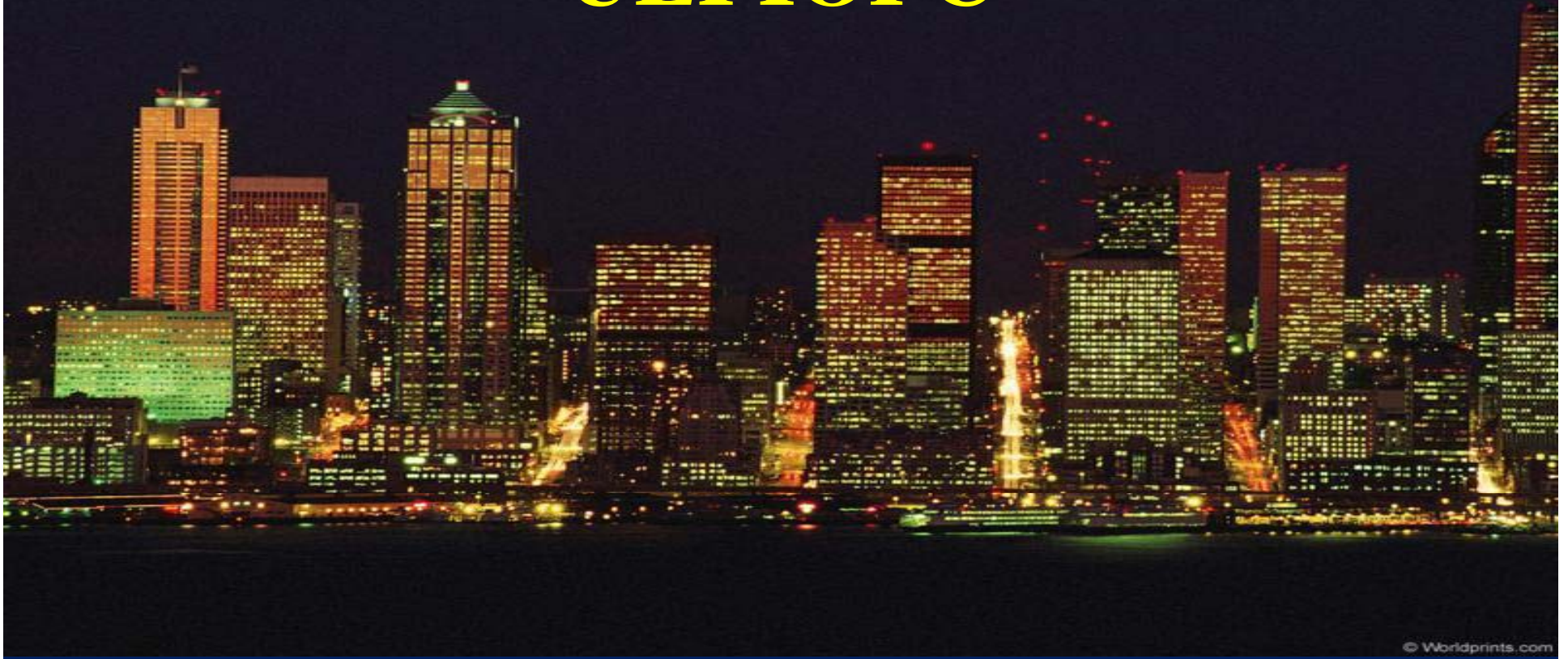


# ULI IOPC



Dr. Peter Linneman  
The Wharton School  
University of Pennsylvania

April 15, 2010

# Typical Recession

- Centered on housing and auto
- And their financiers
- True except for 2001 recession

# Housing + Auto Sectors

- Normally accounts for 5% of GDP directly
- Another 10% of GDP spillover
- Home equity as a key wealth driver
- Consumer confidence
- 50% drop wipes out all normal GDP growth
- Triggers losses of 1.5 million – 2 million jobs

# Super Recessions of 1973-1975, 1980-1982, 2008-2009

- Extreme retrenchment of housing and auto
- Political uncertainty
- Panic
- Destroyed Housing Finance System

# Recent Quarterly U.S. GDP Growth

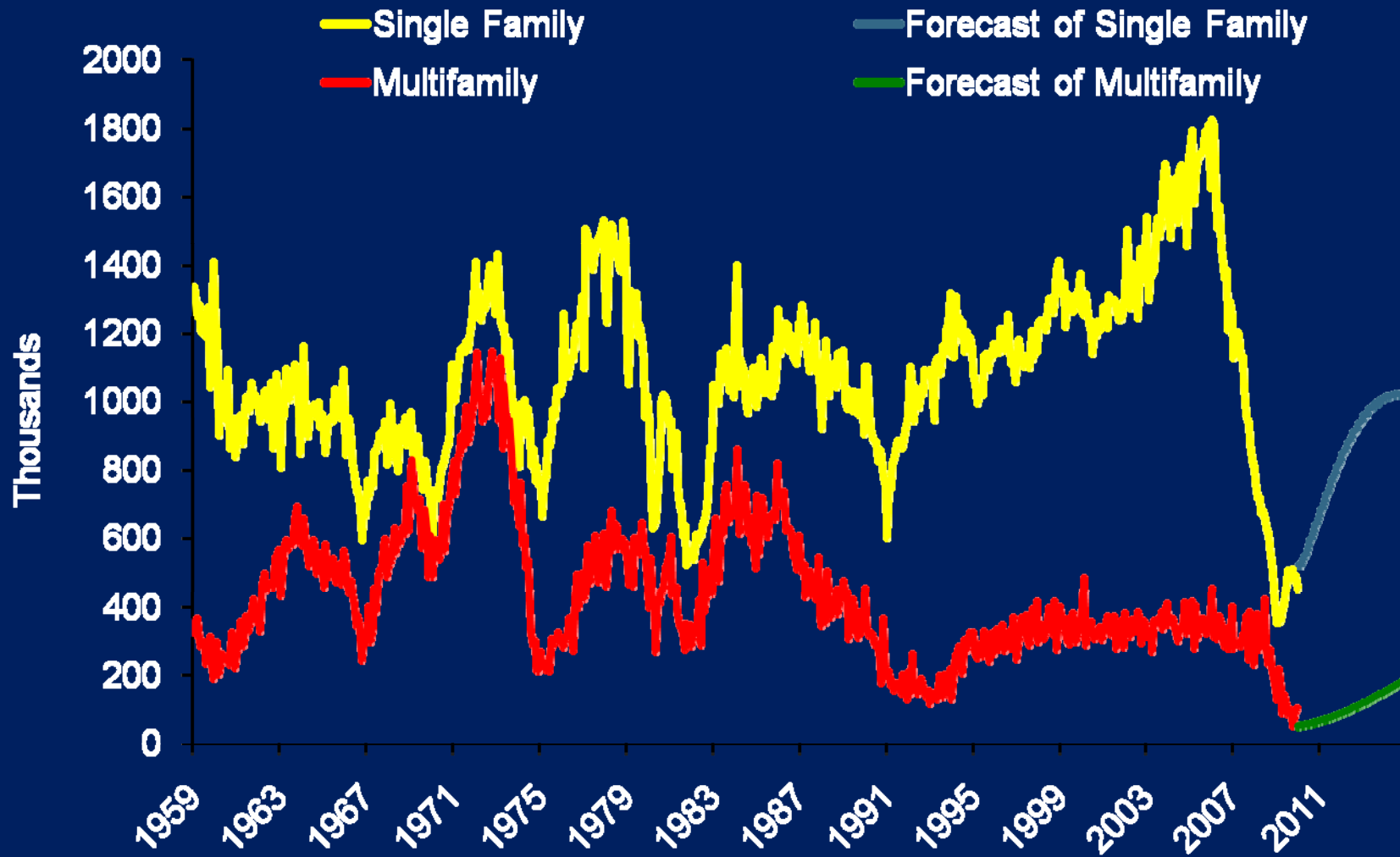


# The “Worst Ever”

## U.S. Super-Recessions Over the Past 40 Years

	<b>Nov 1973- Mar 1975</b>	<b>Jan 1980- Nov 1982</b>	<b>Dec 2007- Mar 2010</b>
Duration in Months	17	35	28
Change in GDP (%)	-3.5%	-2.8%	-3.7%
Change in Payroll Employment (%)	-1.6%	-2.2%	-6.2%
Change in Real Household Net Worth (%)	-10.0%	0.0%	-25.7%
Change in Auto Sales (%)	-30.4%	-36.7%	-40.1%
Change in Industrial Output (%)	-15.0%	-10.3%	-16.9%
Change in Real Sales by Retail Stores (%)	-9.5%	-11.6%	-12.2%
Change in Construction Contracts for C&I Buildings (%)	-52.2%	-50.5%	-75.6%
Percent Real Return in S&P 500	-39.9%	-25.0%	-46.8%
Change in Real Median Home Price (%)	-4.0%	-14.0%	-11.3%
Change in Real After Tax Profit (%)	-30.4%	-24.1%	-22.9%
Lowest Consumer Confidence Level (Monthly)	57.6	51.7	55.3
Change in Housing Starts	-30.5%	-44.4%	-54.3%
Highest Inflation Rate (Monthly)	12.2%	14.6%	5.4%
Highest Unemployment Rate (Monthly)	8.6%	10.8%	10.1%

# Housing Starts Forecast

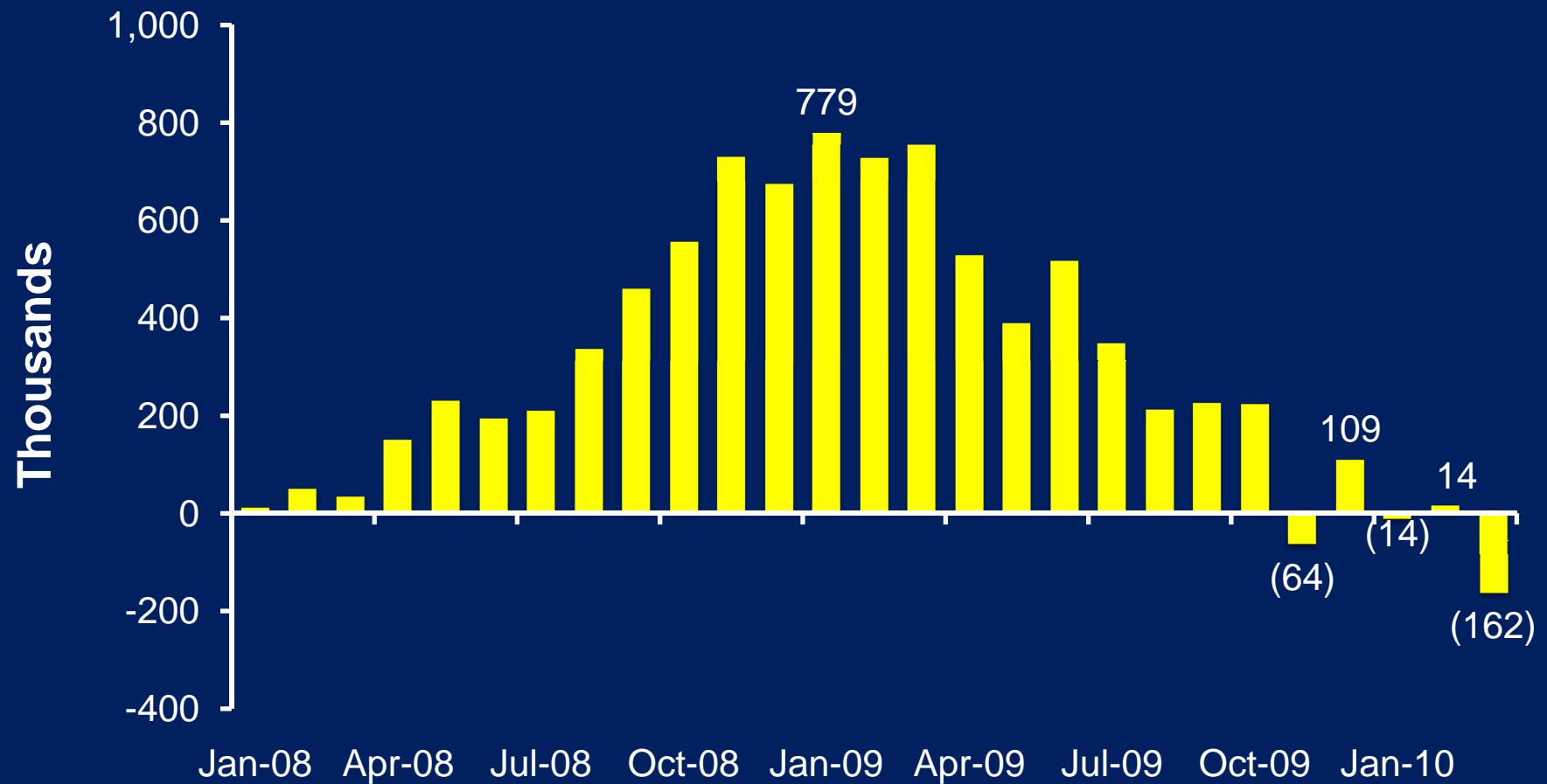


# What About the 19 Million Vacant Units?

- 4.4 million are rental (1,600,000 above norm)
- 5 million are seasonal
- 8 million are abandoned
- 2 million single-family vacancy is 625,000 above norm
  - 260,000 held by homebuilders (versus 300,000 norm)
  - 665,000 were flippers now held by lenders (versus 50,000 norm)
- Very concentrated geographically

