Current Financial Crisis and the Polish and U.S. Economies

Edward C. Prescott

June 11, 2010

Cracow University of Economics

Poland Is Not a PIG

Poland Is Healthy and Growing

The U.S. Economy Is Depressed, because of Its Piggish Policies

•

If It Becomes Less Piggish and More Polish,

•

The U.S. Would Again Soar

Some Preliminaries

- I am here for the General Equilibrium Workshop
- The use of applied dynamic general equilibrium theory tools has made aggregate economics a hard science
- Economists using these tools find the same thing ***independent*** of their political biases
- Often what is said in a paper's introduction is not what the paper's model says – I listen to the model

Preliminaries Continued

- We have either a good theory of a phenomenon or no theory – though we may have some conjectures
- Now that aggregate economics is a hard science, there are deviations from theory or puzzles
  - One open puzzle is the excessive volatility of asset prices
  - Another is what is giving rise to the huge gains from openness – we learned it is not trade per se, to our disappointment

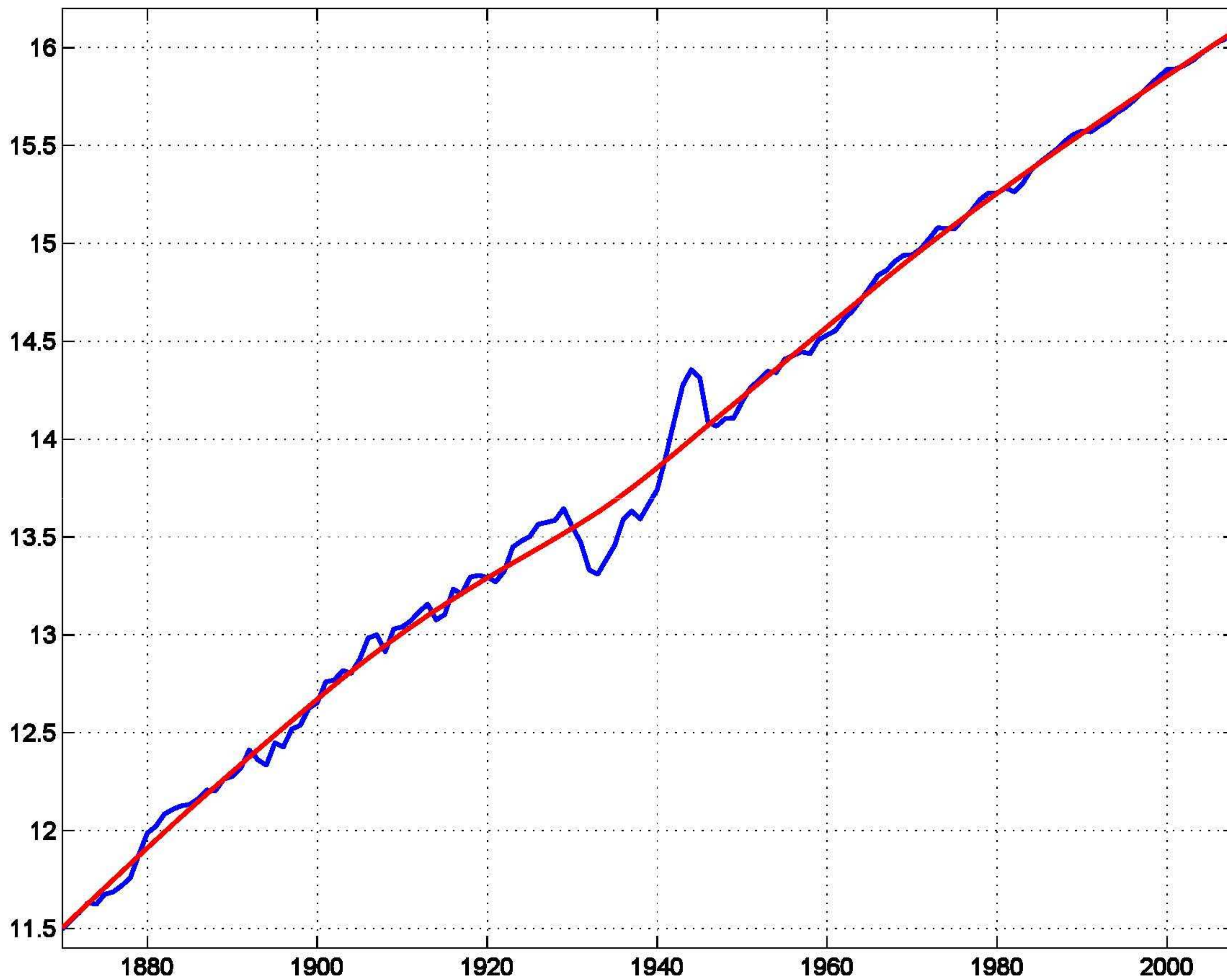
Development of GE Theory Needed Functional Analysis

- In the interwar period the Polish School, led by Banach, developed **functional analysis** here in Poland
- Banach was born here in Cracow in 1892
- He was scheduled to be a chaired professor at Cracow’s Jagiellonian University at the end of World War II, but died of cancer before assuming the position

U.S. Long-Run Picture

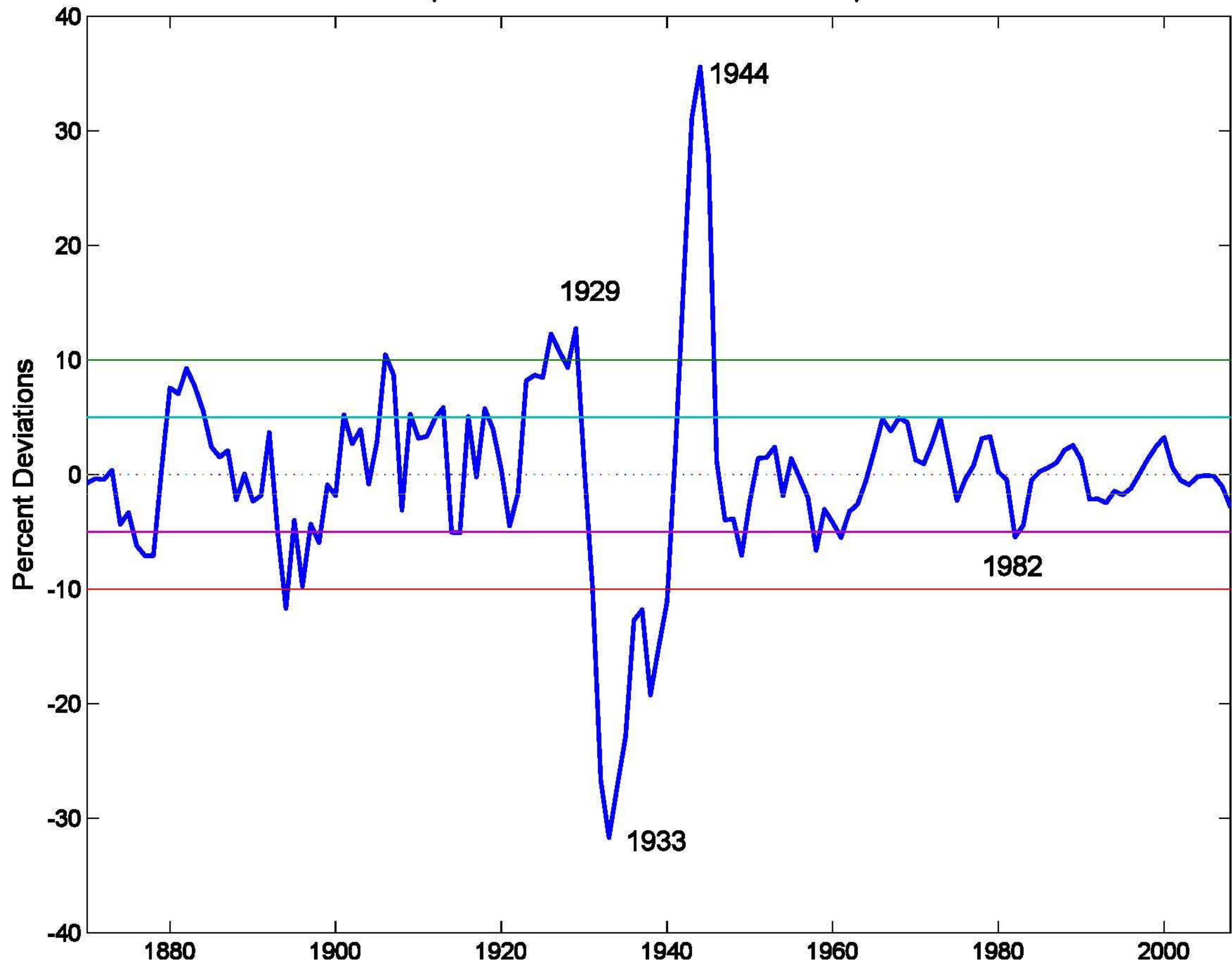
- Relatively steady growth over the past 150 years
- Some fluctuations about trend (HP filtered)

