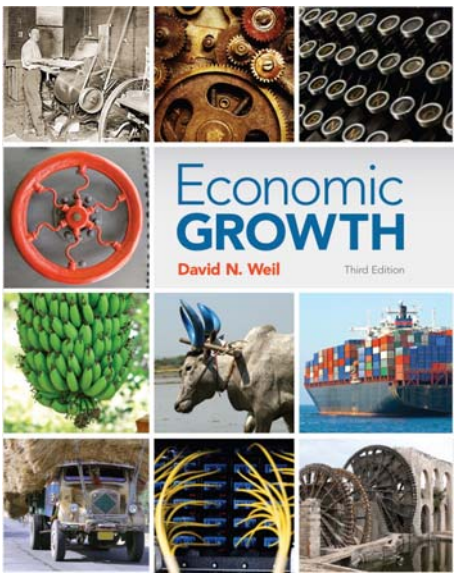
Chapter 1

THE FACTS TO BE EXPLAINED



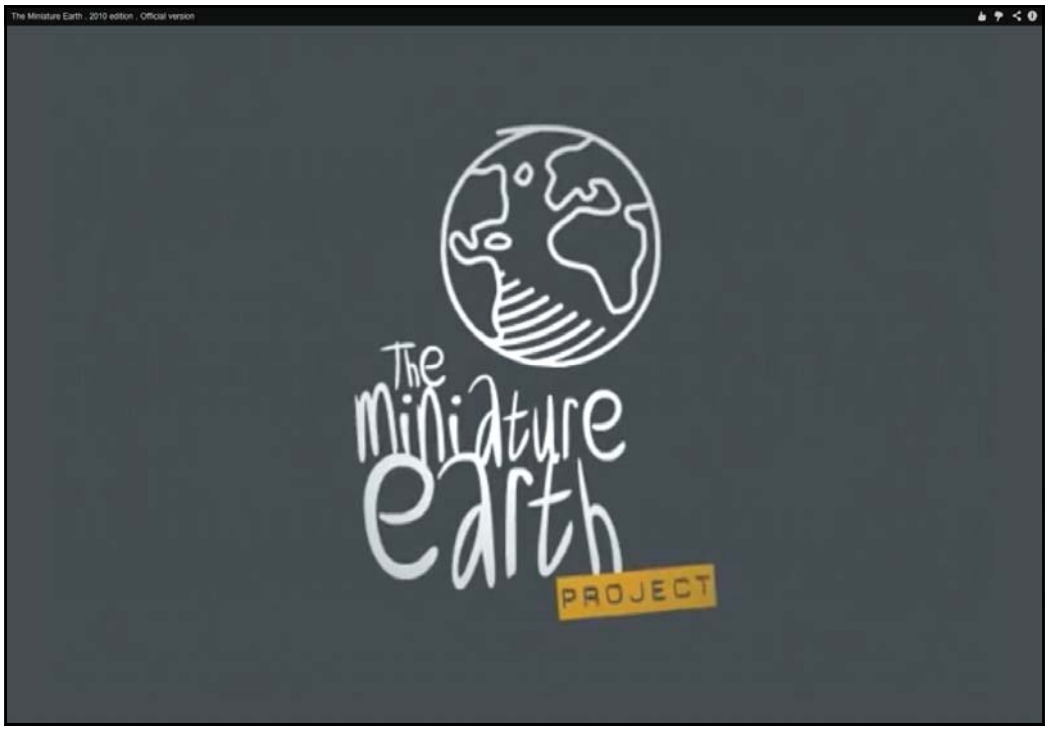
Incipit

"The consequences for human welfare involved in the questions about the income gap among countries are simply staggering; once one starts to think about them, it is hard to think about anything else"

Robert Lucas, Nobel prize

Two main Schools of thoughts:

