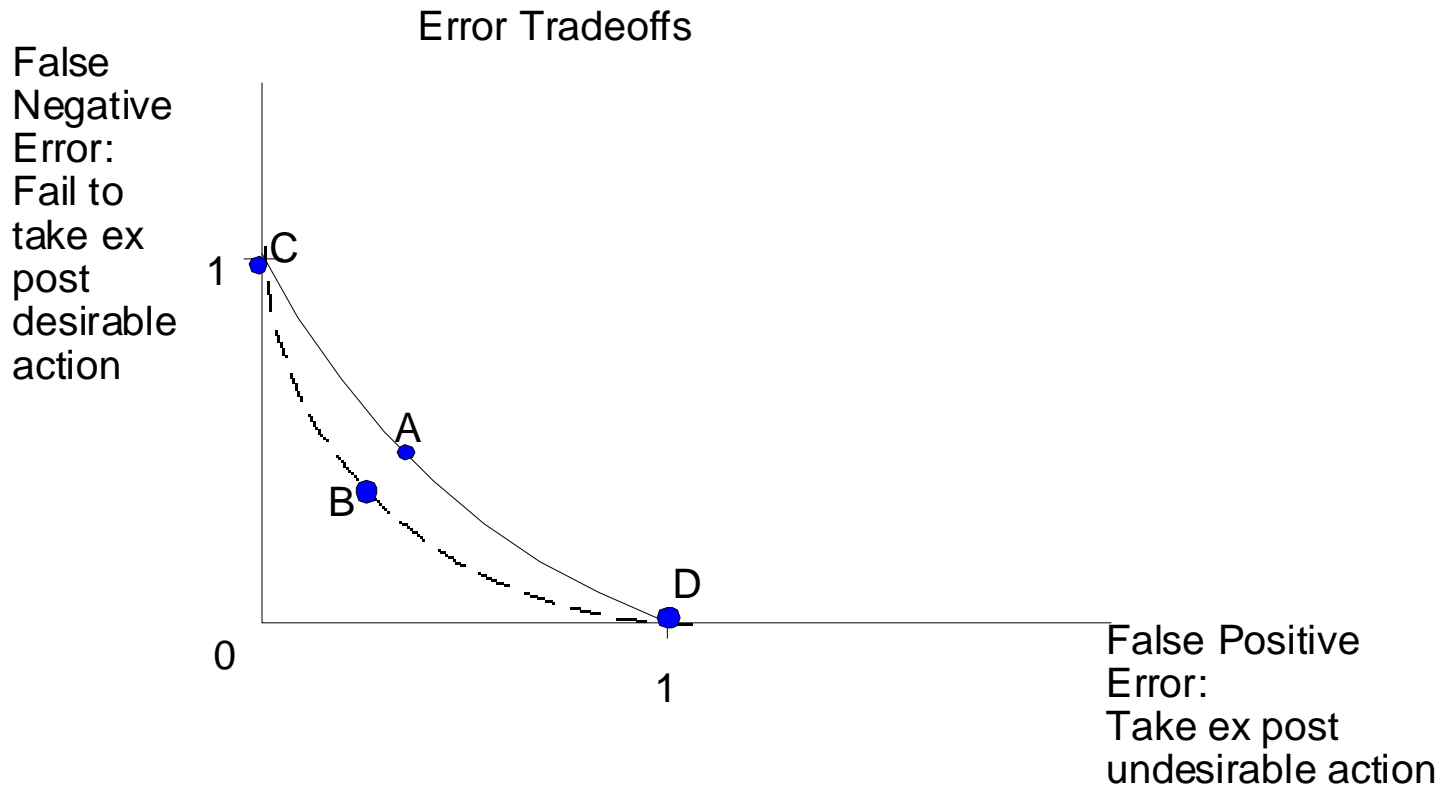


Economics and Economic Policy

Singapore
August, 2010

Edward P. Lazear
Stanford University

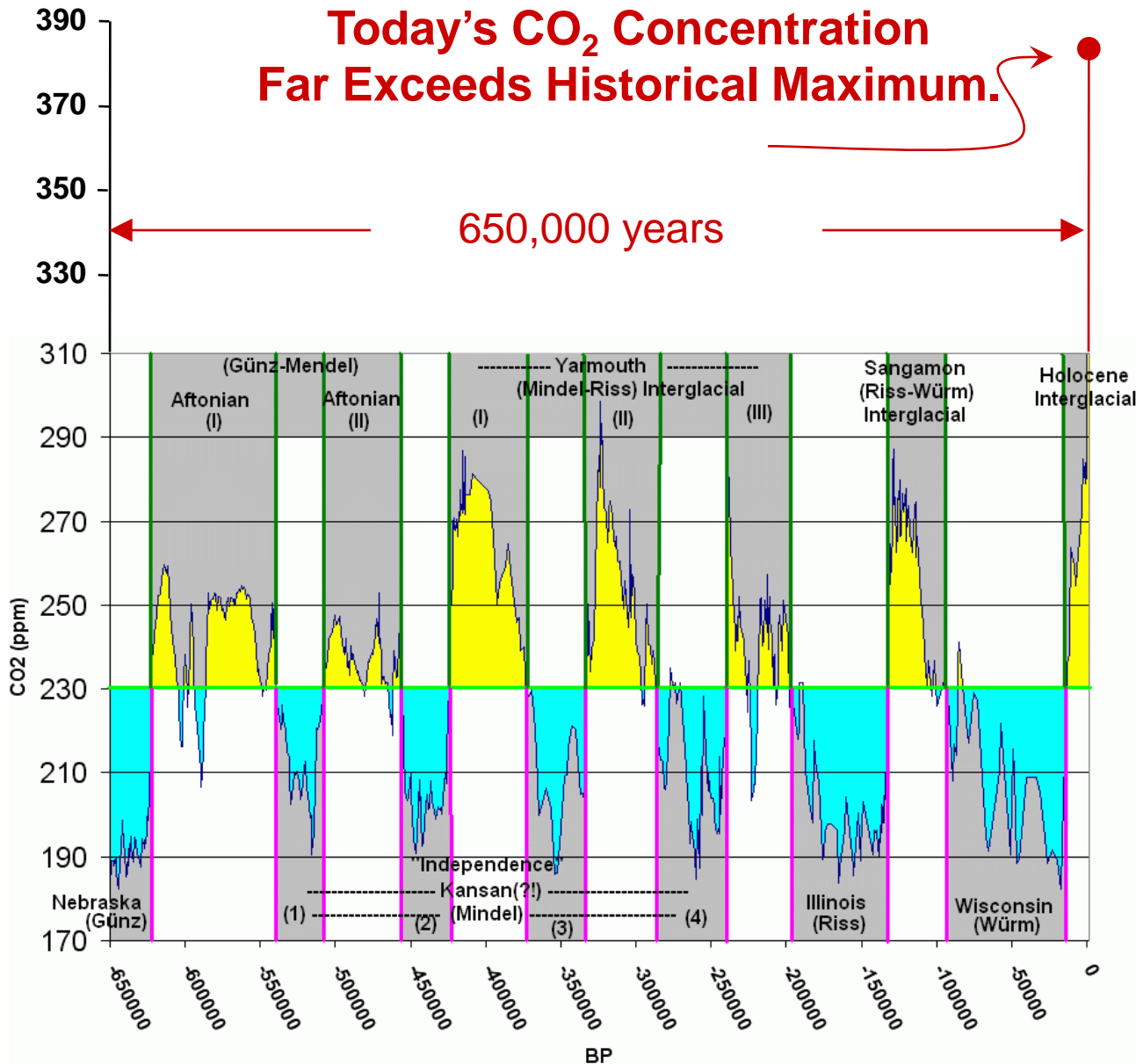
General Framework for Policy Decision Making



Climate Change

Today's CO₂ Concentration Far Exceeds Historical Maximum.

650,000 years



2006 level (380 ppm)

