# Chapter 1
The Development Gap

1. First of all, in 1980, data are missing for many countries, in particular for the former Soviet Union but also on different continents.

    Second, over time, some countries get covered in a darker blue meaning that their GDP per capita rises to a certain minimum level. This is the case for China for example. Third, many countries, especially in Sub-Saharan Africa retain a light blue color, meaning that their GDP per capita remains low. One can also make other observations. For example, some countries' color becomes lighter at times, meaning that they have not been growing as fast as the average in the world economy. One may focus on a particular set of countries to see how their color evolves over time. It is good for development economics students to be able to identify countries on the world map.

2. Here is the map for 1980.

1980-GDP per capita, PPP (current international $)
less than 605.6 | | | | 8,366.8 or more
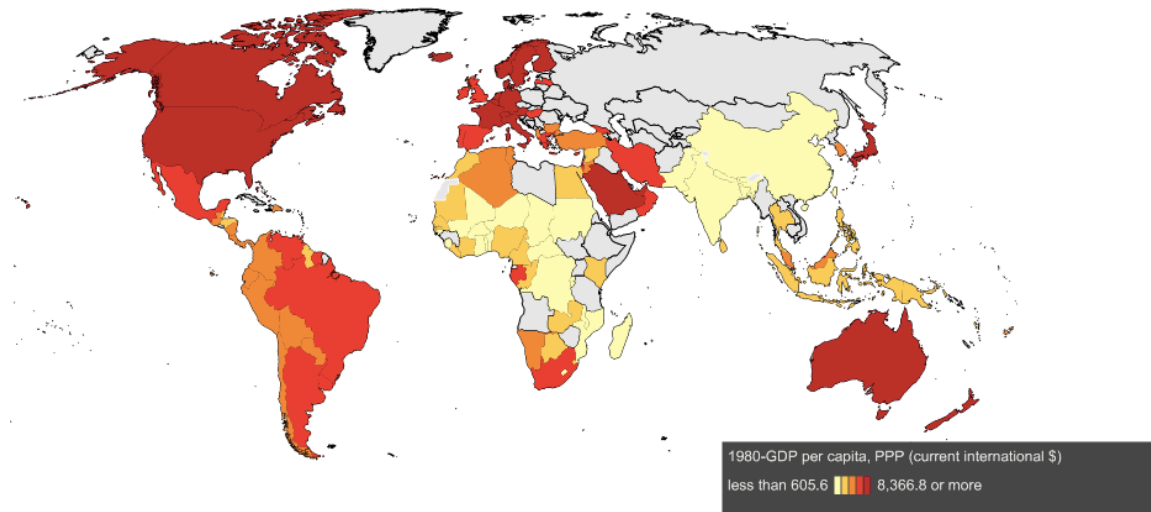
Observations: There are no data for countries that were part of the Soviet block and for some countries, mostly in Africa (Lybia, Somalia, Angola,….). The richer countries are in North America, Europe, Australia, Japan. The poorer countries are in Sub-Saharan Africa and Asia (China and India are among the poorest in this map).

Let us now look at 2012.

2010-GDP per capita, PPP (current international $)

less than 1,957.6 ▮▮▮▮ 27,059.5 or more
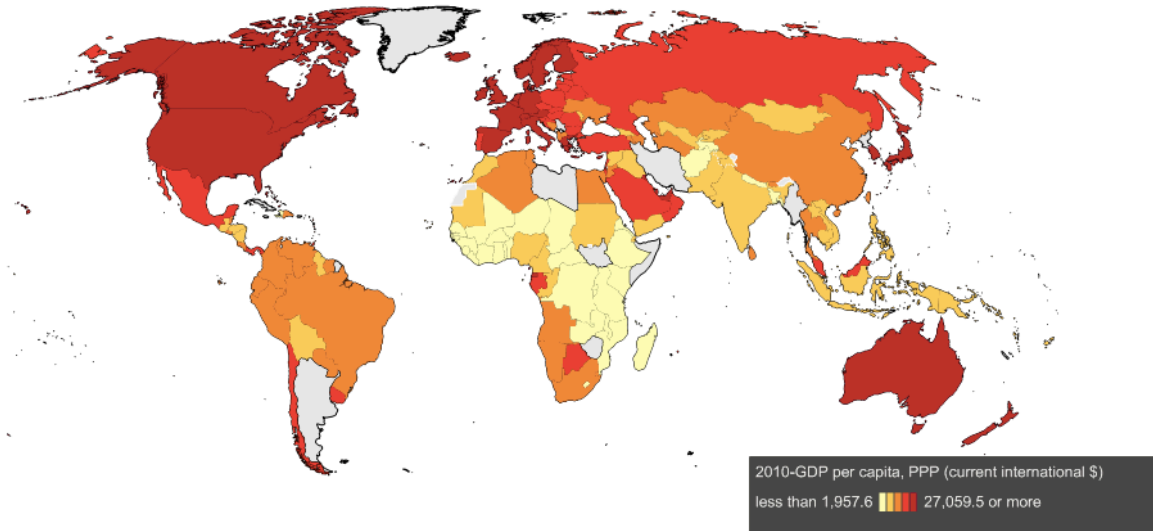
Here, data are missing only for a few countries: Argentina, Greenland, Cuba, Libya, etc. This is most likely because data for that year are not yet available for those countries. Data from development countries are available much later than for the US or for advanced economies. Here Sub-Saharan Africa is still among the poorest but India, and mostly China, have improved their position. You may want to compare particular countries and look at the precise data from the web site.