# 8.2 Million Jobs Lost

Monthly Decrease (Increase) In Employment



# Job Recovery Dynamics

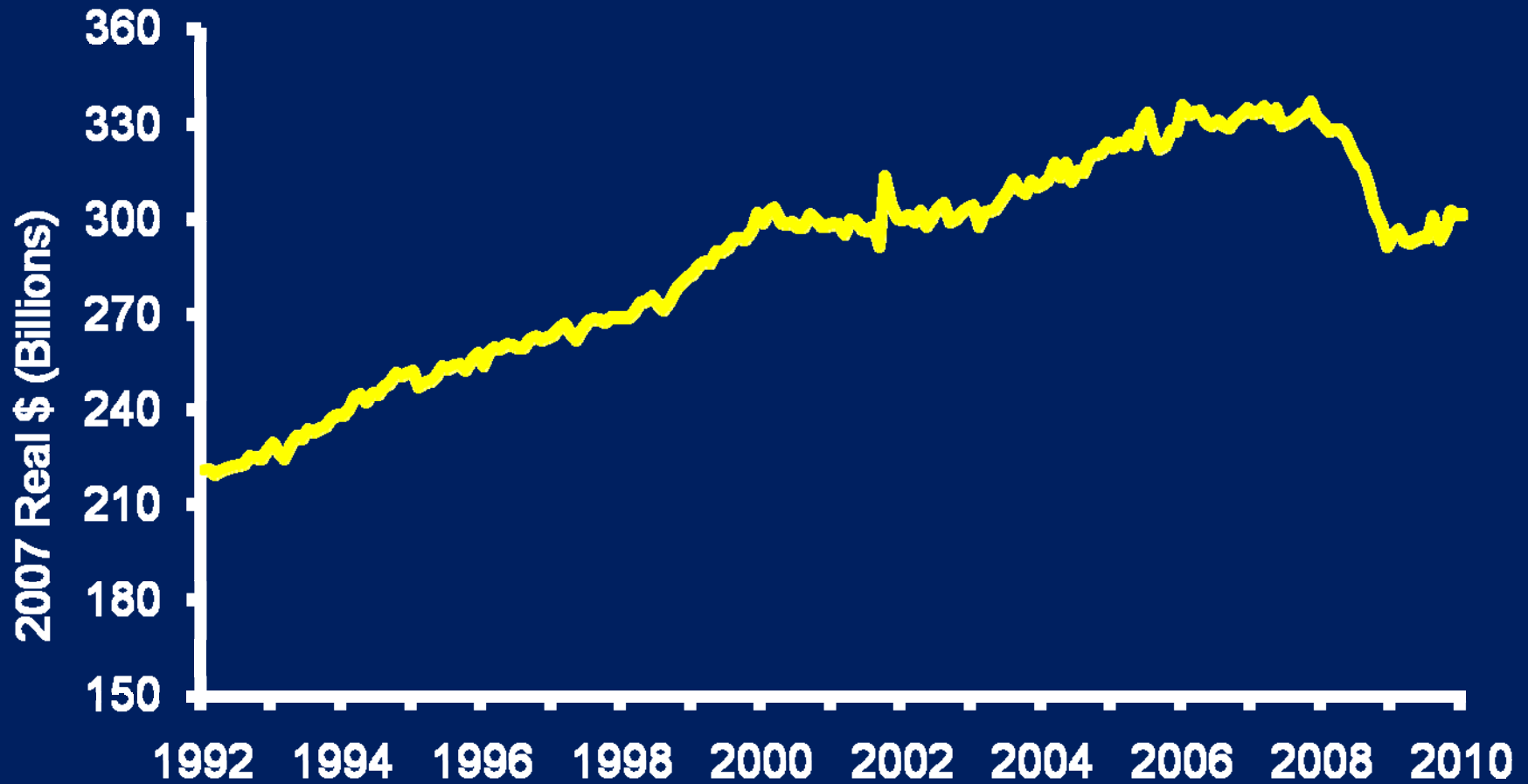
- Declining sectors bottom and rebound
- Profits bottom and rise
- Consumer confidence grows
- Wide scale job replacement occurs
- Employment expands
- Doubling up ceases and 3.2 million households form in the next 2 years
  - 800,000 pent-up households
  - Plus 2.4 million typical new households over next 2 years
- Population growth of 3M people a year fuels demand growth
- Productivity growth fuels demand growth

# “Two Years Later”

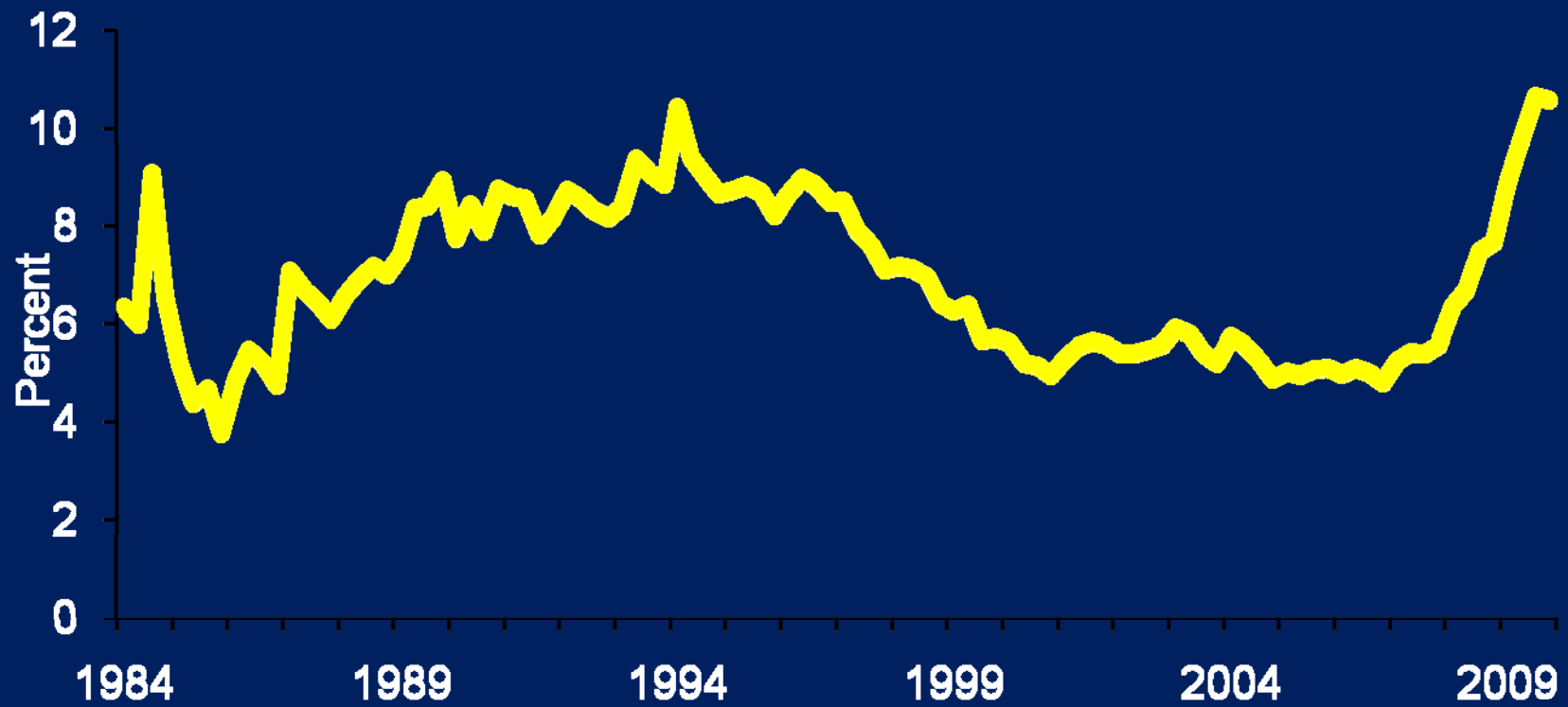
## U.S. Post-Recession 2-Year Growth Periods

	<u>Apr 1975- Mar 1977</u>	<u>Dec 1982- Nov-1984</u>
Duration in Months	24	24
Change in GDP (%)	10.3%	13.8%
Change in Payroll Employment (%)	6.2%	8.1%
Change in Real Household Net Worth (%)	9.1%	8.2%
Change in Auto Sales (%)	48.4%	14.7%
Change in Industrial Output (%)	19.4%	19.3%
Change in Real Sales by Retail Stores (%)	12.8%	10.9%
Change in Construction Contracts for C&I Buildings (%)	32.6%	66.0%
Percent Real Return in S&P 500	4.6%	9.9%
Change in Real Median Home Price (%)	5.5%	4.5%
Change in Real After Tax Profit (%)	31.2%	44.3%
Consumer Confidence Index	87.1	95.7
Change in Housing Starts	93.2%	26.9%
Inflation Rate (%)	6.4%	4.2%
Unemployment Rate (%)	7.4%	7.2%

