The Global Economy

Introduction & Overview

NYU STERN

Roadmap

- Gapminder
- What's happening this week?
- What's happening in the US?
- What's happening in Europe?
- About the course

Gapminder

- What do you see?

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

  (growth, corruption, life expectancy)
- Questions that might cross your mind
  - What striking features do you see?
  - Where are the business opportunities?
  - Other thoughts?

About participation

- An important part of the class
  - And more fun for all of us
- Ways to participate
  - Make a comment
  - Ask a question
  - Share an experience
  - Post a comment on Announcements & Discussion

About participation

- Guidelines
  - Feel free to disagree --- politely, please!
  - Also with me
  - Facts are always good
  - Experts: try to keep it short
  - Non-experts: don't panic, speak up if you're lost

What's happening this week?

What's happening this week?

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

7

What's happening this week?

- Joachim Fels, "Sunday Start," Morgan Stanley, Feb 10, 2013:
  - I've been telling the Spain-becomes-Germany story for quite some time now, but on my visit to Madrid this past week I felt it resonated for the first time. Several of my most bearish contacts now think that the worst for the Spanish economy may soon be behind us.
- What is he saying? Do you agree? Why or why not?

8

What's happening this week?

- "Is a Grexit off the table?" The Economist, Feb 9, 2013:
  - Greece is still grappling with a record recession that has shrunk output by more than a fifth (!), but the mood in Greek business circles is brightening.
- What are they saying? Do you agree? Why or why not?

9

What's happening this week?

- "Yuan for the money," The Economist, Feb 9, 2013:
  - [Until 2009, China did not allow use of its currency outside the country.] Since then, the government has allowed Chinese importers and exporters to settle their trades in yuan.
  - For the Chinese, the issue is financial liberalisation. The regime likes its capital controls. But the yuan will not become a successful international currency unless outsiders can use it.
- What are they saying? Do you agree? Why or why not?

10

What's happening in the US?

Current conditions in the US

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

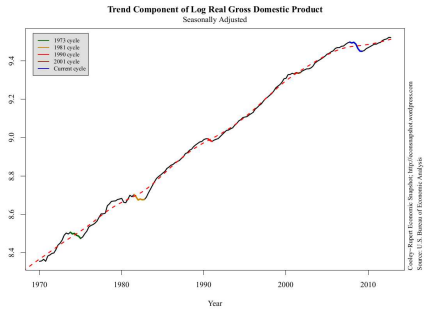
12

Current conditions in the US

- What do conditions mean for
  - General Motors?
  - Google?
  - Morgan Stanley?
  - NYU?
  - John Paulson's hedge fund?

13

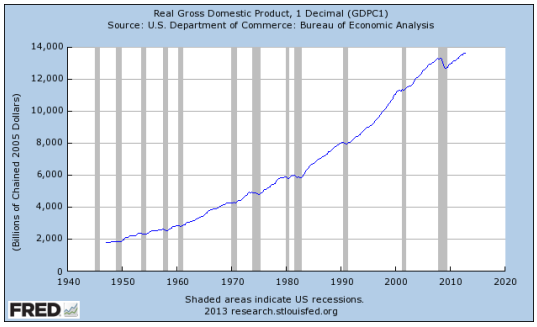
Real GDP



Source: Cooley-Rupert Snapshot

14

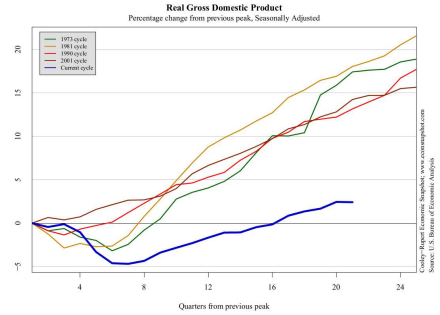
Real GDP



Source: FRED.

