

Growth in the US: A Macro and Global Perspective

Professor Pierre Yared

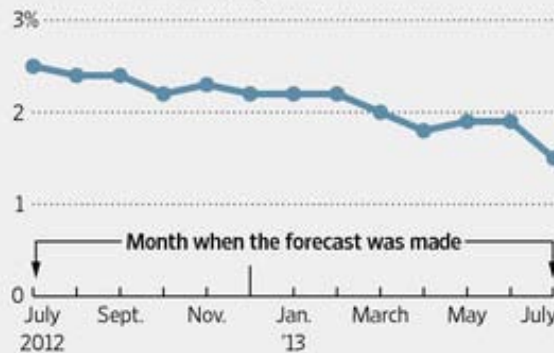
Columbia Business School Executive Education Program
July 29-30, 2013

US Economic Recovery

Summer's Outlook Cools Off

Economists have become more pessimistic about second-quarter growth...

Expected quarterly change at an annual rate in second-quarter GDP; adjusted for inflation



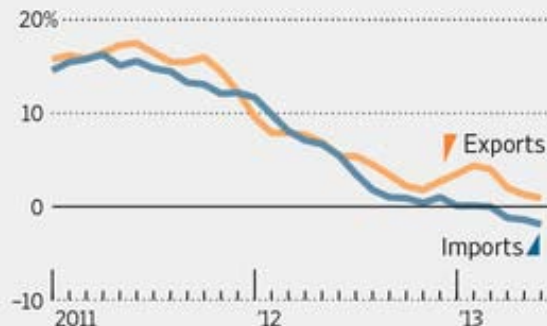
...as sales at retailers and restaurants faltered in June...

Monthly change, retail and food-services sales excluding motor vehicles and parts and gasoline



...and trade data reflect a global slump...

Change from a year earlier in the value of trade in goods and services, three-month moving averages



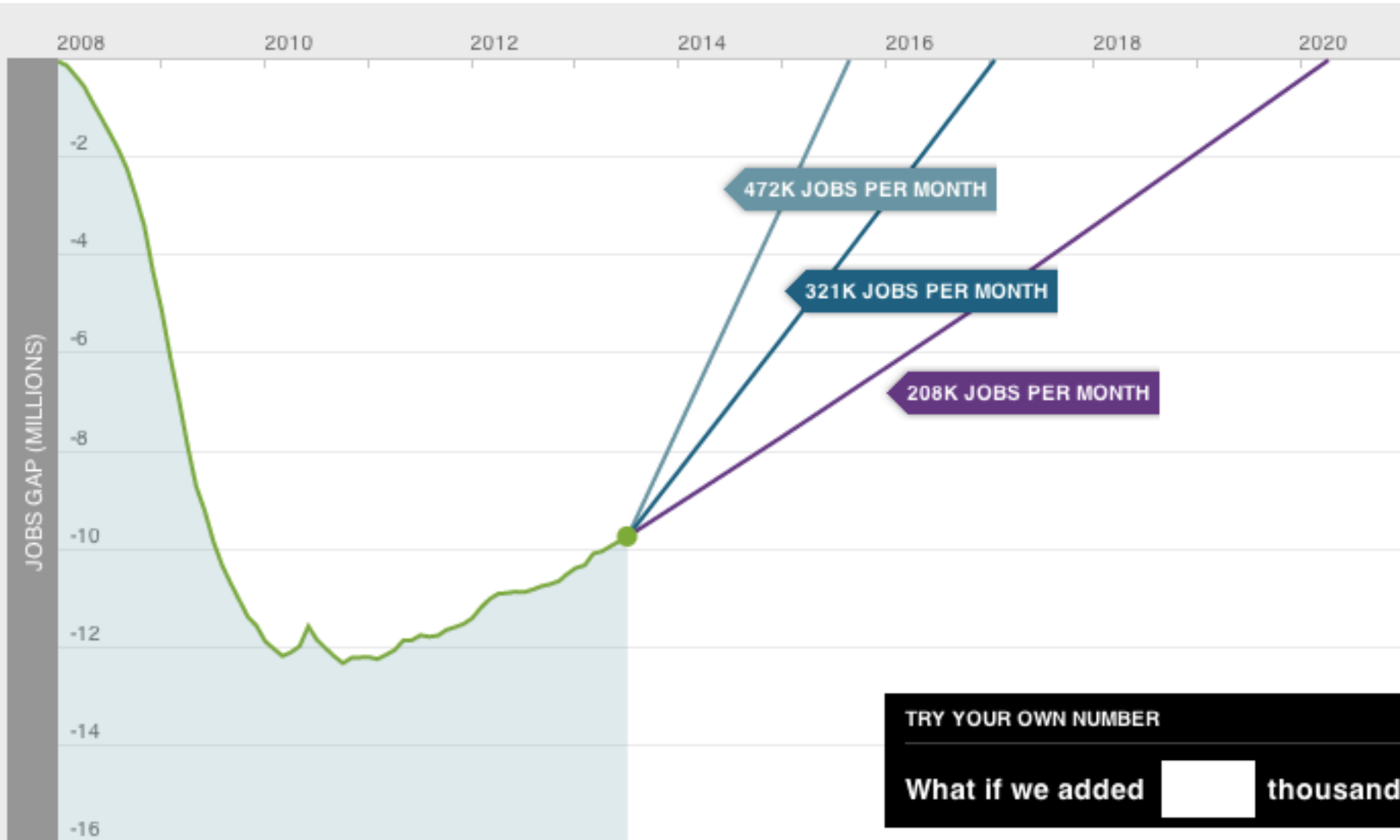
...even as the pace of private-industry job growth remains steady.

Monthly gain in private-industry jobs, in thousands



Note: Data are seasonally adjusted. Sources: Commerce Department (retail sales, trade); WSJ July survey of economists (forecasts); Labor Department (jobs)

US Economic Recovery



Exacerbated by European Debt Crisis

Monthly Unemployment Rates in Europe



Note: Estonia's rates are as of March of each year and Greece's are as of April.

Source: Eurostat

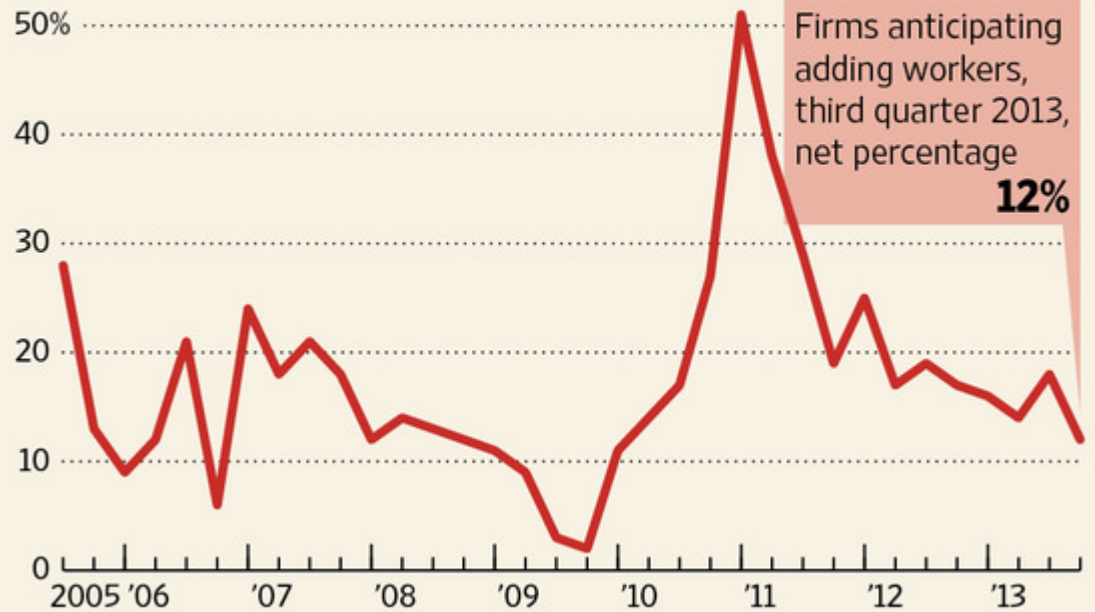
The Wall Street Journal

Prospect of China Slowdown



Weaker Prospects

China's employers are growing less optimistic. Percentage of firms anticipating adding workers minus the percentage planning cuts

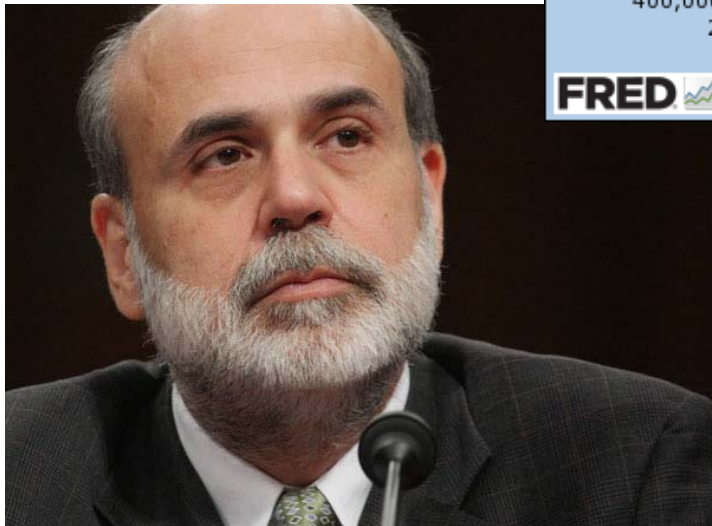
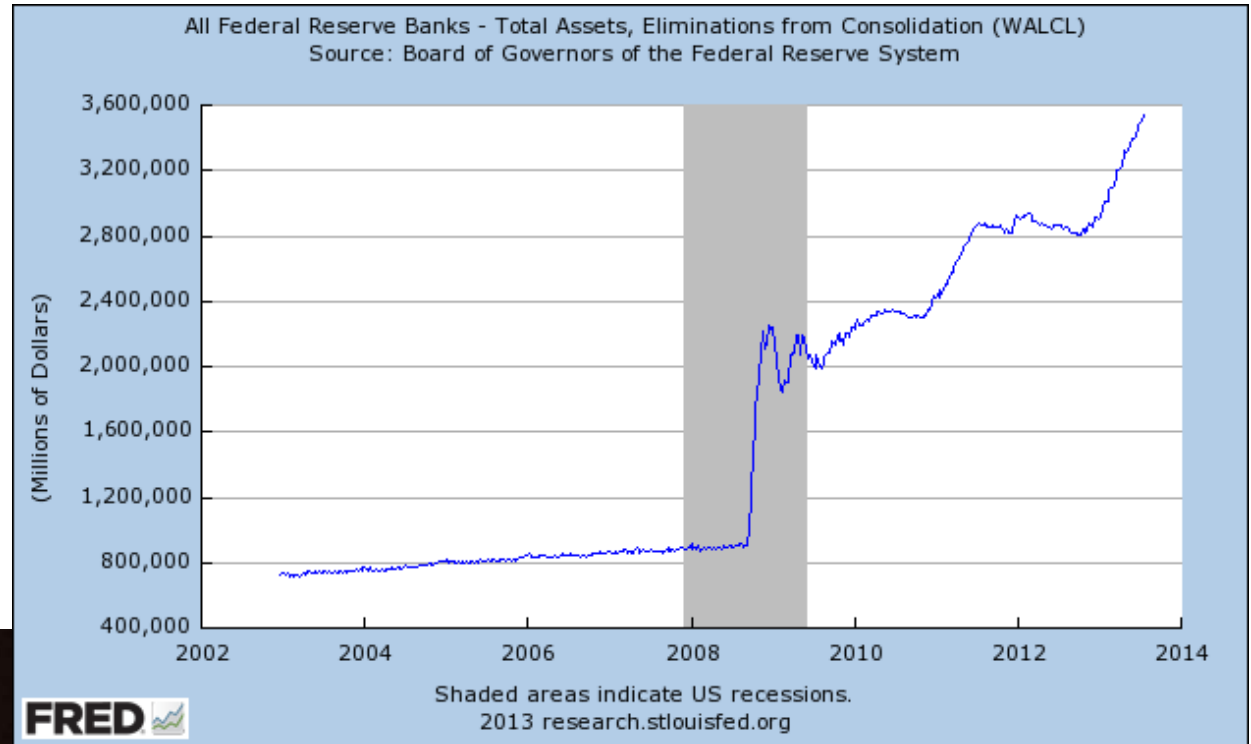


Note: Survey for the third quarter of 2013 conducted among 4,241 employers in China

