The Global Economy

Introduction & Overview

NYU STERN

This course is about countries

- Their economic and business environments
- Featuring
  – Data
  – Economics

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Three modules

- Long-term economic performance
  – What are the challenges of running a business in [Argentina | France | Brazil | China | India]?
- Short-term economic performance
  – How's the economy doing?
  – How does it affect my business?
- Economic crises
  – Are there signs of serious trouble on the horizon?
  – What can I do about it?

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Long-term economic conditions

Gapminder

- What do you see?

  http://www.gapminder.org/world/

  (growth, human development index, etc)

- Questions that might cross your mind
  – What do you see?
  – Where are the business opportunities? The "challenges"?
  – What's going on in [China | India | Argentina | Brazil | …]?
  – Other thoughts?

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About participation

- An important part of the class
  – More fun for all of us if you pitch in
- Ways to participate
  – Make a comment
  – Ask a question
  – Share an experience
  – Post a comment or link on Announcements & Discussion

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About participation

- Guidelines
  - Feel free to disagree --- politely, please!
  - Also with me (I was wrong once)
  - Facts are always good
  - Novices: please ask questions, it helps everyone
  - Experts: don't scare your classmates

What's happening?

What's happening?

- Regular feature
- Bring your ideas, I'll bring mine
- Read The Economist
  - Order now if you haven't already

What's happening?

- Fed decided not to "taper"
  - Fed has been purchasing lots of long-term assets
  - Suggested earlier it would slow down – "taper"
  - Announced last week it would keep buying for now
  - Stock market soared
  - Also emerging market currencies
- What's going on here? Does it make any sense to you?
- Tyler Cowen:
  - "None of [us] understand what is going on here."

What's happening?

- Anything else cross your mind?

Short-term economic conditions

Current conditions in the US

- How's the economy doing?
- Where is it headed?
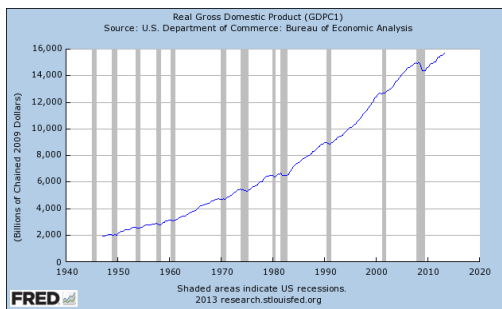- What does that mean for your business?

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Current conditions in the US

- What do conditions mean for
  - Johnson & Johnson?
  - Google?
  - Morgan Stanley's fixed income trading desk?
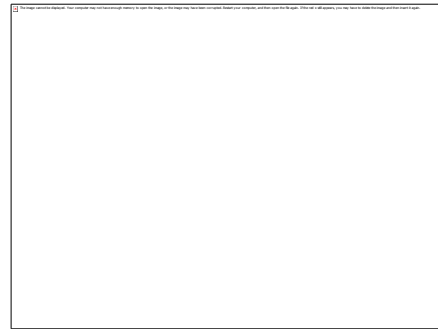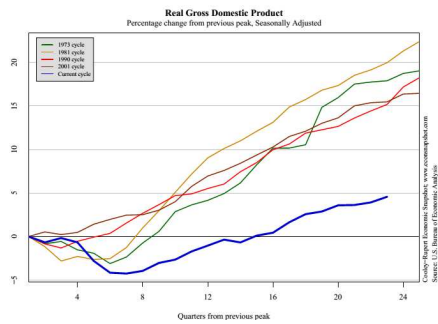 - Your company?

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Real GDP

15

Real GDP

16

Real GDP

17

Consumption

18

3

Investment

Real Gross Private Domestic Investment
Percentage change from previous peak, Seasonally Adjusted

Legend: 1973 cycle, 1981 cycle, 1990 cycle, 2001 cycle, Current cycle

Quarters from previous peak

Cooley-Rupert Economic Snapshot; www.econsnapshot.com
U.S. Bureau of Economic Analysis

Employment

Total Employment − Establishment Survey
Percentage change from previous peak, Seasonally Adjusted, Nonfarm Business