# Real Retail Sales By Stores

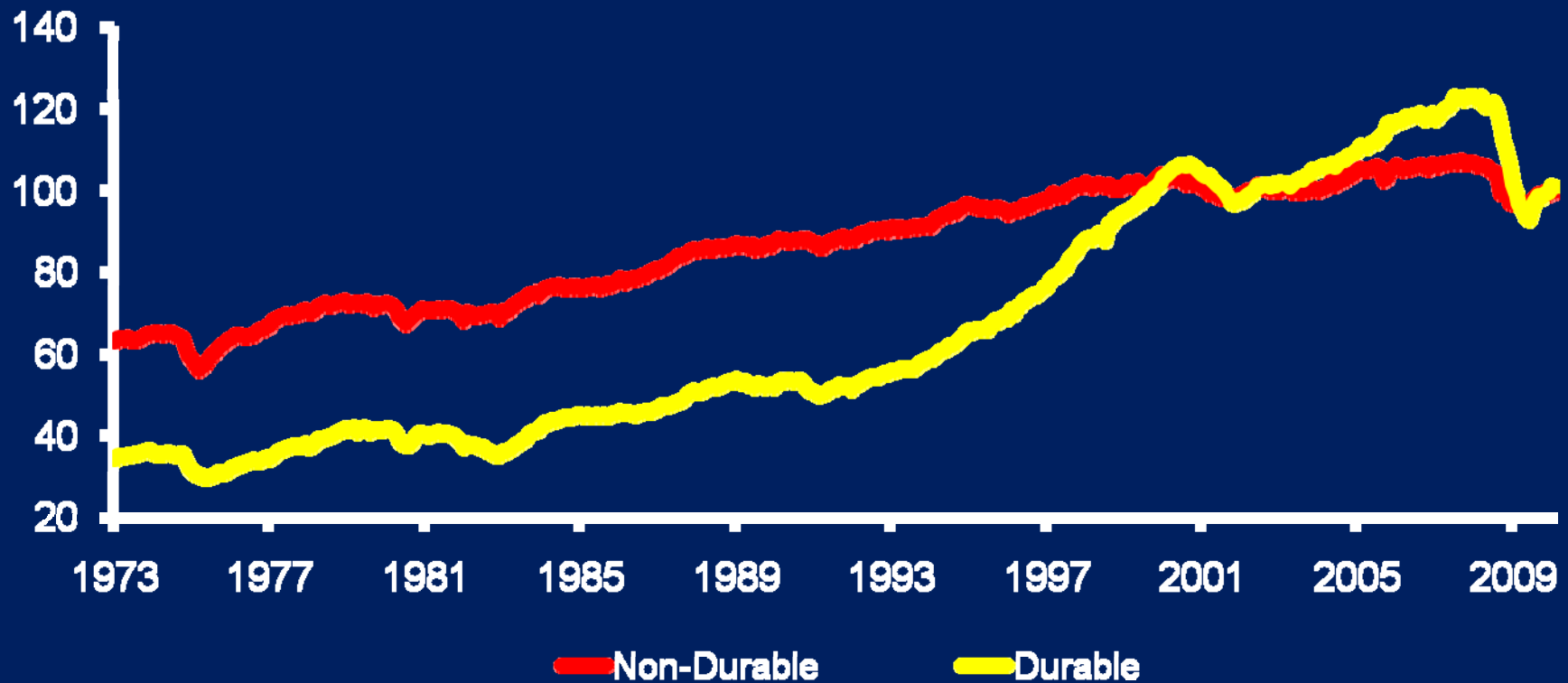


# U.S. Retail Vacancy

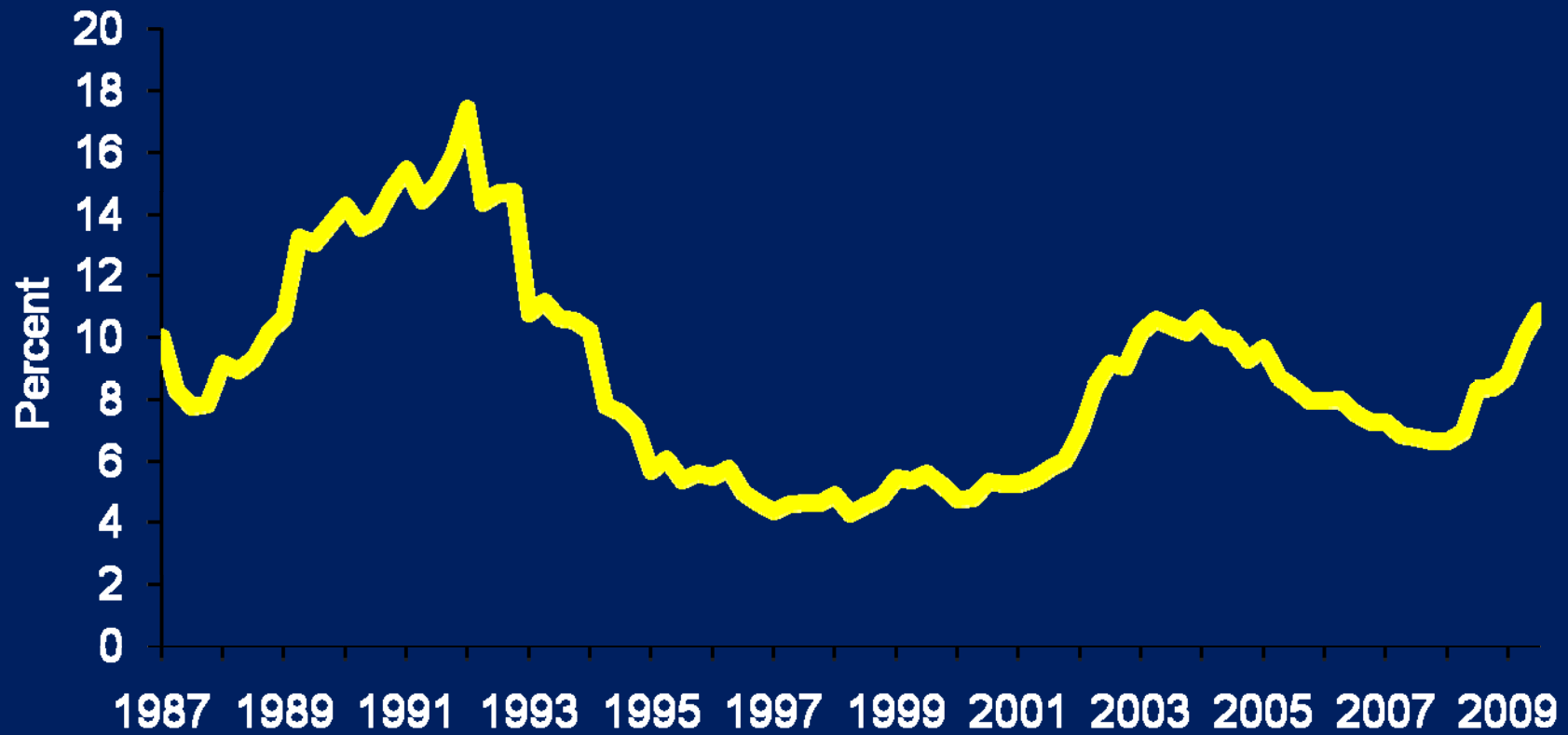


# Industrial Production

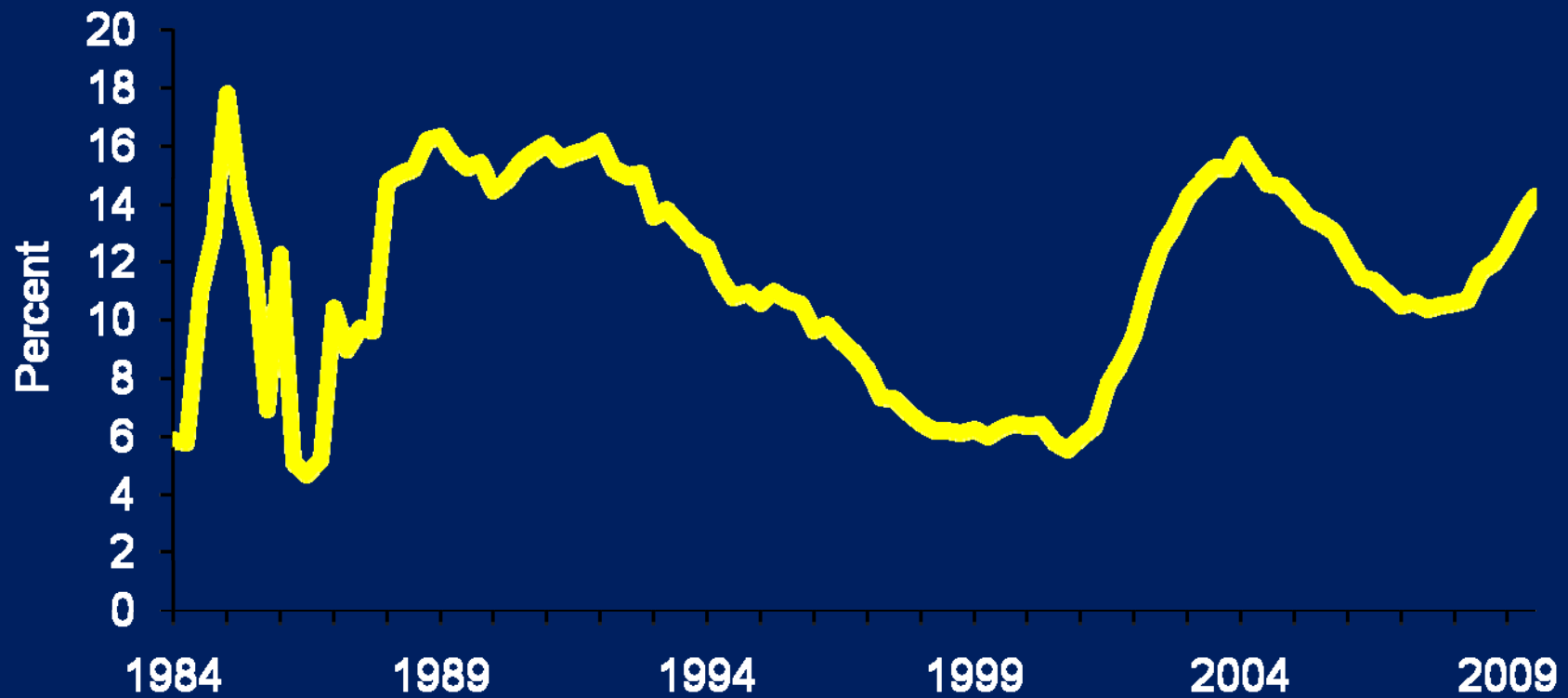
**Industrial Production Index  
Durable and Non-Durable Manufacturers**



