

MEASURING ECONOMIC GROWTH AND DEVELOPMENT

EE 462 Development Macroeconomics

Semester 1/2014

Measuring Economic Growth

- **Gross Domestic Product (GDP)**
 - values all output produced within the borders of the country, including by foreigners but excludes value of production of citizens living abroad
- **Gross National Product (GNP)**
 - values of all final goods and services produced by citizens of the country
 - often called _____
- **GDP per capita** = _____
- Economic growth → changes in per capita income over time
- **Real GDP** = GDP adjusted for domestic price inflation

Measuring GDP: What is Left Out?

- Underestimation of total values of output because **some goods and services are not in the market**
 - Unpaid family labor services
 - Agricultural production
- Lack of accurate price information or representative market price at the national level
- Doesn't account for “**public bads**” such as crime, pollution, congestion, etc.

Exchange Rate problems

- GDP does not account for **non-traded goods and services** such as haircut, maid services, etc.
 - Use **Purchasing Power Parity (PPP)** exchange rate
- The *International Comparison Program* (ICP) derives a set of **international prices** in a common currency.
- PPP allows for a more valid comparisons of income levels across economies.

Examples:

- Ratio of PPP calculation to market exchange rate calculation = 0.7 in Norway, 2.8 in India, and 3.3 in Gambia.
- Using market exchange rate, per capita income in the US is ~40 times those in India in 2009, but when using PPP calculation, the gap is ~14 times.

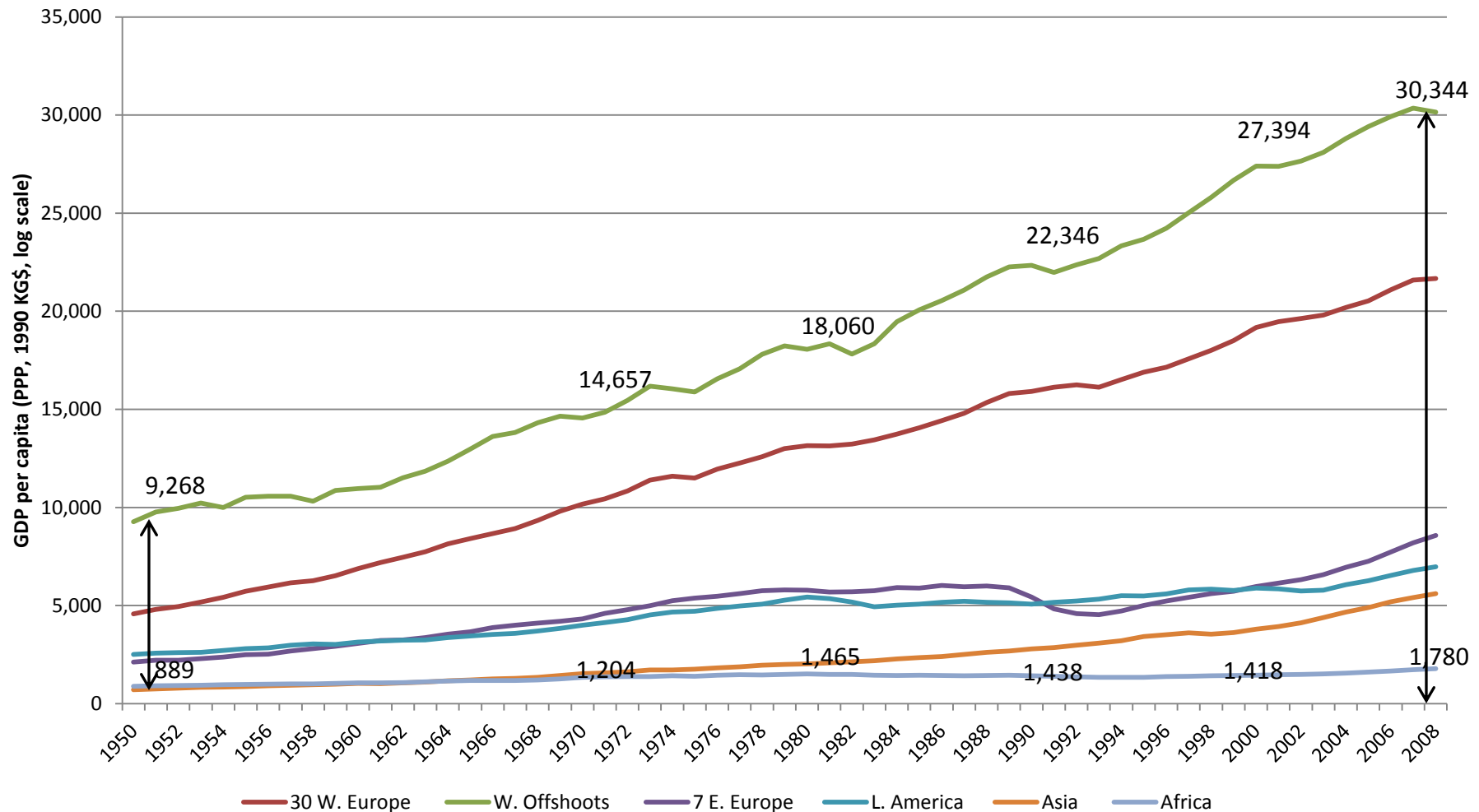
Example: Purchasing Power Parity (PPP)