Legend: 1973 cycle, 1981 cycle, 1990 cycle, 2001 cycle, Current cycle

Months from previous peak

Cooley-Rupert Economic Snapshot; www.econsnapshot.com
Source: U.S. Bureau of Labor Statistics
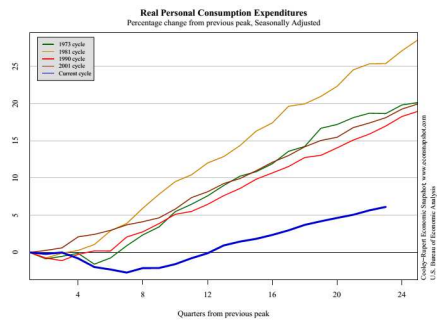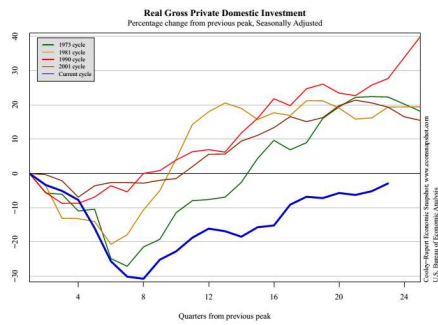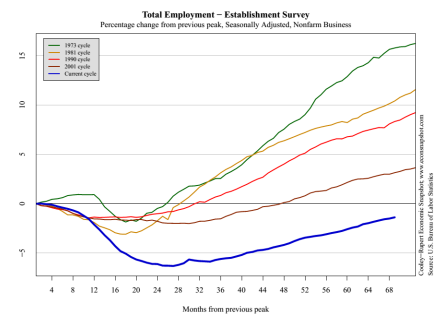
Current conditions revisited

- How's the economy doing?
- Where is it headed?
- What does that mean for your business?

Economic crises
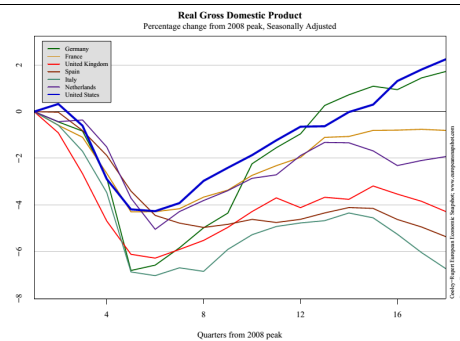
Europe

- What countries are in trouble?
- Why?

European GDP

Real Gross Domestic Product
Percentage change from 2008 peak, Seasonally Adjusted

Legend: Germany, France, United Kingdom, Spain, Italy, Netherlands, United States

Quarters from 2008 peak

Cooley-Rupert European Economic Snapshot; www.europesnapshot.com
Source: Eurostat

European employment

Total Employment − Labour Force Survey
Percentage change from 2008 peak, Resident Population Concept

Germany
France
United Kingdom
Spain
Italy
Netherlands

Quarters from 2008 peak
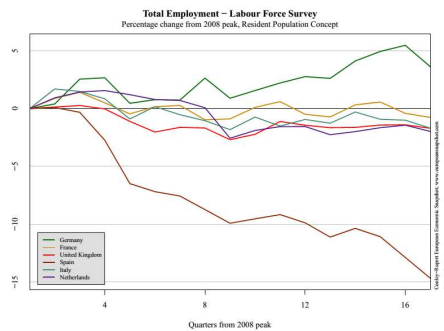
About the course

About the course

- It's about economic performance
  - Of countries
  - And the businesses in them

About the course website

- Everything's on the website:
  https://sites.google.com/site/nyusternglobal/
  Or search: #nyuecon global
- The outline contains
  - Topic summaries
  - Assignments (with links!)
  - Slides, video, and more

About Announcements & Discussion

- Access by
  - Signing up for email delivery
  - Or viewing online
- You can use it to
  - Find a group
  - Post comments and links
  - Ask questions about assignments
  - Answer questions asked by others
- I'll use it to
  - Post announcements about the course
  - Answer questions

About slides

- Catalyst for class discussion
- Not intended to be read on their own
- More than we need: don't panic if we skip some
- Subject to change without notice

About assignments

- Problem Set #0
  - Individual – everyone must do it
  - Math and spreadsheet review
  - Due at the start of our next class
- Problem Sets #1 to #4
  - Do in groups of up to four people
  - Unlimited marriage and divorce
  - Due dates noted in red on website
- Practice Problems A to D
  - Not graded
  - Useful review and preparation for exams

About quantitative content

- Course is a mixture of quantitative and qualitative
- Like business
- Like life?