15

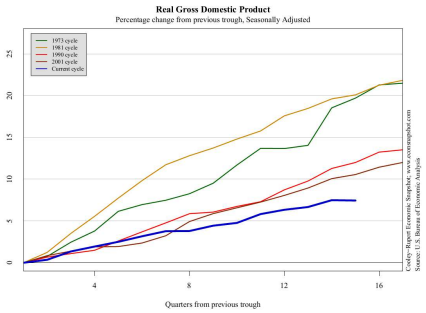
Real GDP



Source: Cooley-Rupert Snapshot

16

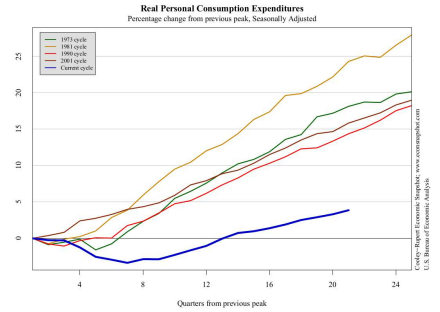
Real GDP



Source: Cooley-Rupert Snapshot

17

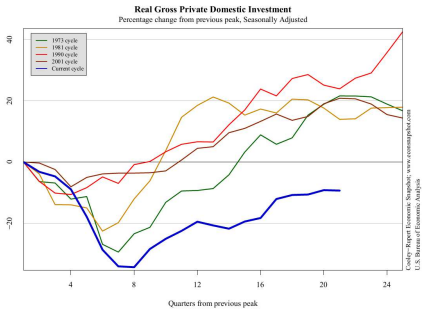
Consumption



Source: Cooley-Rupert Snapshot

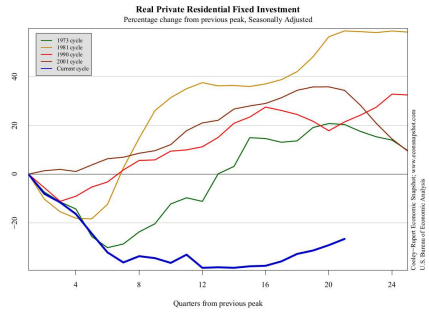
18

Investment



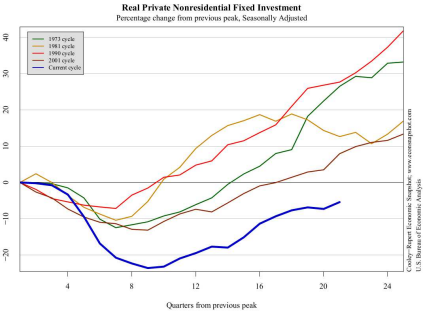
Source: Cooley-Rupert Snapshot

Residential investment



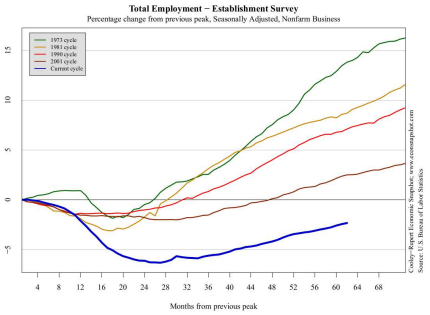
Source: Cooley-Rupert Snapshot

Nonresidential investment



Source: Cooley-Rupert Snapshot

Employment



Source: Cooley-Rupert Snapshot

Current conditions revisited

- How's the economy doing?
- Where is it headed?
- What does that mean for your business?
- Do we need households to spend more?

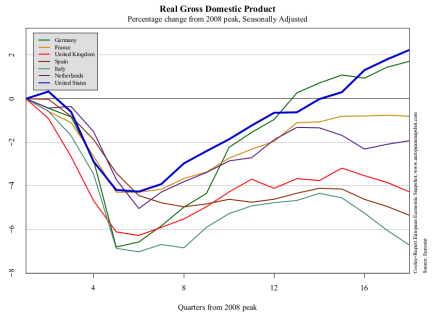
What's happening in Europe?

Europe

- What countries are in trouble?
- Why?
- How long till things turn around?

