The Global Economy

Introduction & Overview

NYU | STERN

This course is about countries

- Their economic and business environments
- Featuring
  - Data
  - Enough economics to make sense of it

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 we do about it?

Long-term economic performance

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?

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

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

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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

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What's happening?

- Take your pick
  - Argentina's default: What happened? Who's the villain?
  - Corporate taxes: Should they pay more? Why don't they?

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What's happening?

- Anything else cross your mind?

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Short-term economic conditions

Current conditions in the US

- How's the economy doing?
- How can you tell?
- What does that mean for your business?

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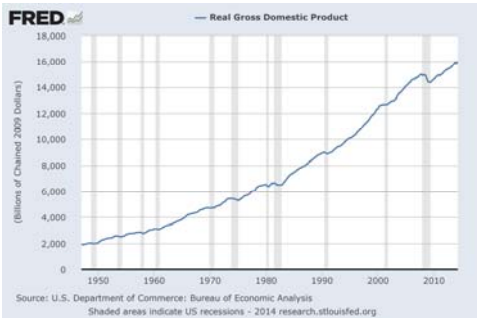
Real GDP



Source: FRED.

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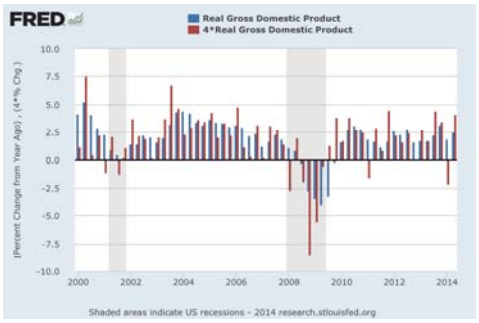
Real GDP growth (yoy & qoq*4)



Source: FRED

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Current conditions revisited

- What else would you look at?

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Economic crises

Crises

- What countries are in trouble?
- How can you tell?
- How did they get that way?

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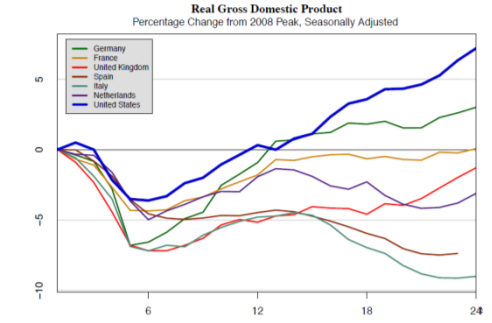
European GDP



Source: Cooley-Rupert European Snapshot

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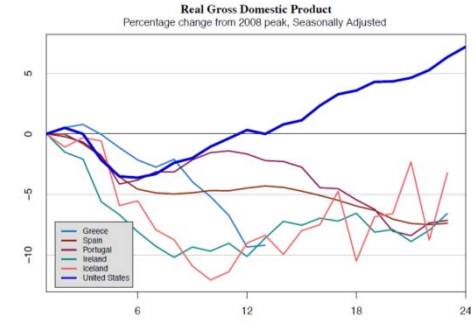
European GDP



Source: Cooley-Rupert European Snapshot

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About the course

About the course

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

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About the course website

- Everything's on the website:

  https://sites.google.com/site/nyusternglobal/home

  Or search: #nyuecon global
- The outline contains
  - Topic summaries
  - Assignments (with links!) , slides, video
  - And something extra

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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

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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

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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

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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

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About quantitative content

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

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About quantitative content

- Spreadsheets
  - Used extensively
  - 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

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About the book

- Custom designed for this course ("bespoke")
- More focused and concise than most
- Distributed in class for free, also posted online
- Sold by Amazon for $9
- [Extra credit: write a good review?]
- **Skim before class, read again afterwards**

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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

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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
  - Buy me a beer after class

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About grades

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

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About class videos

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

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About the syllabus

- Read it, it's a contract between us

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What have we learned?

As Haiku

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

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The Global Economy

Macroeconomic Data

NYU | STERN

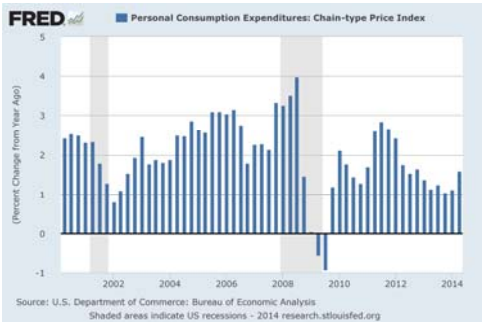
Objective

- 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

Real GDP (yoy growth rate)

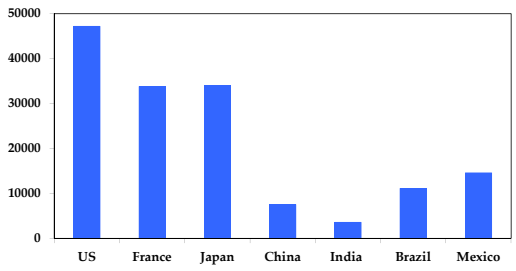
Source: FRED

US inflation



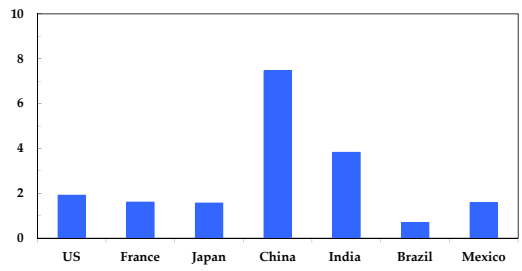
Source: FRED

GDP per capita (USD, PPP adj)



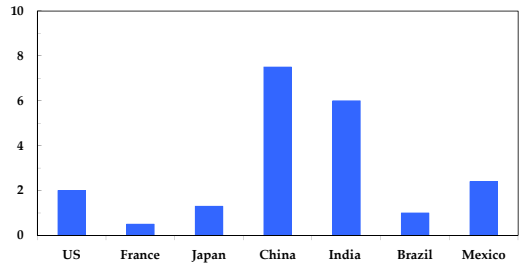
Source: World Bank, World Development Indicators

Growth in GDP per capita (20-year avg)



Source: Penn World Tables.

