

**Hartford CFA Society**  
**Hartford, Connecticut**  
*October 22, 2008*

**Broken Bubbles and  
Reversion to Mean  
How the World May be Different**



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# But wise men perceive approaching things

*Men know what is happening now.  
The gods know the things of the future,  
the full and sole possessors of all lights.  
Of the future things, wise men perceive  
approaching things. Their hearing*

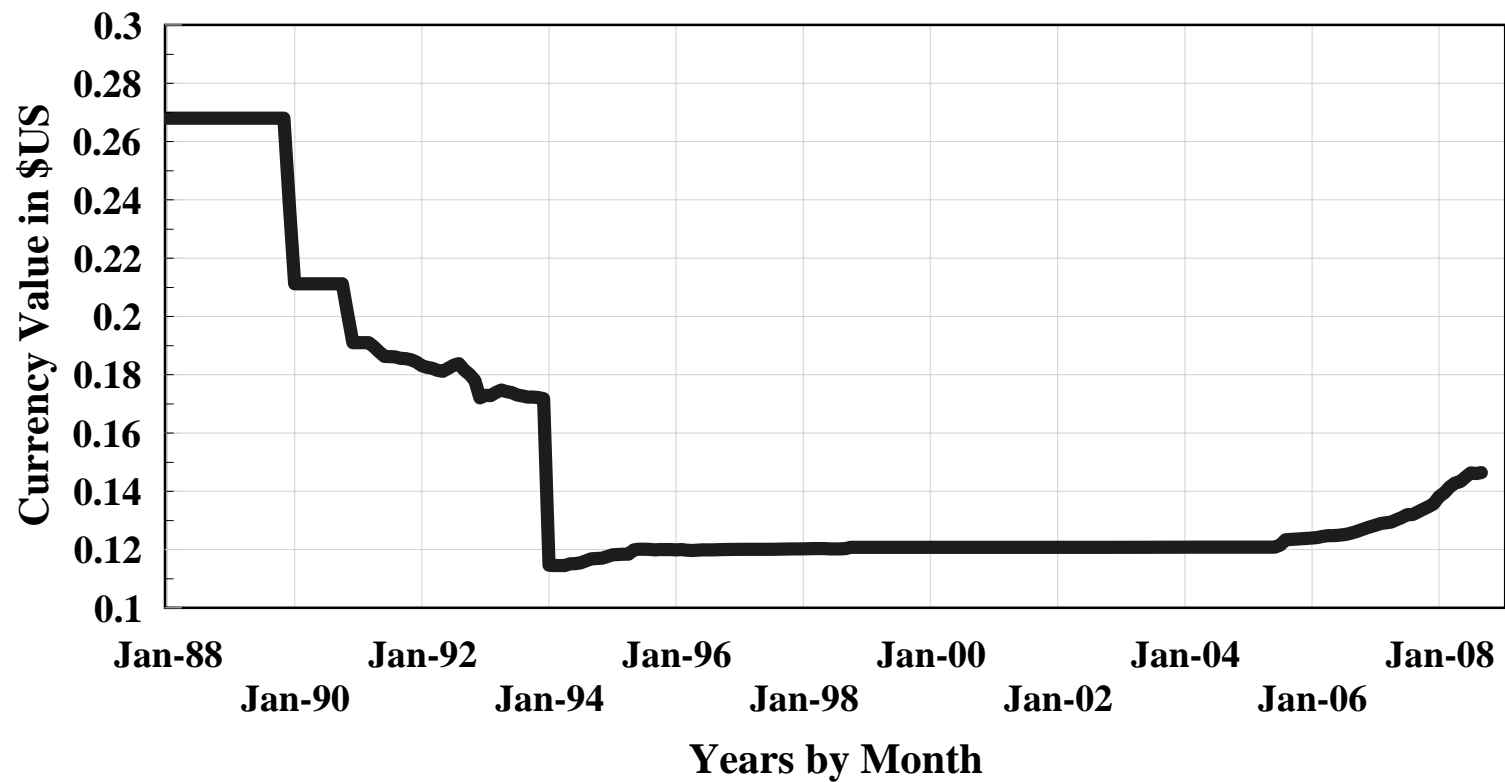
*is sometimes, during serious studies,  
disturbed. The mystical clamor  
of approaching events reaches them.  
And they heed it with reverence. While outside  
on the street, the peoples hear nothing at all.*

Constantine P. Cavafy (1915)

# **Shocks and Fears During the 1990s**

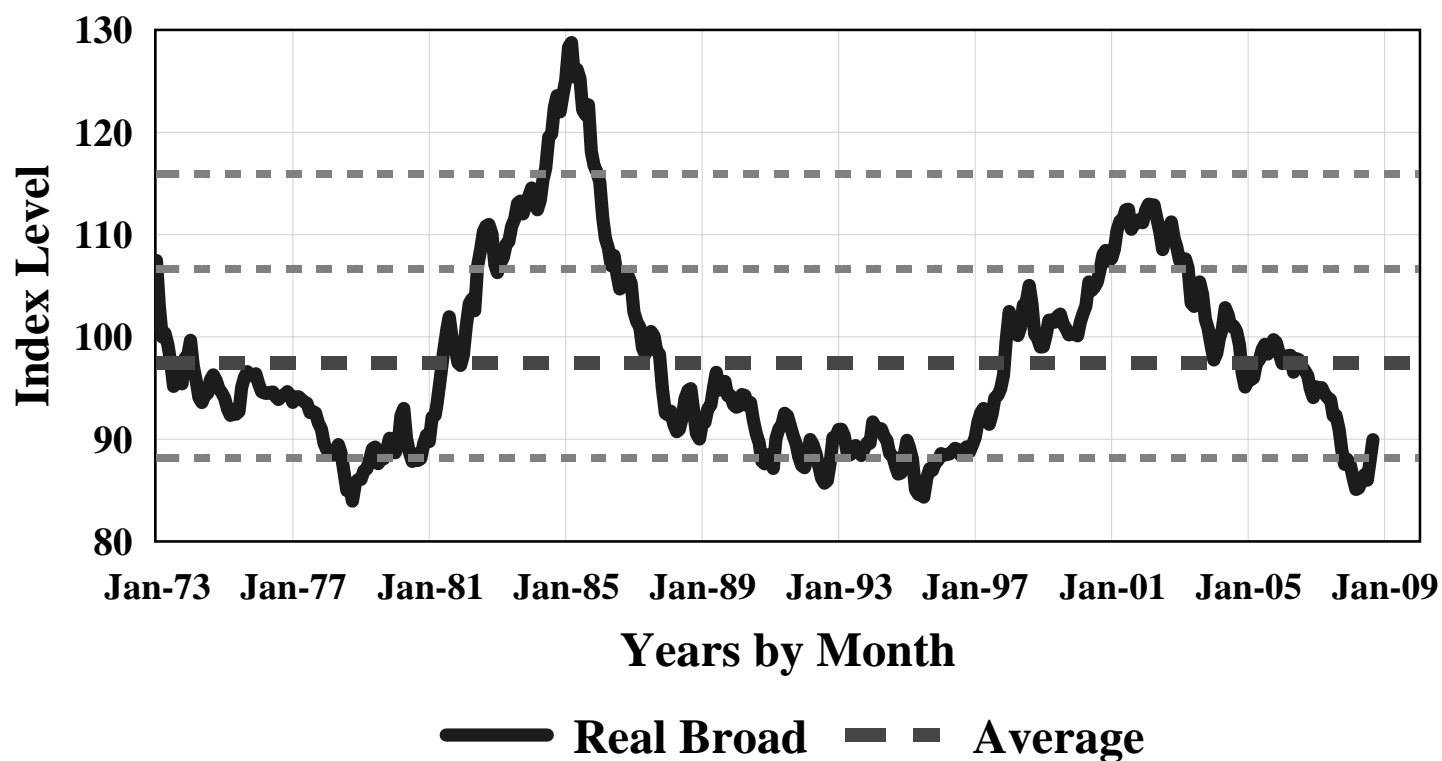
- ▶ **CIA HQ and World Trade Center Attacks, 1993**
- ▶ **Chinese Currency Devaluation, 1993-1994**
- ▶ **Mexican Financial Crisis, 1994-1995**
- ▶ **Southeast Asian Crisis, 1997**
- ▶ **Korean Financial Crisis, 1997-98**
- ▶ **Russian Default, 1998**
- ▶ **Long Term Capital Management, 1998**
- ▶ **Brazilian Crises, 1999-2003**
- ▶ **Argentine Crises, 1999-2004**
- ▶ **Y2K Fear, 1999-2000**
- ▶ **Technology Bubble, 1999-2000**
- ▶ **World Trade Center and Pentagon Attacks, 2001**

## The Value of the Renminbi Yuan in \$US



# The Real Broad Currency Dollar Index

Plotted With Average (97.4406) and Standard Deviations (9.2209)



# Central Bank Credit to US Domestic Demand

Billions of Dollars

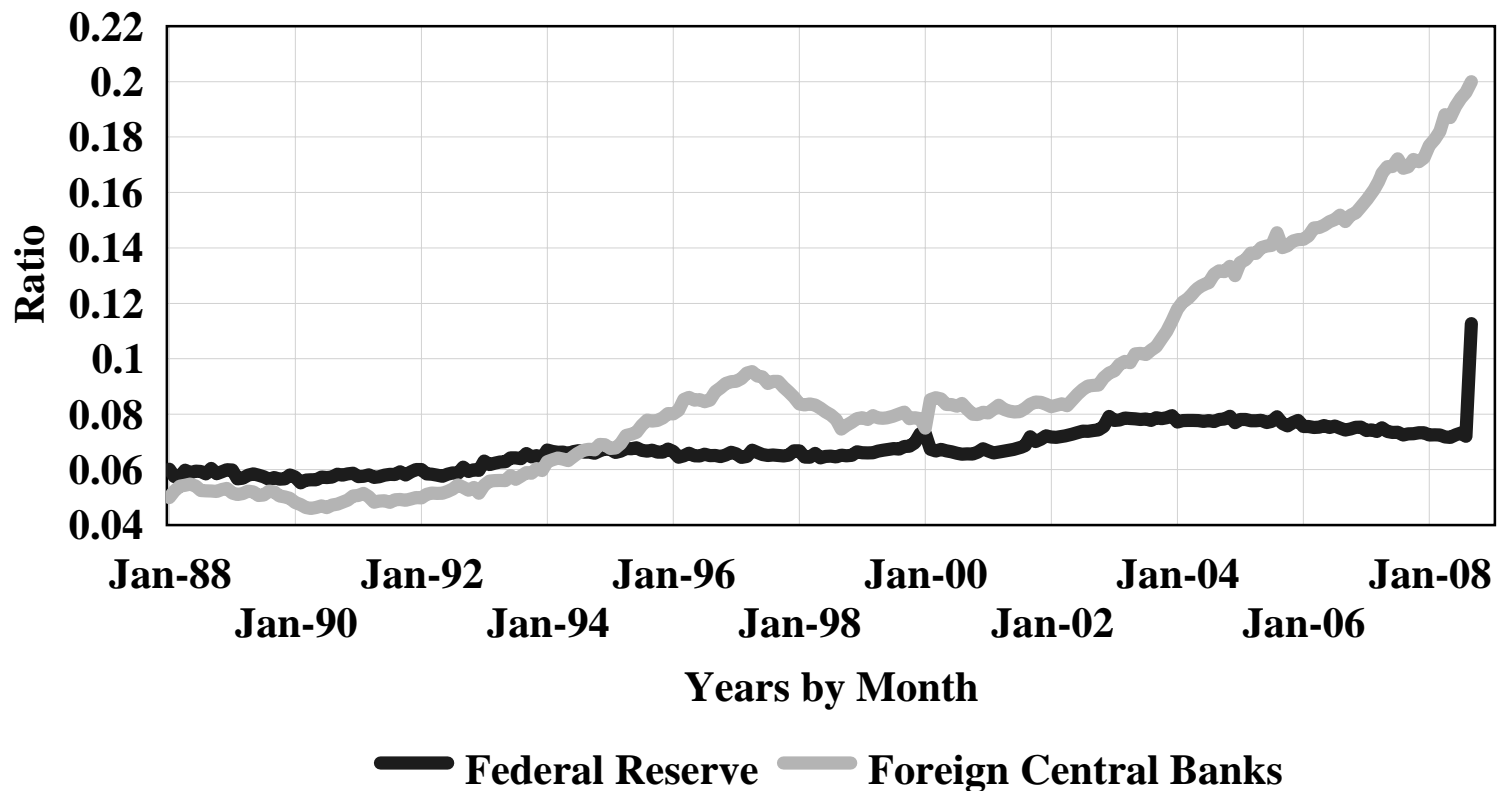
## ► December 2000

- Federal Reserve \$584.3
- 
- Foreign Central Bank \$691.9
  - 
  - Treasuries \$589.2
  - 
  - Agencies \$102.7

## ► September 2008

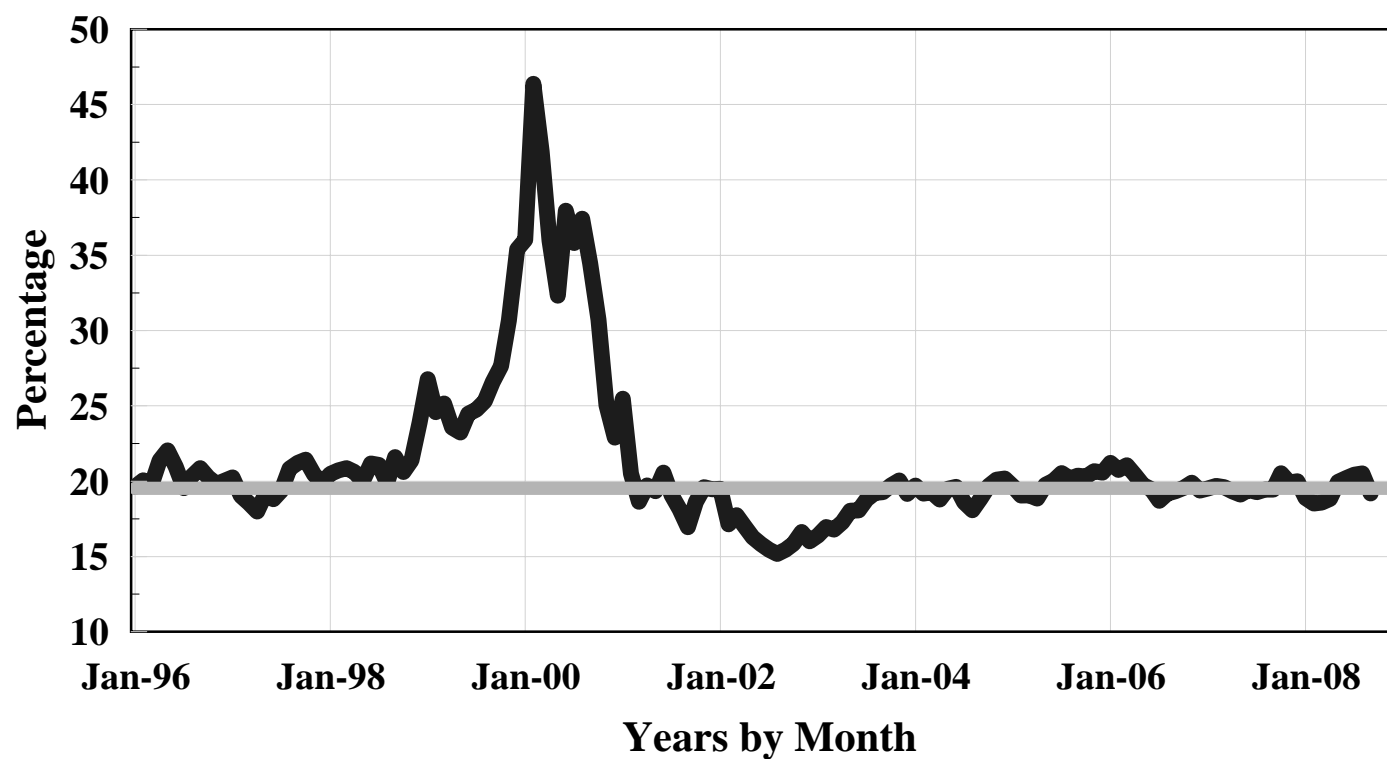
- Federal Reserve \$ 1388.56  
(+11.8% p.a.)
- Foreign Central Bank  
\$2465.65 (+17.8% p.a.)
  - Treasuries \$1495.19  
(+12.8% p.a.)
  - Agencies \$ 970.46  
(+33.6% p.a.)

## Ratios of Central Bank Credit, Domestic & Foreign, to U.S. Personal Income



## **NASDAQ Composite Relative to the Dow (The First Bubble)**

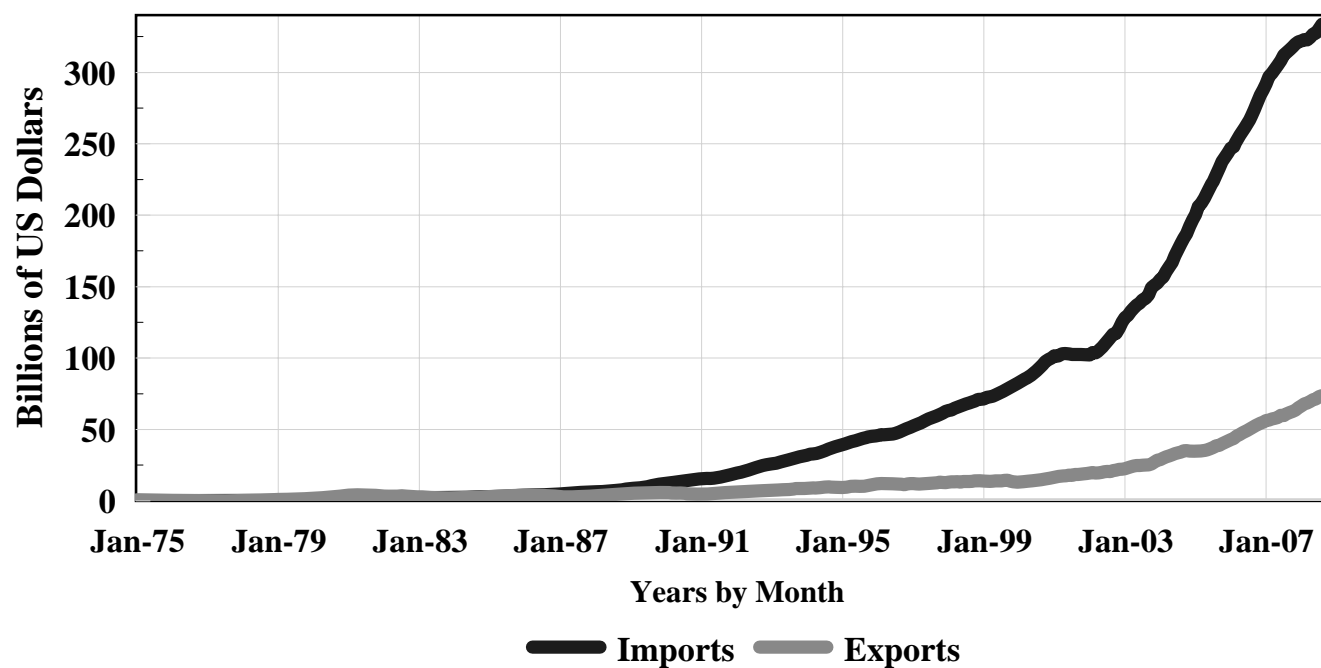
**Percentage; Plotted with 1983 to 1998 Average (19.53%)**





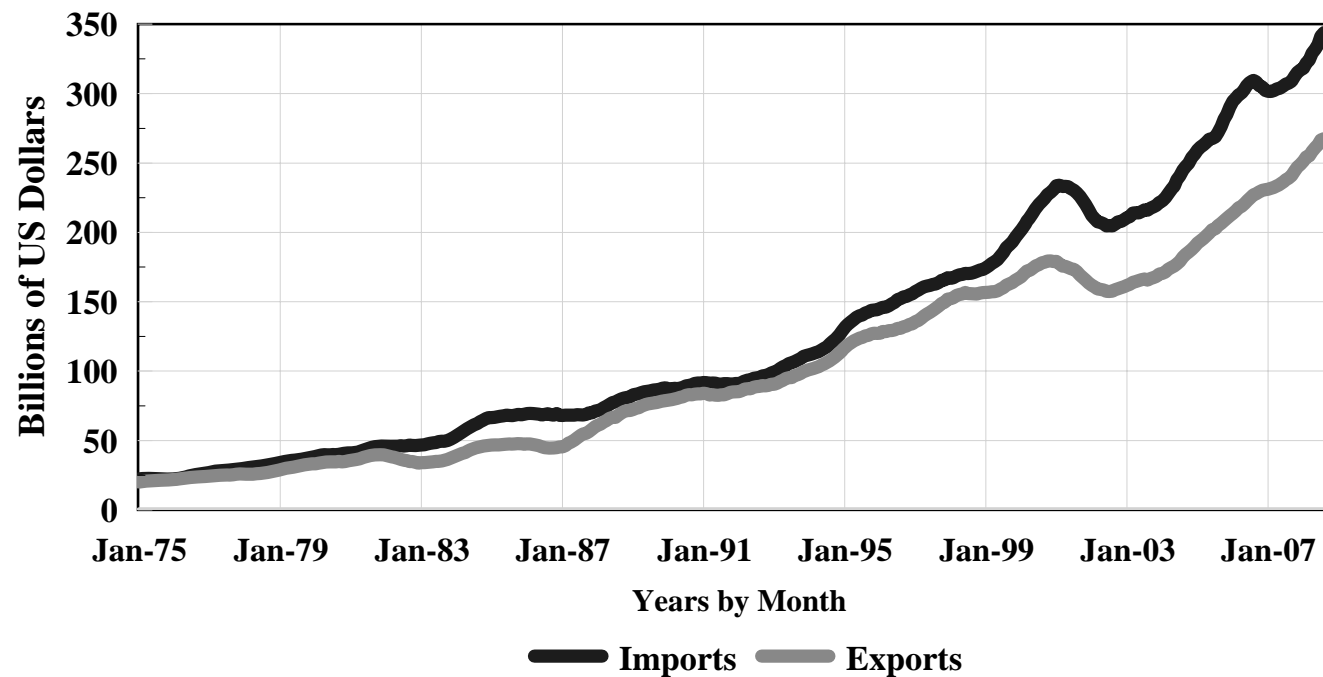
# U.S. Trade with China (Second Bubble)

Twelve Month Moving Sums of Not Seasonally Adjusted Data



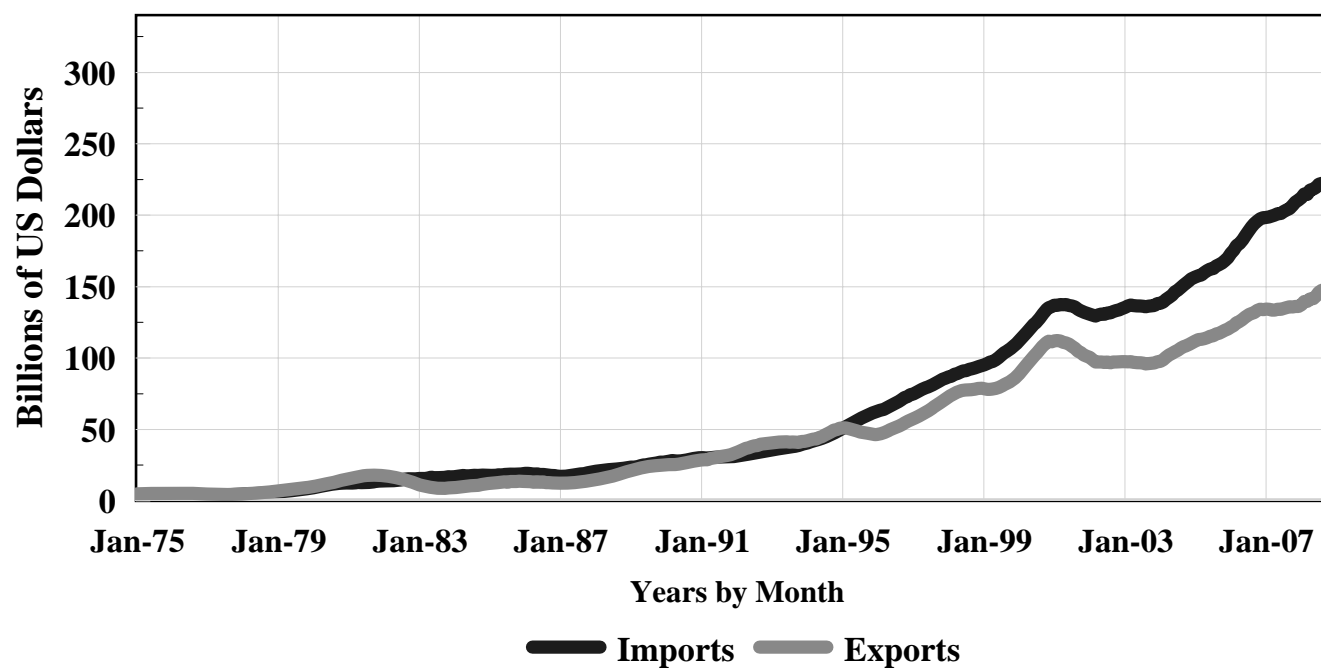
# U.S. Trade with Canada (\$US Billions)

