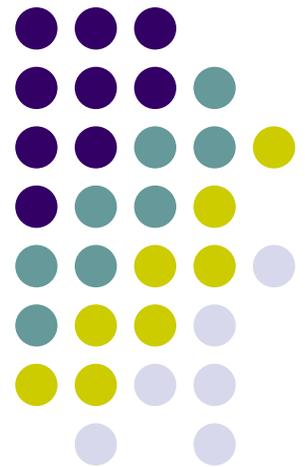


# Introduction to Economics of Development

Basic Concepts





# Growth vs. Development

- What is economic growth?
  - Rise of national income (Y)
  - Measured by growth rate of GDP/GNP

$$g_t = (Y_t - Y_{t-1}) / Y_{t-1} = \Delta Y_t / Y_{t-1}$$

- What is economic development?
  - Besides growth, it also includes improvements in health, education, and other aspects of human welfare.
  - Amartya Sen, “The goal of development is to expand the capabilities of people to live the lives they choose to lead”.
    - Capabilities
    - Choices: liberty, “free to choose”
  - Note there is no mention of “equality”, although it is a major concern for many countries. Why? And what is the difference between *equity* and *equality*?
    - Equity: equal access, providing “means to the end”
    - Equality: equal distribution, emphasizing “the end” only, distorts work incentives

# Growth vs. Development



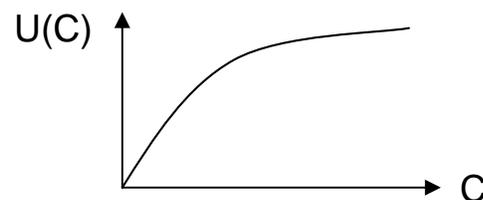
- Development is different from growth. It has broader and deeper meanings.
- Relationship between the two:
  - Growth is necessary but not sufficient condition of development.
  - Growth  $\leftarrow$  Development, i.e., development always comes with growth, no growth no development.
  - Growth  $\nrightarrow$  Development, i.e., growth alone does not guarantee development.



# Growth vs. Development

- Economic growth could be driven by government's grandiose goal or ruler's (dictator's) personal ambitions rather than improving welfare for all.
- High growth today could be the result of over-saving or over-investment. In other words, consumers sacrifice their consumption today in exchange for a higher growth rate.

- Consumption in utility function



- Intergenerational impact: analogous to parent/child spending decisions
  - Oversaving today: parents sacrifice, children benefit
  - Overconsuming today: parents borrow to spend, children left to pay for the debt
    - Budget deficits → higher taxes in the future
  - It's about intergenerational fairness.
- High growth country may have huge inequality among people: the problem of “the rich get richer, the poor get poorer”. Don't be fooled by the average number.



# Growth vs. Development

- Two of the most important structural changes accompanying economic development:
  - Industrialization
    - Decreasing role of agricultural sector
    - Increasing role of industrial sector
    - Post-industrialization: increasing role of service sectors

■ service sector ■ Industrial sector ■ Agri sector

US: 79% -20% -1%	Germany: 70% -29% -1%
Mexico: 70% -26% -4%	China: 40% - 48% -12%
India: 54% - 28% - 18%	Somalia: 25% - 10% -65%
  - Urbanization
    - In the process of industrialization, farmers leave their land and go to city for industrial jobs, and settle down in the city.
    - Urbanization rate 2003:

US: 78%	Germany: 88%	Mexico: 75%
China: 39%	India: 28%	Somalia: 29%
    - The world average urbanization rate is close to 50%





# What's happening 01/22/08

## Fed Slashes Rates Amid Global Selloff



**U.S. Stocks Sink in Early Trading but Rebound From Worst Levels**  
**THE FEDERAL RESERVE CUT** the fed-funds rate by three-quarters of a percentage point to 3.5%, trying to take on global fears of a U.S. recession. That's the Fed's biggest single move on rates since a three-quarter point increase in November 1994. **U.S. stocks traded** lower after two days of relentless selling in overseas markets, but rebounded from their opening lows. The Dow industrials had traded down more than 400 points early in the day.