- *Neo classical view*
- *Heterodox perspective*



World at night

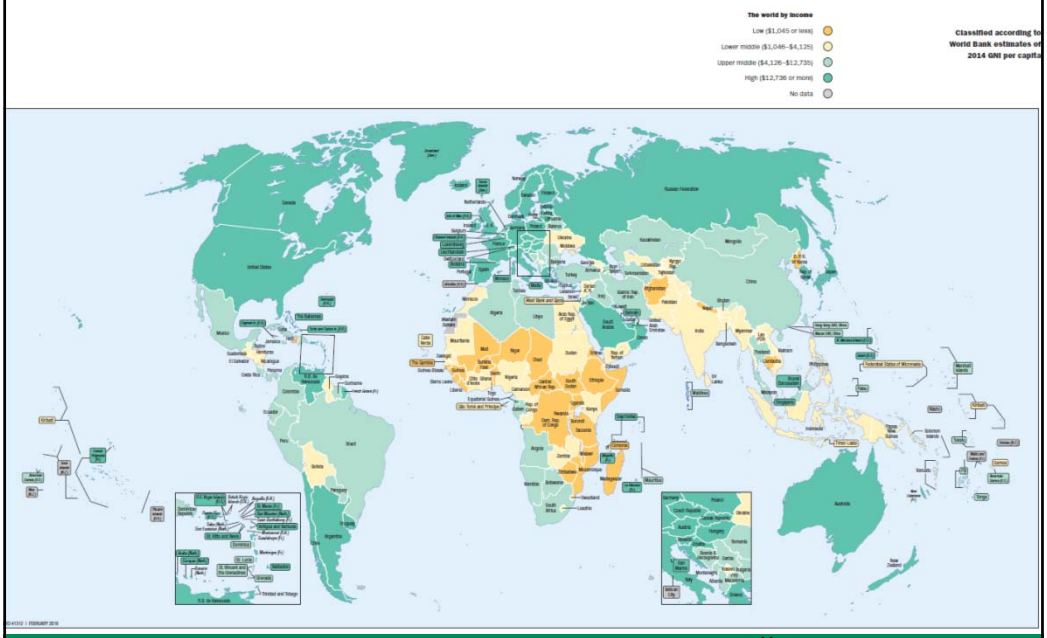

World at night
N

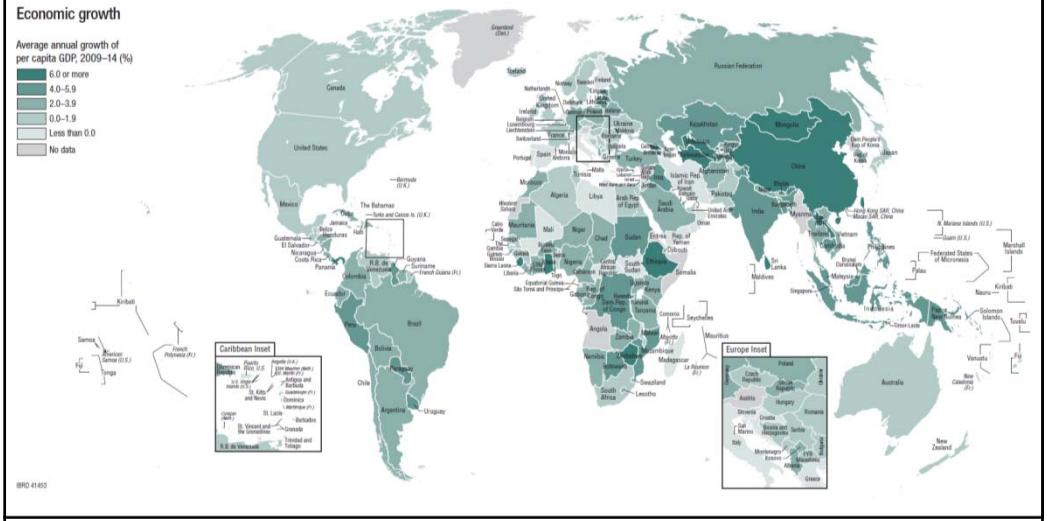

Africa


North America
N


Europe and Middle East
N

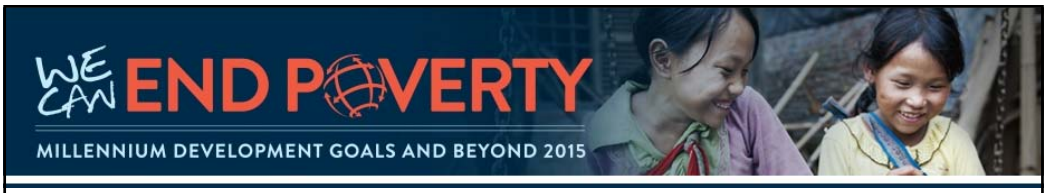
	Population	Surface area	Population density	Urban population	Gross national income				Gross domestic product	
					Atlas method		Purchasing power parity			
	millions 2013	thousand sq. km 2013	people per sq. km 2013	% of total population 2013	$ billions 2013	Per capita $ 2013	$ billions 2013	Per capita $ 2013	% growth 2012–13	Per capita % growth 2012–13
World	**7,125.1 s**	**134,324.7 s**	**55 w**	**53 w**	**76,119.3 t**	**10,683 w**	**102,197.6 t**	**14,343 w**	**2.3 w**	**1.1 w**
Low income	848.7	15,359.5	57	30	617.7	728	1,662.6	1,959	5.6	3.3
Middle income	4,970.0	65,026.4	78	50	23,628.9	4,754	47,504.2	9,558	4.9	3.8
Lower middle income	2,561.1	21,590.5	123	39	5,312.2	2,074	15,280.5	5,966	5.8	4.3
Upper middle income	2,408.9	43,436.0	56	62	18,316.9	7,604	32,292.8	13,405	4.7	3.9
Low & middle income	5,818.7	80,385.9	74	47	24,252.8	4,168	49,134.9	8,444	5.0	3.6
East Asia & Pacific	2,005.8	16,270.8	126	51	11,104.7	5,536	21,519.5	10,729	7.1	6.4
Europe & Central Asia	272.4	6,478.6	43	60	1,937.5	7,114	3,711.8	13,628	3.7	3.0
Latin America & Carib.	588.0	19,461.7	31	79	5,610.9	9,542	8,340.8	14,185	2.5	1.3
Middle East & N. Africa	345.4	8,775.4	40	60	..	..	..	..	−0.5	−2.2
South Asia	1,670.8	5,136.2	350	32	2,477.5	1,483	8,405.8	5,031	6.6	5.2
Sub-Saharan Africa	936.3	24,263.1	40	37	1,578.8	1,686	3,103.1	3,314	4.1	1.4
High income	1,306.4	53,938.8	25	80	52,009.9	39,812	53,285.4	40,788	1.4	0.9
Euro area	337.3	2,758.5	126	75	13,272.8	39,350	12,801.4	37,953	−0.5	−0.8



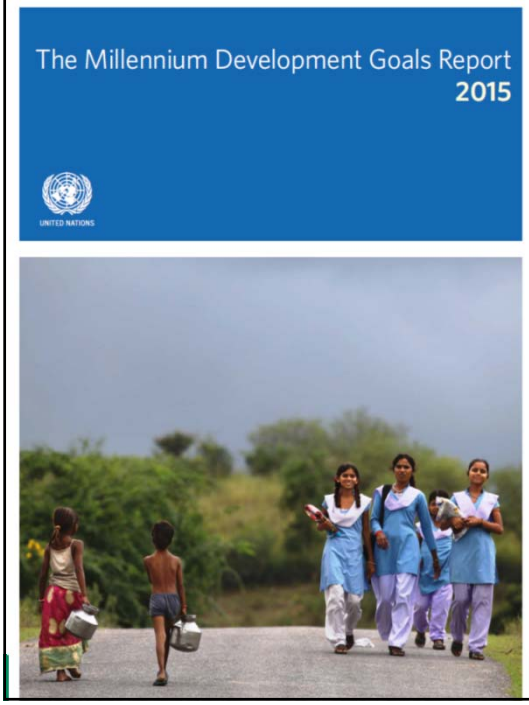


Millennium Summit

In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals.