- Glacial periods are shown in blue

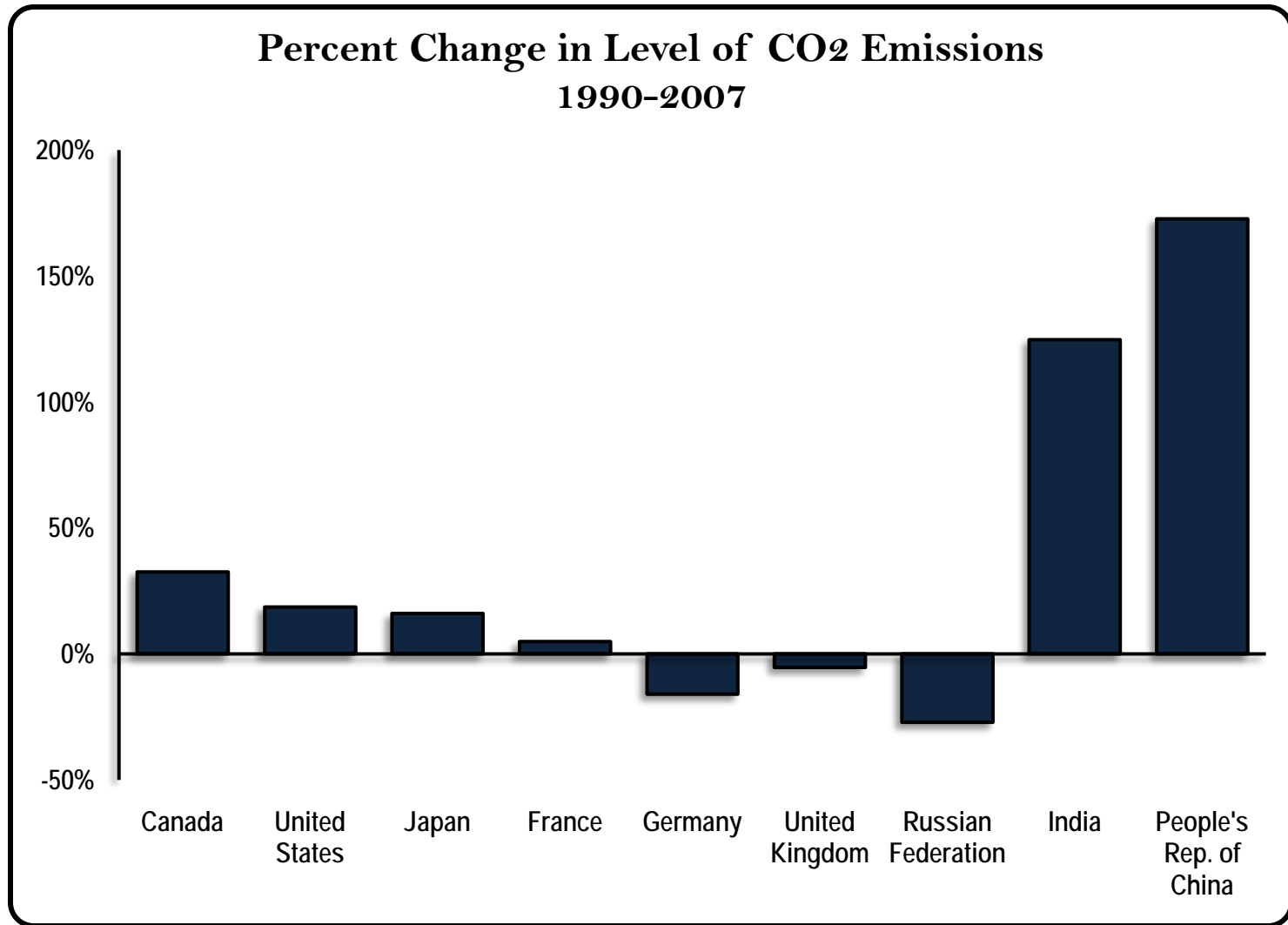
- Transitions from glacial periods to warmer periods are triggered by changes in the Earth's axis of rotation

- These changes in the planet's tilt trigger the melting of arctic ice, which in turn leads to rising temperatures and higher CO₂ concentrations through a variety of mechanisms (causation historically does not run from CO₂ concentrations to warming)

- Current excess CO₂ is mostly from burning fossil fuels.

- Most scientists believe that current rate of emissions unsustainable -- will lead to continually changing and unprecedented climate conditions.

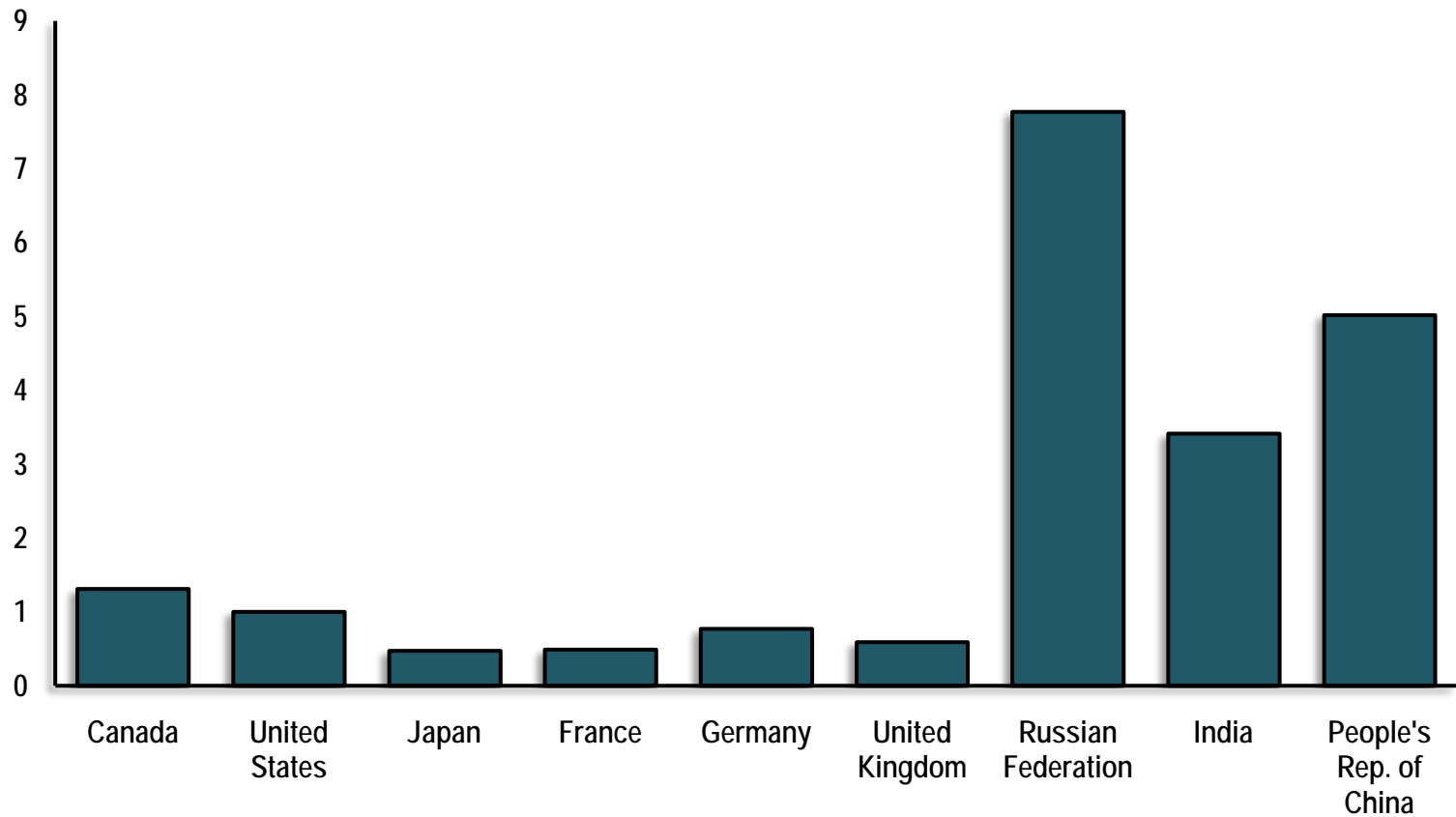
Growth in CO2 Emissions



China and India are key for long run

Emissions per Dollar of GDP

Normalized Index of CO₂ Emissions per Dollar of GDP
2007
(United States=1)



Incentives Vary by Region

Effects on GDP by Region

(based on studies of 1.0°C to 3.0°C rise)

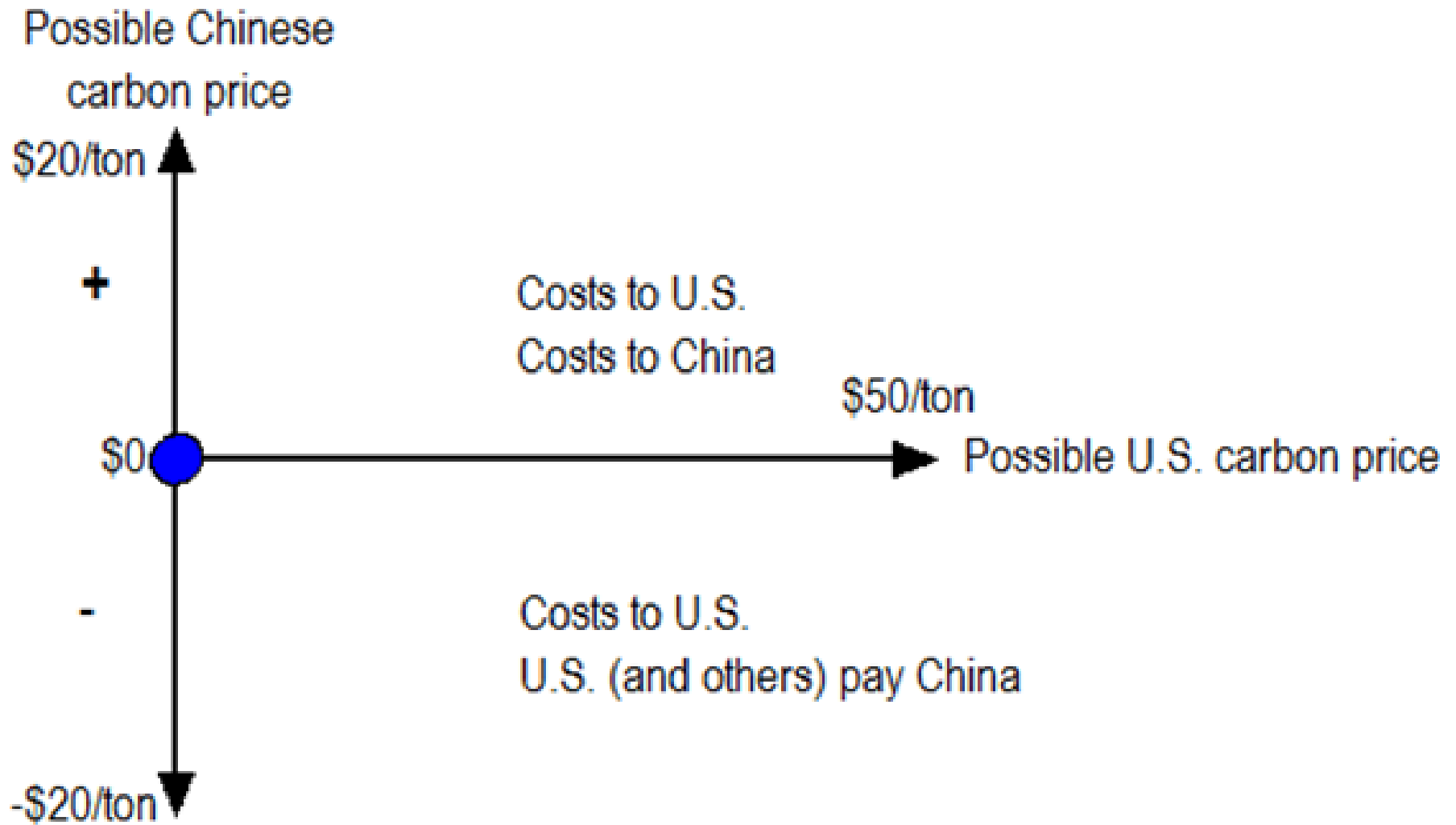
North America	0.5% loss to 3.4% gain
Western Europe	2.8% loss to 3.7% gain
Russia	0.7% loss to 11.1% gain
Southern Asia	4.9% loss to 12.9% gain
China	0.2% loss to 2.1% gain
Africa	8.7% loss to 3.6% loss
World	4.8% loss to 2.3% gain