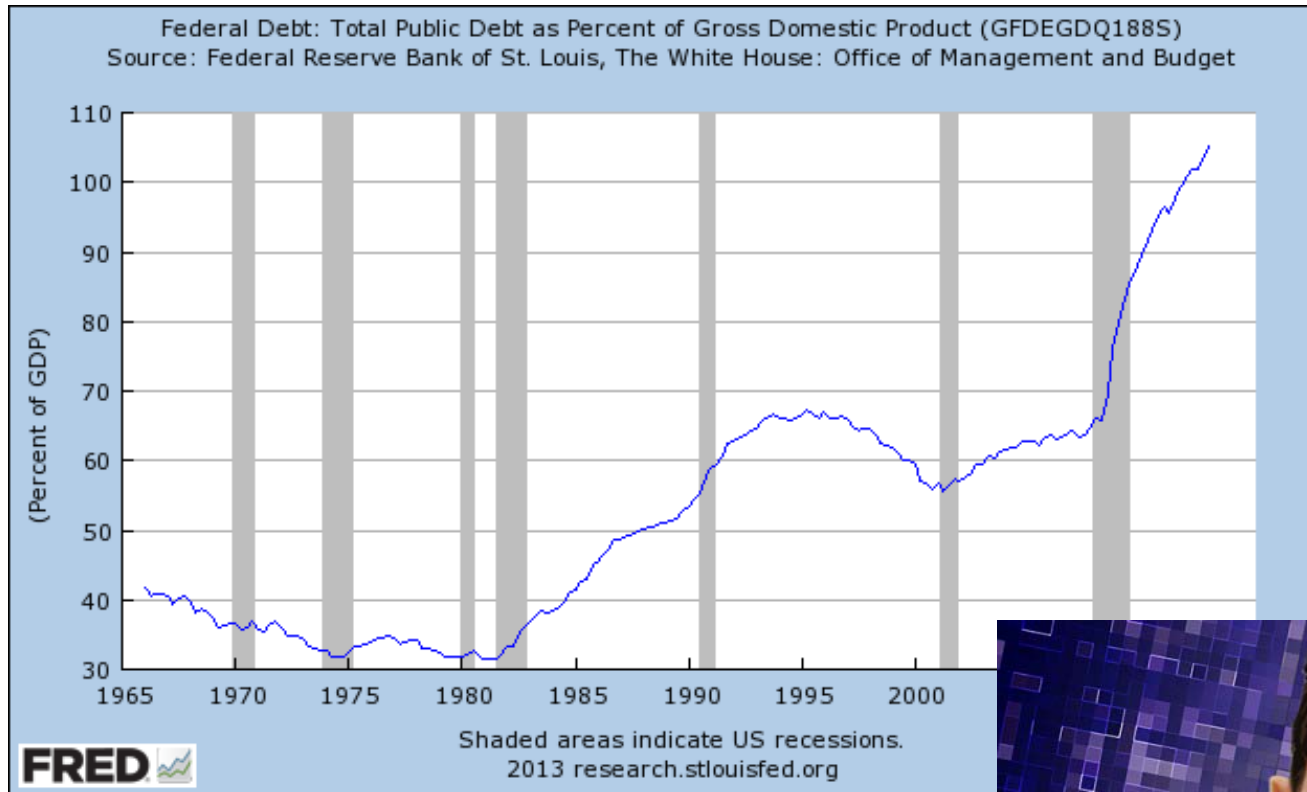
Source: Manpower Group

The Wall Street Journal

Monetary Policy Interventions



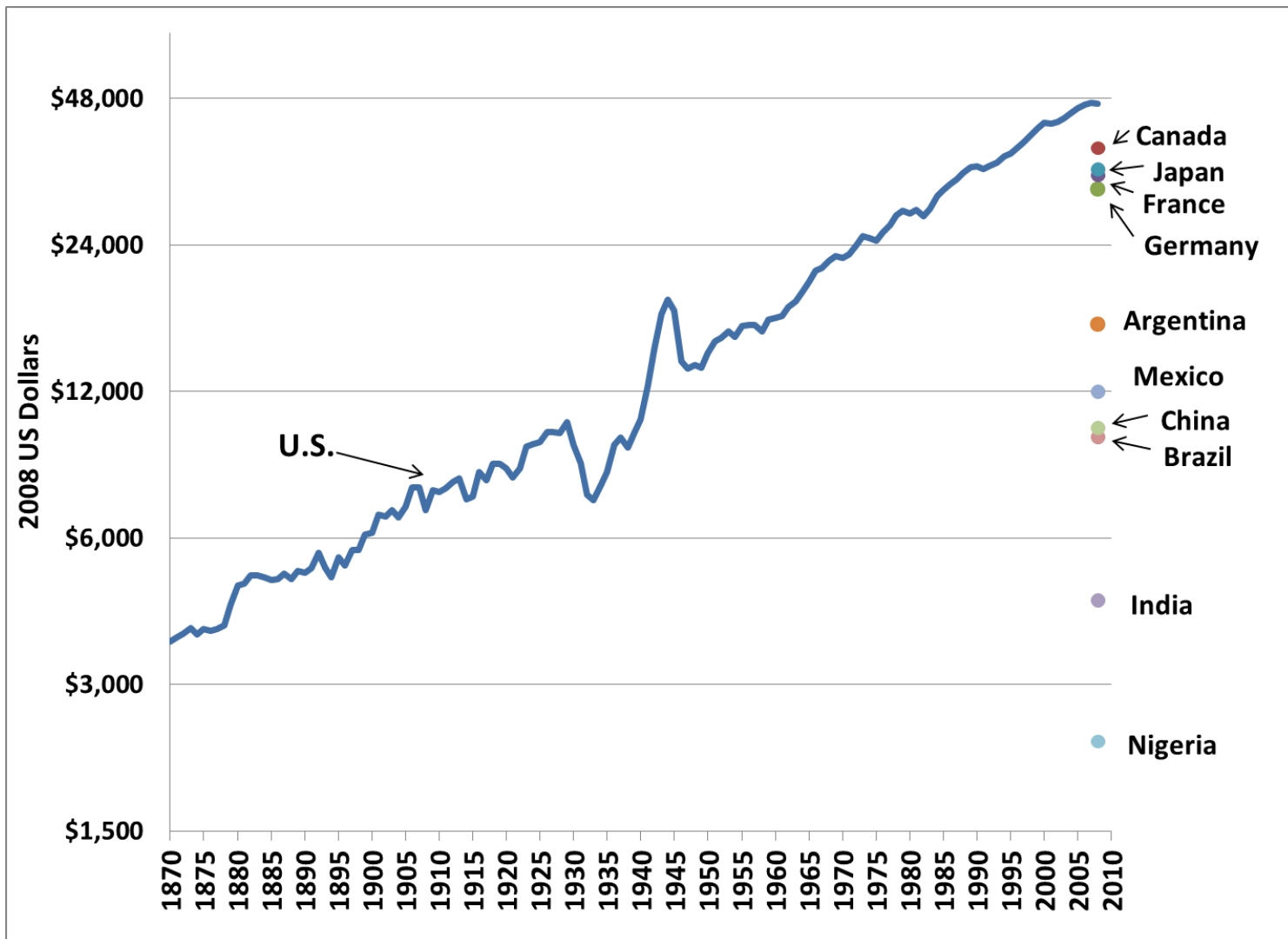
Fiscal Policy Interventions



Today

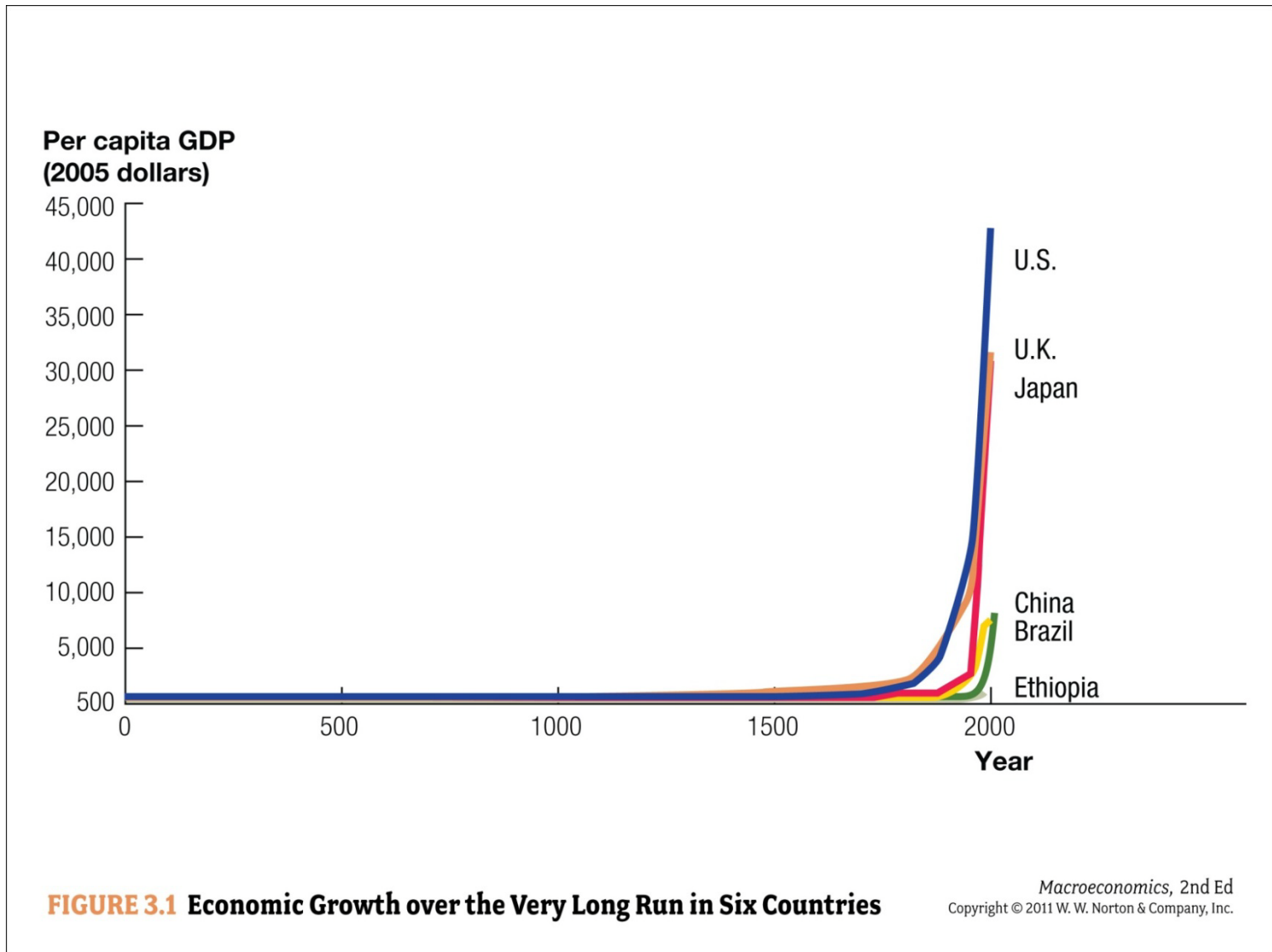
- ➔ 1. Long Run Economic Growth
- 2. Recessions and Recoveries
- 3. Monetary and Fiscal Policy Interventions
- 4. Fiscal Policy Case

US Economic Growth in Perspective

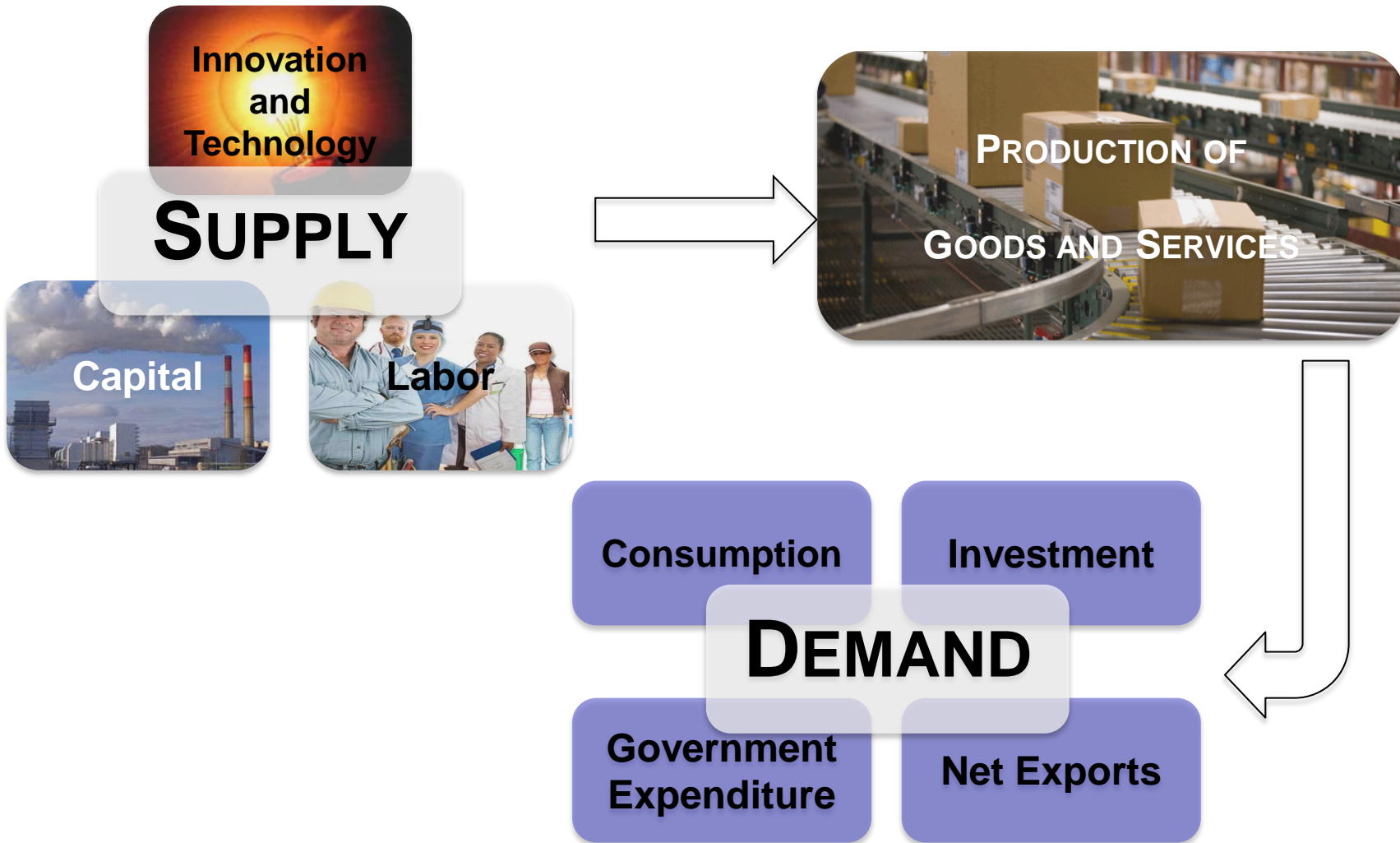


Sources: Johnston and Williamson (2003), UN database, purchasing power parity (PPP) exchange rates

World Growth in Perspective



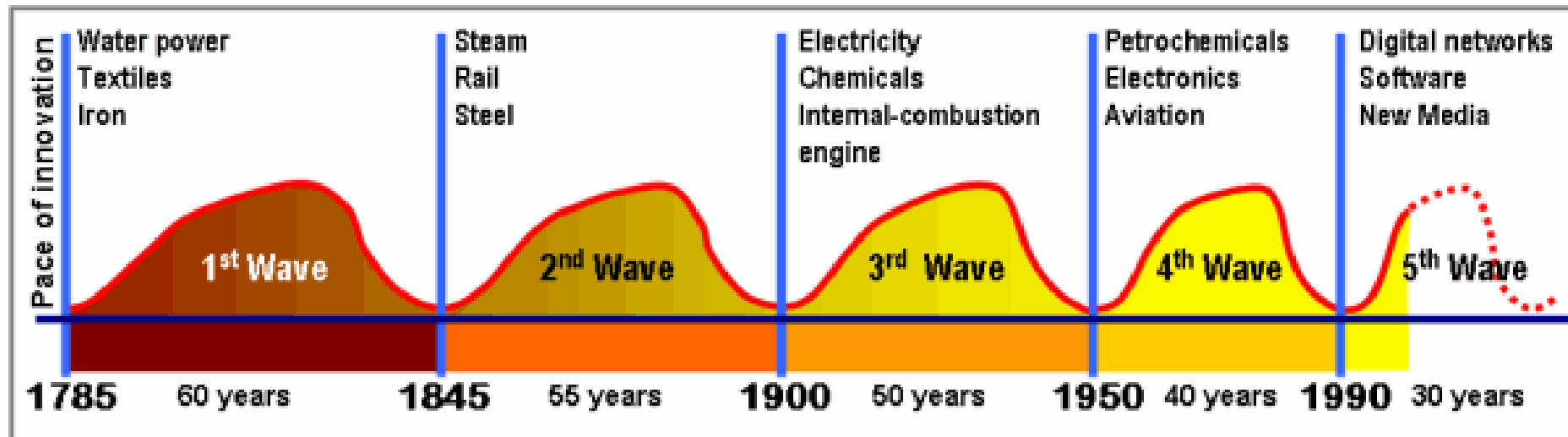
GDP: A Supply-Demand View



Growth in Long Run is Driven by Supply

- Drivers of **long run** growth: Supply
 - Technological progress
 - Investment in capital stock
 - Increases in labor force participation
- Sustained growth cannot be driven by demand
 - e.g., consumption merely reflects the increase in income
- Policy may or may not affect long run growth
 - Monetary policy is neutral
 - Fiscal policy is not

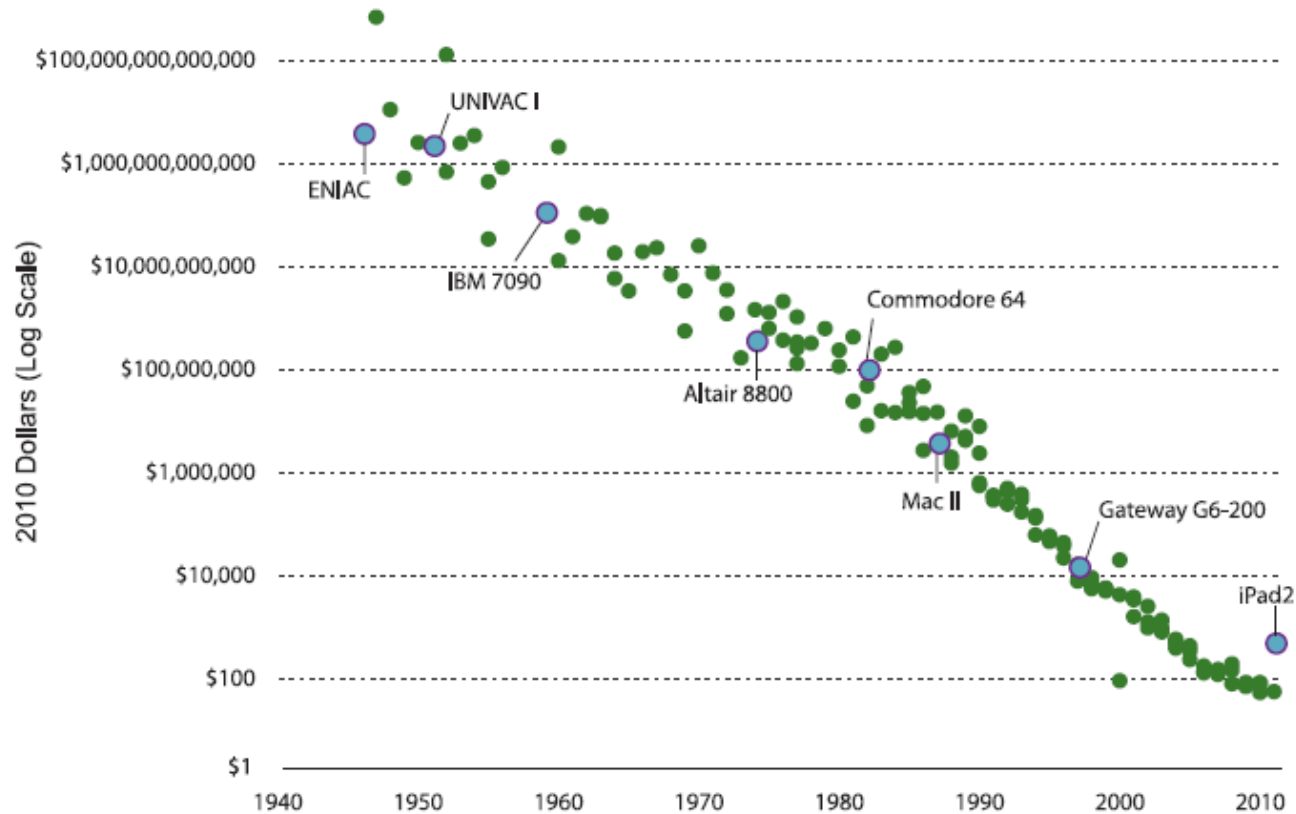
Factor #1: Technological Progress (Most Important)



Driven by Invention and Innovation

FIGURE 3.

Cost of Computing Power Equal to an iPad 2



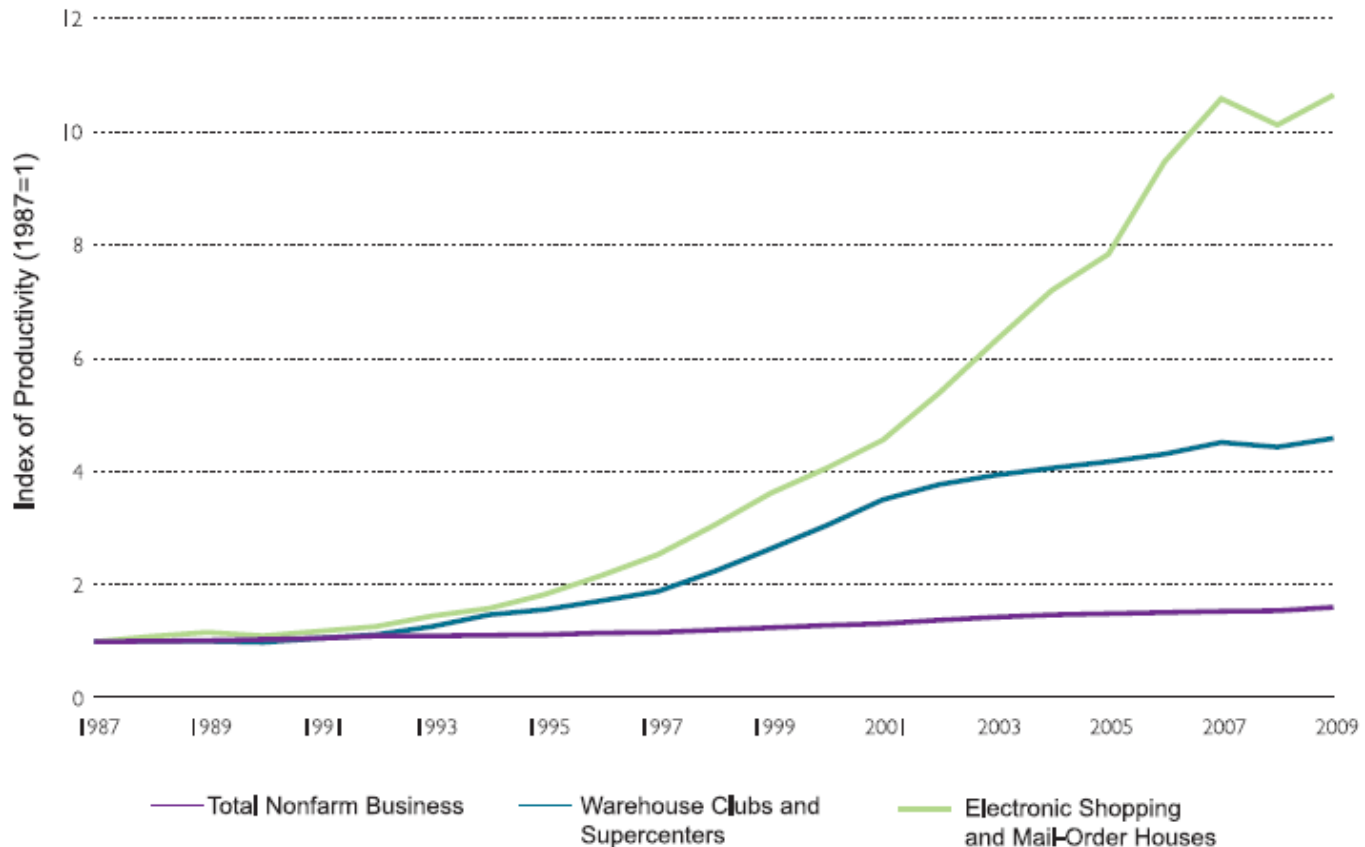
Note: The iPad2 has computing power equal to 1600 million instructions per second (MIPS). Each data point represents the cost of 1600 MIPS of computing power based on the power and price of a specific computing device released that year.