# U.S. Industrial Vacancy

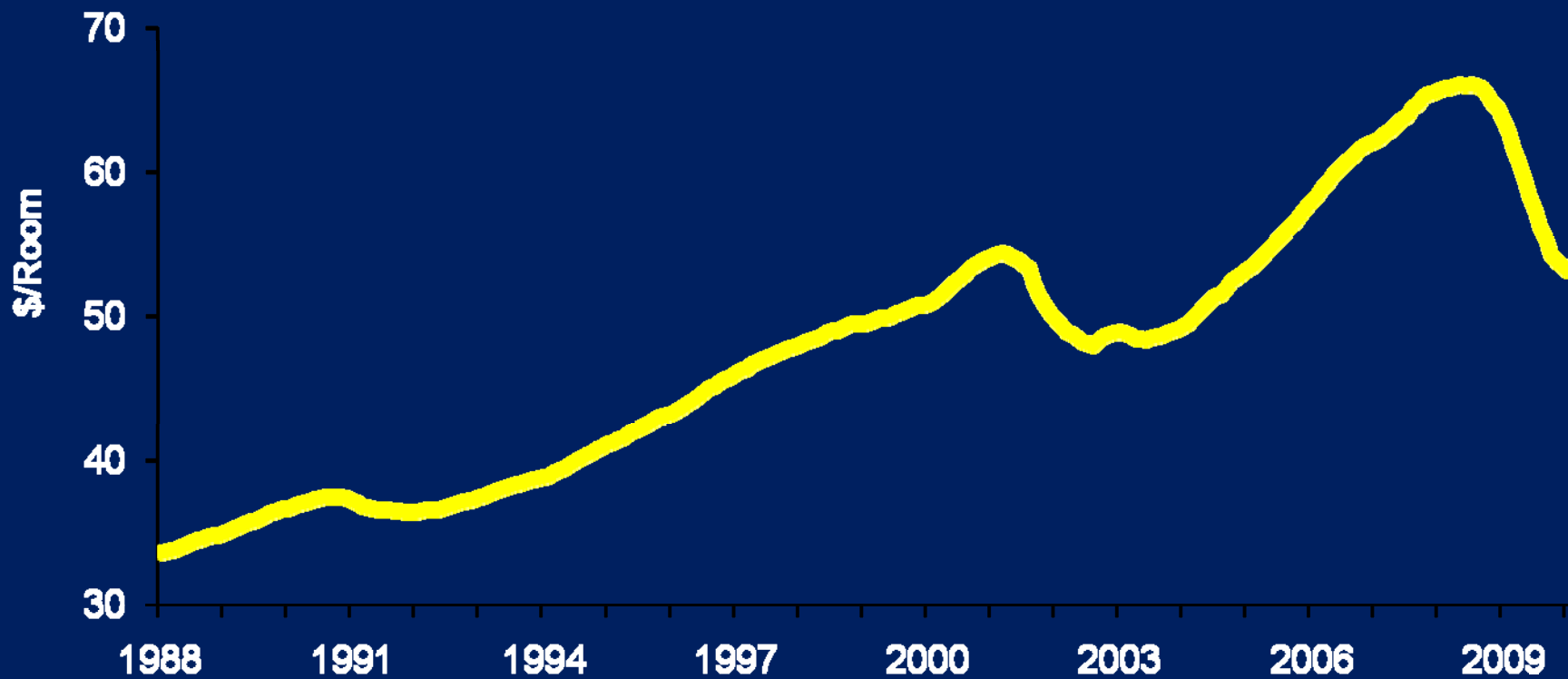


# U.S. Office Vacancy

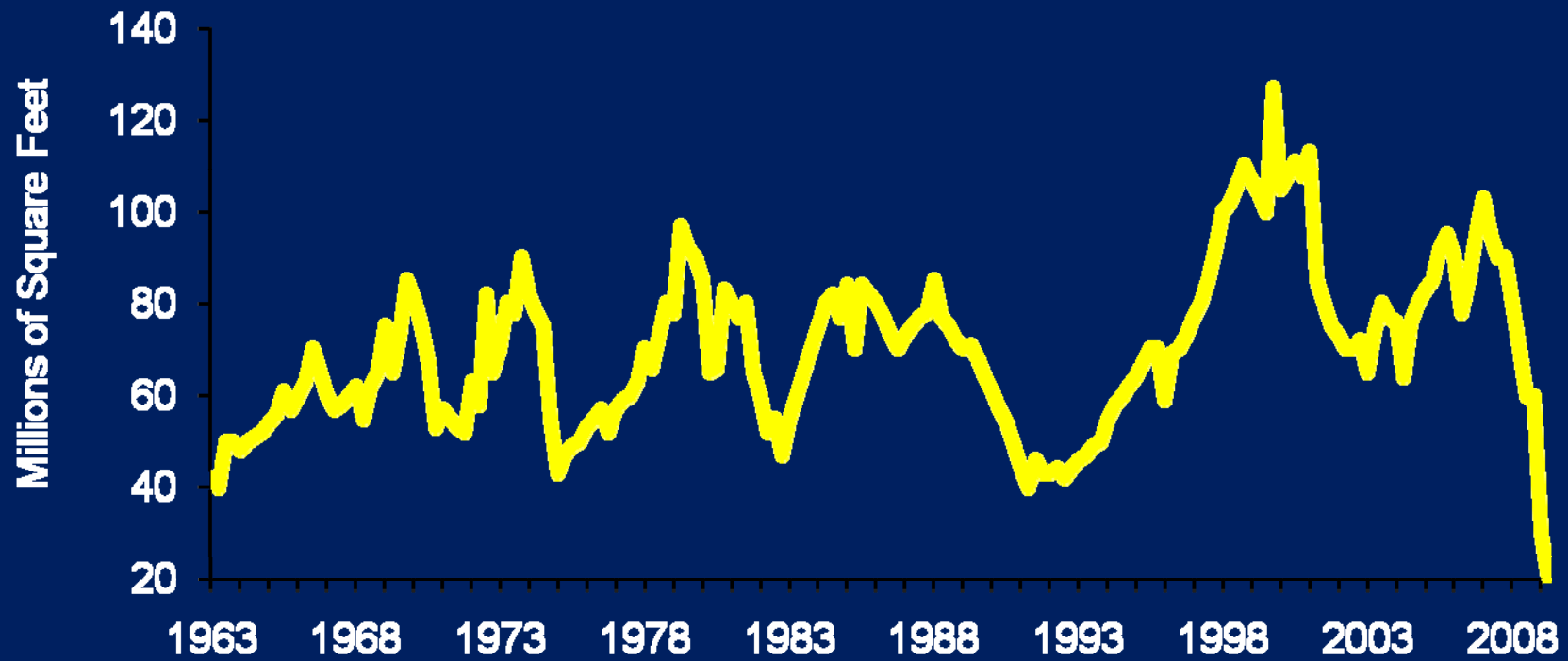


# Hotel REVPAR

U.S. Hotel Revenue Per Available Room  
(12-Month Moving Average)



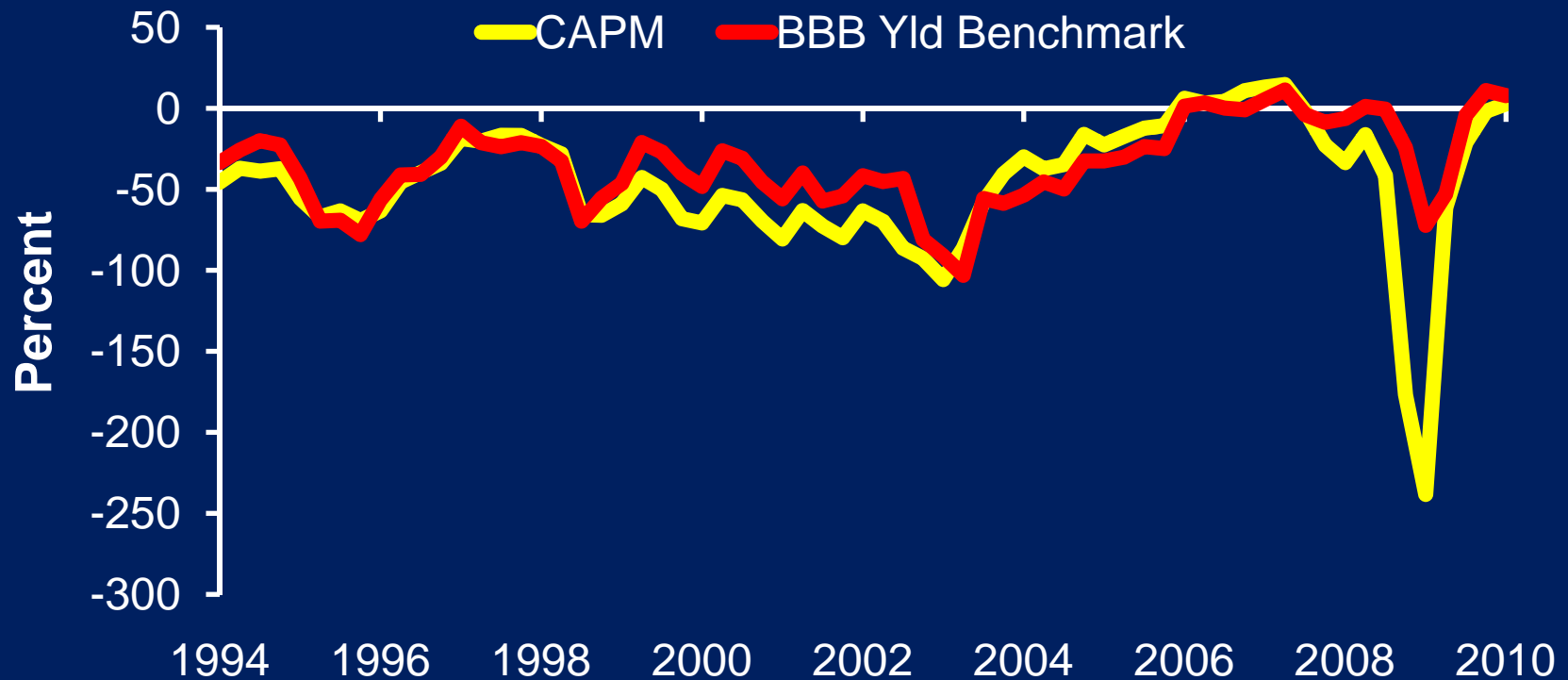
# Commercial Construction Feet Permitted



Source: McGraw Hill

# Real Estate Underpricing

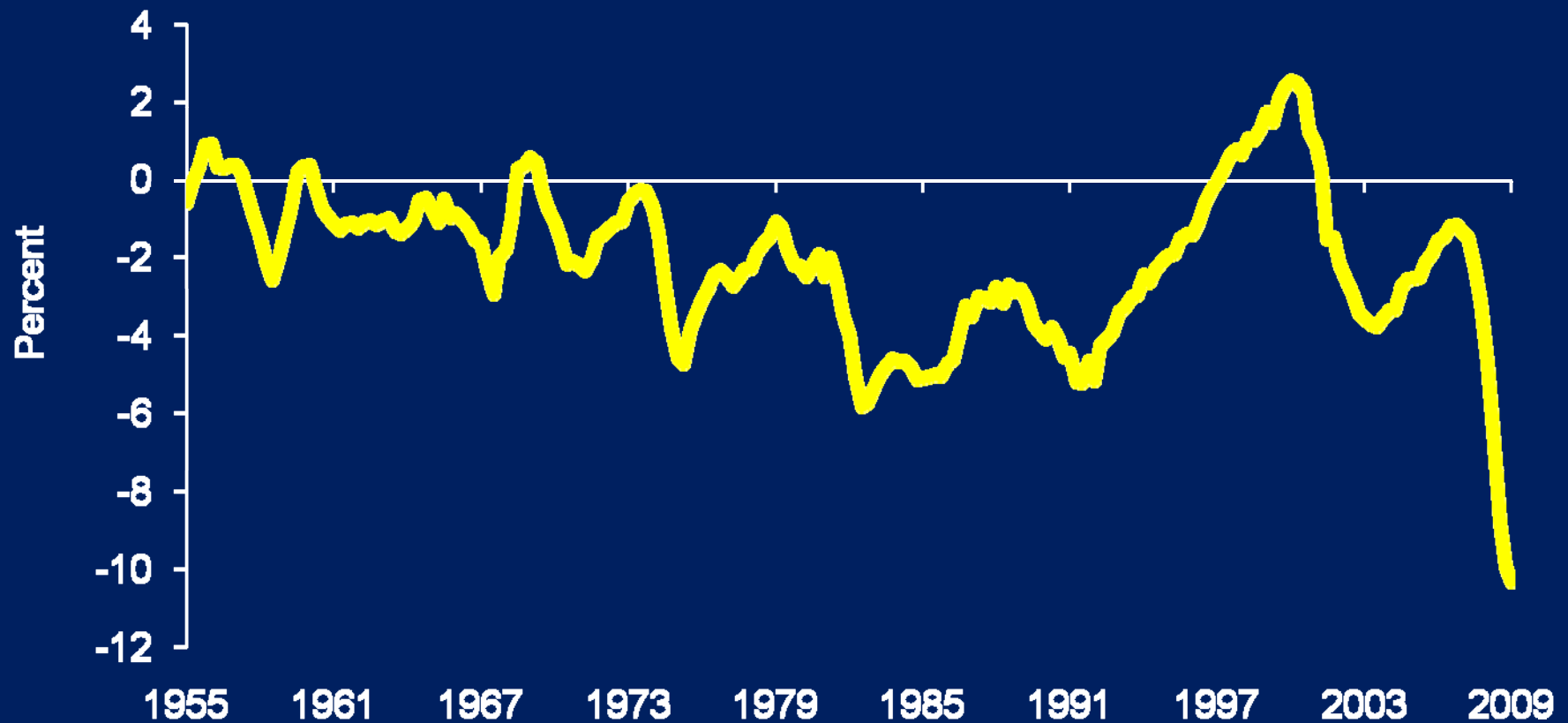
Real Estate (Under) Over Pricing Using:



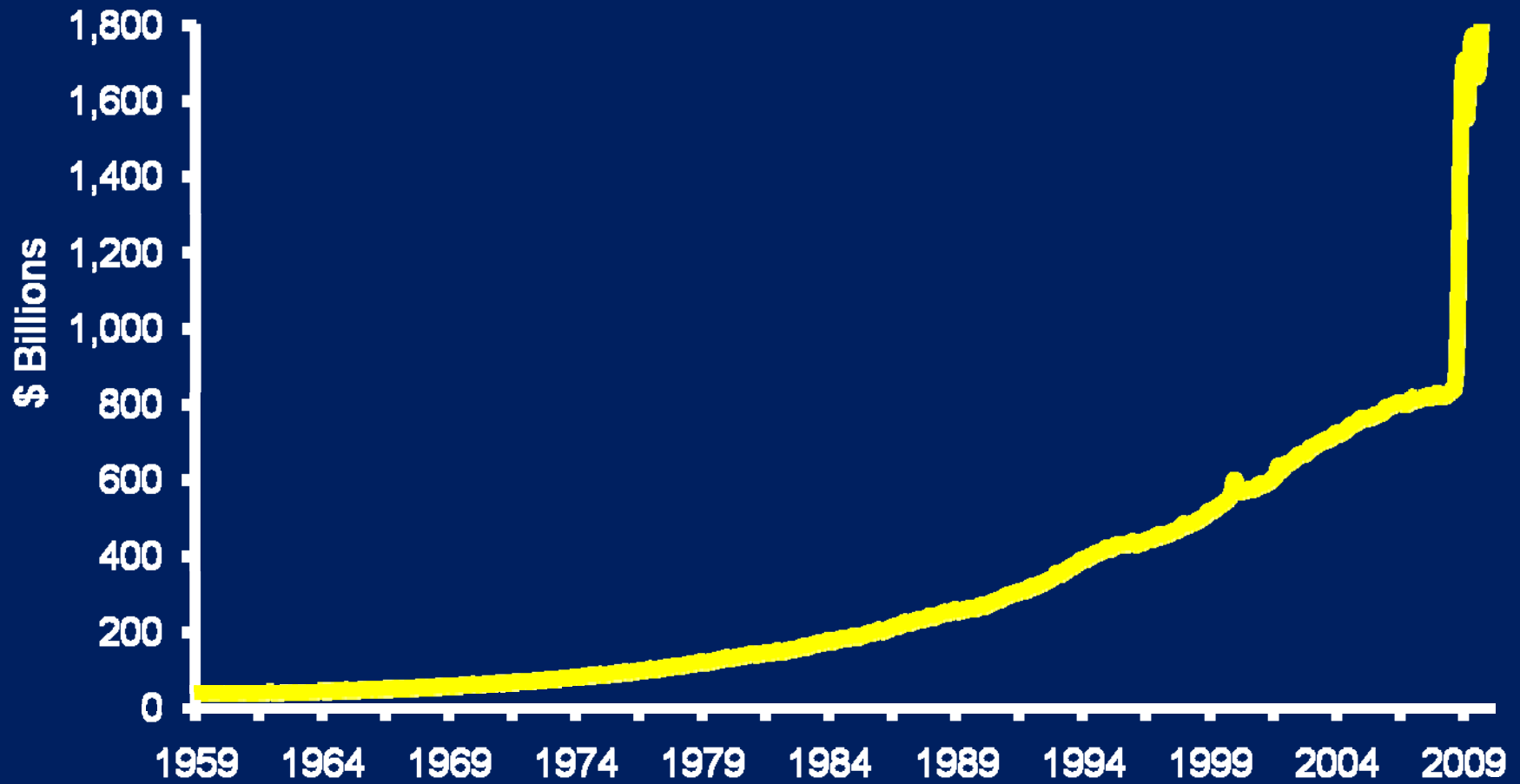
Liquidity premium assumed to be zero.

# Federal Budget Deficit

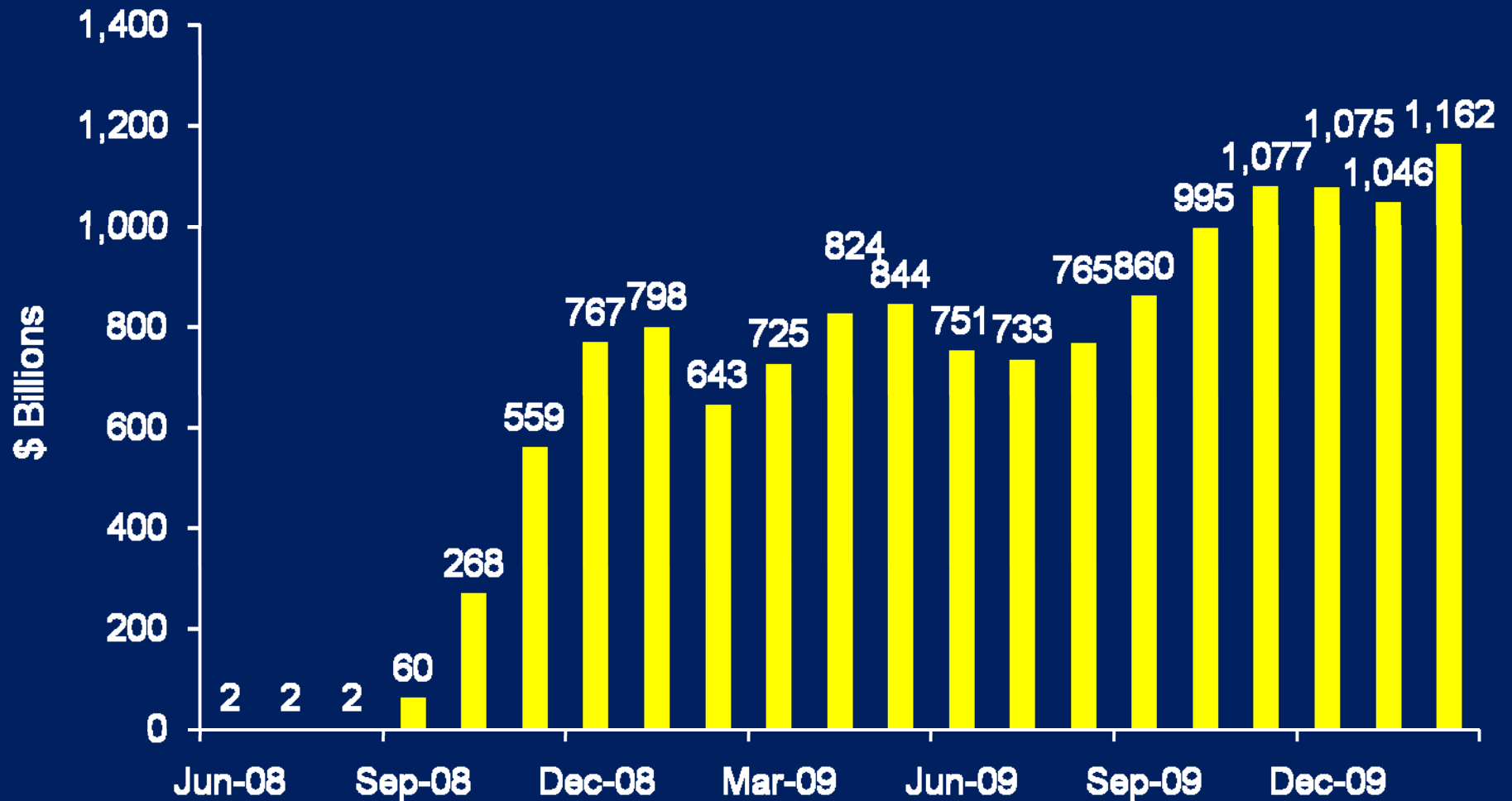
Government Deficit as a Percent of GDP  
(4-Qtr Trailing Avg.)