Goals and Targets	Africa		Asia		
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern
GOAL 1 | Eradicate extreme poverty and hunger					
Reduce extreme poverty by half	low poverty	very high poverty	moderate poverty*	moderate poverty	very high poverty
Productive and decent employment	large deficit in decent work	very large deficit in decent work	large deficit in decent work	large deficit in decent work	very large deficit in decent work
Reduce hunger by half	low hunger	very high hunger	moderate hunger	moderate hunger	high hunger
GOAL 2 | Achieve universal primary education					
Universal primary schooling	high enrolment	moderate enrolment	high enrolment	high enrolment	high enrolment



www.un.org/millenniumgoals/

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The agenda for 2030

The Sustainable Development Goals (SDGs) were born at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012. The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world.
The SDGs replace the Millennium Development Goals (MDGs), which started a global effort in 2000 to tackle the indignity of poverty. The MDGs established measurable, universally-agreed objectives for tackling extreme poverty and hunger, preventing deadly diseases, and expanding primary education to all children, among other development priorities.
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The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.
These 17 Goals build on the successes of the Millennium Development Goals, while including new areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. The goals are interconnected – often the key to success on one will involve tackling issues more commonly associated with another.

SDGs

The SDGs work in the spirit of partnership and pragmatism to make the right choices now to improve life, in a sustainable way, for future generations. They provide clear guidelines and targets for all countries to adopt in accordance with their own priorities and the environmental challenges of the world at large. The SDGs are an inclusive agenda. They tackle the root causes of poverty and unite us together to make a positive change for both people and planet.
“Supporting the 2030 Agenda is a top priority for UNDP,” said UNDP Administrator Helen Clark. “The SDGs provide us with a common plan and agenda to tackle some of the pressing challenges facing our world such as poverty, climate change and conflict. UNDP has the experience and expertise to drive progress and help support countries on the path to sustainable development.”

EU2020 agenda

Europe 2020 is the EU's growth strategy for the coming decade. In a changing world, we want the EU to become a smart, sustainable and inclusive economy. These three mutually reinforcing priorities should help the EU and the Member States deliver high levels of employment, productivity and social cohesion.

Concretely, the Union has set five ambitious objectives - on employment, innovation, education, social inclusion and climate/energy - to be reached by 2020. Each Member State has adopted its own national targets in each of these areas. Concrete actions at EU and national levels underpin the strategy.

EU2020 targets

The 5 targets for the EU in 2020

1. Employment

75% of the 20-64 year-olds to be employed

2. R&D

3% of the EU's GDP to be invested in R&D

3. Climate change and energy sustainability

greenhouse gas emissions 20% (or even **30%**, if the conditions are right) **lower than 1990**
20% of energy from renewables
20% increase in energy efficiency

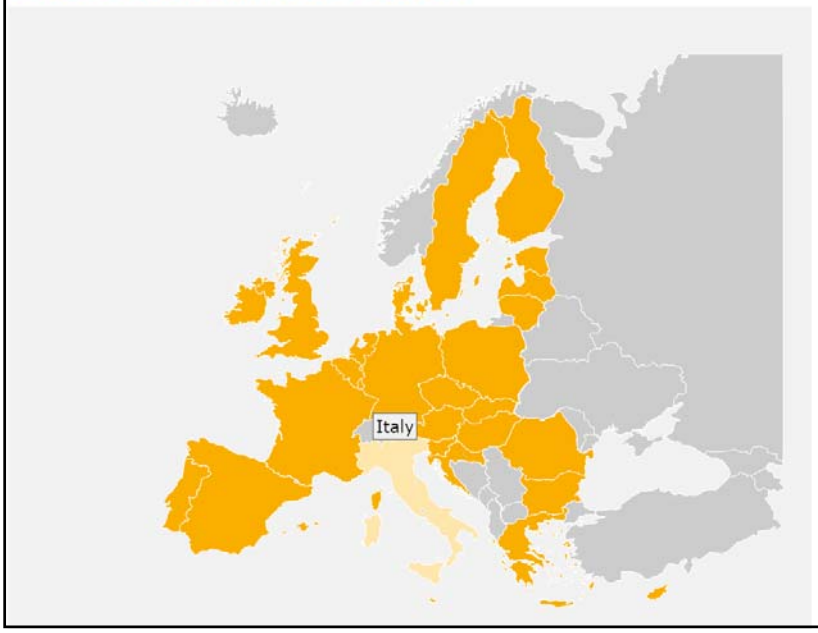
4. Education

Reducing the rates of early school leaving below 10%
at least 40% of 30-34–year-olds completing third level education

5. Fighting poverty and social exclusion

at least **20 million fewer people in or at risk of poverty and social exclusion**

Europe 2020 in your country



- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy

Why a cohesion policy for EU

	max	min	Ratio*
GDP per capita (% average EU-28)	Luxembourg 266%	Bulgaria 47%	5,7*
Employment rate (%, age 20-64)	Sweden 79,8%	Greece 53,2%	1,5

Cohesion Policy is the EU's main investment policy It targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life.