	US			INDIA		
	Q	P (US\$)	P x Q (billion \$)	Q	P (Rupees)	P x Q (billion Rs)
Steel (million tons)	200	1,000		25	50,000	
Retail sales personnel (millions)	2	20,000		4	60,000	
Total GDP (billions)						

Market exchange rate based on steel prices = Rs 50,000/ US\$ 1,000 = **Rs 50: US\$1**

- India's GDP in US\$ based on official exchange rate = _____ billion
- India's GDP in US\$ using PPP:
 - Steel: _____ million tons x _____ US\$ = \$ _____ billion
 - Retail sales personnel: _____ million people x _____ US\$ = \$ _____ billion
 - GDP = \$ _____
- **Ratio of PPP to official exchange rate = _____**

Economic Growth Around the World



Source: http://www.ggd.net/maddison/historical_statistics/vertical-file_02-2010.xls

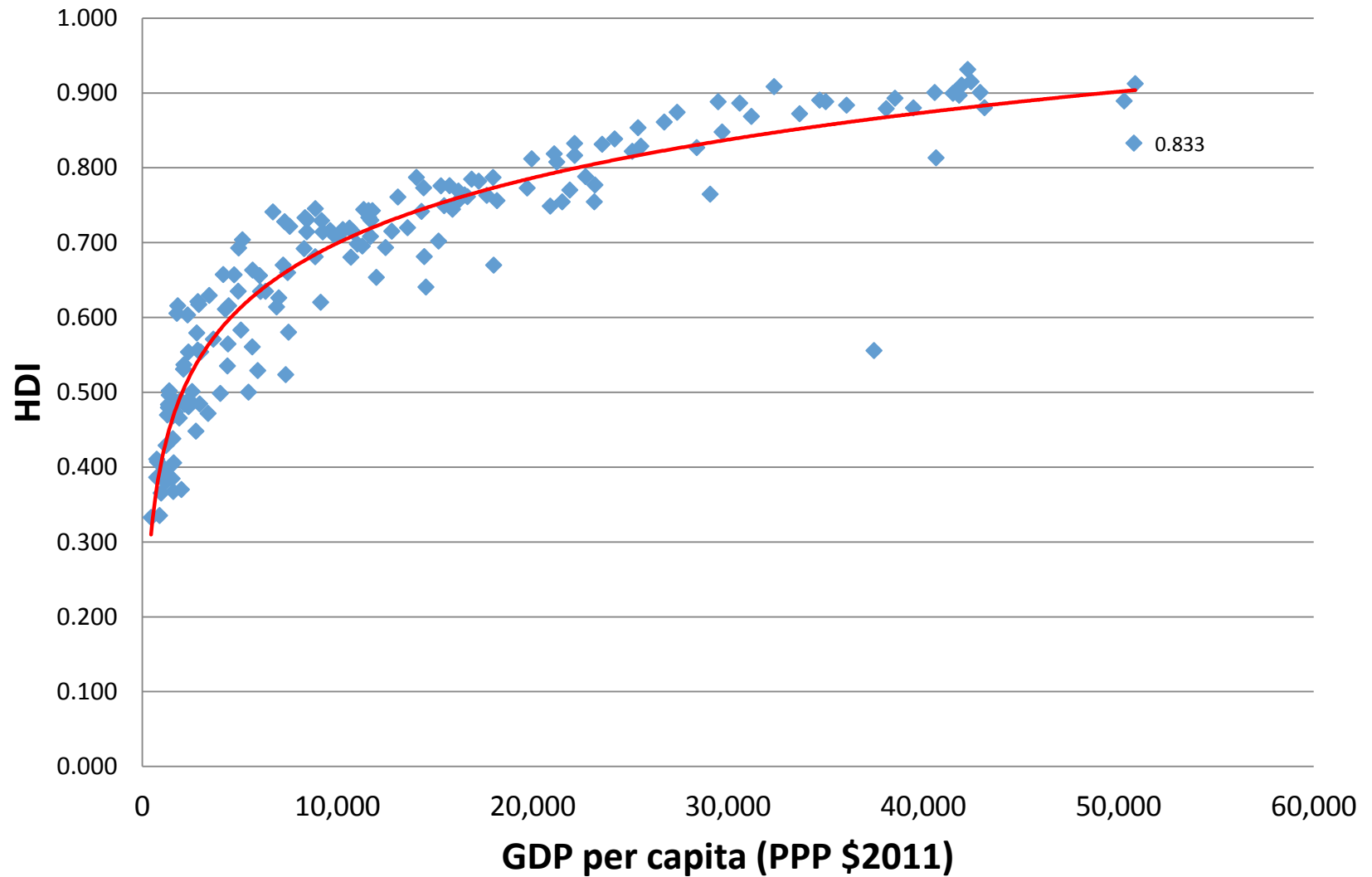
Economic Development

- Economic development: Economic growth + structural change with significant participation of people in producing wealth.
- **A. K. Sen**: *Economic development is about expanding **capabilities** of people their lives.* Income is one determinant of that capability. Other factors affecting capability are:
 1. State of health wellbeing
 2. Environmental adversity
 3. Social climate: crime, violence, security
 4. Relative deprivation & inequality
 - These sources of “**capability deprivation**” that prevent people the lives they desire.

Measuring Economic Development

- **Measuring Human Development (HDI):**
 - An index of health, education and income
 - Measured by weighted average of life expectancy, adult literacy & children school enrollment, and GNP per capita
 - Range from 0 to 1
 - HDI is generally correlated with income, but data show that improved health and education depend on factors other than income.

HDI and GDP per capita, 2012



Millennium Development Goals (MDGs)








Adopted by world nations in September 2000 that declared 8 goals:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop global partnership for development