Studies: Nordhaus (1994a,b), Fankhuser (1995), IPCC (1995), Tol (1995), Nordhaus and Yang (1996), Plambeck and Hope (1996), Tol (1999), Mendelsohn (2000), Nordhaus and Boyer (2000), Tol (2002), Madison (2003), Hope (2006), Nordhaus (2006) as summarized by House of Lords (2005) and Tol (2009)

International Coordination

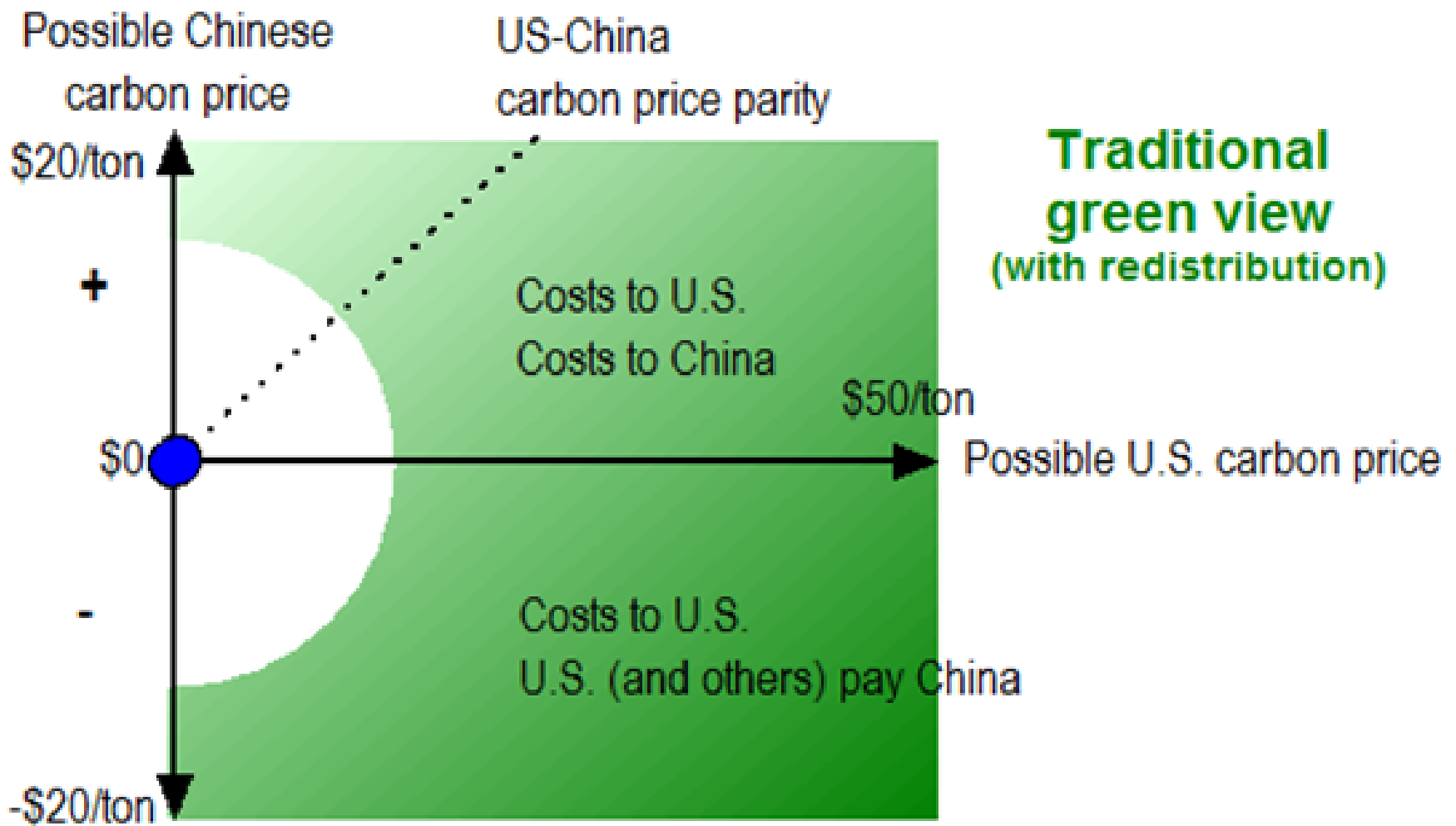
Political Aspects of the Climate Change Debate Make
Consensus Difficult

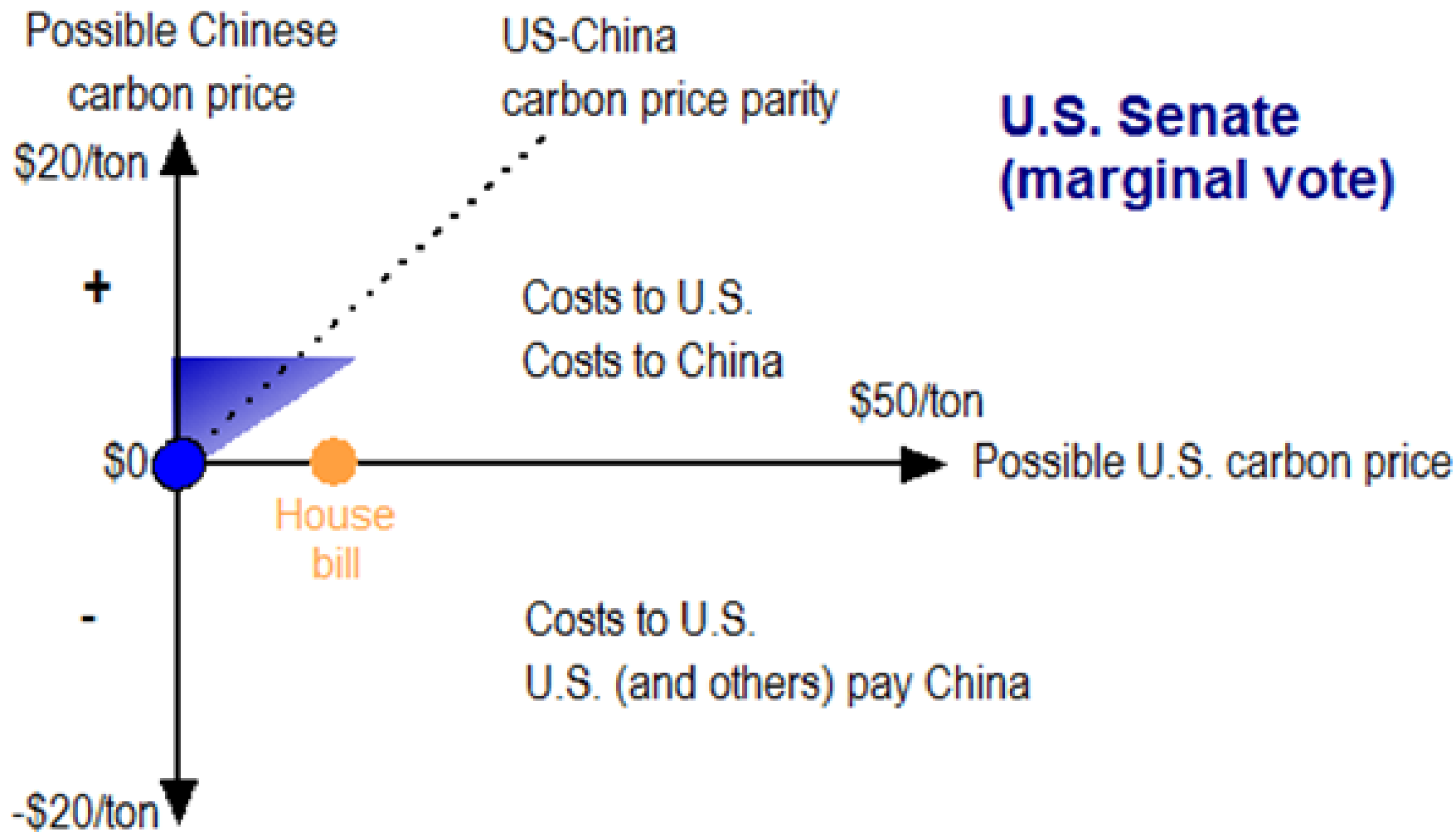
The following slides were prepared by Keith Hennessey