* In US ratio is 2,5 and in Japan is 2

Gross domestic product (GDP)

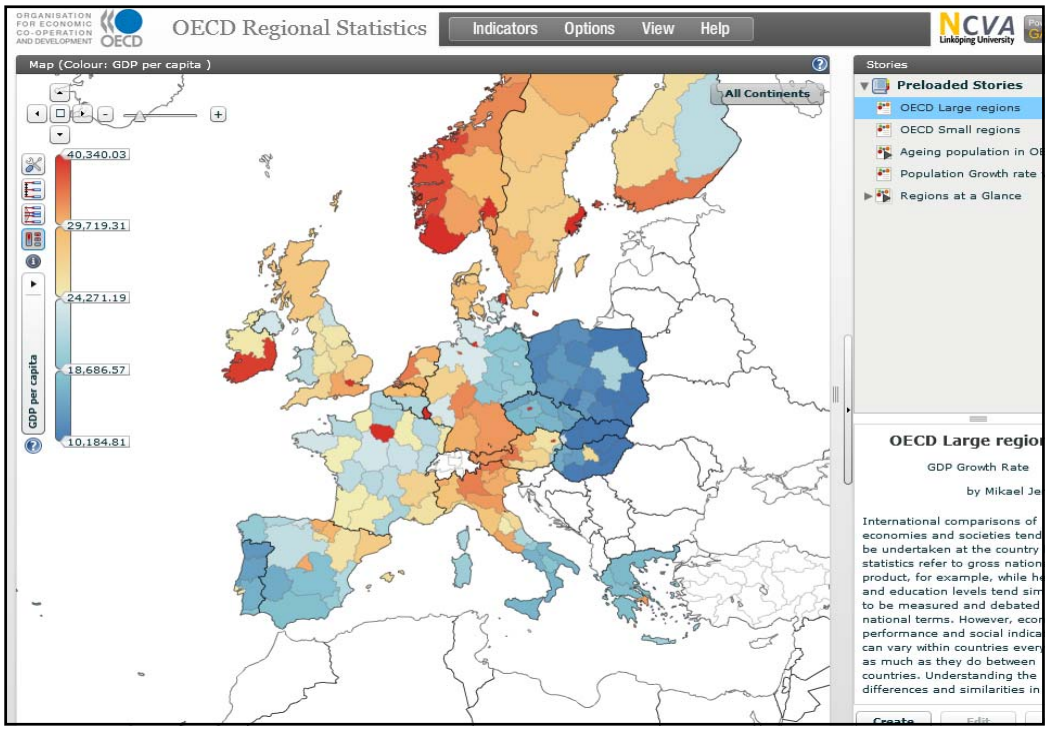
at current market prices by NUTS 2 regions EU28 (with Turkey)

Fifteen richest regions	2011
UKI1 - Inner London	343
LU00 - Luxembourg	320
NO01 - Oslo og Akershus	290
BE10 - Région de Bruxelles-Capitale	247
SE11 - Stockholm	224
NO04 - Agder og Rogaland	223
NO05 - Vestlandet	217
DK01 - Hovedstaden	209
DE60 - Hamburg	209
FR10 - Île de France	204
NL11 - Groningen	201
NO06 - Trøndelag	188
FI1B - Helsinki-Uusimaa	184
AT13 - Wien	182

Fifteen poorest regions	2011
TRA1 - Erzurum, Erzincan, Bayburt	19
TRB1 - Malatya, Elazig, Bingöl, Tunceli	19
BG33 - Severoiztochen	17
BG34 - Yugoiztochen	17
TRC1 - Gaziantep, Adiyaman, Kilis	16
RO21 - Nord-Est	15
TRC3 - Mardin, Batman, Sirnak, Siirt	15
BG32 - Severen tsentralen	14
BG42 - Yuzhen tsentralen	14
MK00 - Poranesna jugoslovenska Republika Makedonija	14
TRC2 - Sanliurfa, Diyarbakir	14
BG31 - Severozapaden	13
TRA2 - Agri, Kars, Igdir, Ardahan	13
TRB2 - Van, Mus, Bitlis, Hakkari	11