Source of next two pictures is Robert E. Lucas, Jr.


U.S. REAL GDP, 1870-2008, LOG SCALE
16
15.5
15
14.5
14
13.5
13
12.5
12
11.5
1880
1900
1920
1940
1960
1980
2000

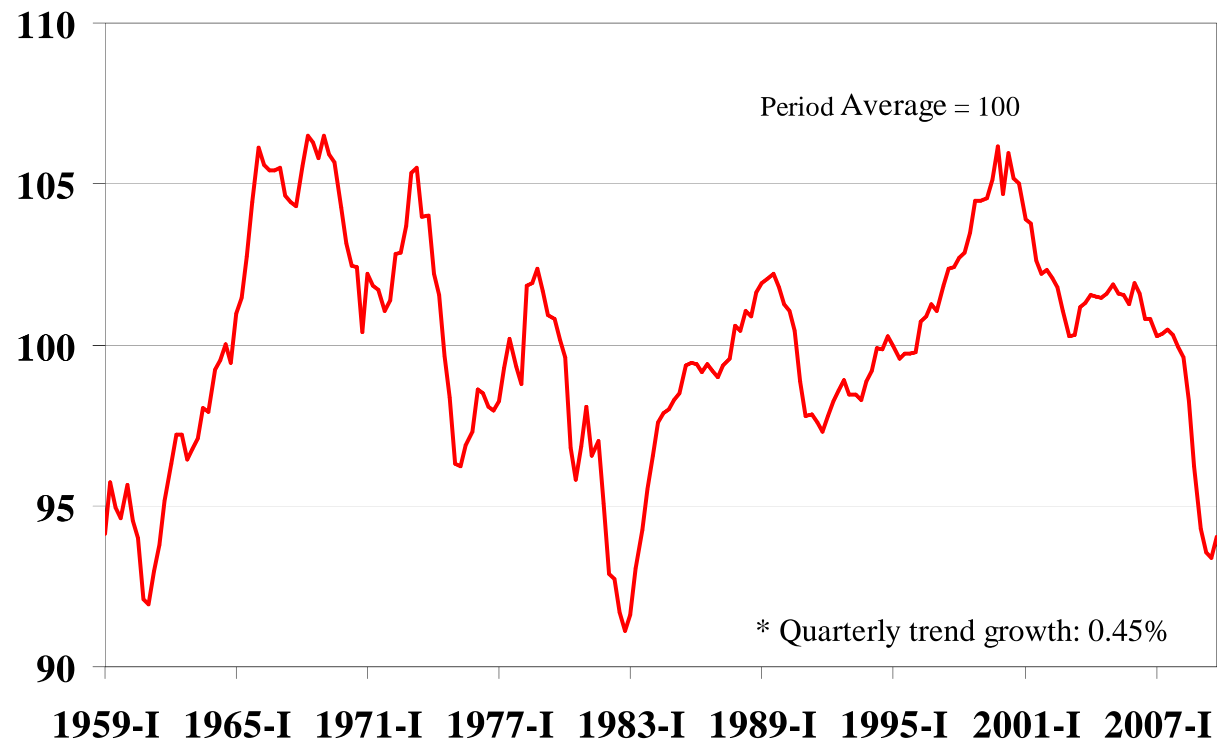
Deviations From Trend

- Relative to trend, GDP lost 40% between 1929 and 1933
- Recent loss has been about 10% between May 2008 and October 2009
- Subsequently, the U.S. economy has stopped falling, but has not begun to recover

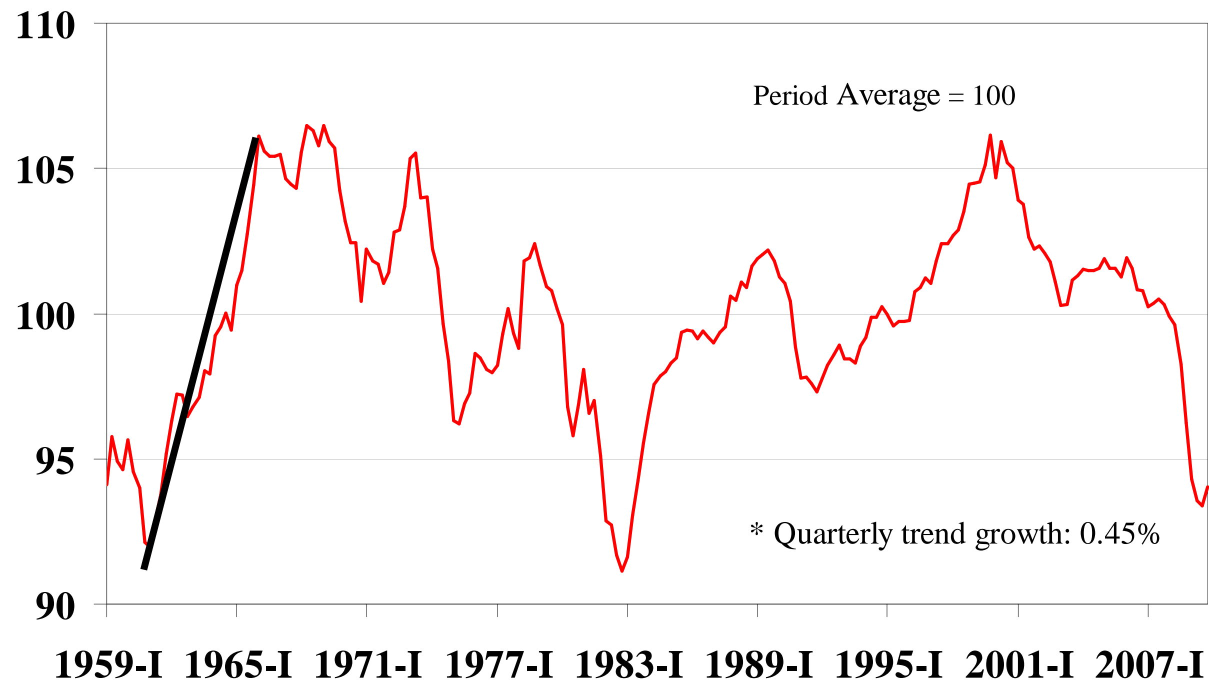


U.S. GDP, DEVIATIONS FROM TREND, 1870-2008
Percent Deviations
40
30
20
10
0
-10
-20
-30
-40
1880
1900
1920
1940
1960
1980
2000
1944
1929
1933
1982