3. Below is one possible chart for 2005. Here, we ranked countries from richest to poorest. Note that it is quite cumbersome to present a chart with that many data. Maps are better here. The advantage of charts is that it gives an idea of the magnitudes. Looking directly at the Excel table helps us also better see the numbers. We see a big inequality in income per capita. The richest countries (Qatar, Luxembourg, etc.) have GDP per capita close to $70,000 while the poorer half of countries have a GDP per capita of less than $7,000 while roughly 20 countries have a GDP per capita of less than $1,000.

A better way to make charts is to aggregate by regions or to choose a subsample of countries from different continents.
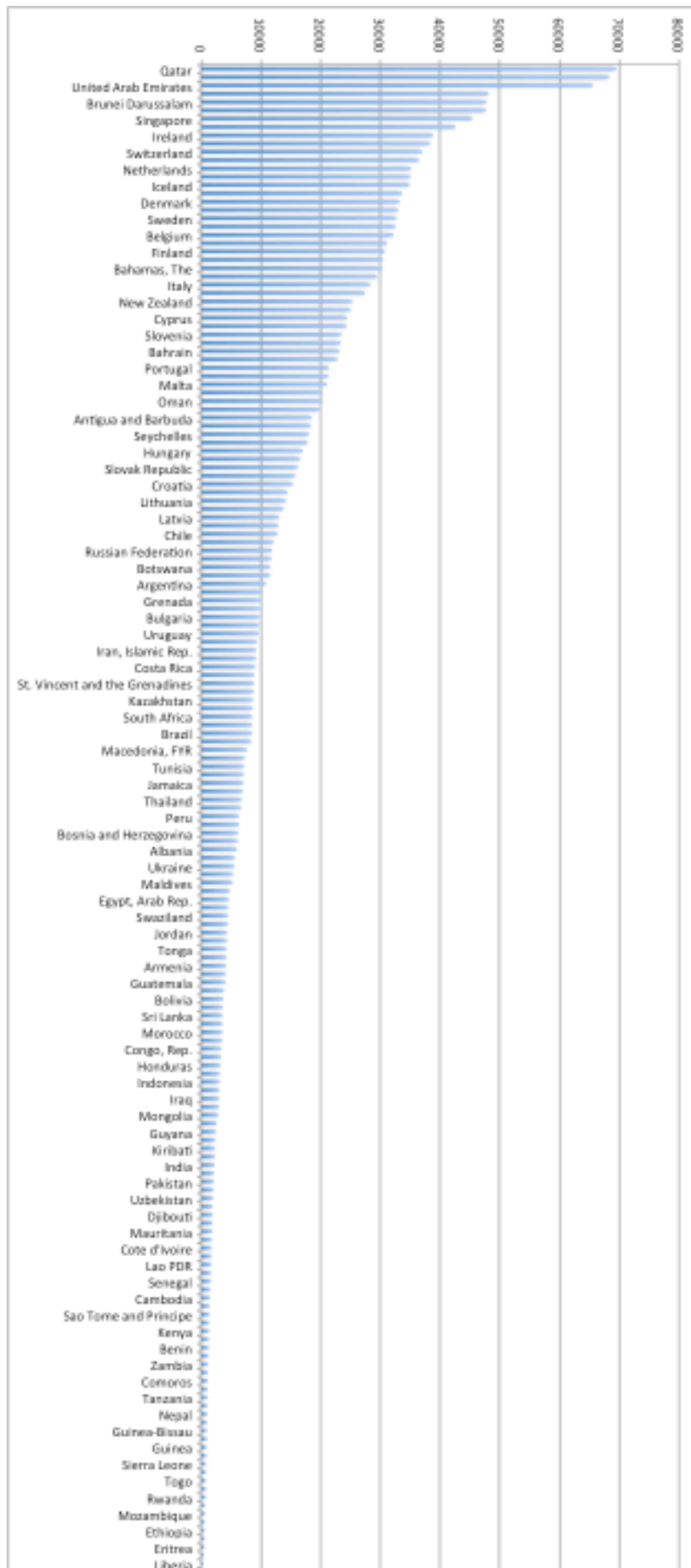
EXCEL TABLE FOR 2005.

Country Name	2005
Qatar	69497.6867
Luxembourg	68290.30822
United Arab Emirates	65573.11825
Kuwait	48096.4678
Brunei Darussalam	47760.00715
Norway	47626.27982
Singapore	45374.23755
United States	42516.39347
Ireland	38795.40634
Macao SAR, China	38295.11854
Switzerland	36963.58984
Hong Kong SAR, China	36440.0731
Netherlands	35104.48753
Canada	35033.42293
Iceland	34889.18754
Austria	33626.38683
Denmark	33193.23729
United Kingdom	32957.66985
Sweden	32702.98278
Australia	32525.56028
Belgium	32189.35133
Germany	31114.53059
Finland	30707.94588
Japan	30441.34813
Bahamas, The	30276.90029
France	29452.52232
Italy	28279.87053
Spain	27392.04339
New Zealand	25308.24094
Equatorial Guinea	24981.78983
Cyprus	24408.10565
Greece	24348.40224
Slovenia	23475.57268
Israel	23339.95407
Bahrain	23130.68597
Korea, Rep.	22783.27005
Portugal	21368.95879
Czech Republic	21264.41393
Malta	21018.5878
Trinidad and Tobago	20343.62918
Oman	20272.9717
Saudi Arabia	19869.46277
Antigua and Barbuda	18468.0722
Palau	18316.31493