25

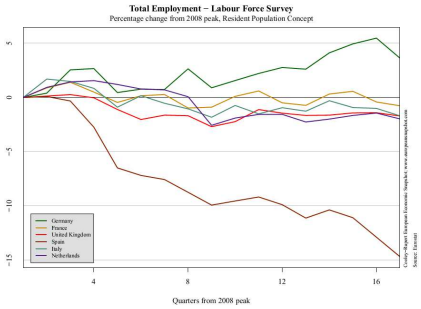
European GDP



Source: Cooley-Rupert European Snapshot

26

European employment



Source: Cooley-Rupert European Snapshot

27

About the course

About the course

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

29

About the course

- **Long-term economic performance**
  - Why are some countries richer than others?
  - Are low-wage countries attractive business opportunities?
- **Short-term performance: Business cycles**
  - Why do growth rates fluctuate?
  - Is now a good time to buy stocks? Bonds?
- **Short-term performance: Crises**
  - Why do they happen?
  - Where are the opportunities?

30

About the course website

- **Everything's on the website:**
  https://sites.google.com/site/nyusternglobal/
- Outline contains
  - Topic summaries
  - Assignments (with links!)
  - Slides, video, and more

31

About Announcements & Discussion

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

32

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

33

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 [five in special cases]
  - Unlimited marriage and divorce
  - Due dates noted in red on website
- Practice Problems A to D
  - Not graded
  - Useful review and preparation for exams

34

About quantitative content

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

35

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

36

About the book

- Custom designed for this course ("bespoke")
- More focused and concise than most
- Free online and cheap on Amazon
- [Write a good review?]
- Skim before class, read again afterwards

37

About me

- Grew up in Pittsburgh
- PhD Yale, 1981
- Research interests
  - International capital flows
  - Fixed income and currency markets
  - Emerging economies
- Other interests
  - The Steelers
  - Basketball, biking, Buffy, books, beer

38

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

39

About grades

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

40

About class videos

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

41

About the syllabus

- Read it, it's a contract between us

42

What have we learned?

As Haiku

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

The Global Economy

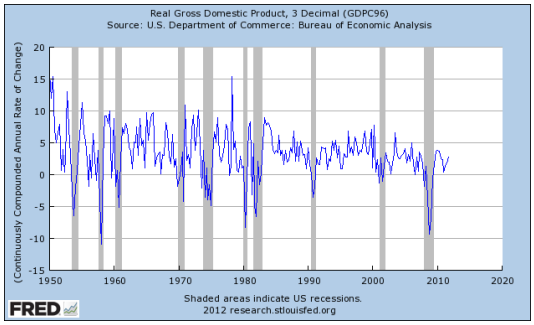
Macroeconomic Data

NYU STERN

Objective

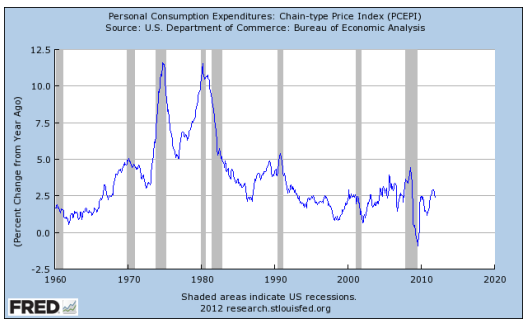
- Know what these headline numbers are
  - (Real) GDP: how much stuff did we produce? growth rate?
  - Inflation: how much did average prices change?
- Why do we need this?
  - Common vocabulary (like financial statements for businesses)
- Do at high speed now, reinforce with constant use

US (real) GDP growth



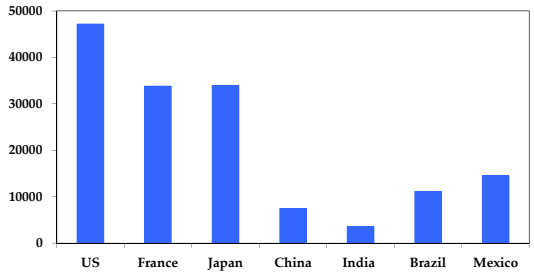
Source: FRED

US inflation



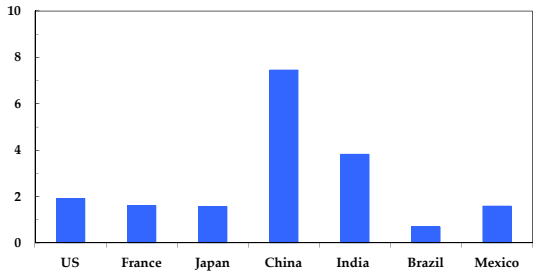
Source: FRED

GDP per capita (USD, PPP adj)