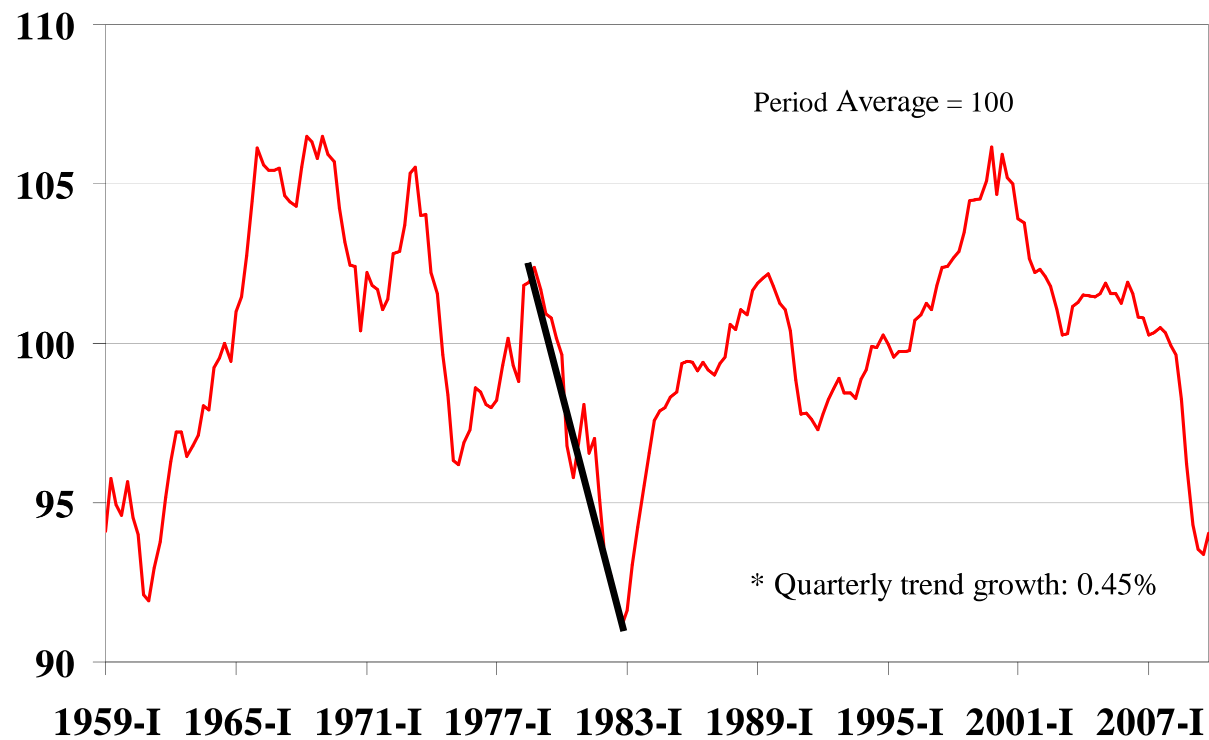
Detrended GDP per Person 16-64
1959-I to 2009-IV