About quantitative content

- Spreadsheets
  - Used extensively (essential life skill)
  - Read "Math Review" to get up to speed
- Exponents and logarithms
  - Used extensively in first half
  - Read "Math Review" to get up to speed
- Calculus
  - Used a little
  - Not required for exams
  - Read "Math Review" to get up to speed

About the book

- Custom designed for this course ("bespoke")
- More focused and concise than most
- Free online and under $10 on Amazon
- [Extra credit: write a good review?]
- **Skim before class, read again afterwards**

About me

- Grew up in Pittsburgh
- PhD Yale
- Research interests
  - International capital flows
  - Fixed income and currency markets
  - Emerging markets
- Other interests
  - The Steelers
  - Basketball, biking, Buffy, books, beer

About getting help

- With problem sets
  - Post questions on Announcements & Discussion
  - Check same to see what others have asked
  - Email me: I'll respond directly AND update Announcements
- With anything else
  - Post a question on Announcements & Discussion
  - Email me
  - Stop by any afternoon
  - Buy me a beer or coffee after class

About grades

Participation	Outliers & Tiebreakers
Problem Sets	20%
Midterm Exam	35%
Final Exam	45%

About class videos

- Available roughly an hour after class
- Link on course website (when I track it down)

About the syllabus

- Read it, it's a contract between us

What have we learned?

As Haiku

Read book before class
If you need help ask for it
Website is knowledge

The Global Economy
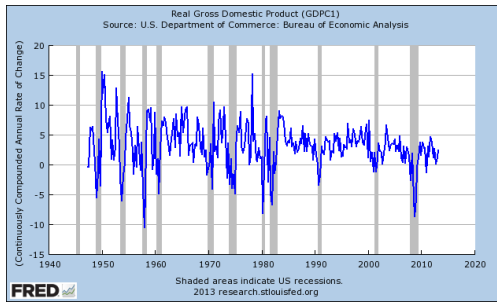
Macroeconomic Data

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Objective

- Know what these headline numbers are
  - (Real) GDP: how much stuff did we produce? growth rate?
  - Inflation: how much did average prices change?
- Why do we need this?
  - Common vocabulary (like financial statements for businesses)
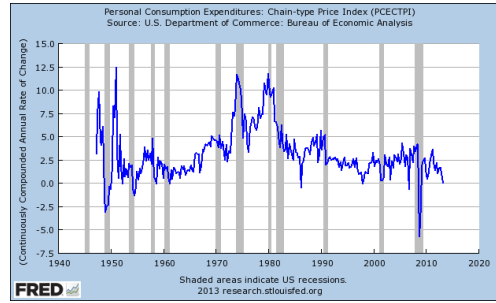- Do at high speed now, reinforce with constant use

US (real) GDP growth

Source: FRED   43

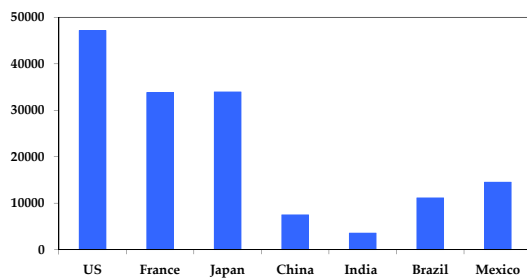## US inflation

Source: FRED   44

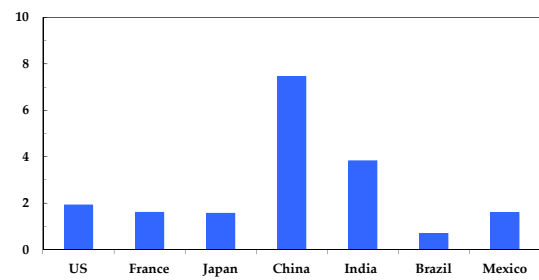## GDP per capita (USD, PPP adj)

Source: World Bank, World Development Indicators   45

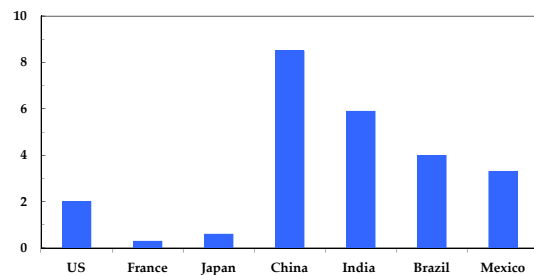## Growth in GDP per capita (20-year avg)

Source: Penn World Tables.   46

Growth in GDP per capita (2013 est)

Source: OECD.   47

Roadmap

- GDP: Gross Domestic Product
- Expenditures and financial flows ("identities")
- Prices and quantities
- Second thoughts

