

Development economics

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Two sections of about 9/10 lectures each.

- 1 Microeconomics: a number of features of developing economies
 - 1 Falling poverty in Africa. Development in rural areas.
 - 2 Extended families and kins: services provided by the networks of blood
 - 3 Determinants of fertility, consequences of high fertility
 - 4 Determinants of child labor
 - 5 Schooling, health and education
 - 6 HIV prevention
 - 7 corruption
 - 8 foreign aid
 - 9 civil conflicts
 - 10 property rights and development, institutions and growth

- 1 Macroeconomics: growth theory
 - 1 Solow Model
 - 2 Empirics of the Solow Model
 - 3 Ramsey Model
 - 4 Lucas Model

Objectives of the course

- Provide students with a introductory knowledge of some key features of developing countries, *as much up to date as possible*, as things are changing very quickly in what was once known as the Third World. Most of the population living in the former Third World is now well ahead on the way of development. Only Sub-Saharan Africa lagged behind, but, more recently also this region has displayed signs of transformation and development.
- Provide an introduction, though rather advanced, to growth theory to get a theoretical framework for discussing development at the macro level and, at the same time, get familiar with some quantitative techniques.
- Discuss development from a perspective firmly rooted in economics, with theoretical modeling and econometric analysis

- Final exam: exercises (on growth theory) and open questions 55%
- Oral presentation of a paper 35%
- Participation 10%

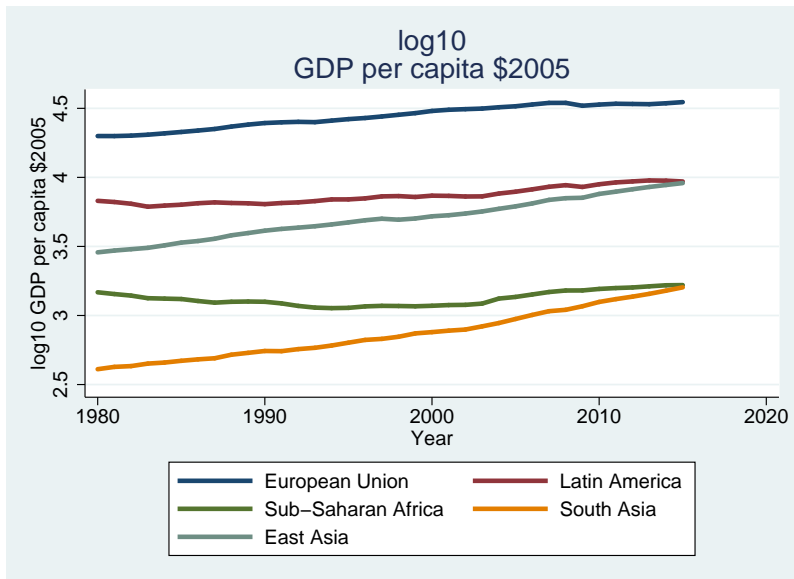
Course Organization

- Three lectures per week, Tuesday, Wednesday and Thursday, between 2.30pm and 4pm.
- Additional lectures towards the end of the course to accommodate students' presentations.
- Course material and other information available at the address <http://lorenzorocco.jimdo.com/teaching/>
 - Slides could be modified/added the day before the corresponding lecture: stay tuned!
- No handbook of reference: the world is changing too fast for any book may hold pace with.
- Rather, we discuss recent published articles and working papers.
- Office hours: I'll be available before and after the class at the second floor of the building in via Bassi 1 (aula colloqui)

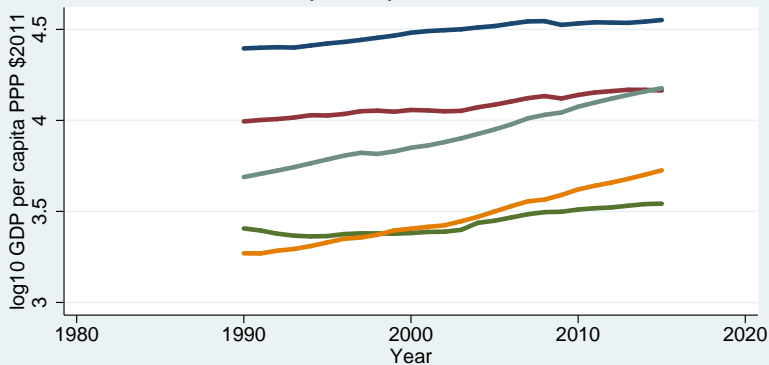
What is development?