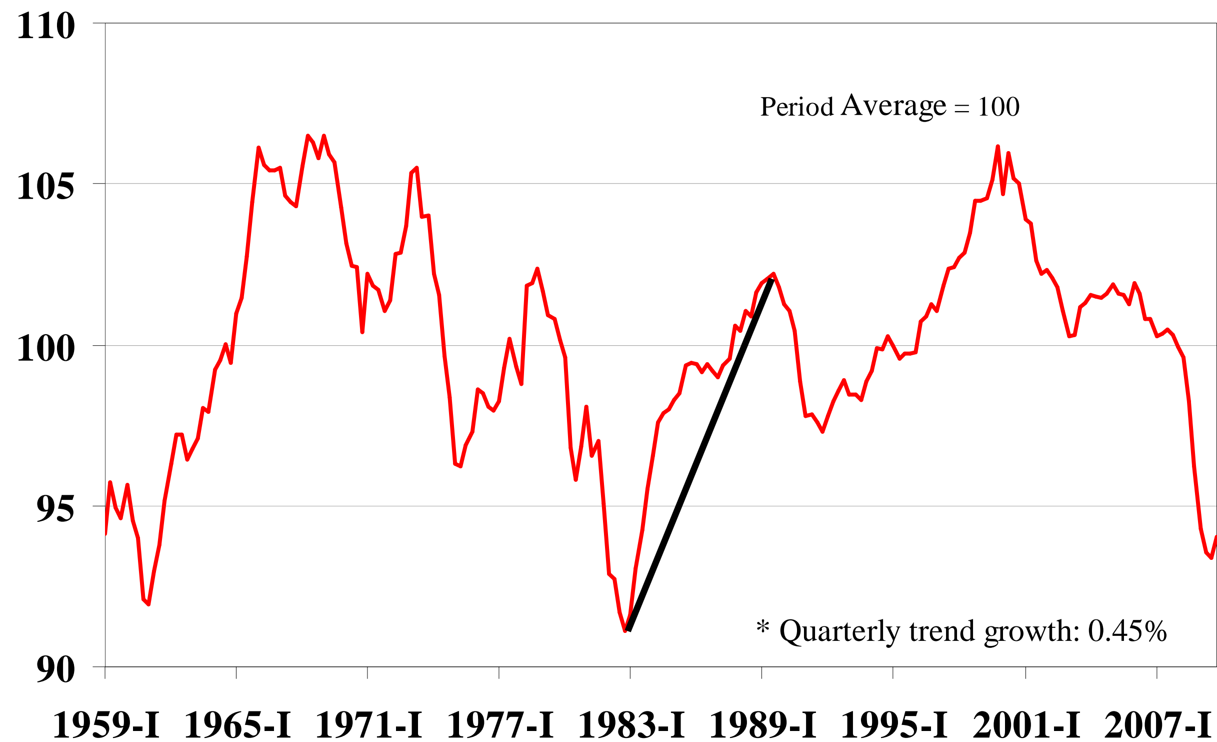
The Biggest Expansion
Technology Driven



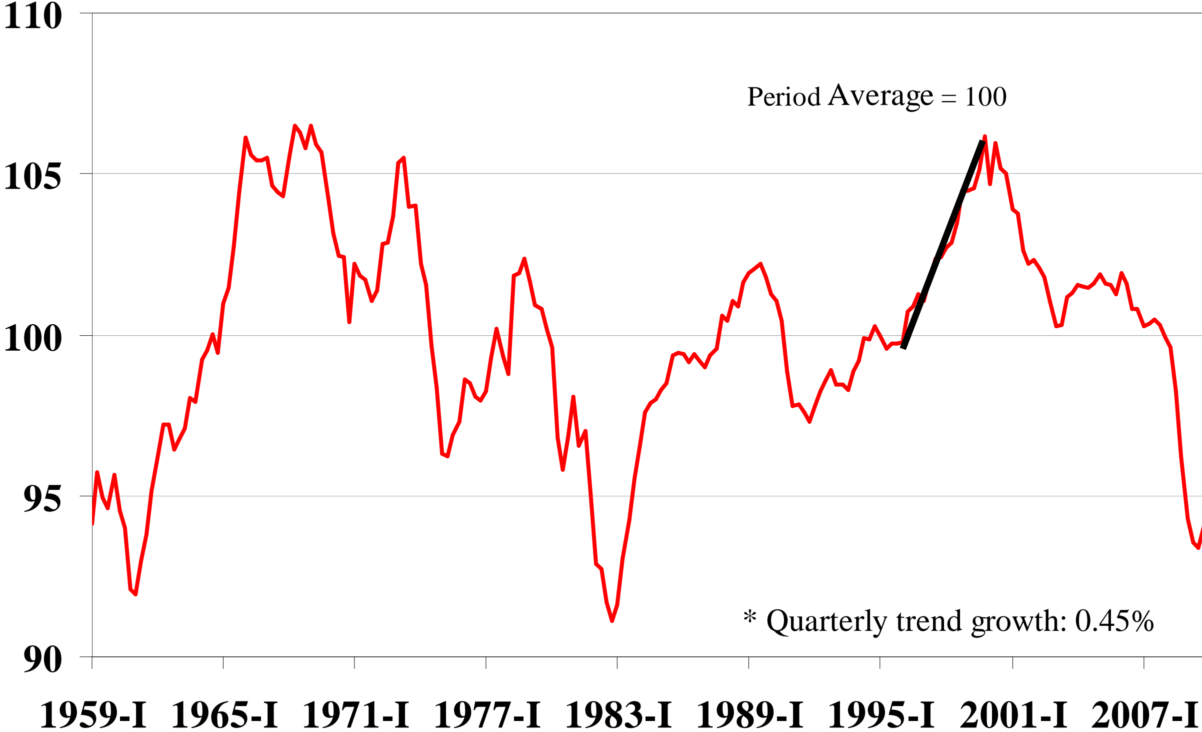
The Biggest Contraction
Tax Rate Driven



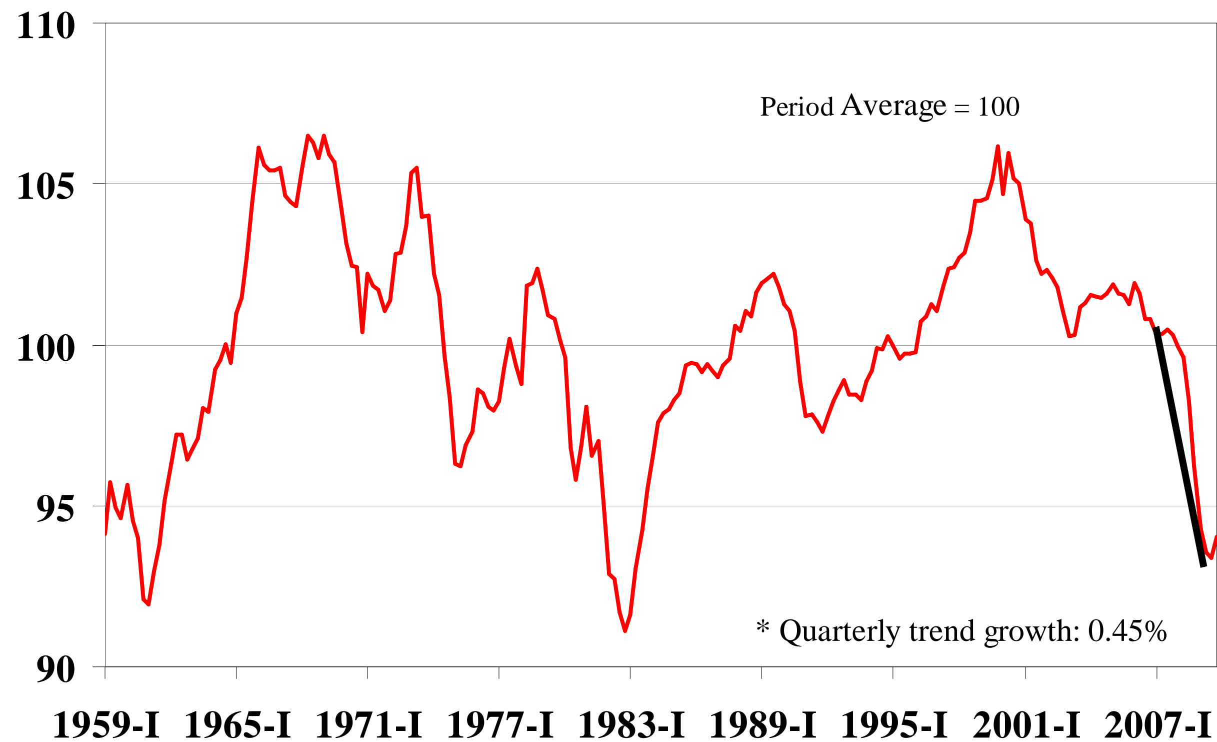
The Longest Expansion
Tax Rate and Productivity Driven



The 1990s Expansion
Technology Driven



Recent Contraction
Higher Future Tax Rate Driven



What Depressed the U.S. Economy? Not the Financial Crisis

- Fed did what it should given the situation
  - Big increase in reserves
- Fed is not the cause of the sizable recent drop in U.S. GDP per capita relative to trend
- The financial crisis wasn't the cause
- There was no lack of borrowing

Liabilities of Households and of Nonfinancial Businesses They Own

	End 2007	End 2008	End 2009
Total Liabilities (trillion $)	**32.5**	**33.2**	**32.9**
Composition Shares			
Mortgages	44.9%	44.4%	43.1%
Corporate and Loans	38.3%	39.5%	39.3%
Other	16.8%	16.1%	17.6%