- **Asia:** Hong Kong, Japan Plunge | **Europe:** Mixed Markets | Photos
- **Data:** Markets Overview | Treasuries | Forex | Crude
- **Economists React:** 'Not an Instant Fix' for Slump | FOMC statement
- **Deals Blog:** M&A's Apocalypse Now?
- **Vote/Discuss:** Is the Fed's cut too much, about right, or not enough?





# Measuring Economic Growth

- GDP fundamentals
- GDP vs. GNP
- Nominal vs. PPP
- Traditional GDP vs. new measurement



# Measuring Economic Growth

- GDP Fundamentals

- Components of GDP:

$$\mathbf{GDP = C + I + G + (X-M)}$$

C: private consumption      I : investment

G: government expenditure

X: Exports,    M: Imports,    X-M: Net Exports

- Income approach to GDP calculation: sum of all sources of income

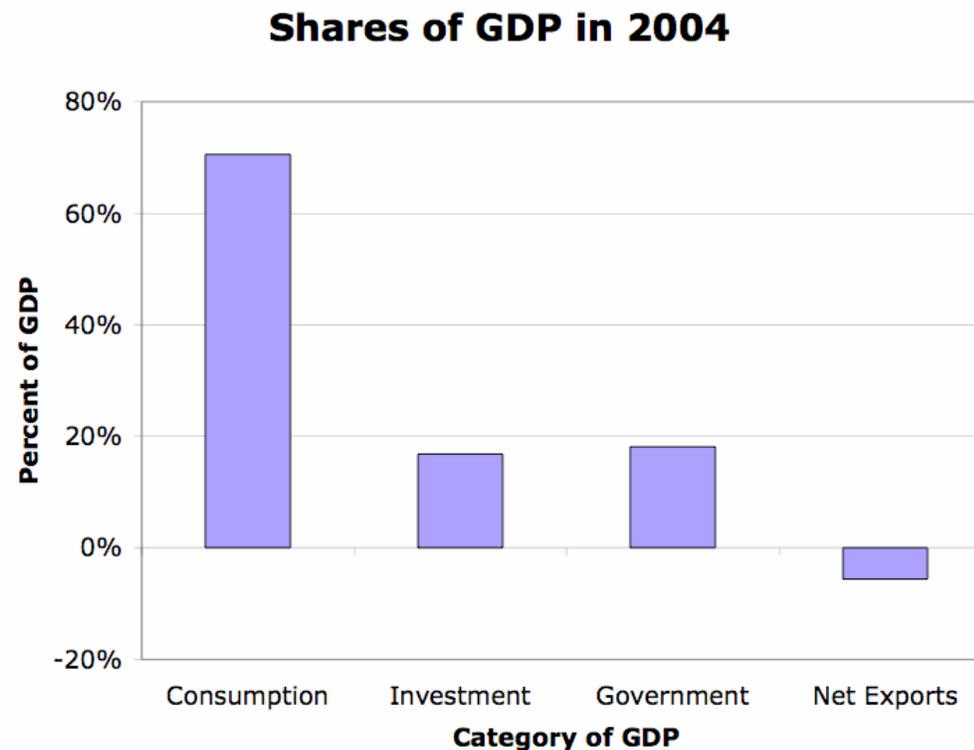
$$\mathbf{GDP = W + P + R + I + SA}$$

W: wages, P: profits, R: rents, I: interests, SA: statistical adjustments



# Measuring Economic Growth

- GDP Fundamentals
  - Components of GDP:



# Measuring Economic Growth



- GDP Fundamentals
  - What is left out?
    - Current GDP only measures market transactions
    - Housework is not included (excl. paid housework)
      - Not market transacted
      - Hard to measure the output
    - Non-marketed agricultural output
      - May cause serious downward bias for poor agricultural countries
    - “Black Market” transactions (shadow economy, underground economy)
      - Smugglings
      - Illegal drugs
      - Prostitutions

# Measuring Economic Growth



- GDP vs. GNP
  - Gross Domestic Product: a concept of territory
    - Sum of all income earned from people residing in a country *regardless of their nationalities*.
  - Gross National Product: a concept of nationality
    - Sum of all income from people with the same nationality *regardless where they are residing*.
  - GDP and GNP can differ a lot:
    - Cayman Islands: GDP >> GNP
    - Bulgaria: GDP < GNP



# Measuring Economic Growth

- GDP: Nominal vs. PPP

- PPP (Purchasing Power Parity): The long term equilibrium exchange rate should equal the ratio of the prices in different countries for the same goods/services.

- Big Mac Index

*The Economist's* Big Mac index is based on the theory of purchasing-power parity (PPP) according to which exchange rates should adjust to equalize the price of a basket of goods and services around the world. **Our basket is a burger: a McDonald's Big Mac.**



## A feast of burgeronomics

The Big Mac index

	Big Mac prices		Implied PPP* of the dollar	Actual dollar exchange rate Jan 31st	Under (-)/over (+) valuation against the dollar, %
	In local currency	in dollars			
United States†	\$3.22	3.22			
Argentina	Peso 8.25	2.65	2.56	3.11	-18
Australia	A\$3.45	2.67	1.07	1.29	-17
Brazil	Real 6.4	3.01	1.99	2.13	-6
Britain	£1.99	3.90	1.62‡	1.96‡	+21
Canada	C\$3.63	3.08	1.13	1.18	-4
Chile	Peso 1,670	3.07	519	544	-5
China	Yuan 11.0	1.41	3.42	7.77	-56
Colombia	Peso 6,900	3.06	2,143	2,254	-5
Costa Rica	Colones 1,130	2.18	351	519	-32
Czech Republic	Koruna 52.1	2.41	16.2	21.6	-25
Denmark	DKr27.75	4.84	8.62	5.74	+50



# Measuring Economic Growth

- GDP: Nominal vs. PPP
  - PPP: Purchasing Power Parity
    - Better yet: [iPod index](#)

## Overall analysis

CommSec iPod nano index  
 2 gigabytes, US dollars  
 January 2007

Brazil	\$327.71	Italy	\$192.86
India	\$222.27	Germany	\$192.46
Sweden	\$213.03	China	\$179.84
Denmark	\$208.25	Korea	\$176.17
Belgium	\$205.81	Switzerland	\$175.59
France	\$205.80	NZ	\$172.53
Finland	\$205.80	Australia	\$172.36
Ireland	\$205.79	Taiwan	\$164.88
UK	\$195.04	Singapore	\$161.25
Austria	\$192.86	Mexico	\$154.46
Netherlands	\$192.86	US	\$149.00
Spain	\$192.86	Japan	\$147.63
		Hong Kong	\$147.63
		Canada	\$144.20





