

# **Economic Trends and Real Estate Investment Analysis 2007 - 2008**

*Prepared for*

***US Real Estate Opportunity & Private Fund Investment  
Forum, Information Management Network (IMN),  
New York City***

*Prepared by*

***Lawrence Souza, CRE/RICS/CCIM***

***- Charles Schwab Investment Management (CSIM)  
Index Services***

# Introduction

# Introduction

- Introduction
- Business/Commercial Real Estate Cycles
- Commercial Market Fundamentals
- Employment
- Technology/Venture Capital Trends
- Interest Rates and Inflation
- Residential Market
- Conclusions: Advantages and Risks

# Real Estate in a Social, Cultural and Economic Context

Interdisciplinary/Cross-Sectional Approach to Real Estate Market Analysis:

- Biological/Physiological/Psychological
- Philosophical Systems
- Legal Systems
- Political Systems
- Economic Systems
- Financial Systems

# **Institutional Foundations for Efficient Capital Markets**

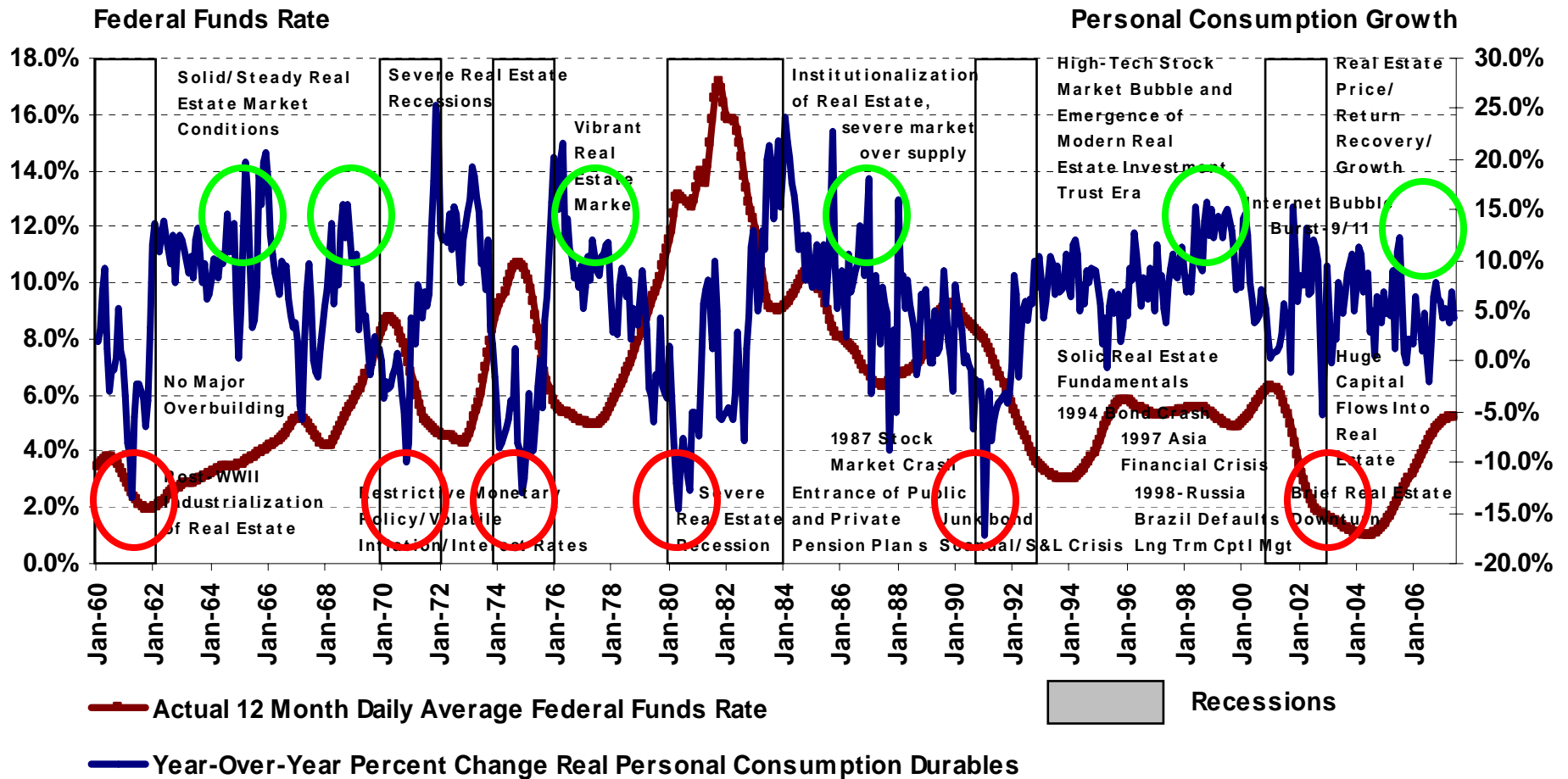
**“Efficient real estate and securities capital markets require strong public and private sector cooperation, disclosure of government and corporate financial conditions, and institutional and individual investor confidence in financial and political institutions.”**

**Lawrence Souza, Managing Director-  
Index Services, Charles Schwab  
Investment Management (CSIM)**

# Business and Commercial Real Estate Cycles

# Business Cycle Theory

## CONSUMPTION VS. INTEREST RATE CYCLES

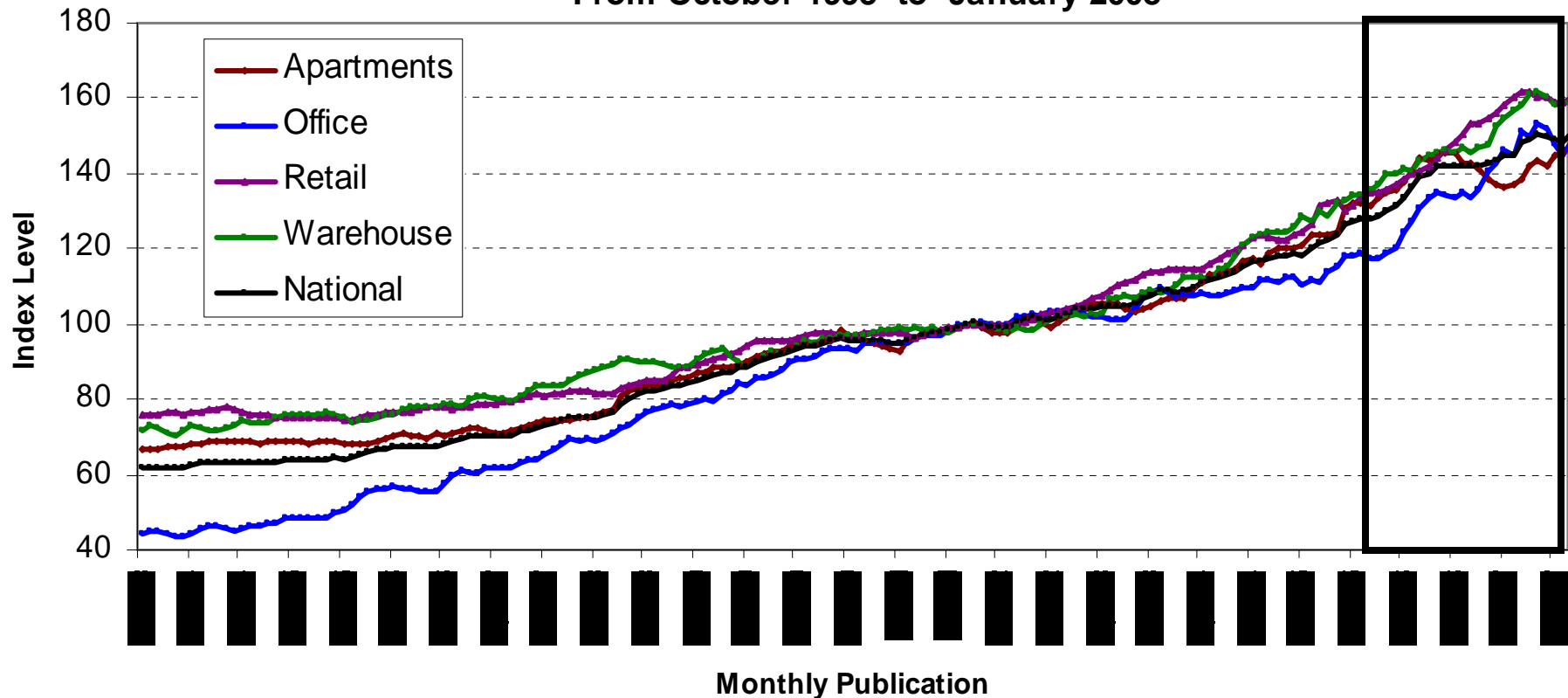


Sources: Board of Governors of the Federal Reserve System and U.S. Department of Commerce: Bureau of Economic Analysis.

# SPCREX™ Property Sector Indices

## SPCREX Property Sector Indices

From October 1993 -to- January 2008

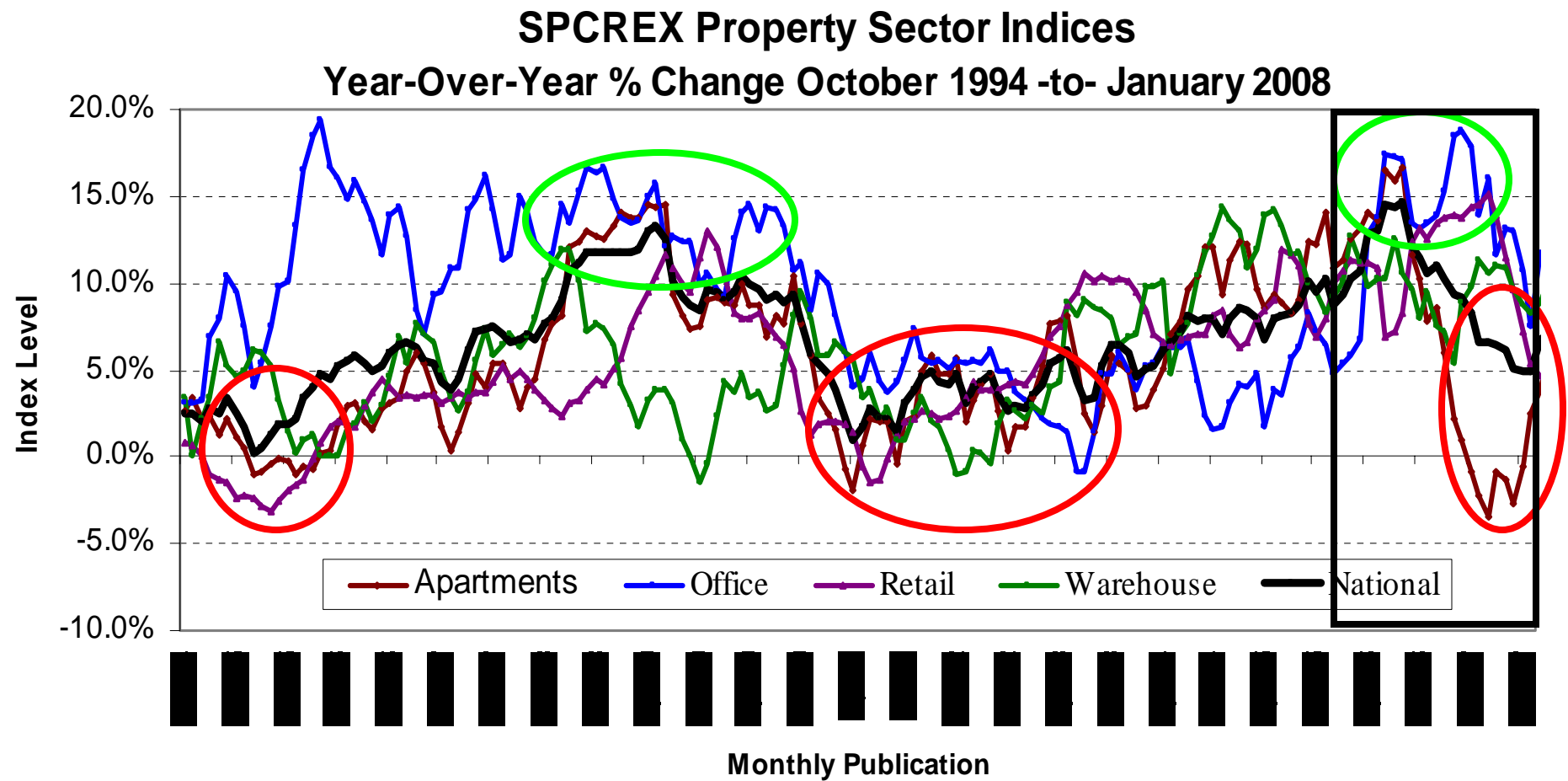


[www.spcrex.standardandpoors.com](http://www.spcrex.standardandpoors.com)