Source: Moravec n.d..

Diffusion Improves Efficiency

FIGURE 5.
Labor Productivity Growth

basic necessities (Hausman and Leibtag 2005).



Note: Warehouse clubs and supercenters are defined as stores retailing a general line of groceries in combination with general lines of other products.

Source: BLS.

Factor #2: Capital Accumulation

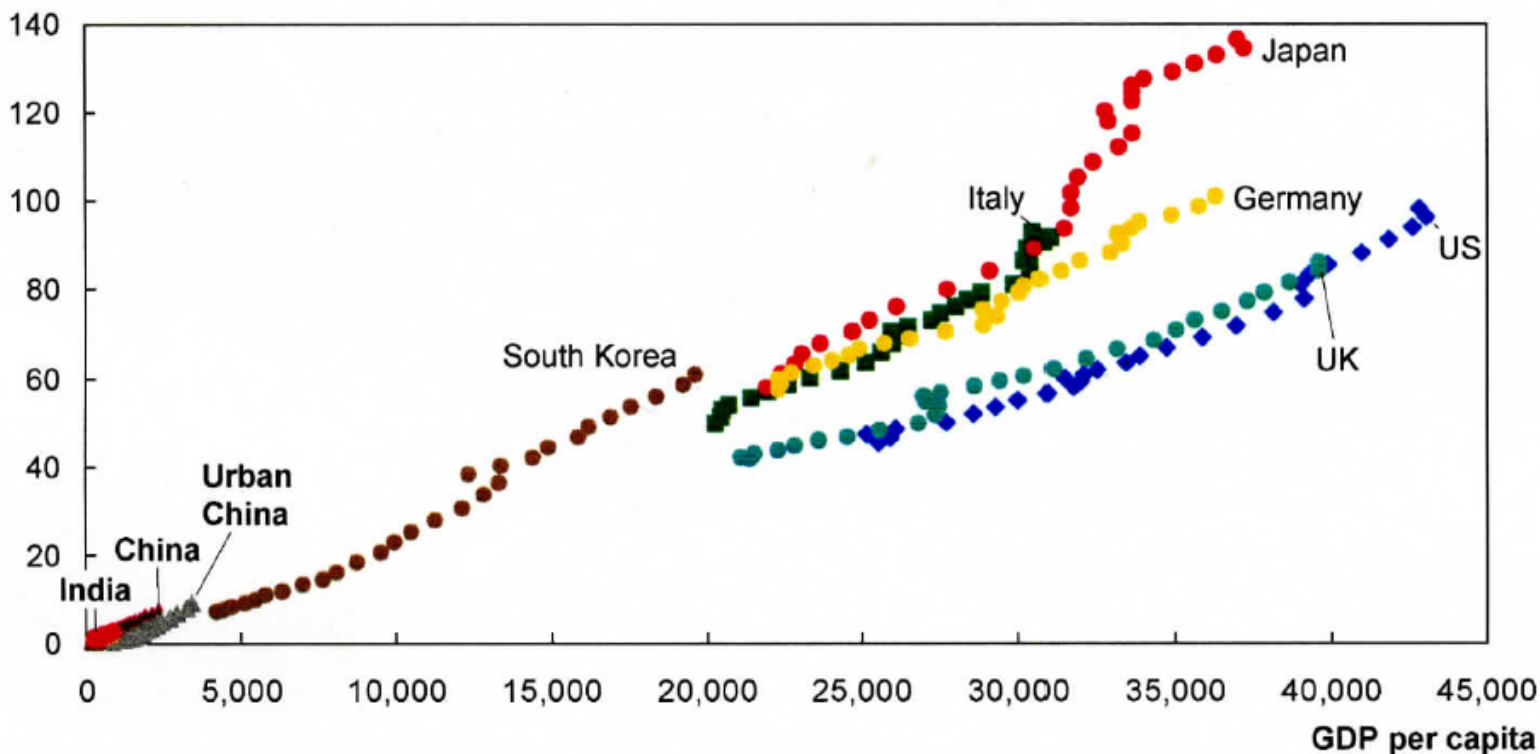
Exhibit E 2

Capital stock per capita in China and India is very low compared with that of developed countries

Capital stock vs. GDP per capita by country and year, 1980–2008

\$ thousand, sample of selected countries, constant 2005 prices and exchange rates

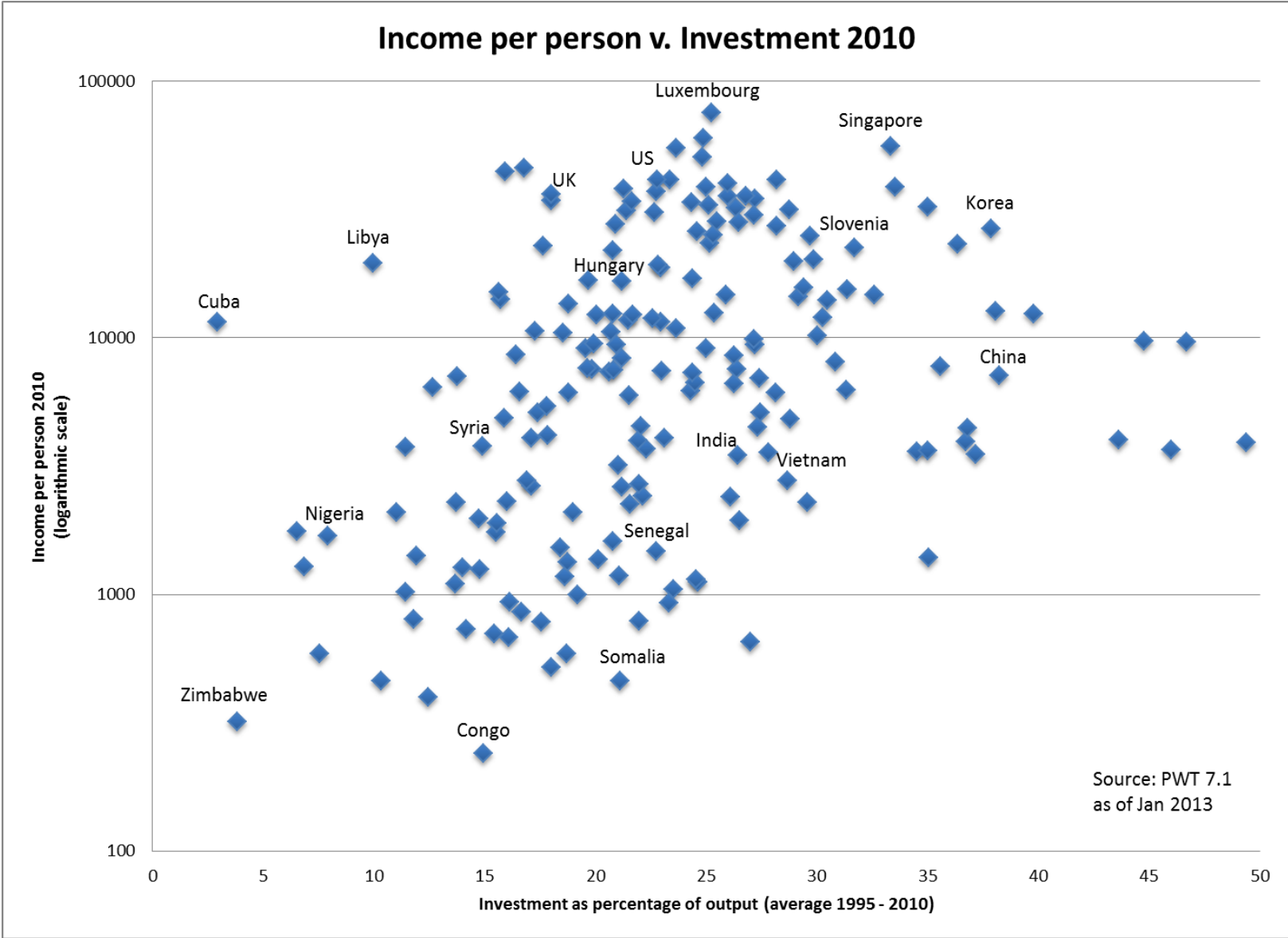
Capital stock per capita¹



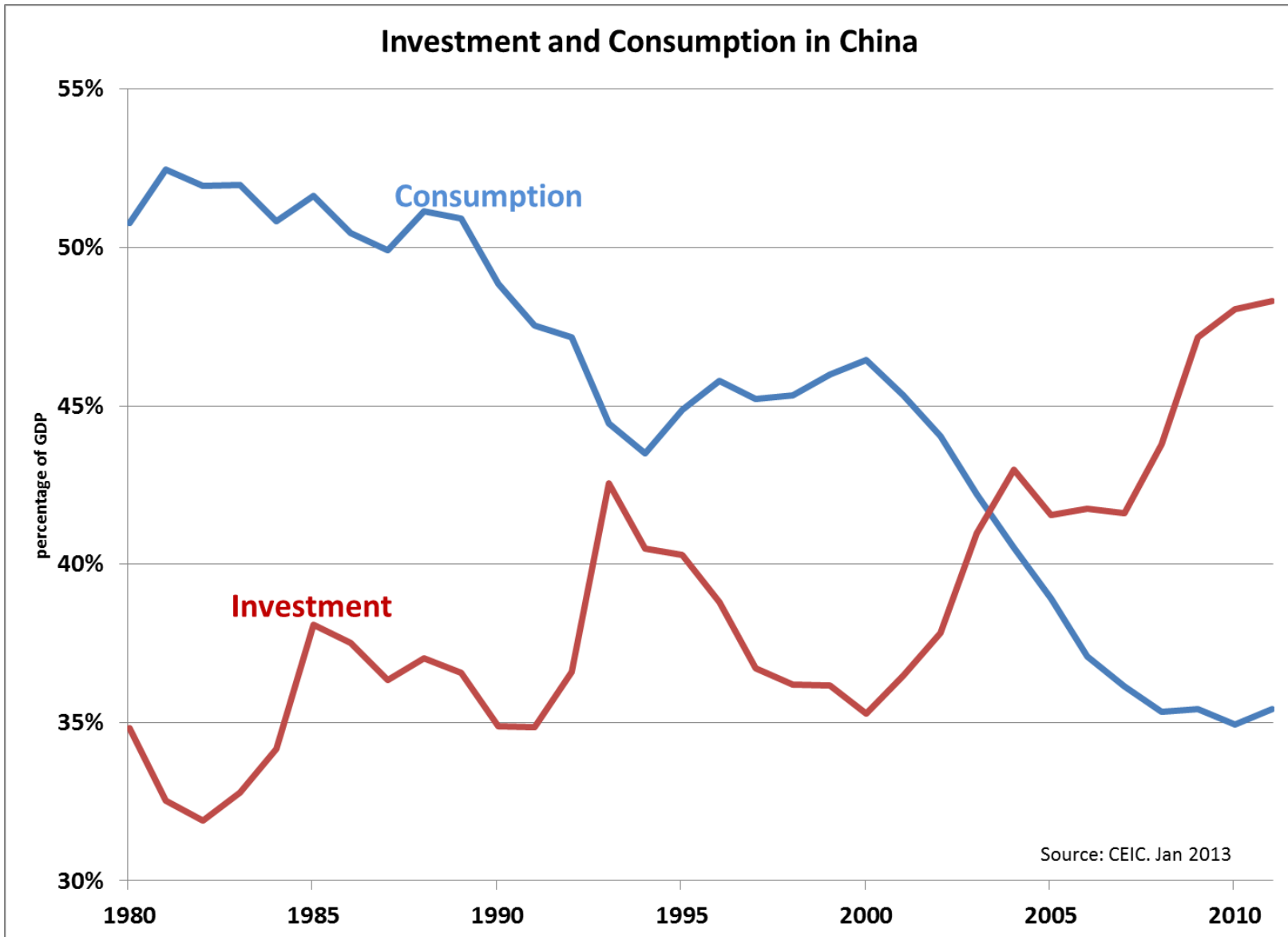
1 Stock of net fixed assets at the end of the year, assuming 5 percent depreciation rate for all the assets.

SOURCE: McKinsey Insights China; McKinsey Global Economic Growth Database; McKinsey Global Institute

Countries that Invest More are Richer

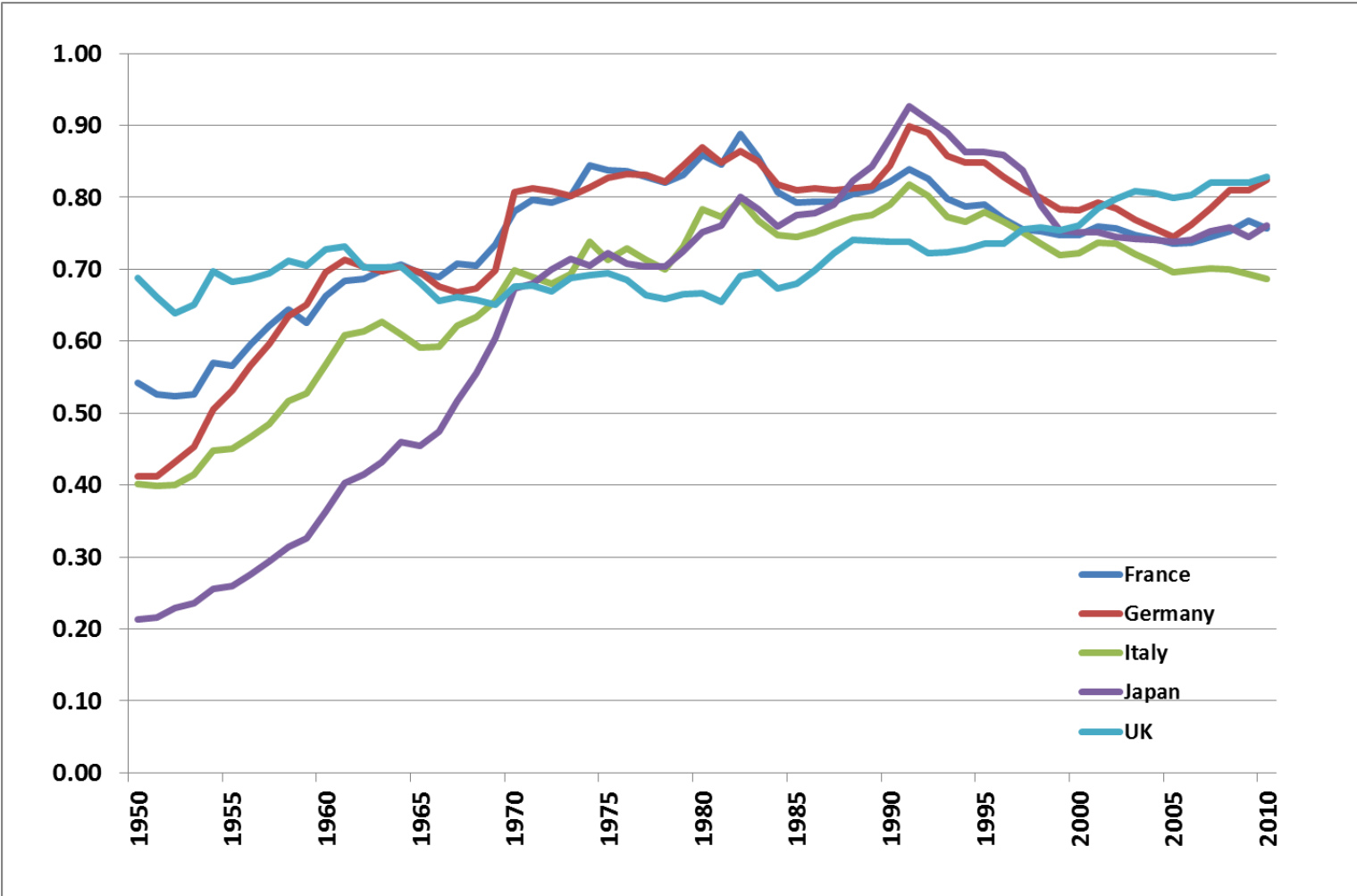


Higher Return to Investment in Poorer Countries



So Poorer Countries Can Grow Faster than Richer Ones

GDP per capita relative to US

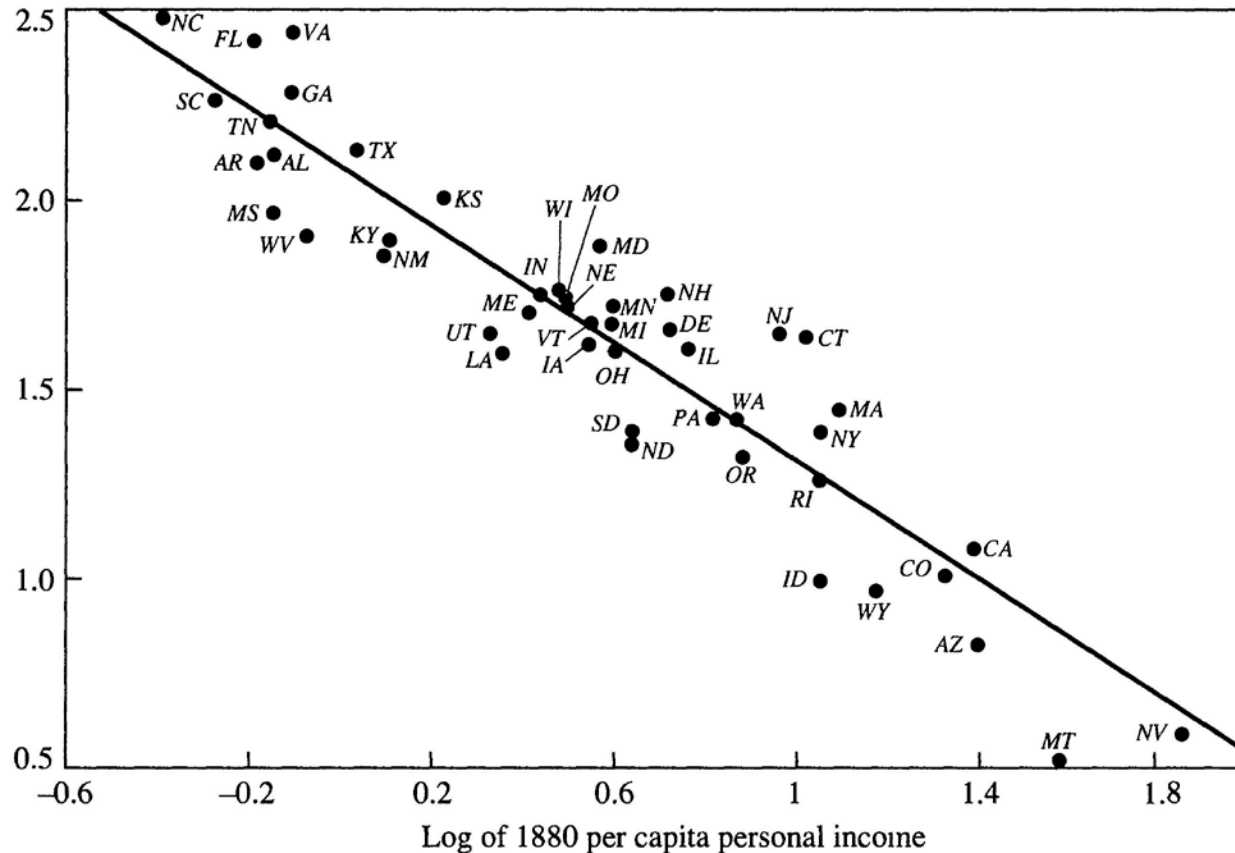


Sources: Penn World Tables 7.1; Maddison Data (2008)