Millennium Development Goals and Targets for 2015

Goals

Targets

 <p>1 ERADICATE EXTREME POVERTY AND HUNGER</p>	<p>1. Eradicate extreme poverty and hunger</p>	<ul style="list-style-type: none"> • Reduce by half the proportion of people living on less than \$1 a day • Reduce by half the proportion of people who suffer from hunger
 <p>2 ACHIEVE UNIVERSAL PRIMARY EDUCATION</p>	<p>2. Achieve universal primary education</p>	<ul style="list-style-type: none"> • Ensure that all boys and girls complete a full course of primary schooling
 <p>3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN</p>	<p>3. Promote gender equality and empower women</p>	<ul style="list-style-type: none"> • Eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels by 2015
 <p>4 REDUCE CHILD MORTALITY</p>	<p>4. Reduce child mortality</p>	<ul style="list-style-type: none"> • Reduce by two-thirds the mortality rate among children under 5
 <p>5 IMPROVE MATERNAL HEALTH</p>	<p>5. Improve maternal health</p>	<ul style="list-style-type: none"> • Reduce by three-quarters the maternal mortality ratio
 <p>6 COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES</p>	<p>6. Combat HIV/AIDS, malaria, and other diseases</p>	<ul style="list-style-type: none"> • Halt and begin to reverse the spread of HIV/AIDS • Halt and begin to reverse the incidence of malaria and other major diseases
 <p>7 ENSURE ENVIRONMENTAL SUSTAINABILITY</p>	<p>7. Ensure environmental sustainability</p>	<ul style="list-style-type: none"> • Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources • Reduce by half the proportion of people without sustainable access to safe drinking water • Achieve significant improvement in lives of at least 100 million slum dwellers by 2020

Millennium Development Goals and Targets for 2015 (cont'd)