# Commercial Real Estate Cycles

## SPCREX™ Property Sector Performance

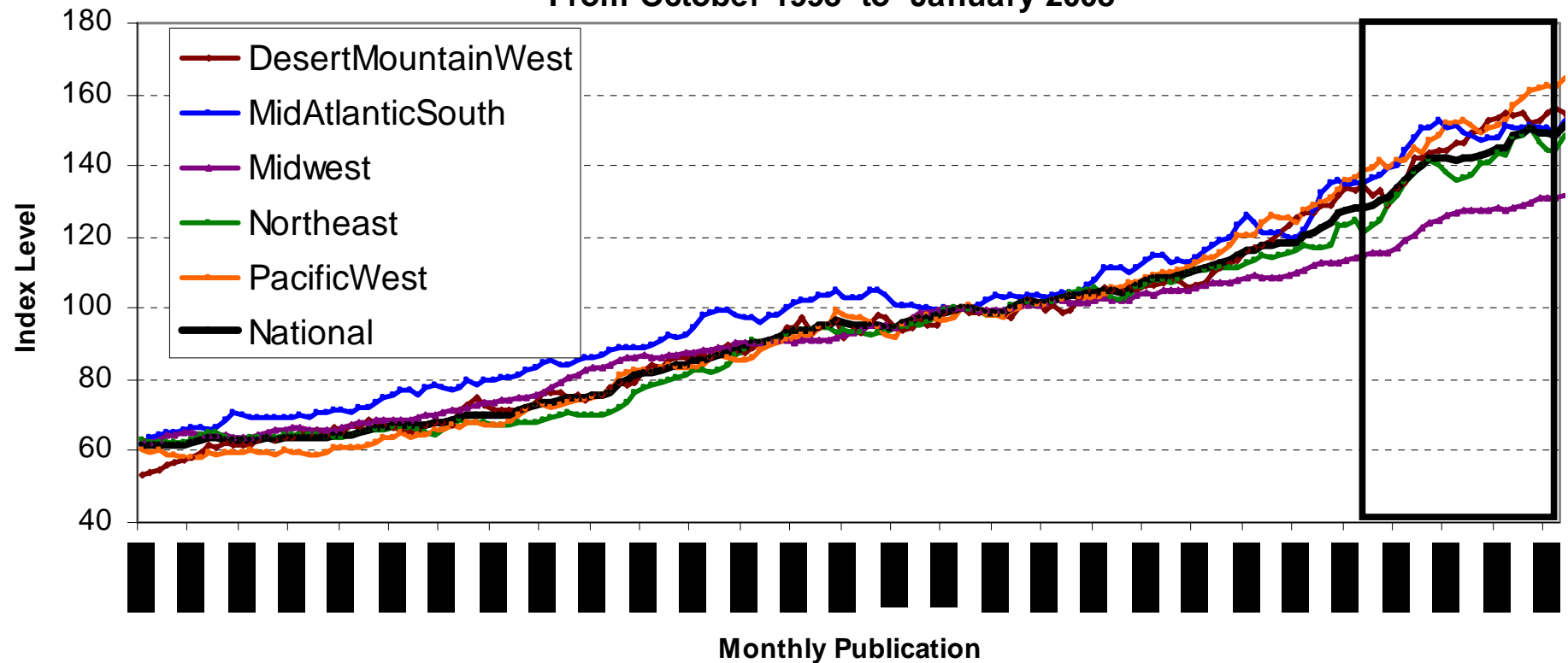


[www.spcrex.standardandpoors.com](http://www.spcrex.standardandpoors.com)

# SPCREX™ Regional Composite Indices

## SPCREX Regional Composite Indices

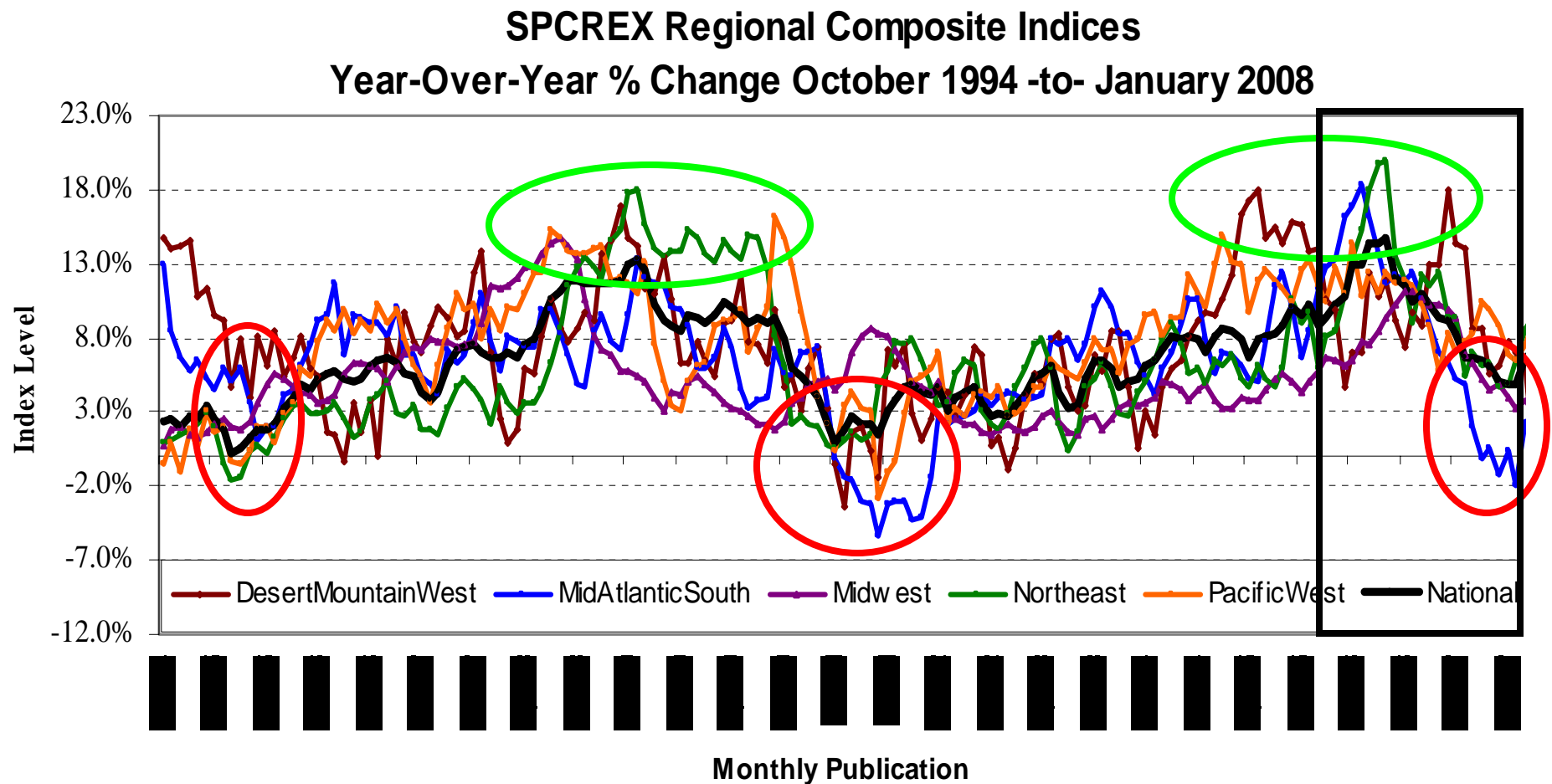
From October 1993 -to- January 2008



[www.spcrex.standardandpoors.com](http://www.spcrex.standardandpoors.com)

# Commercial Real Estate Cycles

## SPCREX™ Regional Composite Performance



[www.spcrex.standardandpoors.com](http://www.spcrex.standardandpoors.com)

# Commercial Market Fundamentals

# Northwest Commercial Market

## *MSA Office-Industrial Vacancy Rates (1Q07/1Q08)*

	Office	Industrial	YOY Ch.Rnts
<b>San Jose</b>	<b>13% / 10%</b>	<b>8% / 5%</b>	<b>27% / 20%</b>
<b>San Francisco</b>	<b>9% / 9%</b>	<b>5% / 5%</b>	<b>12% / 9%</b>
<b>Oakland</b>	<b>10% / 11%</b>	<b>8% / 7%</b>	<b>5% / 11%</b>
<b>Sacramento</b>	<b>12% / 15%</b>	<b>9% / 8%</b>	<b>5% / 6%</b>
<b>Seattle</b>	<b>12% / 11%</b>	<b>6% / 6%</b>	<b>15% / 15%</b>

Source: CB Richard Ellis, Inc. (CBRE), Market View, 1Q/2008.

<http://www.cbre.com/Global/Research/Market+Reports/Local+Reports+Worldwide.htm>

# Apartment Market Vacancy Rate Trends

Asking Rents	2005	2006	2007
Los Angeles	4.3%	4.0%	3.5%
Orange Co.	4.3%	3.9%	3.5%
San Diego	4.0%	3.6%	3.3%
Riverside	4.4%	4.3%	4.7%
<b>SF Bay Area</b>	<b>5.2%</b>	<b>4.3%</b>	<b>3.8%</b>
Sacramento	5.9%	5.0%	5.4%
Seattle	5.4%	4.1%	3.6%
Denver	8.2%	6.5%	5.2%
<i>Tucson</i>	<i>7.5%</i>	<i>6.5%</i>	<i>5.9%</i>
<i>Phoenix</i>	<i>7.4%</i>	<i>6.0%</i>	<i>6.5%</i>

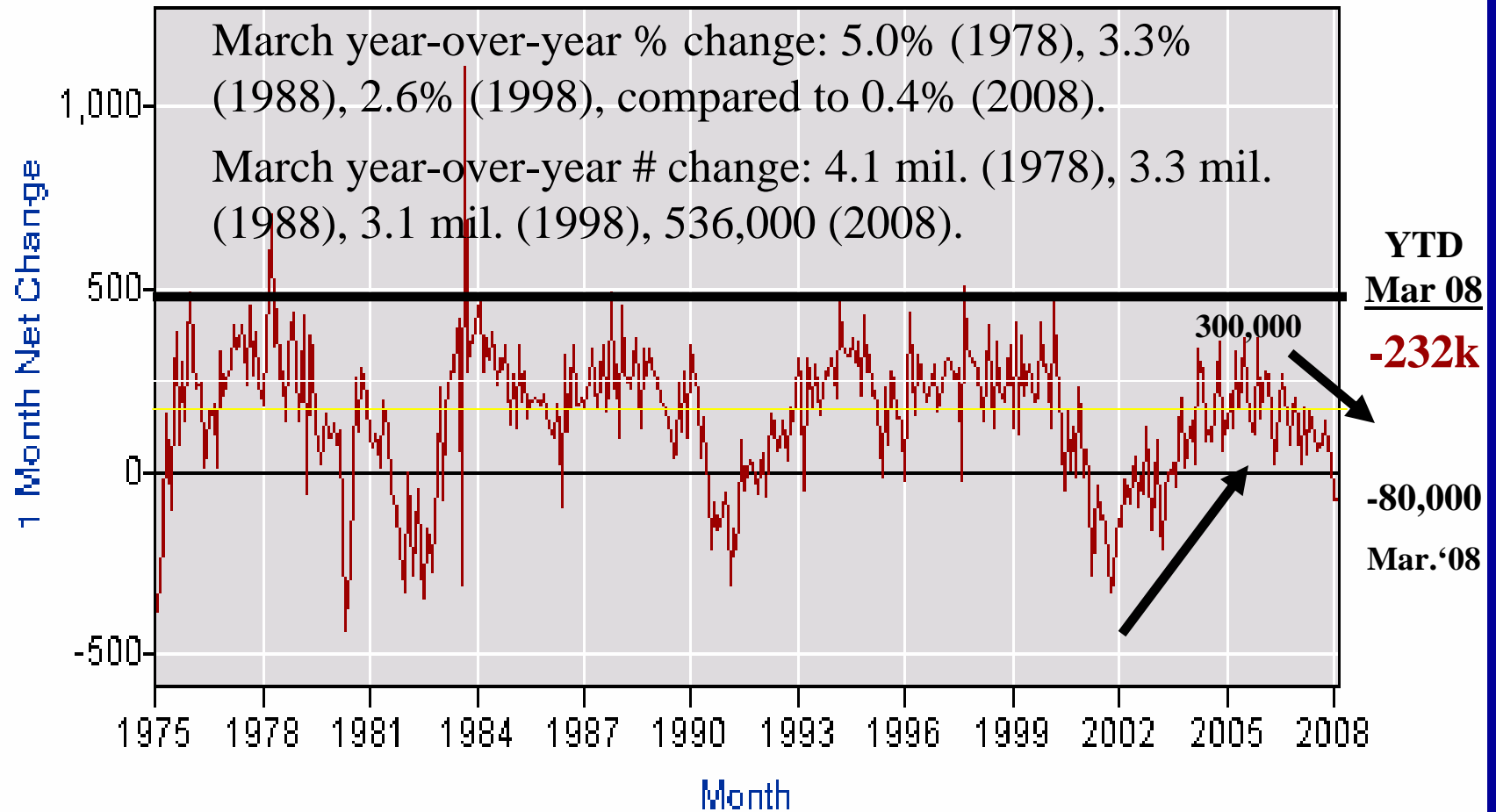
# Apartment Market Effective Rent Trends

Asking Rents	2005	2006	2007
Los Angeles	4.5%	5.7%	5.4%
Orange Co.	4.5%	5.4%	4.4%
San Diego	4.1%	5.5%	4.7%
Riverside	5.7%	5.7%	3.7%
<b>SF Bay Area</b>	<b>2.3%</b>	<b>5.5%</b>	<b>7.3%</b>
Sacramento	1.8%	3.4%	2.2%
Seattle	3.2%	5.0%	7.2%
Denver	- 1.3%	2.7%	3.5%
<i>Tucson</i>	<b>3.1%</b>	<b>4.5%</b>	<b>2.2%</b>
<i>Phoenix</i>	<b>4.5%</b>	<b>5.4%</b>	<b>2.9%</b>