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GDP

GDP

- GDP = Gross Domestic Product – and Income
- Total value of production in a geographic area
  - Sum value added across all production units
  - By convention we don't subtract depreciation ("gross")
- Three approaches to the same answer
  - Value added
  - Income (value added is income for someone)
  - Final sales (the end of the value chain)

Final sales

- Common way to report data
  - Who buys the good at the end of the value chain?
- Two approaches
  - Include all producers

GDP: example 1

- Example
  - Farmer produces wheat, sells it for 100
  - Miller buys the wheat, produces flour, sells it for 175
  - Baker buys the flour, makes bread, sells it for 300
- What is value-added for each producer?
- What is GDP?
- What is total income for the economy?
- Who eats the bread?

GDP: example 1

Producer	Farmer	Miller	Baker	GDP
Value-added				
Final sales				

GDP: example 1

Producer	Farmer	Miller	Baker	GDP
Value-added	100	75	125	300
Final sales	0	0	300	300

GDP: example 2

- Barley farmer
  - Sales = 10
  - Rent = 3
  - Farmer's profit = 7
- Brewer
  - Sales = 110
  - Rent = 30
  - Wages = 70
  - Barley input = 10 (COGS)

GDP: example 2

Producer	Farmer	Brewer	Total
Value-added			
Income			
Final sales			

GDP: example 2

Producer	Farmer	Brewer	Total
Value-added	10	100	110
Income	10	100	110
Final sales	0	110	110

GDP: investment & government

- Investment not an input cost
  - Like corporate financial statements
  - Except: we never do subtract depreciation
- Government purchases valued at cost
  - If the government produces goods and services, we value the output at whatever the input cost is

GDP: example 3

- Computer maker
  - Sales = 100
  - Wages = 65
  - Materials = 10
  - Owners' income = 25
  - New building = 15
- What is value added?
- What is income?
- What is final sales?

Concept	Total
Value-added	
Income	
Final sales	

GDP: example 3

- Computer maker
  - Sales = 100
  - Wages = 65
  - Materials = 10
  - Owners' income = 25
  - New building = 15
- What is value added?
- What is income?
- What is final sales?

Concept	Total
Value-added	90
Income	90
Final sales	100*

* Includes 10 from materials producer

GDP: example 4

- Government
  - Wages = 75
  - Rent = 25
- What is value added?
- What is income?
- What is final sales?

Concept	Total
Value-added	
Income	
Final sales	

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GDP: example 4

- Government
  - Wages = 75
  - Rent = 25
- What is value added?
- What is income?
- What is final sales?

Concept	Total
Value-added	100
Income	100
Final sales	100

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GDP: imports & exports

- The issue
  - GDP is what we make
  - Final sales is what we buy
  - How do we reconcile the former with the latter?
- Solution: add exports, subtract imports
  - Exports are things we make but don't buy
  - Imports are things we buy but don't make

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GDP: example 2 revisited

- Barley farmer **in Canada**
  - Sales = 10
  - Rent = 3
  - Farmer's profit = 7
- Brewer **in the US**
  - Sales = 110
  - Rent = 30
  - Wages = 70
  - Barley input = 10 (COGS)

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GDP: example 2 revisited

	Canada	US	
Producer	Farmer	Brewer	US Total
Value-added			
Income			
Final sales			

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GDP: example 2 revisited

	Canada	US	
Producer	Farmer	Brewer	US Total
Value-added	10	100	100
Income	10	100	100
Final sales	10	110 – 10*	100

* Remember: subtract imports

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GDP: example 5

- Import-export firm
  - Sales = 140
  - Of which: 120 local, 20 abroad
  - Material inputs = 25 from abroad, 10 local
- What is value added?
- Income?
- Final sales?

Concept	Total
Value-added	
Income	
Final sales	

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GDP: example 5

- Import-export firm
  - Sales = 140
  - Of which: 120 local, 20 abroad
  - Material inputs = 25 from abroad, 10 local
- What is value added?
- Income?
- Final sales?