Seychelles	18044.98451
Barbados	17763.56244
Hungary	16974.55981
Estonia	16547.96064
Slovak Republic	16174.8268
St. Kitts and Nevis	15714.48656
Croatia	15331.91676
Libya	14454.42916
Lithuania	14197.27385
Poland	13784.16006
Latvia	13040.47211
Gabon	12931.84623
Chile	12773.41837
Malaysia	12130.58664
Russian Federation	11852.80594
Mexico	11723.371
Botswana	11541.40375
Turkey	11532.45065
Argentina	10842.74556
Mauritius	10157.50696
Grenada	10053.75222
Venezuela, RB	9869.170321
Bulgaria	9809.4085
Lebanon	9753.063856
Uruguay	9626.205437
Romania	9361.372073
Iran, Islamic Rep.	9172.937358
St. Lucia	9160.101447
Costa Rica	9019.107796
Dominica	8886.545521
St. Vincent and the Grenadines	8852.591664
Panama	8819.043795
Kazakhstan	8699.098081
Belarus	8640.331932
South Africa	8596.830871
Serbia	8517.060845
Brazil	8502.32443
Montenegro	8384.478056
Macedonia, FYR	7676.841629
Colombia	7280.288206
Tunisia	7182.365625
Ecuador	7128.620192
Jamaica	7082.60666
Algeria	6942.187886
Thailand	6790.70364
Belize	6711.595384

Peru	6349.054594
Dominican Republic	6326.3569
Bosnia and Herzegovina	6179.380486
Suriname	6125.707064
Albania	5997.904059
El Salvador	5681.505879
Ukraine	5583.399175
Namibia	5341.323842
Maldives	5248.57461
Turkmenistan	4761.854441
Egypt, Arab Rep.	4642.368223
Paraguay	4554.303055
Swaziland	4517.541402
Azerbaijan	4496.143936
Jordan	4334.87797
Fiji	4323.66348
Tonga	4219.594186
Syrian Arab Republic	4205.516652
Armenia	4165.785316
China	4114.572834
Guatemala	4073.8347
Samoa	3837.685893
Bolivia	3688.146367
Georgia	3610.485984
Sri Lanka	3550.213338
Vanuatu	3544.973845
Morocco	3540.418314
Bhutan	3527.672535
Congo, Rep.	3371.940526
Angola	3343.426799
Honduras	3267.556999
Micronesia, Fed. Sts.	3144.086367
Indonesia	3141.287065
Philippines	3041.058392
Iraq	3013.850166
Nicaragua	3013.207897
Mongolia	2885.280397
Cape Verde	2595.997606
Guyana	2487.712509
Moldova	2361.950703
Kiribati	2303.6165
Yemen, Rep.	2292.594145
India	2233.862855
Vietnam	2161.272404
Pakistan	2153.947028
Solomon Islands	2074.979141

Uzbekistan	2000.965505
Cameroon	1921.785765
Djibouti	1914.981847
Papua New Guinea	1865.886093
Mauritania	1865.2629
Nigeria	1752.627657
Cote d'Ivoire	1726.059532
Kyrgyz Republic	1721.340925
Lao PDR	1684.390289
Gambia, The	1642.236236
Senegal	1617.645611
Sudan	1514.374909
Cambodia	1508.138238
Tajikistan	1422.592946
Sao Tome and Principe	1398.231211
Chad	1342.591675
Kenya	1339.958493
Lesotho	1294.695233
Benin	1279.393917
Ghana	1222.463311
Zambia	1156.820702
Bangladesh	1143.870727
Comoros	1126.79685
Burkina Faso	1072.179903
Tanzania	1070.071644
Haiti	1032.776697
Nepal	1028.853293
Timor-Leste	984.7635059
Guinea-Bissau	978.2007235
Mali	976.0660288
Guinea	916.6545237
Uganda	901.7671293
Sierra Leone	855.3360887
Madagascar	849.4674151
Togo	837.7432824
Afghanistan	827.8494456
Rwanda	820.1764287
Central African Republic	681.6718955
Mozambique	661.8638979
Malawi	639.7398439
Ethiopia	620.1736842
Niger	601.0523103
Eritrea	550.9527351
Burundi	453.4387598
Liberia	336.5323786
Congo, Dem. Rep.	294.3864466

4. Here is the chart with poverty headcount ratio on the horizontal axis and life expectancy at birth on the vertical axis. Note that many countries lack data on the poverty headcount ratio.