Poorer Regions Also Grow Faster within Countries

Figure 1. Convergence of Personal Income across U.S. States: 1880 Income and Income Growth from 1880 to 1988

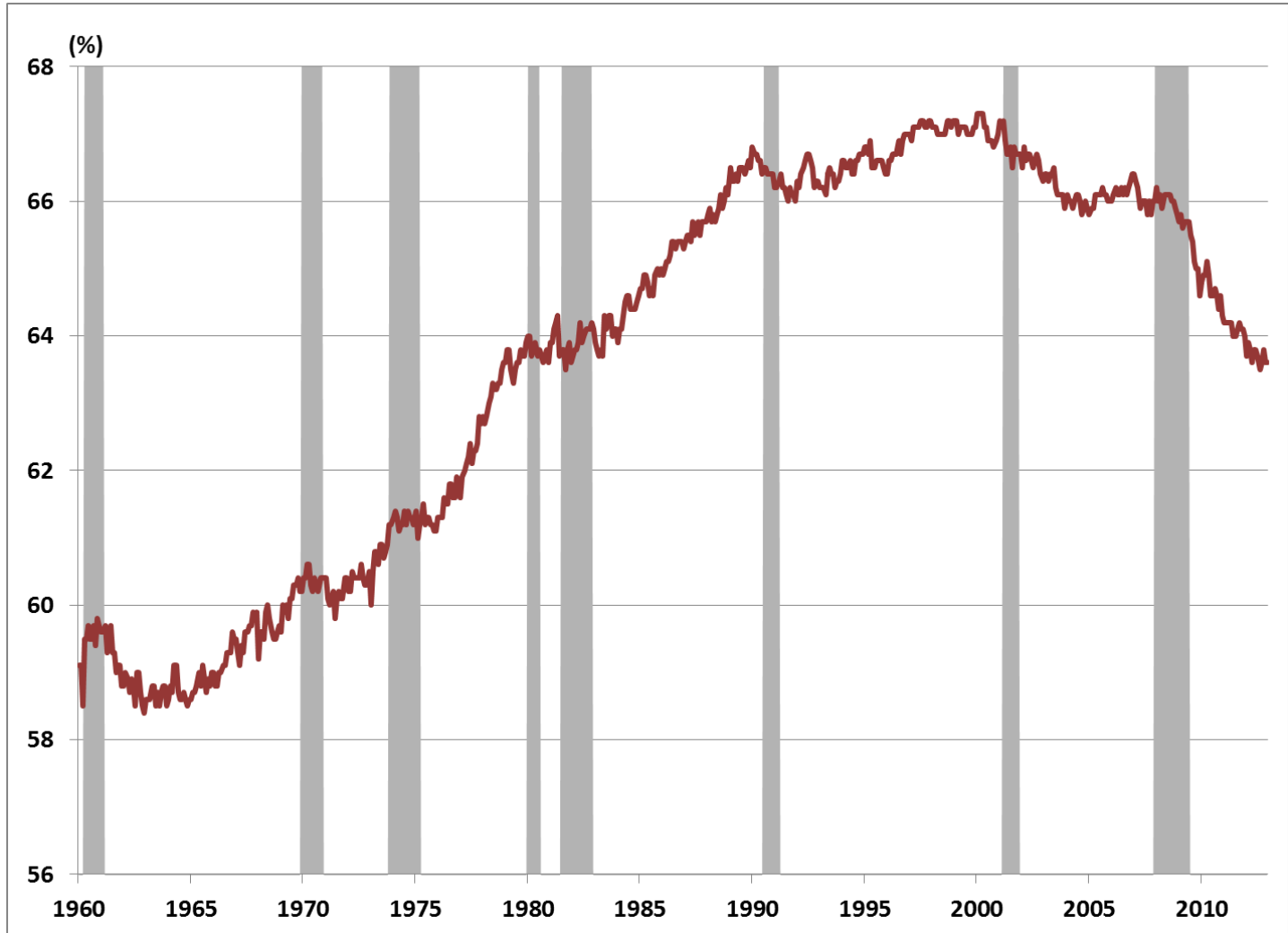
Annual growth rate, 1880–1988 (percent)



Sources: Bureau of Economic Analysis (1984), Easterlin (1960a, 1960b), and *Survey of Current Business*, various issues. The postal abbreviation for each state is used to plot the figure. Oklahoma, Alaska, and Hawaii are excluded from the analysis.

Factor #3: Labor Force Participation

Labor Force Participation Rate in the US



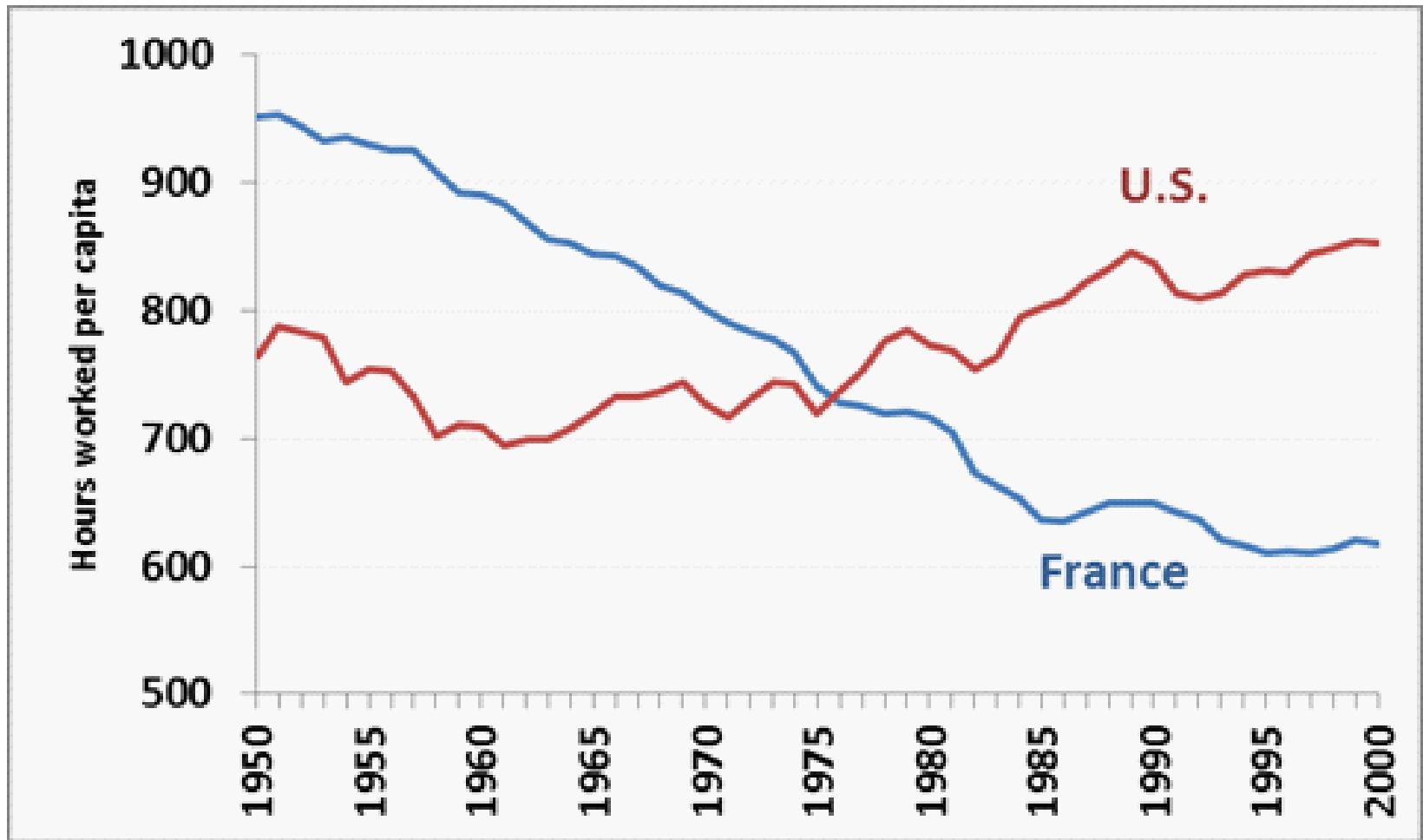
Reduction Reflects Changing Demographics

Expected increase in proportion of eightysomethings

	2013	2050
Australia	3.8%	8.2%
Canada	4.1%	9.7%
France	5.8%	10.7%
Germany	5.4%	14.4%
Italy	6.3%	13.8%
Japan	7.3%	15.6%
Netherlands	4.2%	11.2%
Sweden	5.2%	8.8%
Switzerland	5.0%	9.8%
UK	4.8%	9.5%
US	3.7%	7.9%

Sources: Credit Suisse, The Economist

Differences Across Countries Reflect Regulation, Taxation, Culture



Source: Vincent and Yared (2013)