Ratio between richest and poorest region: 31

Sardinia: 79


OECD Regional Statistics
Indicators
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NCVA
Linköping University
Map (Colour: GDP per capita)
All Continents
40,340.03
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24,271.19
18,686.57
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GDP per capita
Stories
Preloaded Stories
OECD Large regions
OECD Small regions
Ageing population in OE
Population Growth rate
Regions at a Glance
OECD Large regio
GDP Growth Rate
by Mikael Je
International comparisons of
economies and societies tend
be undertaken at the country
statistics refer to gross nation
product, for example, while he
and education levels tend sim
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national terms. However, ecor
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countries. Understanding the
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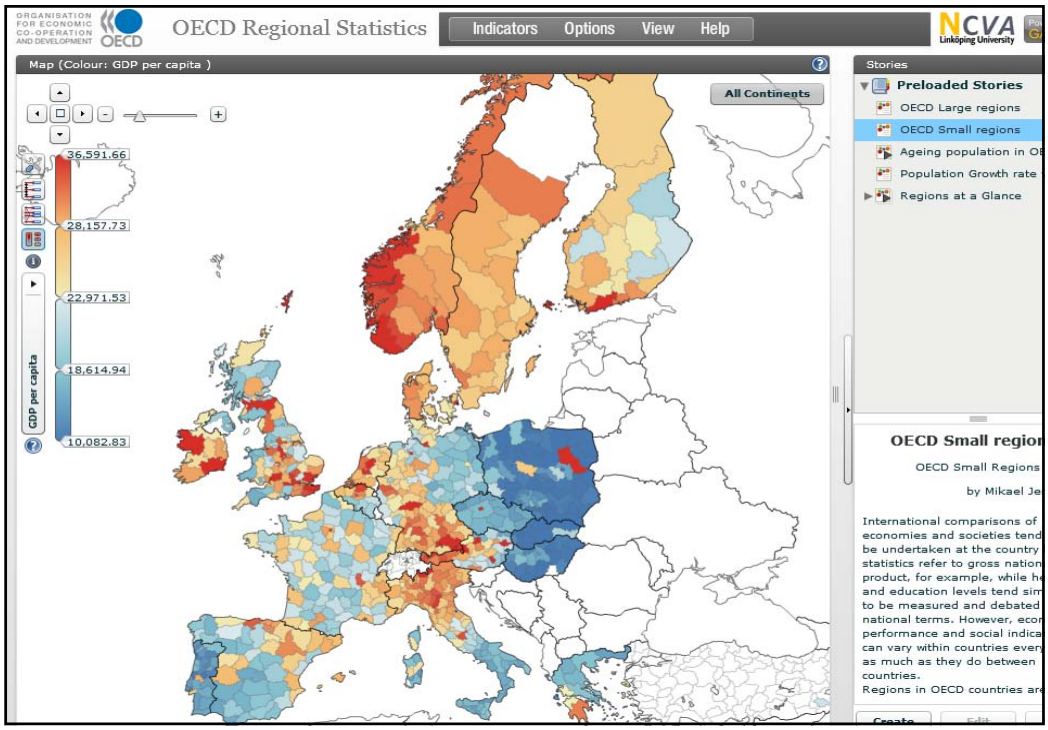
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Map (Colour: GDP per capita)
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GDP per capita
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Regions in OECD countries are
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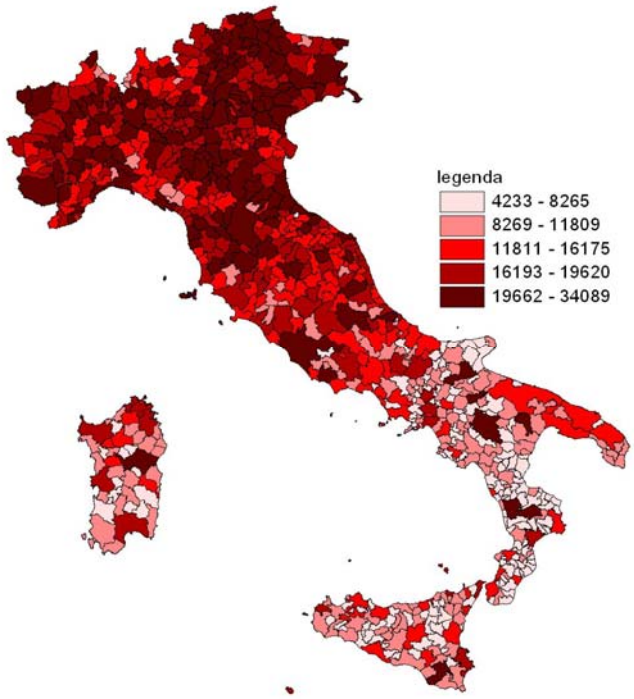
Development gap among local labour systems

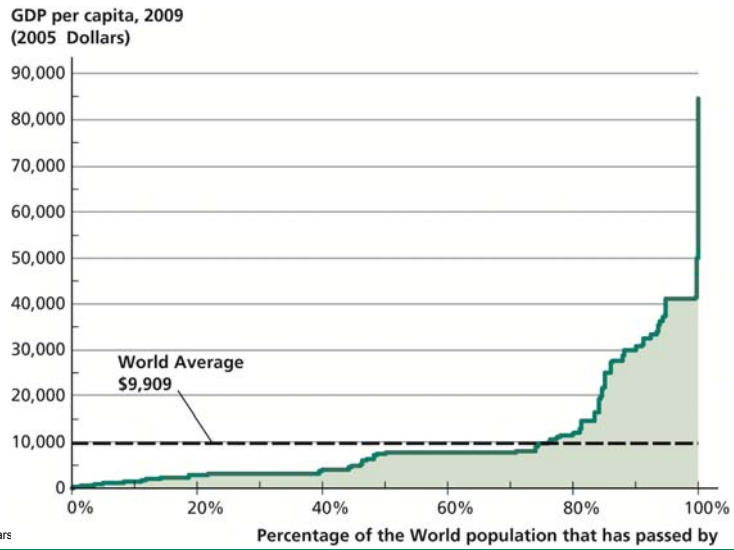


Gapminder.org

Top Eleven Countries in Year 2009 According to Three Different Measures

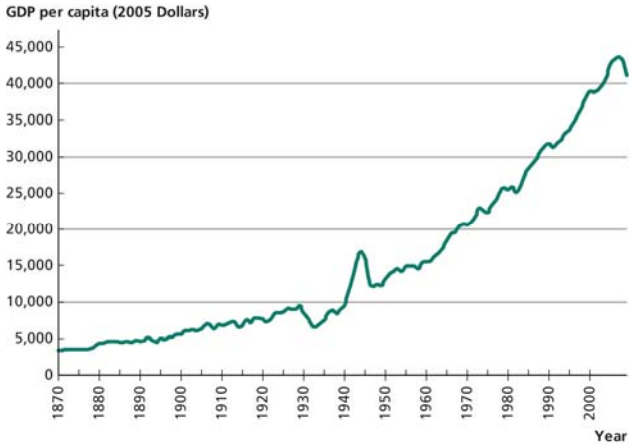
Rank	Highest GDP per Capita		Largest Economies		Most Populous Countries	
	Country	GDP per Capita ($)	Country	Total GDP ($ trillions)	Country	Population (millions)
1	Qatar	159,489	United States	12.62	China	1,320
2	Luxembourg	84,525	China	10.08	India	1,160
3	United Arab Emirates	52,846	Japan	3.81	United States	307
4	Bermuda	52,090	India	3.76	Indonesia	240
5	Macao	51,057	Germany	2.66	Brazil	199
6	Norway	49,945	United Kingdom	2.07	Pakistan	181
7	Singapore	47,373	Russia	2.05	Bangladesh	154
8	Kuwait	46,639	France	1.98	Nigeria	149
9	Brunei	46,229	Italy	1.68	Russia	140
10	Australia	41,304	Brazil	1.62	Japan	127
11	United States	41,099	Mexico	1.29	Mexico	111