    One sees a negative relationship between the two variables. No country with a poverty headcount ratio above 30% has a life expectancy above 70 years. One country has a life expectancy 0f 60 with a poverty headcount ratio of 4.84. This is a life expectancy of 10 years lower than other countries with a similarly low poverty headcount ratio. Check that that country is Gabon. It could be a good idea to ask students to do research on why life expectancy is low in Gabon.
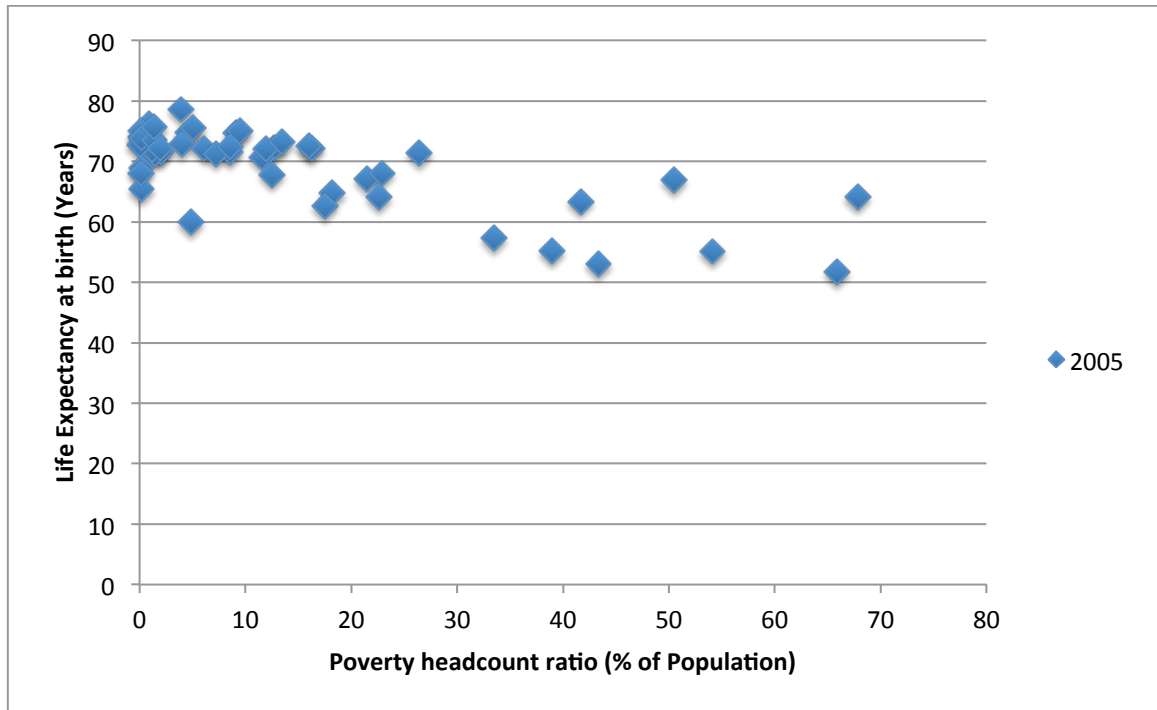
5. The article in *The Economist* emphasizes the large fall in child mortality in Africa. One might expect this may be due to a fall in fertility but the article note that the fall in mortality happened also in countries with high fertility rate. The answer seems to lie in a combination of growth and public health policies such as the now widespread use of insecticide-treated bed nets (ITN) to prevent malaria.

    Here is a link to the original article cited by the Economist:
    http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2012/05/03/000158349_20120503152728/Rendered/PDF/WPS6057.pdf

    The article, which focuses on Kenya, also emphasizes the widespread use of ITN, but also mentions improved sanitation and improved source of drinking water, the use of iron supplements and intake of anti-malarial drugs during pregnancy and higher immunization rates.

    Here is a reference to work by UNICEF on progress in fighting child mortality: Progress for Children, Issue 1 By Unicef, United Nations Children's Fund, The (UNICEF). Here is the internet web site where it can be found.

http://books.google.com/books?hl=en&lr=&id=pwWEvdSlxfMC&oi=fnd&pg=PA2&dq
=fall+child+mortality+africa&ots=1Mg0RuaxpV&sig=dnxG-
0MZCX9XJ0B8RPngiQDXQ4s#v=onepage&q=fall%20child%20mortality%20africa&f
=false

6. In this chapter, Maddison emphasizes the extraordinary growth that took place in Europe in the last millennium. At the turn of the previous millennium, Europe's economy was lagging behind North Africa and Asia. Between 100 and 1500 Europe grew faster than the rest of the world and roughly doubles its income per capita. The Chapter presents 4 case studies of historical economic development: Venice, Portugal, the Netherlands and the UK. These cases are different in many ways but are similar in that international trade had a prominent place in the prosperity of these four polities.

   In terms of the effects on other continents, these are mostly related to colonialism and the creation of European colonies on other continents. Venice had relatively little influence on other continents.

   The Portuguese were very active in trade in the Indian Ocean and in Asia. They established bases in Goa in India and Macau in Southern China. Their commercial fleet was often accompanied by military ships, so that threat of violence could be used to enforce trade. The Portuguese were also religious proselytizers, trying to spread the Catholic faith. In South America, the Portuguese colonized Brazil. They exported slaves from Africa to work in sugar plantations and in mines. Colonialism left lasting influences on Brazil, mostly in the form of a very unequal distribution of wealth and income favoring the upper class of Portuguese descent.