Today

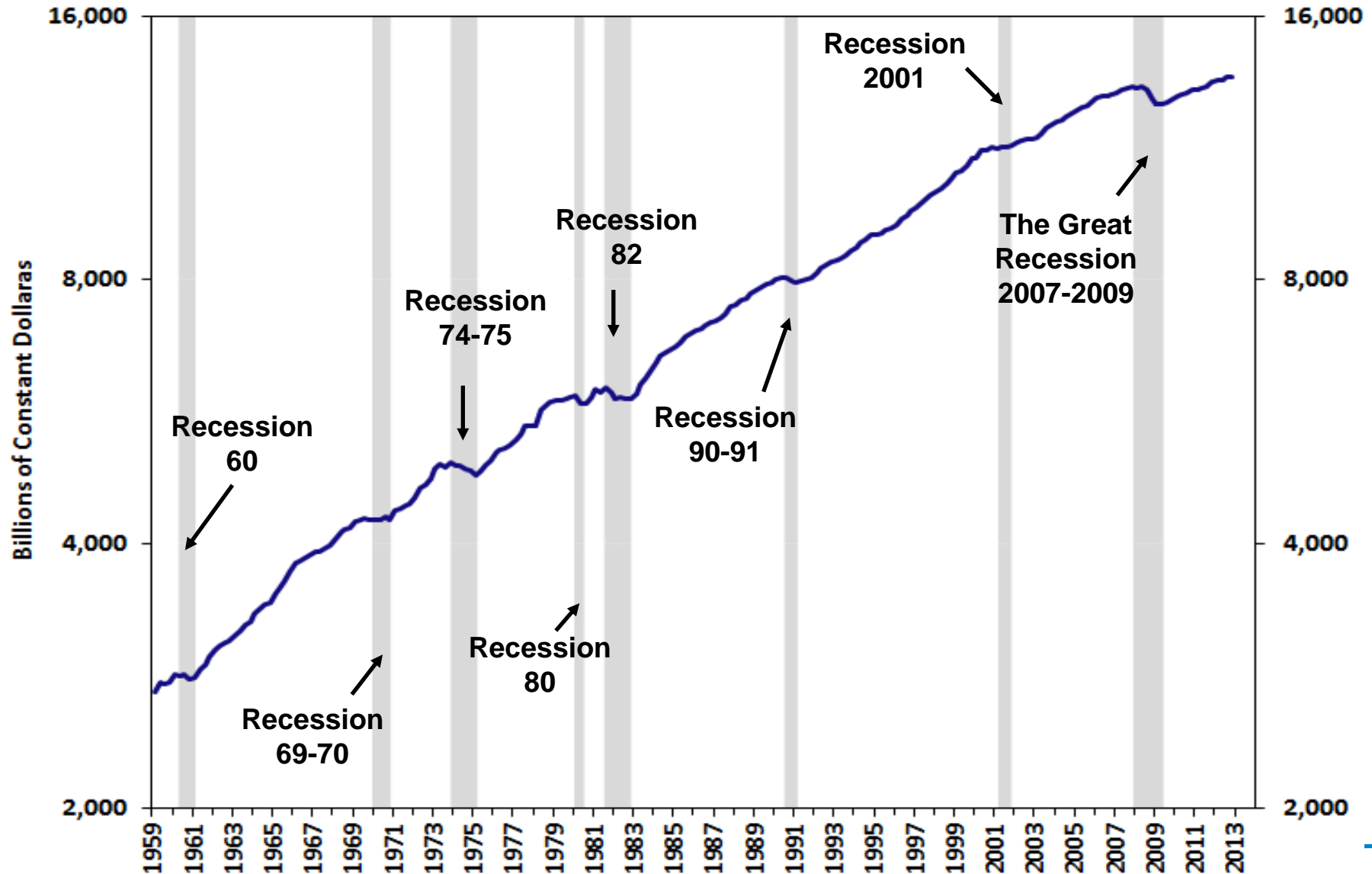
1. Long Run Economic Growth

→ 2. Recessions and Recoveries

3. Monetary and Fiscal Policy Interventions

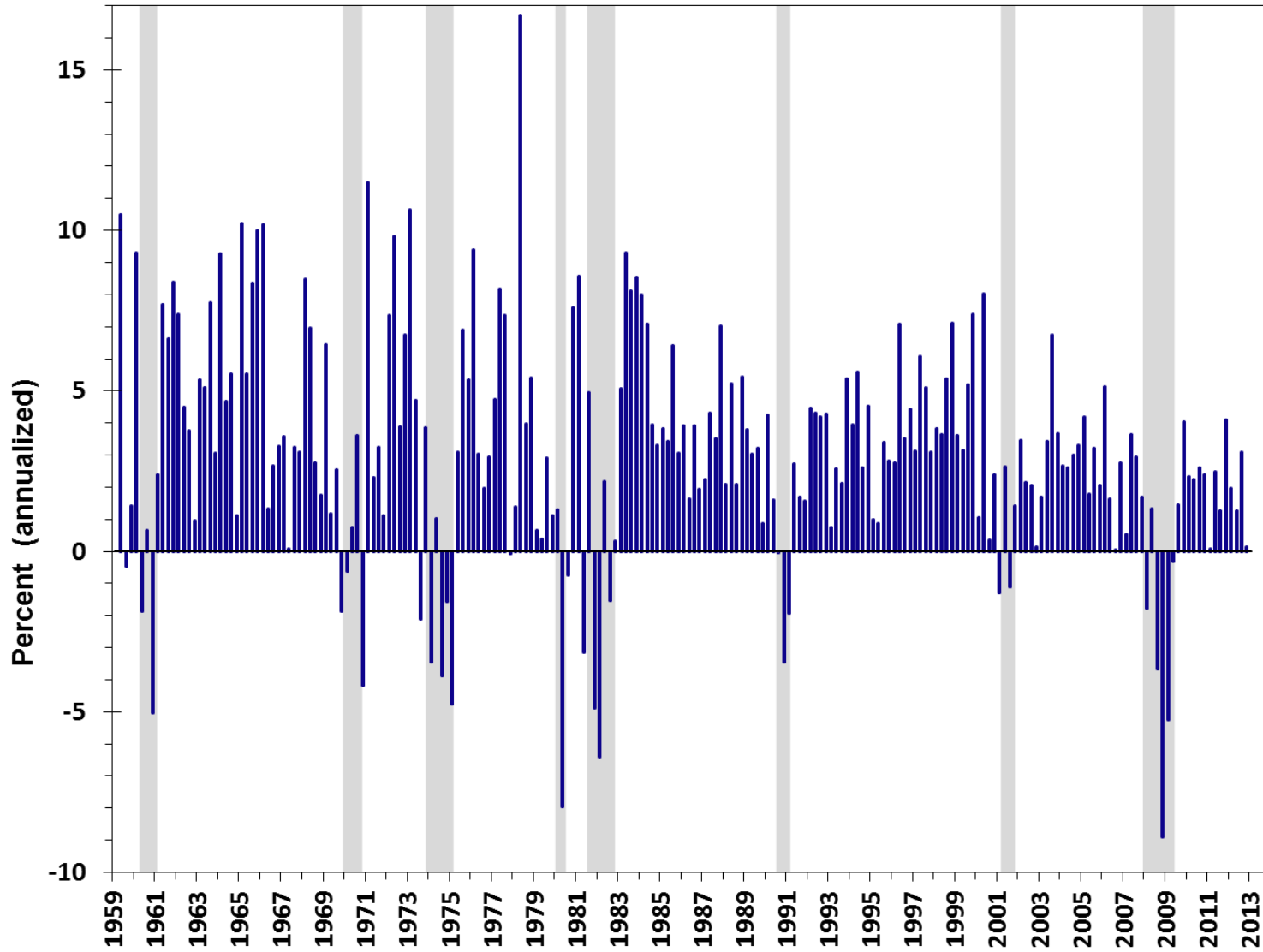
4. Fiscal Policy Case

Growth and Business Cycles



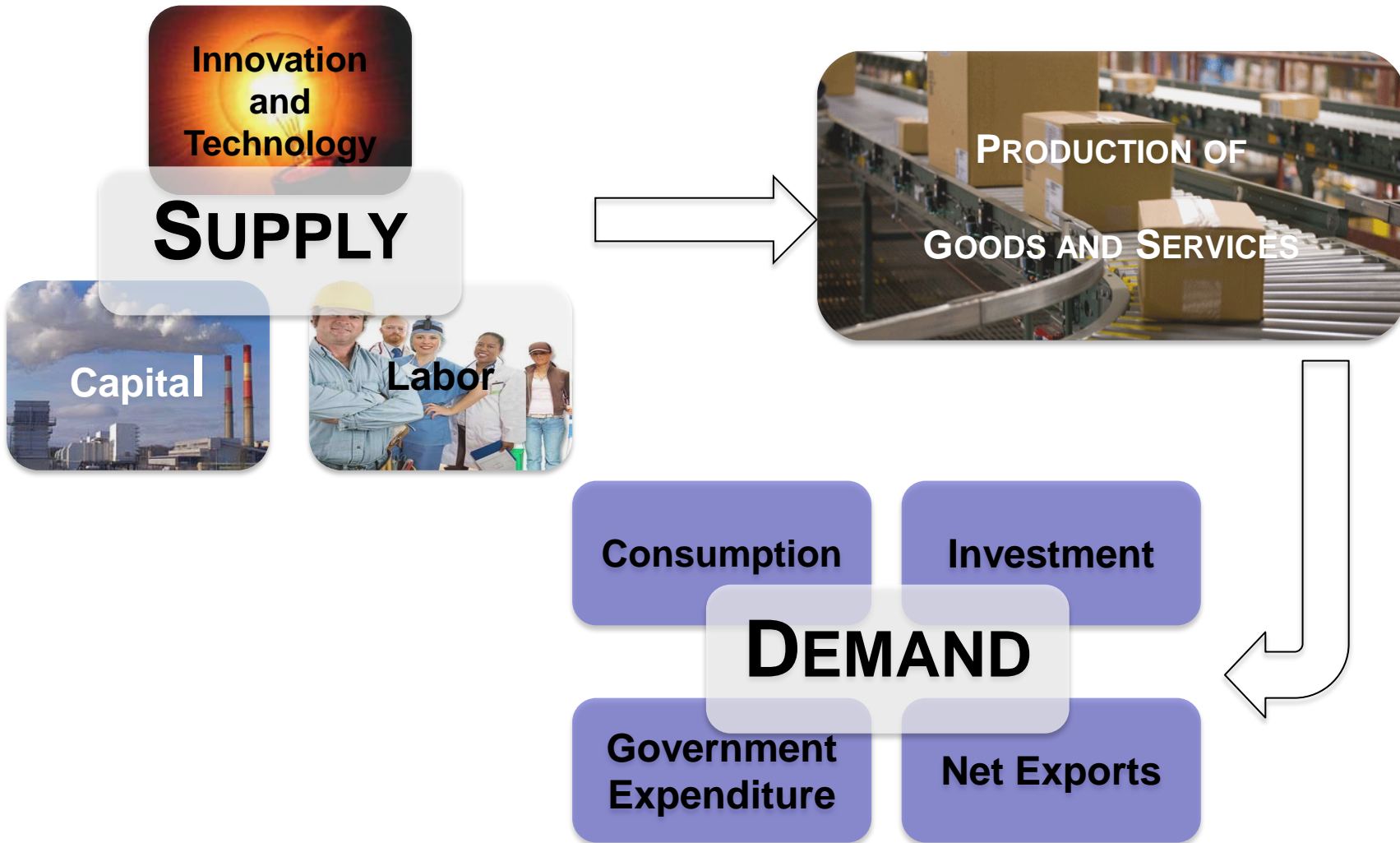
Source: Bureau of Economic Analysis

Real GDP Growth (U.S. quarterly)



Source: Bureau of Economic Analysis

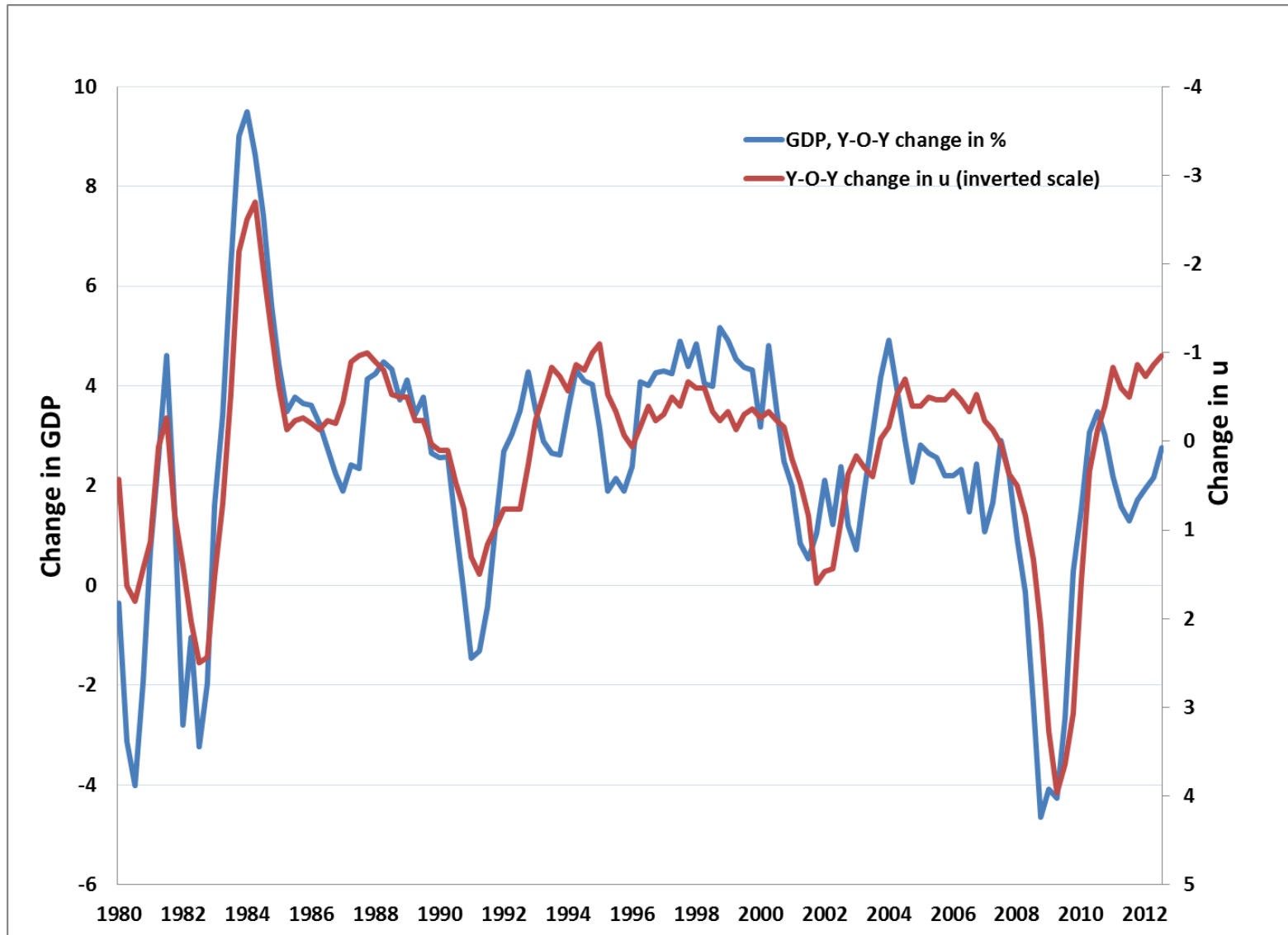
GDP: A Supply-Demand View



Fluctuations are Driven Primarily by Demand

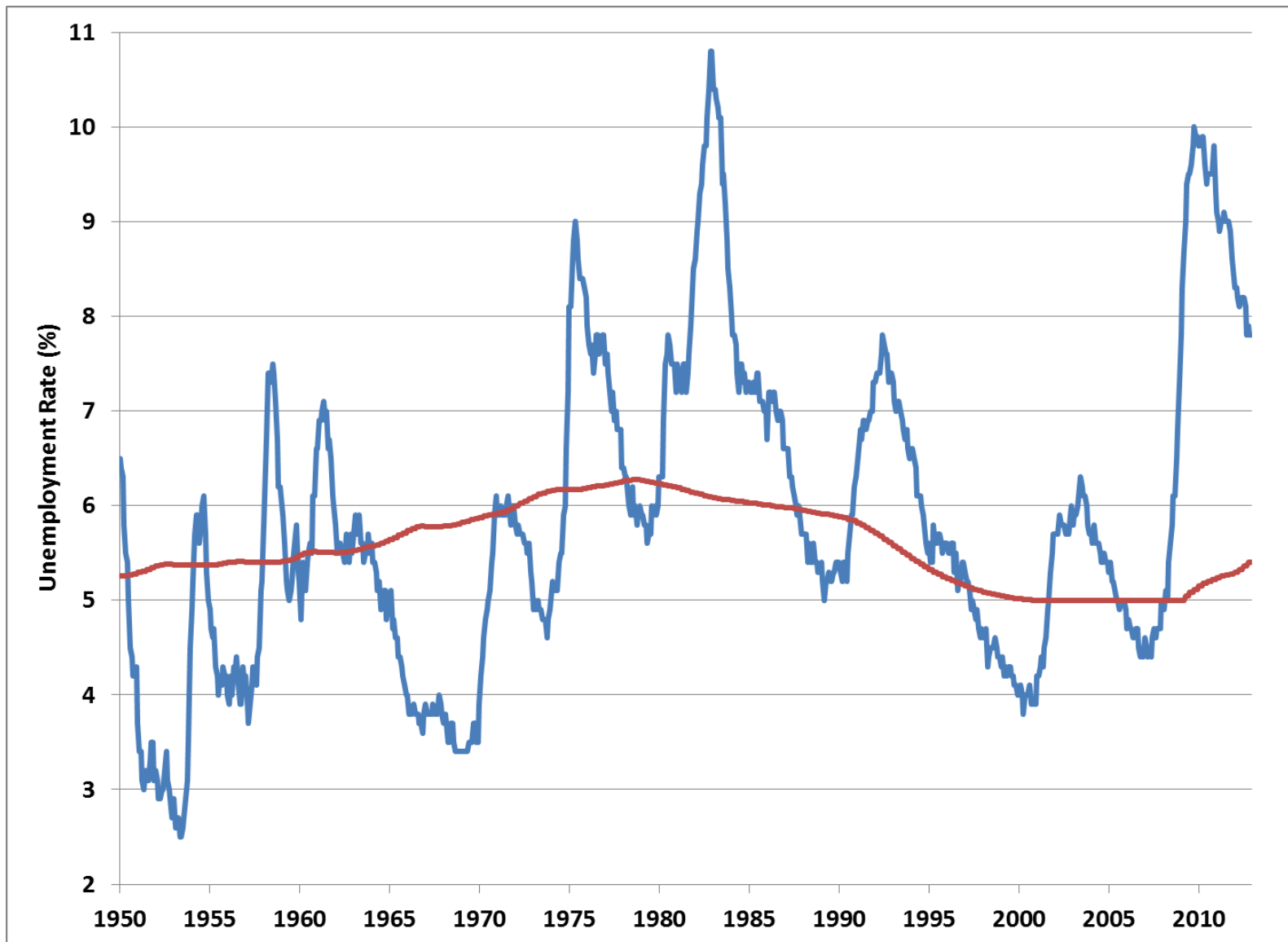
- Drivers of **short run** fluctuations: Demand
 - Household consumption
 - Business investment and residential construction
 - Government spending
 - Export demand (important in emerging economies)
- Supply accommodates demand with employment adjustment
 - Eventually labor market adjusts back to fundamental
- Monetary and fiscal policy can affect demand