Twelve Month Moving Sums of Not Seasonally Adjusted Data



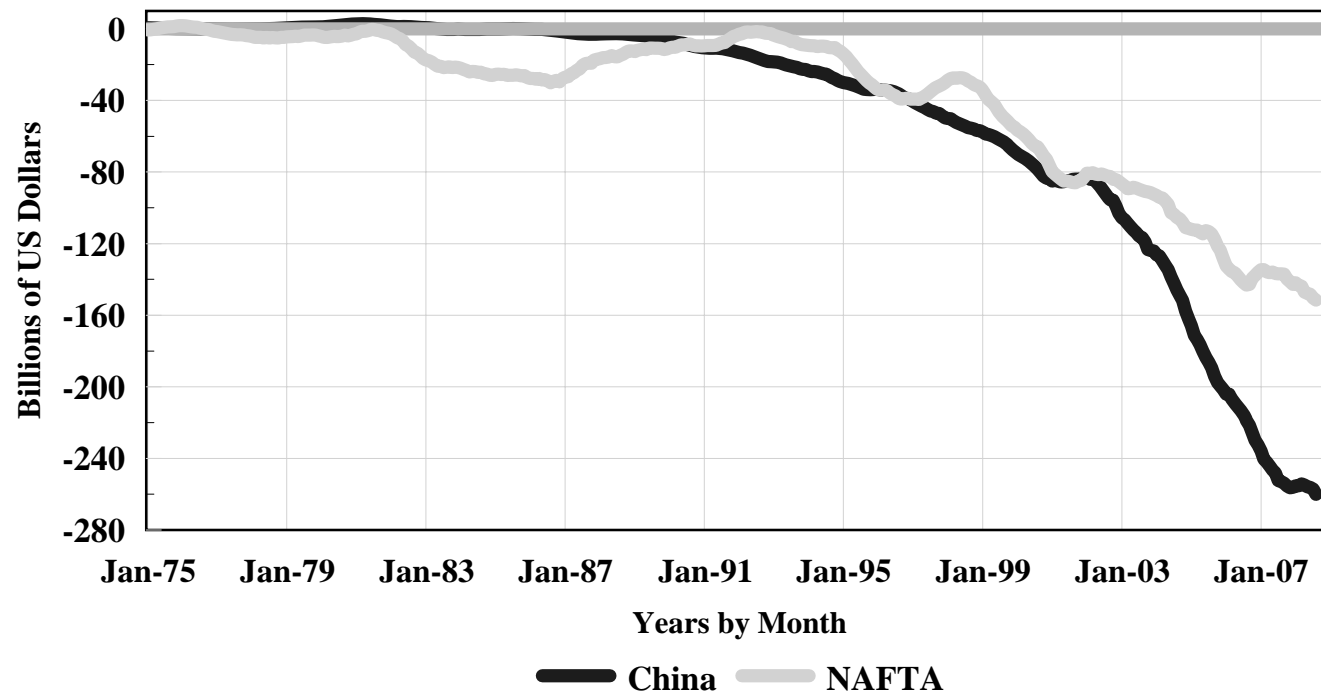
# U.S. Trade with Mexico (\$US Billions)

Twelve Month Moving Sums of Not Seasonally Adjusted Data



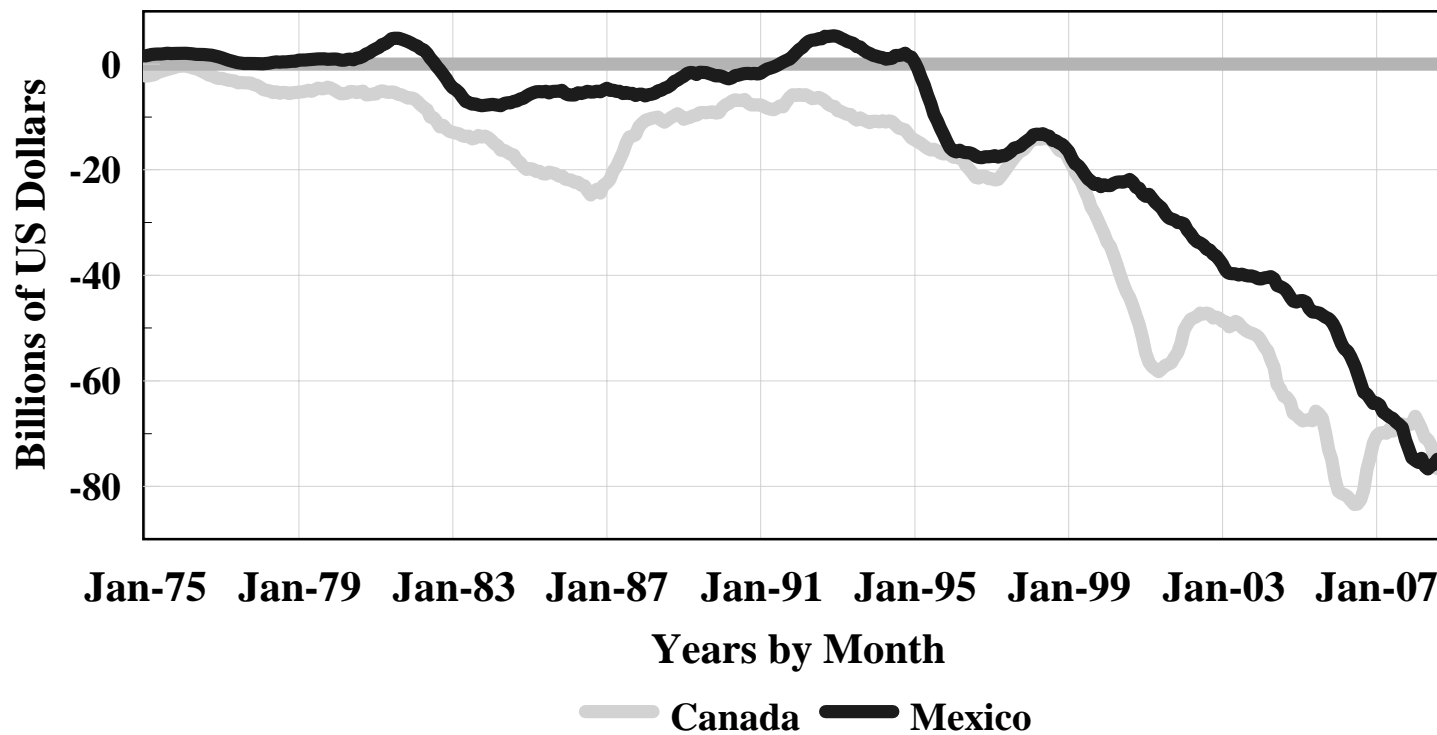
# U.S. Trade Balances with China & NAFTA

## Twelve Month Moving Sums of Not Seasonally Adjusted Data



# U.S. Trade Balances with NAFTA Partners

## Twelve Month Moving Sums of Not Seasonally Adjusted Data



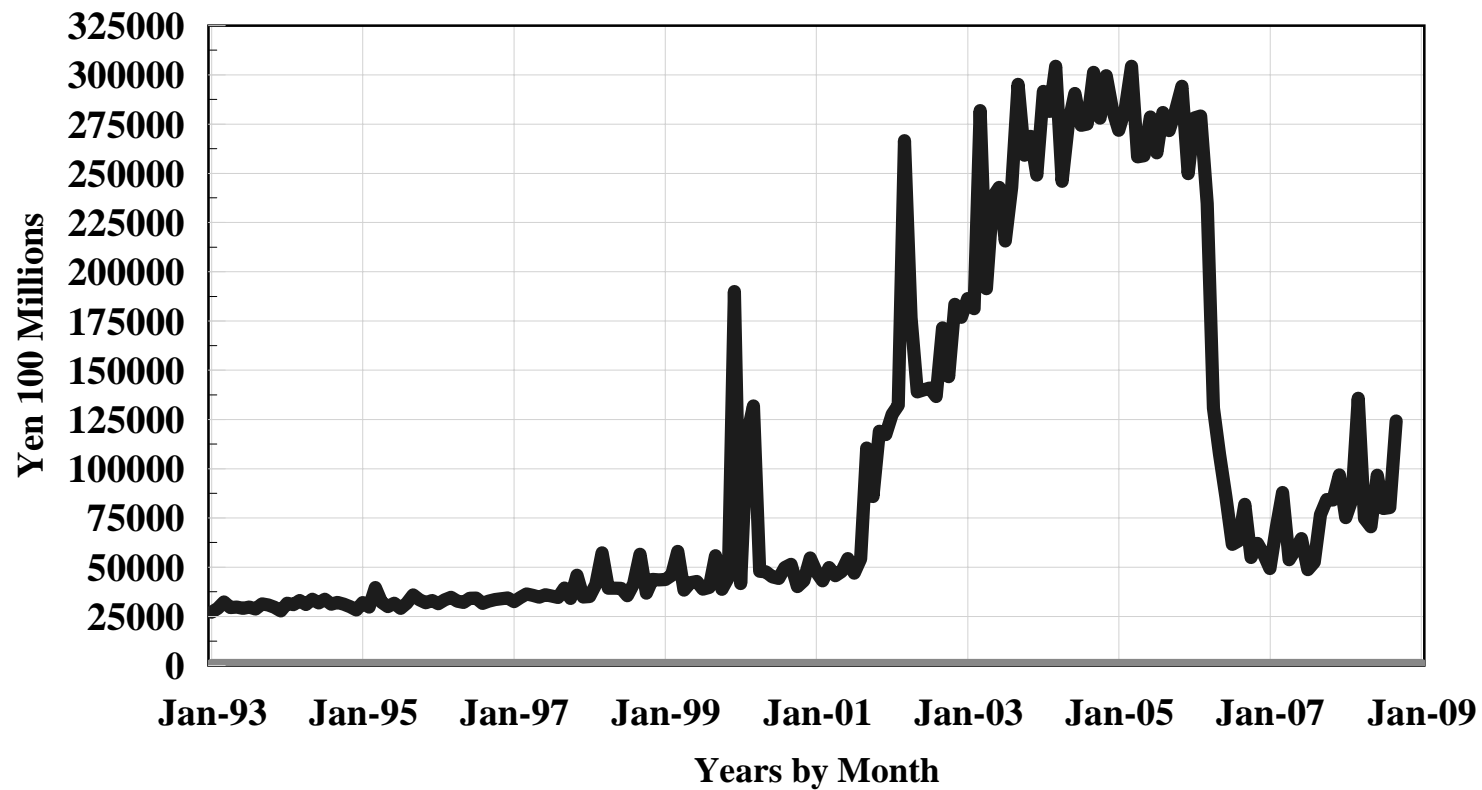
# **Japan Also Had a Problem, Leading to the Yen Carry Trade**



**Wintonbury Risk Management**

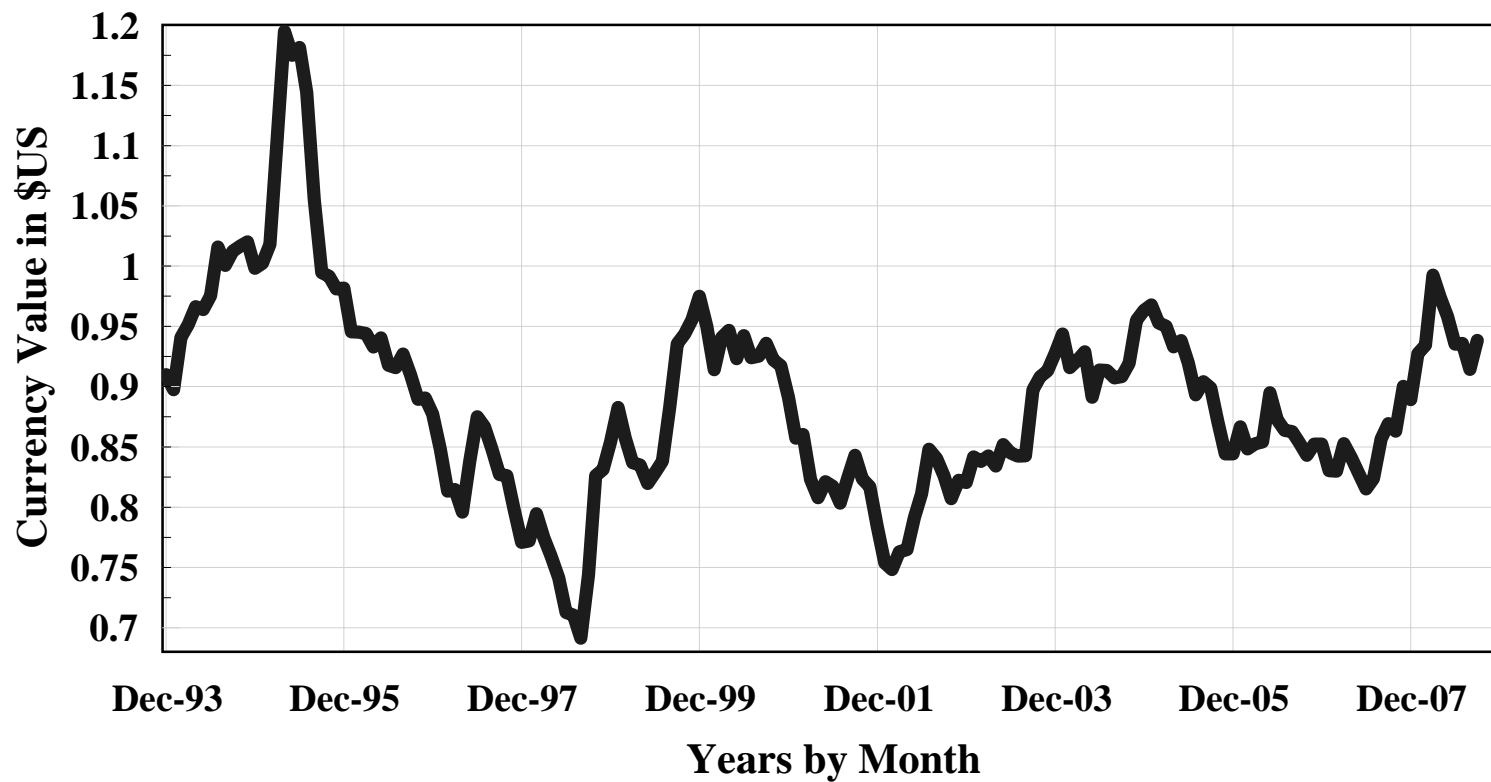
# Japanese Bank Reserves, End of Month

Yen 100 Millions, Source: Bank of Japan



# The Value of the Japanese Yen in \$US

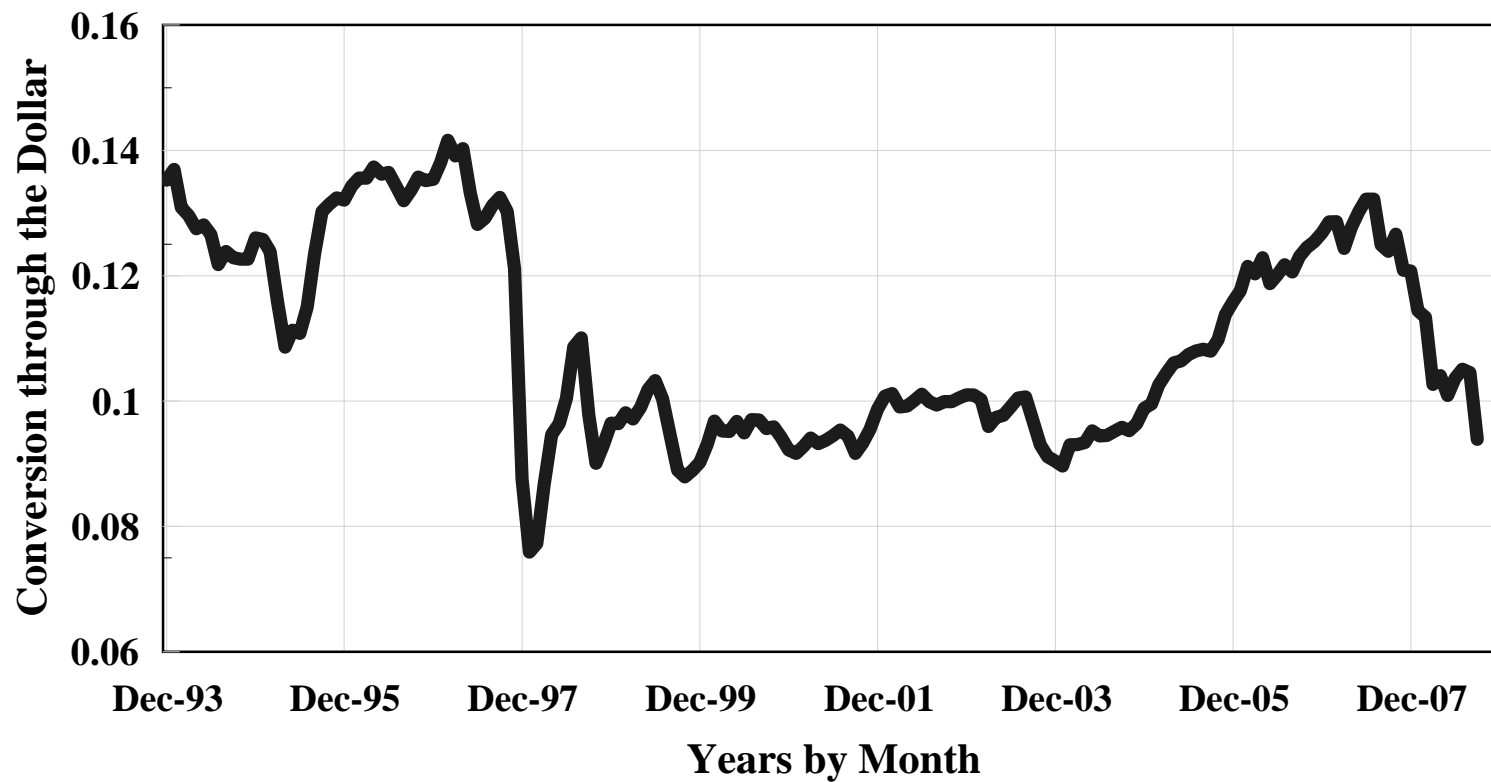
## Dollars per 100 Japanese Yen





# The Value of the Won Relative to the Yen

## Conversion through the Dollar



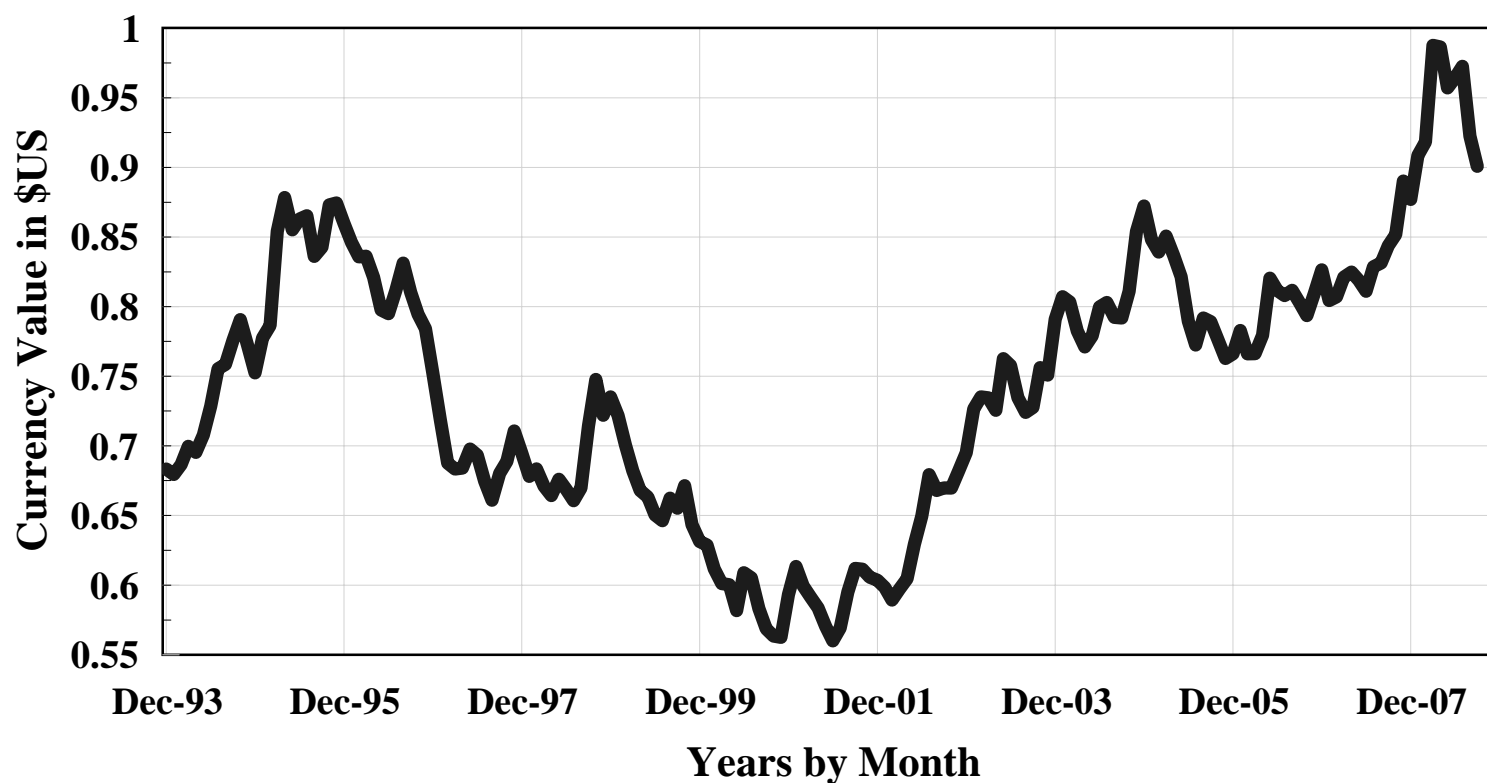
# **The Swiss Franc Was Used for Cheap Finance, Leading to a Franc Carry Trade**



**Wintonbury Risk Management**

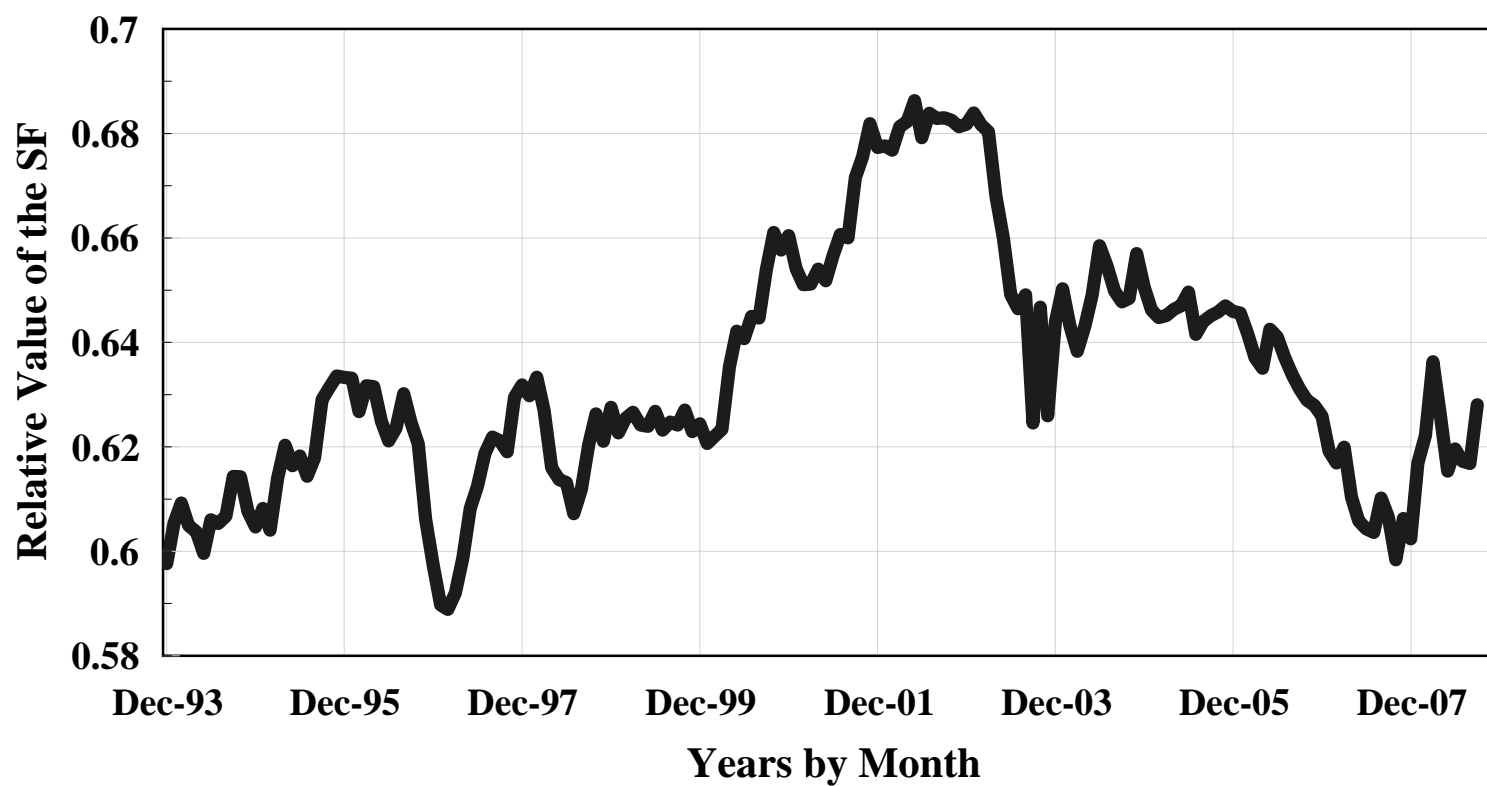
# The Value of the Swiss Franc in \$US

Dollars per Swiss Franc



# Swiss Franc Relative to the Euro

## Euros per Swiss Franc



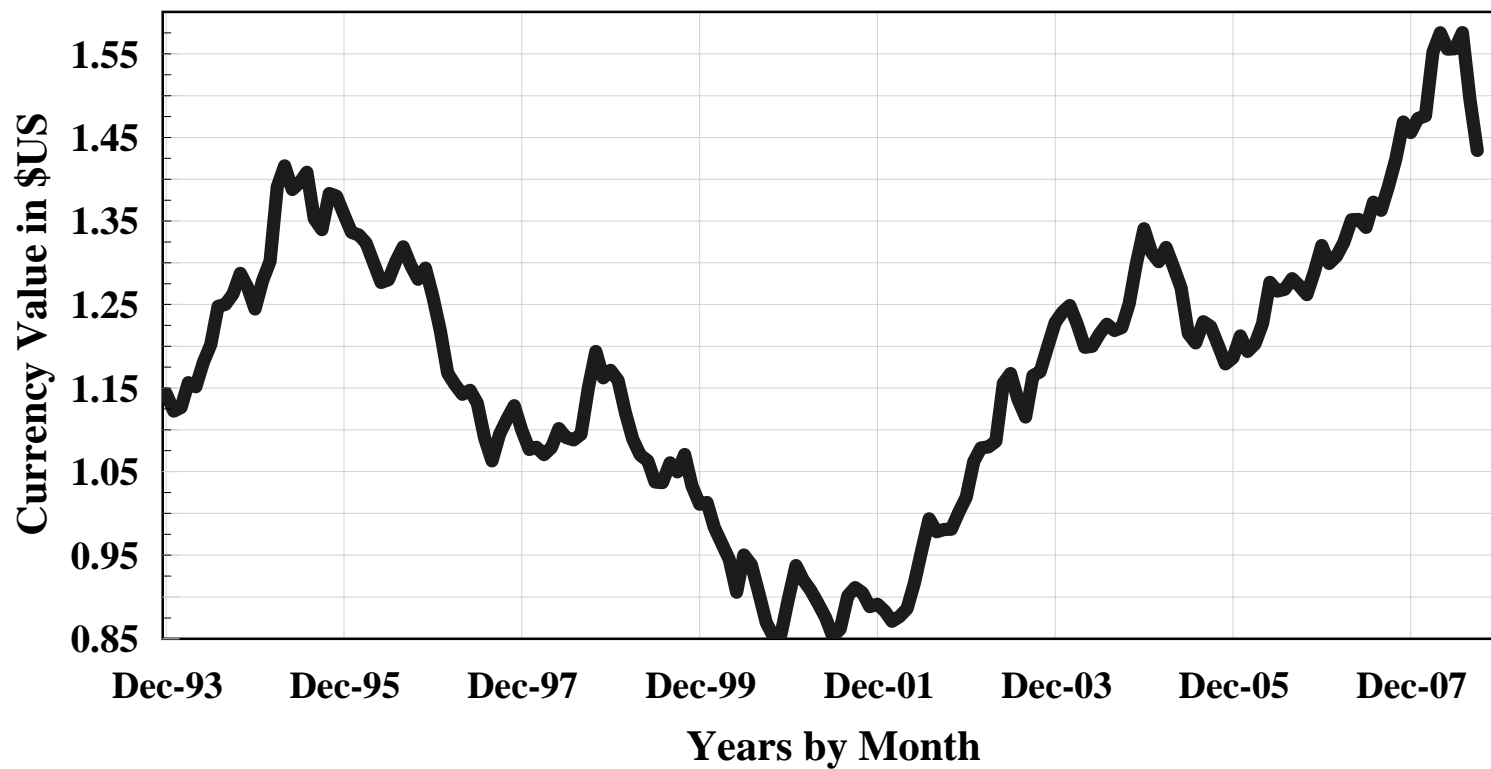
# **The Euro Was Also Used for Cheap Finance, Leading to a Euro Carry Trade**