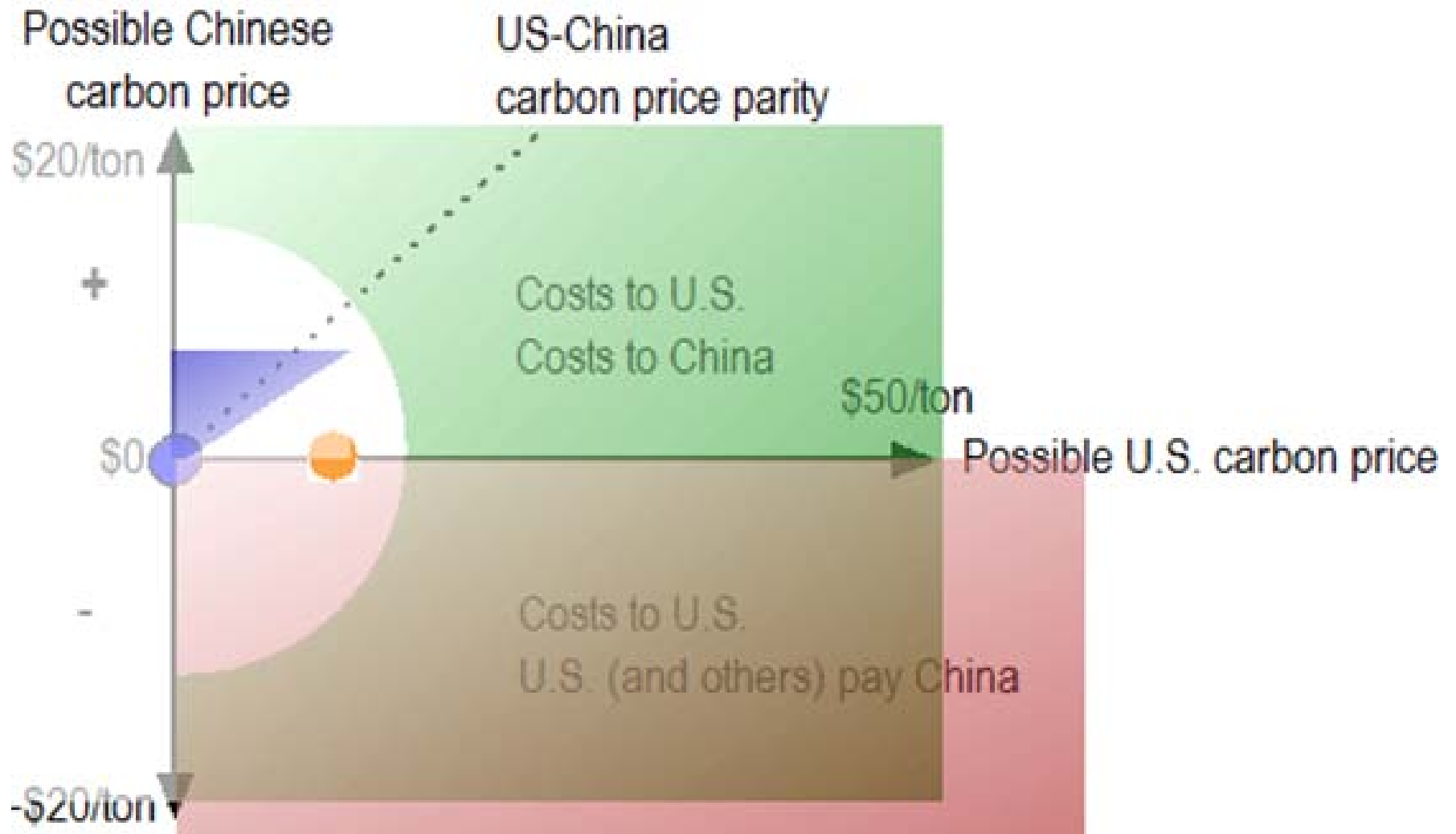




Chinese government stated position

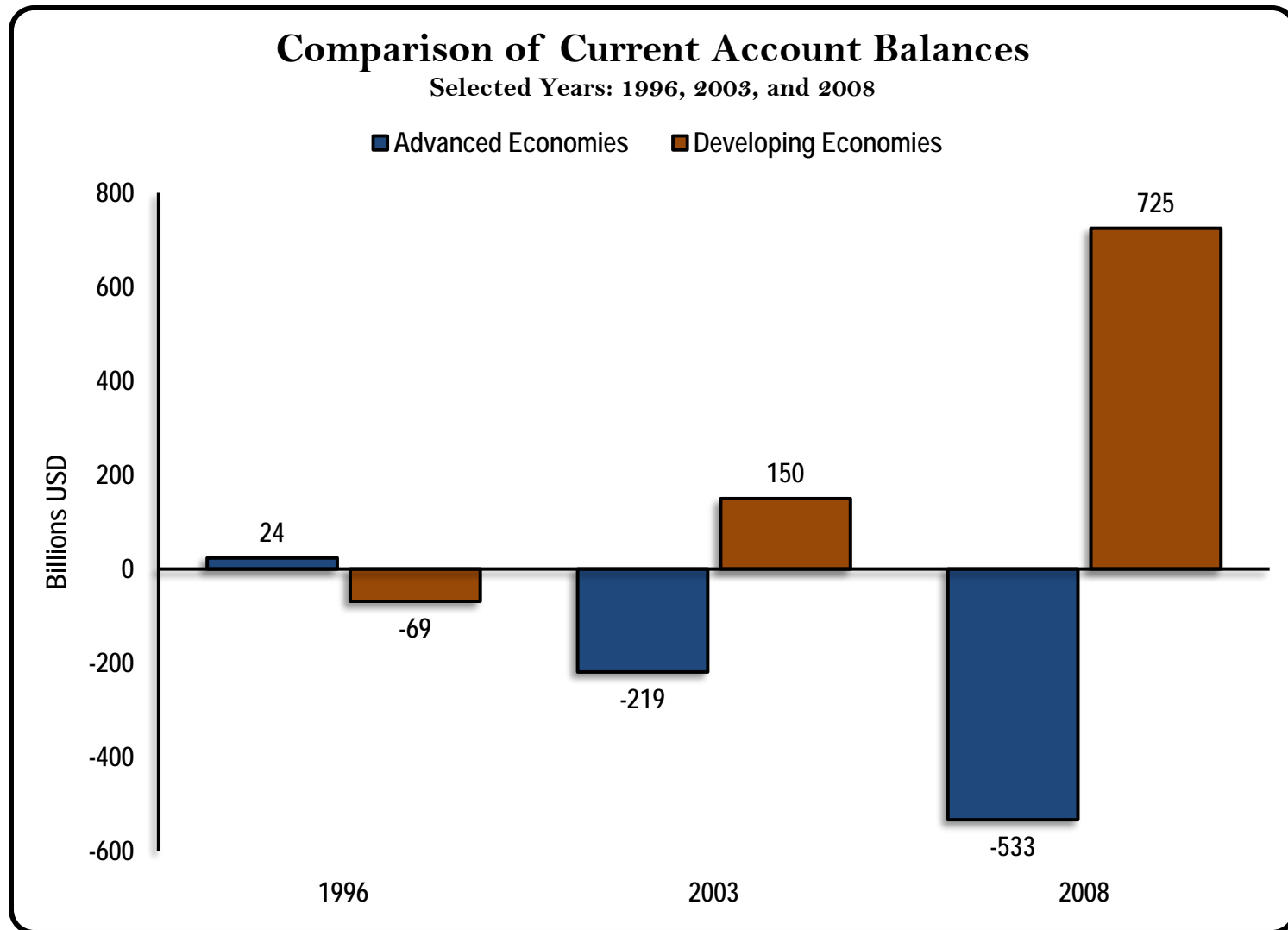




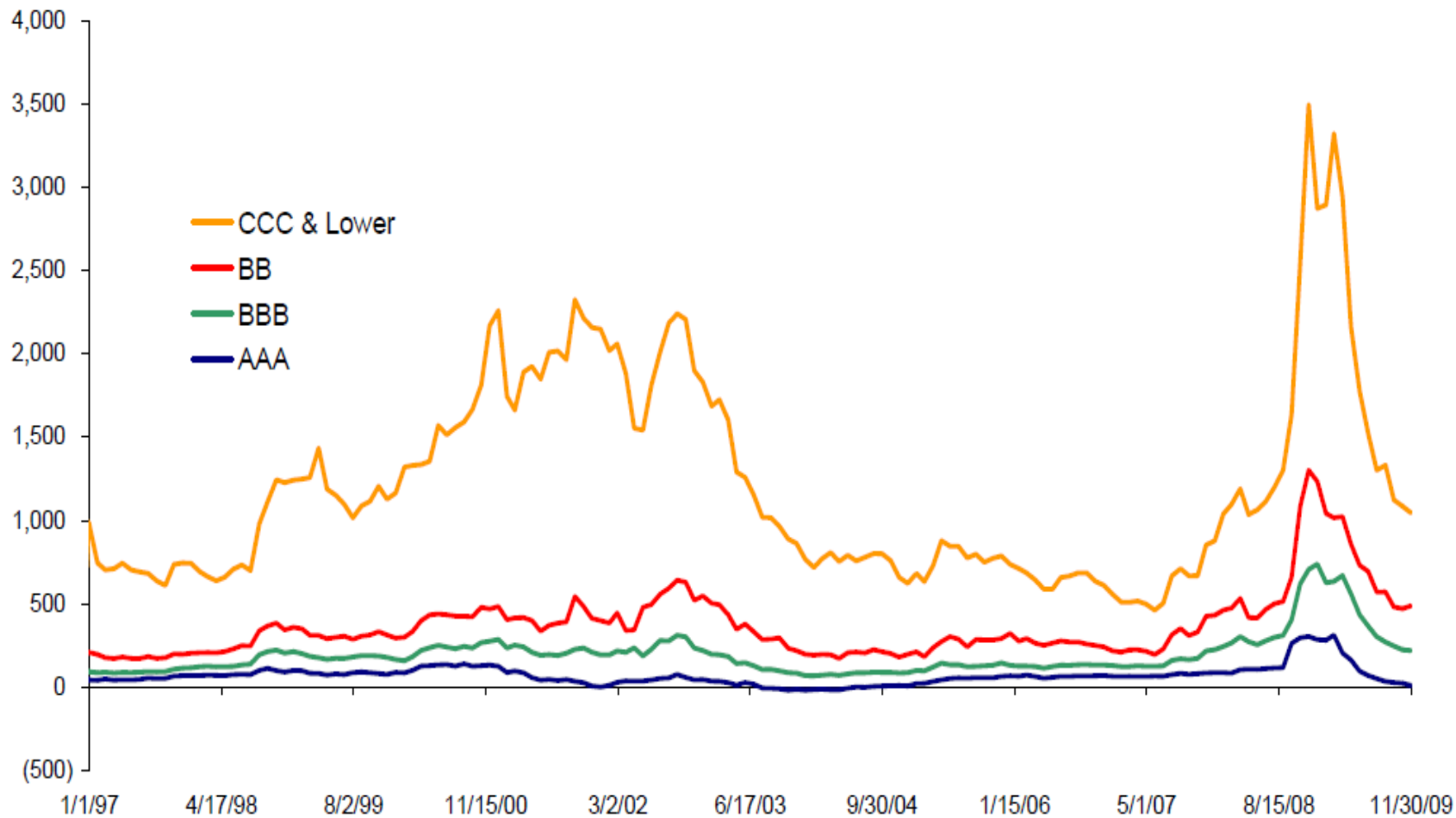


Financial Crisis

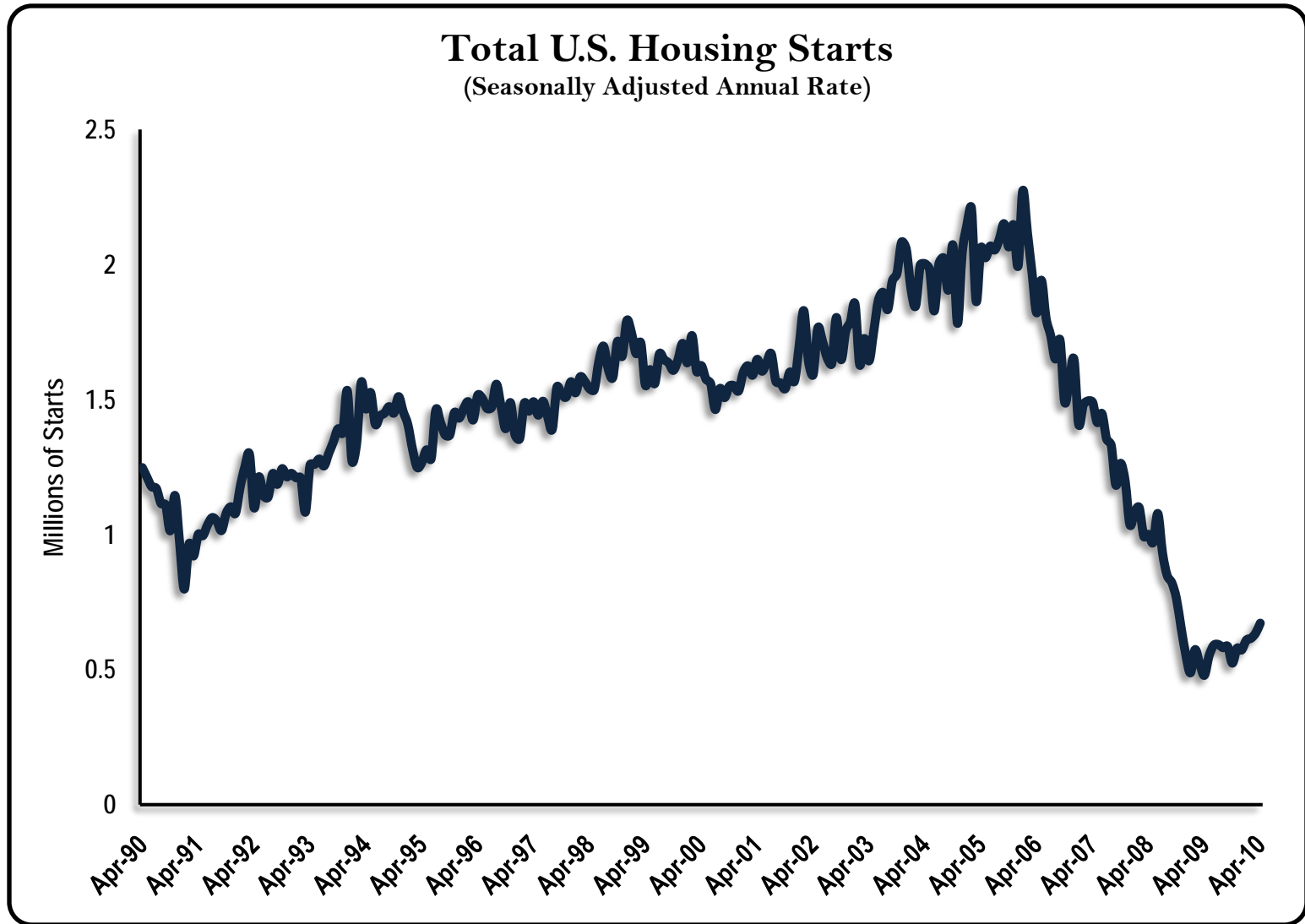
Net Lending



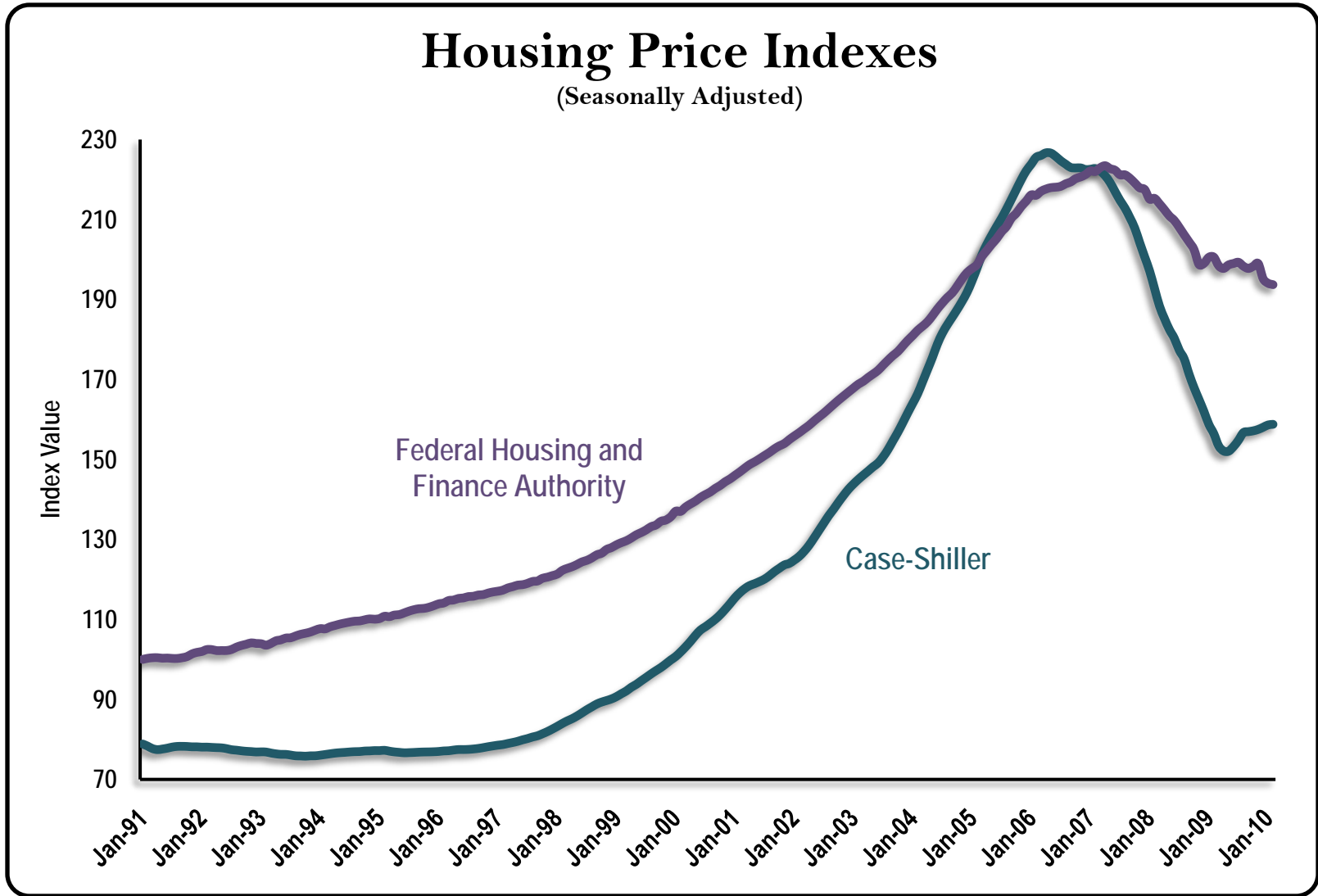
Credit Spreads



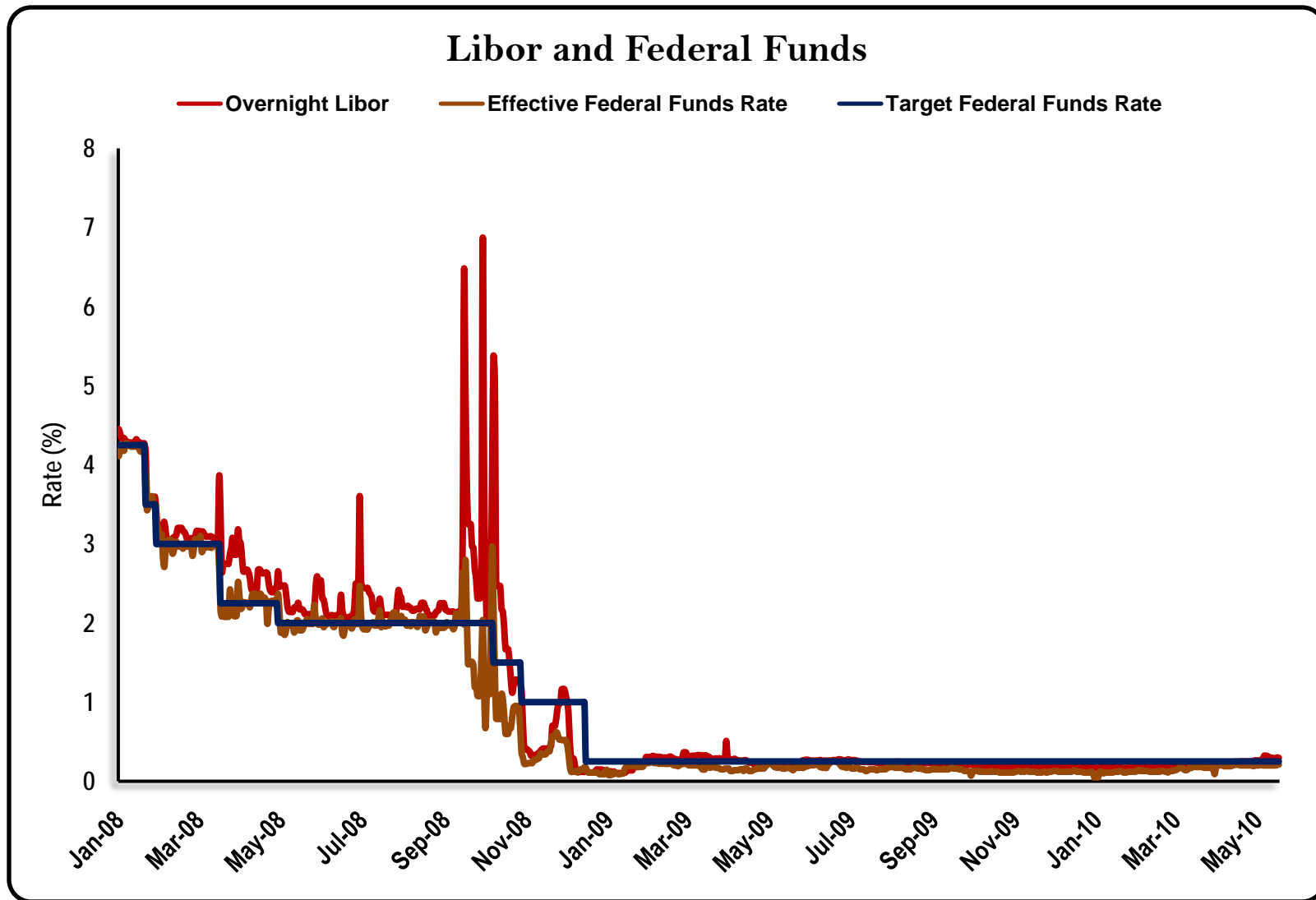
Housing Starts



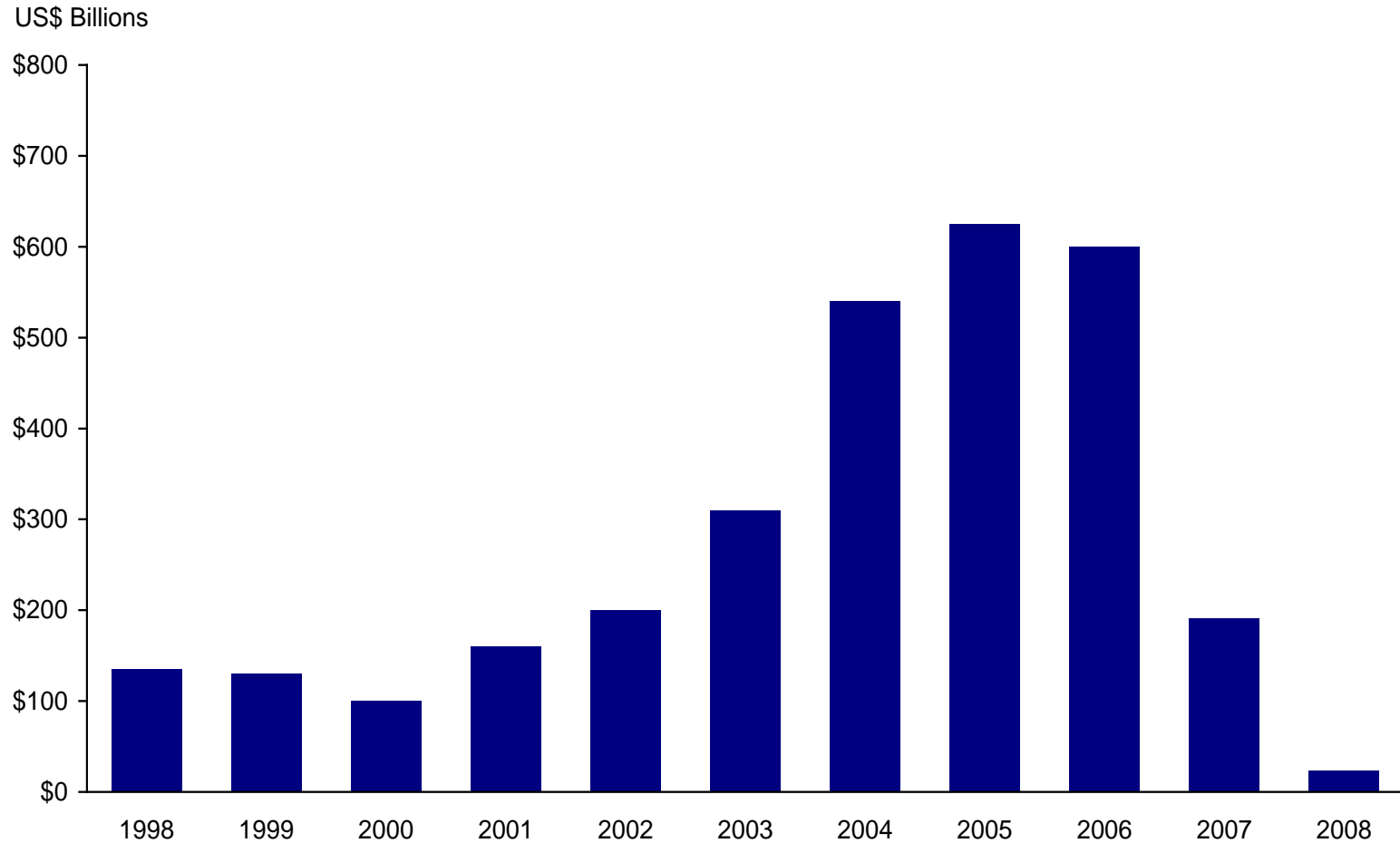
Housing Prices



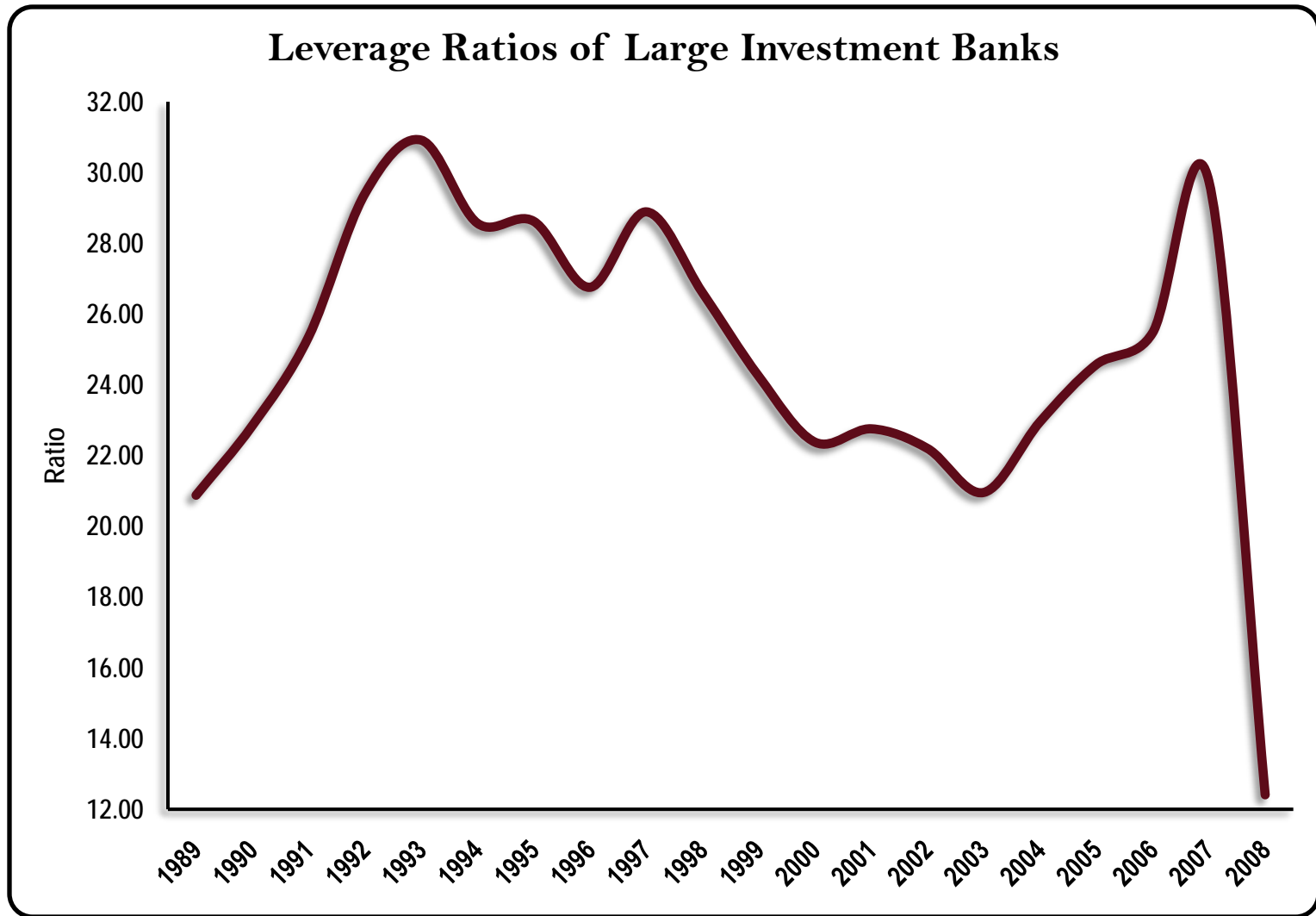
Target and Effective Fed Funds Rate