   The Dutch were the wealthiest country in the world roughly between the seventeenth century and the end of the eighteenth century. The presence of Dutch ships was active in all seas of the world. The Dutch participated in the African slave trade. Their major colony in Africa was in South Africa. In Latin America, they colonized Surinam and in North America, they were the first inhabitants of what is now New York. They discovered Australia first. Their biggest presence was in Indonesia, which they colonized and where they established crops of sugar, tobacco and coffee for export.

   The biggest influence played by a Western country in the developing world was by Great Britain. It played a major role in the colonization of North America and the Caribbean and was an active player in the slave trade. They colonized India, introduced their own manufacturing and agriculture al crops, colonized parts of Africa and occupied Australia and New Zealand. Their influence in China remained limited to trade, which was nevertheless quite substantial, but they were only able to take over as a colony Hong Kong and some surrounding territories on the mainland.

7. We will look at India, but this can of course be done for any other country. The data are readily available from the World Bank web site used in the answers to Questions 2-4.

   GDP per capita in constant dollars shows a robust growth pattern as it has nearly tripled in twenty years. The slope is steeper in later years indicating a higher growth rate of GDP per capita in India.

GDP per capita PPP (constant 2005 international dollars)
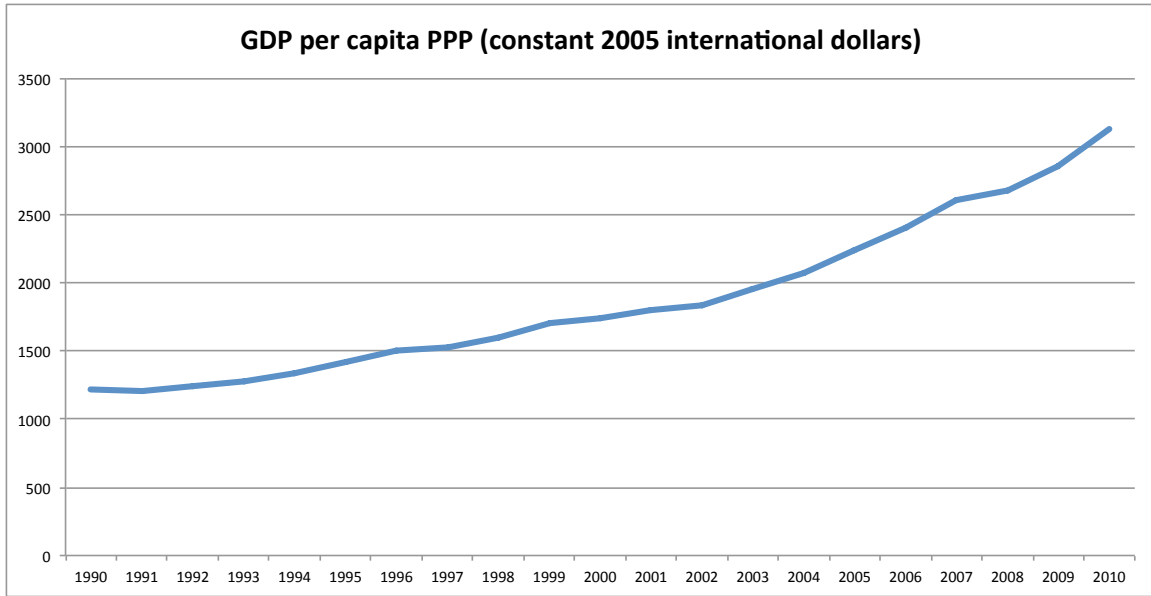
The poverty headcount ratio shows a steady decline. Between 1990 and 2010, the poverty headcount ratio at $1.25 has declined from nearly 50% to somewhat over 30%. Note that data exist only for three years. Poverty data are not recorded on a regular basis.