# Employment

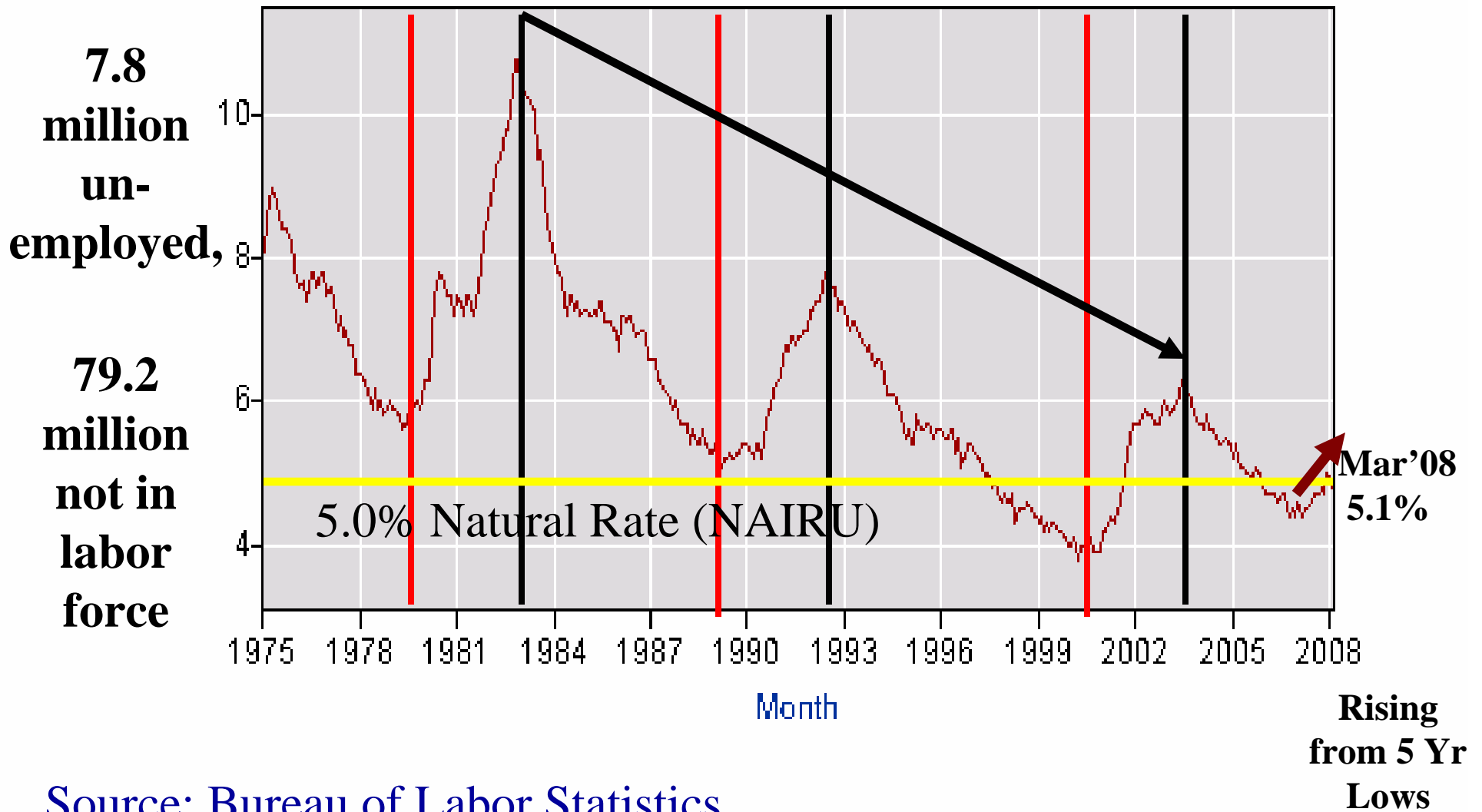


# Payroll Employment



Source: Bureau of Labor Statistics.  
<http://www.bls.gov>

# U.S. Unemployment Rate



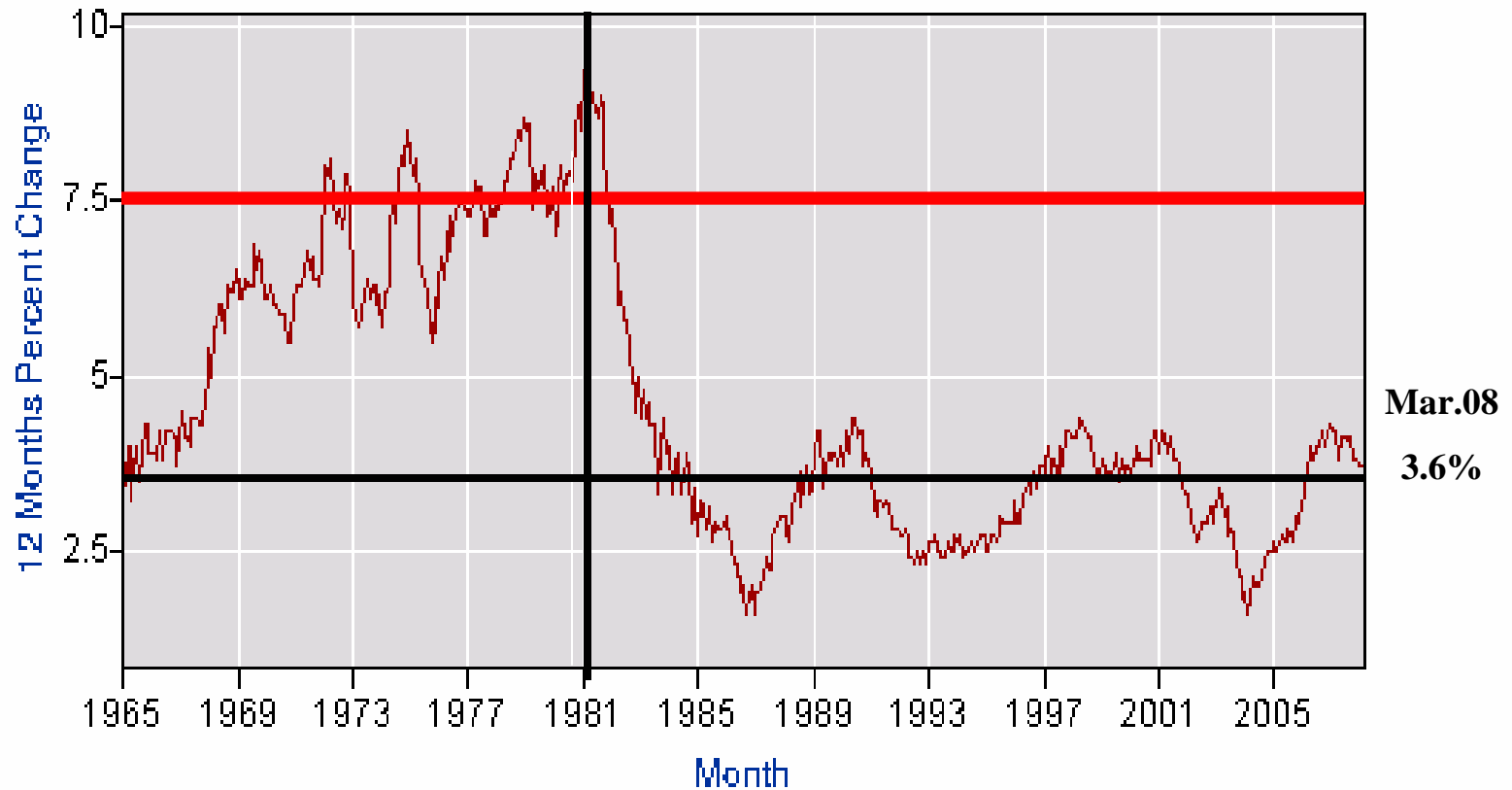
Source: Bureau of Labor Statistics.

<http://data.bls.gov/PDQ/servlet/SurveyOutputServlet>

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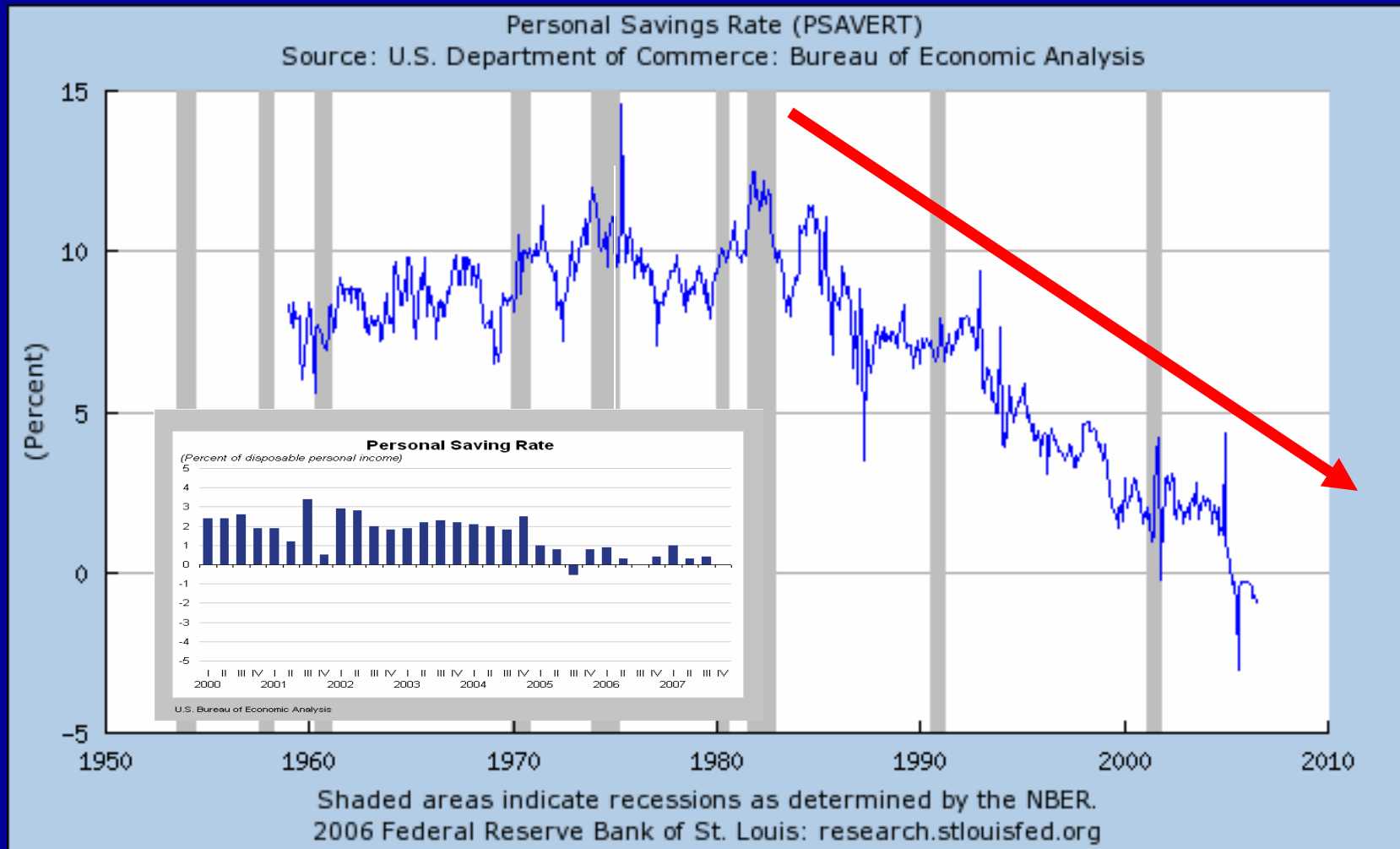
# Income and Wages

## Average Hourly Earnings of Production Workers



Source: Bureau of Labor Statistics. <http://www.bls.gov>

# Personal Savings Rate



Source: Bureau of Economic Analysis. <http://www.bea.gov/briefm/saving.htm>

# Northern California Economics

## MSA Year-Over-Year Employment Growth Rates

	Mar '06-'07	Mar '07-'08	Ann.Ch. Gain/Loss
<b>San Jose</b>	<b>2.4%</b>	<b>0.8%</b>	<b>21.2k / 7.2k</b>
*1990 – 2000: 2.6%, 23,850			
<b>San Francisco</b>	<b>2.4%</b>	<b>2.1%</b>	<b>23.1k / 20.2k</b>
*1990 – 2000: 1.4%, 14,400			
<b>Oakland</b>	<b>0.7%</b>	<b>- 0.8%</b>	<b>7.7k / - 8.6k</b>
*1990 – 2000: 1.7%, 16,600			
<b>Sacramento</b>	<b>1.1%</b>	<b>0.1%</b>	<b>9.5k / 0.8k</b>
*1990 – 2000: 2.5%, 15,760			
<b>Western Region</b>	<b>1.9%</b>	<b>1.0%</b>	<b>629k / 345k</b>
*1990 – 2000: 2.0%, 548,095			

\*Average annual compound growth rate, and average annual absolute change in non-farm employment.