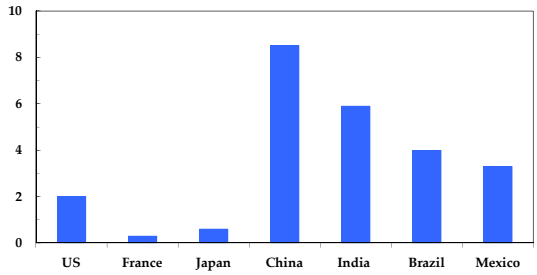
Source: World Bank, World Development Indicators

Growth in GDP per capita (20-year avg)



Source: Penn World Tables.

Growth in GDP per capita (2013 est)



Source: OECD.

Roadmap

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

GDP

GDP

- GDP = Gross Domestic Product
- 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
  - Final sales (the end of the value chain)

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?
- What is final sales?
- Who eats the bread?

GDP: example 1

Producer	Farmer	Miller	Baker	GDP
Value-added				
Final sales				

55

GDP: example 1

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

56

GDP: example 2

- Barley farmer
  - Sales = 10
  - Rent = 3
  - Income = 7
- Brewer
  - Sales = 110
  - Rent = 30
  - Wages = 70
  - Barley input = 10 (COGS)

57

GDP: example 2

Producer	Farmer	Brewer	Total
Value-added			
Income			
Final sales			

58

GDP: example 2

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

59

GDP: fine points

- 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
- Imports are negative final sales
  - Exports are final sales outside the country
  - Imports final sales for the other country, negative final sales for us

60

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	

61

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

62

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	

63

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

64

GDP: example 5

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

Concept	Total
Value-added	
Income	
Final sales	

65

GDP: example 5

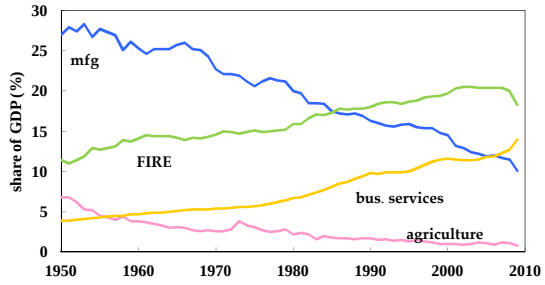
- Import-export firm
  - Sales = 140
  - Of which: 120 local, 20 abroad
  - Inputs = 25 from abroad
- What is value added?
- Income?
- Final sales?

Concept	Total
Value-added	115
Income	115
Final sales	115*

* Note that we subtract imports here

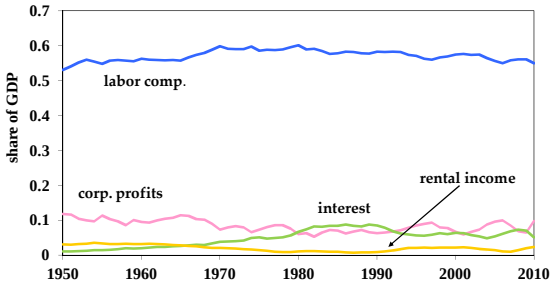
66

GDP as value added by industry



Source: BEA

GDP as income by type



Source: BEA

Expenditures & financial flows

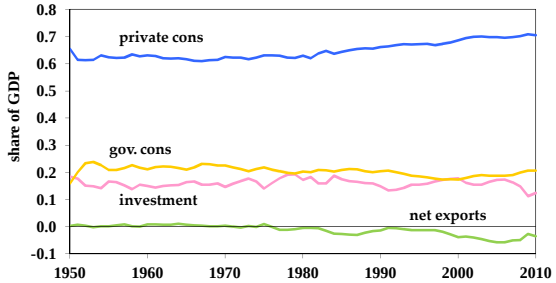
Expenditure flows

- 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)

GDP as final sales by expenditure



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

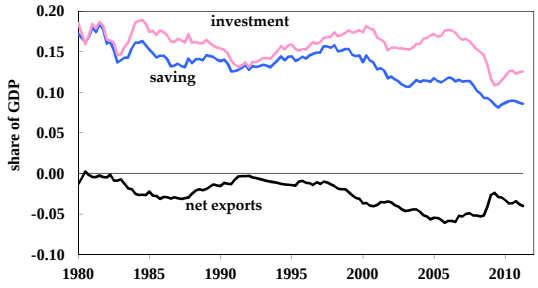
73

Saving flows 3

- Do Americans save too little?