How Employment Accommodates Demand: GDP Growth and Changes in Unemployment



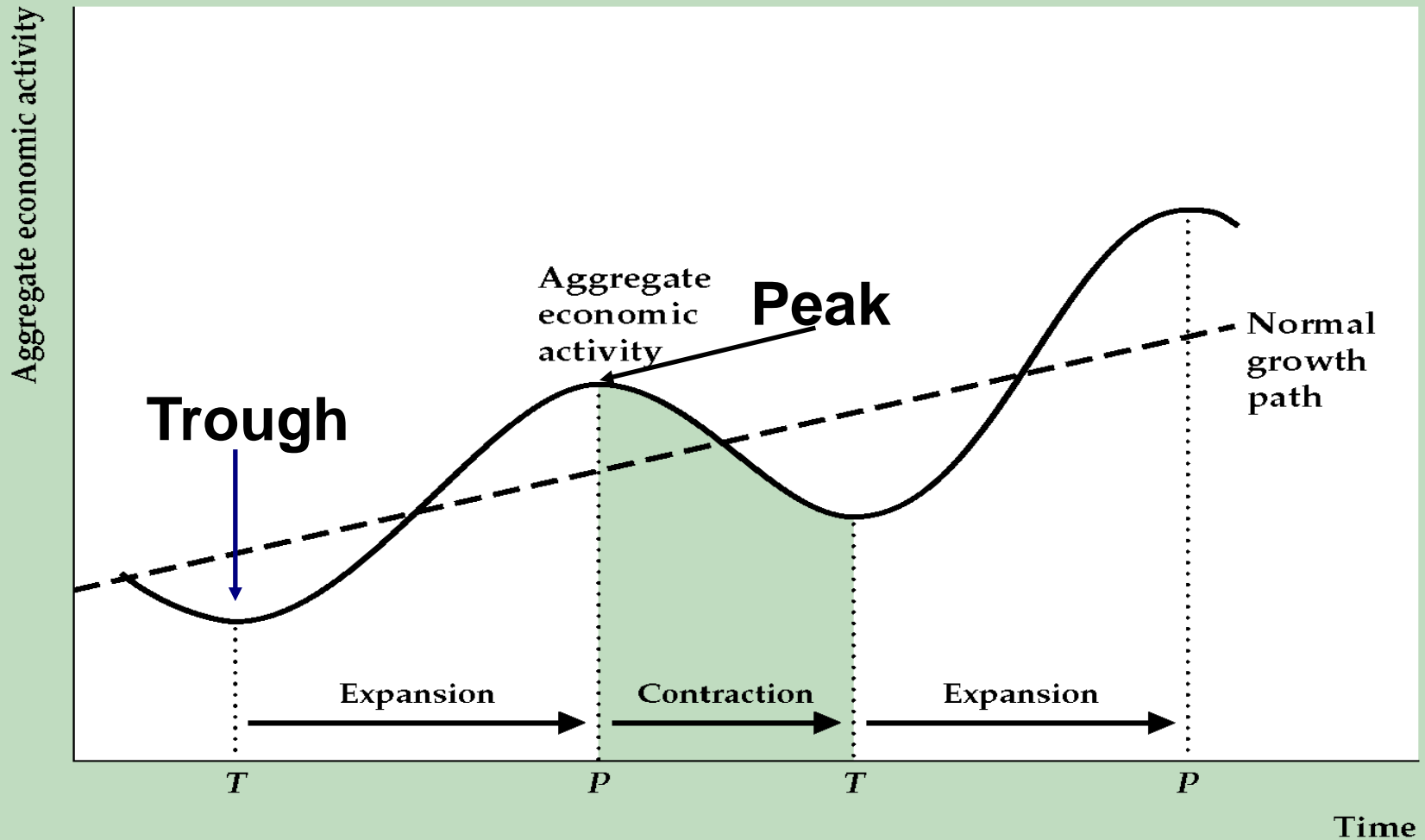
Source: Bureau of Labor Statistics

Unemployment Rate Fluctuates around Natural Rate

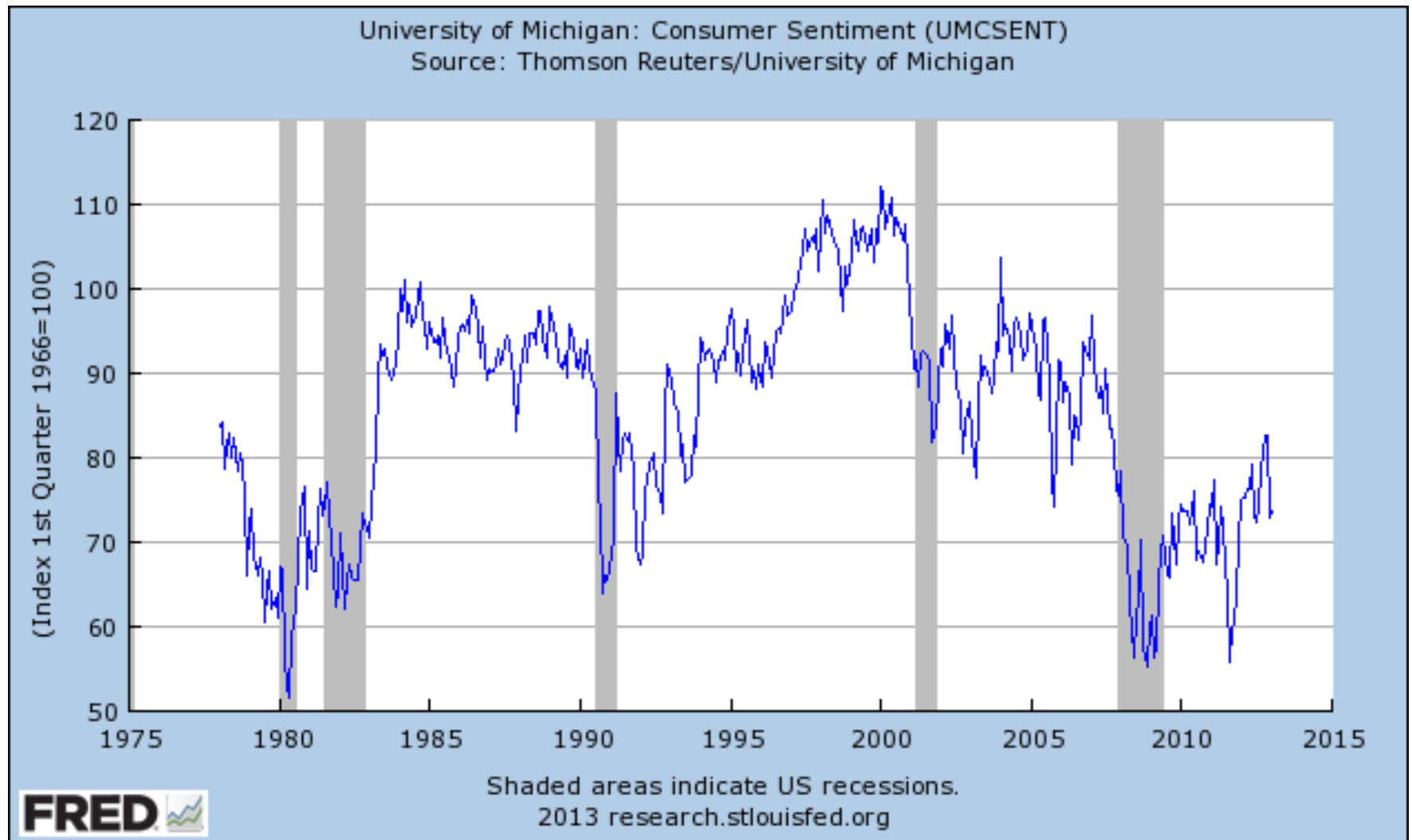


Source: Bureau of Labor Statistics

Economy Eventually Adjusts back to Fundamental

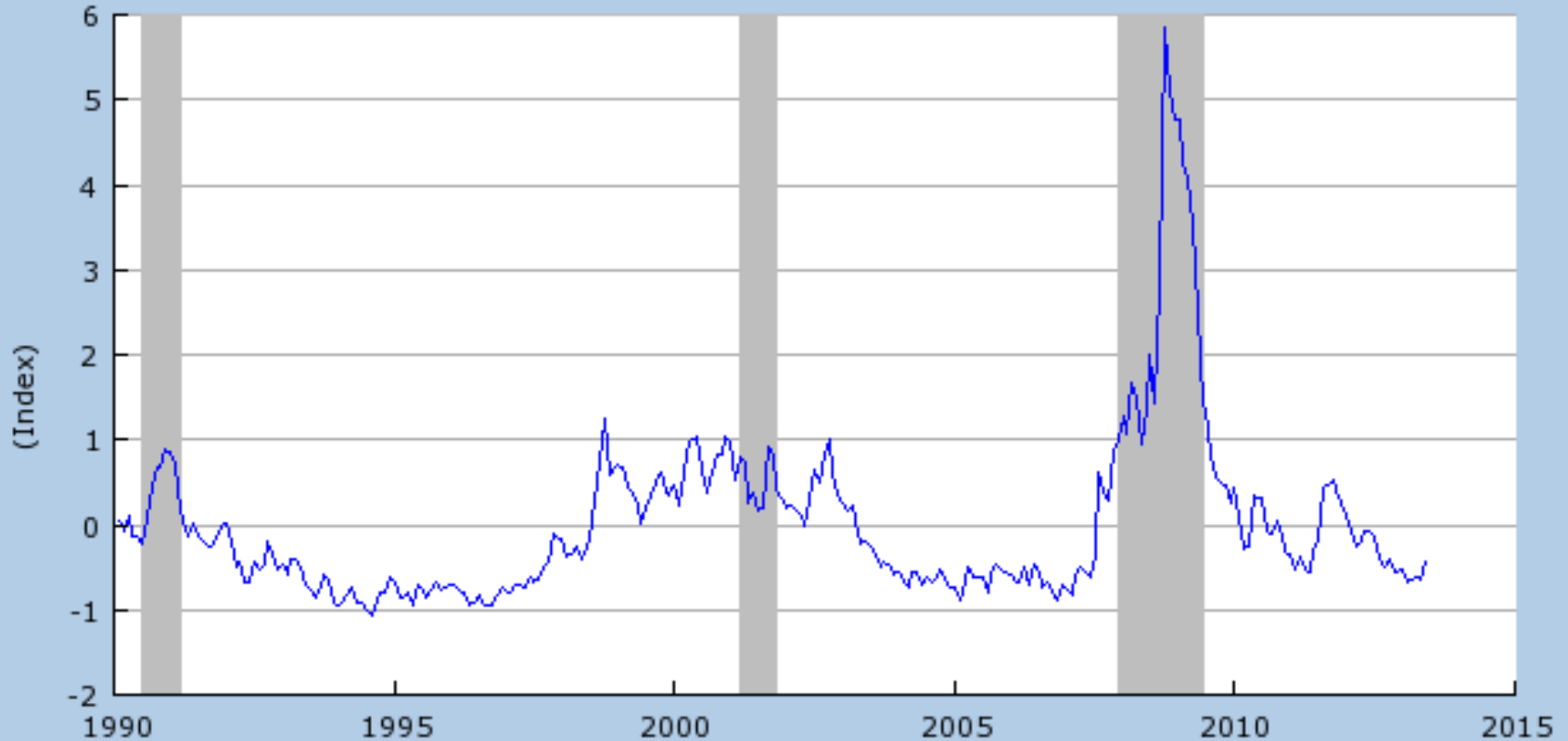


Consumer Sentiments Can Push Demand



Financial Stress Can Stifle Consumption and Investment

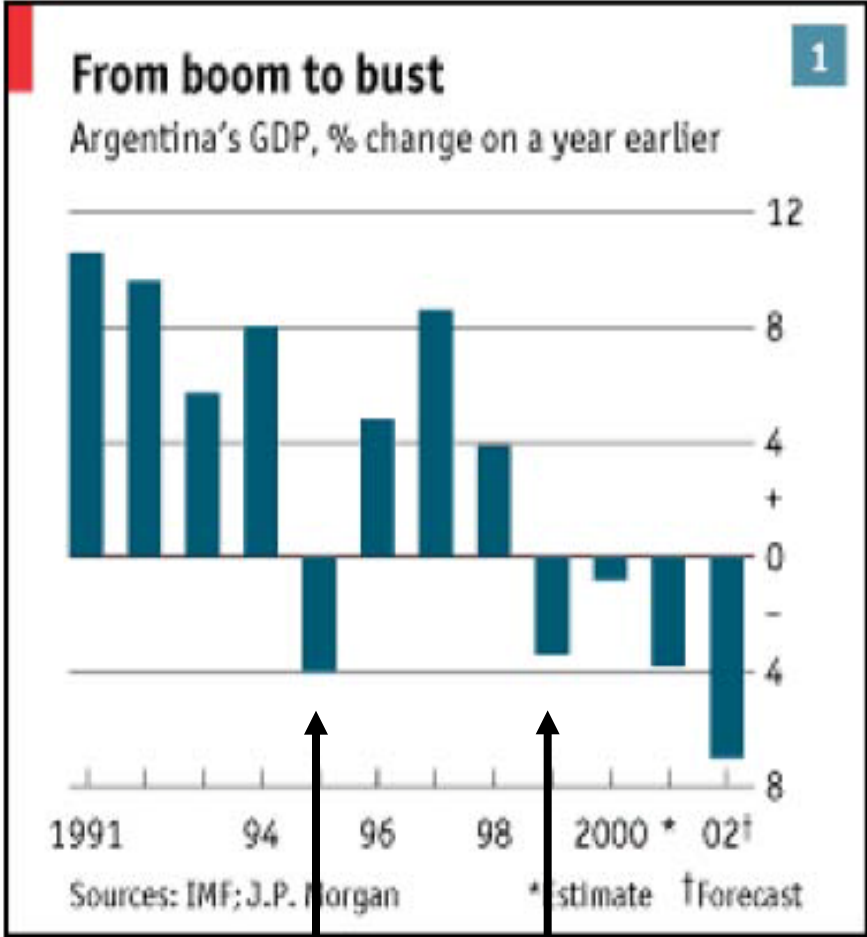
Kansas City Financial Stress Index (KCFSI)
Source: Federal Reserve Bank of Kansas City



Shaded areas indicate US recessions.
2013 research.stlouisfed.org



Exchange Rate Fluctuations Impact Net Exports



Tequila
Crisis

Brazil
Devaluation

Today

1. Long Run Economic Growth

2. Recessions and Recoveries

→ 3. Monetary and Fiscal Policy Interventions

4. Fiscal Policy Case

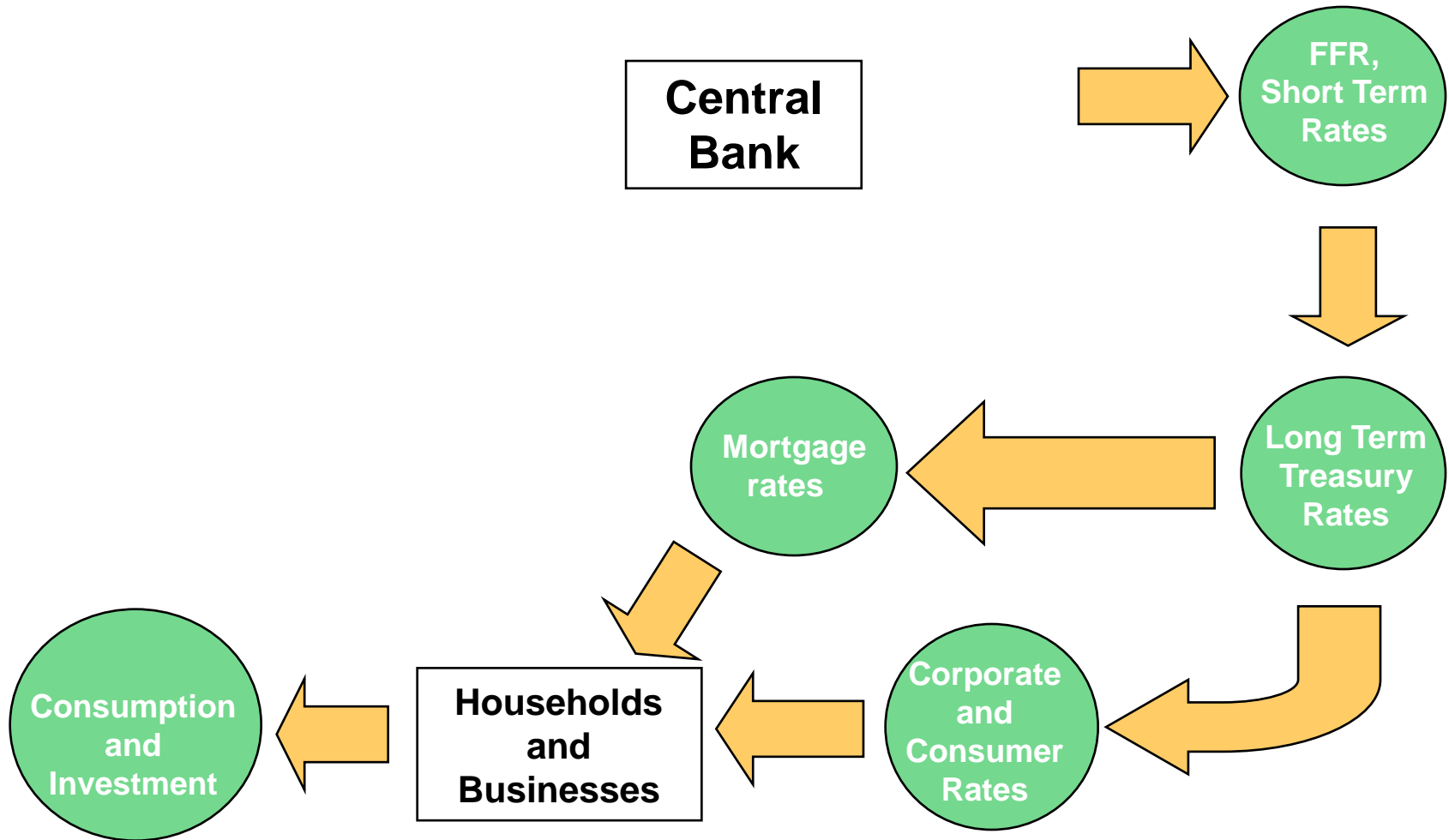
Monetary Policy: Baby-Sitting Coop Example

- 150 couples exchanging baby-sitting services via coupons
- Shortage of coupons leads to problems
 - **Demand shock** in the form of financial stress
 - People aware of coupon shortage are reluctant to use them
 - Fall in “GBP” (Gross Baby-sitting Product)
 - Baby-sitting coop fell into recession!
- Baby-sitting price naturally declines to new level
 - Money shortage is eventually neutral and has no effect
 - Is there any way to prevent deflation?

Solution: Print More Coupons



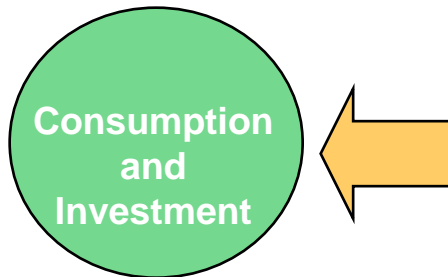
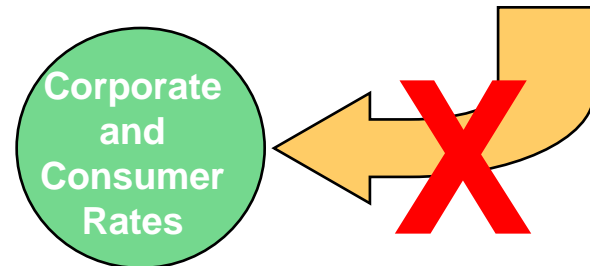
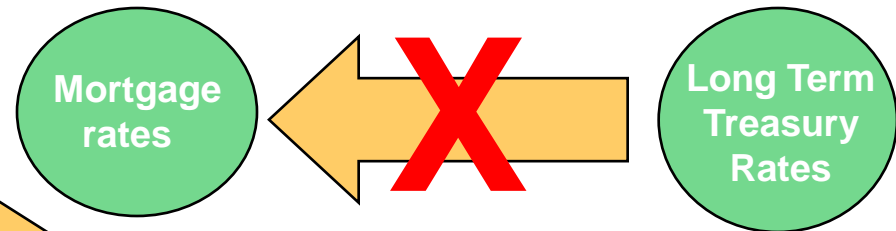
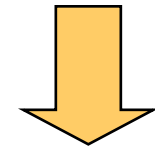
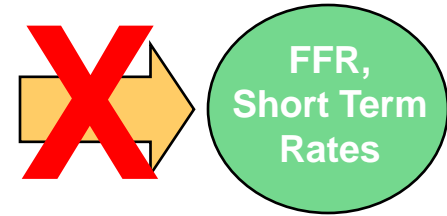
Monetary Policy Transmission Mechanism