Goals

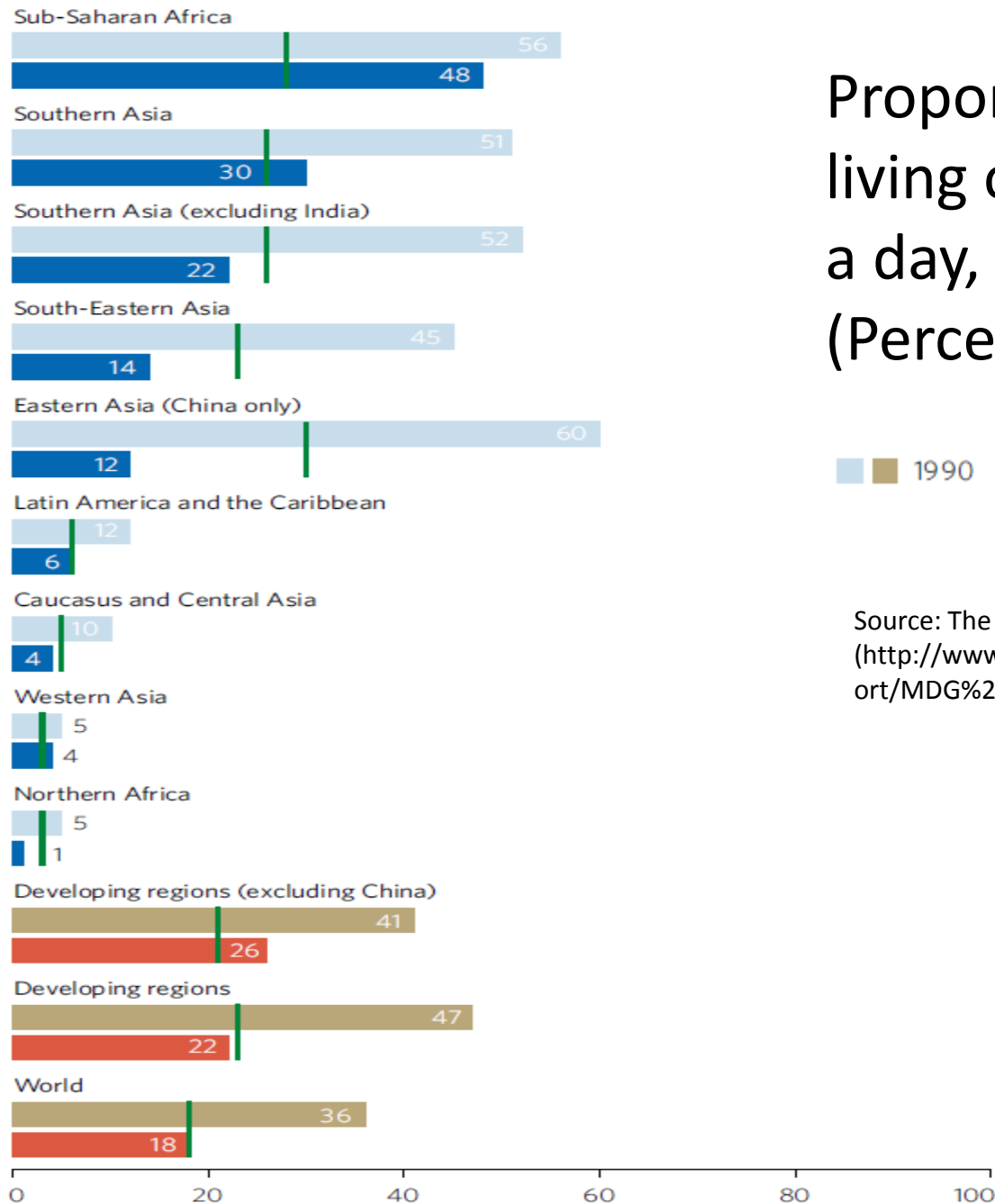
Targets



8. Develop a global partnership for development

- Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system; includes a commitment to good governance, development, and poverty reduction—both nationally and internationally
- Address the special needs of the least developed countries; includes tariff and quota free access for least developed countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous official development assistance (ODA) for countries committed to poverty reduction
- Address the special needs of landlocked countries and small island developing states
- Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term
- In cooperation with developing countries, develop and implement strategies for decent and productive work for youth
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Proportion of people living on less than \$1.25 a day, 1990 and 2010 (Percentage)



1990 2010 2015 target

Source: The Millennium Development Goals Report 2014
<http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf>

Multidimensional Poverty Index (MPI)