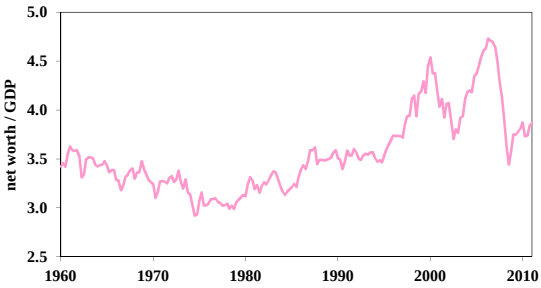
74

US saving and investment



75

Household net worth



Source: Flow of Funds Accounts

76

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

78

Prices and quantities

- Our problem: find P and Q so that

  Nominal GDP = PQ = $p_1q_1 + p_2q_2 + \text{etc}$

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

79

Prices and quantities

- Method 1 ("fixed price method")
  - Find average quantity Q using "base-year" prices
  - Find "average" price from P = Y/Q ("deflator")
- Method 2 ("fixed quantity method")
  - Find average price P using "base-year" quantities
  - Find "average" quantity from Q = Y/P
- Problems
  - Both make sense, but answers are different
  - Choice of base year matters too

80

Example

	Fish		Chips	
Date	**Price**	**Quantity**	**Price**	**Quantity**
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

What is the inflation rate?

What is real output growth?

81

Fixed price method (GDP deflator)

	Fish		Chips	
Date	**Price**	**Quantity**	**Price**	**Quantity**
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	**Nominal GDP**	**Real GDP**	**Price Deflator**
2004			
2005			
Growth rate			

Base year: 2004

82

Fixed price method (GDP deflator)

	Fish		Chips	
Date	**Price**	**Quantity**	**Price**	**Quantity**
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	**Nominal GDP**	**Real GDP**	**Price Deflator**
2004	7.50	7.50	1.000
2005	13.00	8.00	1.625
Growth rate	73.3%	6.7%	62.5%

Base year: 2004

83

Fixed price method (GDP deflator)

	Fish		Chips	
Date	**Price**	**Quantity**	**Price**	**Quantity**
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	**Nominal GDP**	**Real GDP**	**Price Deflator**
2004			
2005			
Growth rate			

Base year: 2005

84

Fixed price method (GDP deflator)

	Fish		Chips	
Date	Price	Quantity	Price	Quantity
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	Nominal GDP	Real GDP	Price Deflator
2004	7.50	12.50	0.600
2005	13.00	13.00	1.000
Growth rate	73.3%	4.0%	66.7%

Base year: 2005

85

Fixed quantity method (CPI)

	Fish		Chips	
Date	Price	Quantity	Price	Quantity
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	Price Index (2004 Basket)	Price Index (2005 Basket)
2004		
2005		
Growth rate		

86

Fixed quantity method (CPI)

	Fish		Chips	
Date	Price	Quantity	Price	Quantity
2004	0.50	10	0.25	10
2005	0.75	12	0.50	8

Date	Price Index (2004 Basket)	Price Index (2005 Basket)
2004	7.50/7.50*100=100.0	8.00/8.00*100=100.0
2005	12.50/7.50*100=166.7	13.00/8.00*100=162.5
Growth rate	66.7%	62.5%

87

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"]

88

Prices in Argentina

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

89

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

More 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 and income
  - Per capita GDP wildly different across countries
  - Composition always changing (where did those factory jobs go?)
  - Labor gets about 2/3, "capital" 1/3
- Real GDP measures the quantity of output
- Inflation measures the change in average prices
- Macroeconomic data are like sausages

For next week

- Problem Set #0 due at start of class
- Start now!

97

Something for the ride home

- Are countries with low wages good opportunities:?
- Why? Or why not?
- Examples?
- Add your comments on the discussion page

98