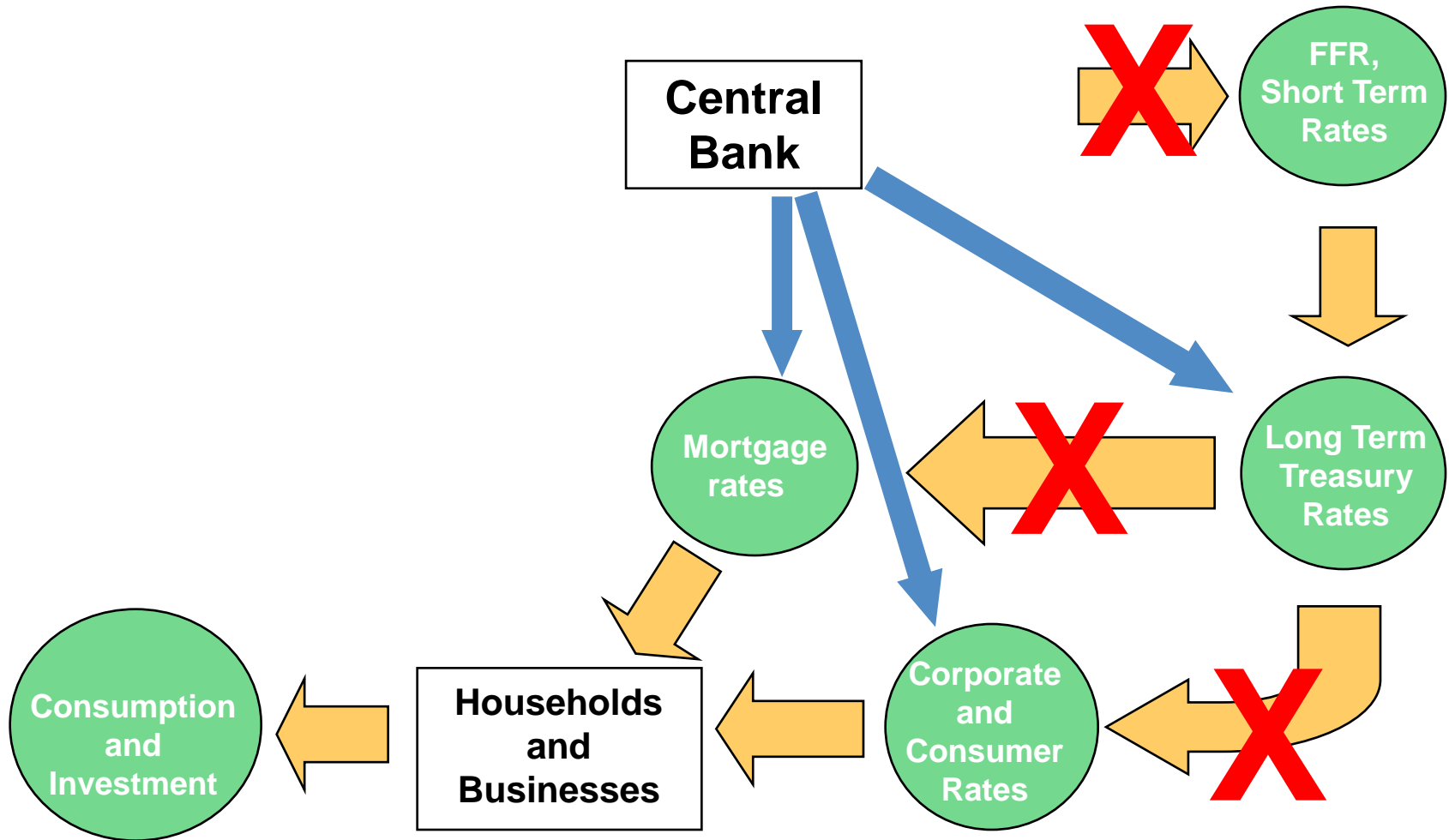
The Crisis: A Broken Transmission



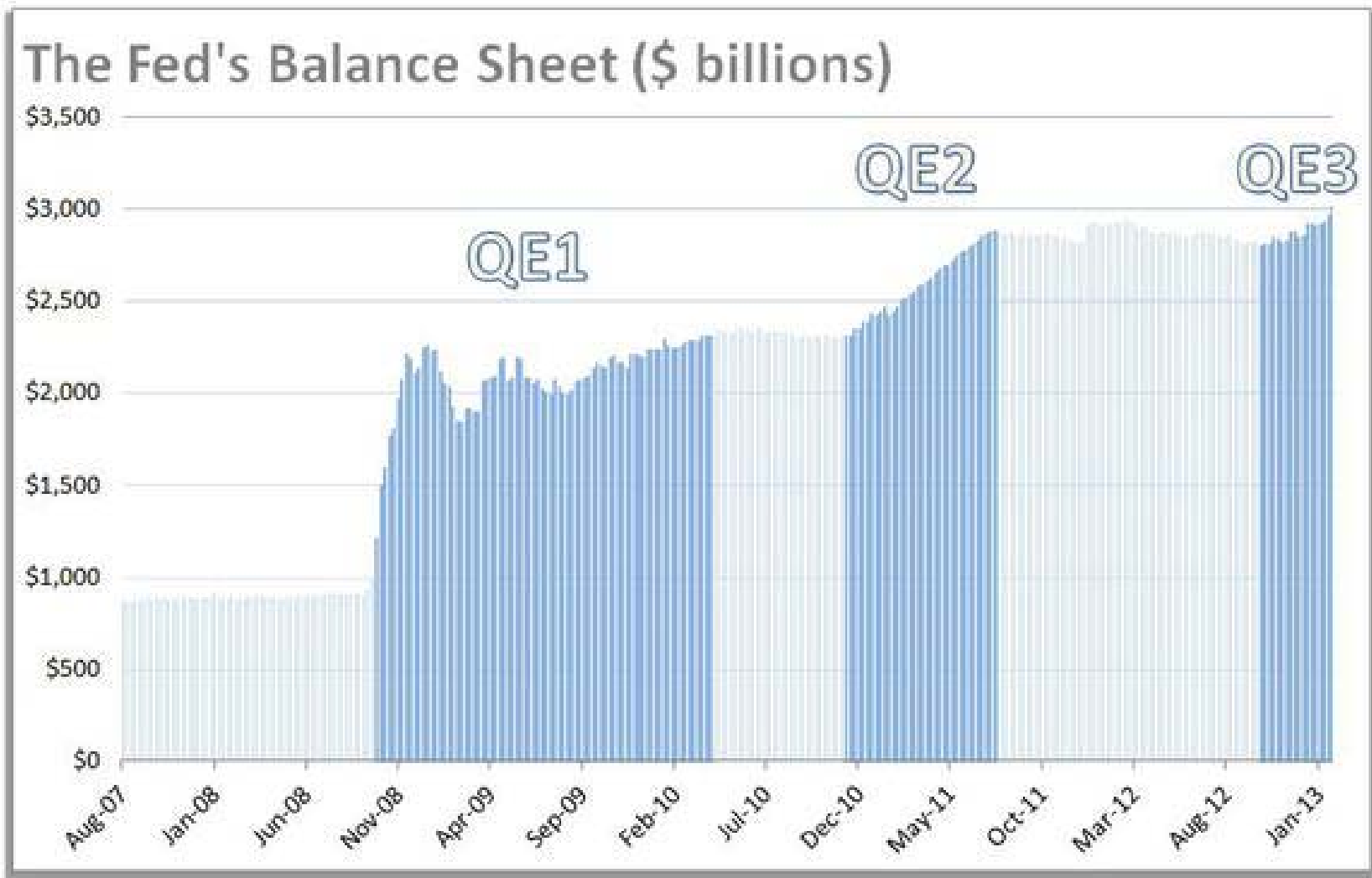
Central Bank



Unconventional Monetary Policy

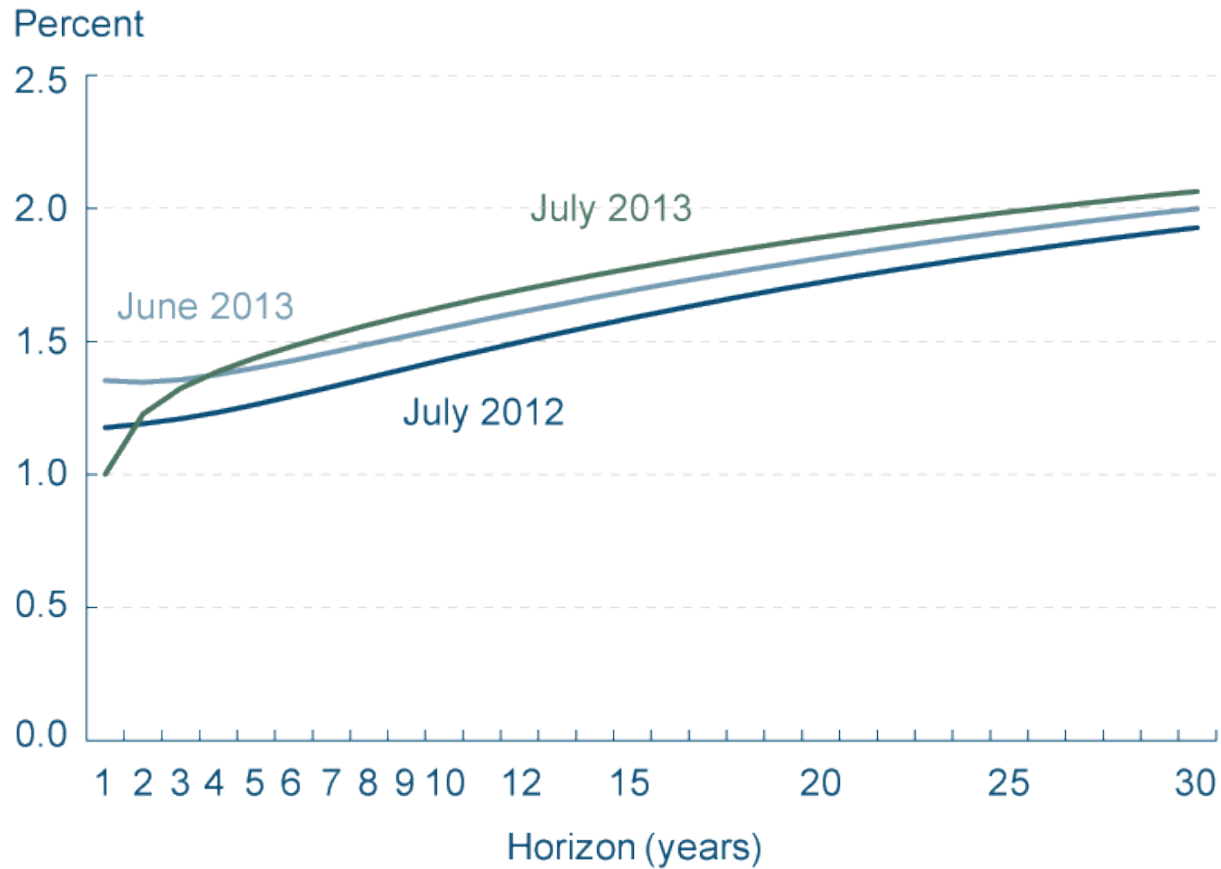


Quantitative Easing



Expected Inflation is Contained

Expected Inflation Yield Curve



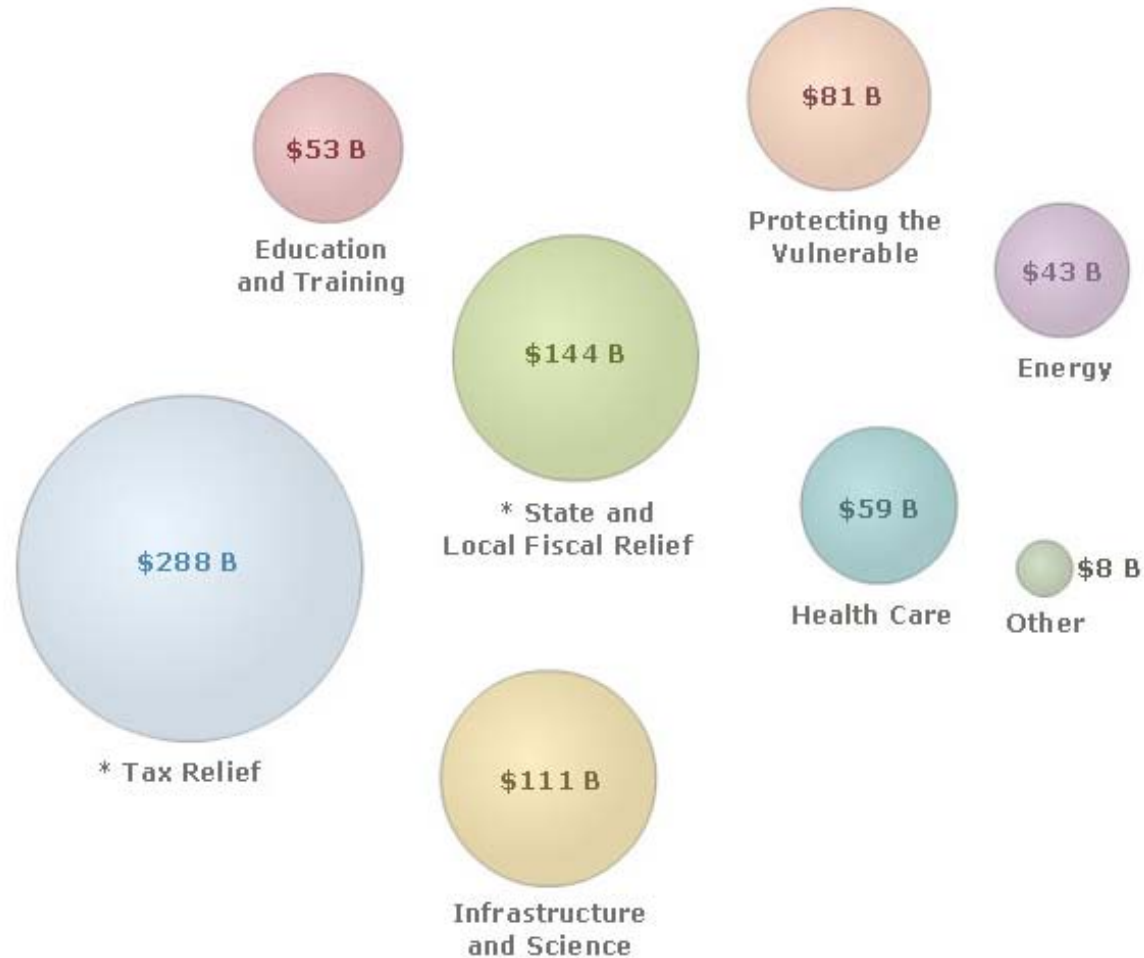
Source: Haubrich, Pennacchi, Ritchken (2008).

Principles for Optimal Monetary Policy

- **Goal:** Keep inflation stable and unemployment near fundamental
- **Technique:** Expand if there is slack. Contract if over-heated
 - Slack without expansion leads to high unemployment, low inflation
 - Over-heating without contraction to low unemployment, high inflation
- **Challenges:**
 - Determining how much slack or over-heating there is can be difficult
 - Policies take time to become effectual
 - Requires a lot of central bank credibility. Otherwise too much inflation

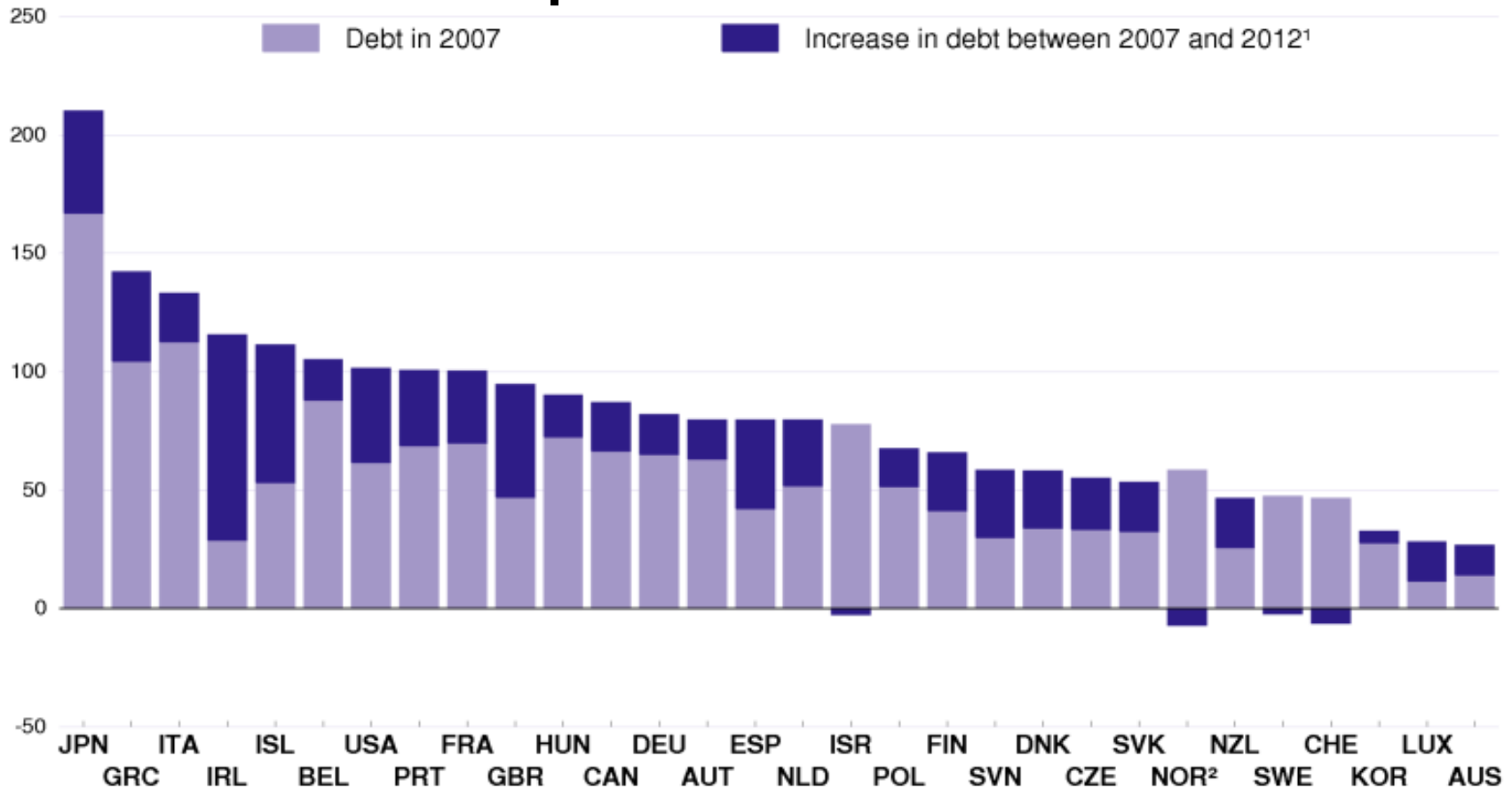
Another Tool: Fiscal Policy

American Recovery and Reinvestment Act of 2009



The Fiscal Consequences of the Recession: Public Debt

In percent of GDP



1. Includes cumulated deficit for 2008-12, debt-increasing equity participations in companies and the impact of GDP growth.

2. Cumulated deficits correspond to mainland only.

Source: OECD Economic Outlook 88 database.

Fiscal Policy Has Short and Long Run Consequences

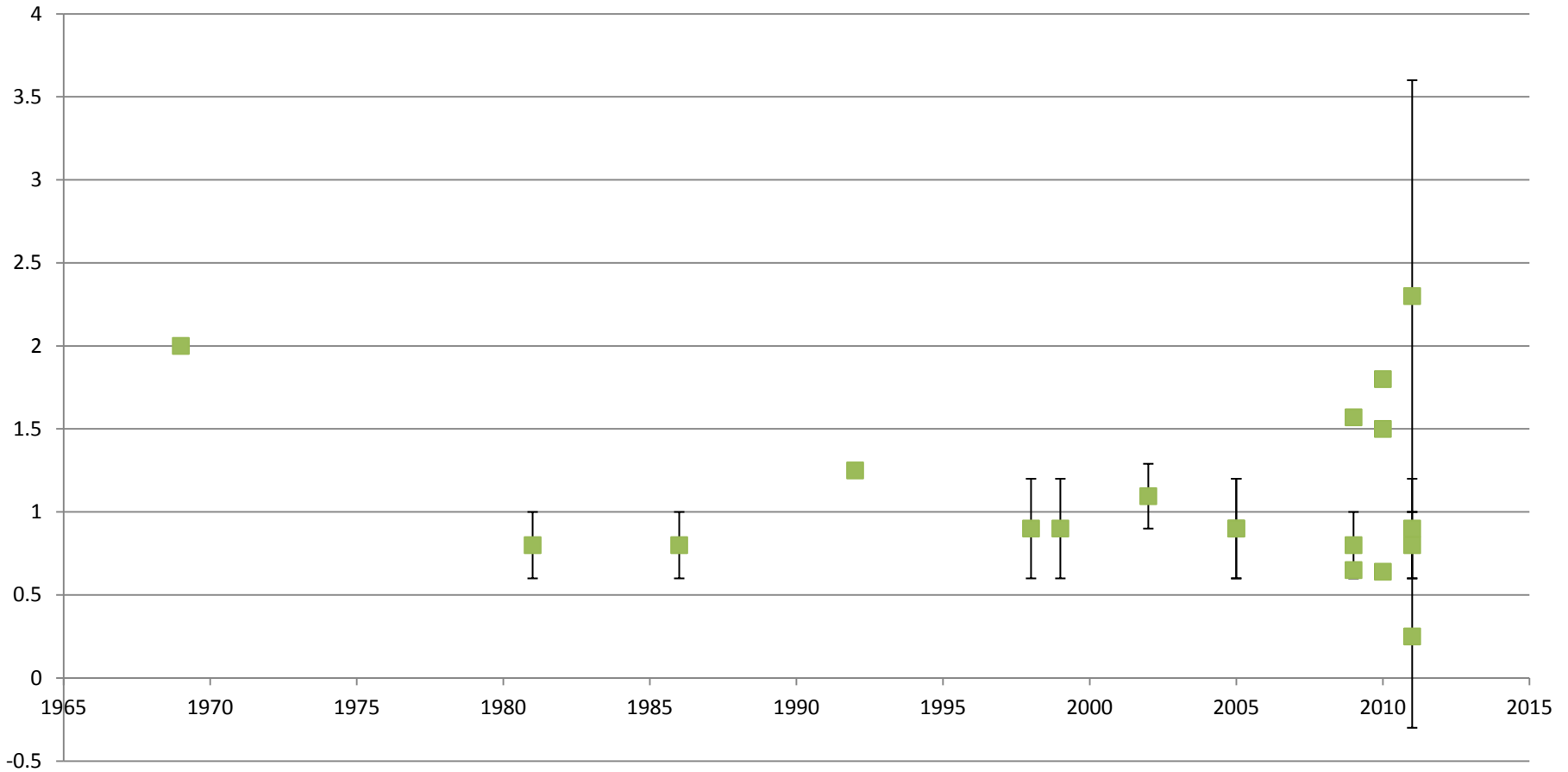
- Fiscal stimulus raises **short run** GDP by impacting demand
 - Reduction in taxes boosts consumption and investment
 - Increase in spending boosts government employment
 - **Fiscal multiplier:** \$ increase in GDP from \$1 increase in govt spending
- Fiscal policy expansion affects **long run** GDP by changing supply
 - **Crowding out effect:** Higher interest rates discourage private investment
 - Expectation of higher future taxes stifles investment, employment, innovation
 - Government spending and infrastructure can improve business environment
- Questions for policymakers
 - How much do we value the short run versus the long run?
 - What is the relative value of different types of policies for each horizon?