Source: U.S. Department of Labor. [www.bls.gov](http://www.bls.gov). **Note: Non-farm employment growth rates are not seasonally adjusted.**

# Southern California Economics

## MSA Year-Over-Year Employment Growth Rates

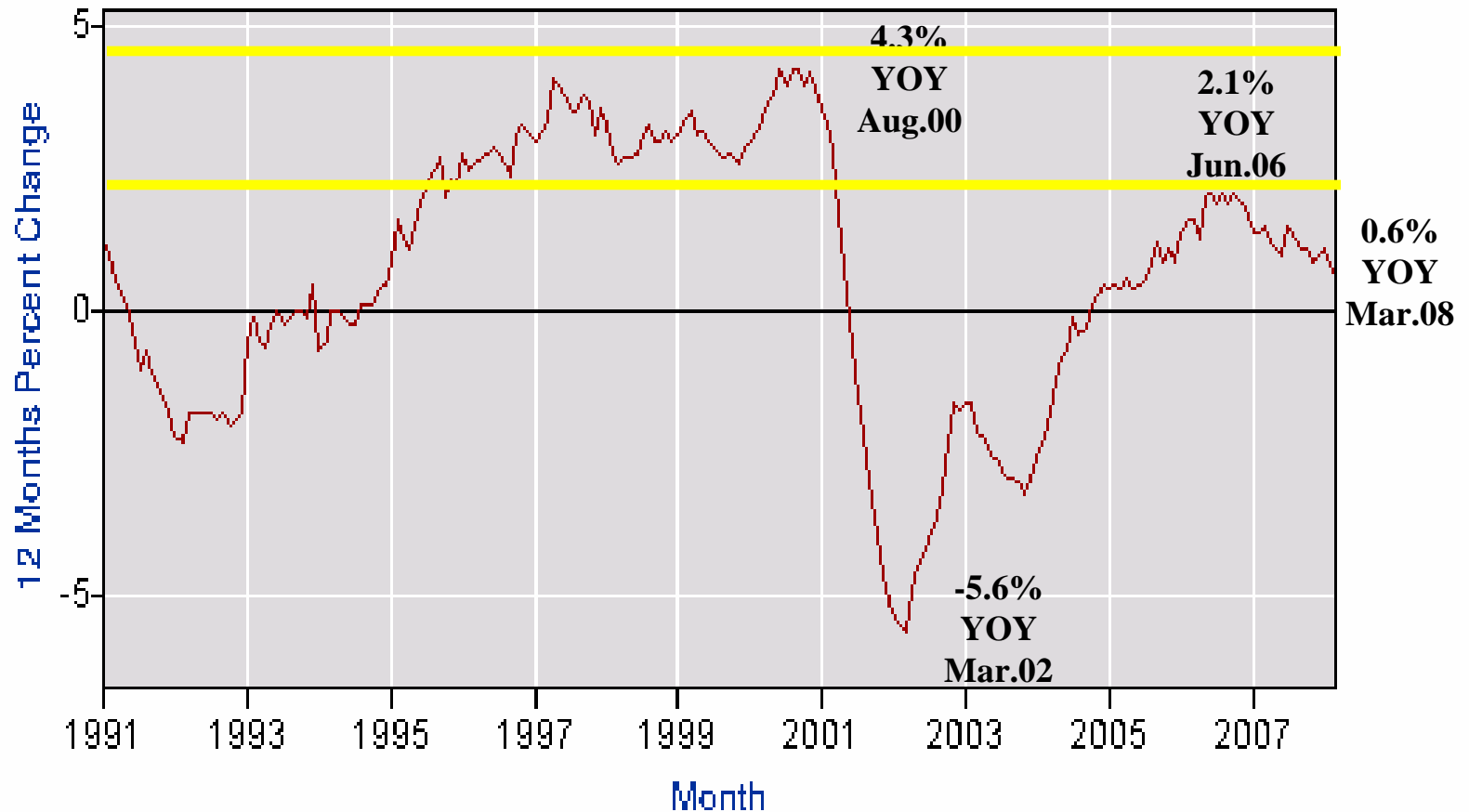
	Mar '06-'07	Mar '07-'08	Ann.Ch. Gain/Loss
<b>Los Angeles</b>	<b>1.0%</b>	<b>- 0.3%</b>	<b>40.8k / - 13.6k</b>
*1990 – 2000: 0.0%, 350			
<b>Orange Co.</b>	<b>0.4%</b>	<b>- 1.4%</b>	<b>5.9k / - 21.7k</b>
*1990 – 2000: 1.8%, 22,960			
<b>Inland Empire</b>	<b>0.8%</b>	<b>- 1.7%</b>	<b>10.1k / - 21.7k</b>
*1990 – 2000: 3.4%, 28,390			
<b>San Diego</b>	<b>0.9%</b>	<b>- 0.1%</b>	<b>11.2k / -1.7k</b>
*1990 – 2000: 2.2%, 23,790			
<b>California*</b>	<b>1.2%</b>	<b>- 0.1%</b>	<b>182.6k / - 12.0k</b>
*1990 – 2000: 1.6%, 216,702			

\*Average annual compound growth rate, and average annual absolute change in non-farm employment.

Source: U.S. Department of Labor. [www.bls.gov](http://www.bls.gov). **Note: Non-farm employment growth rates are not seasonally adjusted.**

# San Francisco-Oakland-Fremont, CA

## Monthly Year-Over-Year Non-Farm Employment Growth Rates



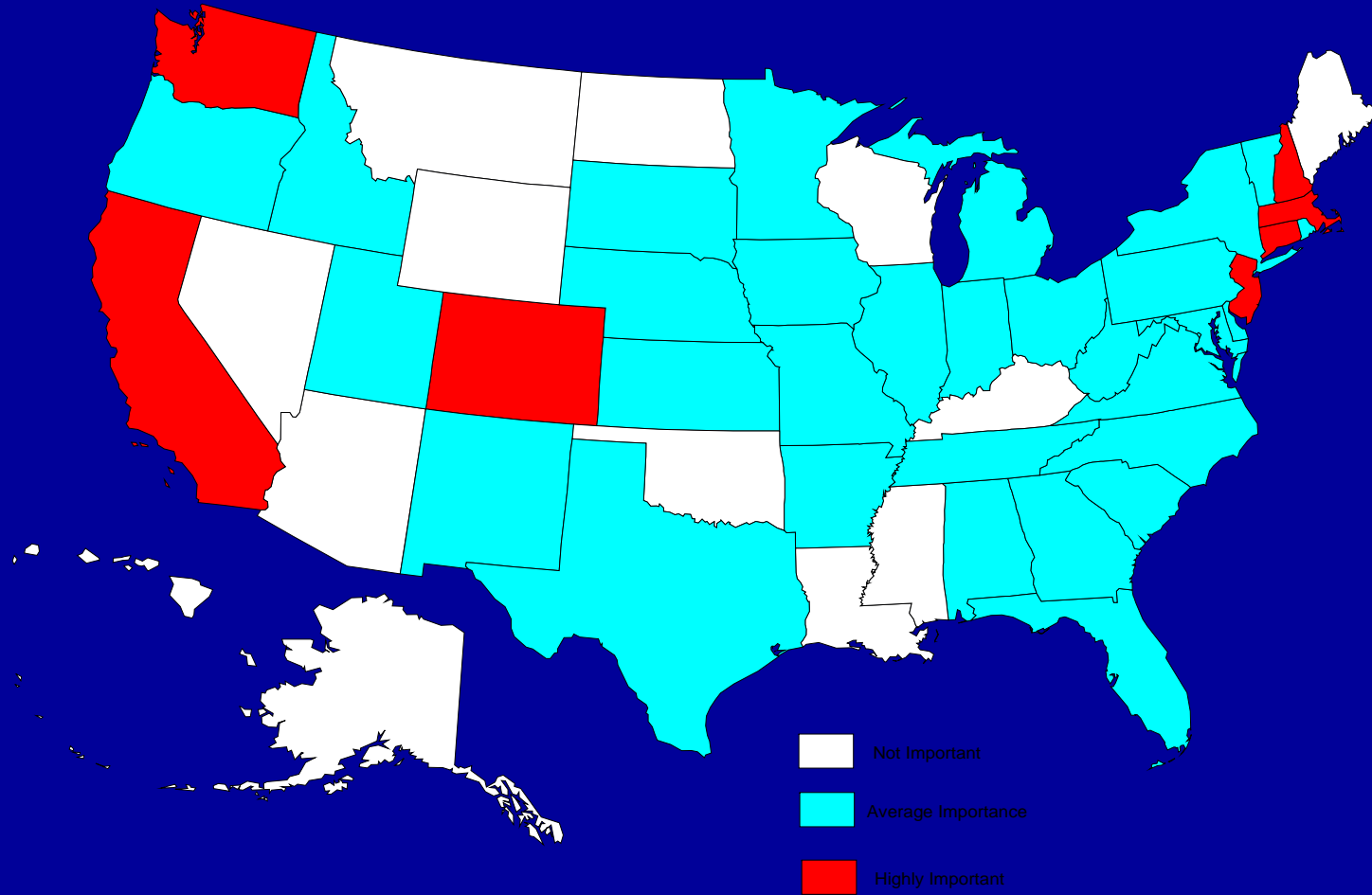
Source: Bureau of Labor Statistics.