**Wintonbury Risk Management**

# The Value of the Euro in \$US

## Dollars per Euro



# **Some Commodity Currencies Experienced Strength, Reinforcing Local Booms**



**Wintonbury Risk Management**

# The Value of the Canadian Dollar in \$US

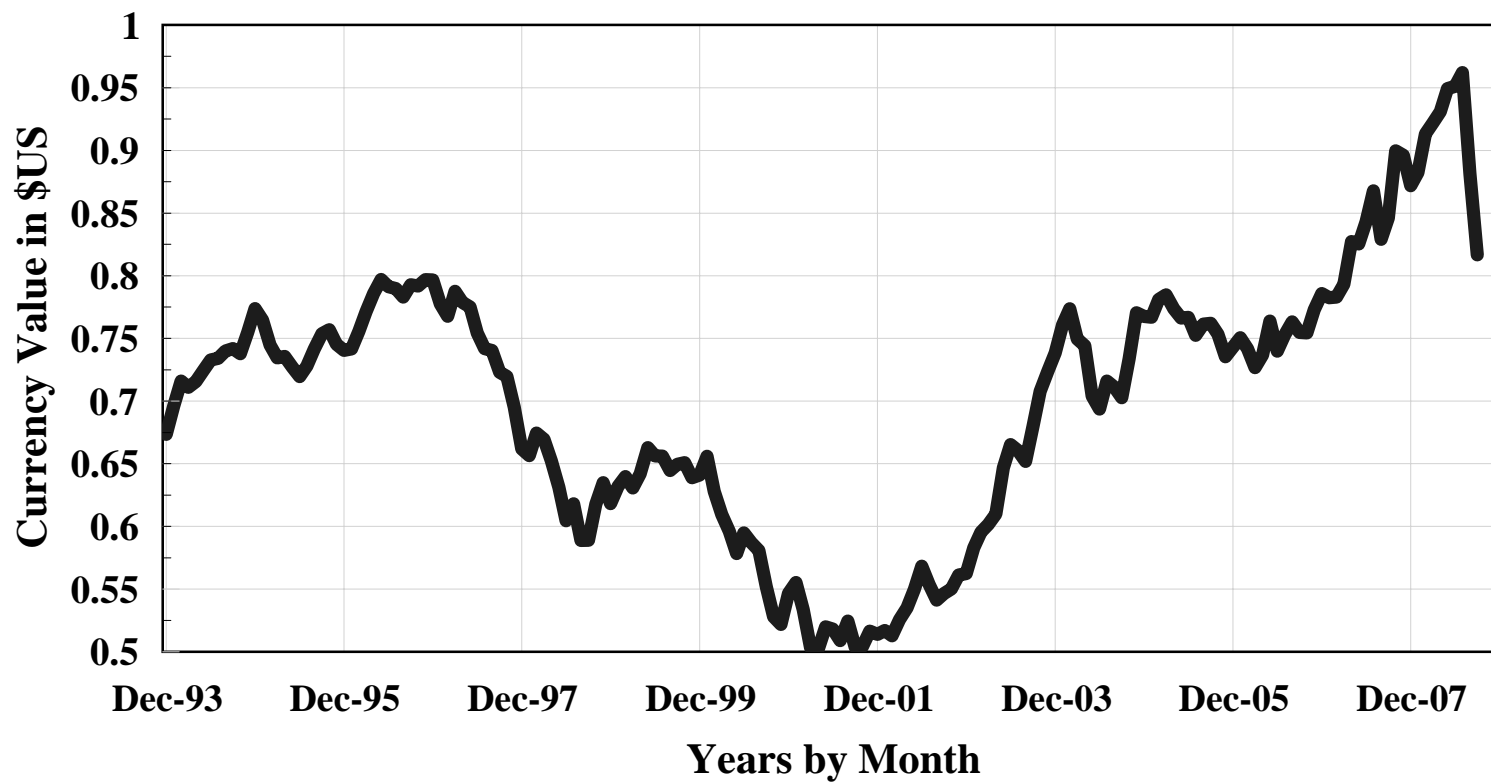
U.S. Dollars per Canadian Dollar





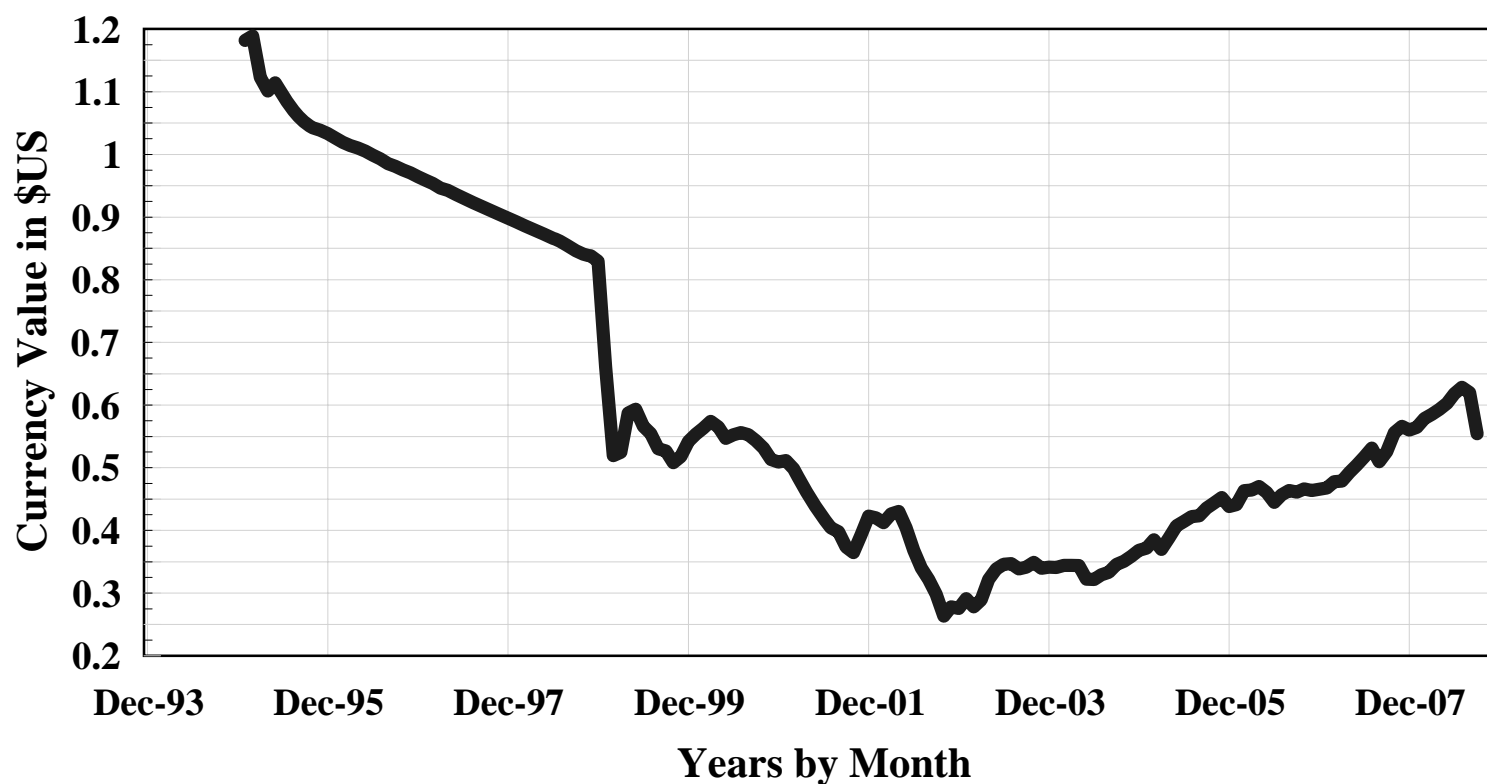
# The Value of the Australian Dollar in \$US

## U.S. Dollars per Australian Dollar



# The Value of the Brazilian Real in \$US

U.S. Dollars per Brazilian Real



# **The Emergence of The Shadow Banking System**

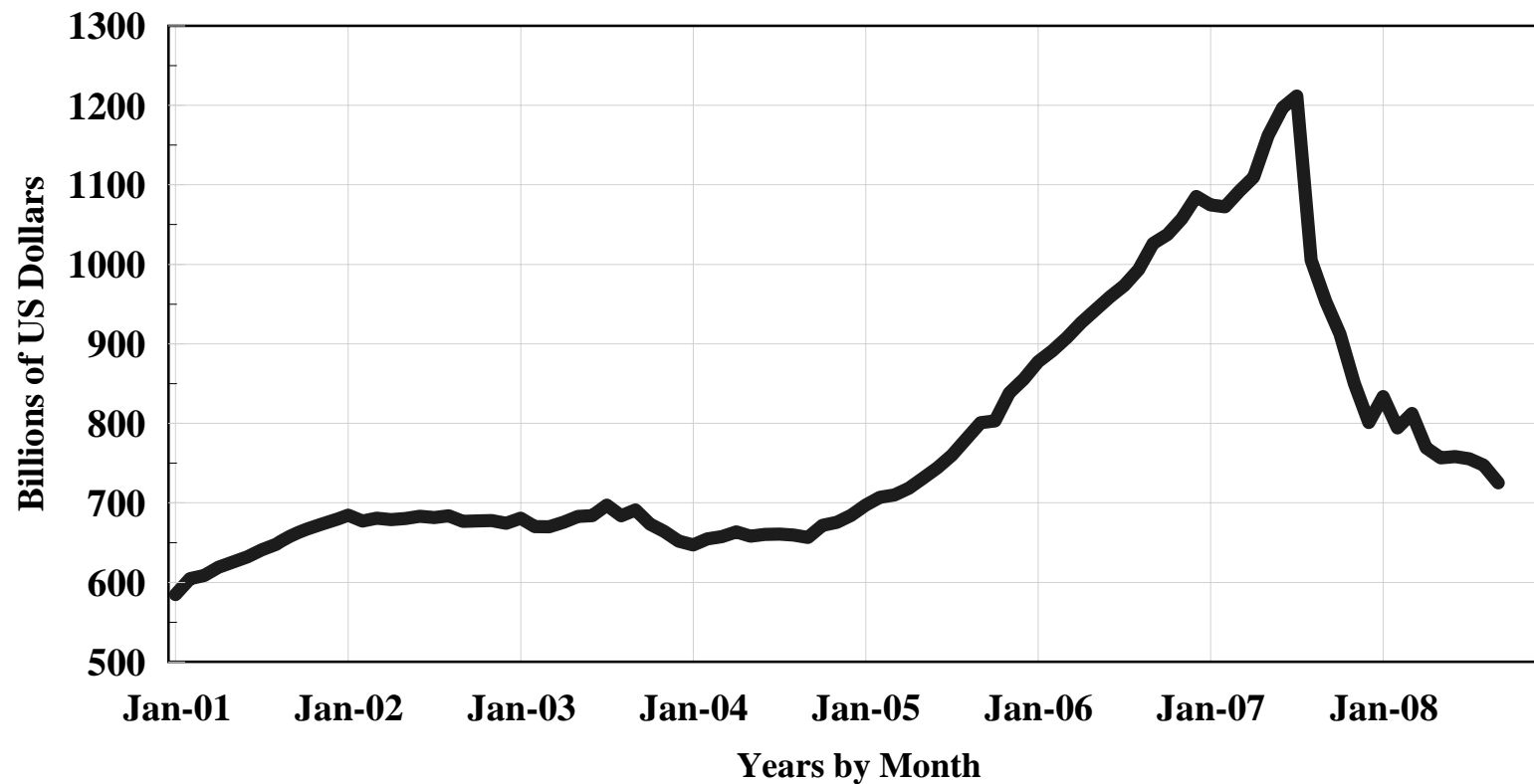
- ▶ **Custody Accounts at the New York Fed**
- ▶ **Basel I International Banking Regulations (1988)**
- ▶ **Evolution of Resolution Trust Company Instruments**
  - **Conduits, MBS, CMBS, & Creative Ratings**
  - **CDOs and CLOs**
  - **SIVs & SIV-Lites, Off Balance Sheet Leverage**
  - **Credit Insurance & Credit Default Swaps**
- ▶ **Chinese Competitive Devaluation, 1993-94**
- ▶ **Decline of Old Manufacturing Industries and Regions**
- ▶ **The Illusion That Inflation Was Under Control**
- ▶ **Very Easy Federal Reserve Credit & The "Saving Glut" SIV**
- ▶ **Repeal of Glass-Steagall, 1999; Junk Mortgage Growth**
- ▶ **Basel II (2003), and SEC actions in 2004**

# Genesis of the Financial Crisis

- ▶ **Community Reinvestment Act (1977, 1995, 2005)**
- ▶ **Pressure on Fannie Mae and Freddie Mac from Congress and HUD (Andrew Cuomo) to increase Sub-Prime Loans (1999).**
- ▶ **DOJ demands of financial institutions that they increase minority loan totals without regard to credit scores (Bill Lann Lee, 1999).**
- ▶ **Robert Rubin joins Citibank in anticipation of repeal of Glass-Steagall. Citibank rapidly expands SIV model. Citibank copied by other major banks such as Barclays, UBS, and Deutsche Bank (1999).**
- ▶ **Rapid expansion of store front mortgage mills. Mortgage charity fraud (Home Builders) inflates appraisals (1999-2005).**
- ▶ **Federal Reserve easy money episode encourages global speculation (2002-2004).**
- ▶ **Big Five investment banks ask SEC for waiver of leverage rules so that they can compete with the newly aggressive banks (2004).**
- ▶ **Flood of mortgage credit inflates housing prices beyond historic norms.**

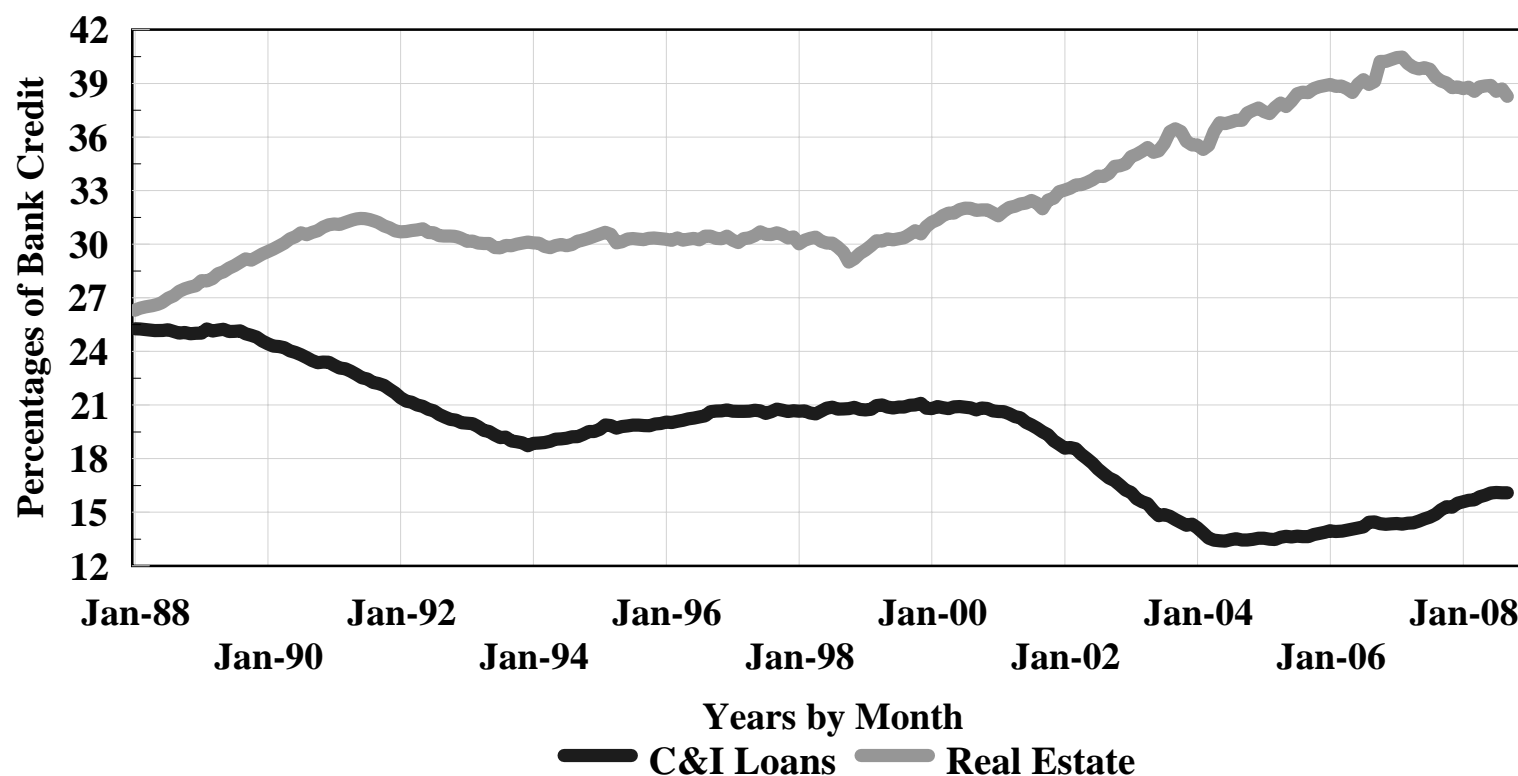
# Asset Backed Commercial Paper Outstanding