Source: Flow of Funds, March 11, 2010 Release, Tables L100 and L101

The U.S. 1990 Hours Boom Puzzle Took a Number of Years to be Resolved

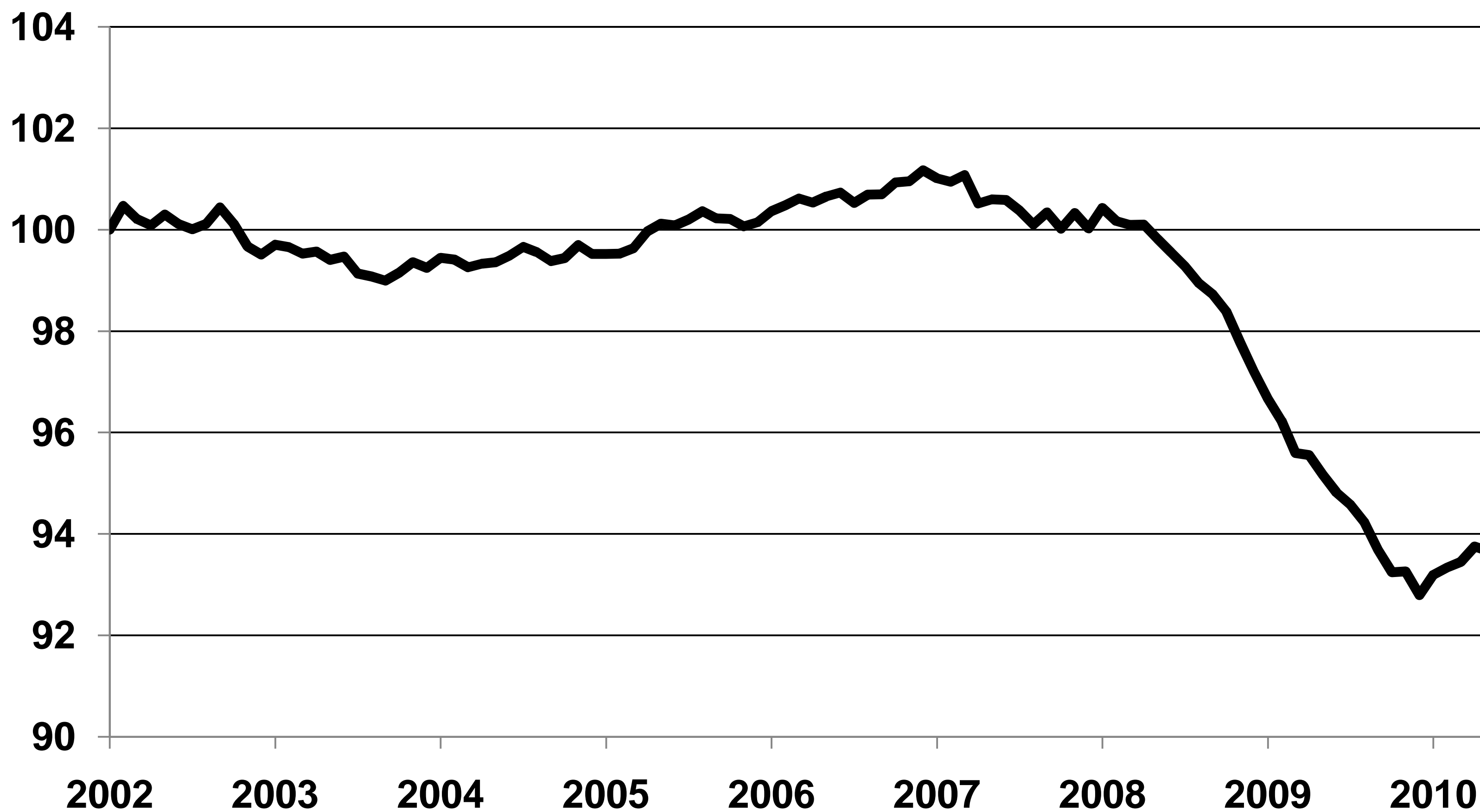
- Standard theory, the RBC model without intangible capital, accounts well for the behavior of the U.S. economy up to the 1990s
- This theory treats productivity, population, and tax rates exogenously and computes the equilibrium path of the economy – observations are in remarkable conformity with theory up to the 1990s
- It did not account for the 1990s boom because intangible capital exploded

Employment Rate Is Best Short-run Indicator

- BLS reports the fraction of the civilian population over age 15 that are employed
- It understates depression in market hours because
  - Fraction of part-time workers increased
  - Fraction of workers in high-hours occupations fell
- With this caveat, the picture is …

Civilian Employment Rate

January 2002 = 100



Has U.S. Output Been Growing at Trend the Last 3 Quarters?

Almost surely **NOT**

- Businesses have cut intangible capital investment
  - R&D, human capital investment, advertising
- Intangible investment is not part of measured output
  - That is, it is not part of GDP
  - This is because these expenditures are expensed
- Output = GDP + Intangible capital investment
- Output probably decreased last three quarters relative, not increased

Parallels Between Current and the Great Depression

- Both started with collapse of a real estate boom
- Both started with a cut in immigration
- Both times, stimulus plans were instituted with large increases in spending and future taxes
- Both times, there was a shift to anti-trade policies
- Both times, the White House started managing the economy

Reasons for Great U.S. Depression and the Not-so-Great Current One Are Not Financial

- No financial crisis until U.S. was well into the Great Depression
- And then it was a small financial crisis
- Businesses had the funds to make investments
- Businesses had huge cash flows
- They paid big dividends rather than financing investments with retained earnings
- This implies a lack of perceived profitable investments

Same Reasons for Current Depression

- Businesses have funds or access to borrowing to make investments
- Currently U.S. banks are lending huge amounts to the Federal Reserve Banks
- This lending is at a low interest rate
  - 0.25% nominal
  - negative real
- Why?: Banks do not have good lending opportunities

What Depressed the Economy Today and in the 1930s?

- Not market failure
- Rather, failure of the central government
- If people expect higher tax rates on distributions from their businesses in the future, they rationally
  - cut investments now and
  - increase current distributions

Why Was There a Financial Crisis?

- U.S. government regulation of the financial system was used to foster home ownership

- Barney Frank, September 25, 2003 (House Financial Services Committee hearing):

  "I do think I do not want the same kind of focus on safety and soundness that we have in OCC [Office of the Comptroller of the Currency] and OTS [Office of Thrift Supervision]. I want to roll the dice a little bit more in this situation towards subsidized housing."

What Will Make the Economy Boom?

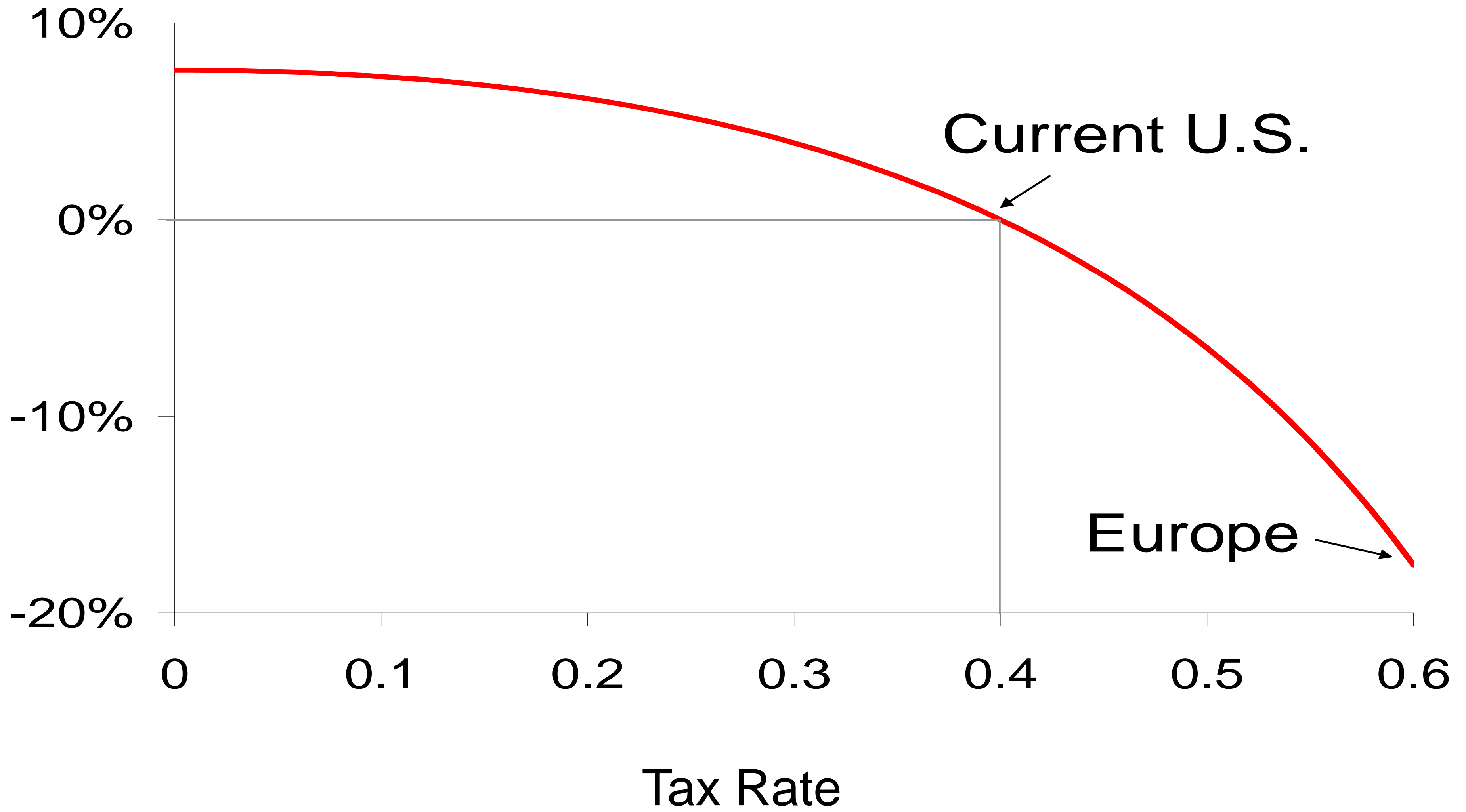
- Cut marginal tax rates
  - People will work more
  - Businesses will invest more
  - Output and personal consumption will increase
- Be more open
- Do not erect barriers to the use of better production processes by pandering to special interest groups