Disagreement over Value of Fiscal Stimulus



Disagreement over Size of Fiscal Multiplier

Fiscal Multiplier Estimate by Date of Research Publication



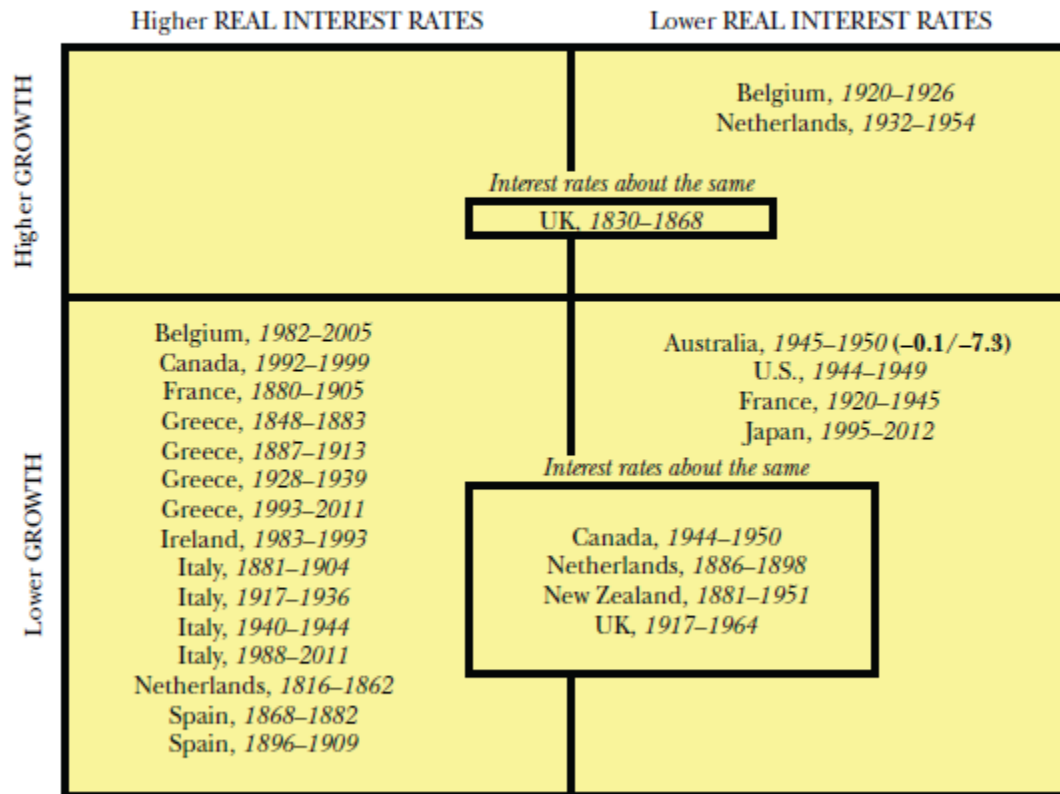
Source: Ramey (2011)

Long Run Debt Overhang



Tends to be Associated with Higher Interest Rates

Figure 4
Growth and Real Interest Rate Outcomes for 26 High-Debt Episodes in Advanced Economies, 1800–2011

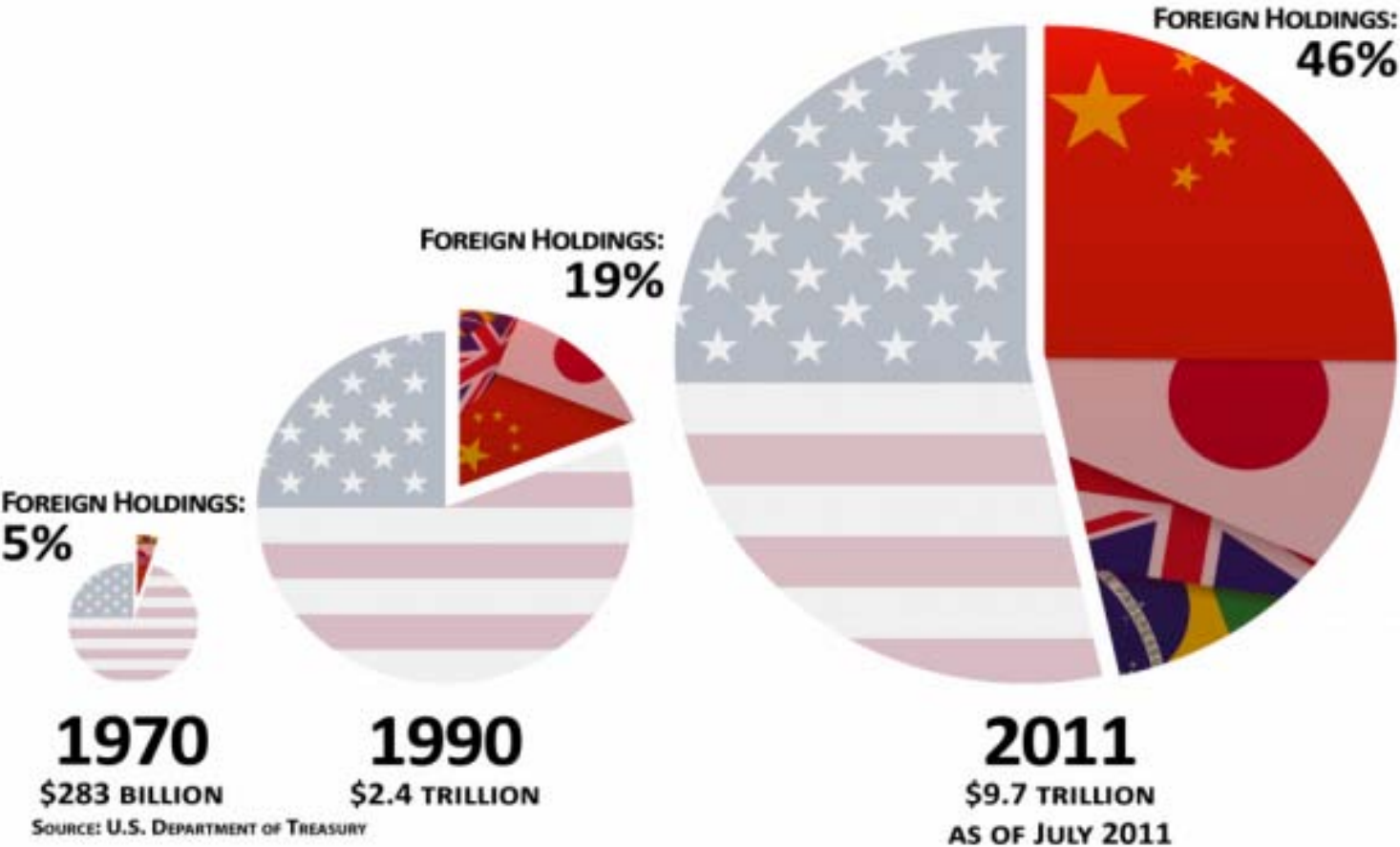


Source: Authors' calculations based on data sources listed in the Data Appendix.

Interest Rate Impact Depends on the Demand for Bonds

FIGURE 10

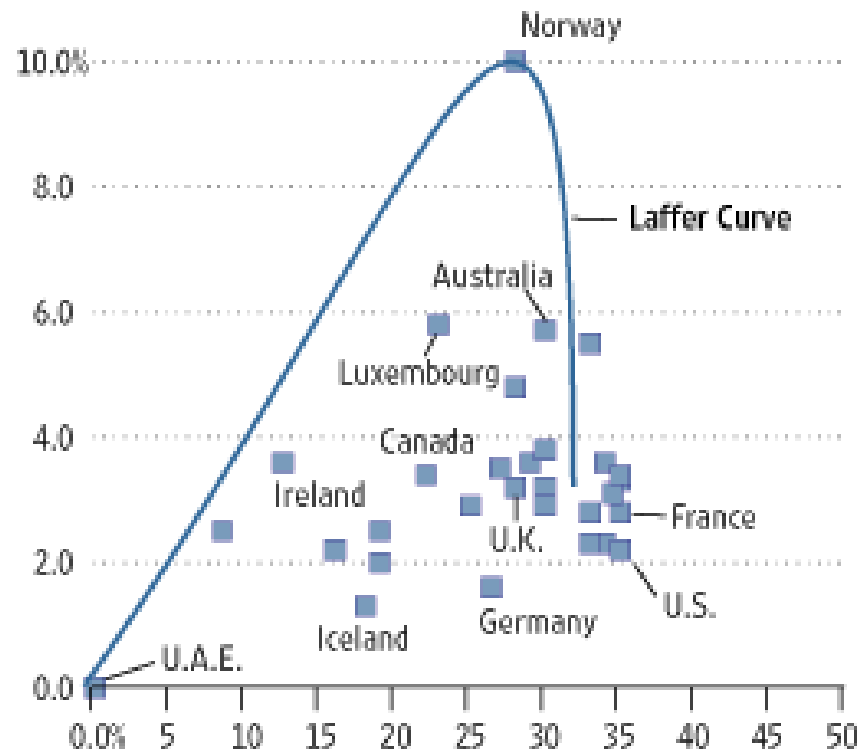
WHO OWNS OUR DEBT? (DEBT HELD BY PUBLIC, 1970 -2011)



Prospect of High Future Taxes Can Discourage Domestic Activity

Corporate Taxes and Revenue, 2004

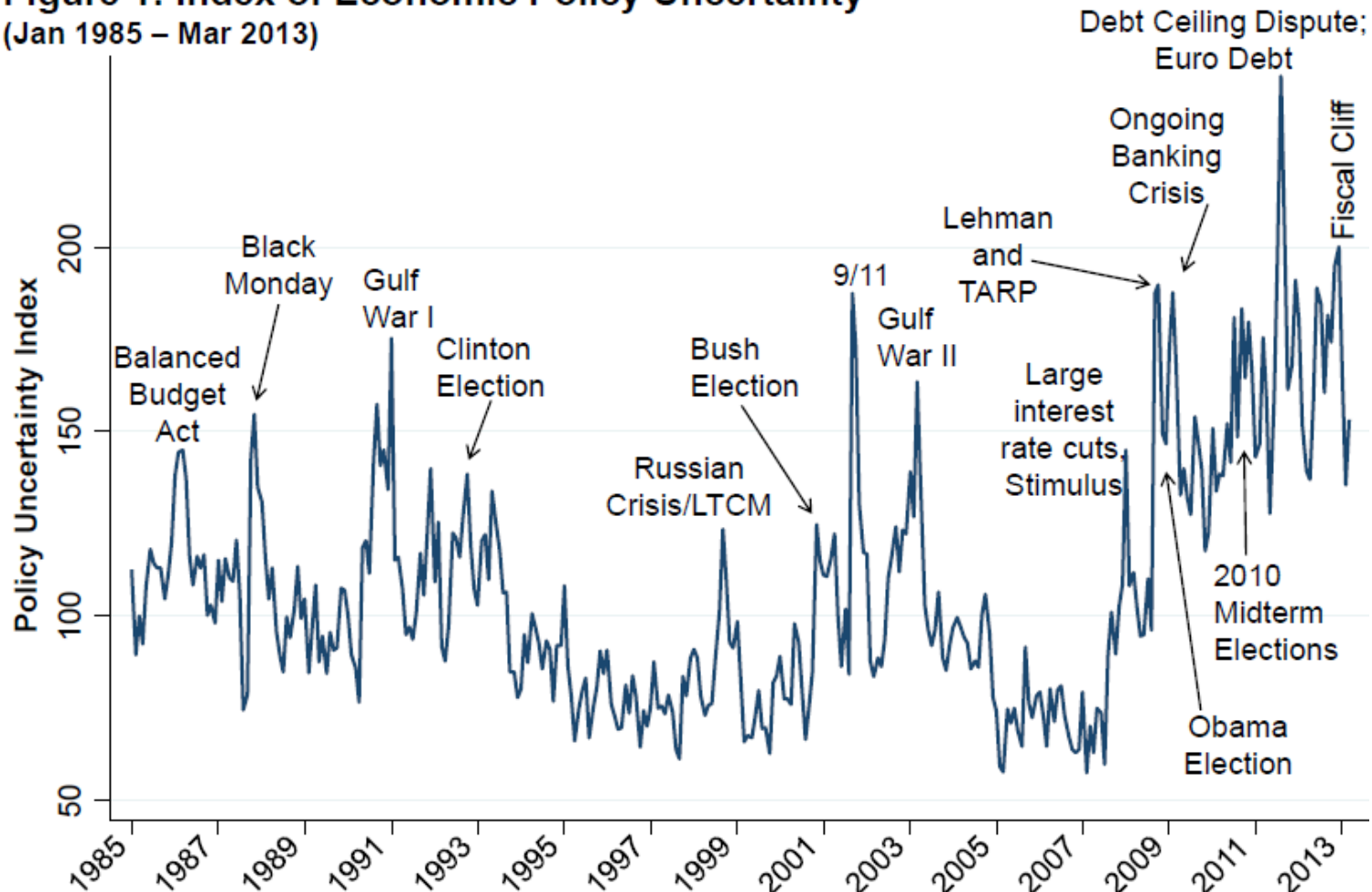
Left scale represents tax revenues as a percentage of GDP. Bottom scale represents central government corporate tax rates.



Sources: OECD Revenue Statistics, Kevin Hassett, American Enterprise Institute

Debt Overhang Can Also Lead to Policy Uncertainty

Figure 1: Index of Economic Policy Uncertainty
(Jan 1985 – Mar 2013)



Notes: Index of Policy-Related Economic Uncertainty composed of 4 series: monthly news articles containing uncertain or uncertainty, economic or economy, and policy relevant terms (scaled by the smoothed number of articles containing 'today'); the number of tax laws expiring in coming years, and a composite of IQ ranges for quarterly forecasts of federal, state, and local government expenditures and 1-year CPI from the Phil. Fed Survey of Forecasters. Weights: 1/2 News-based, 1/6 tax expirations, 1/6 CPI disagreement, 1/6 expenditures disagreement after each index normalized to have a standard-deviation of 1. Data from Jan 1985-Mar 2013. Index normalized mean 100 from 1985-2009. Data at www.policyuncertainty.com

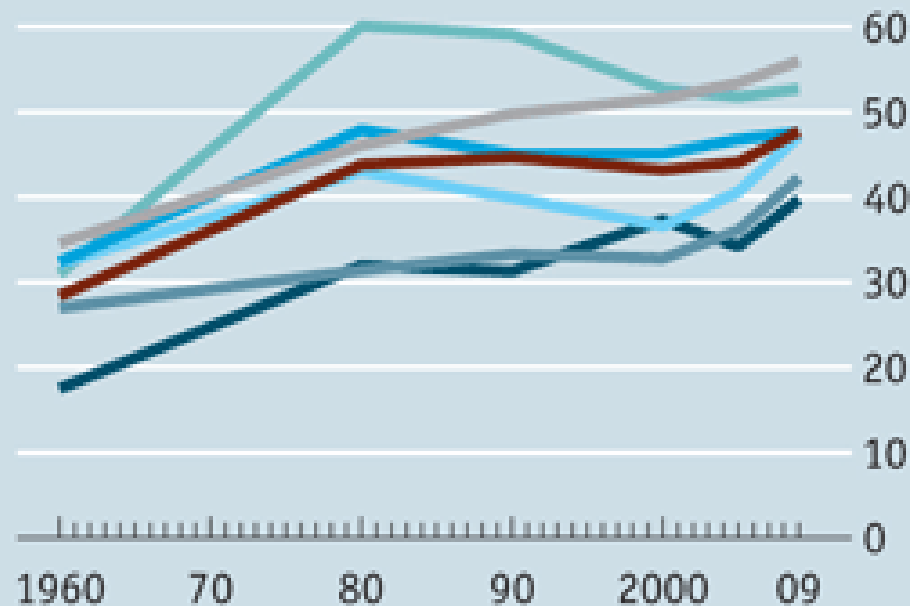
Deeper Question About Optimal Long Run Size of Government

Onwards, ever upwards

2

Government spending, % of GDP

— France — Sweden — Germany
— Britain — United States — Japan
— Average*



Sources: Vito Tanzi and Ludger Schuknecht; IMF; OECD

* Average of 13 countries in table 1

Takeaways from Today

- Drivers of **long run** growth: Supply
 - Technological progress
 - Investment in capital stock
 - Increases in labor force participation
- Drivers of **short run** fluctuations: Demand
 - Household consumption
 - Business investment and residential construction
 - Government spending
 - Export demand (important in emerging economies)
- Policy interventions affect short run demand
 - Monetary policy is neutral in the long run
 - Fiscal policy has a long run impact

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