Billions of Dollars, Seasonally Adjusted Data

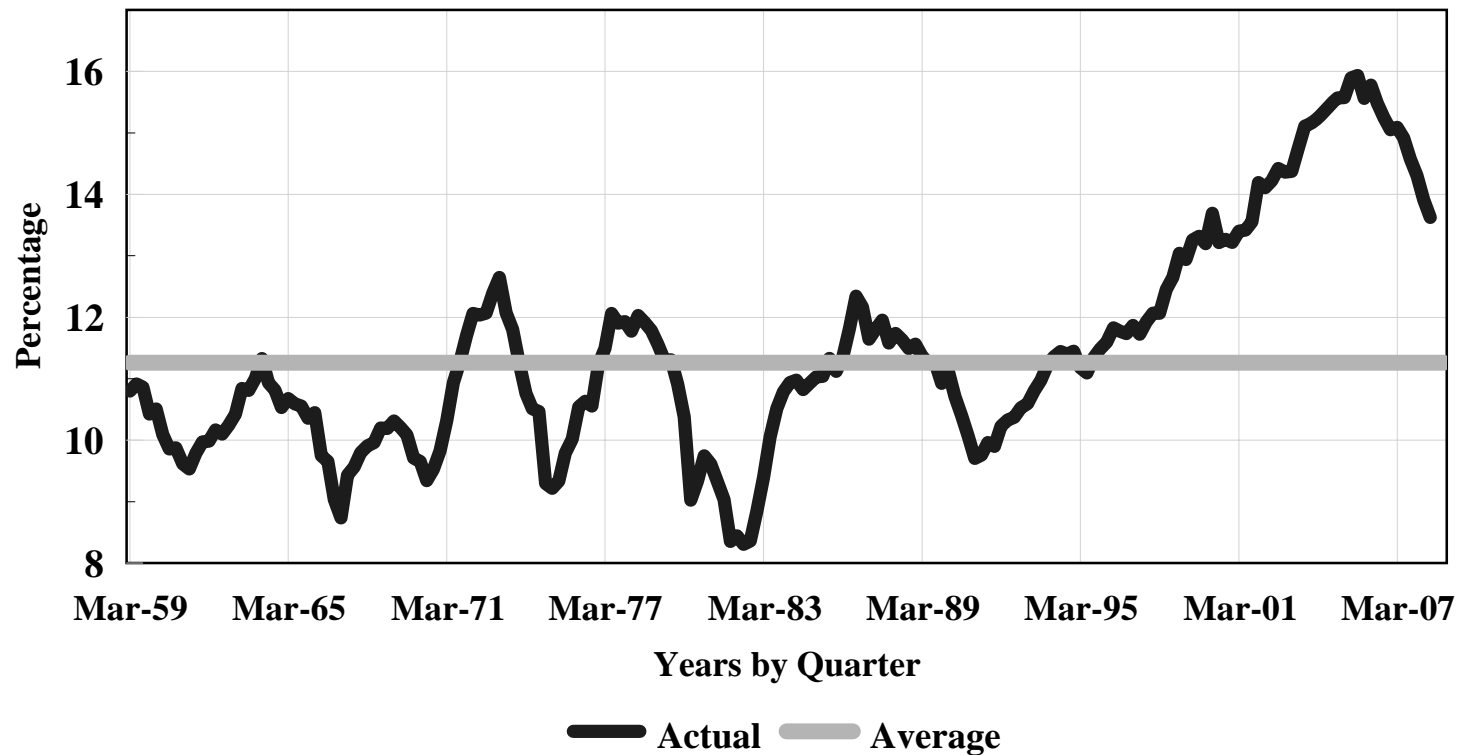


# U.S. Bank C&I Loans and Real Estate Loans

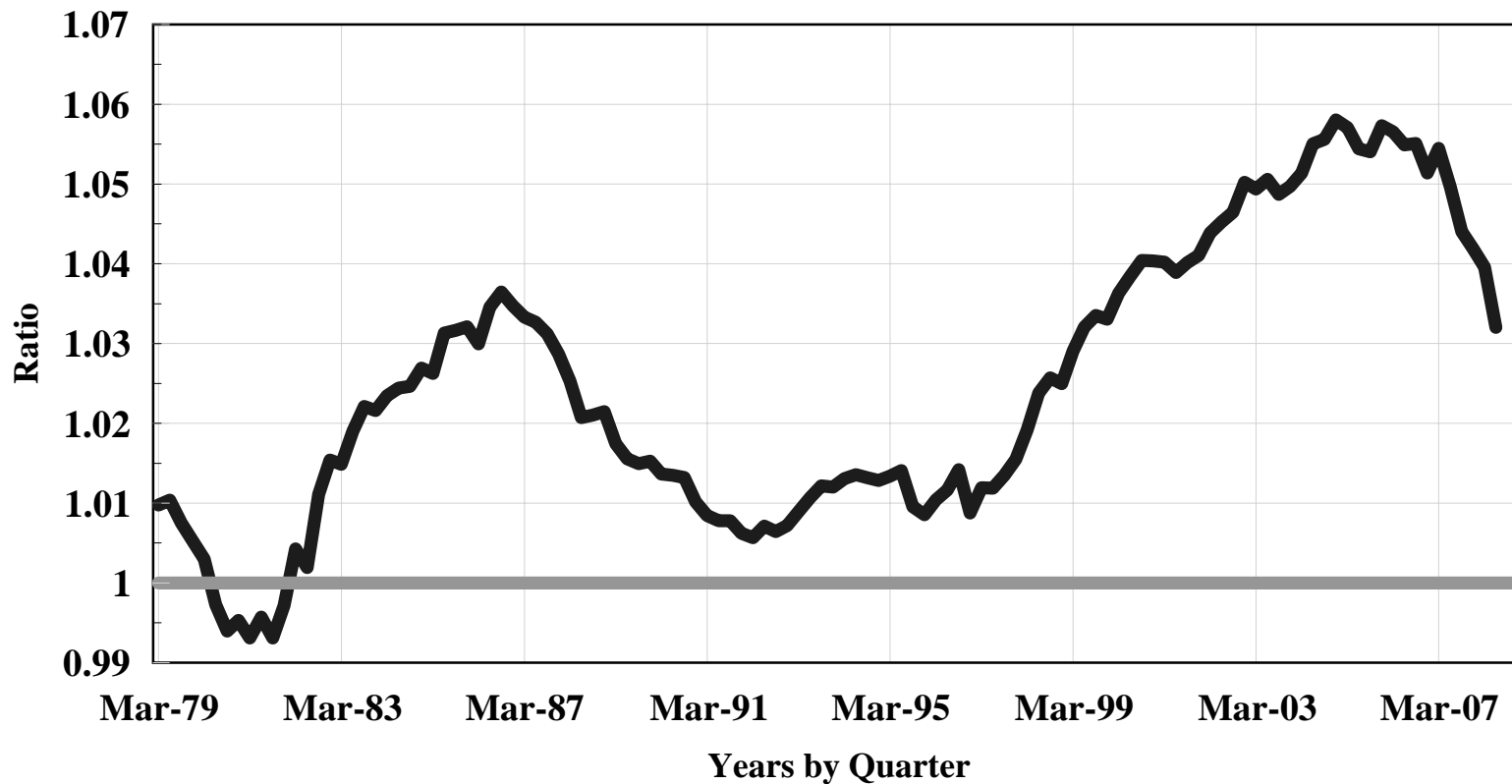
## Percentages of Total Bank Credit



# Real Housing and Consumer Durable Spending (The Third Bubble) Percentage of Real Gross Domestic Product



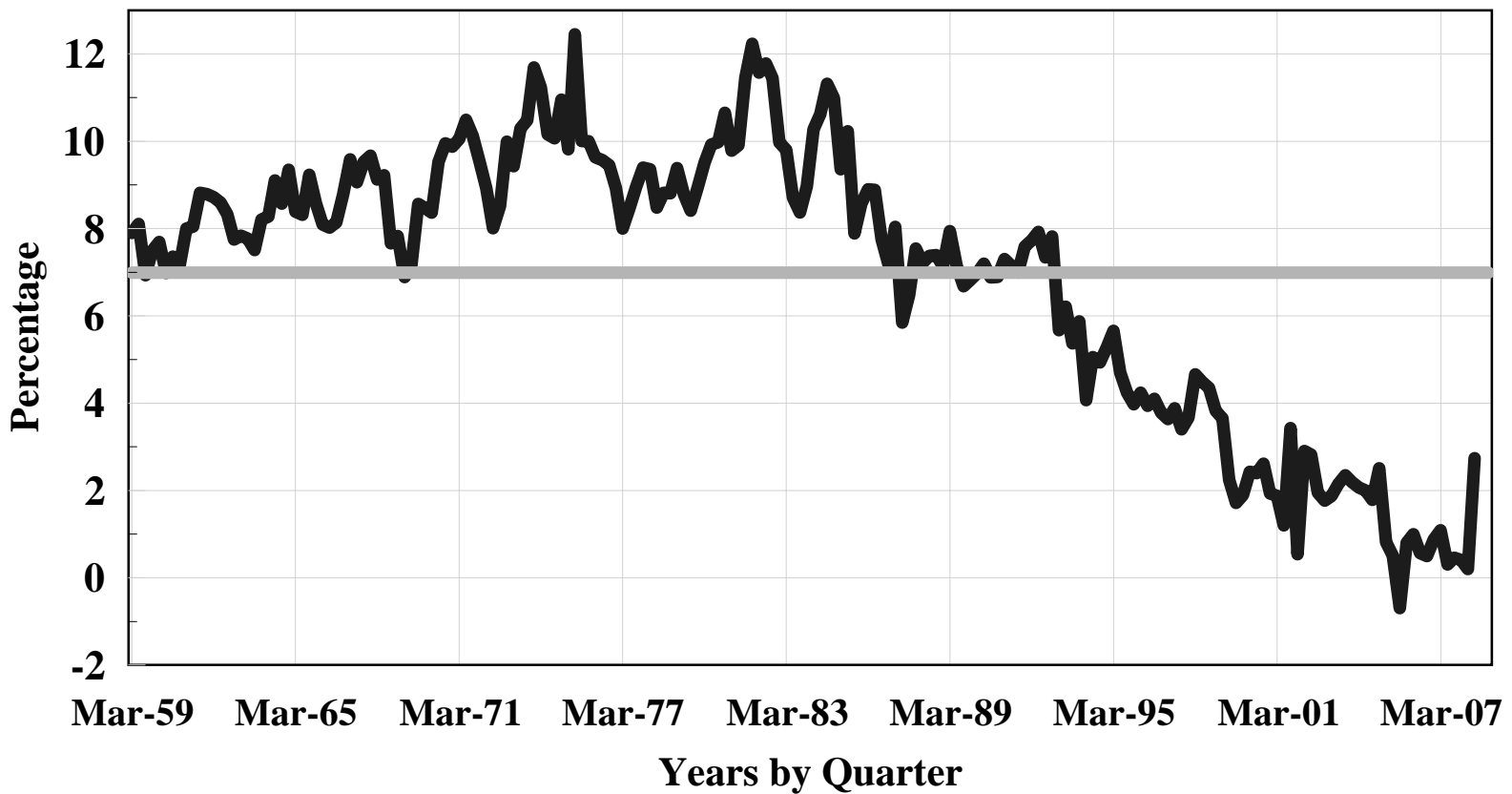
# Ratio of Real Domestic Final Demand to Real Domestic Final Product





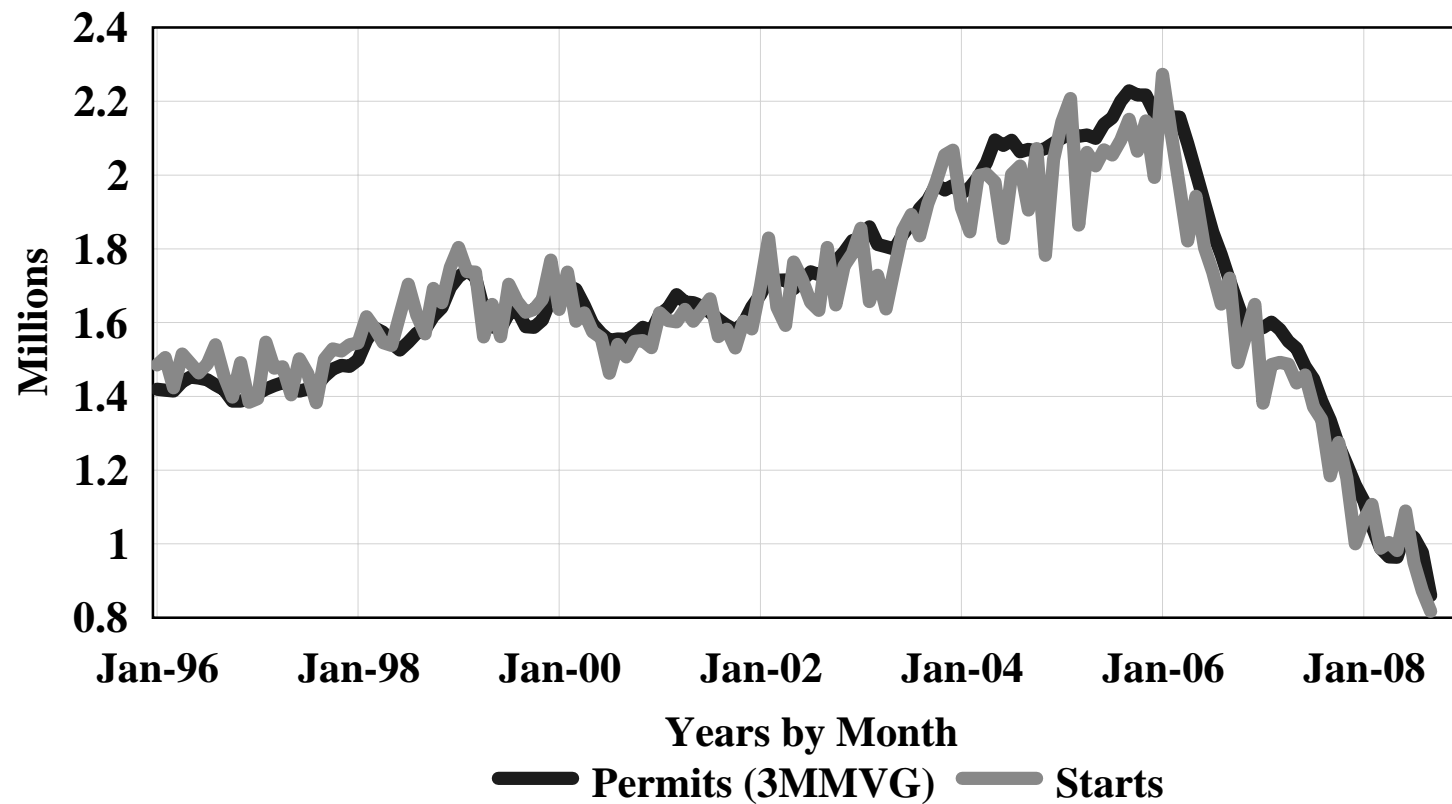
# **Saving as a Percentage of Disposable Personal Income**

**Plotted with 1959-2007 Average**



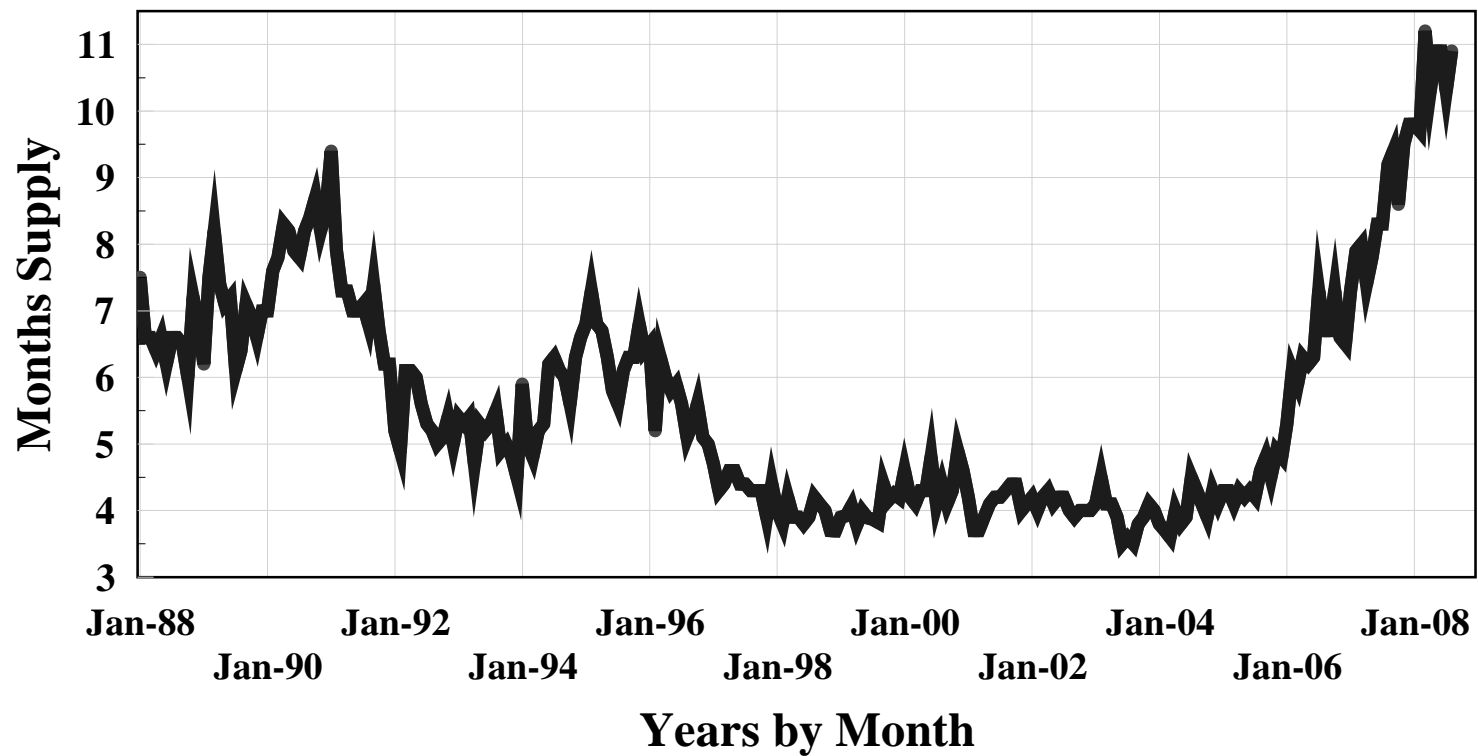
# Housing Permits and Housing Starts

Millions of Units



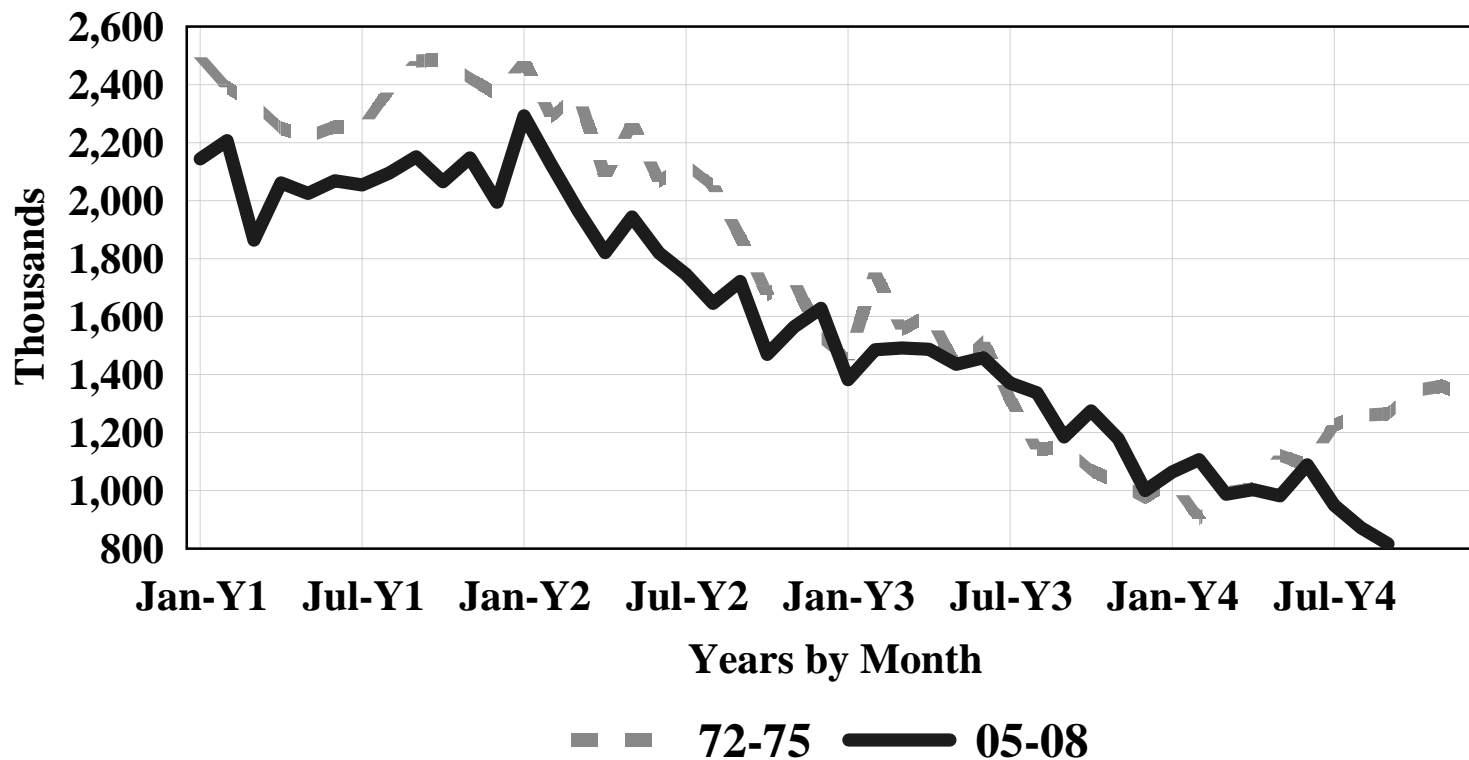
## Single Family Housing, Unsold New Homes

Months Supply at Current Sales Rate



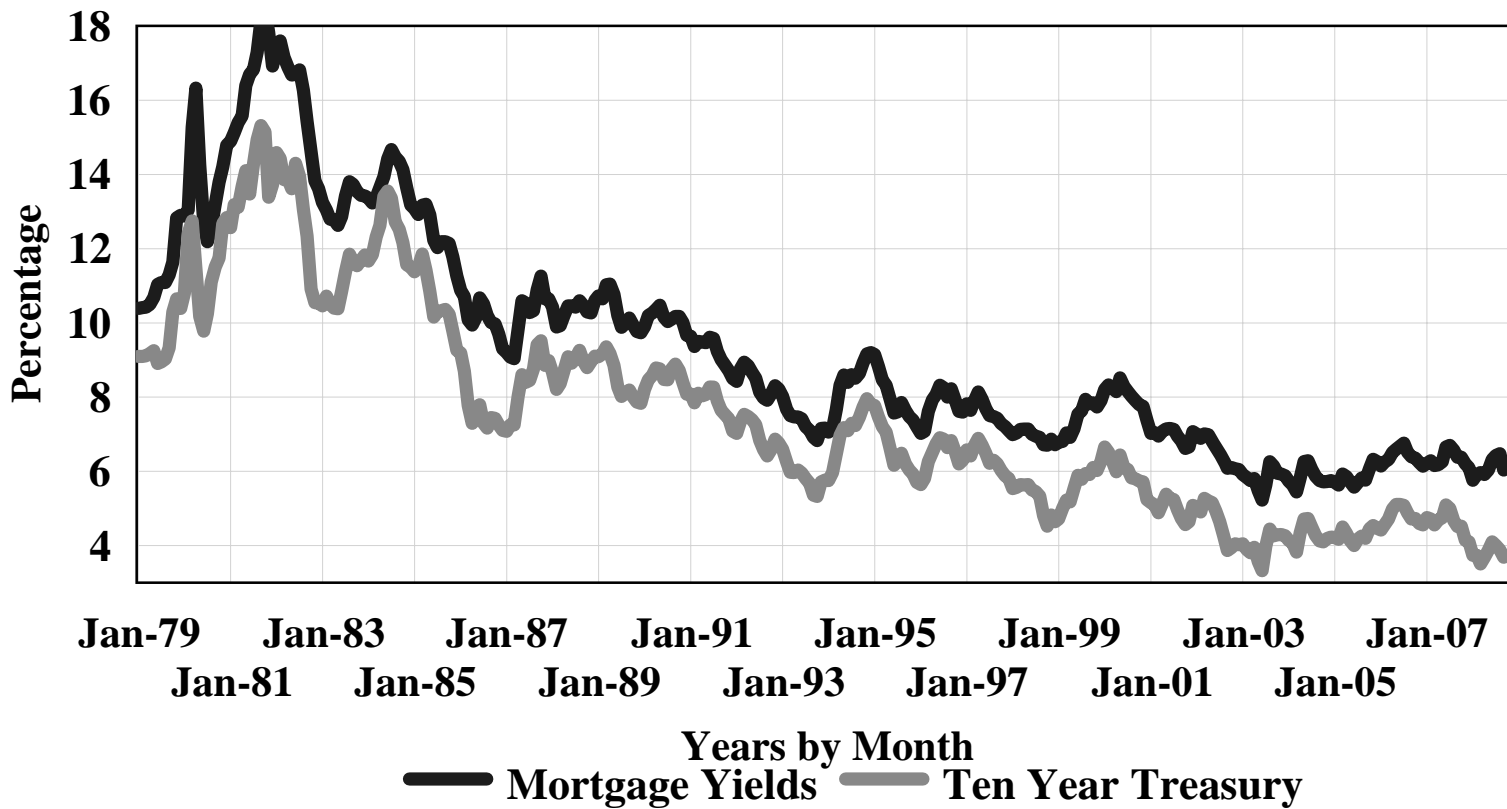
# Cyclical Behavior of Housing, 1972 and 2005

Peak Year Followed by Three Subsequent Years



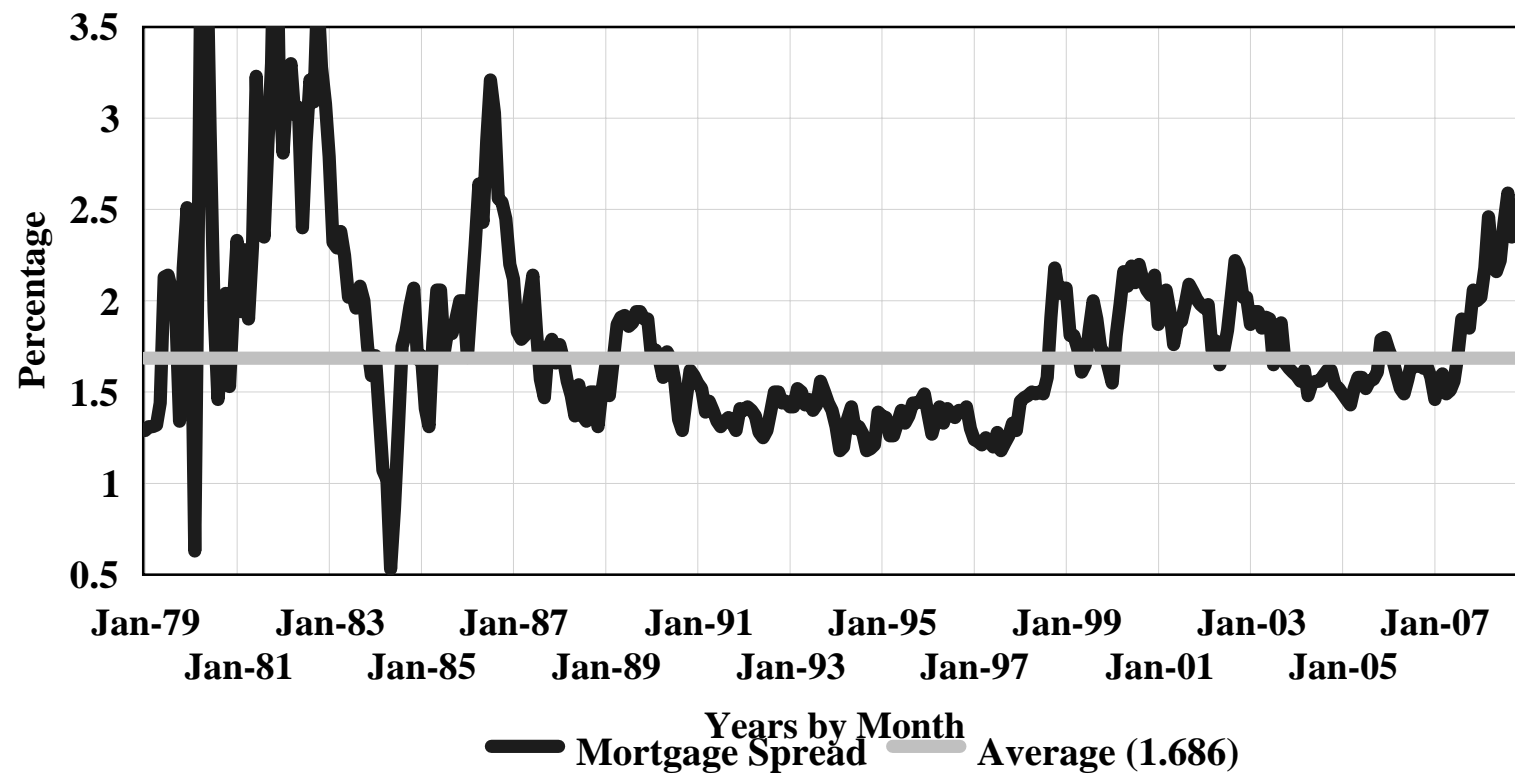
# The Yield on Residential Mortgages

## And the Yield on Ten Year Treasuries



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# The Spread Between Residential Mortgage Yields And the Yield on Ten Year Treasuries



# Housing Collapse, Major Points

- ▶ Housing starts have followed the expected path, duplicating the housing crash of 1972 to 1975.
- ▶ The weakness of the real GDP housing category has also been as expected.
- ▶ So far, real consumer durables have held up better than expected because of aggressive Fed ease, but are still vulnerable.
- ▶ Real export strength has more than offset the housing weakness, but could have done better with a constructive export credit policy.
- ▶ Real business investment has also helped to offset the housing slump and to maintain employment, despite construction equipment weakness.
- ▶ Real imports have been too strong and have prevented a complete rebalancing of the economy, because the Fed, the Treasury, and the Congress place too much emphasis on Domestic Demand and neglect Foreign (Export) Demand as a separate sector or market.
- ▶ Given the financial sector shocks, employment has held up better than should have been expected, but the recent severe global shocks threaten to cause a global recession.