Increasing Marginal Tax Rates Will Not Increase Tax Revenue

GDP and Tax Revenue per Person

Welfare

- Because of taxes, the value of time on margin used in the market sector is twice that used in the nonmarket sector (if tax rate 50%)
- Nonmarket time is valuable
- Welfare gains in lifetime consumption equivalents per year are ...


Welfare Gains and Losses
10%
0%
-10%
-20%
Current U.S.
Europe
0
0.1
0.2
0.3
0.4
0.5
0.6
Tax Rate

What Happened after Financial Crises?

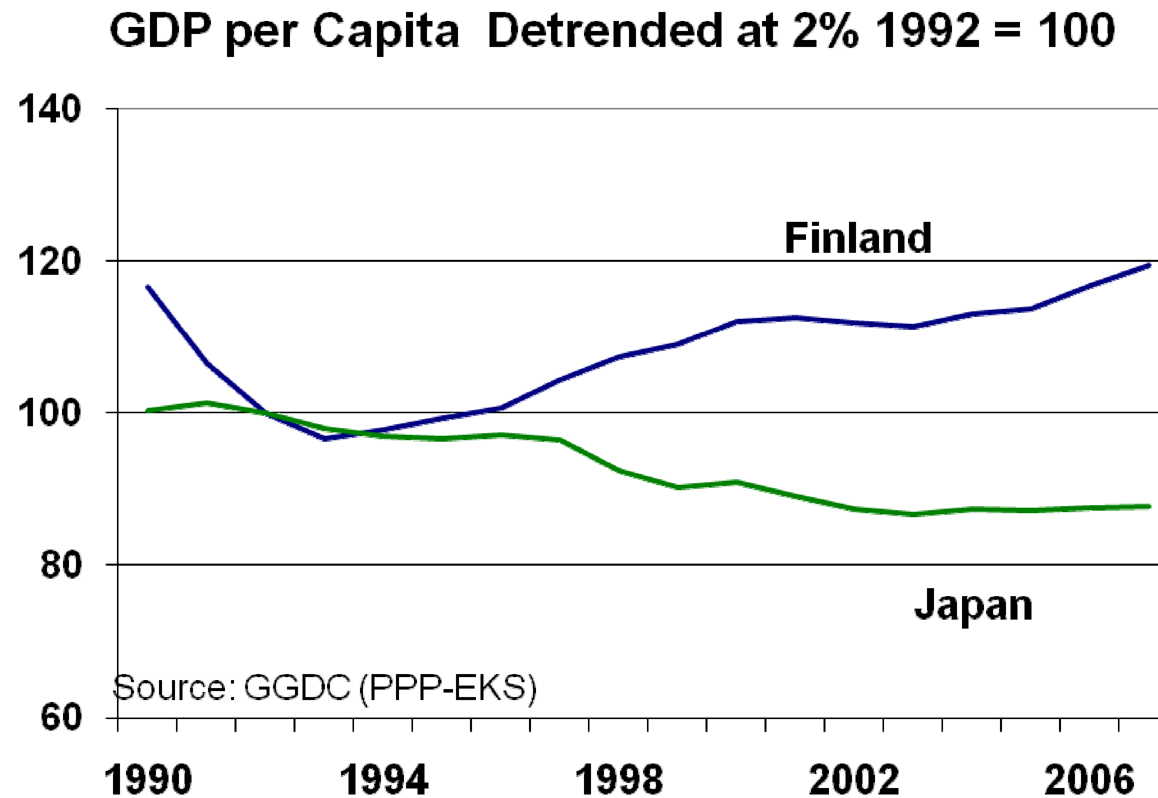