<http://data.bls.gov/PDQ/servlet/SurveyOutputServlet>

# Technology/Venture Capital Trends

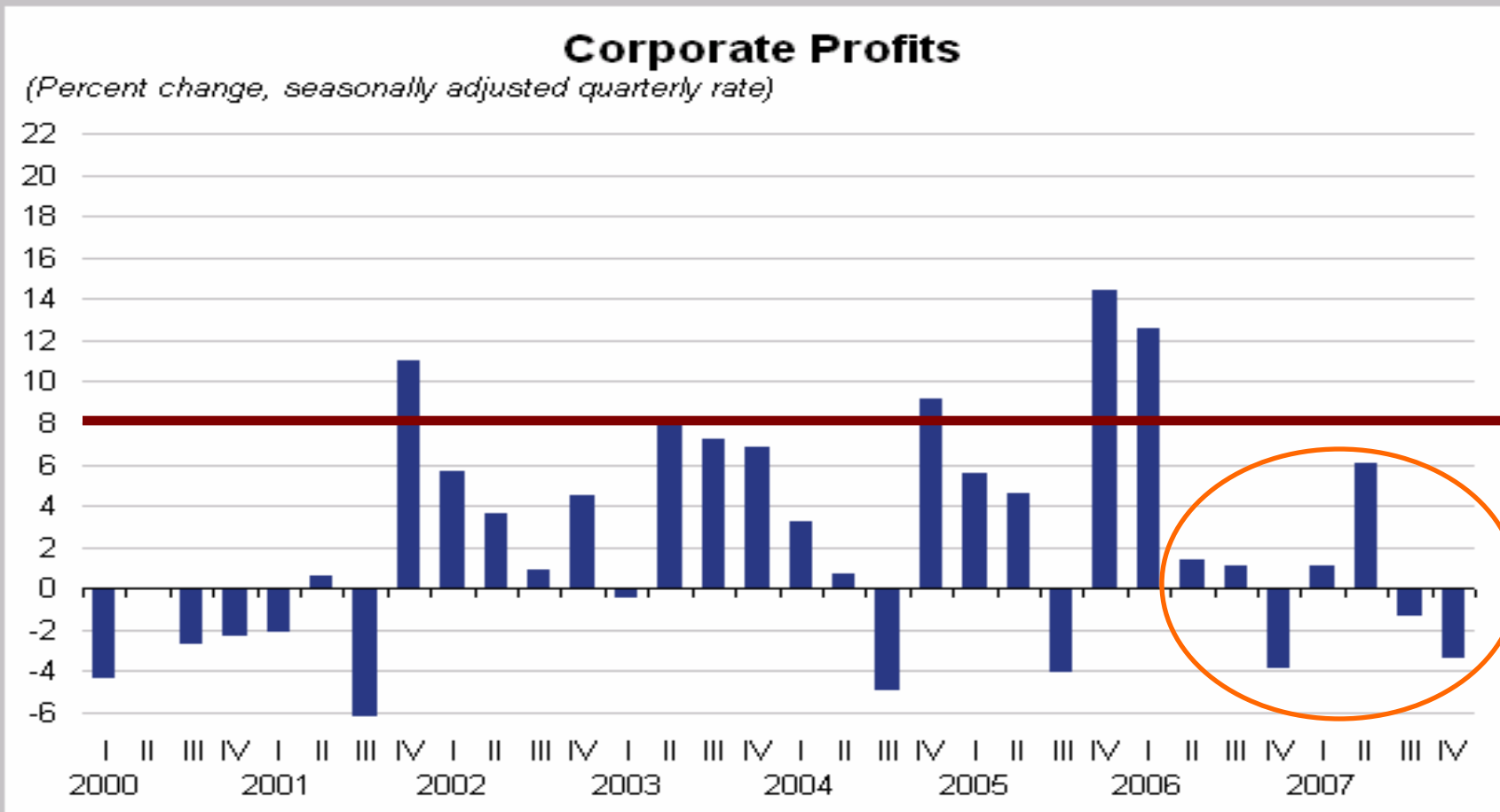


# The Importance of IT Industries



*Note: IT accounts for 10.5% of U.S. Employment*

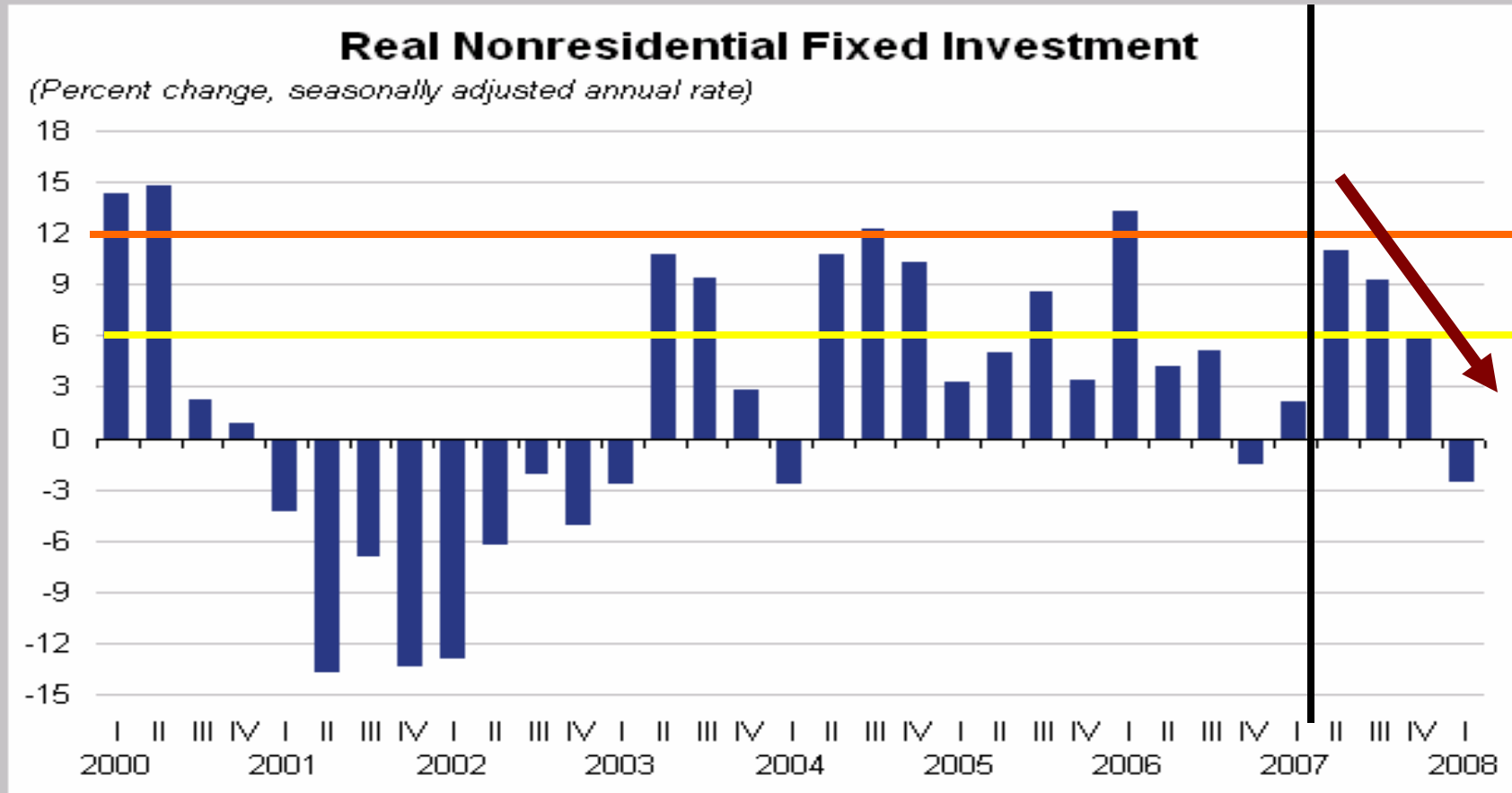
# Corporate Profits



U.S. Bureau of Economic Analysis

<http://www.bea.gov/briefrm/corpprof.htm>

# Non-Residential Fixed Investment



U.S. Bureau of Economic Analysis

Source: Bureau of Economic Analysis. <http://www.bea.gov/briefrm/nonresfi.htm>

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# Venture Capital Flows

\*Accounts for 36% of all VC raised in U.S as of 1Q08; and California 48%.

Note: U.S. peak \$28.4 bill. Q1/2000; Silicon Valley peak \$9.4 bill. Q2/2000.

	1Q07	1Q08	% Ch.
<b>Silicon Valley*</b>	<b>\$2.39 bil.</b>	<b>\$2.59 bil.</b>	<b>8.4%</b>
<b>LA/Orange Co.</b>	<b>\$0.51 bil.</b>	<b>\$0.40 bil.</b>	<b>- 21.6%</b>
<b>San Diego</b>	<b>\$0.65 bil.</b>	<b>\$0.46 bil.</b>	<b>- 29.2%</b>
<b>California</b>	<b>\$3.58 bil.</b>	<b>\$3.45 bil.</b>	<b>- 3.6%</b>
<b>United States</b>	<b>\$7.50 bil.</b>	<b>\$7.14 bil.</b>	<b>- 4.8%</b>

Source: Venture Economics. <http://www.ventureeconomics.com/vec/us.html>.  
<https://www.pwcmoneytree.com/MTPublic/ns/index.jsp>

# *Venture Capital Flows – Silicon Valley*

<b>By Sector</b>	<b>Amount</b>	<b>% Total</b>	<b>%U.S.</b>
<b>Software</b>	<b>\$494 mil.</b>	<b>19.1%</b>	<b>39.1%</b>
<b>Semiconductors</b>	<b>\$345 mil.</b>	<b>13.3%</b>	<b>61.0%</b>
<b>Medical Equip.</b>	<b>\$341 mil.</b>	<b>13.2%</b>	<b>33.4%</b>
<b>Telecom</b>	<b>\$262 mil.</b>	<b>10.2%</b>	<b>55.0%</b>
<b>Media Entertain</b>	<b>\$228 mil.</b>	<b>8.8%</b>	<b>50.0%</b>

Source: Venture Economics. <http://www.ventureeconomics.com/vec/us.html>

<http://www.ventureeconomics.com/vec/stats/2006q2/0MAINMENU.html>. PricewaterhouseCoopers/Venture Economics/NVCA Moneytree Survey

# Interest Rates and Inflation

# Yield 10-Year Treasury

**10-Year Treasury Yield up from 3.20% as of 06/13/03 to 5.22% as of 06/15/07, down to 3.86% as of 4/29/08:**

- **Rising inflation expectations (low economic growth)**
- **Geo-political risk (Middle-East wars/oil supply disruptions)**
- **Government deficit financing**

**10-Year Treasury Yields are the lowest since 1961 at 3.71%, and for the same time period are:**

- **-178 bsp 5.64% (1998)**
- **-486 bsp 8.72% (1988)**
- **-429 bsp 8.15% (1978)**
- **-178 bsp 5.64% (1968)**
- **-318 bsp Avg.**

Source: United States Department of the Treasury. <http://www.treasury.gov>

# Yield Curve Theory and Analysis

Yield Curve from flat-to-steep in 2007 – 2008: slowing economic activity, higher consumer-producer price inflation-expectations (Oil Prices), rising gov deficits (Crowding out); and rising recession expectations (Credit), continued foreign central bank intervention.

All capital market instruments – debt, equity, real estate assets – are priced off of the yield curve.

## Yield Curve Analysis (4/30/07-to-4/29/08):

1 mth	T-bill	up	-352	bpts	4.80%-to-1.28%
3 mth	T-bill	up	-345	bpts	4.91%-to-1.46%
6 mth	T-bill	up	-329	bpts	5.03%-to-1.74%
2 yr	T-bond	up	-225	bpts	4.60%-to-2.35%
5 yr	T-bond	up	-140	bpts	4.51%-to-3.11%
10 yr	T-bond	up	-78	bpts	4.63%-to-3.85%
20 yr	T-bond	up	-32	bpts	4.88%-to-4.56%

Source: United States Department of the Treasury. <http://www.treas.gov/offices/domestic-finance/debt-management/interest-rate/yield.html>

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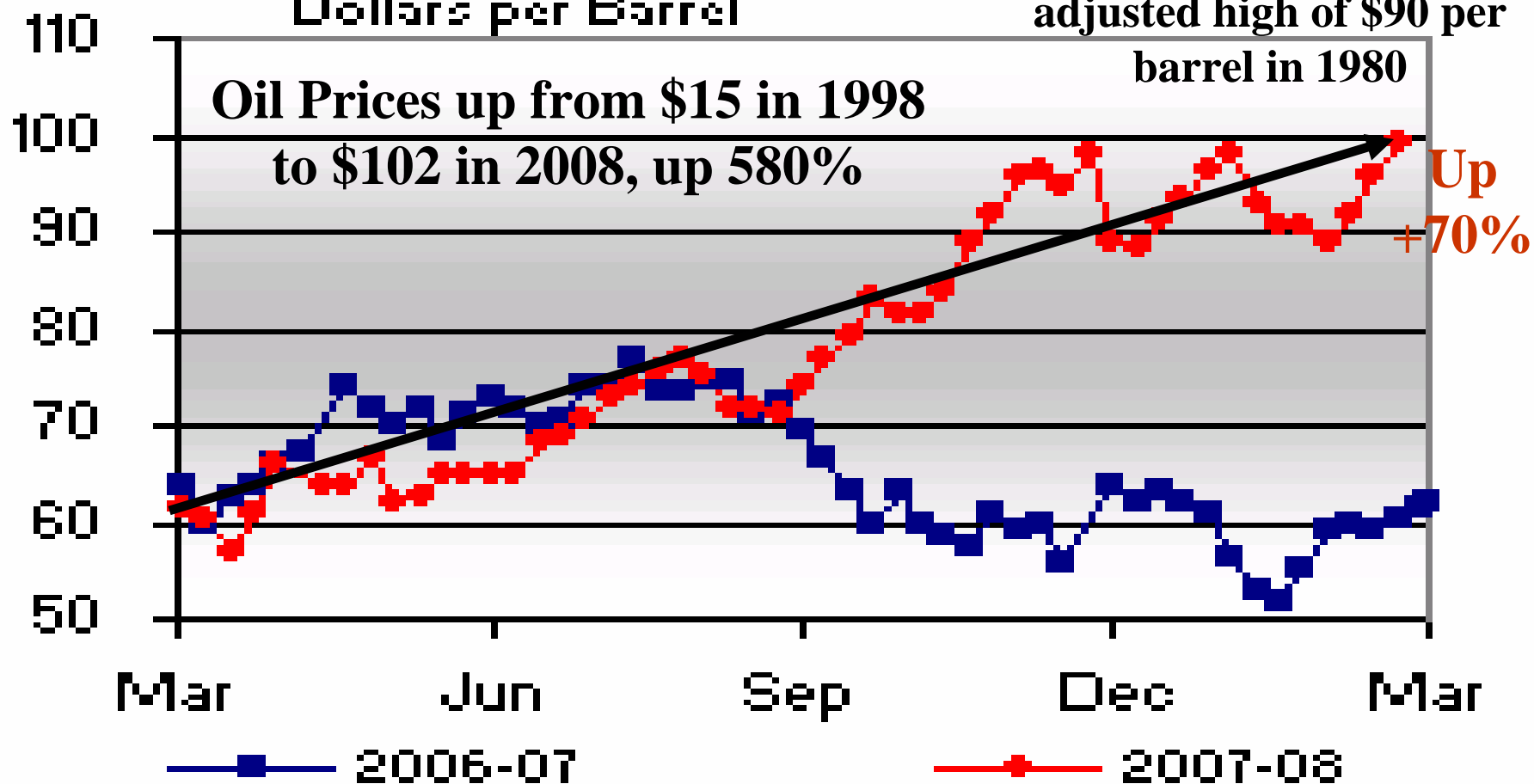


# Inflation Expectations

## Spot Crude WTI Prices

Dollars per Barrel

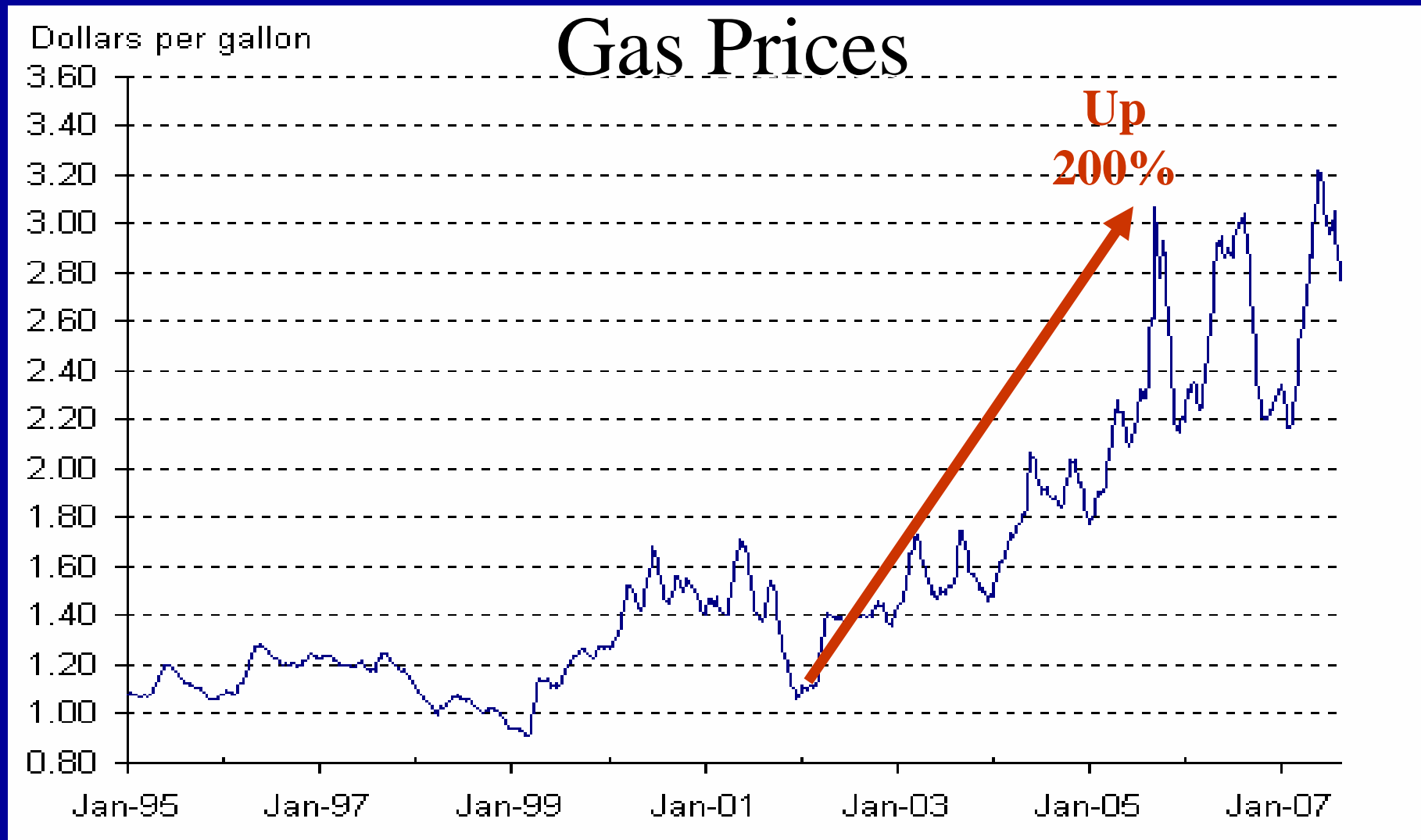
Above inflation-adjusted high of \$90 per barrel in 1980



