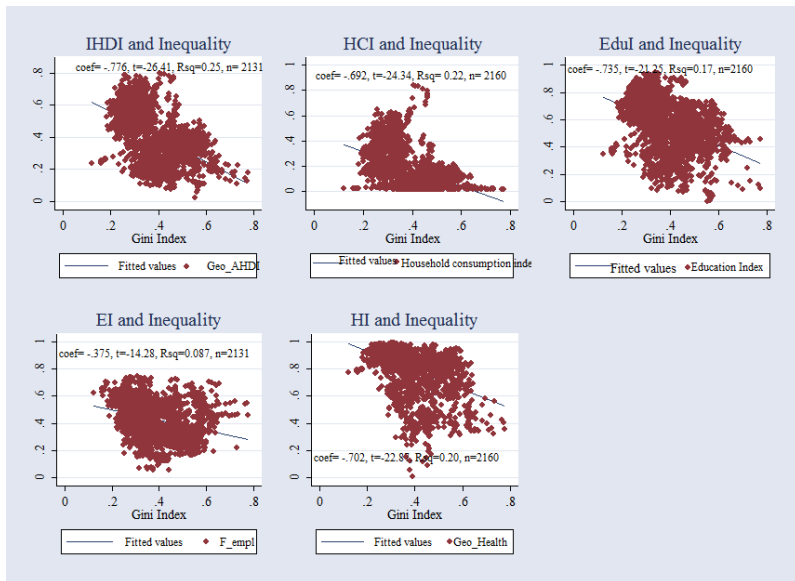
Regional distribution, ranking and evolution of IHD

Figure: Evolution of IHD and by groups of the countries



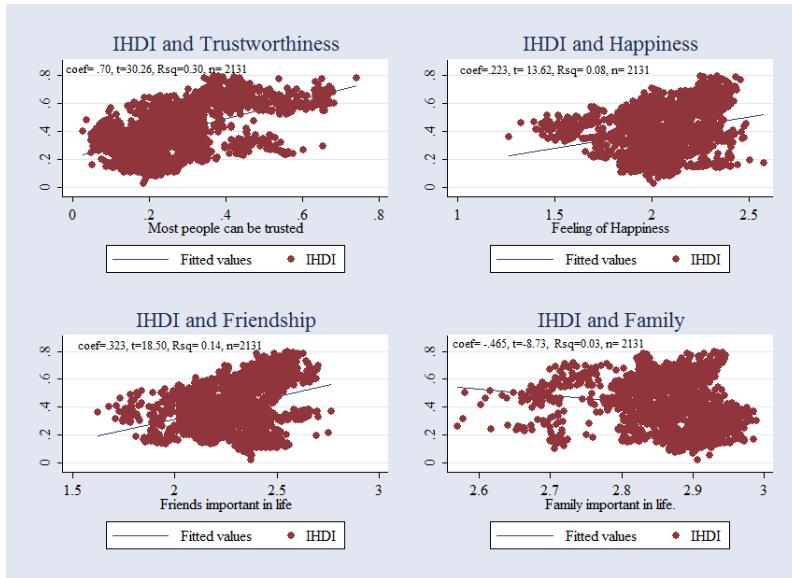
IHDI versus other measures of inclusiveness

Figure: IHDI sub-indices, Inequality and Quality of growth



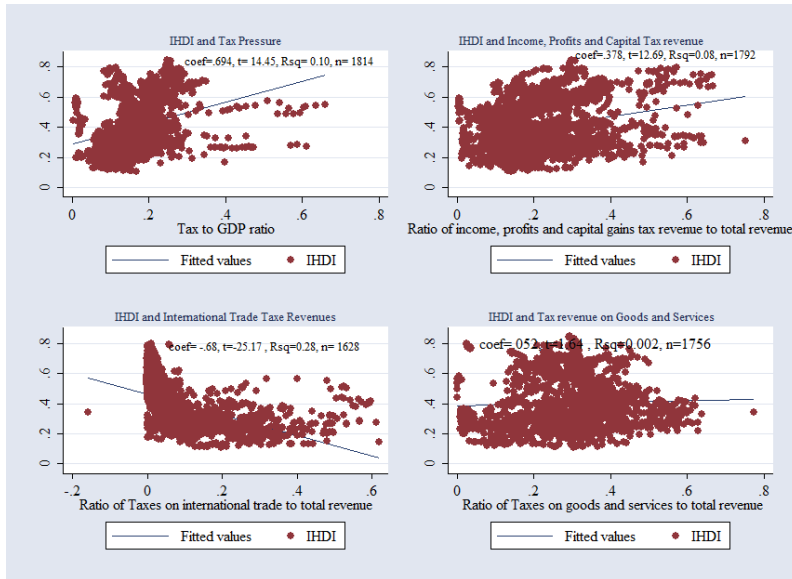
IHDI versus other measures of inclusiveness

Figure: IHDI and social capita



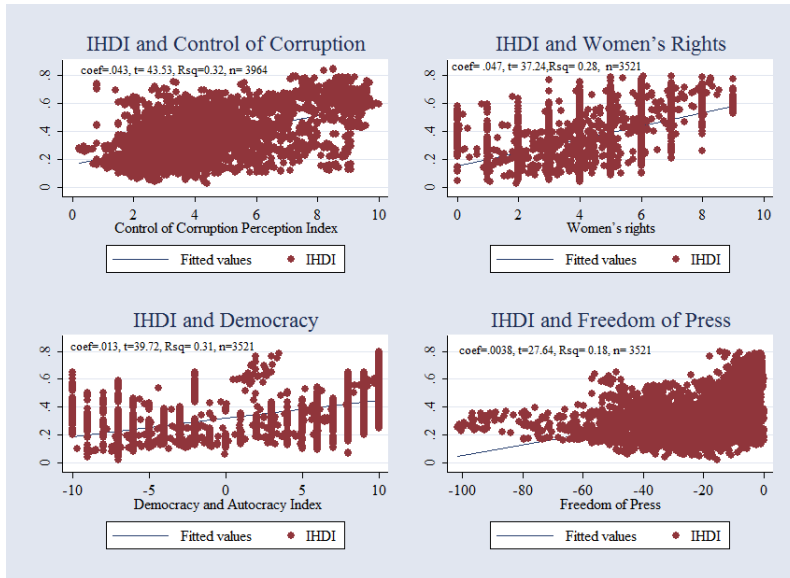
IHDI and state capacity

Figure: IHDI and State Capacity in raising taxes



IHDI and state capacity

Figure: IHDI, Institutions and human rights



inclusive HDI and Macroeconomic Environment

Figure: IHDI and Macroeconomic Environment



Summary

- A large coverage index of inclusive human development index over a long period (1980-2013)
- Robust with basic theoretical and empirical analysis
- Outlook
 - Quality of growth
 - Inequality index





Thanks.