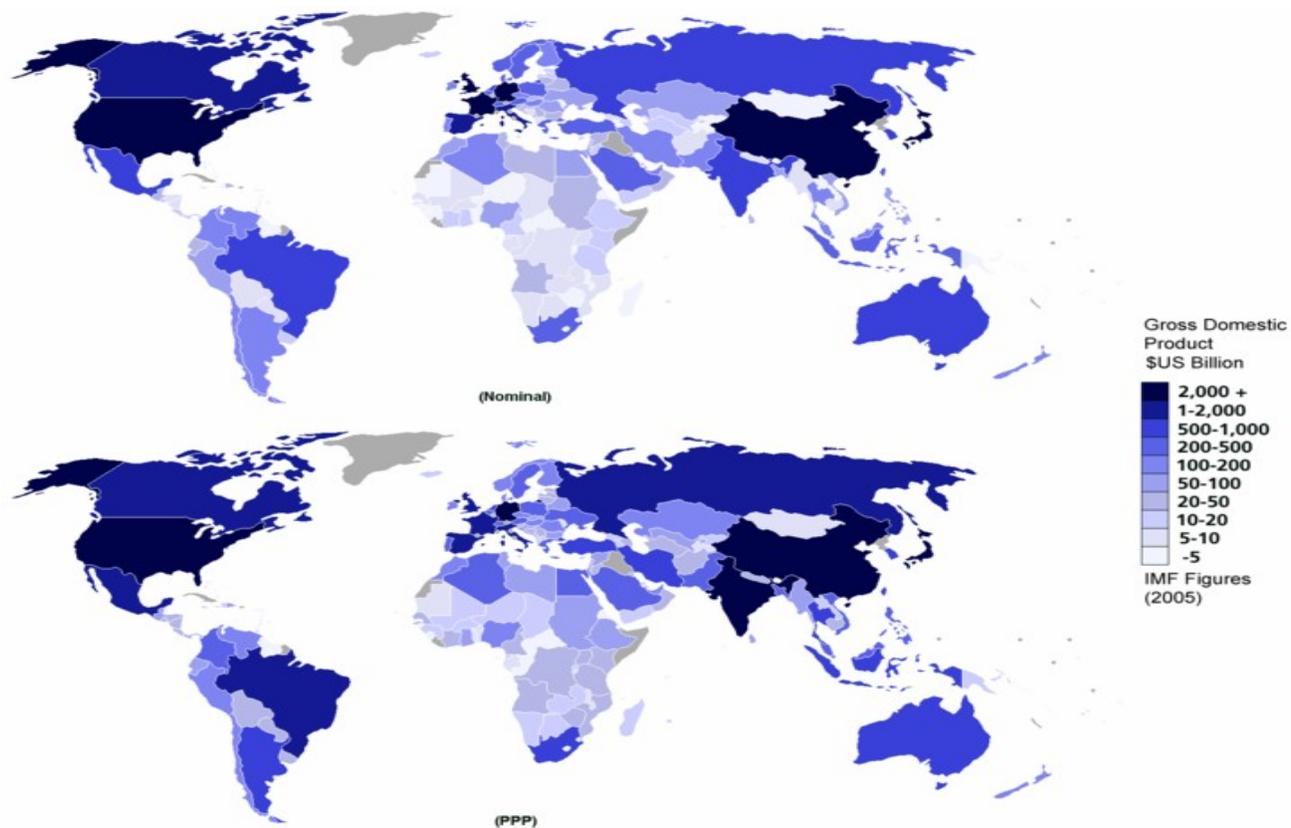
# Measuring Economic Growth

- GDP: Nominal vs. PPP
  - PPP: Purchasing Power Parity
    - Big Mac Index: not traded
      - Worker's wages in different countries are different
    - iPod Index
      - Tradable goods
      - Various market barriers
      - Market power of buyers/retailers
      - Information asymmetry
    - The “real” PPP exchange rate calculation
      - Takes into account a broad range of goods and services
      - Including both tradable and non-tradable goods/services
      - Should be updated frequently



# Measuring Economic Growth

- GDP: Nominal vs. PPP



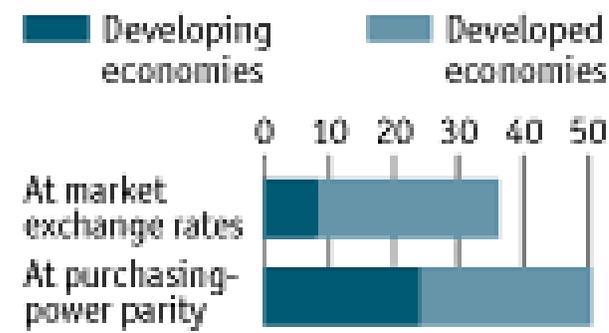


# Measuring Economic Growth

- GDP: Nominal vs. PPP
  - What difference it makes:

Rank	Country	GDP (millions of USD)	Rank	Country	GDP (PPP) \$m
—	<i>Gross world product</i>	48,244,879	—	<i>World</i>	54,980,400
—			—	<i>European Union</i>	13,018,500
1	United States	13,201,819	1	United States	12,376,100
2	Japan	4,340,133	2	People's Republic of China	5,333,200 <sup>a</sup>
3	Germany	2,906,681	3	Japan	3,870,300
4	People's Republic of China	2,668,071	4	Germany	2,514,800
5	United Kingdom	2,345,015	5	India	2,341,000
6	France	2,230,721 <sup>a</sup>	6	United Kingdom	1,901,700
7	Italy	1,844,749	7	France	1,862,200
8	Canada	1,251,463	8	Russia	1,697,500
9	Spain	1,223,988	9	Italy	1,626,300
10	Brazil	1,067,962	10	Brazil	1,585,100

**World GDP**  
2003, \$ trillion



→ “prices tend to be lower in poor countries, so a dollar of spending is worth more”.

→ Currencies in developing countries often have bigger purchasing power, thus GDP expressed in PPP is often bigger than nominal GDP.

# Measuring Economic Growth



- Traditional GDP vs. new measurement
  - Income vs. wealth
    - GDP/GNP measures annual income flow
    - Wealth measures accumulated income over the years, and it also includes investment returns (returns from stocks and bonds, etc.)
  - What are the new developments?
    - Stiglitz: “Net” National Product (NNP)

“...that GDP must be reduced to take into account the depletion of natural resources and the degradation of the environment - just as a company must depreciate both its tangible and intangible assets”.
    - Other measurements that take into account a basket of indicators, similar to the concept of HDI.



# Measuring Economic Development

- **Human Development Index (HDI)**
  - Simple average of three measures, then rank them:
    - Life expectancy
    - Education
    - GDP