Concept	Total
Value-added	105
Income	105
Final sales	140* – 25** = 115

* Remember: add exports
** And: subtract imports

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GDP as value added by industry
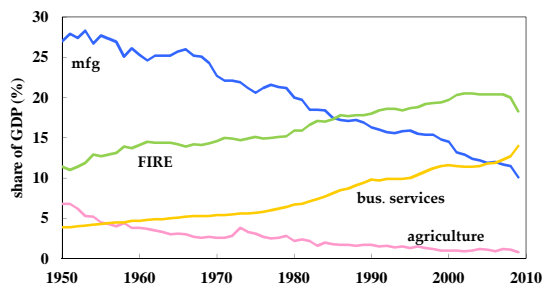
Source: BEA

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GDP as income by type
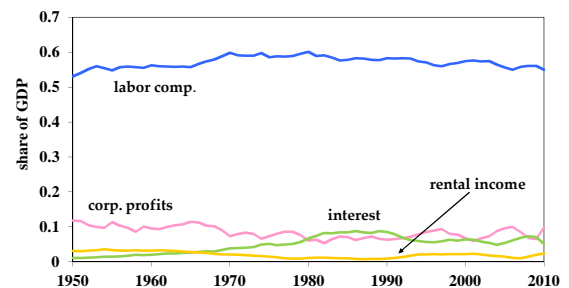
Source: BEA

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Expenditures & financial flows

Expenditure flows

- Allocate GDP among purchasers of final goods:

$$Y = C + I + G + NX$$

  - Y = GDP
  - C = sales to households ("consumption")
  - I = sales of capital goods to firms ("investment" = "capex")
  - G = purchases of goods and services by government
  - NX = net exports (exports minus imports)

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GDP as final sales by expenditure

personal consumption

govt consumption

investment

net exports
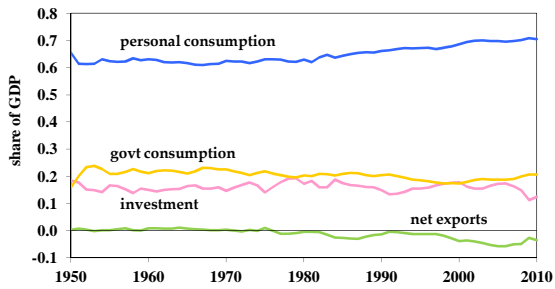
Saving flows 1

- Allocate flows of assets

$$Y - C - G = I + NX$$

$$S = I + NX$$

  – S = gross domestic saving (purchases of assets)

  – NX = net purchases of foreign assets

Saving flows 2

- Separate household and government

$$(Y - C - T) + (T - G) = I + NX$$

$$S_p + S_g = I + NX$$

  – T = taxes net of transfers paid by households to govt

- Warning: many measures of saving, all different

- Call me is this ever comes up

Saving flows 3
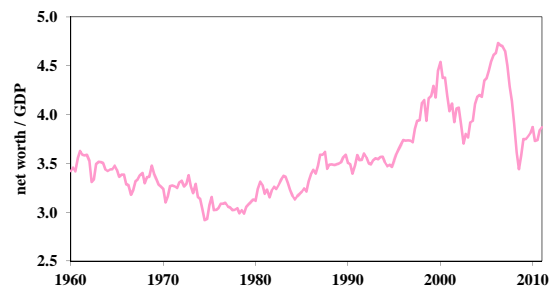
- Do Americans save too little?

US saving and investment

investment

saving

net exports
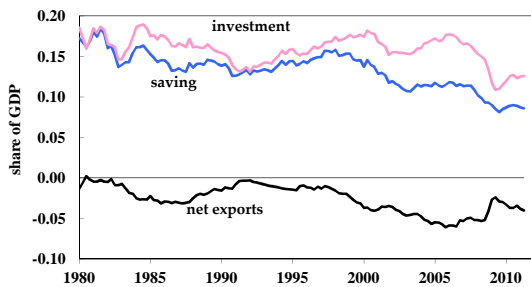
Household net worth

Prices & quantities

Prices and quantities

- What we've seen so far is "nominal GDP"
  - GDP measured at current prices, in local currency units
- If nominal GDP goes up
  - How much is more stuff? (more "real GDP")
  - And how much higher prices? ("inflation")
- [We could ask the same of a firm's sales]
- Problem
  - There's no clear answer
  - Or rather: several answers, equally sensible but different

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Prices and quantities

- Our problem: find P and Q so that

$$NY = PQ = p_1q_1 + p_2q_2 + etc$$

  - NY = Nominal GDP = GDP at current prices (a "value")
  - p,q = price and quantity of a specific product
  - P,Q = "average" price ("price level") and quantity ("real GDP")
- Growth rates
  - Of Q: real GDP growth
  - Of P: inflation
- How do we compute P and Q?