Source: Energy Information Administration (<http://eia.doe.gov/>)

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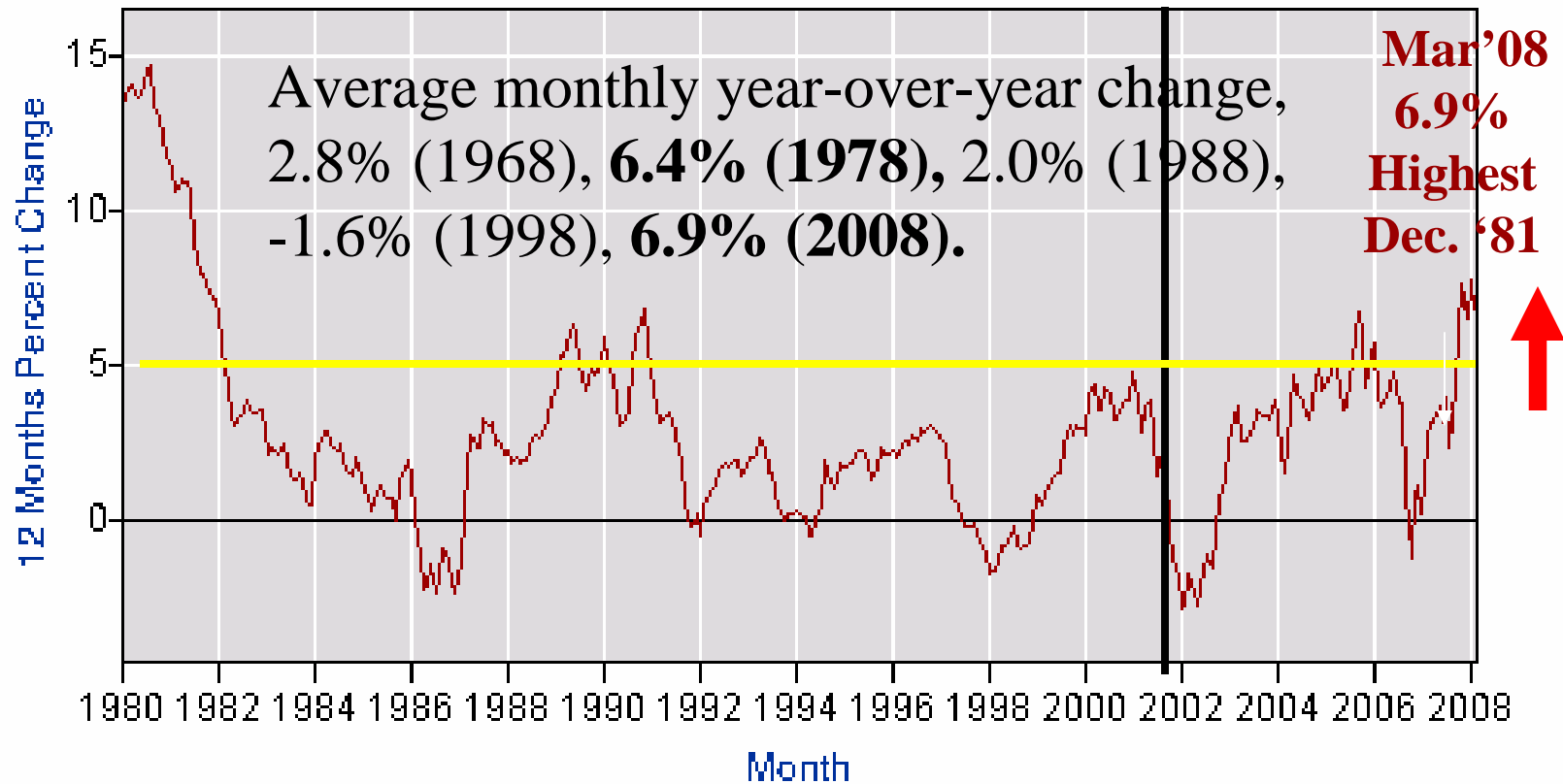
# Inflation Expectations



Source: U.S. Department of Energy, Energy Information Administration, Weekly Retail Gasoline Prices, available at <http://eia.doe.gov/>, as of November 16, 2005. [http://www.bts.gov/publications/white\\_house\\_economic\\_statistics\\_briefing\\_room/october\\_2005/html/highway\\_retail\\_gasoline\\_prices.html](http://www.bts.gov/publications/white_house_economic_statistics_briefing_room/october_2005/html/highway_retail_gasoline_prices.html)

# Inflation Expectations

## U.S. Producer Price Index (PPI) – Finished Goods

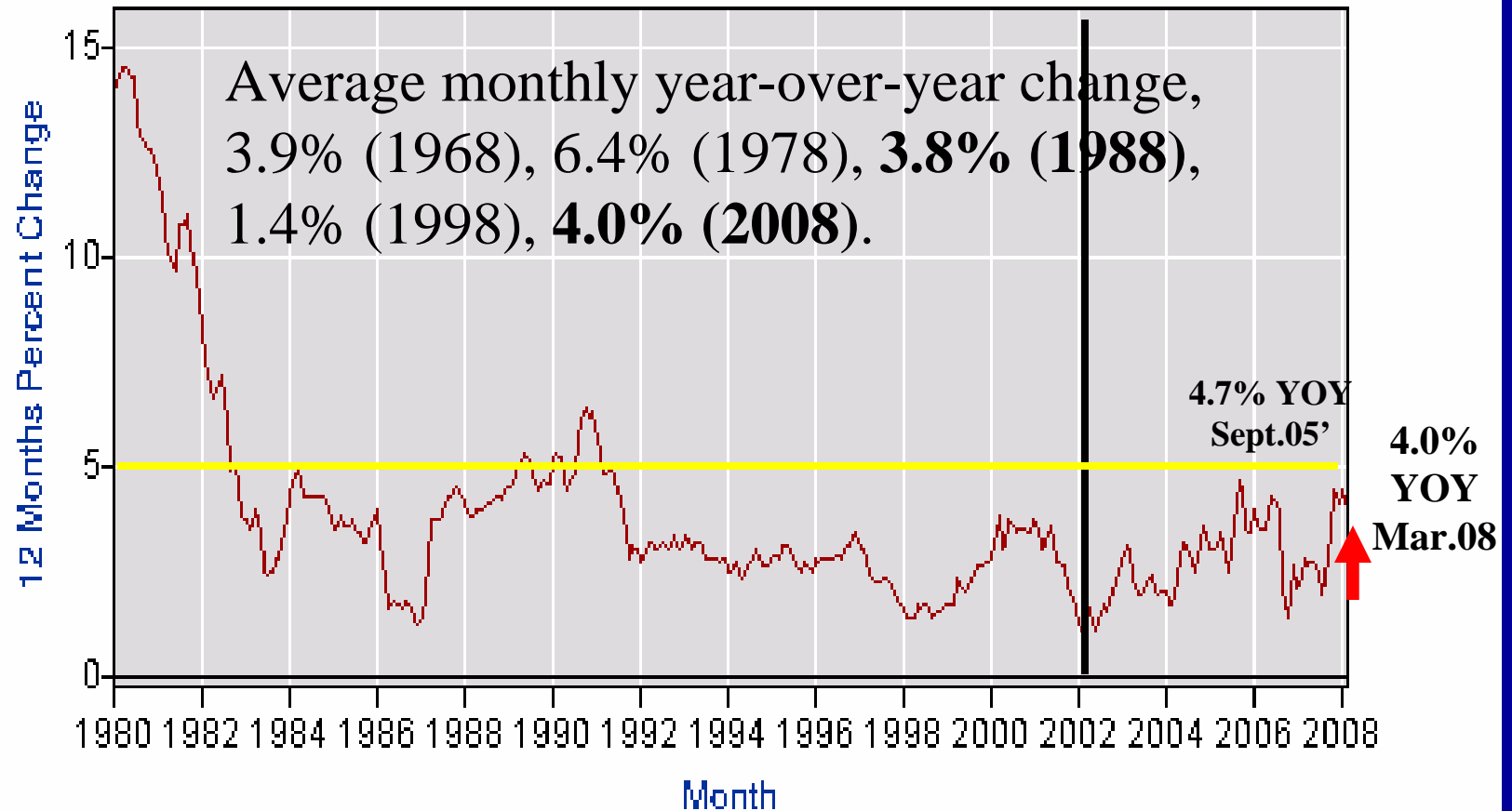


Source: Bureau of Labor Statistics.

<http://www.bls.gov/home.htm>

# Inflation Expectations

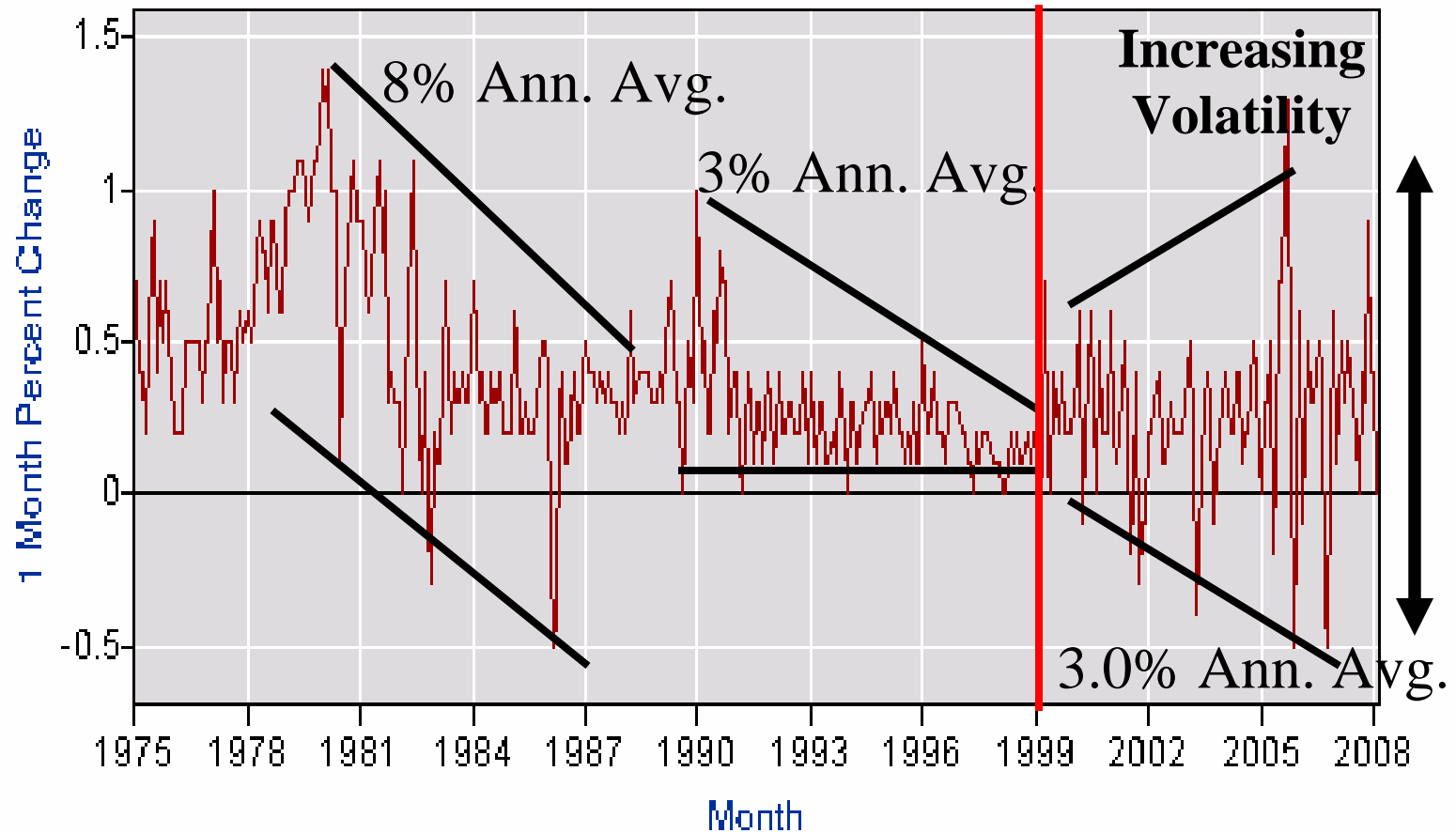
## U.S. Consumer Price Index (CPI)