Sometimes bad things

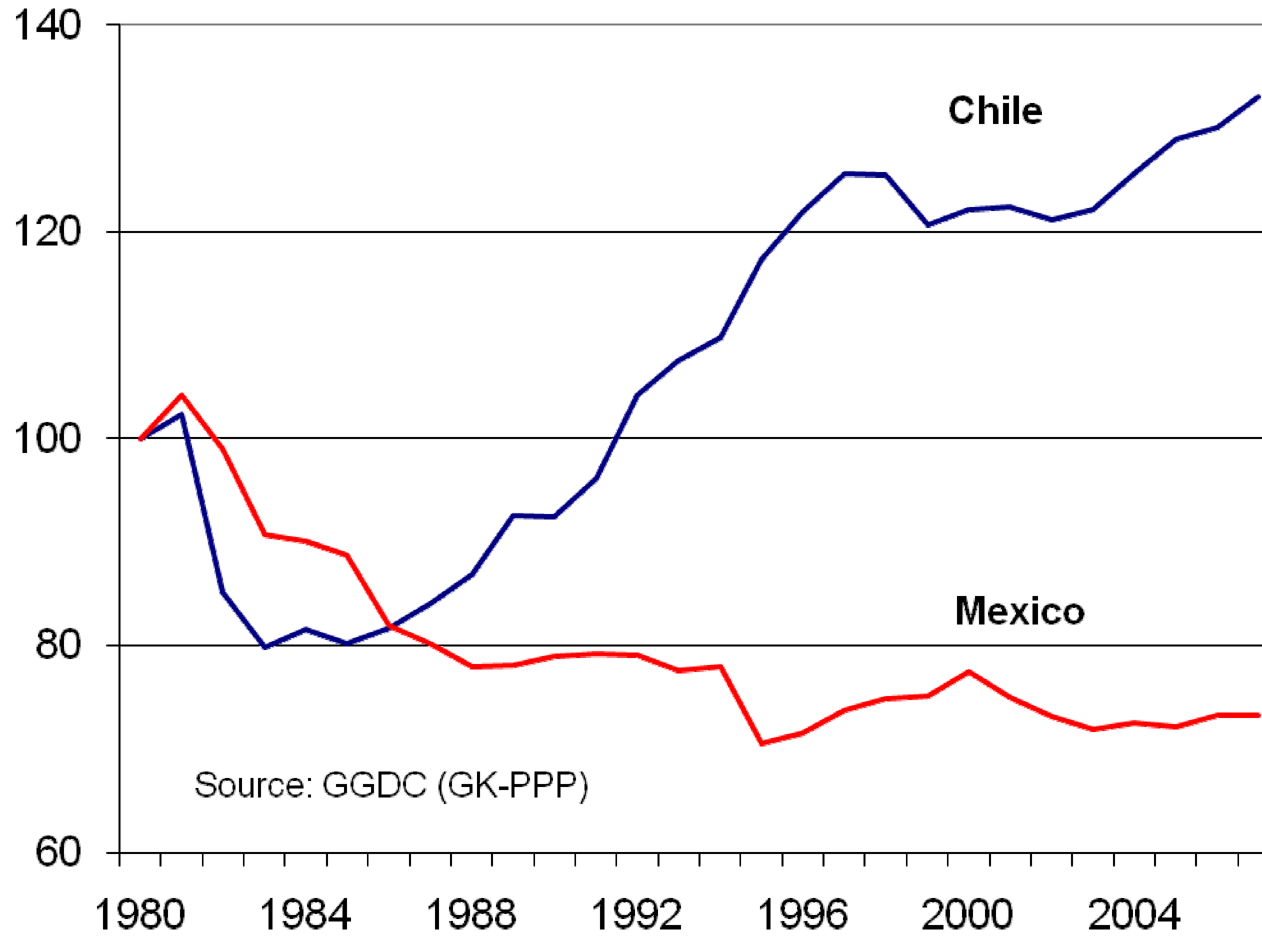
and

Sometimes good things

Numbers are trend corrected so flat line is growing at trend

Experiences Differ after Financial Crises

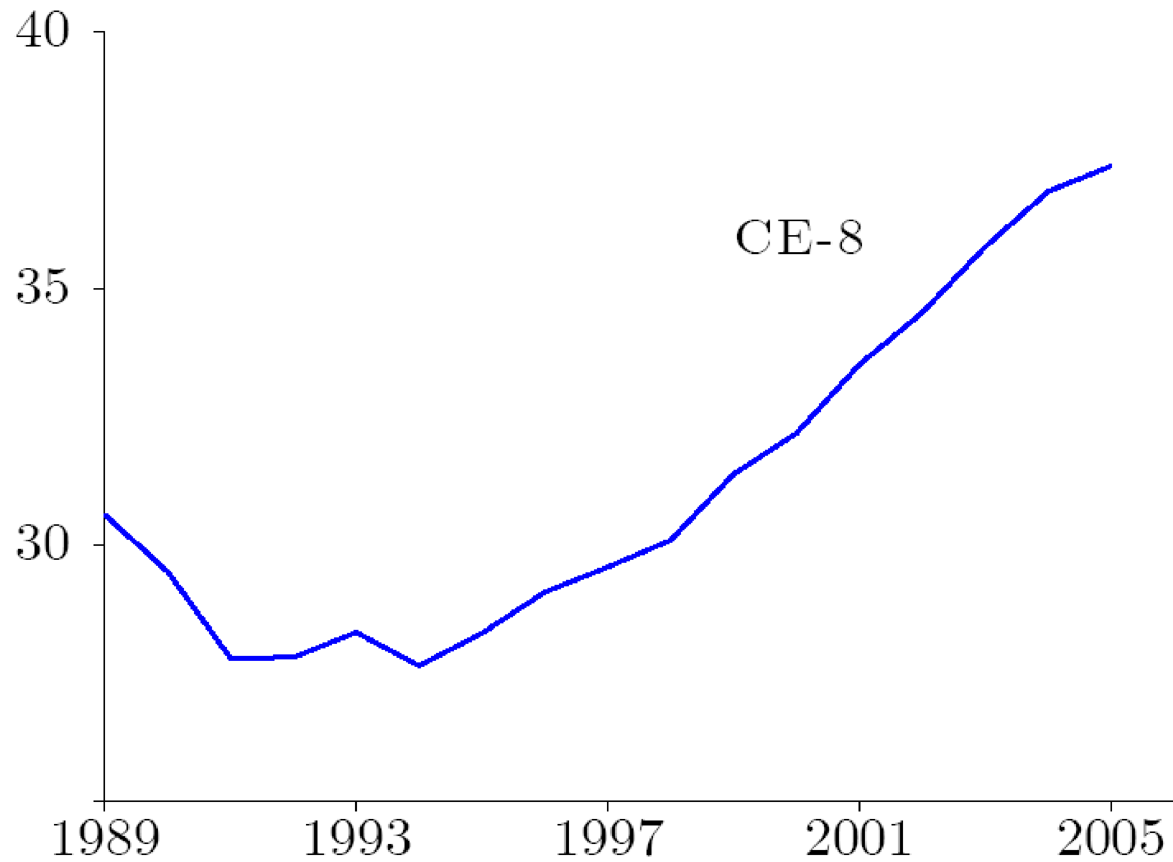



GDP per Capita Detrended at 2% 1980 = 100
140
120
100
80
60
Chile
Mexico
Source: GGDC (GK-PPP)
1980
1984
1988
1992
1996
2000
2004

Central Europe Catching Up

- 8 European EU that joined in 2004

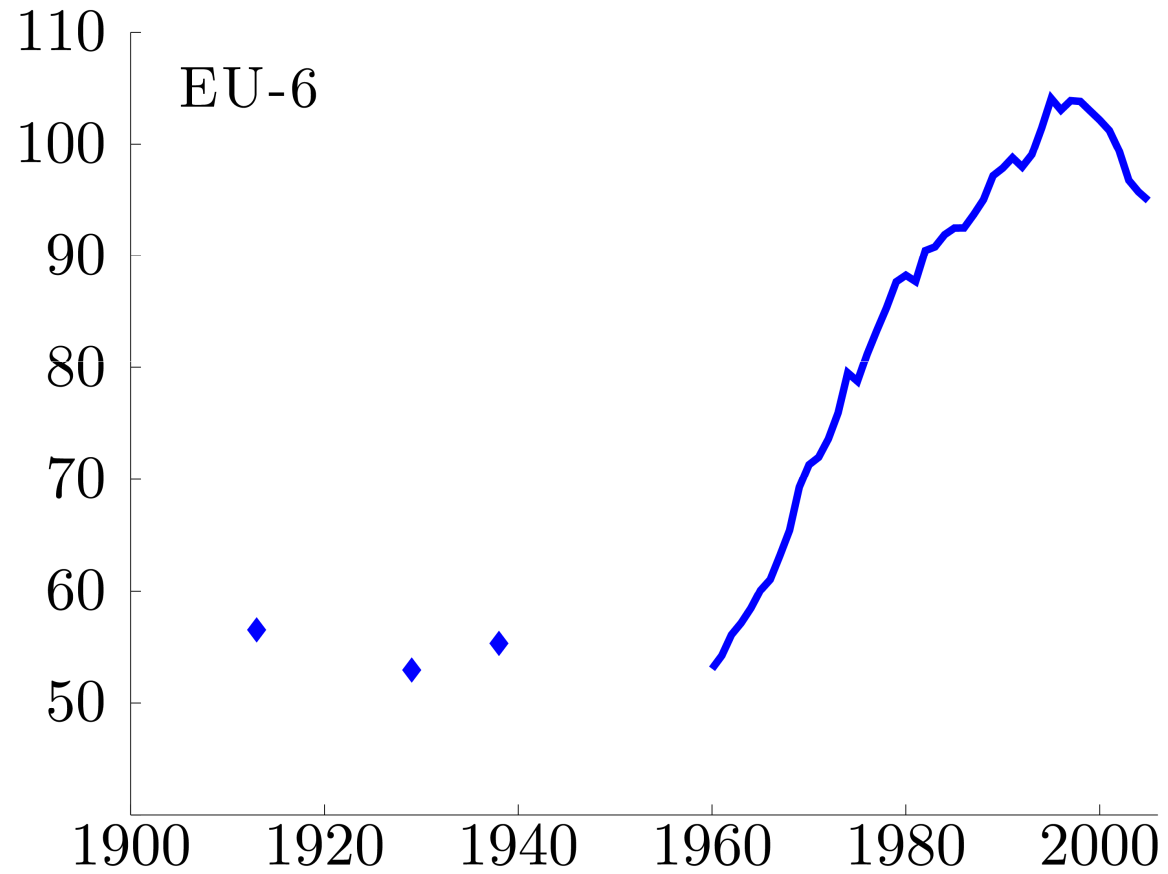
Percent of U.S.
(EU-15 is 70%)