- Multidimensional concept that includes
 - income/consumption level
 - but also structure of the economy, education, health, well-being...
- Fortunately, no much need to look at complex indices of development, such as the Human Development Index, as most dimensions are strongly correlated with income

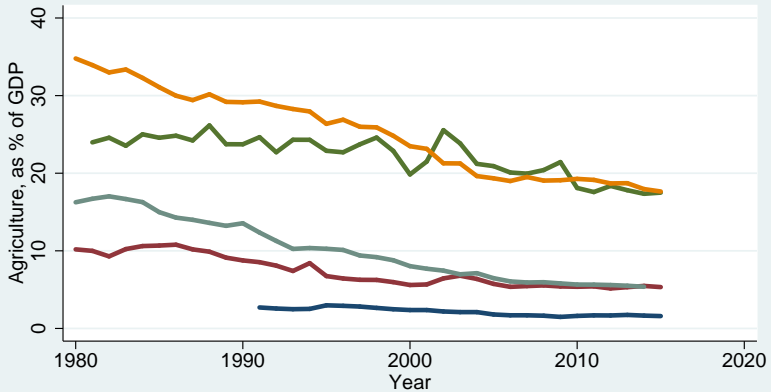
Few data on Development



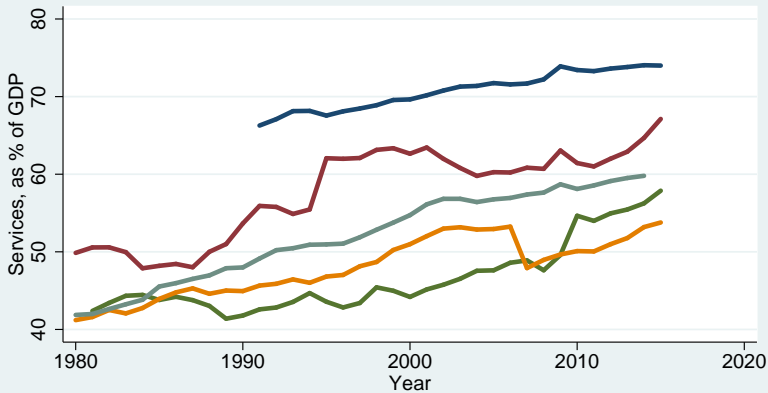
log10 GDP per capita PPP \$2011



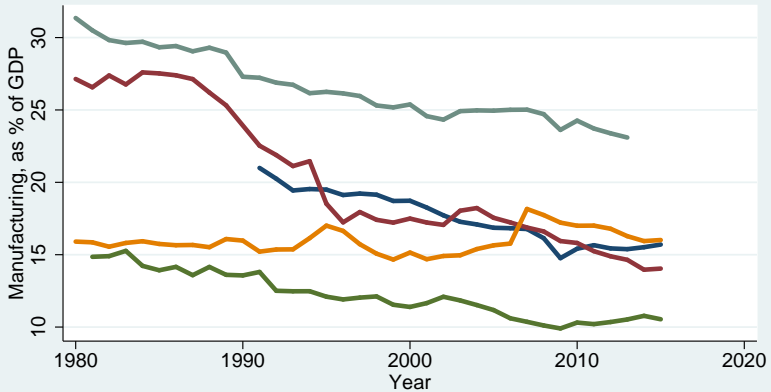
Agriculture, as % of GDP



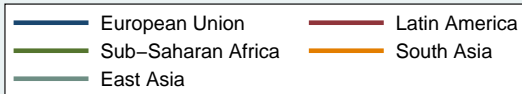
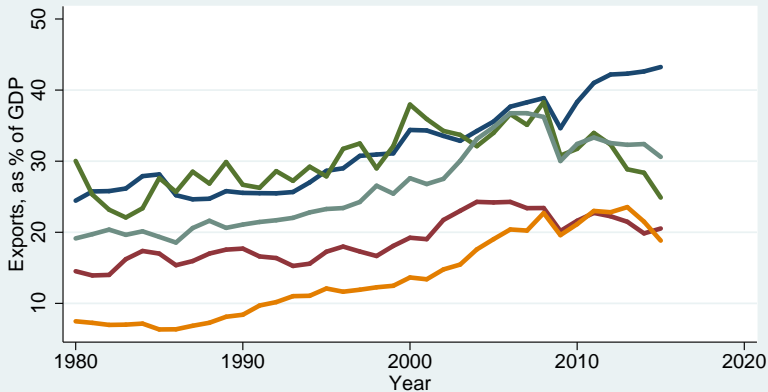
Services, as % of GDP