Source: Bureau of Labor Statistics. <http://www.bls.gov/home.htm>

# Inflation Expectations

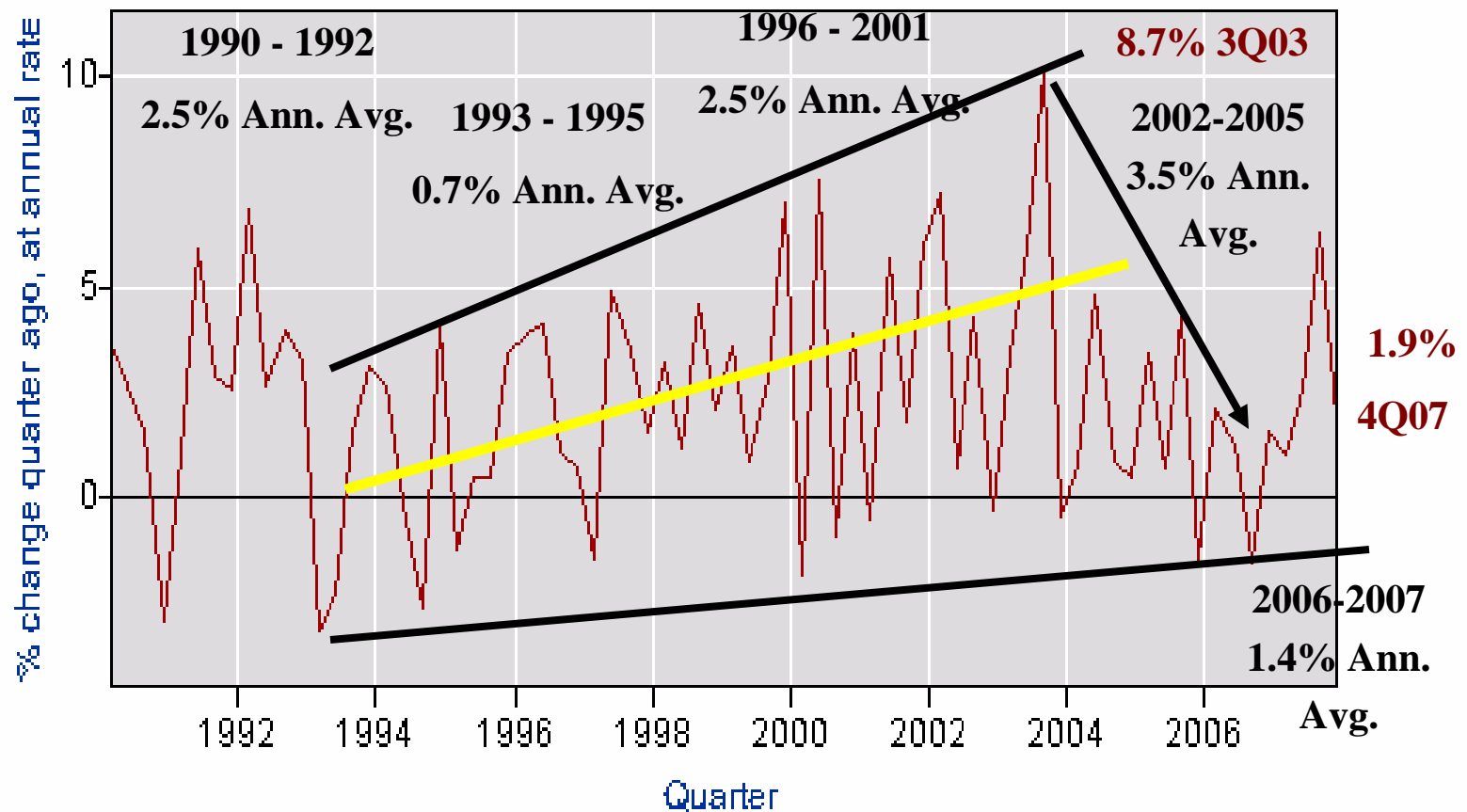
U.S. Consumer Price Index – All Items (U.S. City Average)



Source: Bureau of Labor Statistics.

<http://www.bls.gov/home.htm>

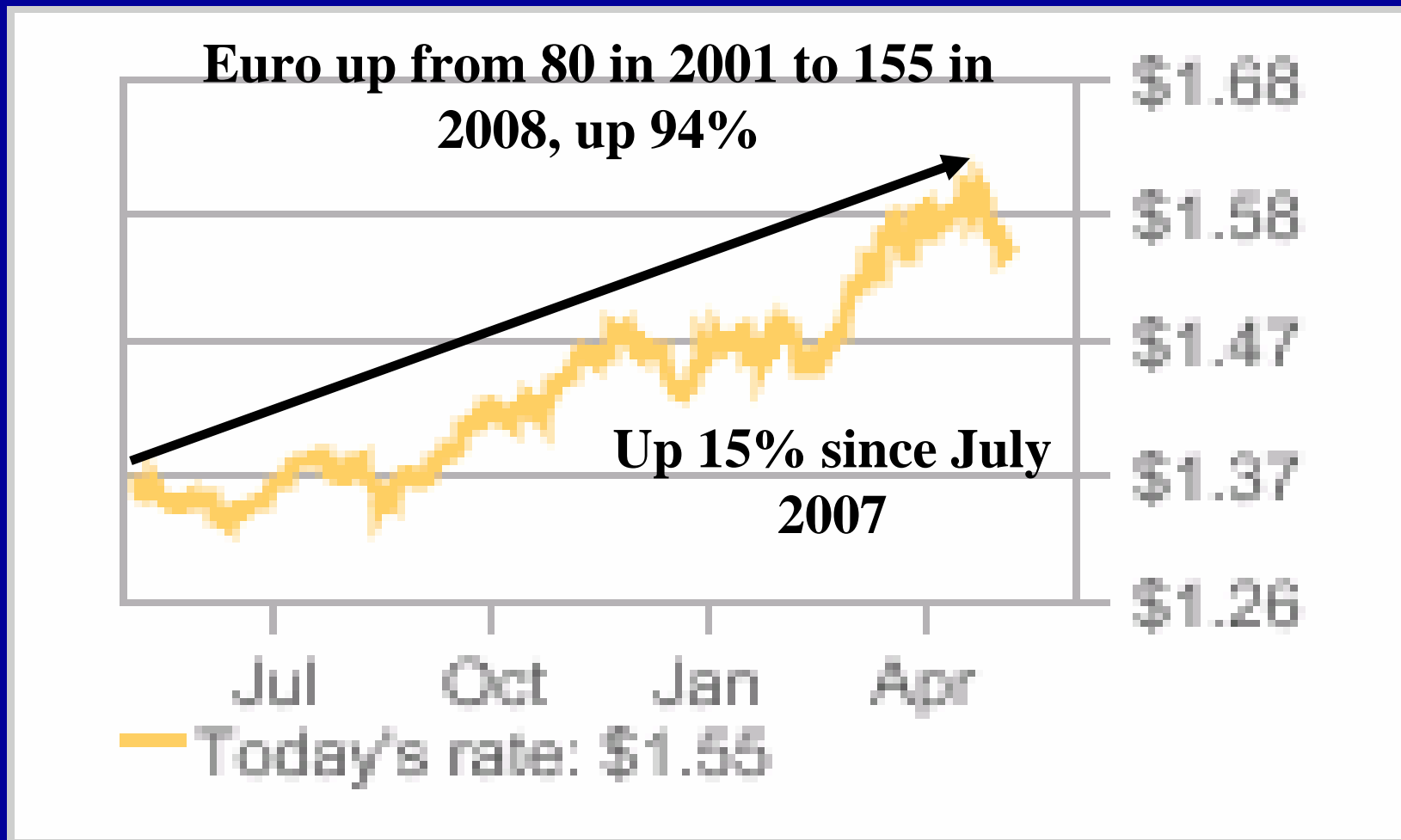
# Non-Farm Productivity (Output Per Hour)



Source: Bureau of Labor Statistics.

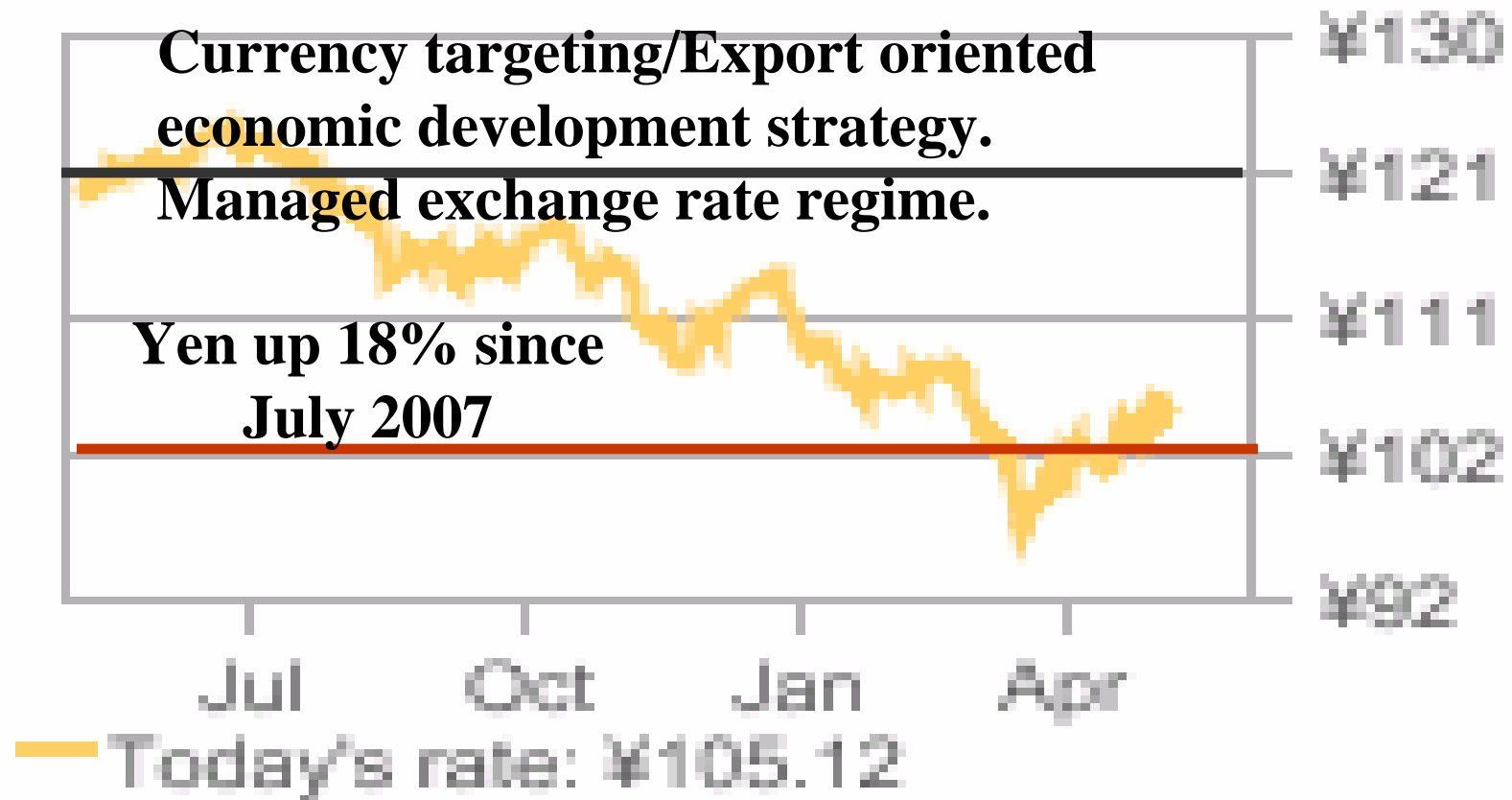
<http://www.bls.gov>

# Euro Exchange Rates 2007-2008



Source: New York Federal Reserve Bank. <http://www.ny.frb.org/markets/foreignex.html>

# Yen Exchange Rates 2007-2008

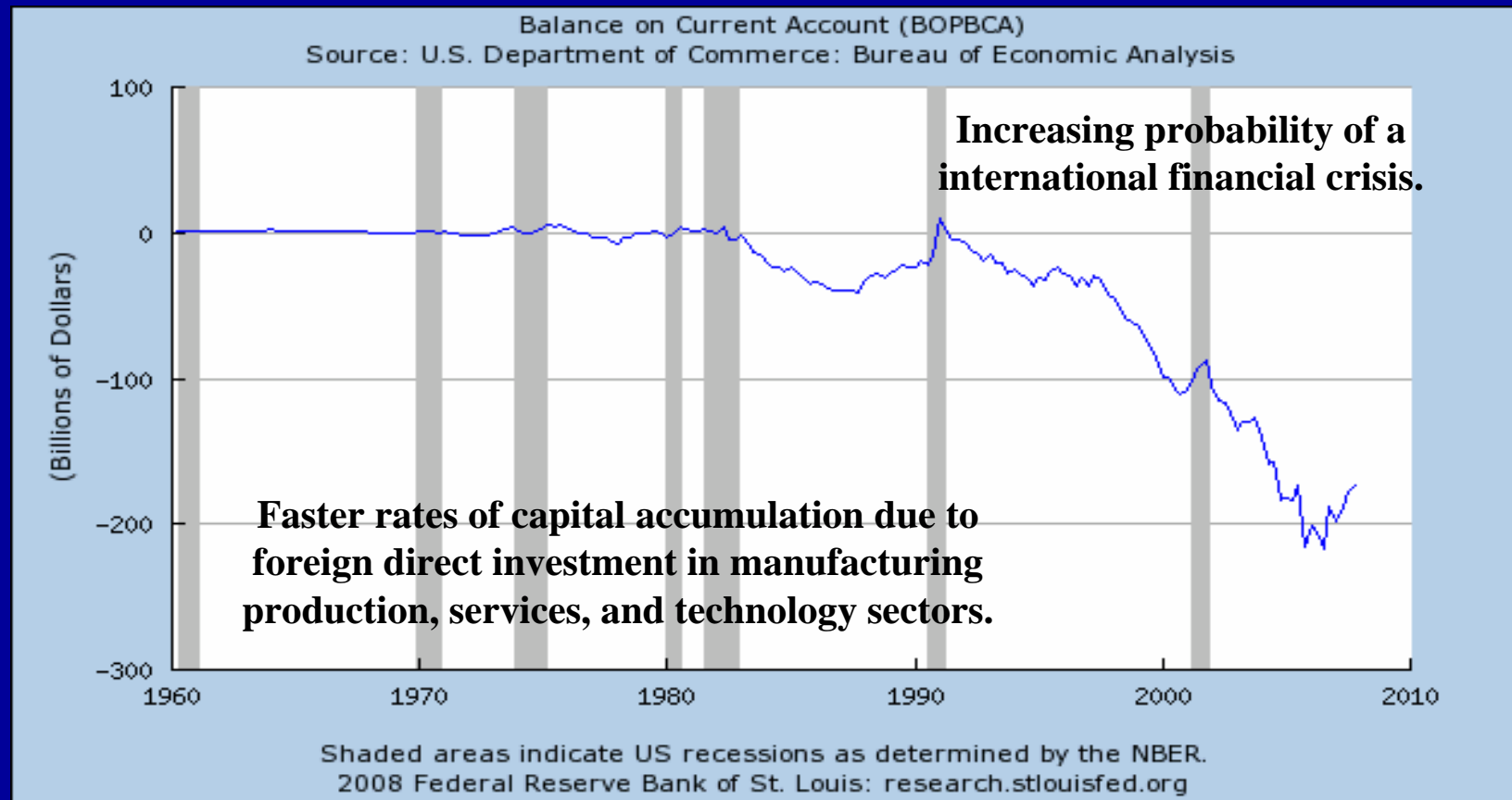


Source: New York Federal Reserve Bank. <http://www.ny.frb.org/markets/foreignex.html>