The Parade of World Income

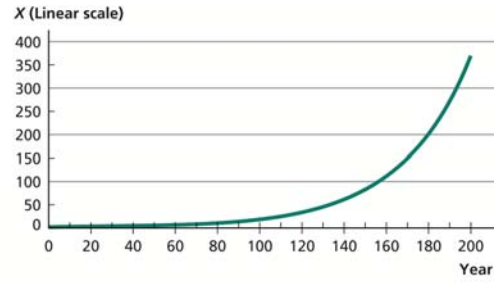


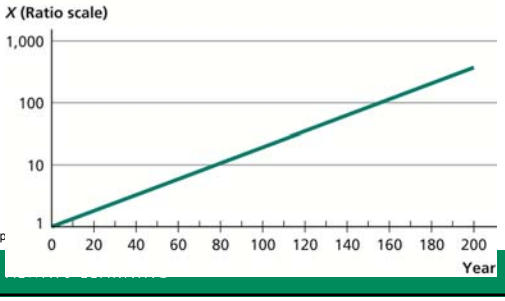
Source: Heston, Summers, and Aten (2011).

GDP per Capita in the United States, 1870–2009



The Effect of Using a Ratio Scale





The formula for a trend:

$Y_{t+1} = Y_t(1+g)$

$Y_{t+2} = Y_{t+1}(1+g) = Y_t(1+g)(1+g)$

$= Y_t(1+g)^2$

$Y_{t+n} = Y_t(1+g)^n$

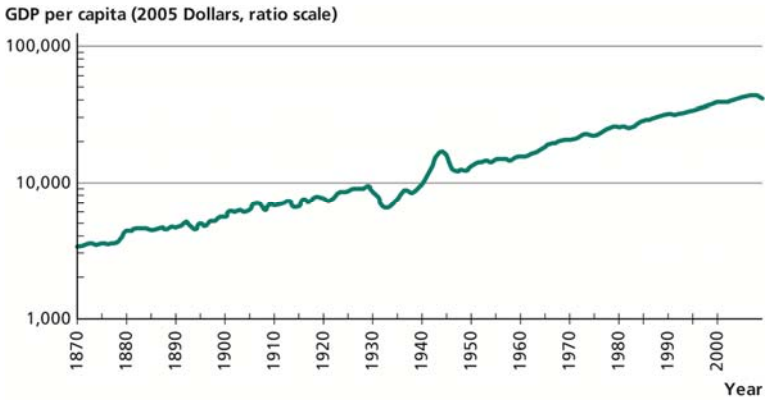
Let's extract the logarithm on both sides:

$Log(Y_{t+n}) = log(Y_t(1+g)^n)$

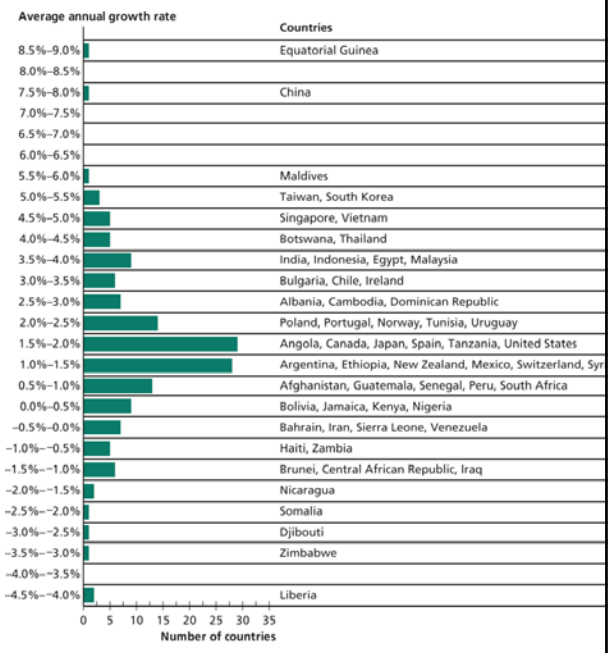
$Log(Y_{t+n}) = log(Y_t) + nlog(1+g)$

$Log(Y_{t+n}) = log(Y_t) + n*g$

GDP per Capita in the United States, 1870–2009 (Ratio Scale)