# Monetary Base

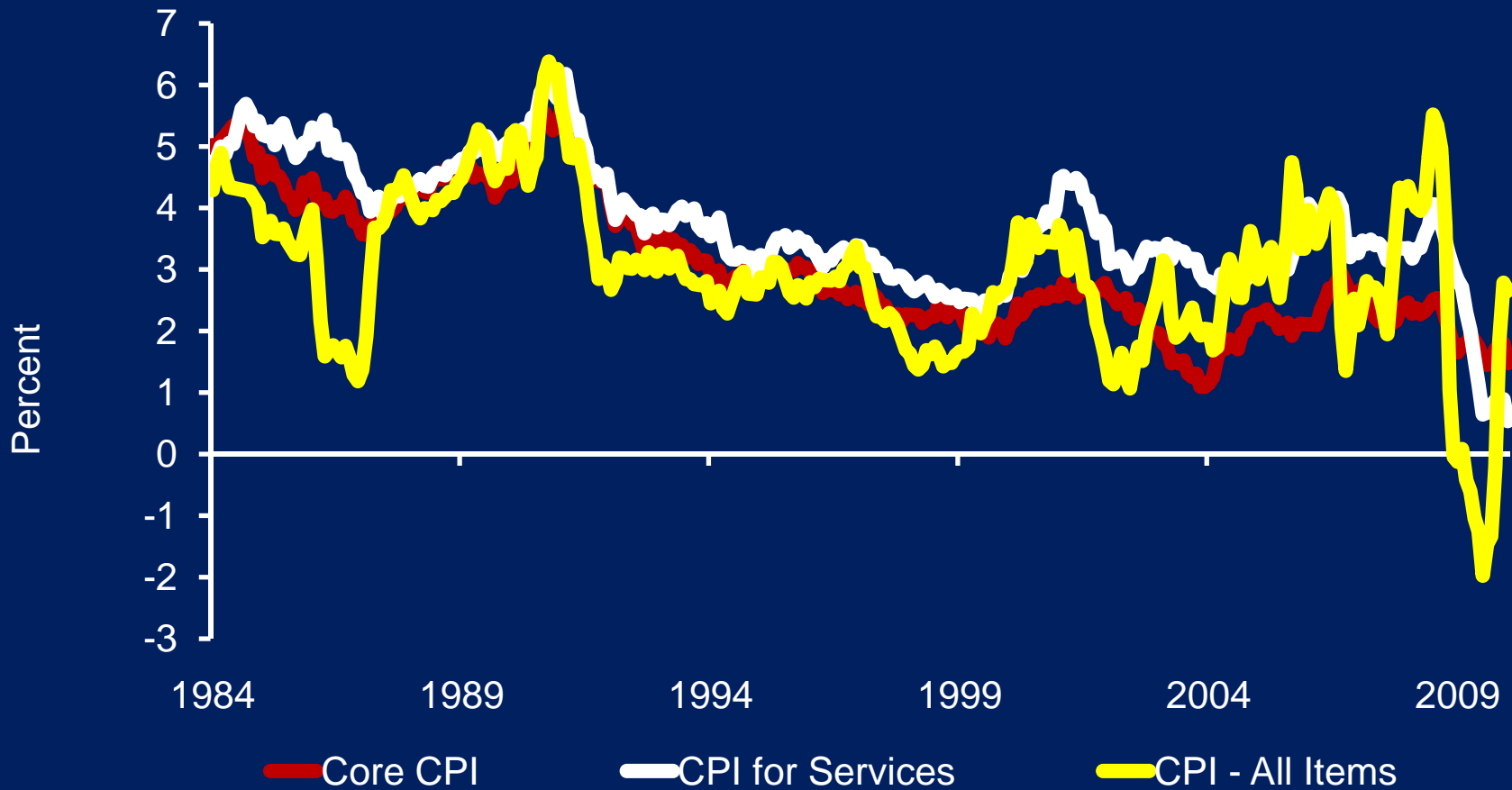


# Recent Bank Excess Reserves

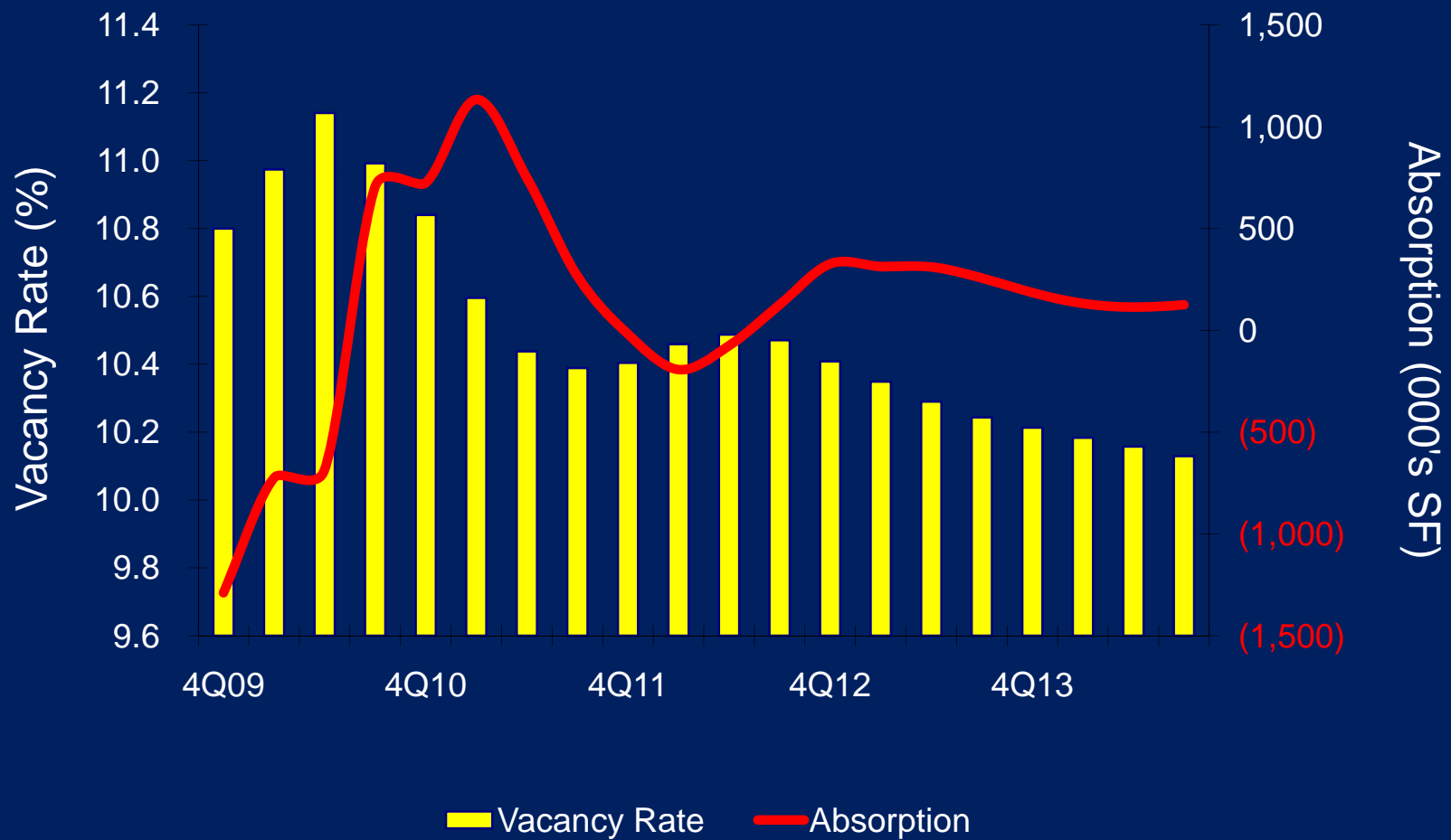


# Inflation

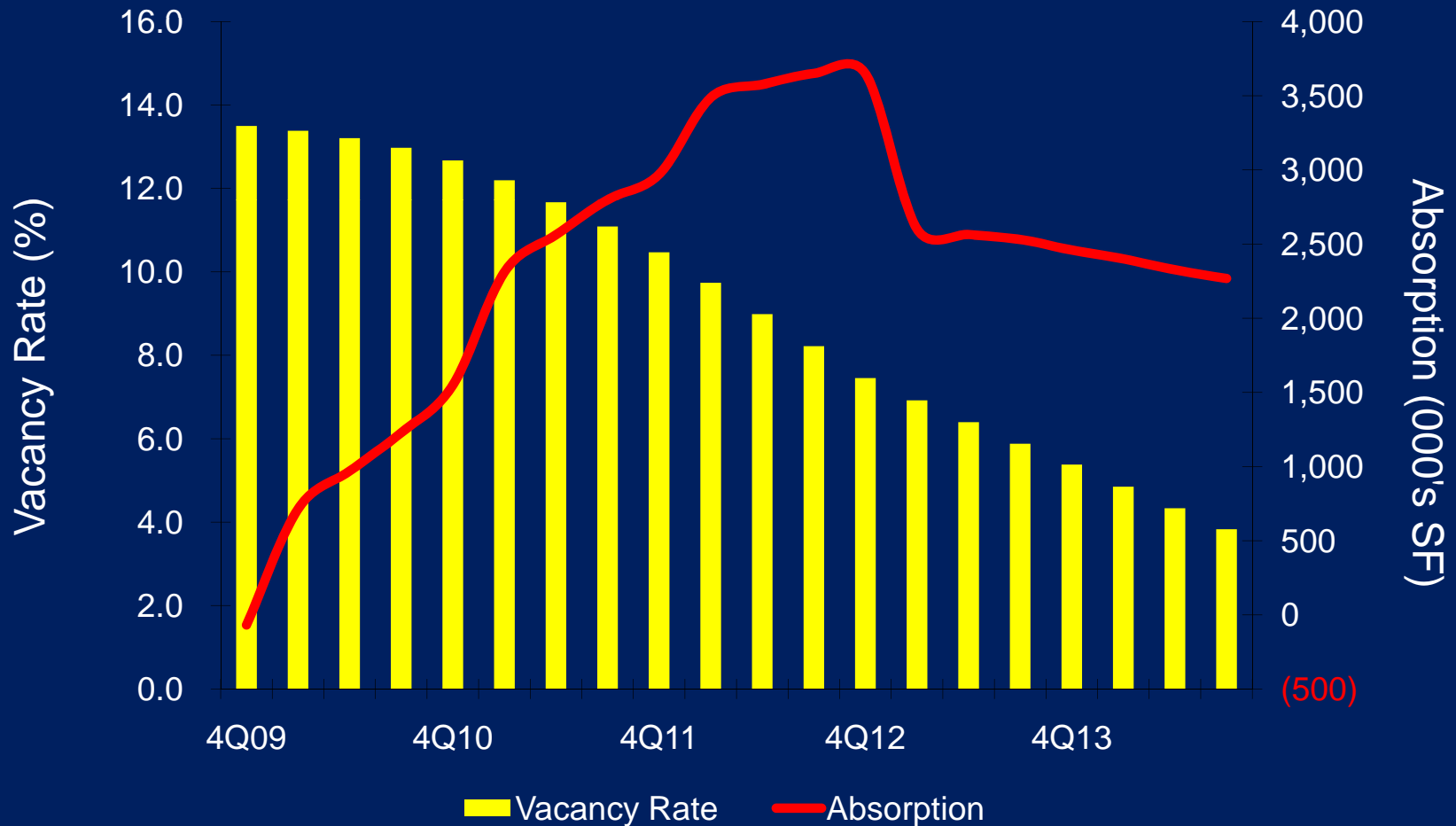
Consumer Price Index  
Year-Over-Year Percent Change