## Top fifty countries (HDI range from 0.968 down to 0.843)

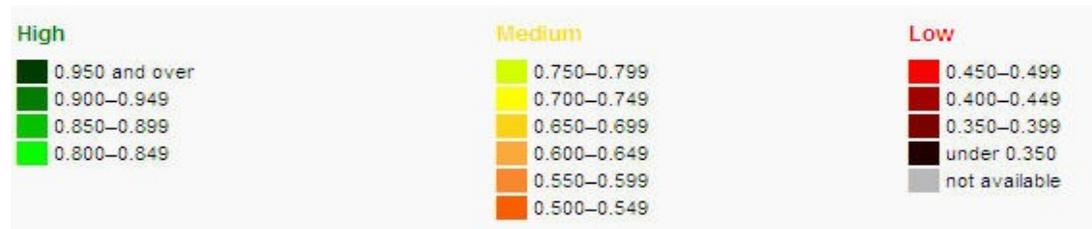
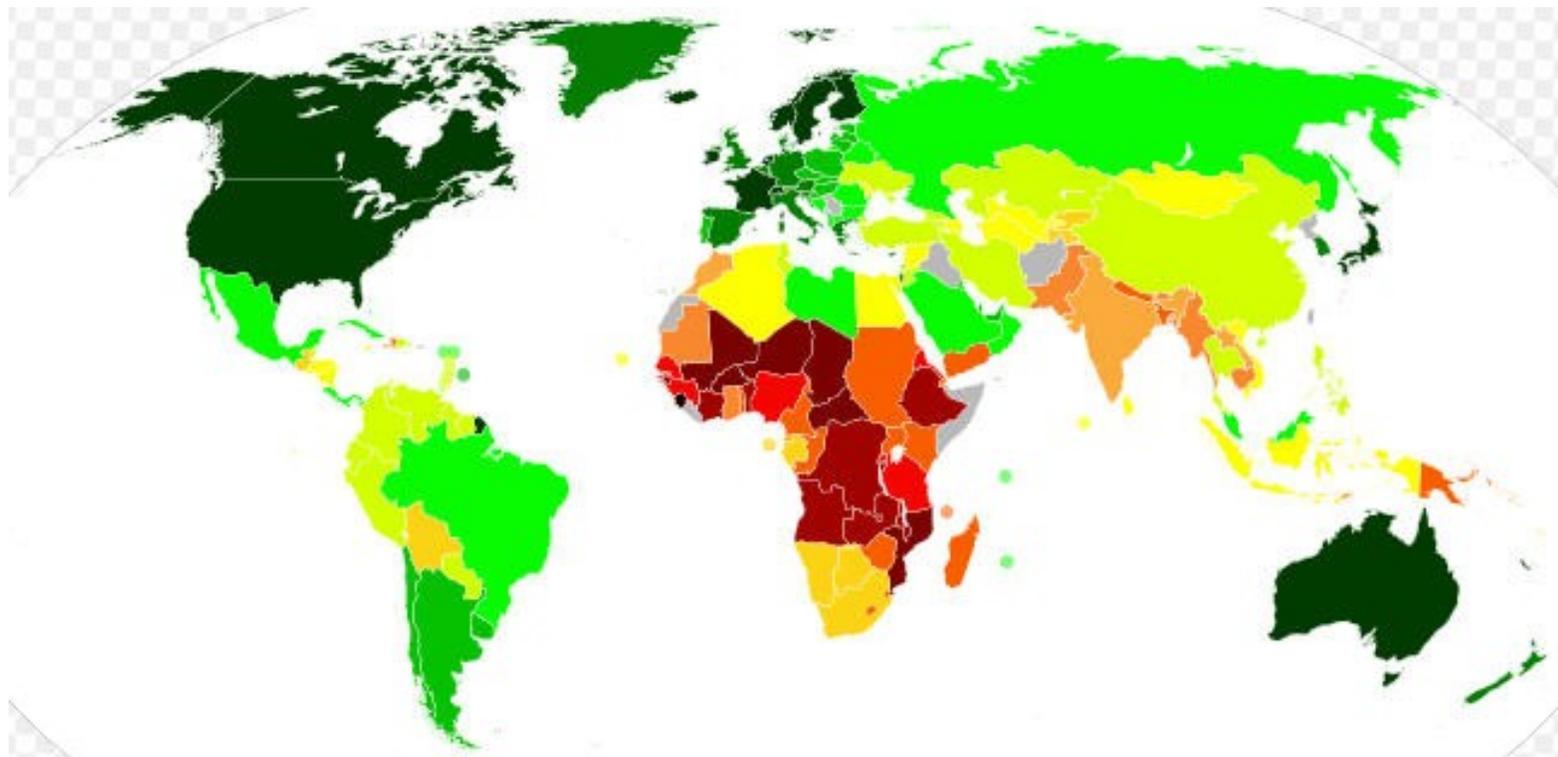
This short section requires expansion.