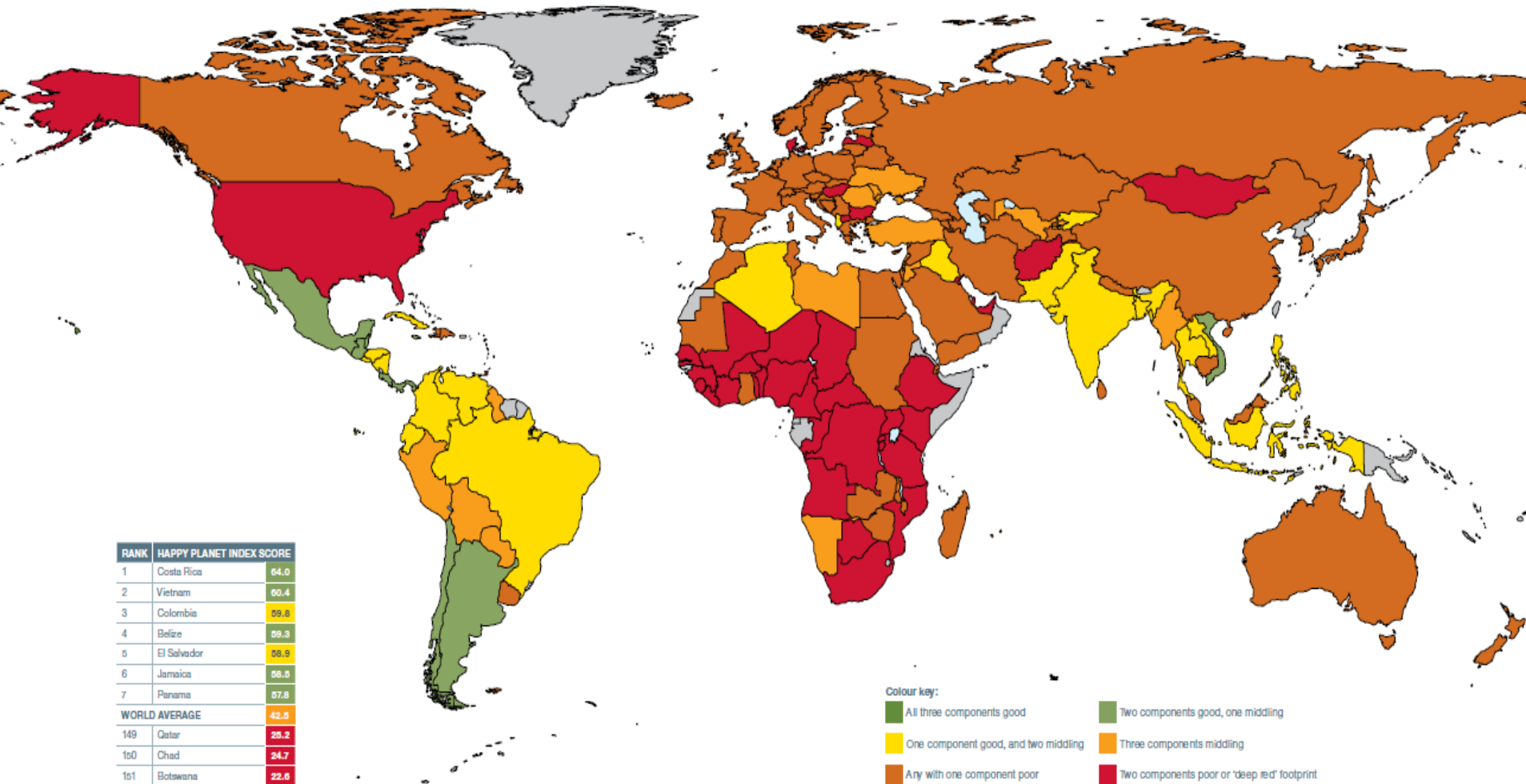
- **MPI** is the percentage of the population that is *multidimensionally poor* adjusted by the intensity of the deprivations.
 - It identifies **multiple deprivations** at the household and individual level in *health, education* and *standard of living*.
 - Constructed by using micro data from household surveys, and all the indicators needed to construct the measure must come from the same survey.
- More info:
 - <http://www.ophi.org.uk/background-to-the-mpi/>
 - <http://hdr.undp.org/en/content/multidimensional-poverty-index-mpi>

Is Economic Growth Desirable

- Does greater economic Growth lead to more happiness?
- There is *no correlation* between growth and happiness, or growth does not increase happiness.
- **Easterlin paradox**: in the US people did not seem to be happier despite the increase in per capita income over the past half century.
- For *poor countries*, growth may not increase happiness, but it **increases the range of choices and advances human capabilities**.