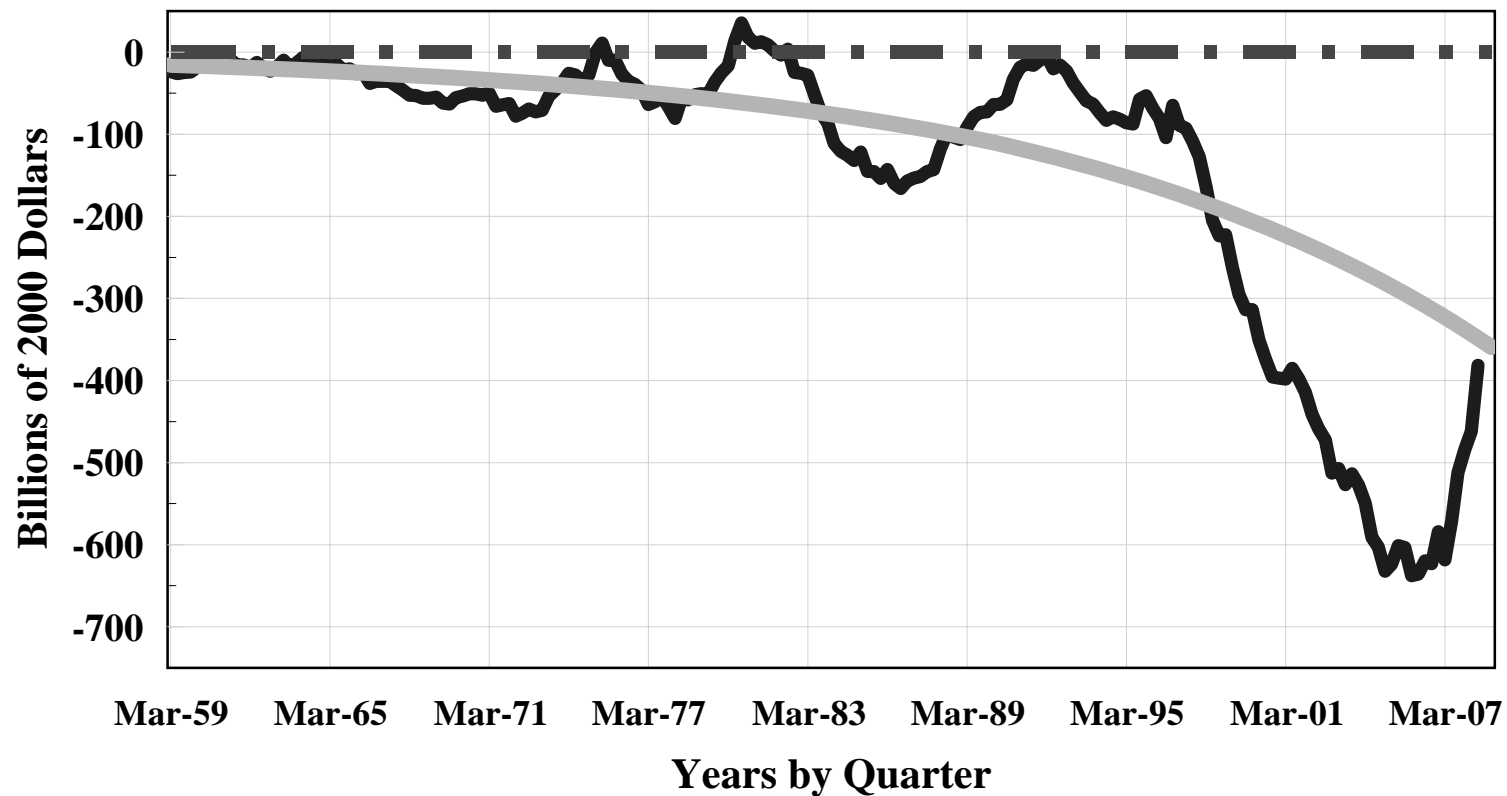
# **The Importance of Exports and Business Investment Now**

- ▶ **The Cyclical or High Risk Parts of the Consumer Economy are Housing (3.1% of GDP) and Consumer Durables Such as Autos, Boats, and Appliances (10.5% of GDP).**
- ▶ **The Potential New Leadership Sectors are Exports (13.2% of GDP) and Business Investment Spending, Including Commercial Construction, Business Equipment, and Business Software (12.2% of GDP). Public infrastructure can also add to growth.**



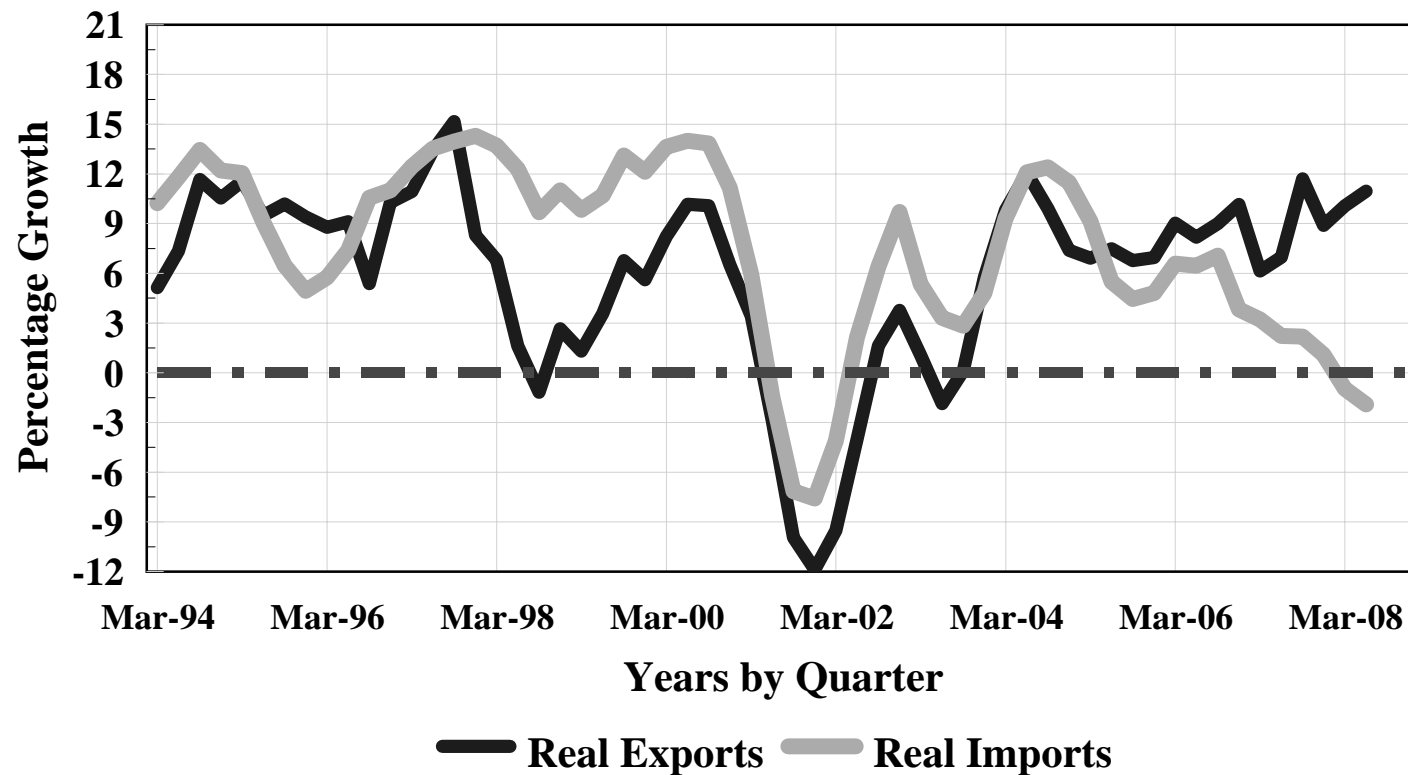
# Real Balance of Trade in Goods and Services

Plotted with Trend Caused by Systematic Overvaluation of Dollar  
Chain Weighted 2000 Dollars

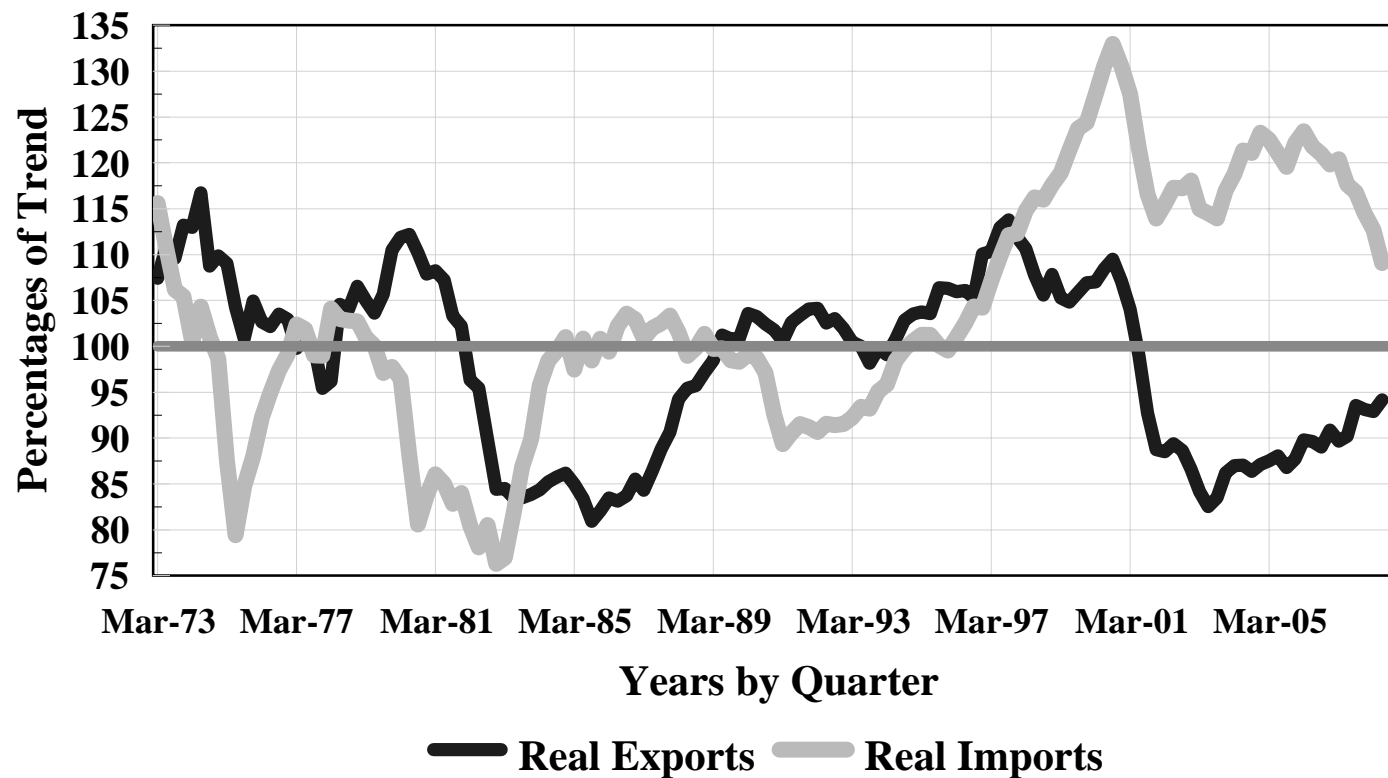


# Growth of Real Exports and Real Imports

Year to Year Percentage Changes



## Real Exports and Real Imports as Percentages of Their Own Trends



# United States Exports (2008)

Fifteen Largest Export Markets, \$Millions

<u>Country</u>	<u>2008 To August (Ann.)</u>	<u>Percentage of Total</u>	<u>Cumulative</u>
1 Canada	\$271,502	20.23%	20.23%
2 Mexico	\$152,264	11.34%	31.57%
3 China	\$74,453	5.55%	37.12%
4 Japan	\$69,032	5.14%	42.26%
5 United Kingdom	\$57,627	4.29%	46.56%
6 Germany	\$56,142	4.18%	50.74%
7 Netherlands	\$41,358	3.08%	53.82%
8 Korea	\$37,019	2.76%	56.58%
9 Brazil	\$32,580	2.43%	59.01%
10 Singapore	\$30,815	2.30%	61.30%
11 Belgium	\$30,332	2.26%	63.56%
12 France	\$29,852	2.22%	65.79%
13 Taiwan	\$28,523	2.13%	67.91%
14 Switzerland	\$23,540	1.75%	69.67%
15 Australia	\$23,142	1.72%	71.39%

# United States Imports (2008)

Fifteen Largest Import Sources, \$Millions

<u>Country</u>	<u>2008 To August (Ann.)</u>	<u>Percentage of Total</u>	<u>Cumulative</u>
1 Canada	\$353,094	16.26%	16.26%
2 China	\$325,964	15.01%	31.27%
3 Mexico	\$222,819	10.26%	41.53%
4 Japan	\$145,215	6.69%	48.22%
5 Germany	\$101,862	4.69%	52.91%
6 United Kingdom	\$60,761	2.80%	55.71%
7 Saudi Arabia	\$60,023	2.76%	58.47%
8 Venezuela	\$56,939	2.62%	61.10%
9 Korea	\$49,086	2.26%	63.36%
10 France	\$44,439	2.05%	65.40%
11 Nigeria	\$43,956	2.02%	67.43%
12 Italy	\$38,216	1.76%	68.19%
13 Taiwan	\$36,890	1.70%	70.89%
14 Malaysia	\$32,498	1.50%	72.38%
15 Brazil	\$30,686	1.41%	73.80%

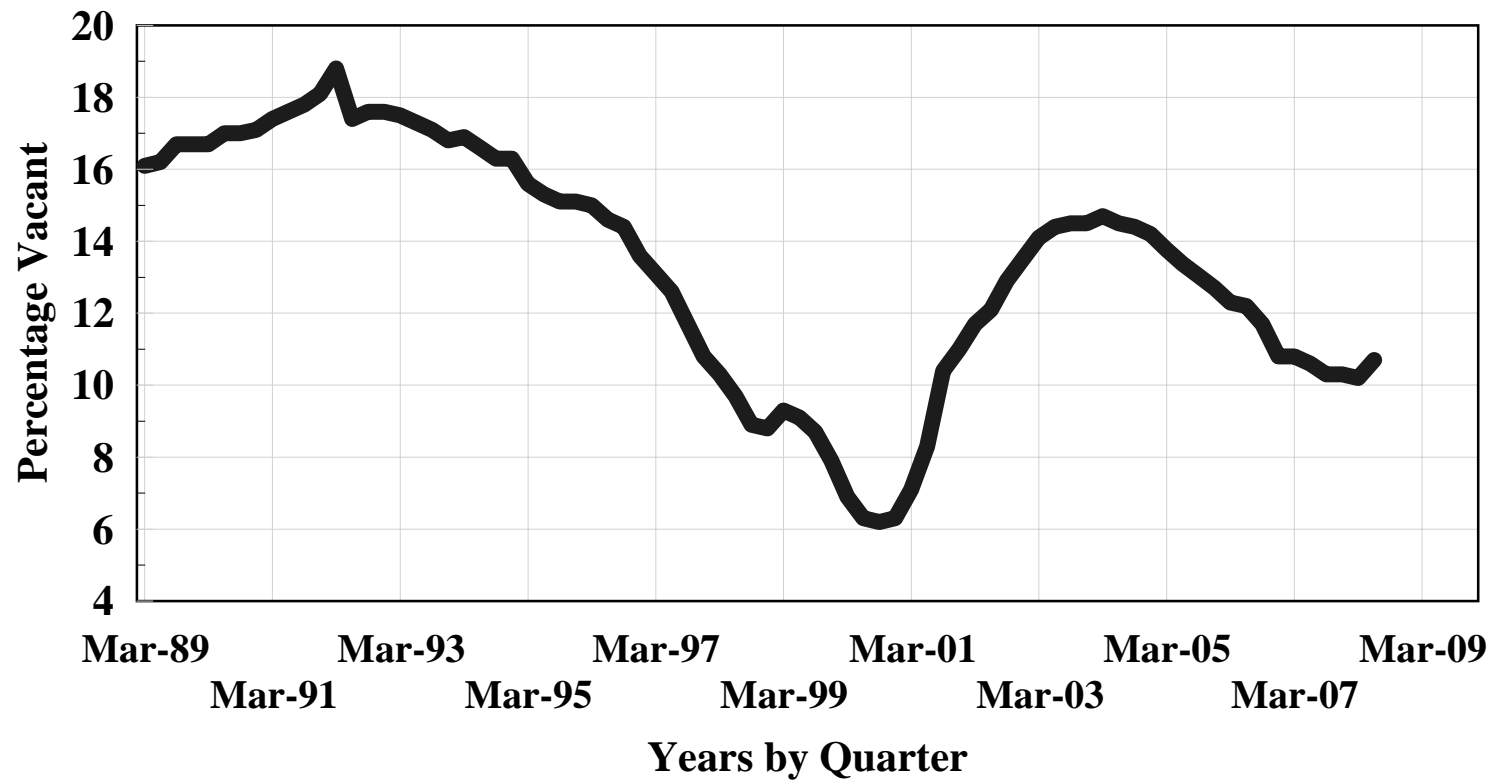
## United States Merchandise Trade Balances (2008)

Listed by Fifteen Largest Import Sources, \$Millions

<u>Country</u>	<u>2008 To August (Ann.)</u>	<u>Percentage of Total</u>	<u>Cumulative</u>
<b>1 Canada</b>	<b>(\$81,583)</b>	<b>9.84%</b>	<b>9.84%</b>
<b>2 China</b>	<b>(\$251,511)</b>	<b>30.33%</b>	<b>40.16%</b>
<b>3 Mexico</b>	<b>(\$70,556)</b>	<b>8.51%</b>	<b>48.67%</b>
<b>4 Japan</b>	<b>(\$76,184)</b>	<b>9.19%</b>	<b>57.86%</b>
<b>5 Germany</b>	<b>(\$45,720)</b>	<b>5.51%</b>	<b>63.37%</b>
<b>6 United Kingdom</b>	<b>(\$3,134)</b>	<b>0.38%</b>	<b>63.75%</b>
<b>7 Saudi Arabia</b>	<b>(\$49,1816)</b>	<b>5.93%</b>	<b>69.68%</b>
<b>8 Venezuela</b>	<b>(\$45,275)</b>	<b>5.46%</b>	<b>75.14%</b>
<b>9 Korea</b>	<b>(\$12,068)</b>	<b>1.46%</b>	<b>76.59%</b>
<b>10 France</b>	<b>(\$14,588)</b>	<b>1.76%</b>	<b>78.35%</b>
<b>11 Nigeria</b>	<b>(\$39,872)</b>	<b>4.81%</b>	<b>83.16%</b>
<b>12 Italy</b>	<b>(\$21,854)</b>	<b>2.64%</b>	<b>85.79%</b>
<b>13 Taiwan</b>	<b>(\$8,367)</b>	<b>1.01%</b>	<b>86.80%</b>
<b>14 Malaysia</b>	<b>(\$18,722)</b>	<b>2.26%</b>	<b>89.06%</b>
<b>15 Brazil</b>	<b>\$1,895</b>	<b>(0.23)%</b>	<b>88.83%</b>