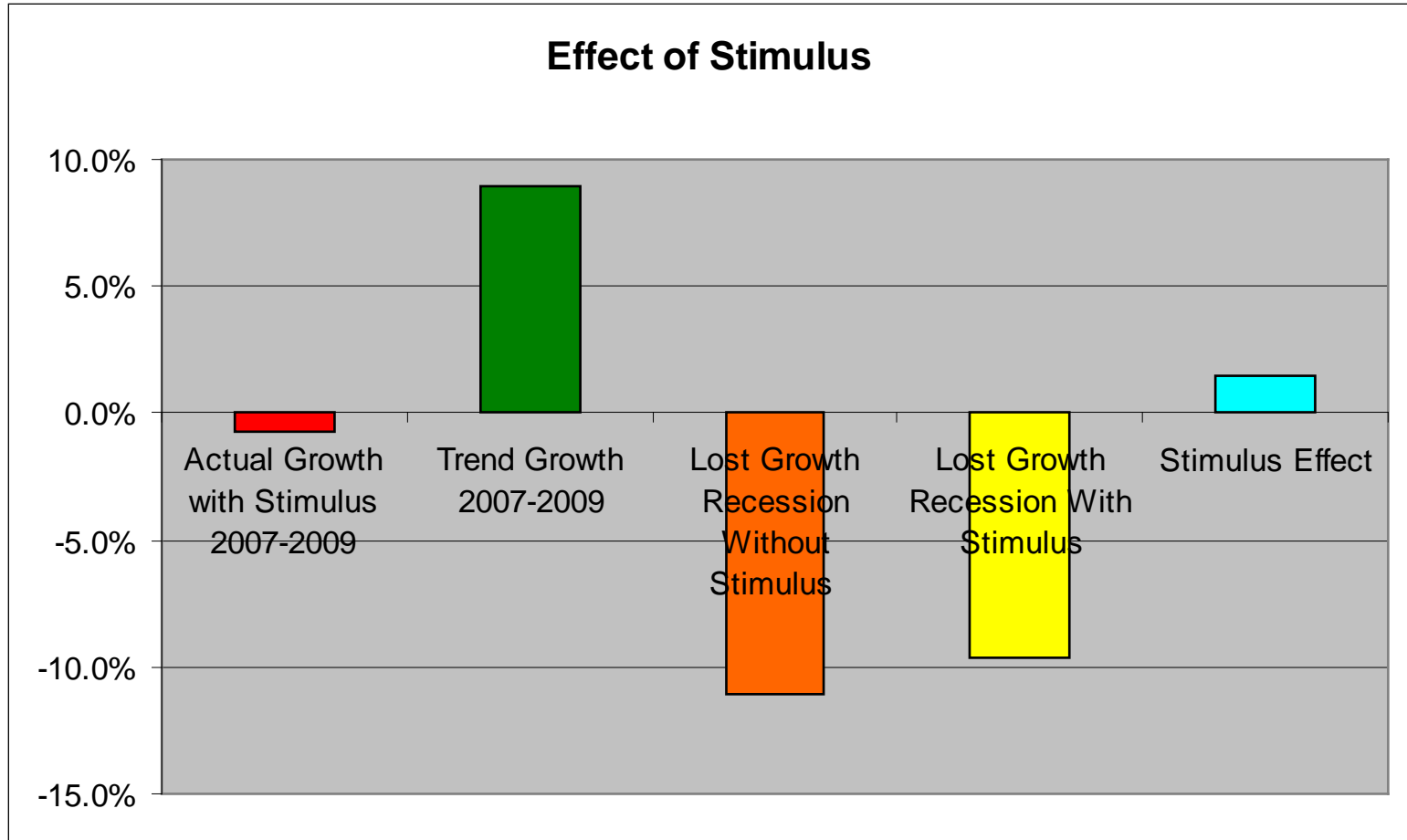
Subprime Mortgage Originations



Leverage Ratios

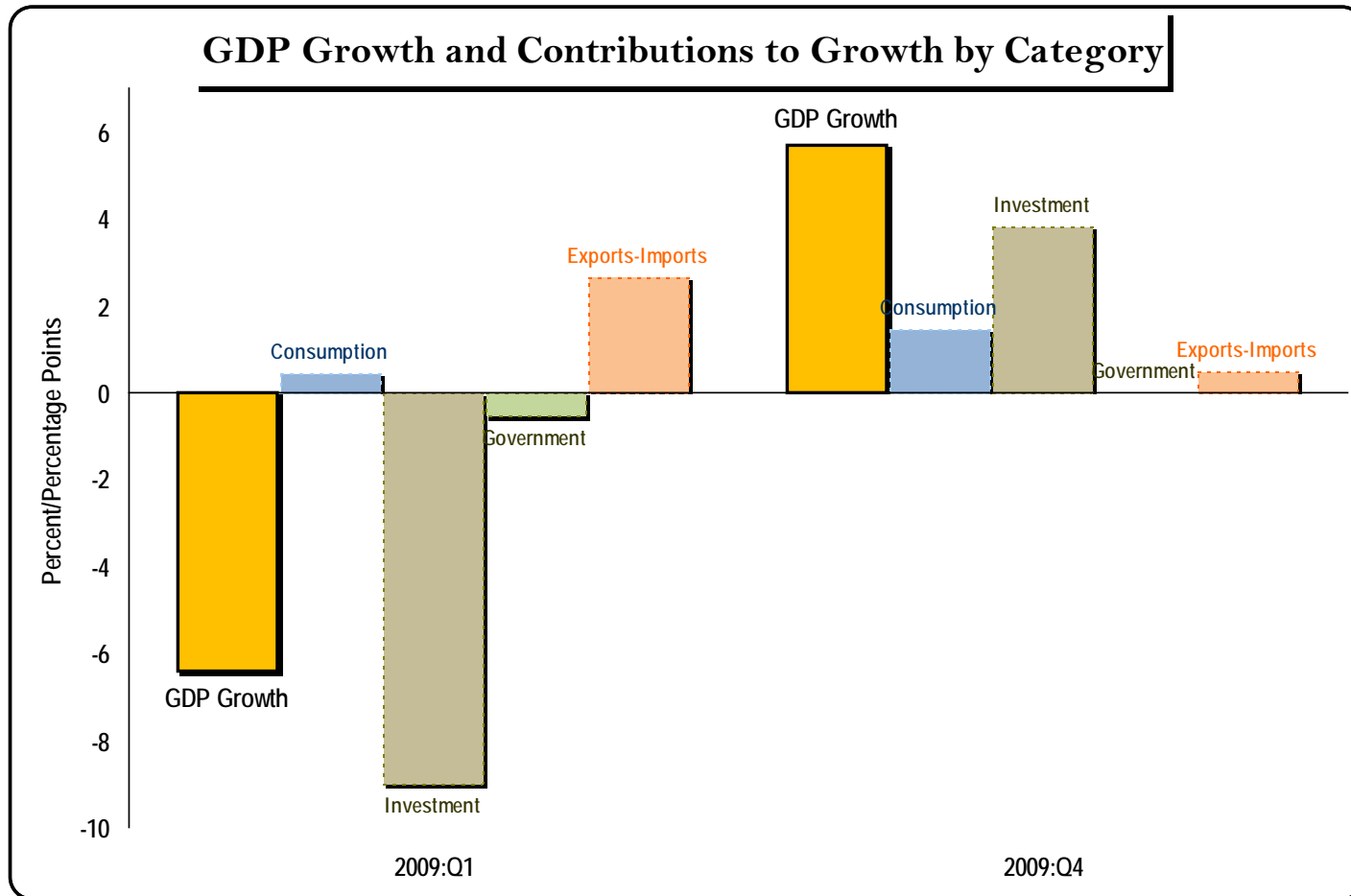


The Effect of the Stimulus

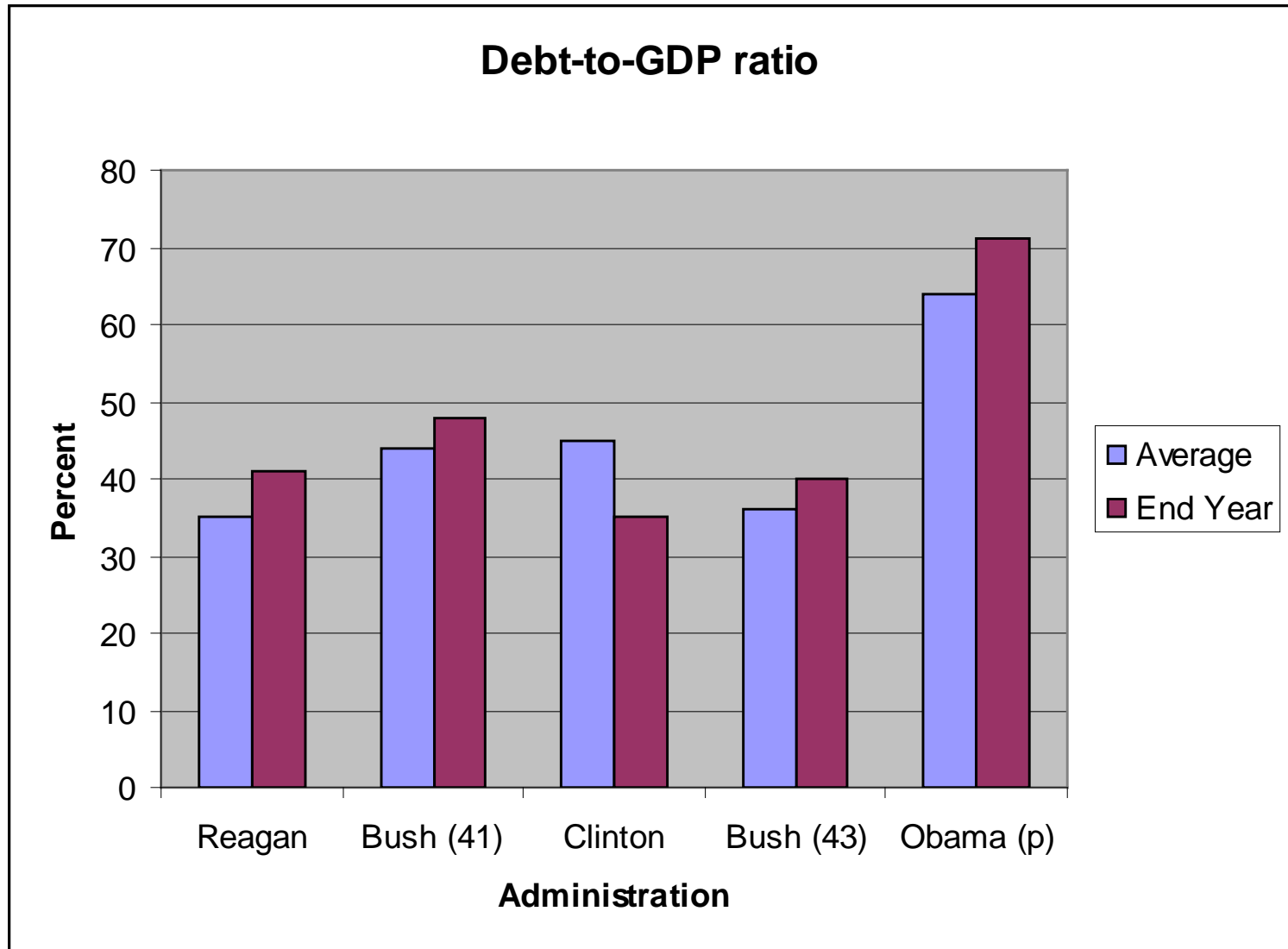


2007-9 growth = -0.7% ; Trend growth should have been 8.9% . Stimulus added approximately 1.5% so recession would have been -11.1% instead of -9.6%

It's All in Investment



US Debt-to-GDP Ratio



Game of Chicken

Bubba

Straight Swerve

Chip

Straight

$$u_C = 0$$

$$u_C = 100$$

$$u_B = 0$$

$$u_B = 10$$

Swerve

$$u_C = 10$$