# Balance of Trade

Trade balance roughly zero from 1960 through 1981, fell to -173 billion as of October 2007.

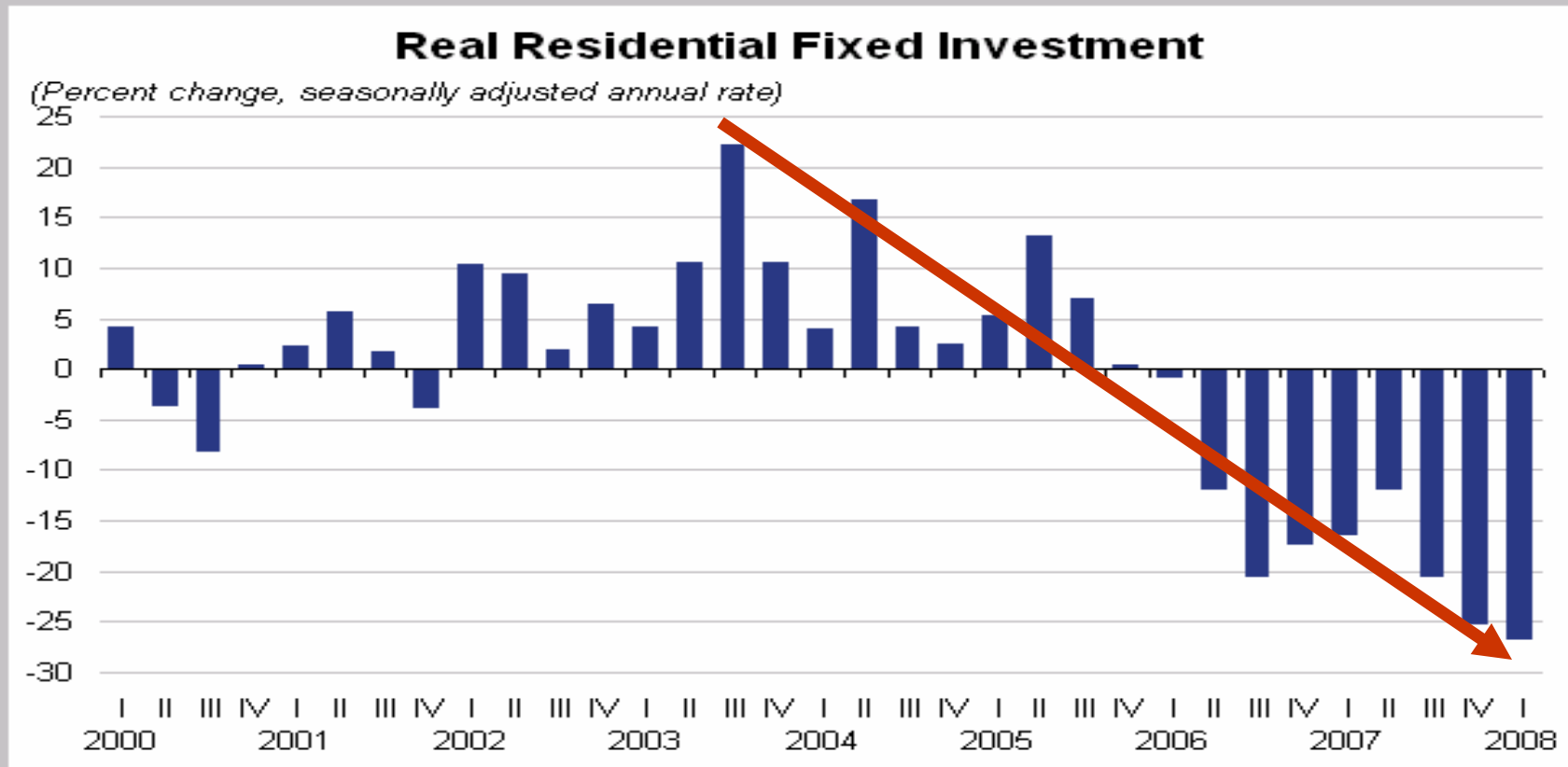


Sources: U.S. Department of Commerce: Bureau of Economic Analysis  
<http://research.stlouisfed.org/fred2/series/BOPBCA/13>

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# Home Prices and Affordability Rates

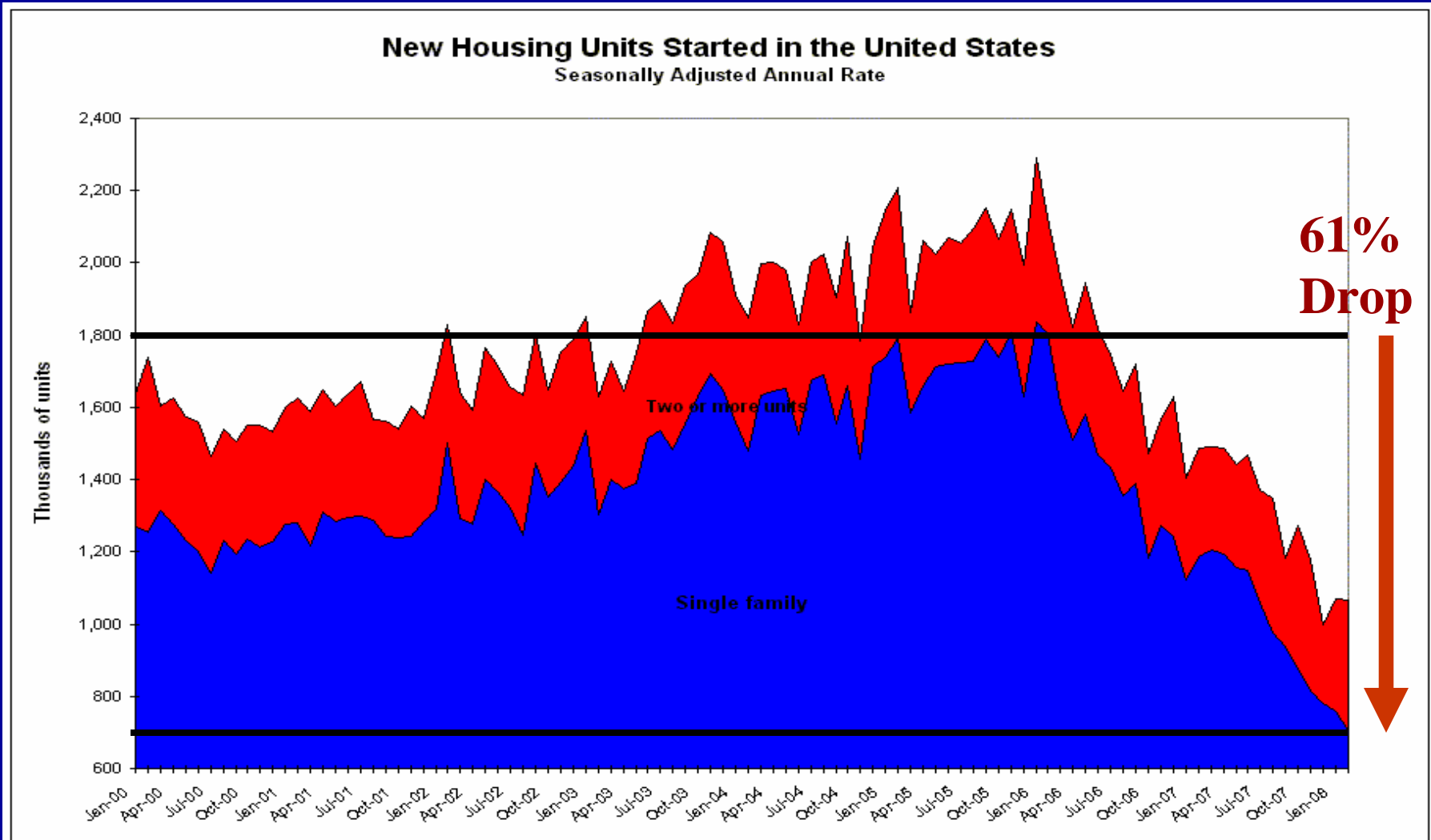
# Real Residential Fixed Investment



U.S. Bureau of Economic Analysis

<http://www.bea.gov/briefmr/resfi.htm>

# New Housing Starts



Source. United States Census Bureau. <http://www.census.gov/briefmr/esbr/www/esbr020.html>

# Housing Market

Source: California and National Associations of Realtors. <http://www.car.org/>; National Association of Realtors, <http://www.realtor.org>

## *Median Home Prices*

Home Prices	Mar 07/4Q'06	Mar 08/4Q'07	Y-O-Y % Ch.
United States	\$219,000	\$206,200	-6.0%
West	\$355,000	\$324,100	-9.0%
California	\$583,300	\$414,000	-29.0%
<b>Bay Area</b>	<b>\$785,000</b>	<b>\$705,000</b>	<b>-10.0%</b>
Los Angeles	\$581,000	\$432,000	-26.0%
<b>Santa Cruz</b>	<b>\$751,000</b>	<b>\$646,000</b>	<b>-14.0%</b>
<b>Sacramento</b>	<b>\$363,000</b>	<b>\$258,000</b>	<b>-29.0%</b>
Riv.-San. Co.	\$394,000	\$277,000	-30.0%
Orange Co	\$707,000	\$591,000	-16.0%
San Diego	\$606,000	\$448,000	-26.0%

# Housing Market

## *Housing Affordability Index for First-Time Buyers*

Source: California Association of Realtors. <http://www.car.org/>

Affordability	4Q/2006	4Q/2007	Y-O-Y % Ch.
United States	62%	65%	4.8%
California	25%	33%	32.0%
<b>SF Bay Area</b>	<b>25%</b>	<b>23%</b>	<b>-8.0%</b>
Los Angeles	19%	27%	42.1%
<b>Santa Clara</b>	<b>29%</b>	<b>24%</b>	<b>-17.2%</b>
<b>Sacramento</b>	<b>41%</b>	<b>53%</b>	<b>29.3%</b>
Riv.-San Co.	34%	46%	35.3%
Orange Co	24%	28%	16.7%
San Diego	23%	31%	34.8%

# Conclusions

# Geographic Comparative Advantages

## Long run commercial market fundamentals:

- Low commercial market affordability (high costs)
- Scarcity of developable land (supply constraints)
- High concentrations of wealth/education
- High quality of life amenities
- Strong demographic trends:
  - Growing population of Empty-Nesters and Echo-Boomers, positive migration trends



# Commercial Demand

## Future job growth-housing demand:

- High-tech and Bio-tech Manufacturing
- Alternative and Clean Energy Technologies
- Healthcare-Information Systems Services
- Financial Services and Venture Capital
- Telecommunications/Networking
- Multimedia and Entertainment
- Internet and Software Programming
- International Trade and Tourism
- Construction and Engineering Services
- Education and Government Services
- Defense

# Economic Risks

## Market-Economic Risks:

- High costs of living and doing business
- State-Local regulations, taxes, workers comp, deficits
- Lack of affordable/developable land and housing
- Traffic congestion and infrastructure constraints
- Out sourcing and migration
- Cut-backs in education and social services
- Mergers-consolidation industrial, technology, telecommunications and financial institutions

# Macro-Economic Risks

- Middle East (Oil Price Spikes)
- Current Account and Budget Deficits (Interest Rates)
- Rising Inflation Expectations (Health Care/Food Costs)
- High-Rising Credit-Equity Risk Premiums (Spreads)
- Consumer-Business Confidence Investment
- Slow European Growth and Protectionist Trade Policy
- Rising Loan (Credit) Defaults and (Mtg) Foreclosures
- Labor Strikes, Low Wage Growth, Underemployment
- Stock Option Back-Dating, Other Accounting Announcements Irregularities, Investor Confidence