**Poverty headcount ratio (% of population)**
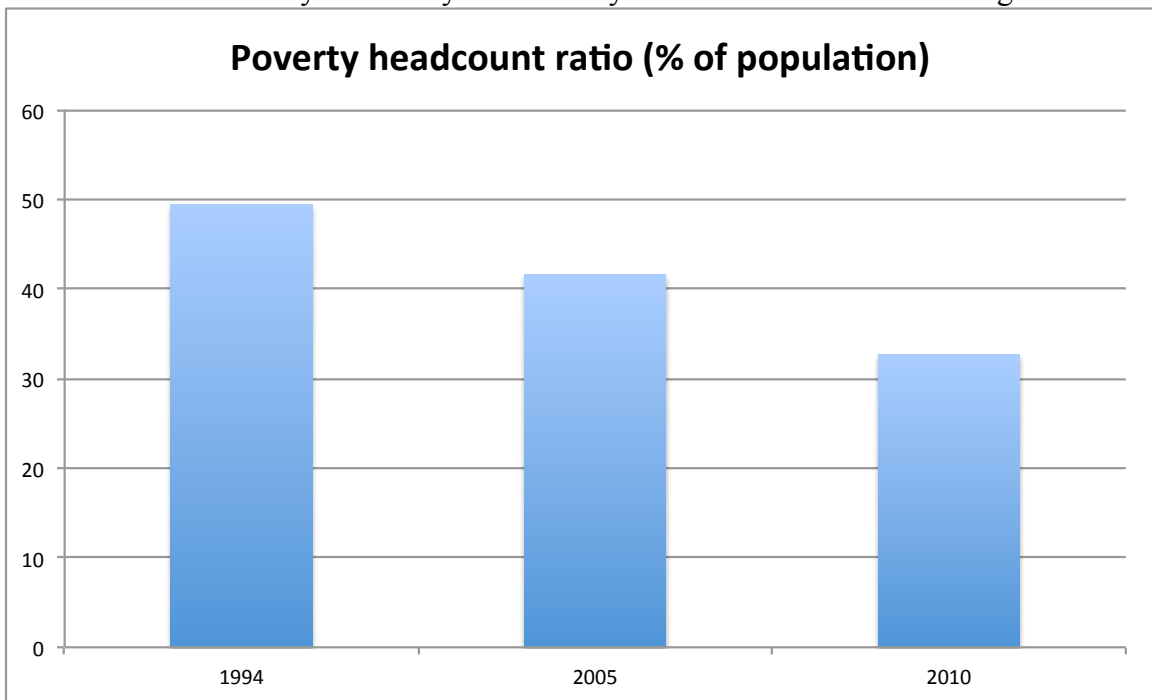
Life expectancy at birth has been constantly increasing in the last twenty years, gaining more than 6 years in the last 20 years. This is a very positive trend. Life expectancy is a key indicator of the quality of human development.
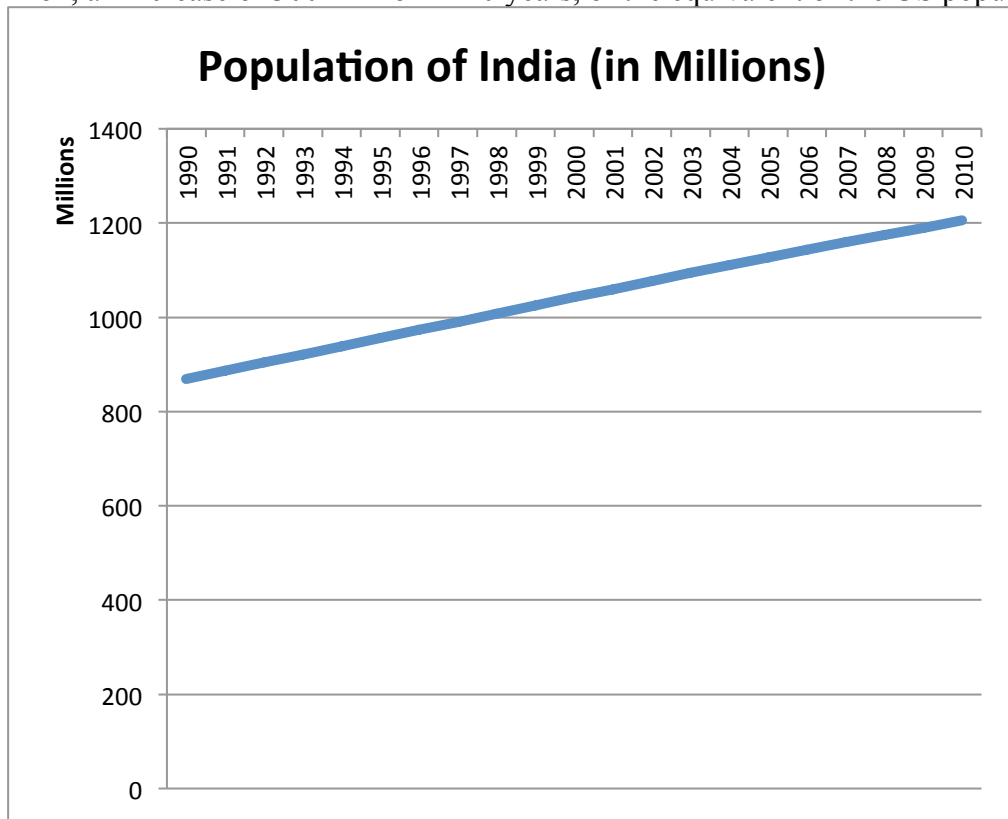
Life expectancy at birth
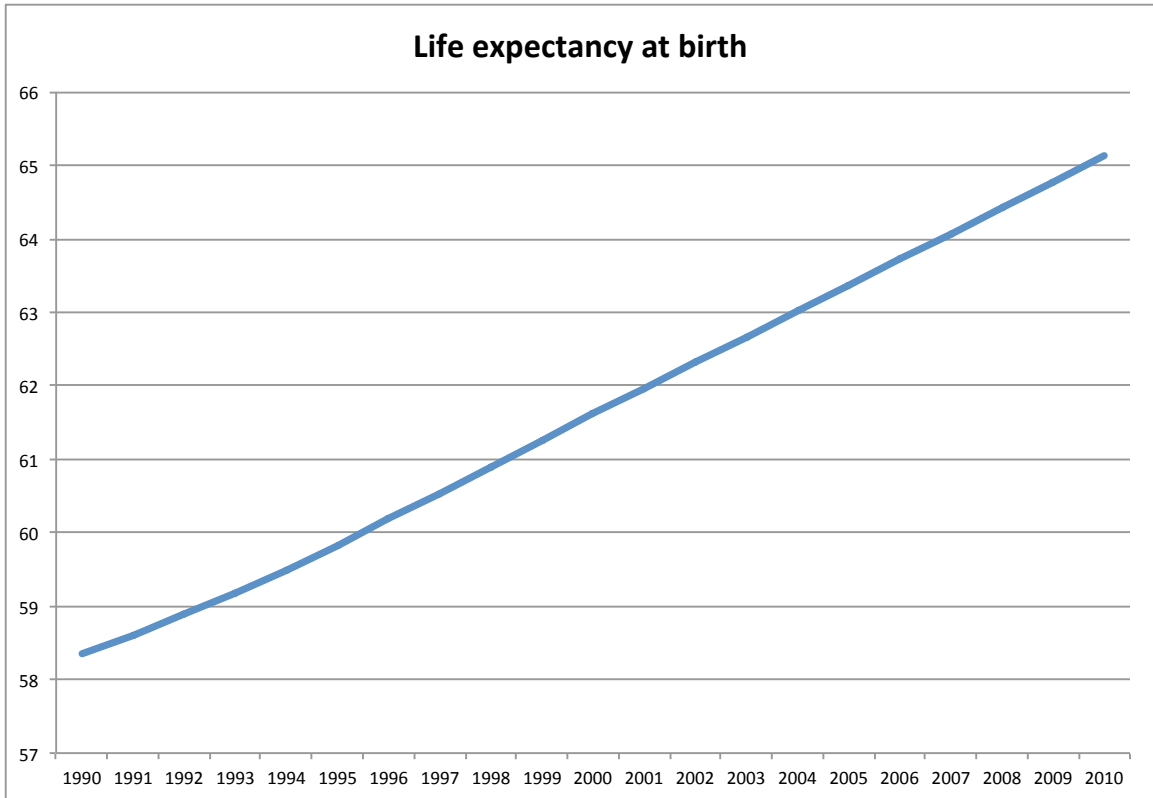
Secondary school enrolment data for India do not exist for all years. We chose 4 years. One can see that there is important progress in 2005 and 2010, whereas previously secondary school enrolment seemed to stagnate. Note that the Indian economy has also been growing faster in the last 10 years. The fact that these two variables grow together is a good sign. It means that the Indian economy will have a more skilled labor force to help it grow.