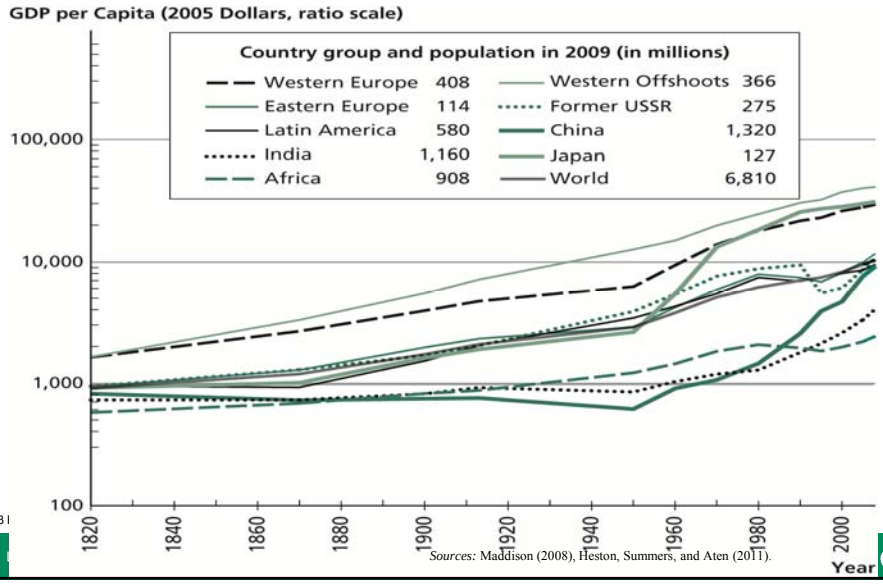


The Distribution of Growth Rates, 1975–2009



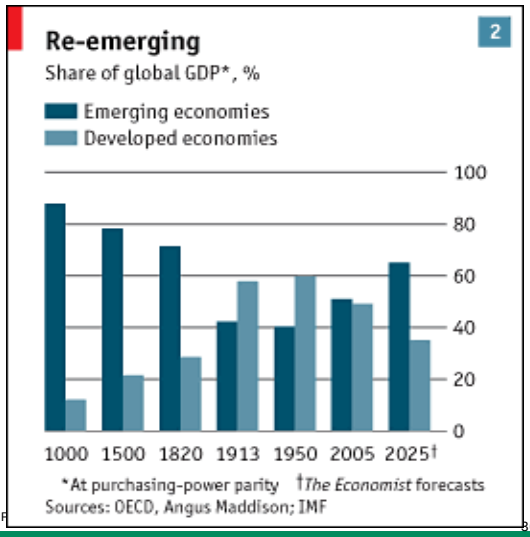
Source: Heston, Summers, and Aten (2011).

GDP per Capita by Country Group, 1820–2008

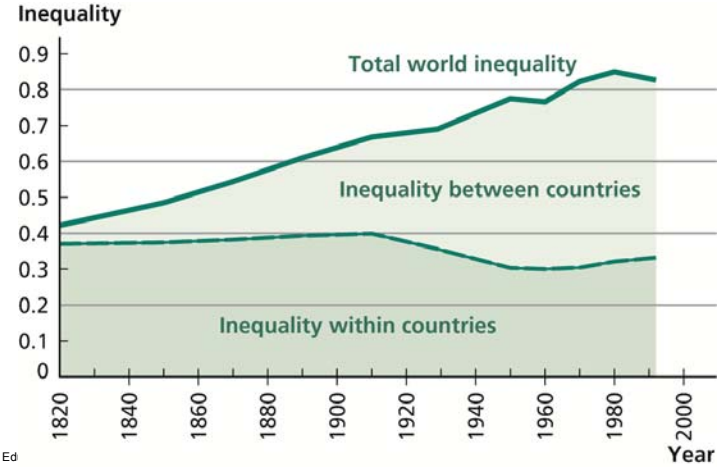


Sources: Maddison (2008), Heston, Summers, and Aten (2011).

Re-emerging economies



World Inequality and Its Components, 1820–1992



Source: Bourguignon and Morrison (2002).

GDP per capita vs Human development index

The two school of thoughts….

The importance of inequality…

See table

Main sources of data at national and international level

Istat
http://www.istat.it/it/prodotti/banche-dati
http://noi-italia.istat.it/
http://dati.istat.it/Index.aspx

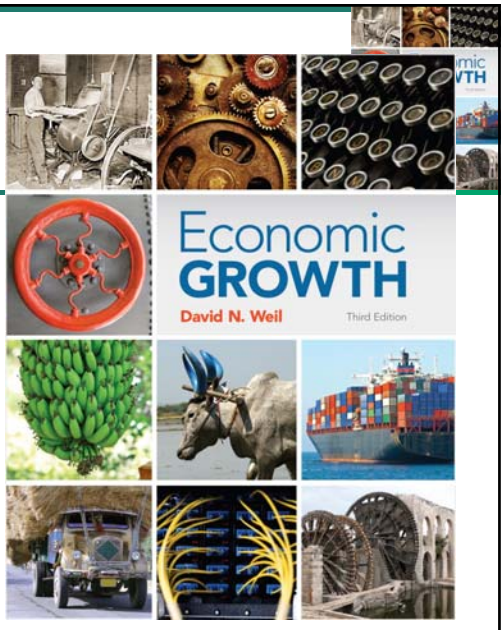
Eurostat:
http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/?year=2014
http://ec.europa.eu/eurostat/data/database
http://ec.europa.eu/europe2020/europe-2020-in-your-country/index_en.htm

Oecd
http://stats.oecd.org/Index.aspx
http://www.oecd-ilibrary.org/urban-rural-and-regional-development/data/oecd-regional-statistics_region-data-en

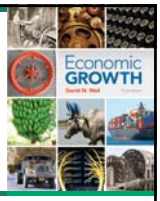
UNCTAD
http://unctadstat.unctad.org/EN/

Chapter 2

A FRAMEWORK FOR ANALYSIS

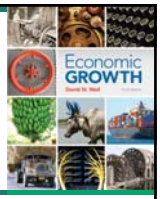


The Economics of Sylvania and Freedonia: A parable



- Why is Silvania so much poorer then its neighbour, Freedonia?
- You are hired as a consultant by the king of Silvania: you start by computing GDP
- Same population…one eight of the GDP
  - Capital
    - investment…saving…(32 times higher in Freedonia than in Silvania): investment rate 4 times higher… but this would produce a difference in GDP per capita of a multiple of only 2

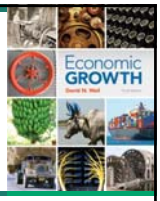
Other potential factors



- Productivity
  - Technology: the available knowledge on how to combine inputs to produce output
  - Silvania is 35 years behind… but this explain another part of the gap but not all…
- Efficiency
- Fundamentals
  - Government and Institutions
  - Income inequality
  - Culture
  - Geography and natural resources

This may be the crucial factor to explain the differences in GDP pc between Silvania and Freedonia

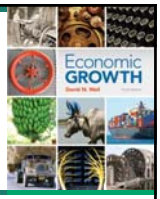
From Parable to practice



- Two main causes for growth
  - The accumulation of inputs
  - Productivity
    - Differences in technology
    - Differences in efficiency