Prices and quantities

- Method 1 ("fixed price method")
  - Find average quantity Q using "base-year" prices
  - Find "average" price from P = NY/Q ("deflator")
- Method 2 ("fixed quantity method")
  - Find average price P using "base-year" quantities
  - Find "average" quantity from Q = NY/P
- Problems
  - Both make sense, but answers are different
  - Choice of base year matters too
 - We don't need to know the details

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Prices in Argentina

- Former president instituted "new methodology"
  - Only certain products are in the official price index
  - Prices of those products subject to "persuasion"
  - Inflation lower with new method
- What happened next
  - Official products cheap, but not available (why?)
  - Unofficial estimates of inflation more than double official rate
  - Economists arrested for producing private inflation estimates
  - [Search: "inflation Argentina"]

Prices in Argentina

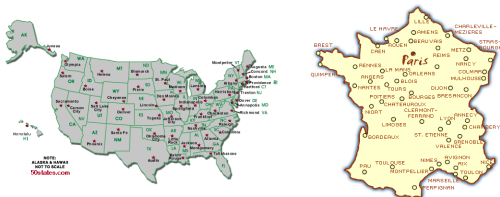- "The IMF and Argentina," The Economist, Feb 9, 2013:
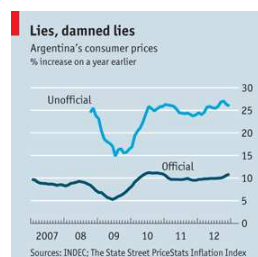
Second thoughts

Do we care about GDP?

- Bill Gates
  - "You can't eat GDP."
- Bill Easterly
  - "Mr Gates apparently missed the economics lecture that listed the components of GDP, such as food."
  - WSJ, March 2007

Do we care about GDP?

Per capita GDP: $47k

Avg weekly hours: 35

Per capita GDP: $34k

Avg weekly hours: 29

Do we care about GDP?

- The obvious
  - GDP per person reflects income and standard of living
- The less obvious
  - Correlated with many other things we care about: life expectancy, child mortality, poverty
  - Recall Gapminder
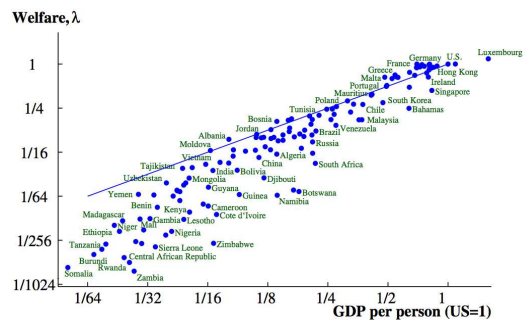- But it's one number, not the answer to all questions

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Do we care about GDP?

- Jones and Klenow, "Beyond GDP"
  - Compute economic welfare by combining measures of consumption
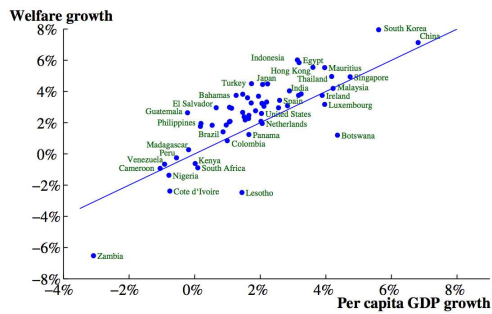 - Result: correlation with GDP per person is 0.95

Do we care about GDP? (2000)

Source: Jones and Klenow, "Beyond GDP"

Do we care about GDP? (growth, 1980-2000)

Welfare growth

Fine points

- Home production not counted in GDP
- Black market transactions not counted either
- Some "income" not in GDP
  - Capital gains (houses, equity)
  - Interest on government debt
  - Returns on foreign assets
- Call me if you ever have to deal with this

Macroeconomic data

- Caption for old New Yorker cartoon:
  - "Final, revised government figures for the fourth quarter of 1981 now indicate that the Yankees, not the Dodgers, won the World Series."

What have we learned?

- GDP measures output , income, and expenditure
  - Per capita GDP is wildly different across countries
  - Labor gets about 2/3, "capital" 1/3
  - Expenditures: Y = C + I + G + NX
- Real GDP measures the quantity of output
- Inflation measures the change in average prices
- Macroeconomic data are like sausages

Problem Set #0

- Due at start of next class
- Should look professional
- Start now!

Something for the ride home

- Are natural resources critical to economic growth?
- Why? Or why not?
- Examples?
- Add your thoughts on the discussion page