Happy Planet Index

Figure 5: A map of the world, colour-coded by HPI

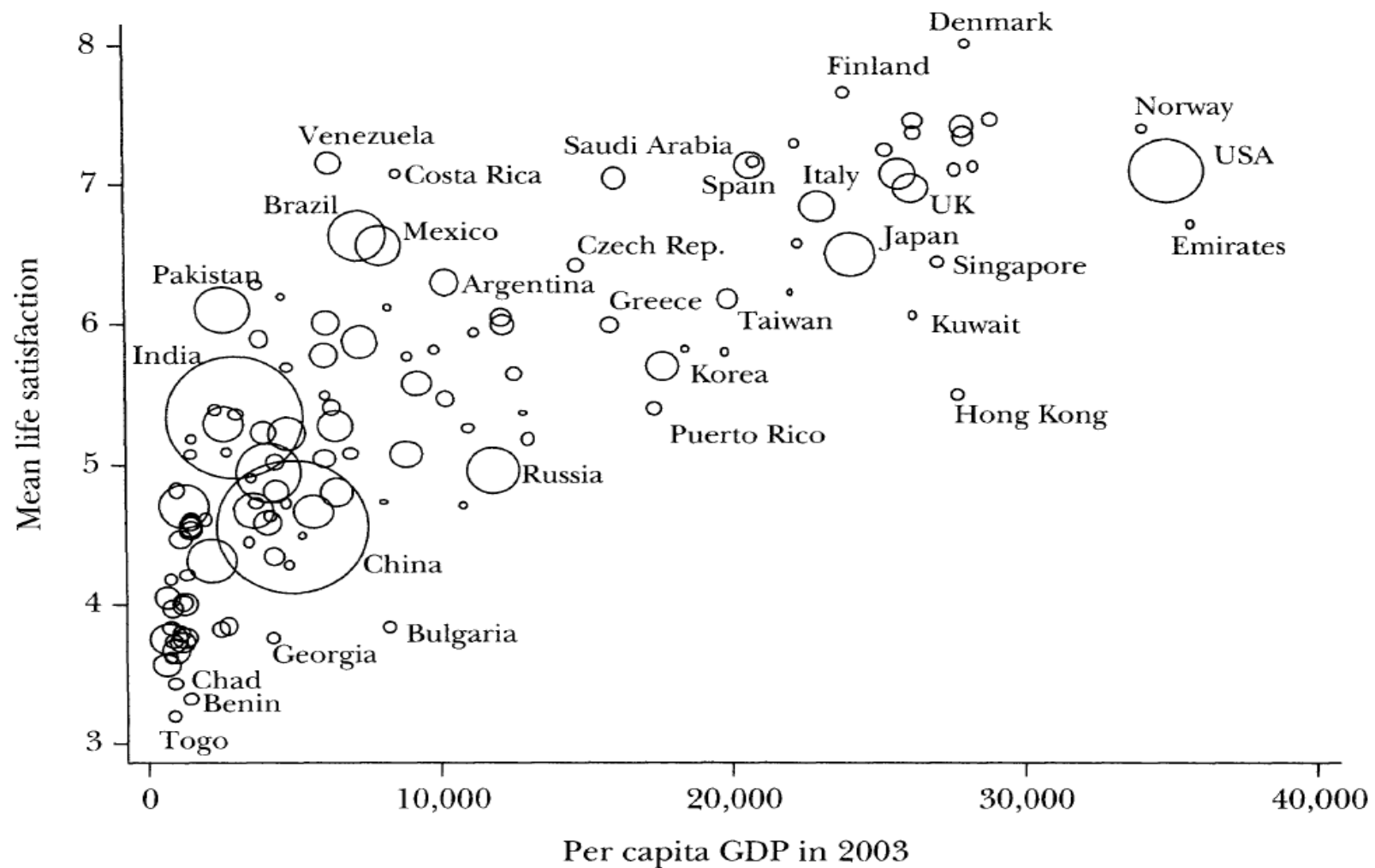


Source: <http://www.happyplanetindex.org/data/>

Deaton (2008). Income, health, and well-being around the world: evidence from the Gallup World Poll. *JEP*, 22 (2), p.53-72.