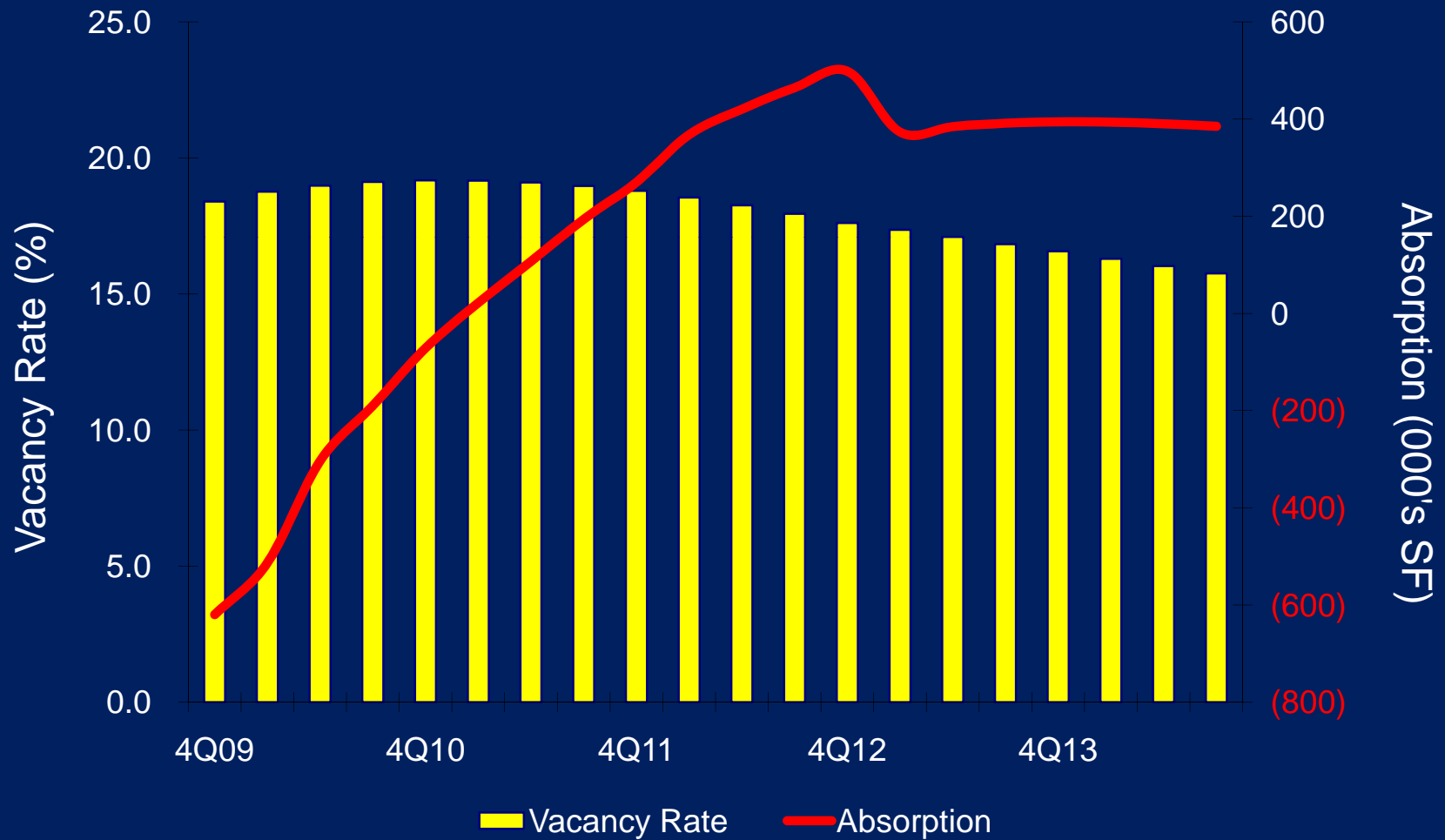
# New York Office Market



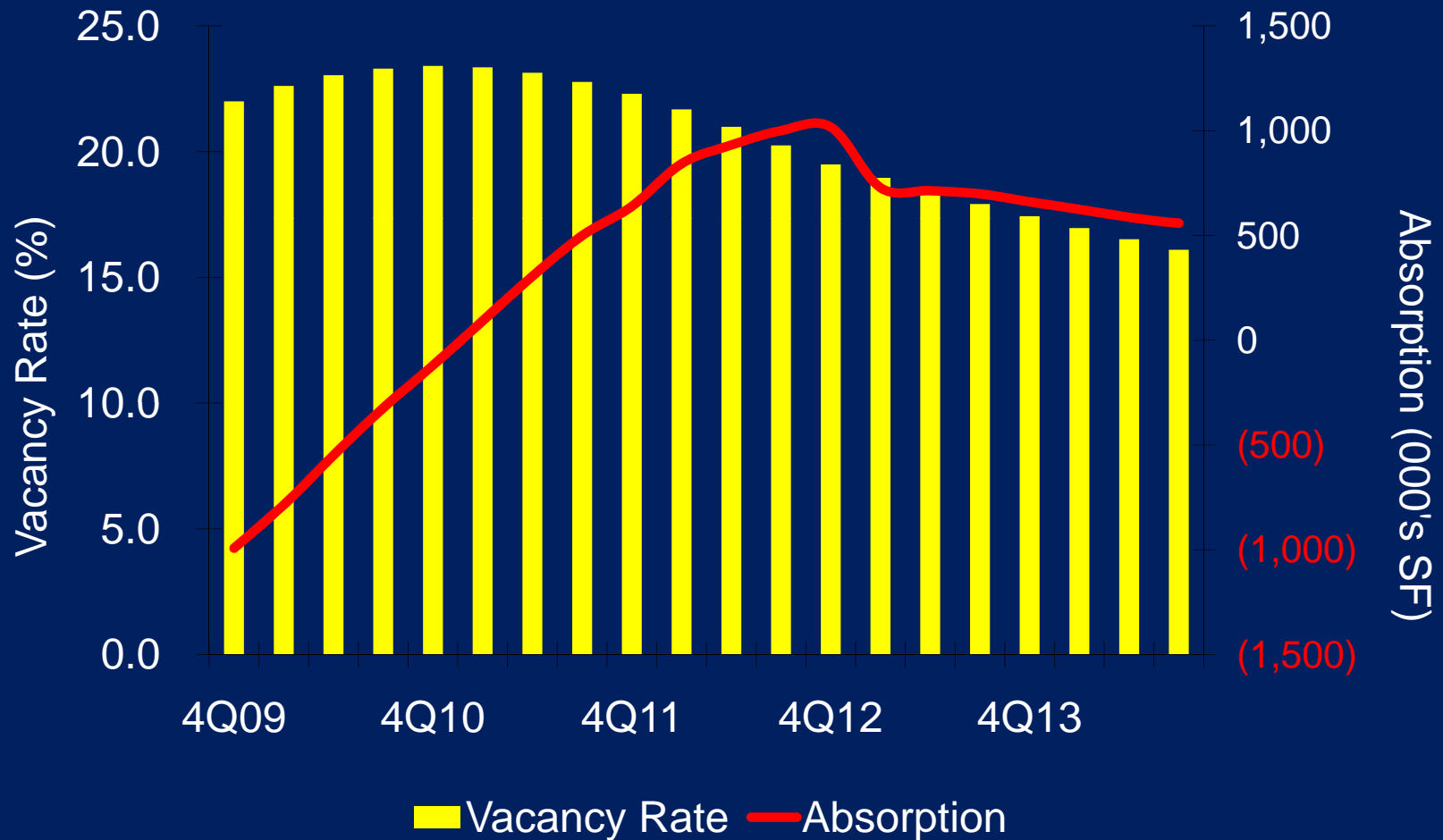
# Washington DC Office Market



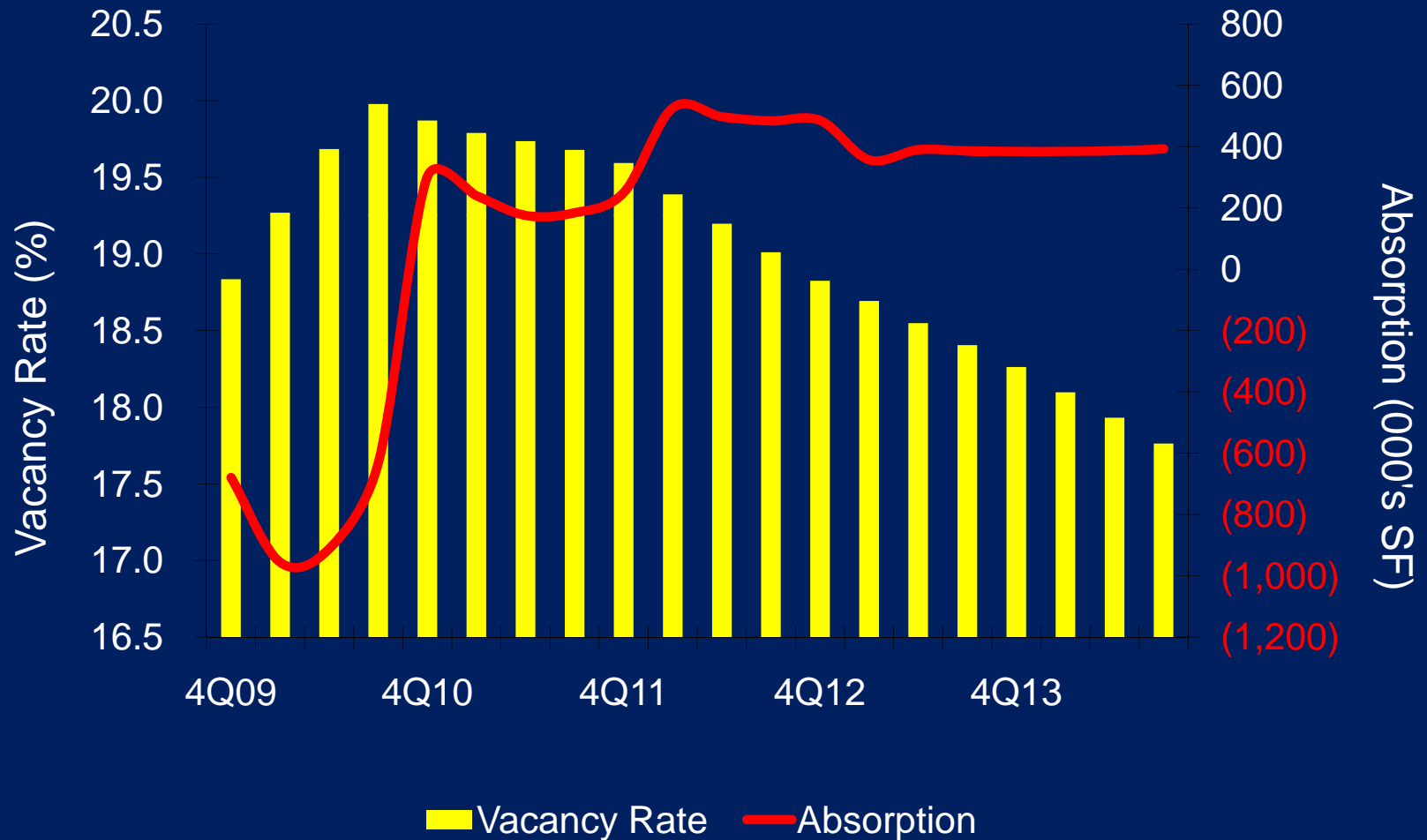
# Philadelphia Office Market



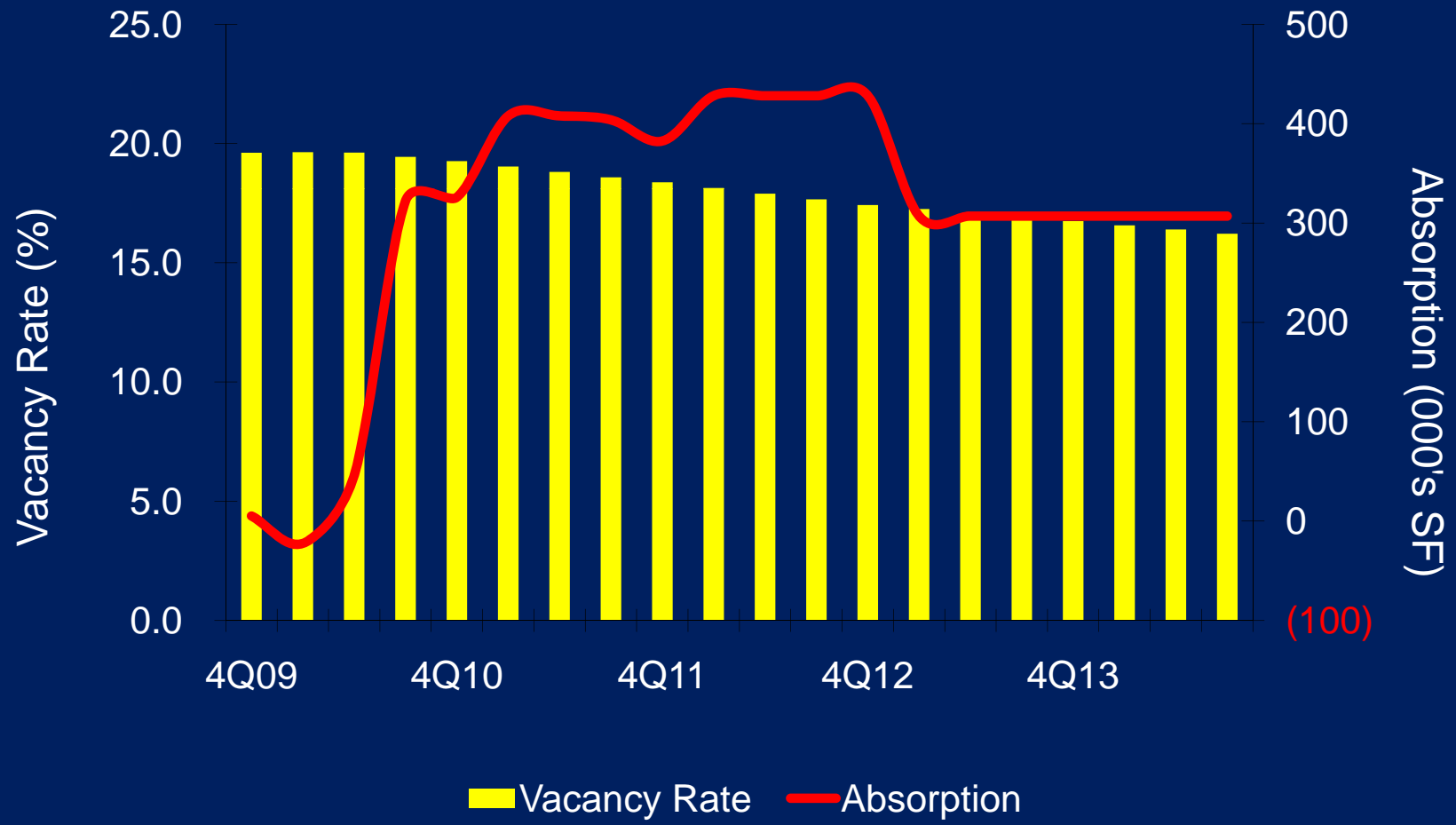
# Atlanta Office Vacancy Forecast



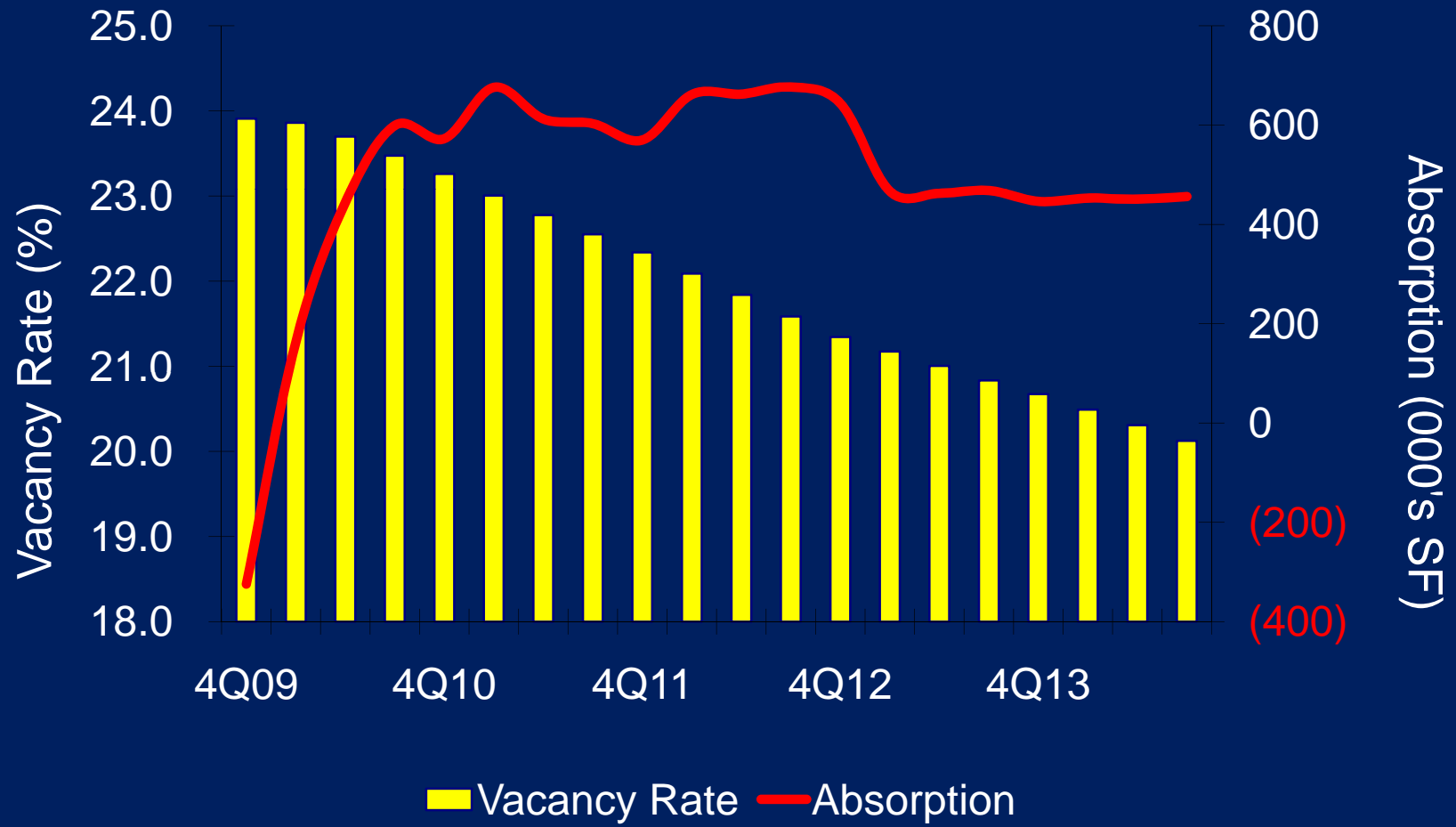
# Chicago Office Market



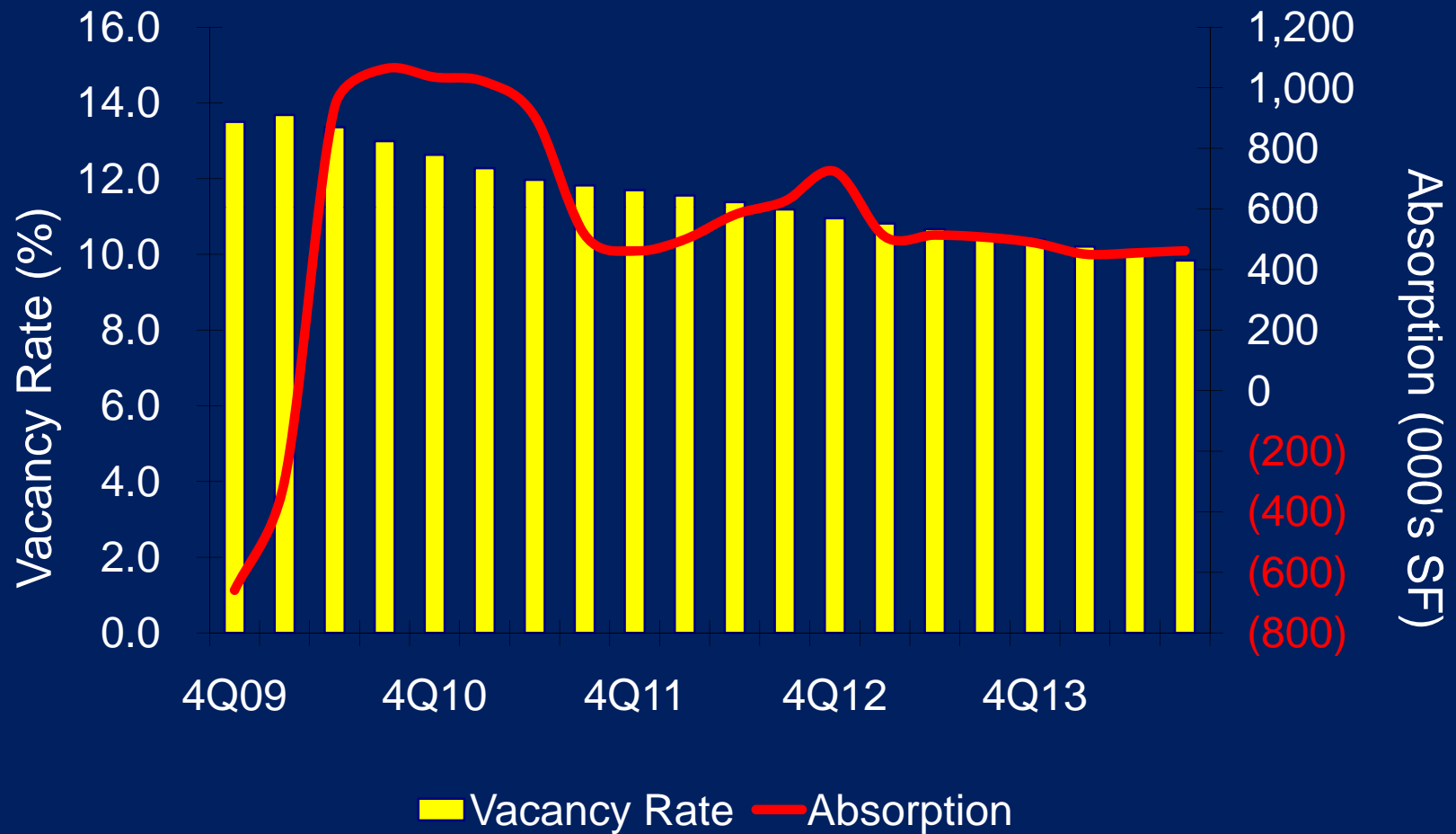
# Boston Office Market



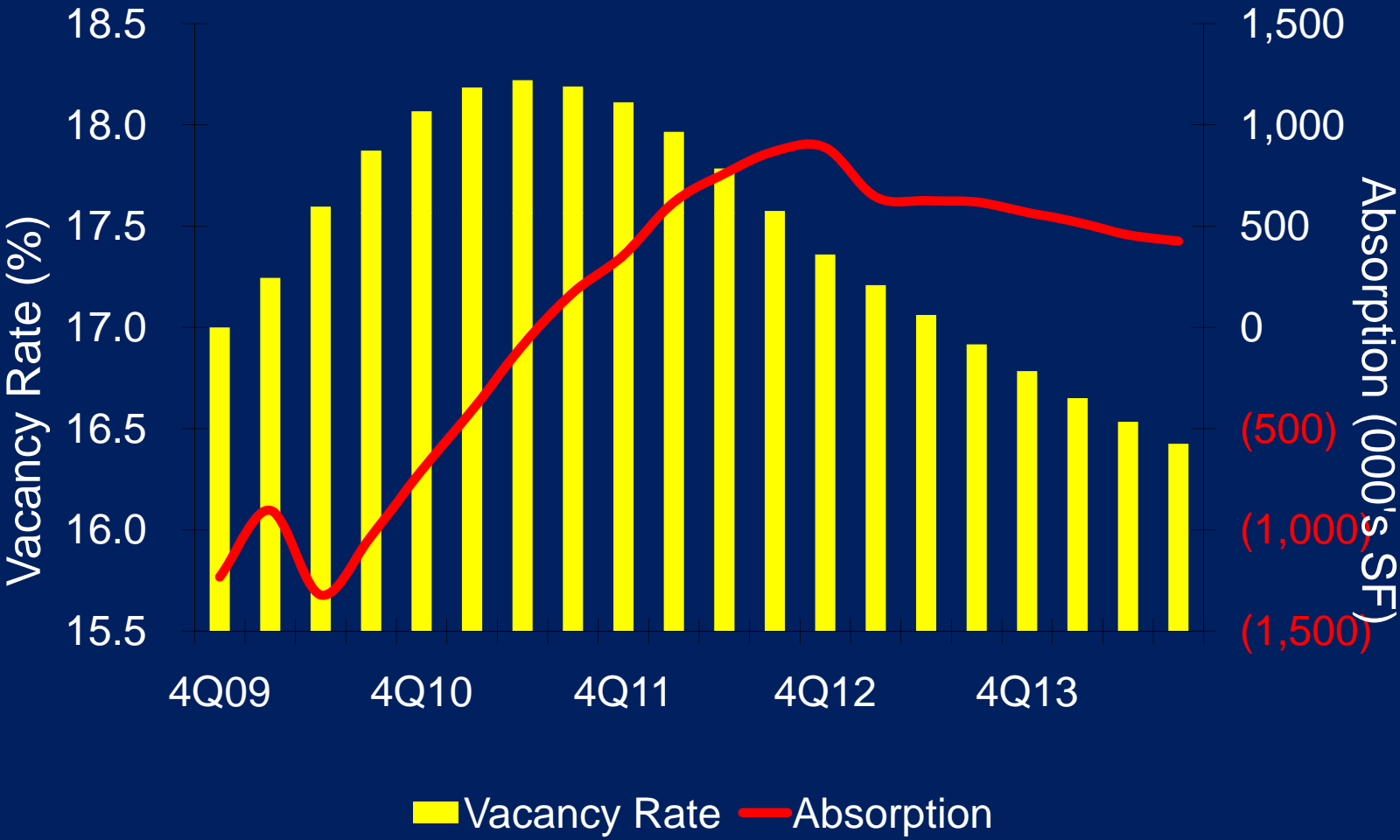