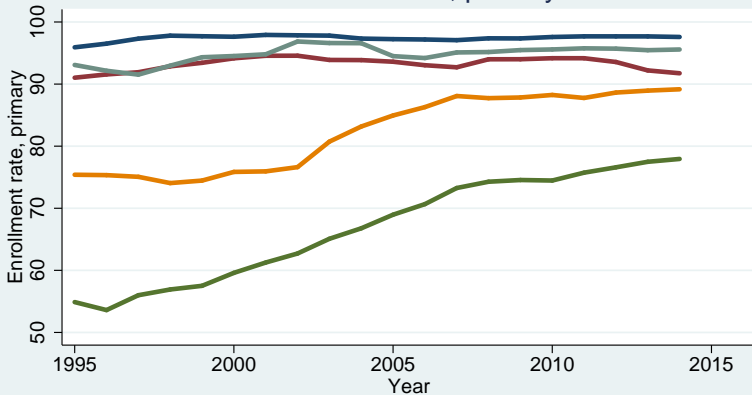
Manufacturing, as % of GDP



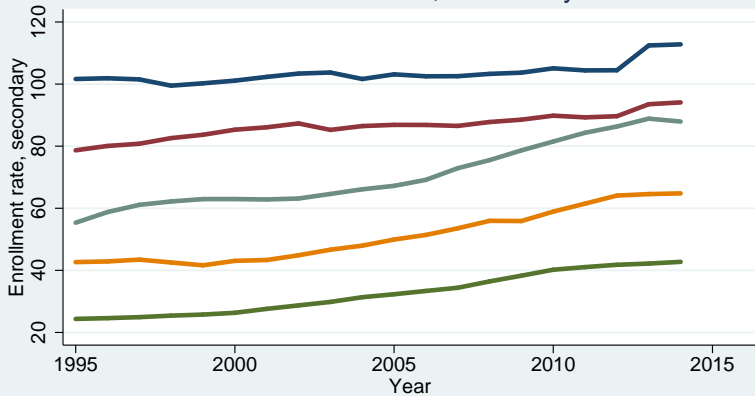
Exports, as % of GDP



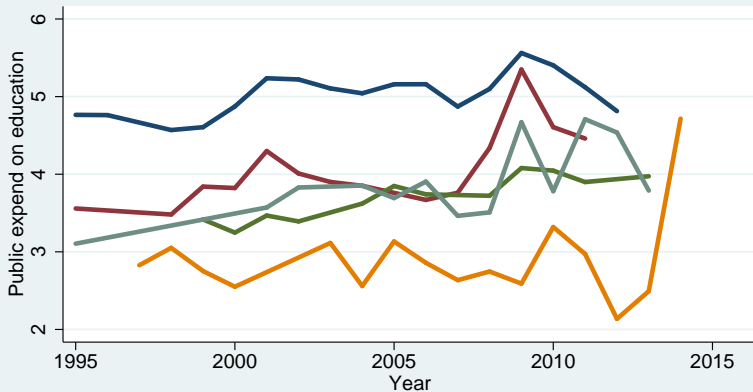
Enrollment rate, primary



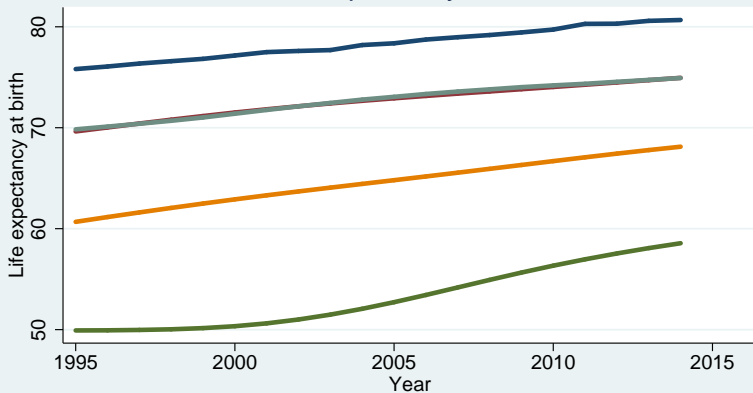
Enrollment rate, secondary



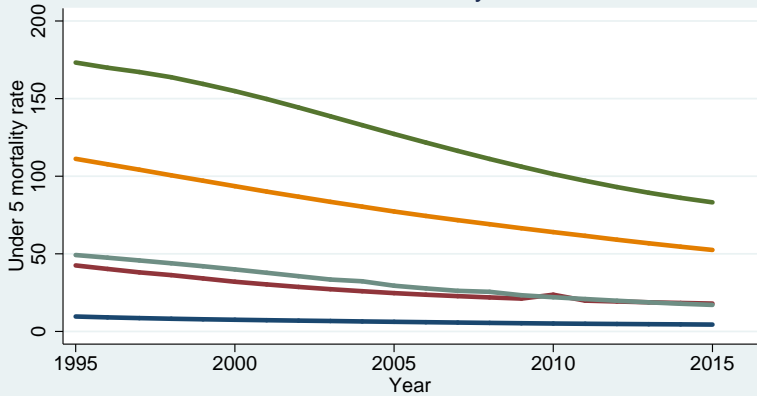
Public expend on education



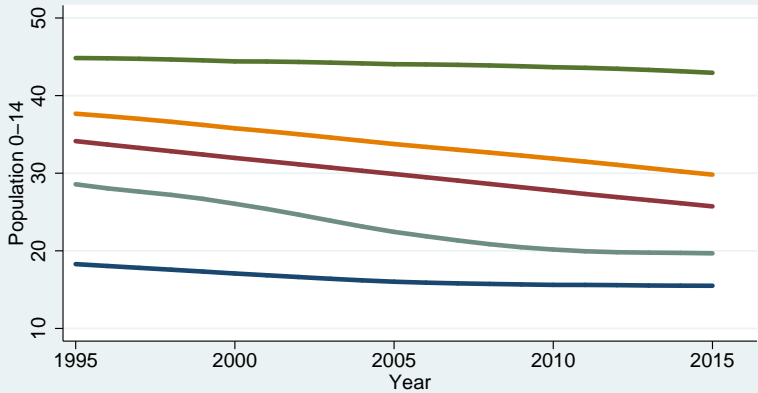
Life expectancy at birth



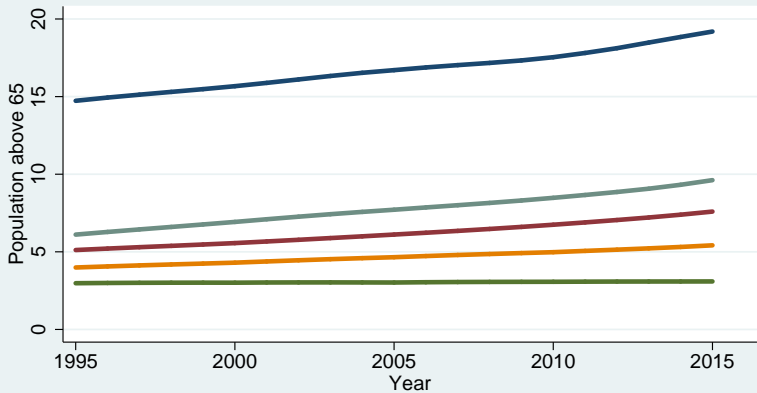
Under 5 mortality rate

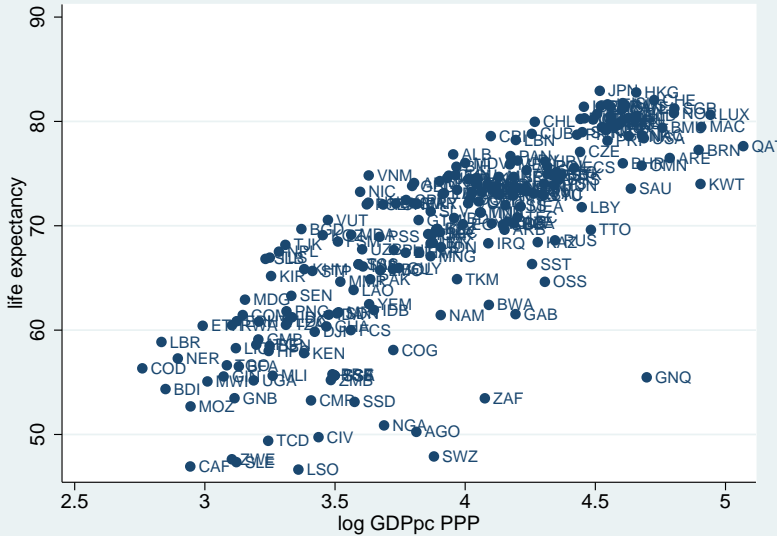


Population 0-14



Population above 65





- (reference: Deaton, Heston, 2009, “Understanding PPPs and PPP-based national accounts”)
- PPP (Purchasing Power Parity) is a technique to *correct* the exchange rate between countries in order to account for differences in the cost-of-living.
- In other words the purpose is that of measuring total expenditures (and so total income) in a given country assuming that goods have the price of the numeraire country and prices are expressed in the numeraire country currency. Usually US and USD act as numeraire.