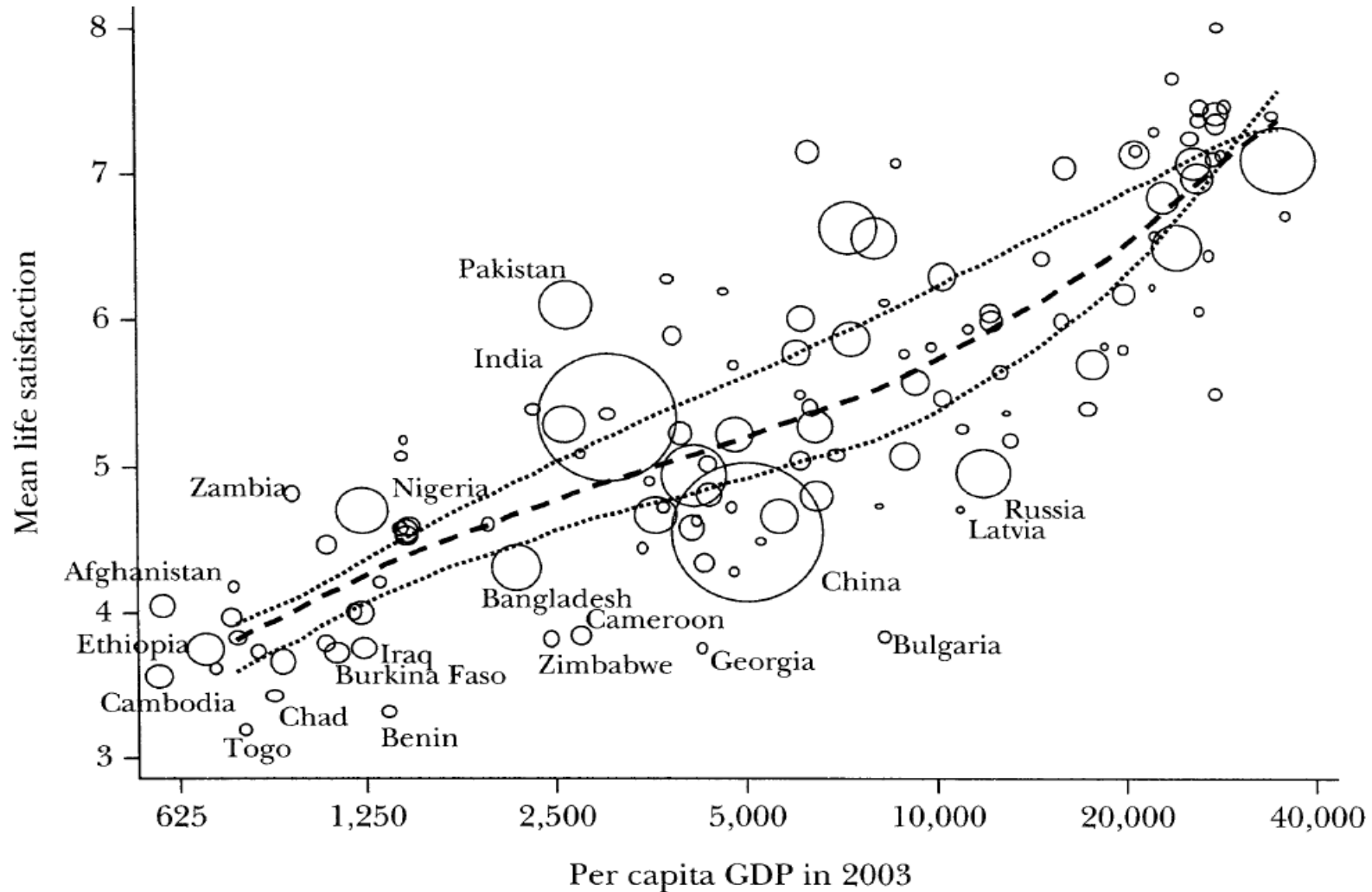
- [The Gallup World Poll](#)
- Look at relationship between per capita GDP and two measures: life satisfaction and health satisfaction.
- Findings:

Life Satisfaction and Per Capita GDP



Source: Deaton (2008), p. 56

Life Satisfaction and Log of Per Capita GDP



Source: Deaton (2008), p. 57

Health Satisfaction, Age, and Per Capita GDP