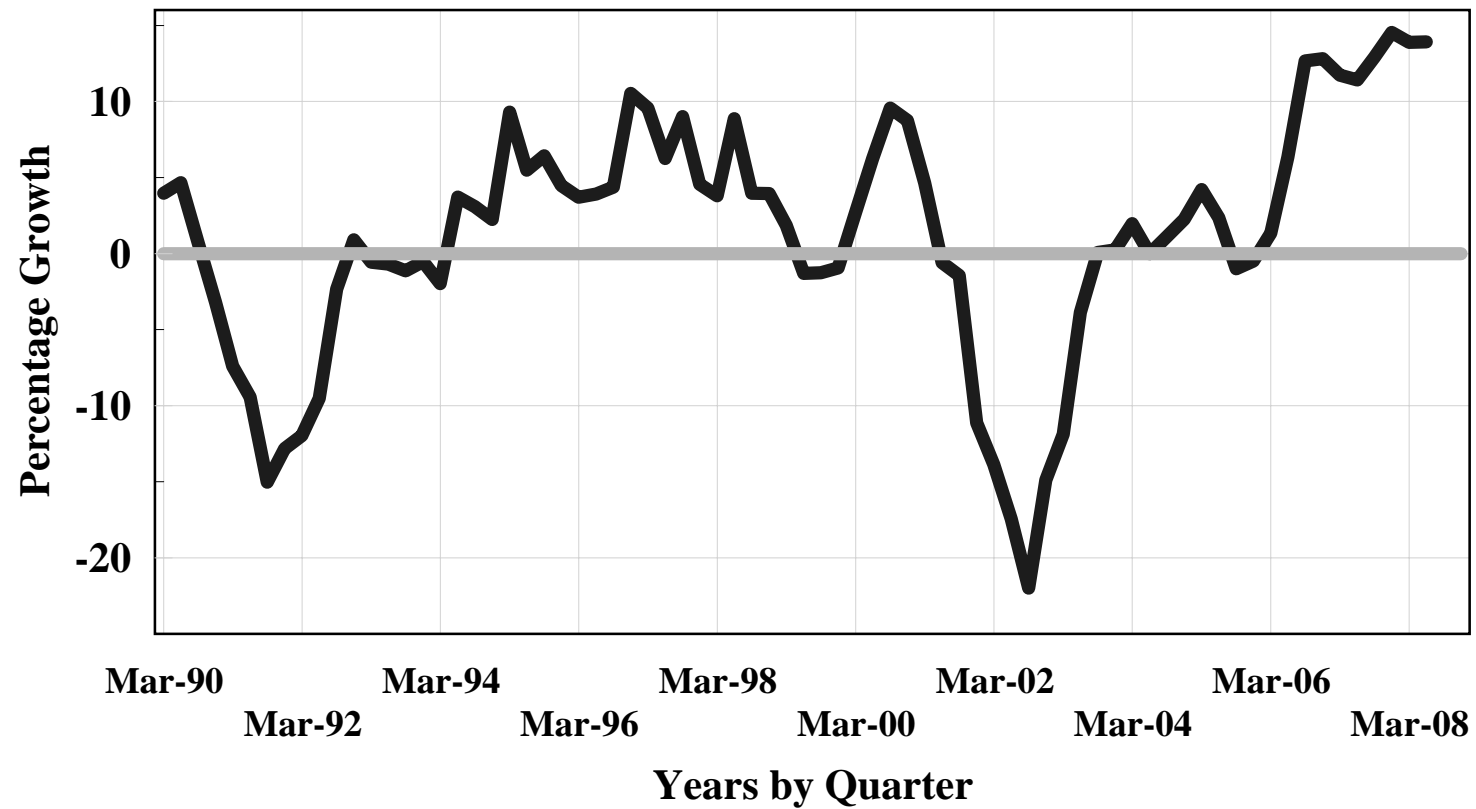
# Commercial Office Vacancy Rate

Major Downtown Centers; Source: CB Richard Ellis



# Growth of Real Nonresidential Construction

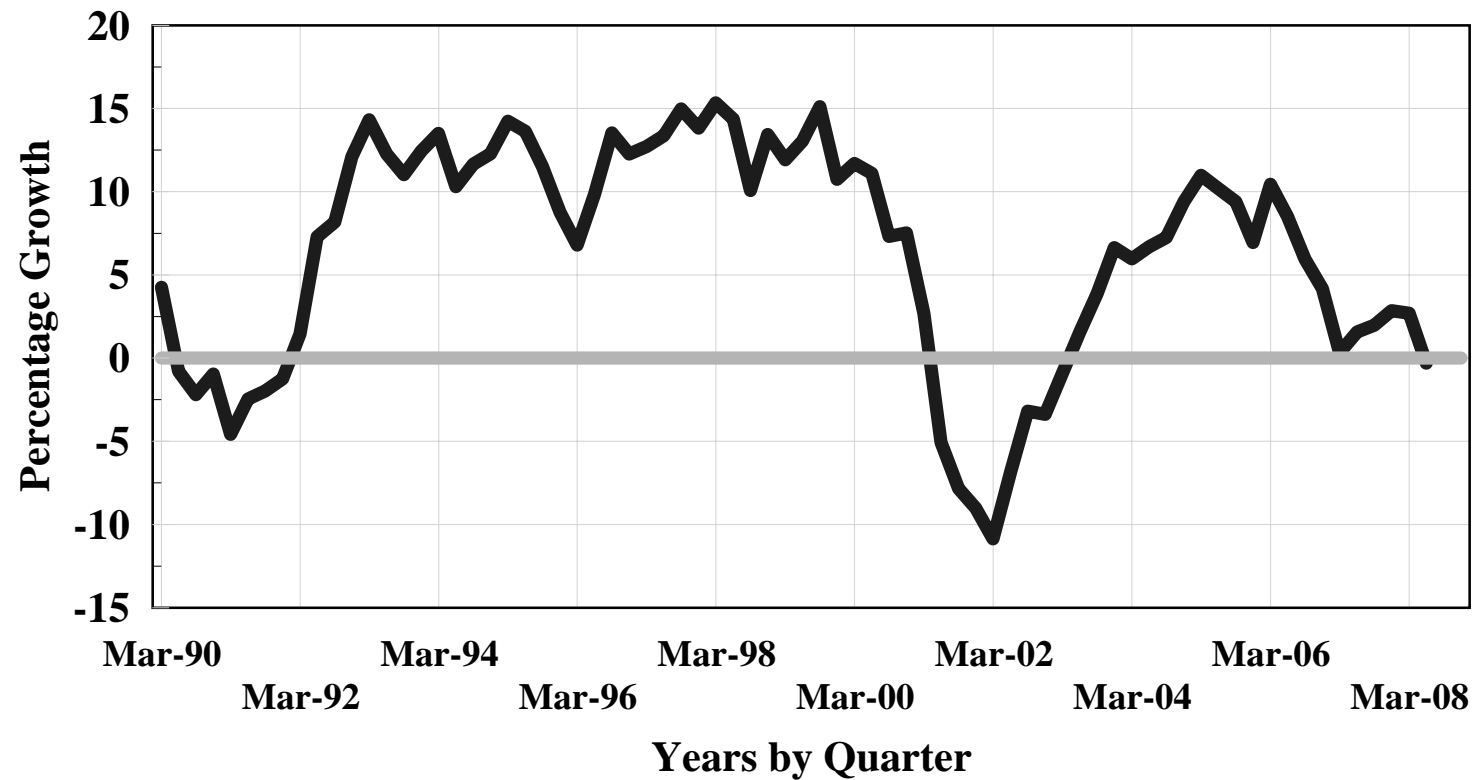
Year to Year Percentage Change





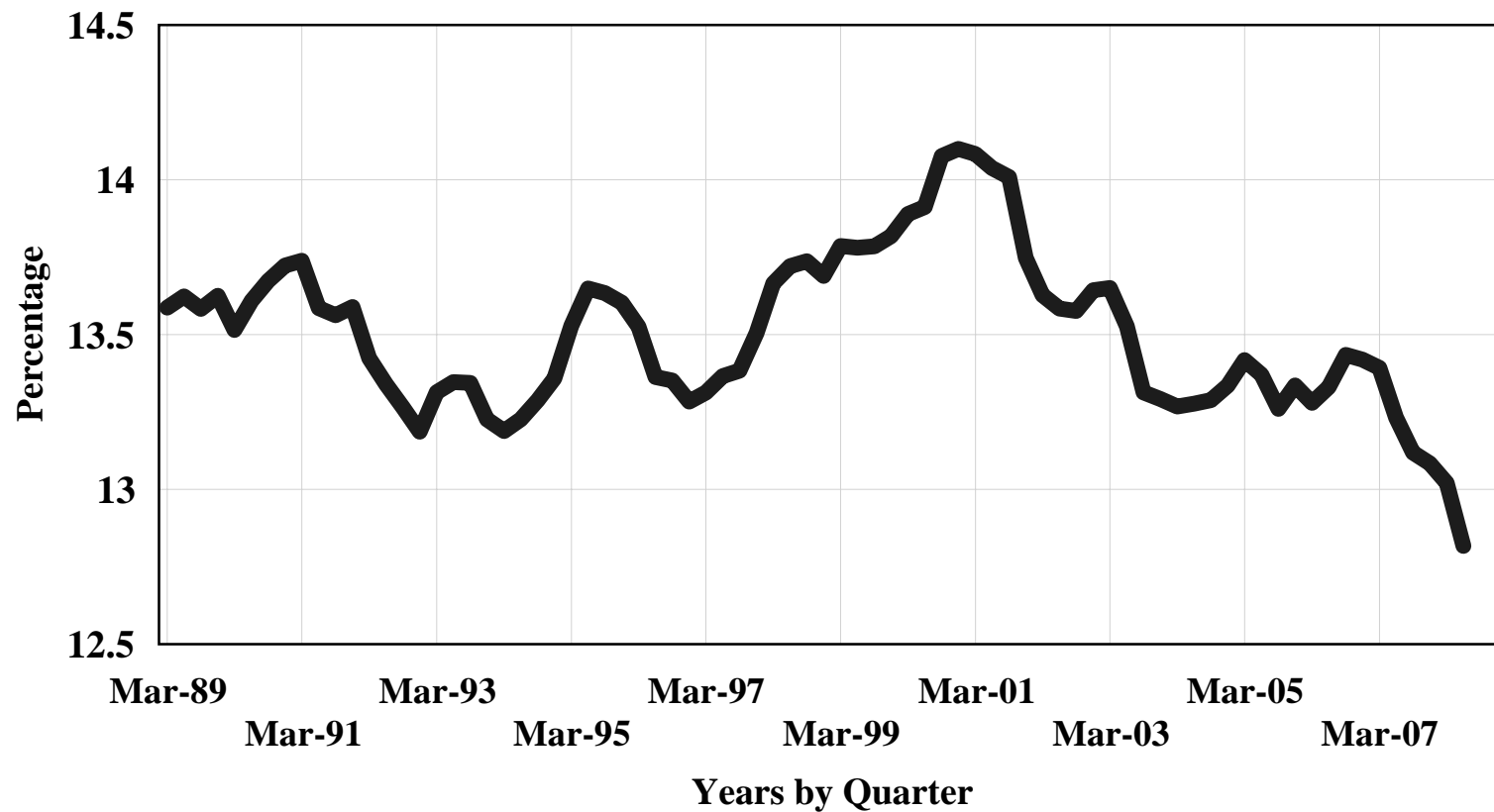
# Growth of Real Producers Durable Equipment

## Year to Year Percentage Change



# Real Nonfarm Inventory Level

## As a Percentage of U.S. Real Gross Domestic Product

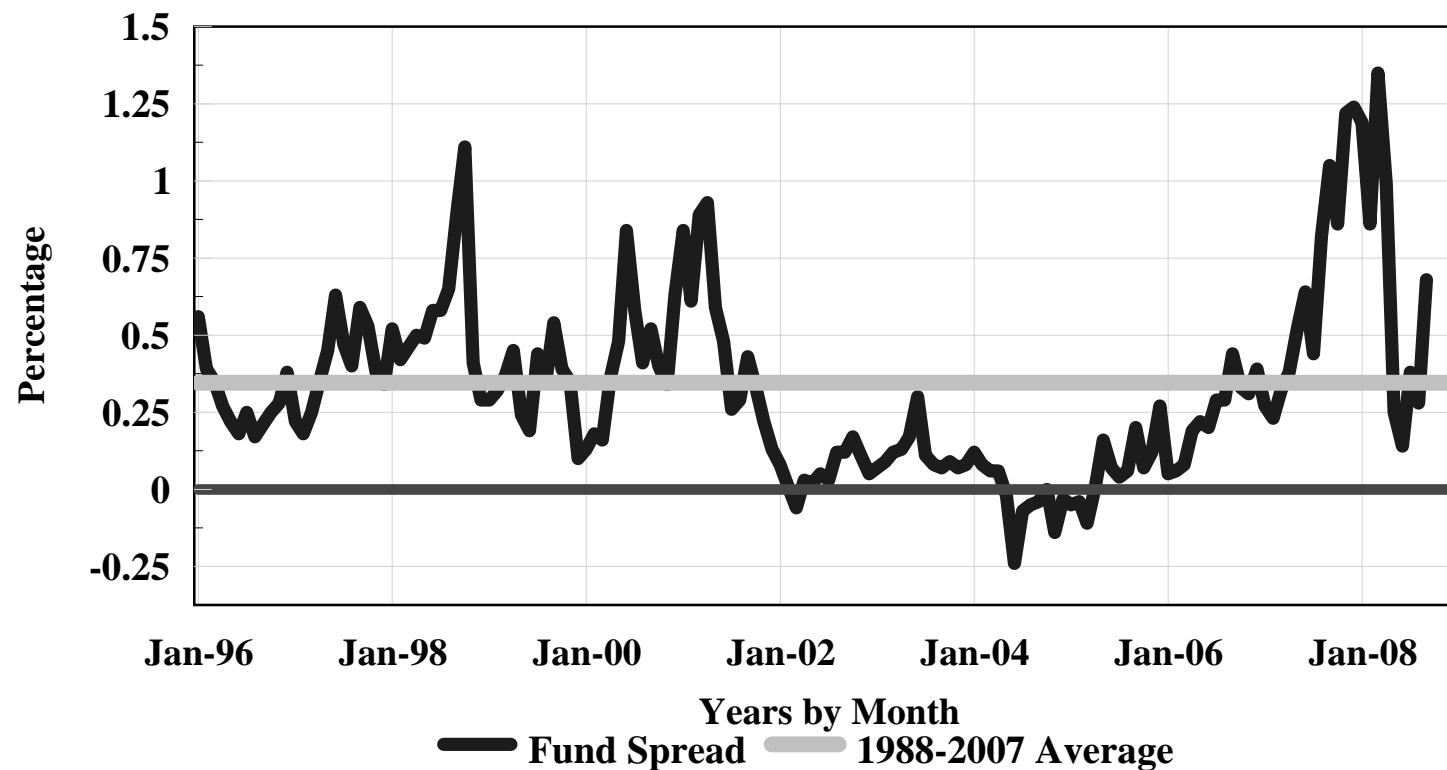


# **What Will Be the Next Black Swan?**

**(Nassim Nicholas Taleb)**

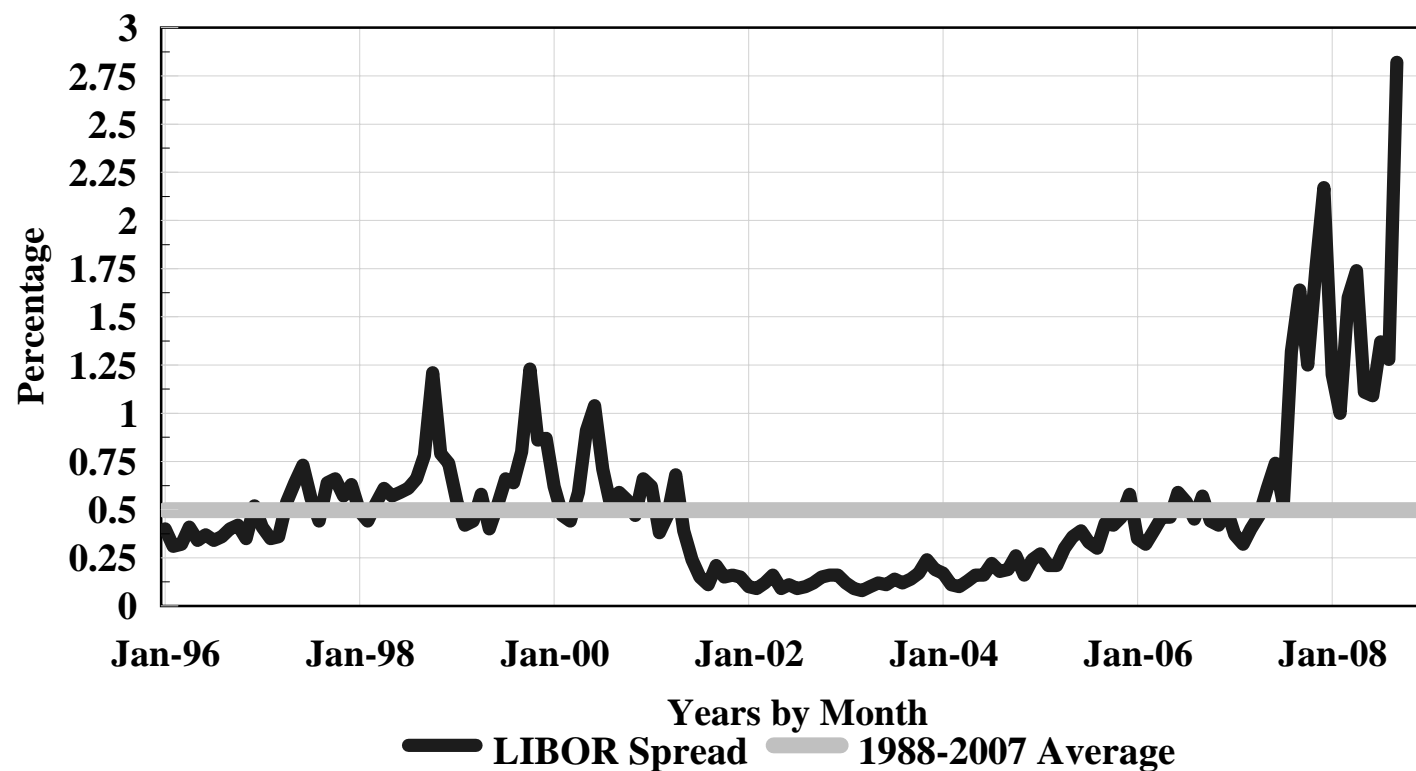


# The Spread Between the Federal Funds Rate And the Discount on 91-Day Treasury Bills

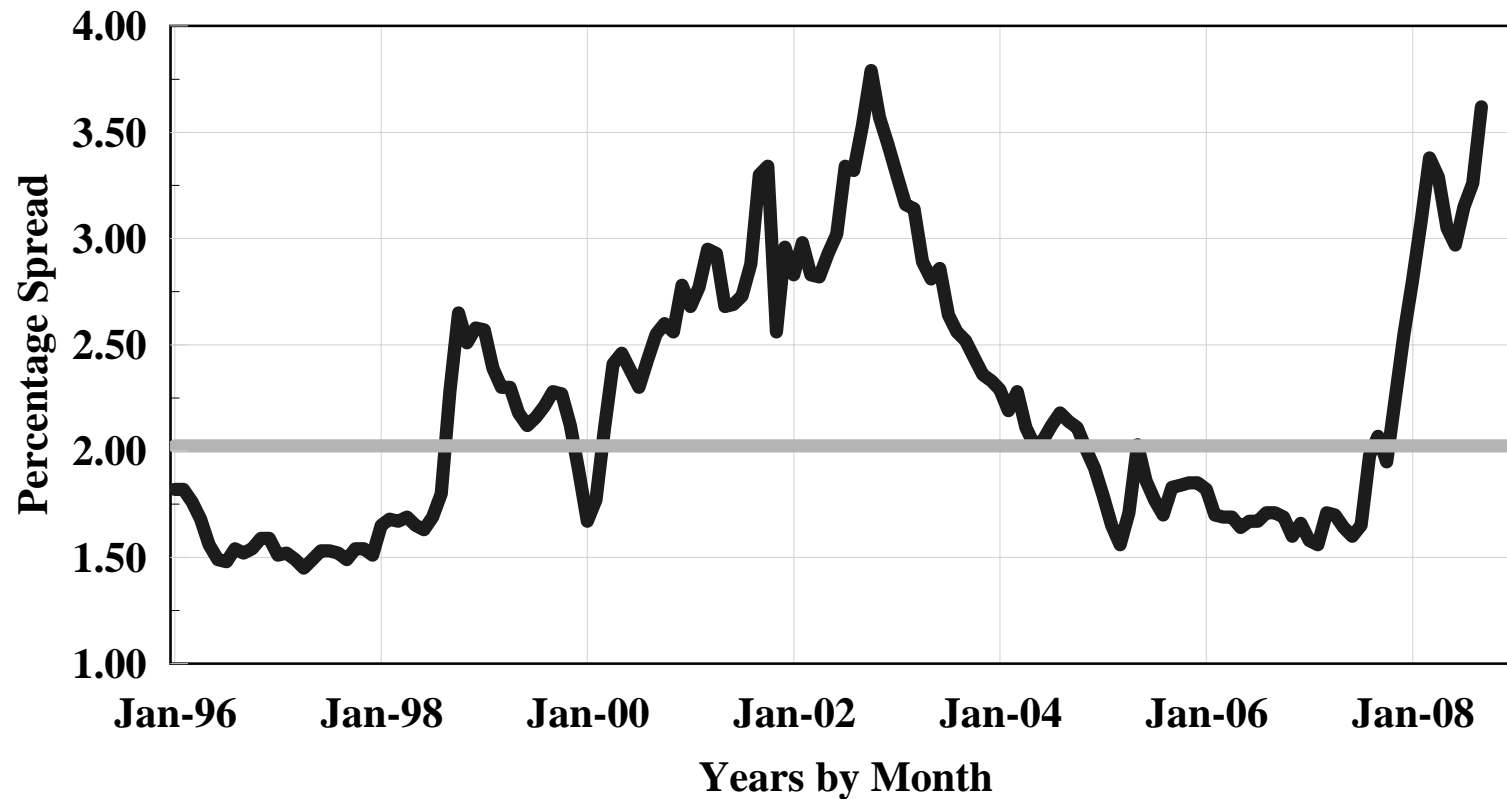


# The Spread Between LIBOR

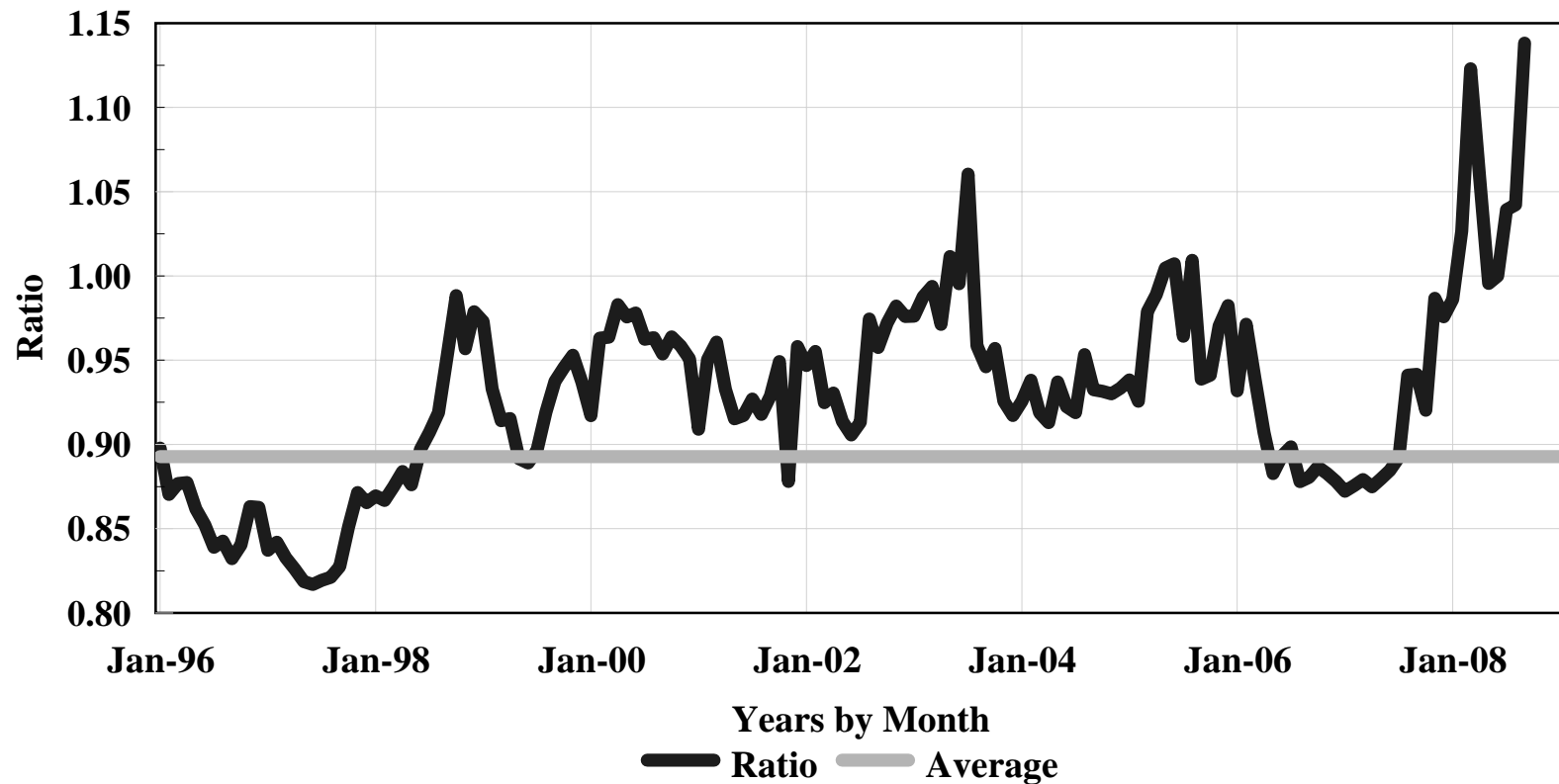
## And the Discount on 91-Day Treasury Bills



## Spread Between Baa Corporate and Government Yields Ten Year Treasury; Plotted With 1988-2007 Average Spread=2.024

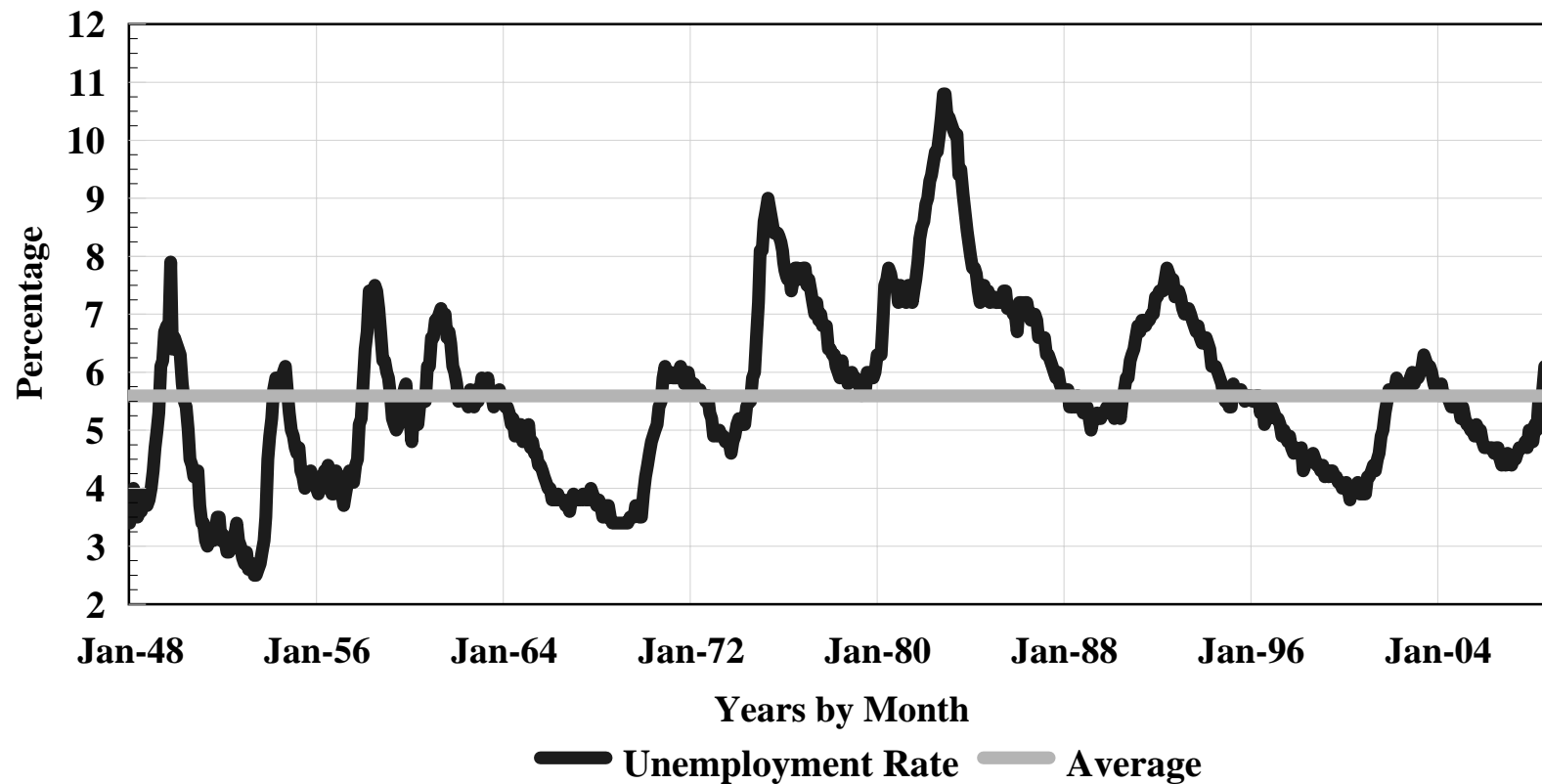


## The Ratio of Municipal to Treasury 30-Year Yields Plotted With 1988-2007 Average Ratio=0.893



# Civilian Unemployment Rate

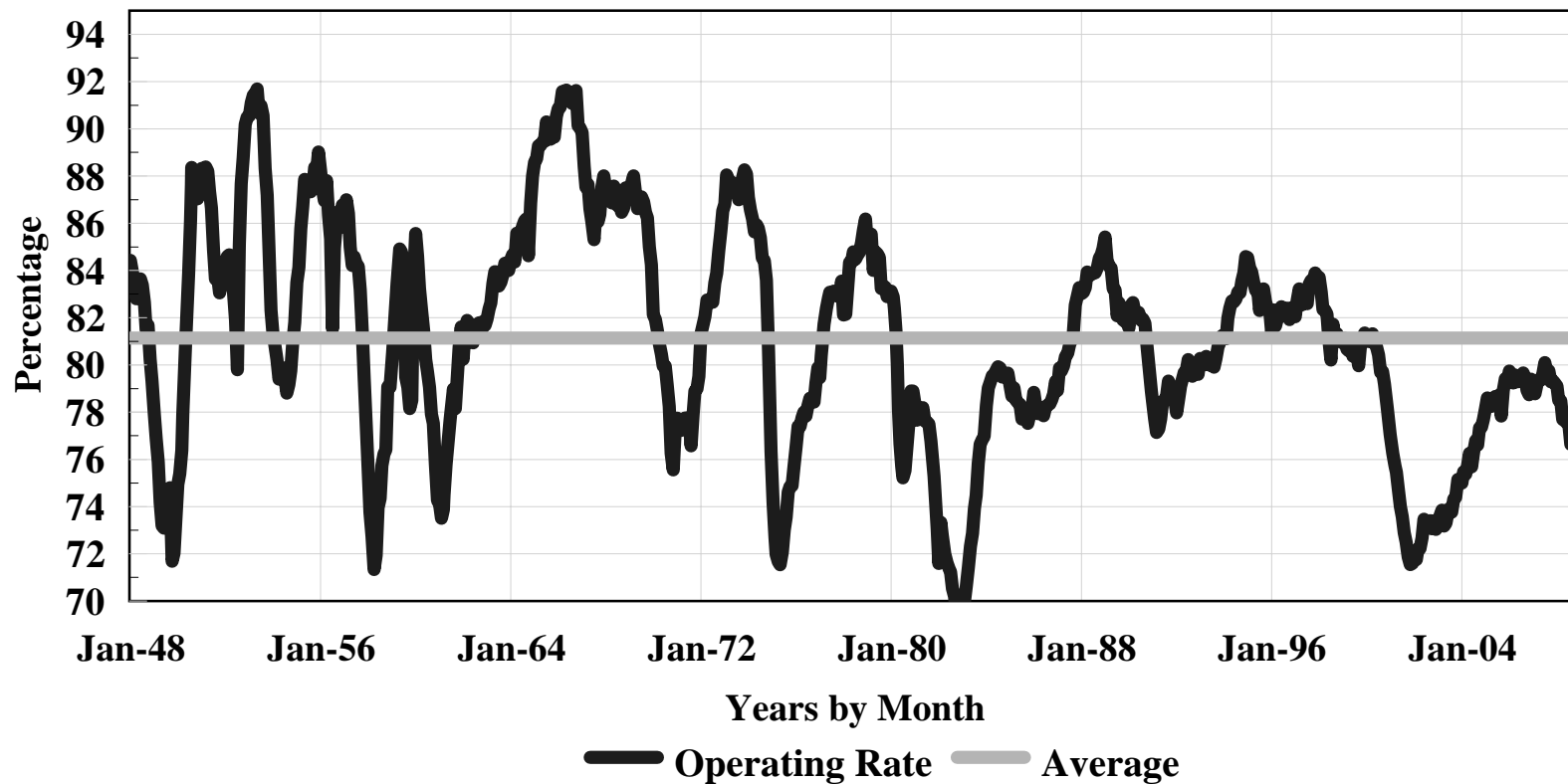
Plotted with 1948 to 2008 Average (5.59%)