$$u_C = 10$$

$$u_B = 100$$

$$u_B = 10$$

Chicken with GM

Government

Do nothing Bail out

Auto
Do nothing
Prepare for
bankruptcy

$u_A = 0$ $u_G = 0$	$u_A = 100$ $u_G = 10$
$u_A = 10$ $u_G = 100$	$u_A = 10$ $u_G = 10$

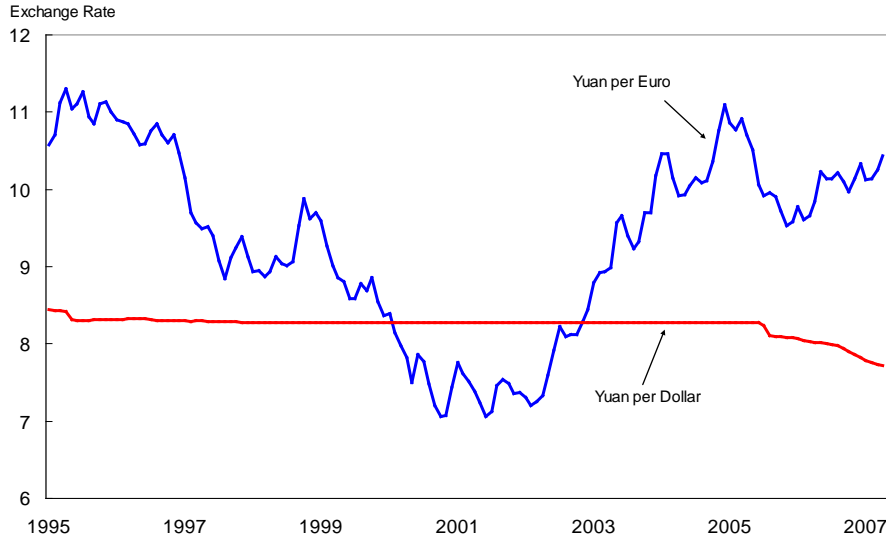
International Trade Identities

Deficit on current account = surplus on capital account

Domestic $S - I =$ Net capital outflow = net exports

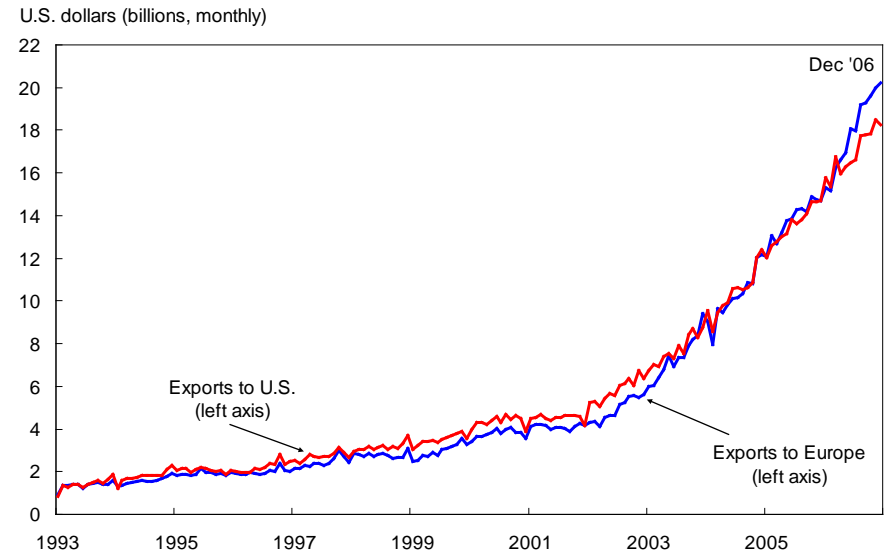
Is the Chinese Exchange-Rate Regime Responsible for the U.S.-China Trade Deficit? No.

The Yuan-Euro and Yuan-Dollar Exchange Rate Has Varied . . .



Source: Federal Reserve Board; Synthetic euro before 1999.

But, Chinese Exports to Europe and U.S. Have Grown at About Same Rate



Source: China Customs.

- China as manipulator is constant theme in US politics
- China manages the dollar-yuan exchange rate.
 - Singapore policy – manage Singapore dollar within undisclosed band against trade weighted basket
- If the exchange-rate regime mattered for trade, we would expect to see systematic differences between U.S.-China trade and E.U.-China trade.
 - From 1993 to 2006, no appreciable difference between export growth to United States and export growth to European Union.
 - Exchange rate policy matters some empirically, but not much

Conclusion

- Economics used to inform policy
- Mostly basic principles, but need to know when to use them
- Understand economic approach to understanding data and what inferences can be drawn
- If done well, leads to correct policies and prevents implementing harmful ones