- Example: suppose that two countries, US and Italy consume only 1 good, iphones. GDPpc is 20000 USD in the US and 12000 euro in Italy. Suppose that the price of a iphone in the US is 500 USD and in Italy is 600 euro. Thus Americans can buy 40 iphones each and Italians just 20. In real terms Americans are twice as rich as Italians. Suppose also that the USD/EURO exchange rate is $X^{US/EU} = 1.5$
 - iphones would have the same price in Italy and the US if the exchange rate were such that $500USD = 600EU \times X_{PPP}^{US/EU}$ i.e. if $X_{PPP}^{US/EU} = \frac{5}{6}$
 - what correction to the market exchange rate should we apply?

$$X^{US/EU} \times C = X_{PPP}^{US/EU}$$

$$C = \frac{5}{6} \times \frac{2}{3} = \frac{5}{9}$$

Appendix - what does PPP mean? III

Note: C is equal to the ratio between the US price (500 USD) and the Italian price converted in USD at the market exchange rate (900 USD).

The correction factor is

$$C = \frac{p^{US}}{p^{ITA}} = \frac{500}{900} = \frac{5}{9}$$

- The PPP exchange rate to convert local income in USD PPP is equal to the market exchange rate $3/2$ times the correction factor $5/9$ i.e. $5/6$
- Multiply Italian GDPpc in Euro by $5/6$ to get $GDP_{pc}^{ITA}_{PPP} = 10000$ USD.
- Pre-adjustment gap between US and Italy GDPpc is only 2000 USD; post-adjustment gap is 10000. This difference is due to different purchasing powers of USD in the US and in Italy, i.e. in differences in the cost of living.

Complications

- 1 there are many goods: we need to build up a price index
- 2 in principle we might not observe the same bundle of goods in all countries: we need to select a common bundle of basic goods
- 3 patterns of consumption change a lot across countries (different preferences and habits - basic goods might not be basic in all countries): comparing “far-away” countries is difficult
- 4 desirable properties of price indices: $P^{ITA|US} = 1/P^{US|ITA}$ (reciprocity) and $P^{ITA|US} = P^{ITA|UK} * P^{UK|US}$ (transitivity).
With multiple goods these properties are not granted and further manipulations are required.

Solutions:

- 1 The IPC (International Comparison Programs - UN body) collects prices of 128 basic heads of consumption in all countries, divided by macro-regions. Each region has its own numeraire country. This is to improve comparability between countries.
- 2 More disaggregated prices are “averaged out” in the 128 basic heads.
- 3 Since 2005 a ring of 18 countries have been chosen to bridge across regions,
 - 1 chosen so that there were two or more bridge countries in each region
 - 2 they price a specially constructed common ring list of more than 1,000 consumption items; the ring prices were then used to link the regions.

4. The price index often (but not always adopted) is the Fisher index

- Laspeyres $P_L^{ITA|US} = \sum_{g=1}^N s_g^{US} \frac{p_g^{ITA}}{p_g^{US}}$ (g are goods and s_g are shares of expenditures)
- Paasche $P_P^{ITA|US} = \left[\sum_{g=1}^N s_g^{ITA} \frac{p_g^{US}}{p_g^{ITA}} \right]^{-1} = P_L^{US|ITA}$
- Fisher $P_F^{ITA|US} = \sqrt{P_L^{ITA|US} * P_P^{ITA|US}} = \sqrt{P_L^{ITA|US} / P_L^{US|ITA}}$ (geometric average of L. and P. indices). It has the nice property of being (approx) consistent with arbitrary underlying preferences of consumption.

5. Fisher index needs to be further adjusted to satisfy reciprocity and transitivity - several ways to do it!

Fact

Depending on the procedure adopted by the agencies which compute the PPP adjustments (World Bank, Eurostat, OECD, Penn WT), the resulting PPP factors change (sometimes quite sizeably) and subsequent revisions may significantly alter previous results.

- this happened to China and India for instance: successive revisions “made” them poorer