1.  Iceland 0.968 (▲ 1)	18.  Luxembourg 0.944 (▼ 6)	35.  Qatar 0.875 (▲ 11)
2.  Norway 0.968 (▼ 1)	19.  New Zealand 0.943 (▲ 1)	36.  Hungary 0.874 (▼ 1)
3.  Australia 0.962 (→)	20.  Italy 0.941 (▼ 3)	37.  Poland 0.870 (→)
4.  Canada 0.961 (▲ 2)	21.  Hong Kong 0.937 (▲ 1)	38.  Argentina 0.869 (▼ 2)
5.  Ireland 0.959 (▼ 1)	22.  Germany 0.935 (▼ 1)	39.  United Arab Emirates 0.868 (▲ 10)
6.  Sweden 0.956 (▼ 1)	23.  Israel 0.932 (→)	40.  Chile 0.867 (▼ 2)
7.  Switzerland 0.955 (▲ 2)	24.  Greece 0.926 (→)	41.  Bahrain 0.866 (▼ 2)
8.  Japan 0.953 (▼ 1)	25.  Singapore 0.922 (→)	42.  Slovakia 0.863 (→)
9.  Netherlands 0.953 (▲ 1)	26.  South Korea 0.921 (→)	43.  Lithuania 0.862 (▼ 2)
10.  France 0.952 (▲ 6)	27.  Slovenia 0.917 (→)	44.  Estonia 0.860 (▼ 4)
11.  Finland 0.952 (→)	28.  Cyprus 0.903 (▲ 1)	45.  Latvia 0.855 (→)
12.  United States 0.951 (▼ 4)	29.  Portugal 0.897 (▼ 1)	46.  Uruguay 0.852 (▼ 3)
13.  Spain 0.949 (▲ 6)	30.  Brunei 0.894 (▲ 4)	47.  Croatia 0.850 (▼ 3)
14.  Denmark 0.949 (▲ 1)	31.  Barbados 0.892 (→)	48.  Costa Rica 0.846 (→)
15.  Austria 0.948 (▼ 1)	32.  Czech Republic 0.891 (▼ 2)	49.  The Bahamas 0.845 (▲ 3)
16.  United Kingdom 0.946 (▲ 2)	33.  Kuwait 0.891 (→)	50.  Seychelles 0.843 (▼ 3)
17.  Belgium 0.946 (▼ 4)	34.  Malta 0.878 (▼ 2)	



# Measuring Economic Development

- Human Development Index (HDI)



# Measuring Economic Development



- Critiques of HDI

- Why three factors only?

- What about housing quality, pollution, tax rates, adult life expectancy, crime rates, unemployment, inflation, quality and variety of goods and services, economic growth, and quality of education?

- Why equal weight for each factor?

- Posner's critique

“a general problem with rankings, is that from a sensible evaluative standpoint *the distance between ranks is more important than the number of ranks that separate two countries*”.