# Manufacturing Operating Rate (SIC)

Plotted with 1948 to 2008 Average (81.13%)



# This Black Swan Destabilized Europe

## (The Fourth Bubble)



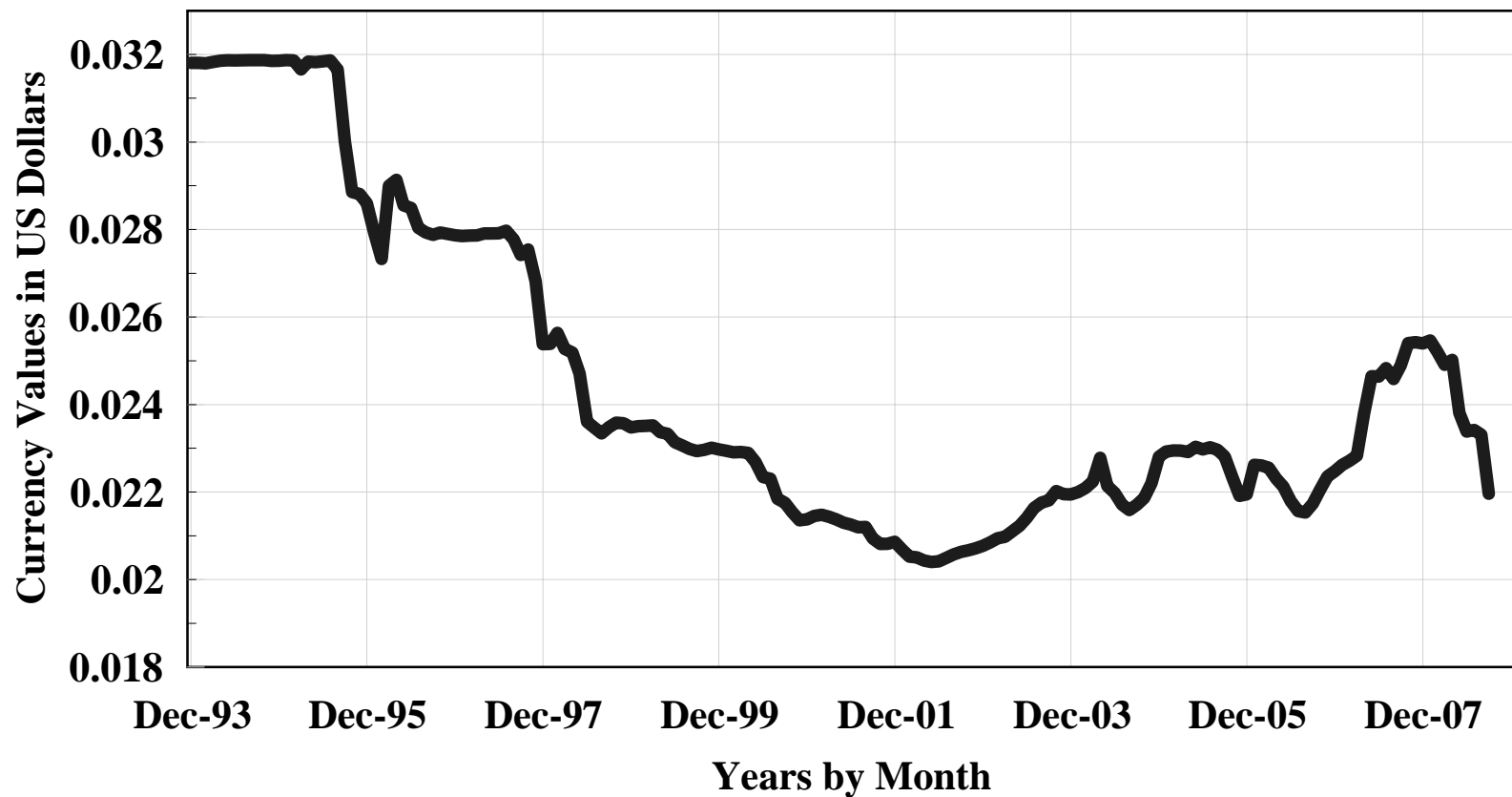
- Iceland allowed its banking system to be run as a massive hedge fund
- The collapse of their banks has infected all of Europe, particularly Eastern Europe.

# **The BRICs (The Fifth Bubble)**

- ▶ **China**
- ▶ **Russia**
- ▶ **India**
- ▶ **Brazil**
- ▶ **and their impacts on World Demand Growth**
- ▶ **The assumptions about the growth of the BRIC countries are highly dependent on growth of the industrial world.**
- ▶ **A credit slump in industrial countries will have magnified feedback effects on the BRICs, and on commodity exporters.**

# The Value of the Indian Rupee

U.S. Dollars per Indian Rupee



# GDP Growth Rates

IMF World Economic Outlook, October 2008

	2005	2006	2007	2008	2009
Canada	3.1	3.1	2.7	0.7	1.2
United States	3.0	2.8	2.0	1.6	0.1
Mexico	2.8	4.8	3.3	2.0	2.3
Britain	1.8	2.8	3.0	1.0	(0.1)
Euro Area	1.6	2.8	2.6	1.3	0.2
Japan	1.9	2.4	2.1	0.7	0.5
China	10.4	11.6	11.9	9.7	9.3
Russia	6.4	7.4	8.1	7.0	5.5
India	9.1	9.8	9.3	7.9	6.9
Brazil	3.2	3.8	5.4	5.2	3.5
South Africa	5.0	5.4	5.1	3.8	3.3
World	4.5	5.1	5.0	3.9	3.0

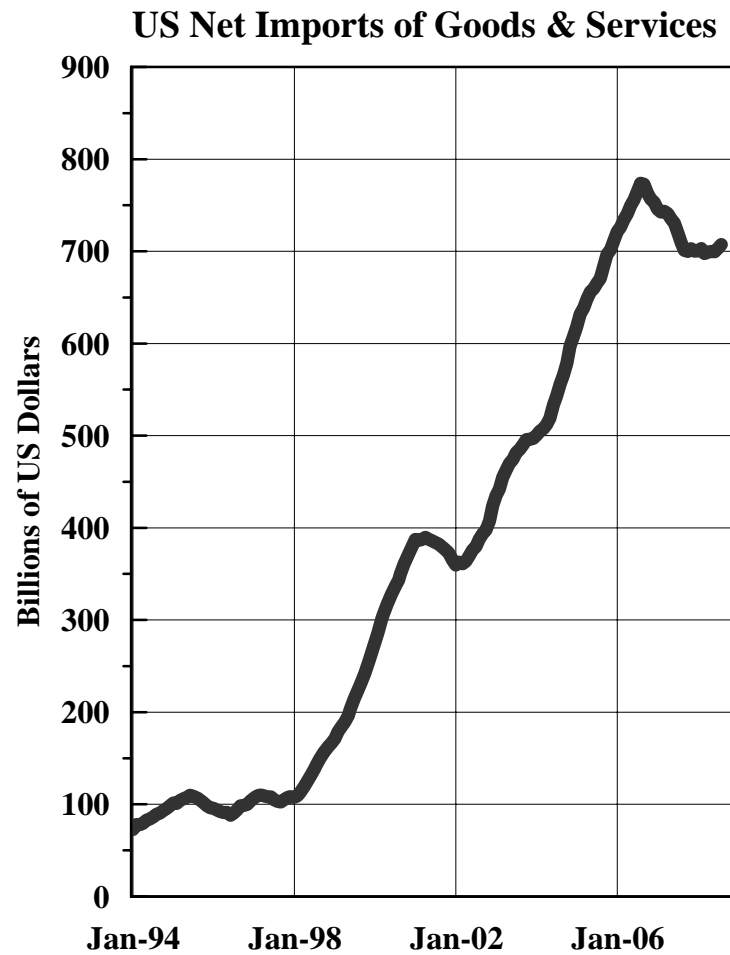
# National CPI Inflation Rates

IMF World Economic Outlook, October 2008

	2005	2006	2007	2008	2009
<b>Canada</b>	<b>2.2</b>	<b>2.0</b>	<b>2.1</b>	<b>2.5</b>	<b>2.1</b>
<b>United States</b>	<b>2.3</b>	<b>2.4</b>	<b>2.2</b>	<b>3.6</b>	<b>2.0</b>
<b>Mexico</b>	<b>4.0</b>	<b>3.6</b>	<b>4.0</b>	<b>4.9</b>	<b>4.2</b>
<b>Britain</b>	<b>2.0</b>	<b>2.3</b>	<b>2.3</b>	<b>3.8</b>	<b>2.9</b>
<b>Euro Area</b>	<b>2.2</b>	<b>2.2</b>	<b>2.1</b>	<b>3.5</b>	<b>1.9</b>
<b>Japan</b>	<b>-0.3</b>	<b>0.3</b>	<b>0.0</b>	<b>1.6</b>	<b>0.9</b>
<b>China</b>	<b>1.8</b>	<b>1.5</b>	<b>4.8</b>	<b>6.4</b>	<b>4.3</b>
<b>Russia</b>	<b>12.7</b>	<b>9.7</b>	<b>9.0</b>	<b>14.0</b>	<b>12.0</b>
<b>India</b>	<b>4.2</b>	<b>6.2</b>	<b>6.4</b>	<b>7.9</b>	<b>6.7</b>
<b>Brazil</b>	<b>6.9</b>	<b>4.2</b>	<b>3.6</b>	<b>5.7</b>	<b>5.1</b>
<b>South Africa</b>	<b>3.4</b>	<b>4.7</b>	<b>7.1</b>	<b>11.8</b>	<b>8.0</b>
<b>Adv. Econs.</b>	<b>2.3</b>	<b>2.4</b>	<b>2.2</b>	<b>3.6</b>	<b>2.0</b>

# Global Supply Chain Spending

## (The Sixth Bubble)

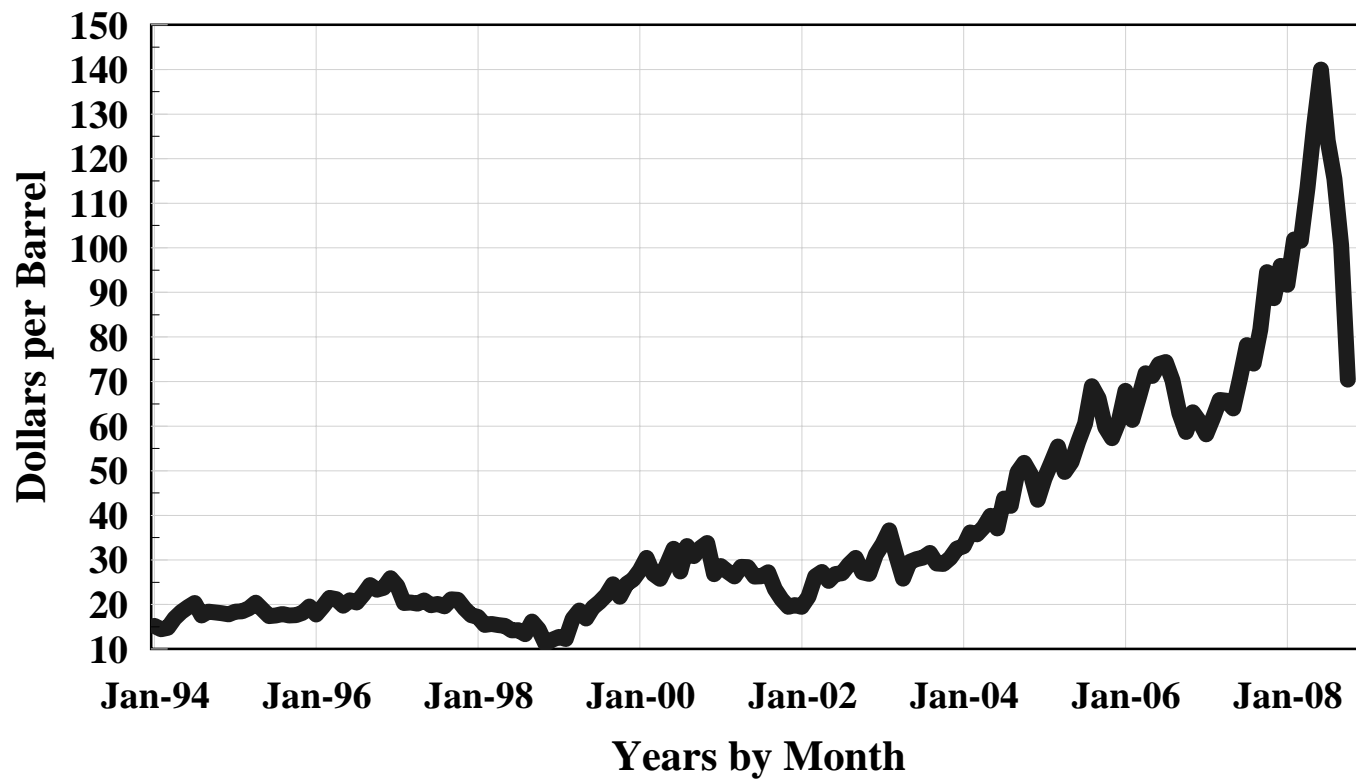


► Industrial country credit contraction will shrink incomes and credit availability in the developing world:

- Outsourcing facilities and communications
- Logistics, including ports warehouses, ships, containers, and air cargo facilities
- Power plant capacity
- Energy production and delivery capacity
- Hard commodity production and delivery capacity
- Soft commodity production and delivery capacity