Secondary school enrolment, Gross (in %)
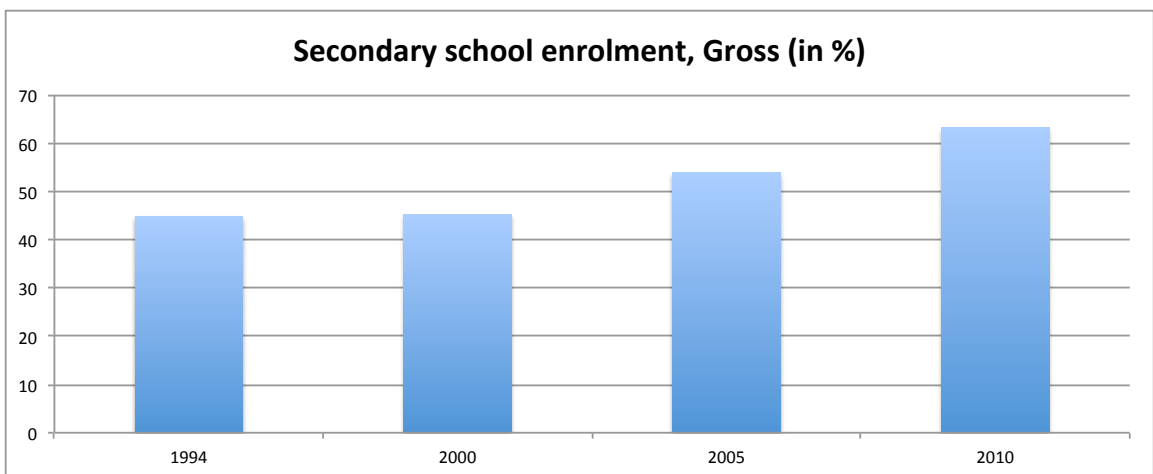
The rate of urbanization has been going up at a steady and relatively constant rate over the last twenty years, but it is clear from the data that India is still predominantly a rural country.