It is important to distinguish between proximate causes (production factors, technology and efficiency) and ultimate causes (fundamentals)

Figure 2.1 The Production Function



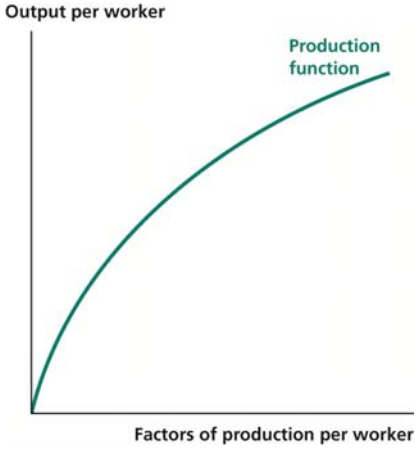
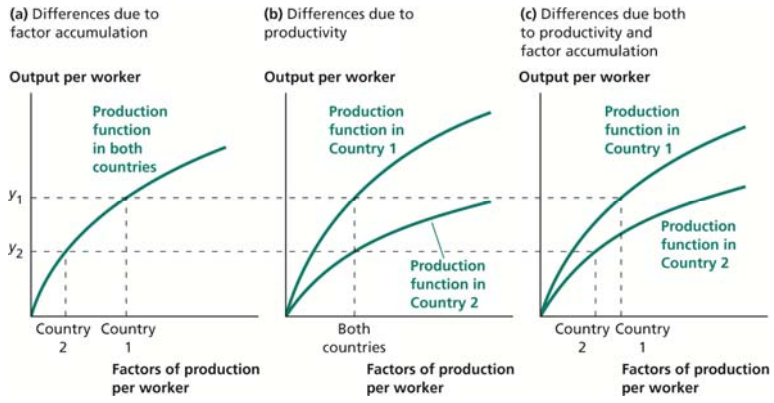


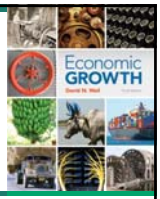
Figure 2.2 Possible Sources of Differences in Output per Worker

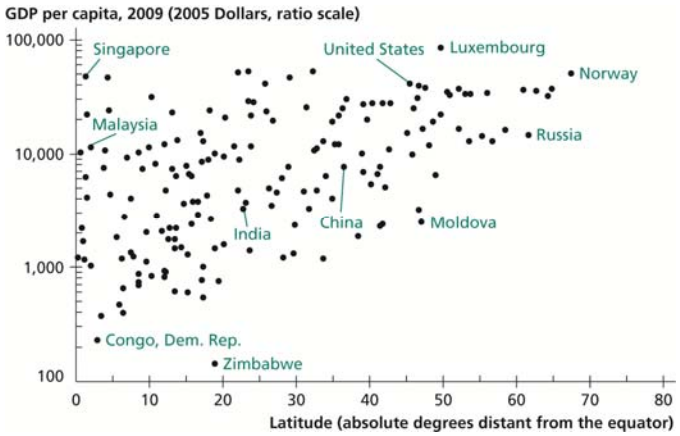


From income levels to growth rates

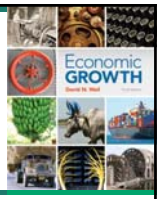
- What happens to Silvania if the king is deposed and democracy replaces monarchy such as the two countries have the same fundamentals?
- Does this imply that the two countries have immediately the same GDP pc?

What can we learn from data: Relationship between Latitude and Income per Capita





What can we learn from data: Relationship between Income per Capita and Population Growth



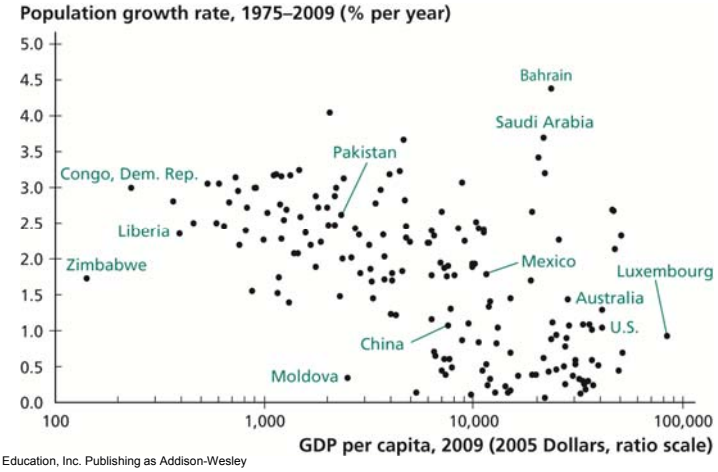
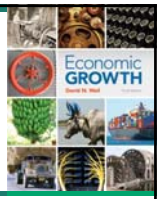
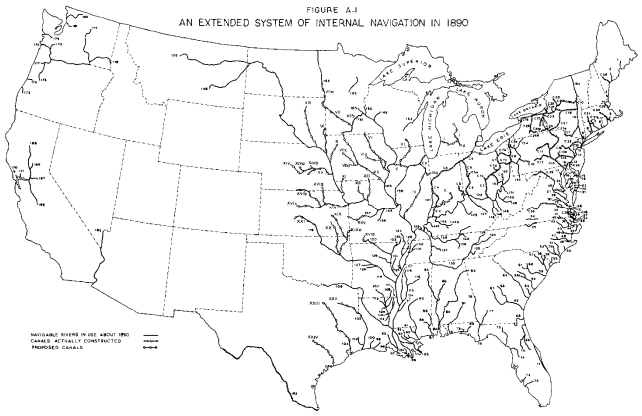


Figure 2.5 Fogel's Map of a Potential Water Transport Network for 1890





Source: Fogel (1964).