Original E.U. Countries Caught Up

- Productivity half of U.S. level for the 40 years prior to World War II
- Went from 50% to 100% of U.S. productivity in the 30 years following the signing of the Treaty of Rome in 1957
- Will discuss why the EU arrangement fostered this spectacular catch-up

EU-6 Caught Up



Late EU Joiners Lost Ground Prior to Joining

1995 Joiners (Austria, Finland & Sweden) and Switzerland Lose Ground

Year	Others Relative to Original EU
1900	103
1913	99
1938	103
1957	106
1973	96
1983	85
1993	81

Why Is EU-15 GDP per Capita Only 70% of U.S. Level?

Answer: The Europeans have a bad tax system

- The marginal effective tax rate is 60% in Western Europe versus 40% in the U.S.

- If Western Europe reformed its tax systems, it would quickly catch up to U.S.
  - Don’t need high tax rates for a welfare state
    - Mandatory savings and insurance suffice

Poland Workers Work Long Hours

Full Time Workers' Hours per Year	
OECD Average	1766
Germany	1432
Netherlands	1389
United States	1792
Poland	**1969**

Source: OECD

Poles Retire Early

- This is the reason that hours per person aged 15-64 is not high
- When politically feasible, Poland should change retirement policies to increase retirement average age
- Letting people reaching full retirement age work and receive pension benefits is a simple reform that increases the average age at which people retire

Lever to Riches Is Technology

- Need access to its use
- And need to use it to be rich
- Openness gives access and leads to lower barriers to its use

Technology Capital

- Can be used at multiple locations worldwide
- McGrattan and Prescott have extended macroeconomic theory to include it (JET December 2009 and American Economic Review September 2010)

Why Did the Original EU Countries Catch Up?

- **Answer:**

  Original EU countries became economically integrated in 1957 with the signing of the treaty of Rome.

Asian Facts

- Some have caught up – Japan, S. Korea, Taiwan, Hong Kong, and Singapore
- Others have narrowed the gap – Malaysia, Thailand, China, India, and others
- These countries trade in industrial products

Japan, S. Korea, Taiwan, Hong Kong, and Singapore Caught Up

GDP per Capita Percent of U.S. Level	
1961	31
1981	58
2001	67

Source: Maddison   Population: 200 million

- Empirically – catch-up occurs when an economy becomes economically integrated with the industrial leaders
- By integrated I mean
  - Produce and trade ***industrial*** goods
  - Protect property rights of foreign multinationals
  - Have multinatalions with operations abroad

Set of Industrial Leaders

- Number increased form 14 in 1950 to 32 in 2009
- Early members, Western Europe and its offshoots
- A number of countries are near joining in Central and Eastern Europe and also Chile
- A set of 5 in Eastern Asia with 200 million people have joined

Why Economic Integration leads to Catch-Up

Three reasons

1. Have access to foreign know-how – technology capital

2. Barriers to adopting better technologies are lower

3. More rapid diffusion of knowledge useful in production

Technology Capital Reason

- Multinationals use their technological know-how in their foreign subsidiaries
- This increases productivity and output in these countries
  - Wal-Mart has a large stock of knowledge that it uses in all its operations, domestic and foreign
  - Some features of this technology are modified and used by local retailers to increase their productivity

Multinationals Key

- Threat of entry by foreign multinational is often sufficient for increased efficiency
- U.S. Bureau of Economic Analysis (BEA) reports 9.5% return on U.S. foreign direct investment (FDI)
- And only 3.2% on FDI in the U.S.
- Reason is that U.S. has a lot of technology capital, and the implicit rents on this capital are included in the accounting returns

Technology Capital Stock Big

- Technology capital investments
  - R&D
  - Developing brand names – advertising and marketing
  - Bigger than businesses' tangible capital stock
- U.S. multinationals wholly owned foreign subsidiaries have big accounting profits
  - 35% of their total accounting profits
  - but only 10% of their reported investment
- Why? Accounting profits include technology capital rents

The Lower Barriers Reason

- Absent barriers to efficient production, a country will be more productive and richer

- Technological know-how is the *Lever to Riches* but this lever will not make a country rich unless it is used

- Often better work practices are not used because of barriers to their use

- Groups with a vested interest in maintaining current practices will use the political process to block change
- With economic integration, this is not a problem
- If productivity-enhancing change is instituted, with foreign markets, output increases by more than productivity and employment increases
- Further, if foreign competition is blocked, foreign countries will retaliate and domestic exporters will be hurt
  --These exporters have a vested interest in their country remaining open

Flow of Knowledge Reason

- Samsung Electronics has operations in Helsinki and in Austin,Texas -- why?

- In order to get knowledge from Nokia and Dell

- Flow of knowledge between people in proximity is an important positive externality

Competition Reason

- Competition leads to greater productivity
- An example is what happened in northern Minnesota in the Iron Range

Minnesota Iron Ore Example

- In 1982 Reagan permitted competition from new Brazilian mines
- Minnesota productivity doubled with no new investment
  - Reason: Work rules changed
  - Cut employment of skilled machinists in half
- These skilled machinists went to the Twin Cities and quickly found higher paying jobs

Direct Foreign Investment Overcomes Barriers to Adopting Better Technologies

- States without groups that will be adversely affected by the introduction of some technology and with groups that will benefit want the better technology adopted there

- **Example:** Toyota in 1985 located an automobile plant in Kentucky introducing just-in-time production in the U.S.
  - Kentucky wants high paying jobs
  - Kentucky wants building project

- The same thing happened in Wales in 1990

Conclusion

- Central and Eastern Europe countries either are or soon will be among the rich industrial countries
- Poland will catch up to Western Europe in about 15 years and maybe move ahead
- U.S. could lose a decade of growth
- If so, this loss will affect Poland little