% of Population living in Urban areas
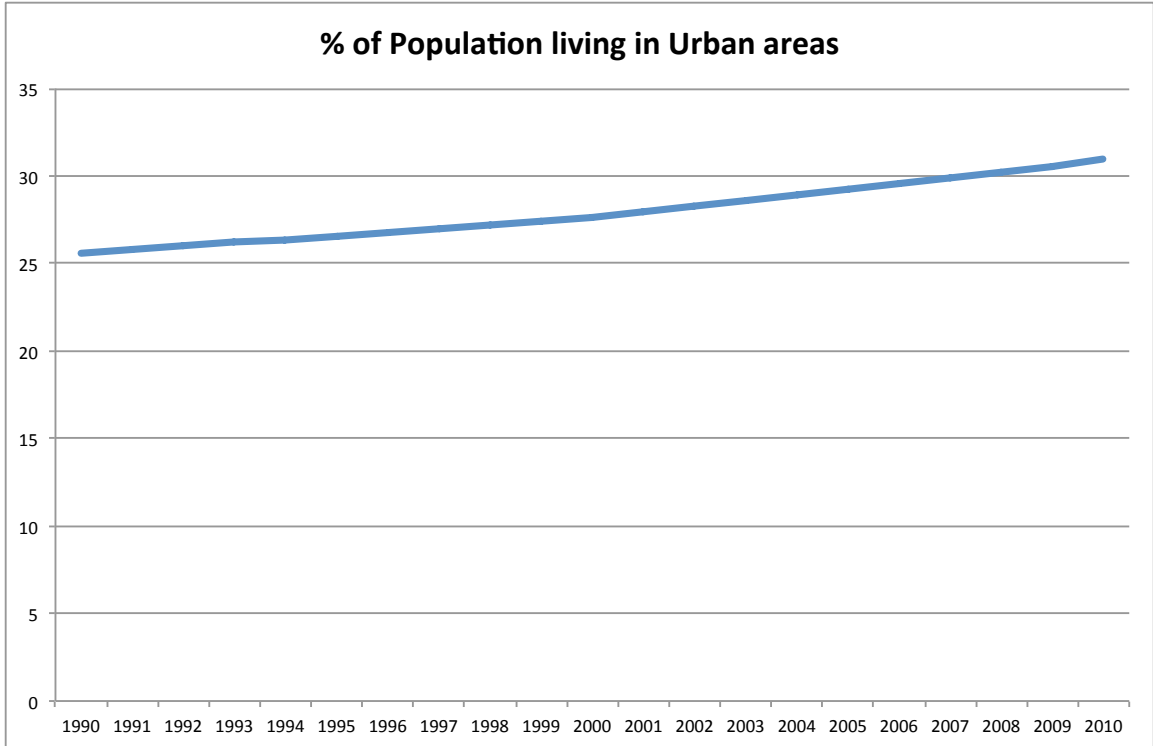
India's population has been increasing steadily from nearly 900 million to over 1.2 billion, an increase of 300 Million in 20 years, or the equivalent of the US population.

Population of India (in Millions)

Overall, these data from India show evidence of a country that is both growing economically but also developing economically, improving education and life expectancy. Despite these positive developments, the country remains essentially rural and its GDP per capita remains below $5,000 per year.

8. Banerjee and Duflo's story of Pak Solhin explains how poor people can remain trapped in a situation of poverty. Pak Solhin did not inherit land from his parents who had little land but 13 children. He worked as a casual agricultural worker but had been unemployed after a hike in fertilizer and fuel prices reduced demand for workers by local farmers. Because of his poverty, he could not get a job as a construction worker because he was physically too weak for the work. He was inexperienced for more skilled work and, at the age of forty, too old to be an apprentice. Because he was unable to get a job, his wife had to get a job as a maid 80 miles away but did not earn enough money to feed the children. The oldest son thus had to leave school and take up an apprenticeship. The other children were sent to live with their grandparents. Pak Solhin could survive on subsidized rice he received from the government and on fishing. He was in a vicious circle. He was too weak to get a job, and because he could not get a job, he could not get enough food. This is the poverty trap. It is only relevant for people who are not able to get enough food to be strong enough to work. There are other versions of the poverty trap too. If people earn barely enough to feed themselves but cannot save, then they are stuck in a low income trap since they cannot use any savings to invest in education or in a small business or any other endeavor that would help increase their income.

   Overall, Banerjee and Duflo are rather skeptical about the poverty trap. Most adults, even probably also Pak Solhin, should be able to get enough food to be physically productive. The problem often is not the lack of food but the low quality and lack of nutrients in existing foods. Those who might be the most hurt by malnutrition are small children and children in utero. Banerjee and Duflo suggest that food aid should be targeted to improve childhood nutrition and that of pregnant women, which should bring lifelong benefits.

9. We take the answers from the Pisa 2006 study, but one could also use the 2009 results. For reading the five best developing countries are: Korea, Poland, Estonia, Hungary and Taiwan and the five worst are Kyrgyzstan, Serbia, Tunisia, Turkey, and Azerbaijan. For math the five best developing countries are: Korea, Taiwan, Estonia, Hungary, and Poland and the five worst are Tunisia, Kyrgyzstan, Serbia, Brazil, and Indonesia. For science, the five best developing countries are: Lithuania, Taiwan, Estonia, Korea, and Slovenia and the five worst are Tunisia, Kyrgyzstan, Serbia, Brazil, and Indonesia.

   As one can see, there is a pattern. Countries that are good in some scores tend to be good in others and countries that are bad in some scores are also bad in others. Some developing countries like Korea, Taiwan, Lithuania, Estonia, Hungary, and Poland clearly have a better quality education whereas others like Tunisia, Kyrgyzstan, Serbia, Brazil, and Indonesia systematically are at the bottom of the PISA scores.

10. The theory in Chapter 3 of the book, which is the central chapter in their book states that differences in the level of development are due to differences in institutions. Some countries develop extractive institutions aiming at plundering the resources of a country

and at coercing its workforce to work for the benefit of a small elite. Other countries develop inclusive institutions that encourage the economic participation of the large majority of people and enable them to make best use of their talent. They protect property rights so as to encourage investment and innovation. Therefore, in the long run, inclusive economic institutions are more favorable to economic growth and development. Countries with extractive institutions will miss opportunities for economic prosperity as they are tailored only to the narrow interests of the ruling elites who benefit from plundering existing resources rather than from encouraging entrepreneurship and innovation from below.