Growth in GDP (2014 est)



Source: The Economist.

Roadmap

- **GDP: Gross Domestic Product**
- GDP: What the numbers look like
- Expenditures and financial flows ("identities")
- Prices and quantities
- Second thoughts

GDP

GDP

- GDP = Gross Domestic Product – and Income
- Standard bottom-line number
- 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 ["GDP"]
  - Income (value added is income for someone) ["GDI"]
  - Final sales or expenditures (the end of the value chain) ["GDE"]

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?
- 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

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GDP: example 2

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

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GDP: example 2

Producer	Farmer	Brewer	Total
Value-added			
Income			
Final sales			

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GDP: example 2

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

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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

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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	CM
Value-added	
Income	
Final sales	

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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	CM
Value-added	90
Income	90
Final sales	90

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GDP: example 4

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

Concept	Govt
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	Govt
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 ("expenditures")
  - How do we reconcile the two?
- Adjust final sales: 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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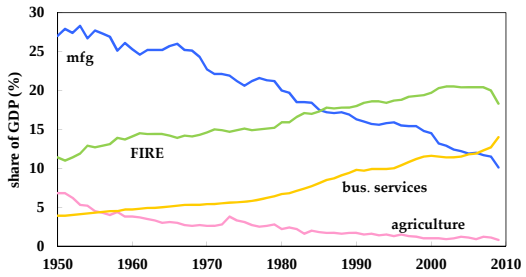
GDP: The Numbers

GDP as value added by industry



Source: BEA

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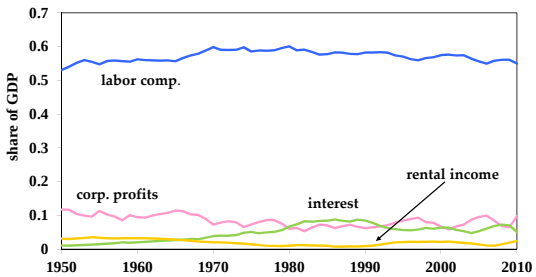
GDP as income by type



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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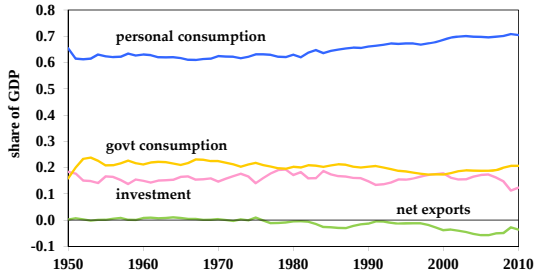
GDP as final sales by expenditure



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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

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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

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Saving flows 3

- Do Americans save too little?

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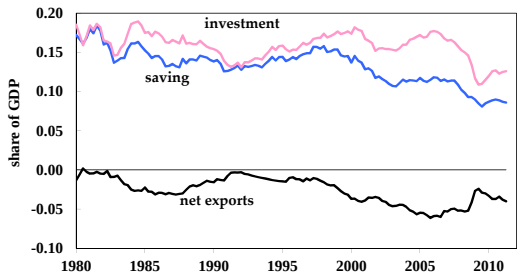
US saving and investment



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Prices & quantities

US consumer prices

Source: FRED.

Prices and quantities

Low ROI activity
Let's move on

- 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")
- Or ask same question of Wal-Mart's sales
- Problem
  - There's no clear answer
  - Or rather: several answers, equally sensible but different

Prices and quantities

- Our problem: find P and Q so that

$$NY = PQ = p_1q_1 + p_2q_2 + \text{etc}$$

  - 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

Curing inflation in Argentina

- Voters concerned about inflation
- Former president instituted "new methodology"
  - Only certain products are in the official price index
  - Prices of those products subject to "persuasion"
  - Inflation lower
- 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 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

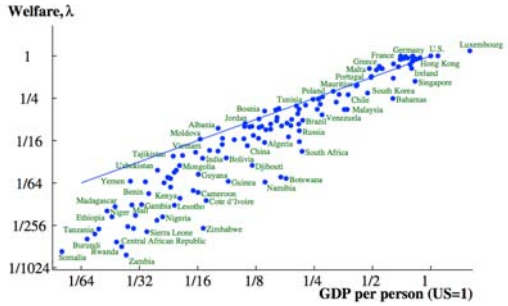
Do we care about GDP?

- 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

Do we care about GDP?

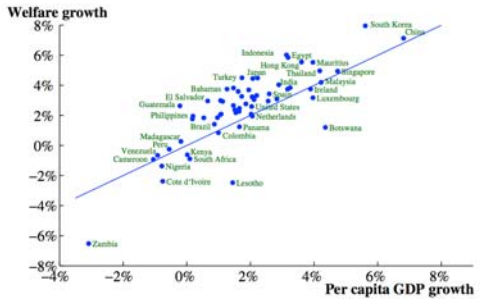
- Jones and Klenow, "Beyond GDP"
  - Compute economic welfare by combining measures of consumption, leisure, mortality, and inequality
  - Result: correlation with GDP per person is 0.95

Do we care about GDP? (2000)



Source: Jones and Klenow, "Beyond GDP"

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



Source: Jones and Klenow, "Beyond GDP"

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

- Should we save more?
- As individuals or as countries?
- Why? Or why not?
- Examples?
- Add your thoughts on the discussion page