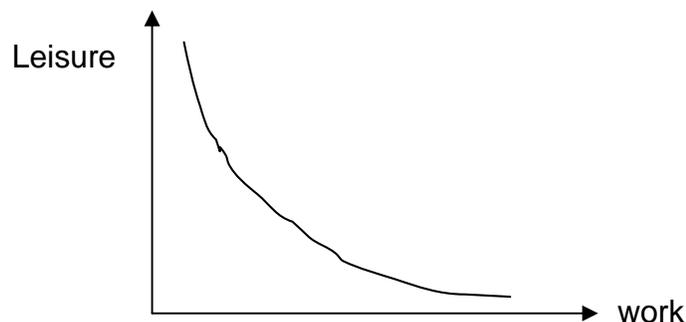
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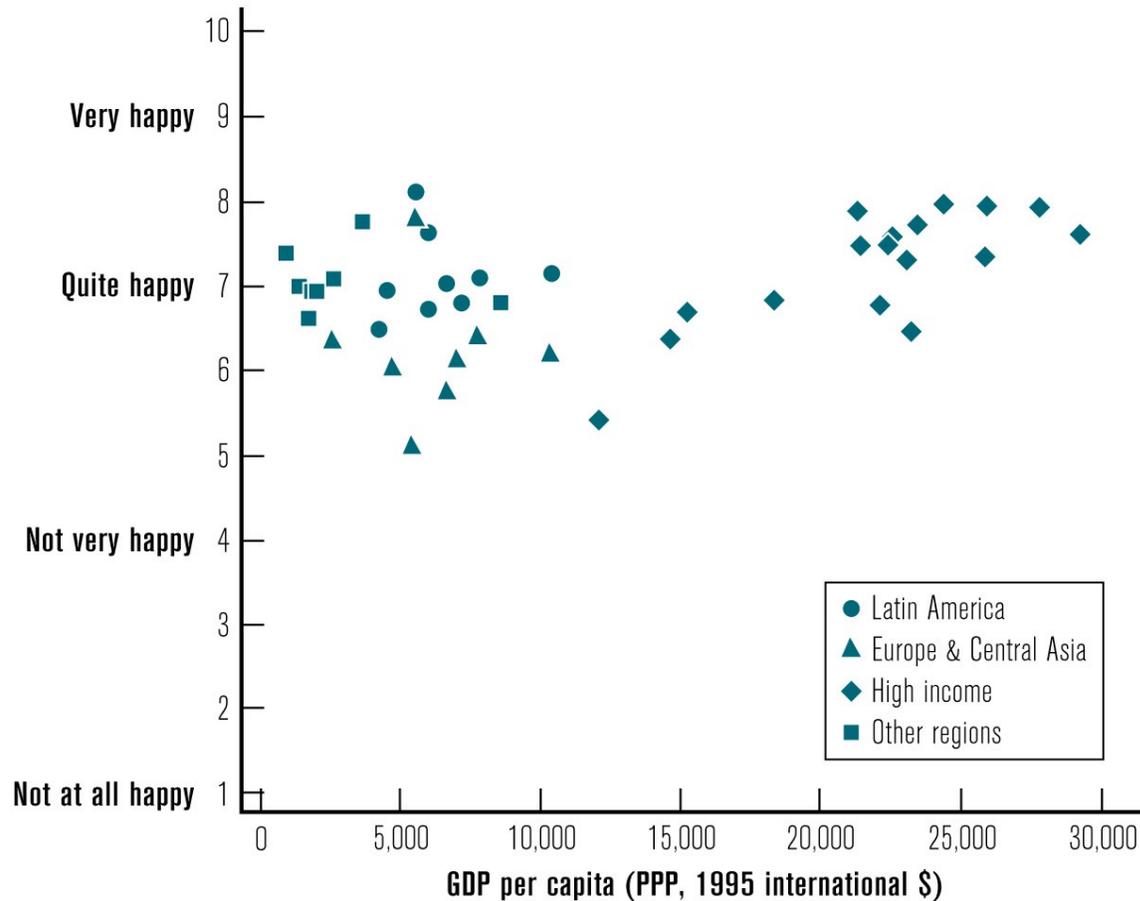
# Is Economic Growth Desirable?

- Trade-off between leisure and work



- Growth, development  $\neq$  happiness
  - Normally, we would expect: richer  $\rightarrow$  happier
  - In reality, rich countries have not grown much happier as they have grown richer.
  - Happiness is related to fairness
  - Happiness is related to your relative position in a society

# Money For Nothing?



1. Puerto Rico
2. Mexico
3. Denmark
4. Colombia
5. Ireland
6. Iceland
7. N. Ireland
8. Switzerland
9. Netherlands
10. Canada
11. Austria
12. El Salvador
13. Venezuela
14. Luxembourg
15. U.S.
16. Australia
17. New Zealand
18. Sweden
19. Nigeria
20. Norway
21. Belgium
22. Finland
23. Singapore
24. W. Germany
25. France
26. Argentina
27. Vietnam
28. Chile
29. Indonesia
30. Philippines
31. Taiwan
32. Brazil
33. Spain
34. Israel
35. Italy
36. Portugal
37. E. Germany
38. Slovenia
39. Japan
40. Czech Rep
41. S. Africa
42. Croatia
43. Greece
44. Peru
45. China
46. Morocco
47. S. Korea
48. Iran
49. Poland
50. Turkey

**FIGURE 2.5** “How Happy Are You, Taking All Things Together?” Cross-Country Evidence (1995–2002)

*Economics of Development*, 6th Edition  
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