# Dallas Office Market



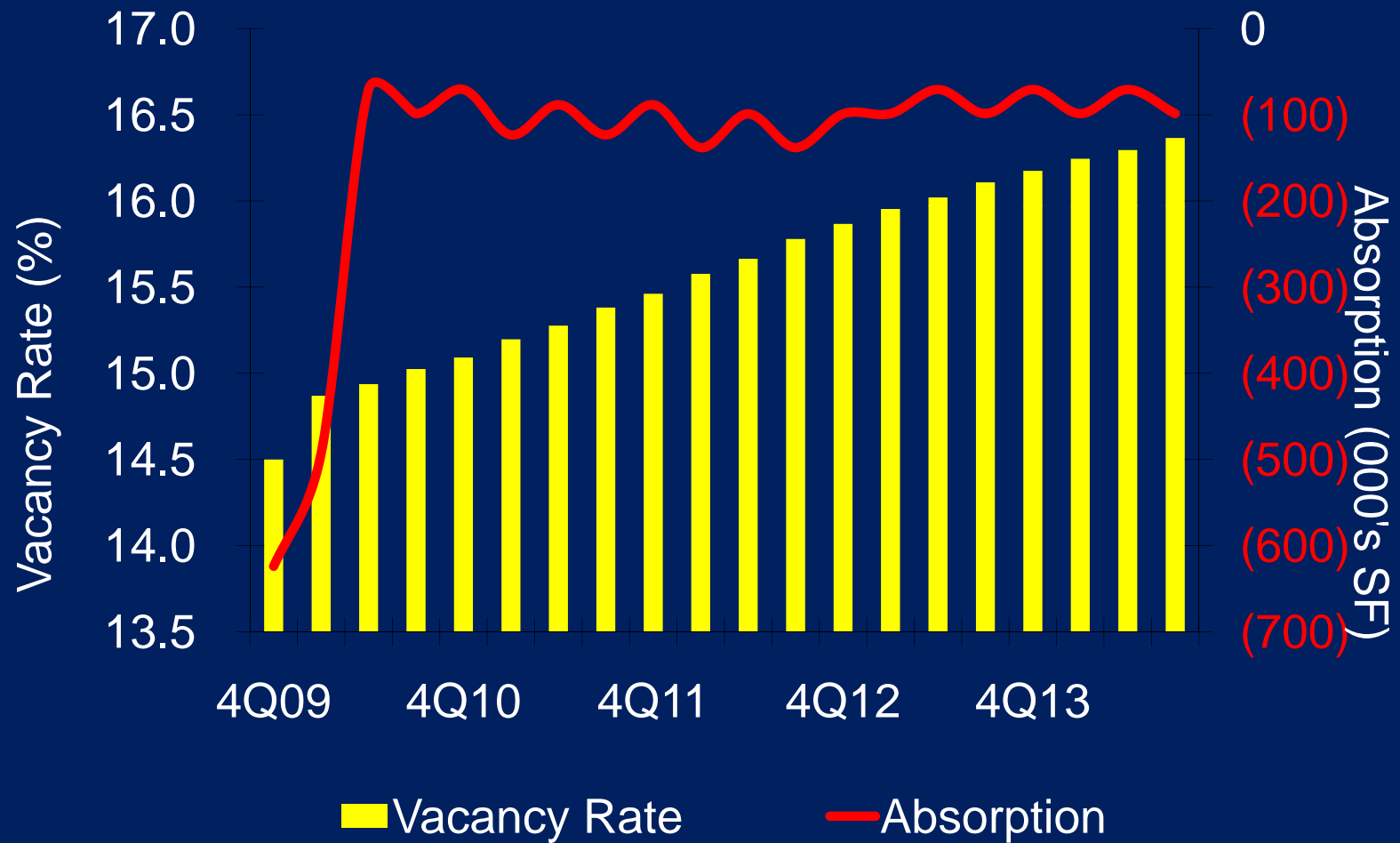
# Houston Office Market



# Los Angeles Office Vacancy Forecast



# San Francisco Office Vacancy Forecast



# Outlook For 2010-2012

- 3%+ real GDP growth
- 3 – 3.5 million jobs per year
- Rapid recovery of housing sector
- Budget deficit struggles

# Show Changers

- Iran goes nuclear
- Fed mismanages monetary policy
- Trade War
- A confidence collapse event