# The Price of Crude Oil (WTI)

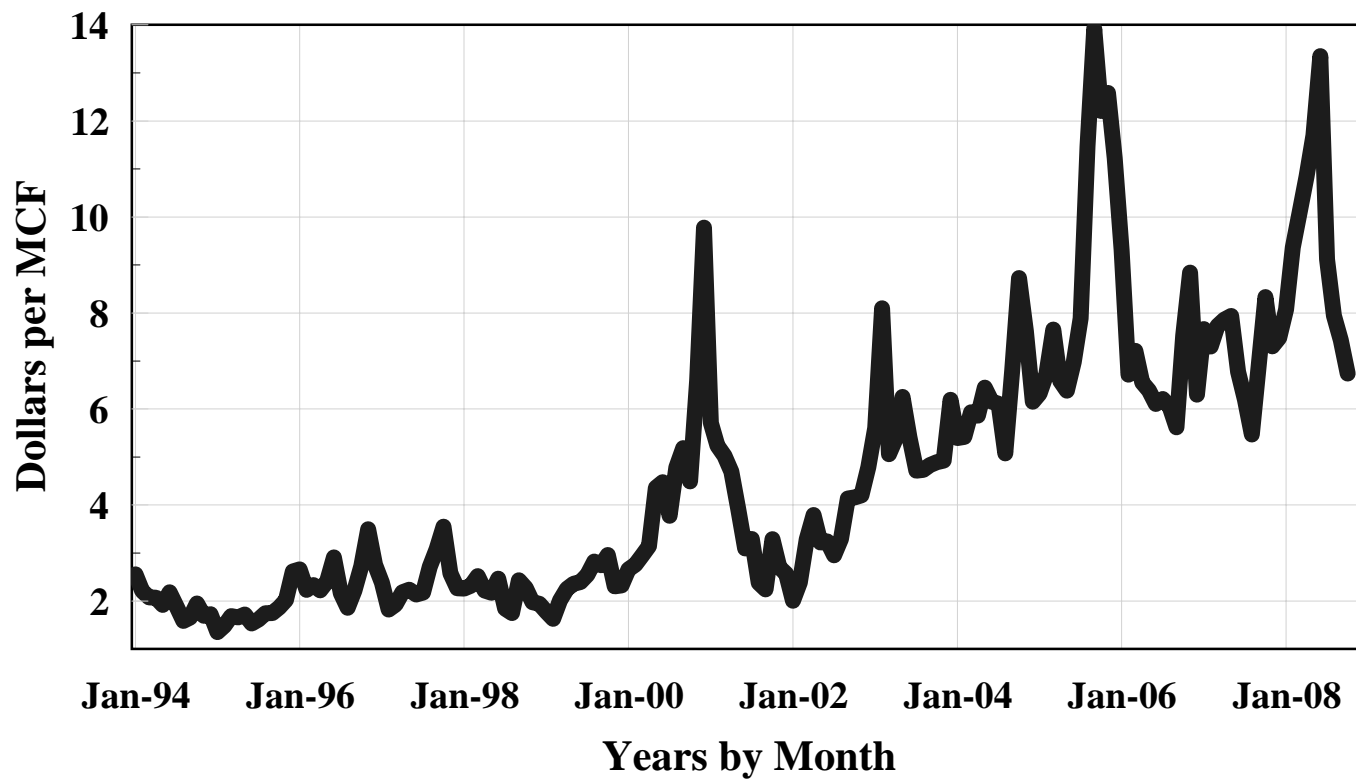
Dollars per Barrel





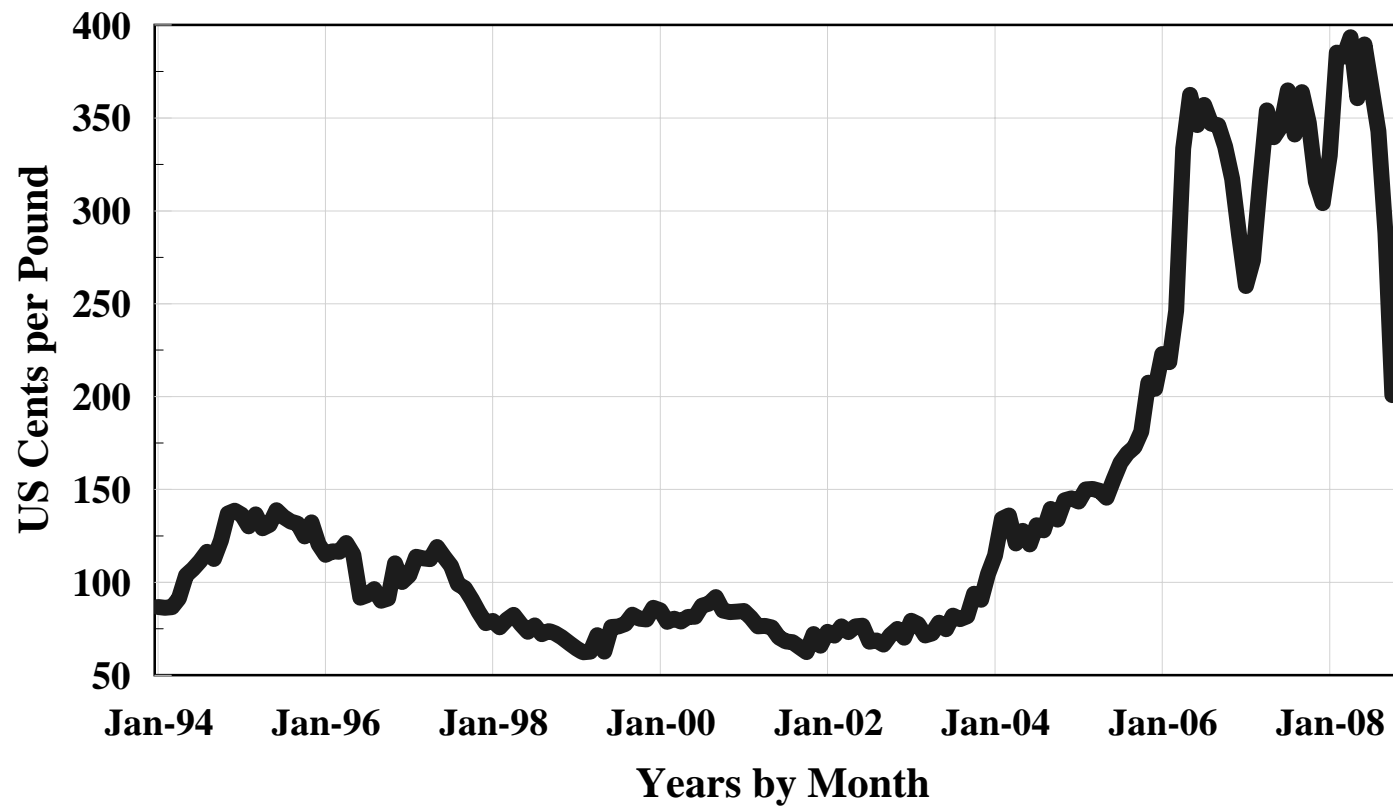
# The Price of Natural Gas

Dollars per MCF



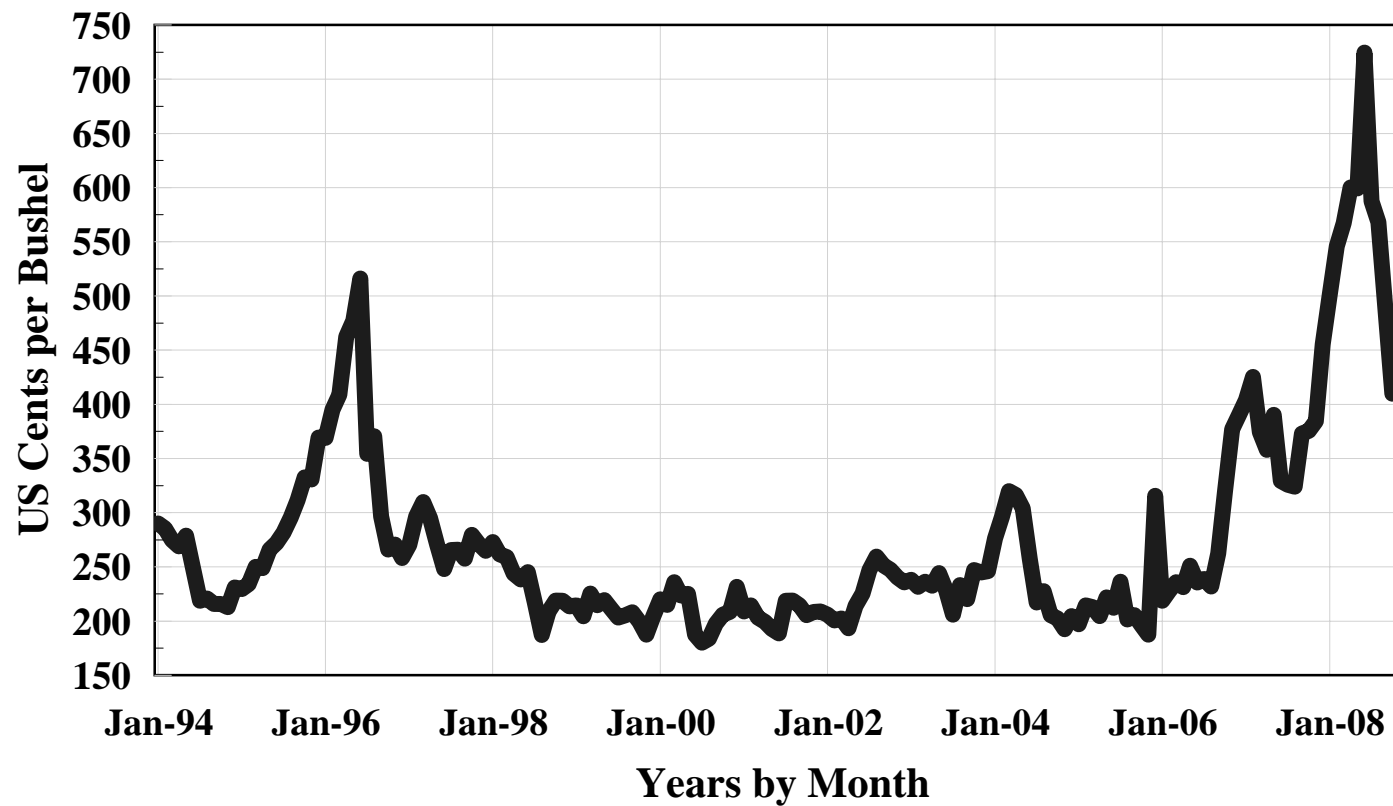
# The Price of Copper

US Cents per Pound



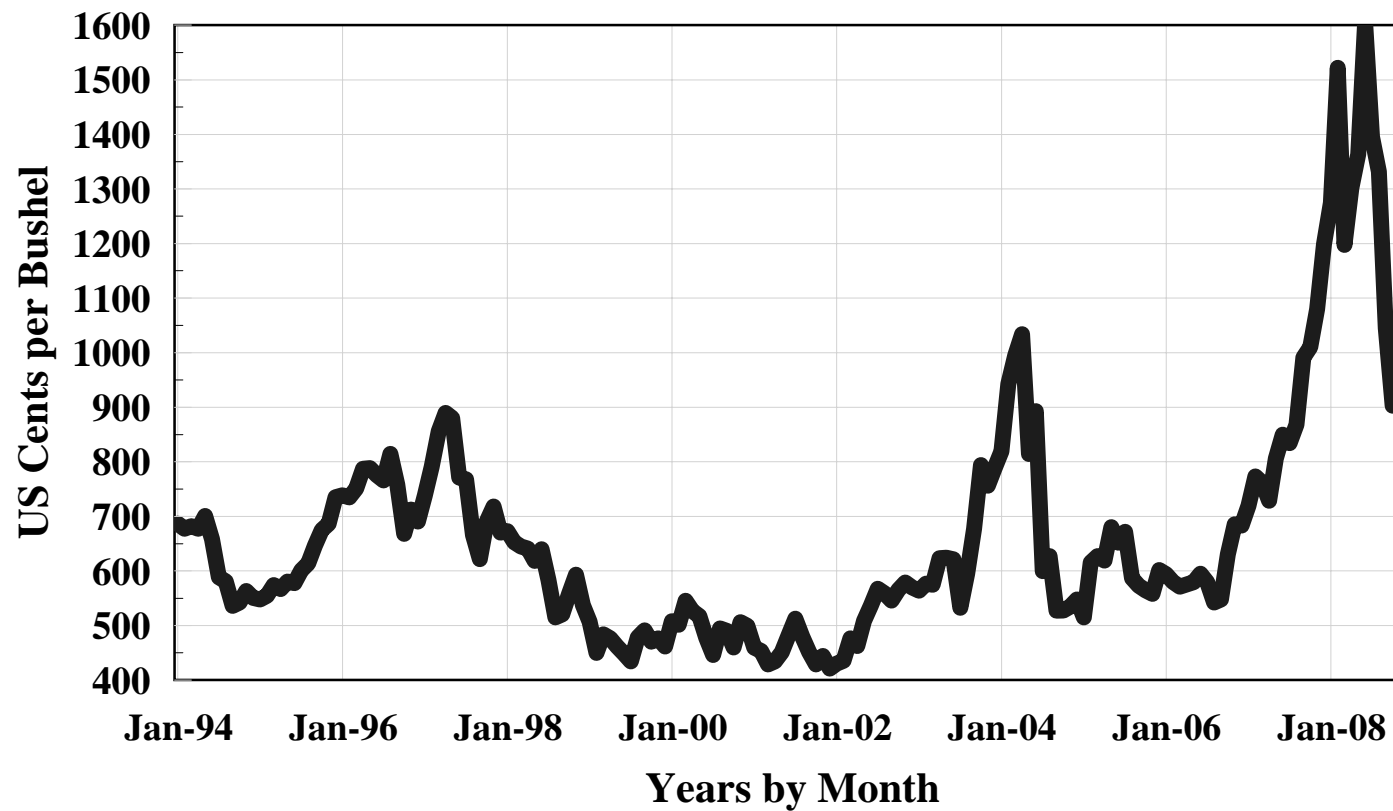
# The Price of Corn

US Cents per Bushel



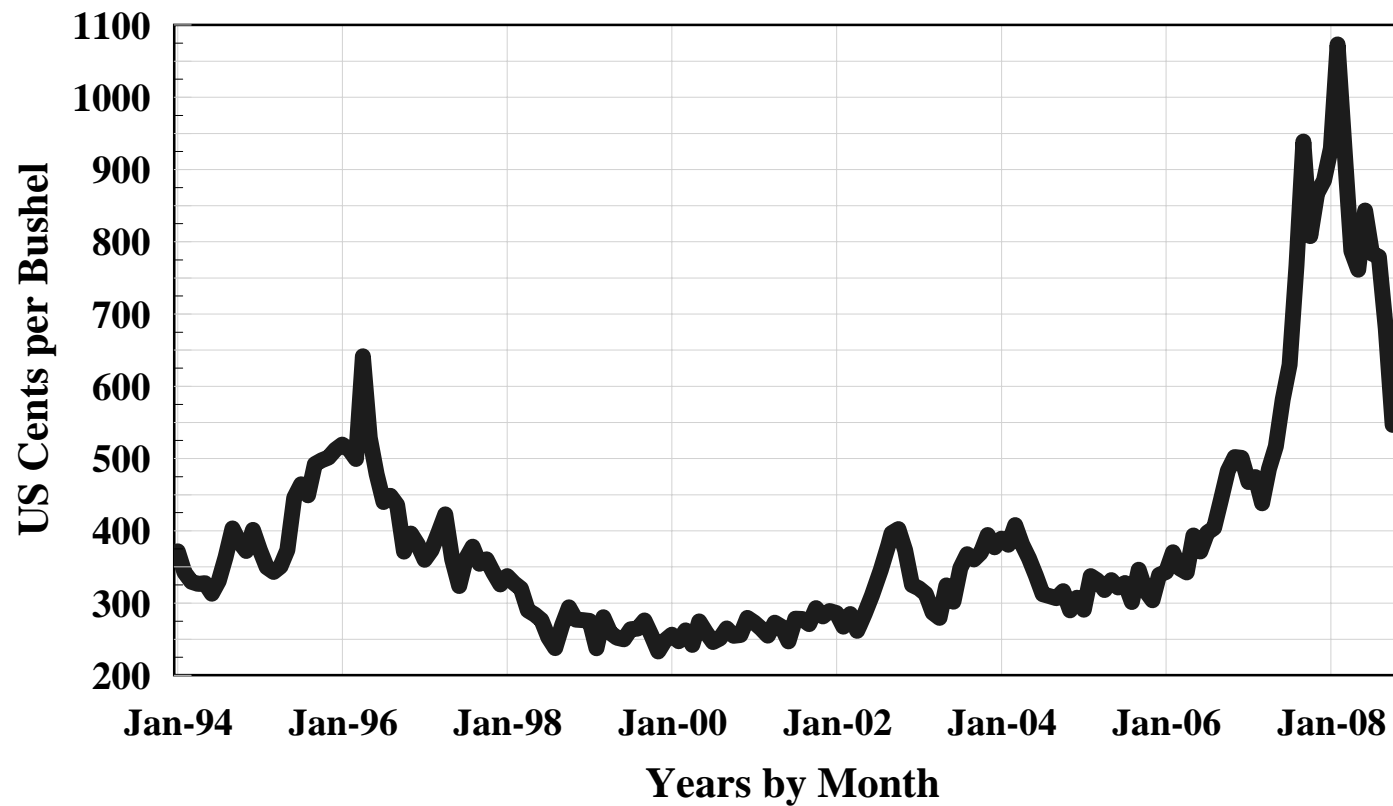
# The Price of Soybeans

US Cents per Bushel



# The Price of Wheat

US Cents per Bushel



**After the Credit Shocks,  
How Will the World be Different?  
Will the Extended Global  
Supply Chain Contract?**



**Wintonbury Risk Management**

# The Last Bubble?

Burj Dubai



Burj Nakheel



# The Last Bubble (continued)

Burj Mubarak

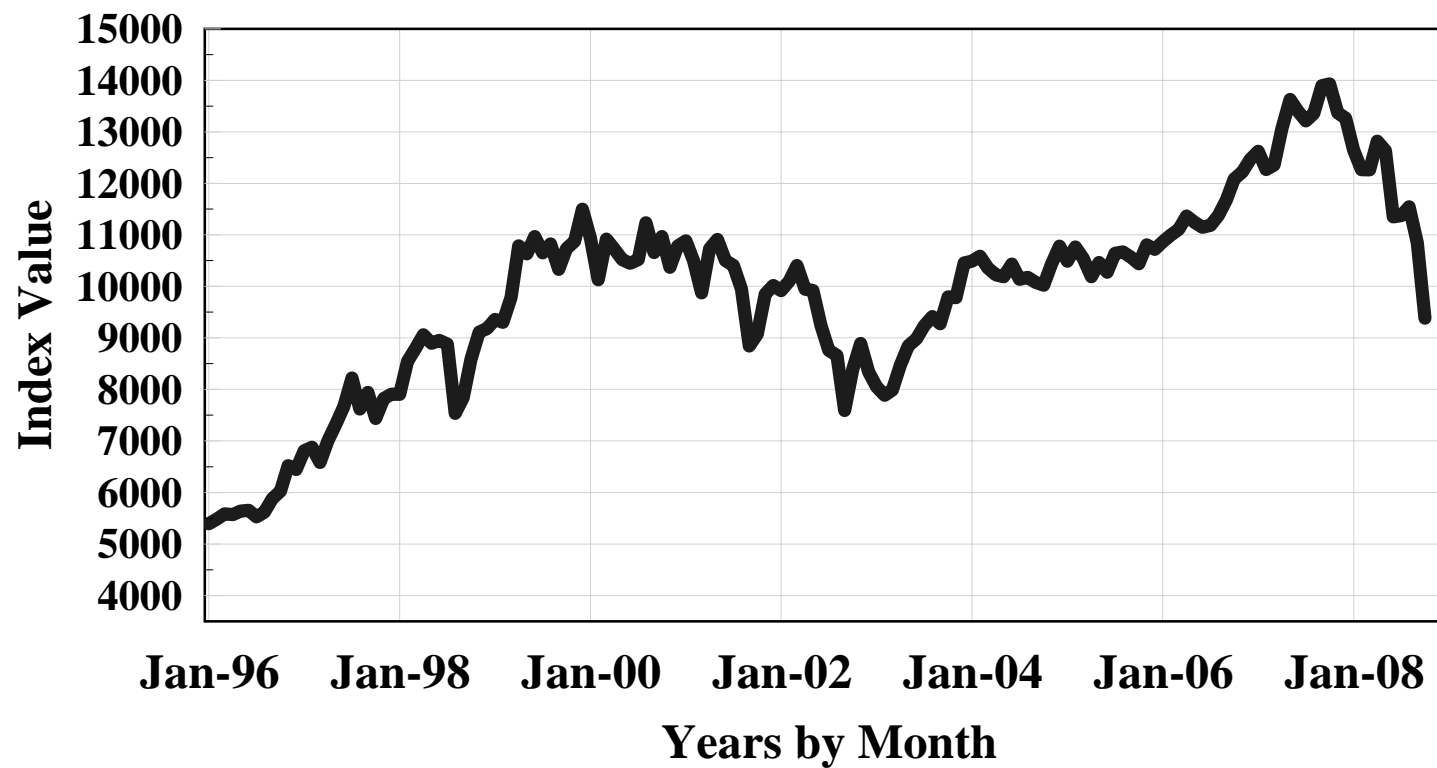


- ▶ A collapse of oil prices toward an historic normal of \$40 per barrel would threaten the financial stability of the Gulf Region because of the extreme real estate speculation.
- ▶ In addition to the three towers pictured, an even taller tower is being planned for Jeddah.



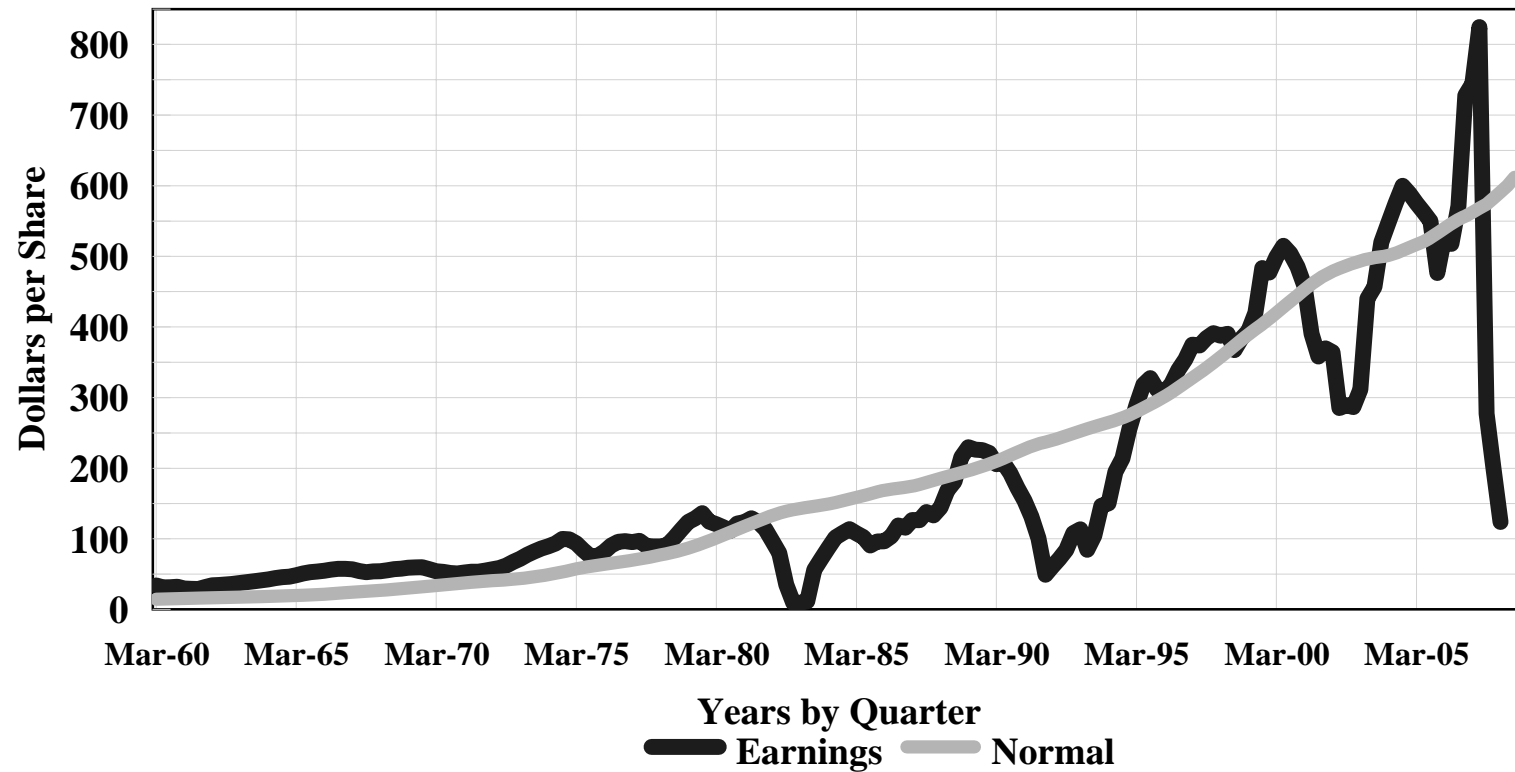
# Dow Jones Industrial Average

Stock Price Index



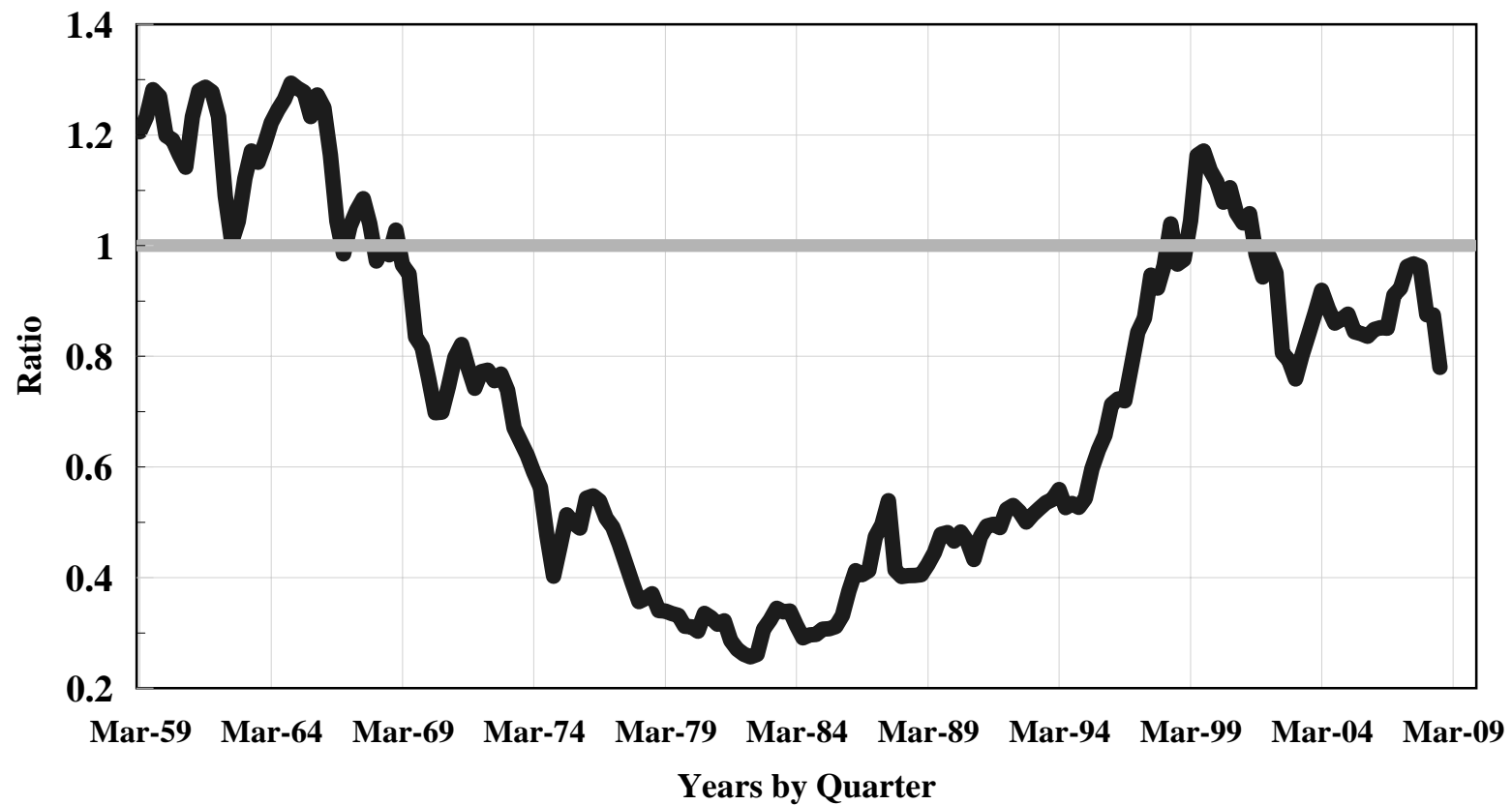
# Dow Jones Industrial Average

## Earnings and Normalized Earnings



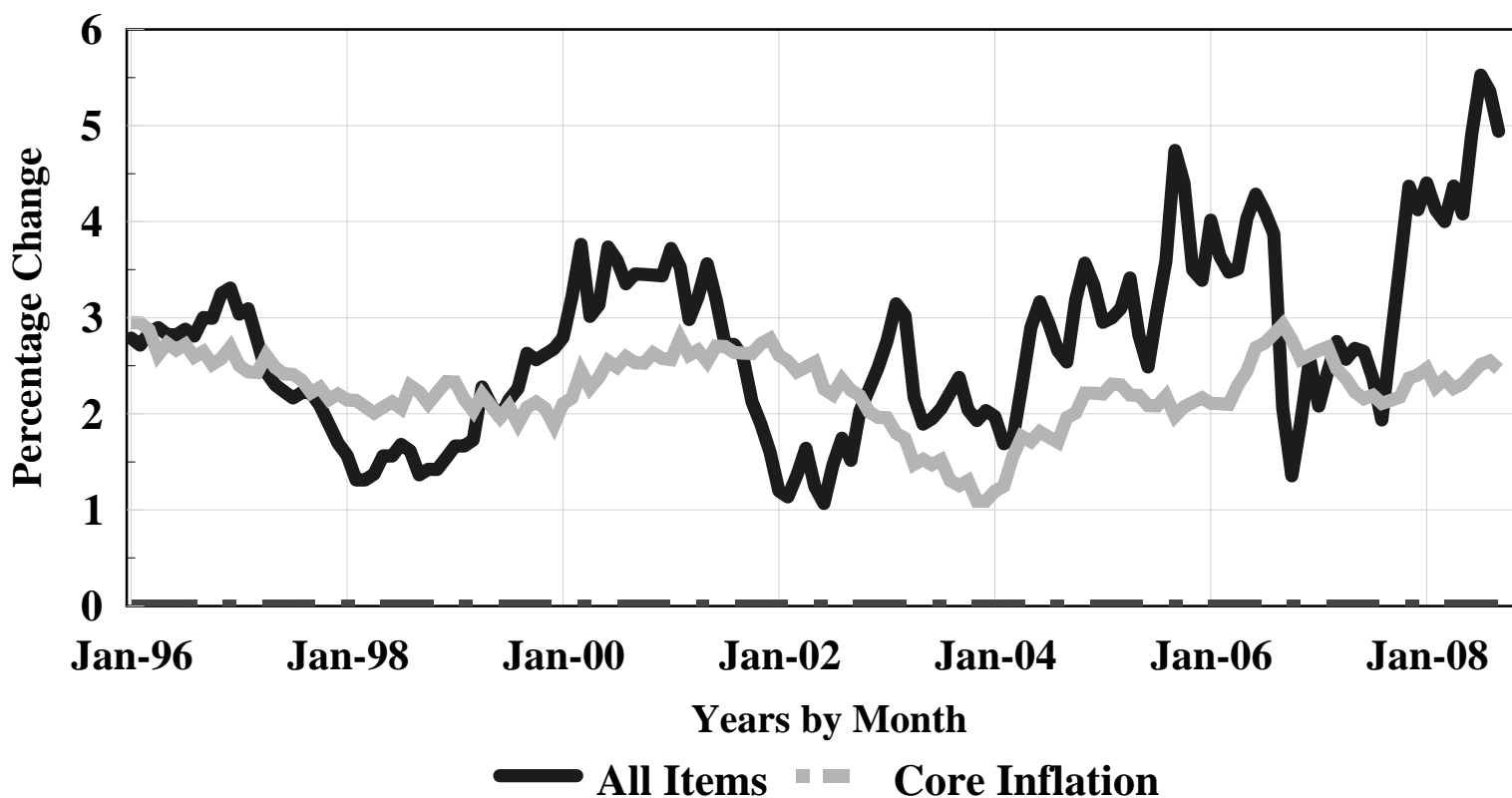
Wintonbury Risk Management

# Ratio of the Dow Jones Industrial Average To the U.S. Gross Domestic Product

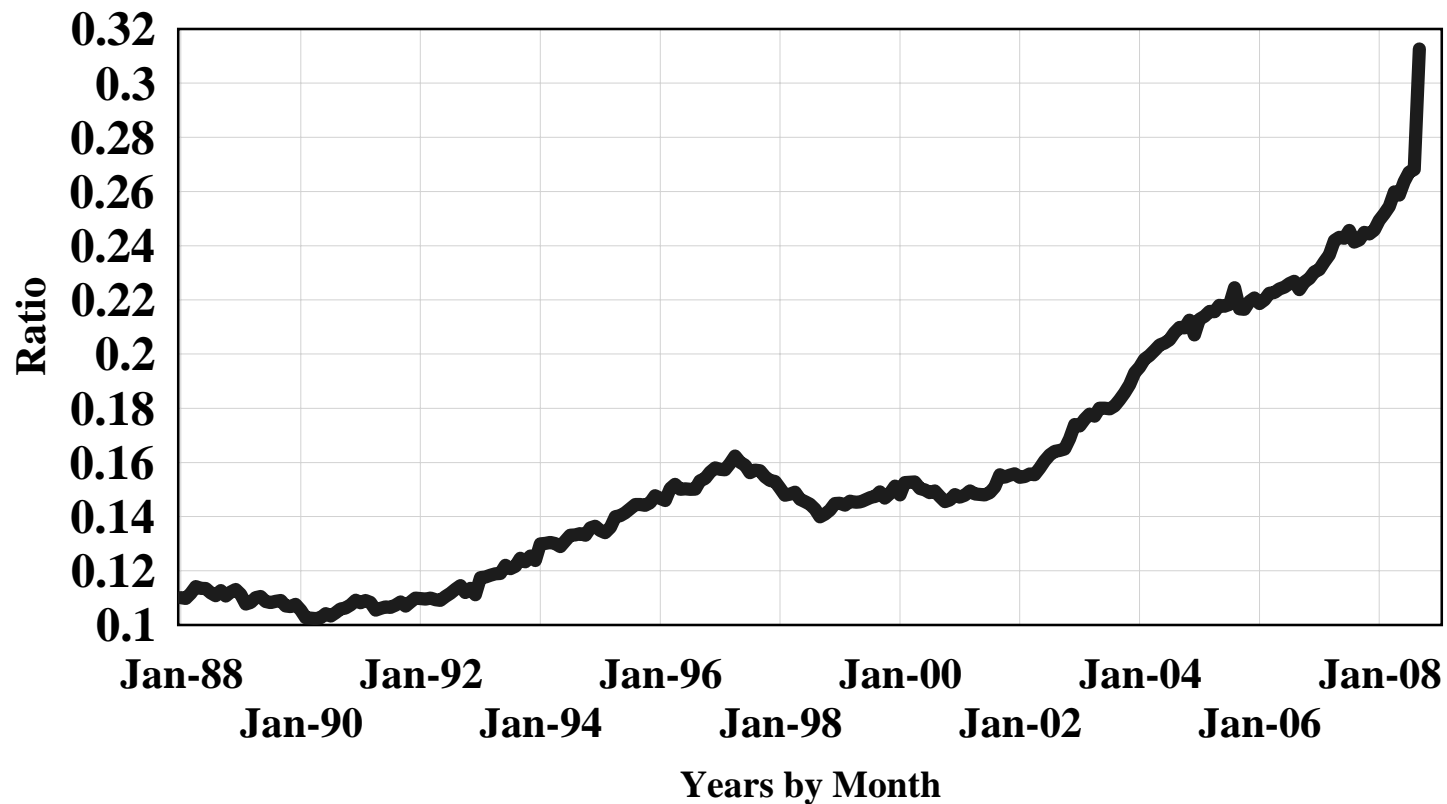


## Consumer Price Inflation--All Items and Core

### Year to Year Percentage Change



## Ratio of Reserve Bank Credit, Total Domestic & Foreign Source, to U.S. Personal Income



# **Add Your Own Bubbles to The List**

- ▶ **Global Warming**
- ▶ **Ethanol, Biodiesel, & Food Supply**
- ▶ **Windmills**
- ▶ **Etc.**



**Best Wishes  
For the Year Ahead!**



**Wintonbury Risk Management**





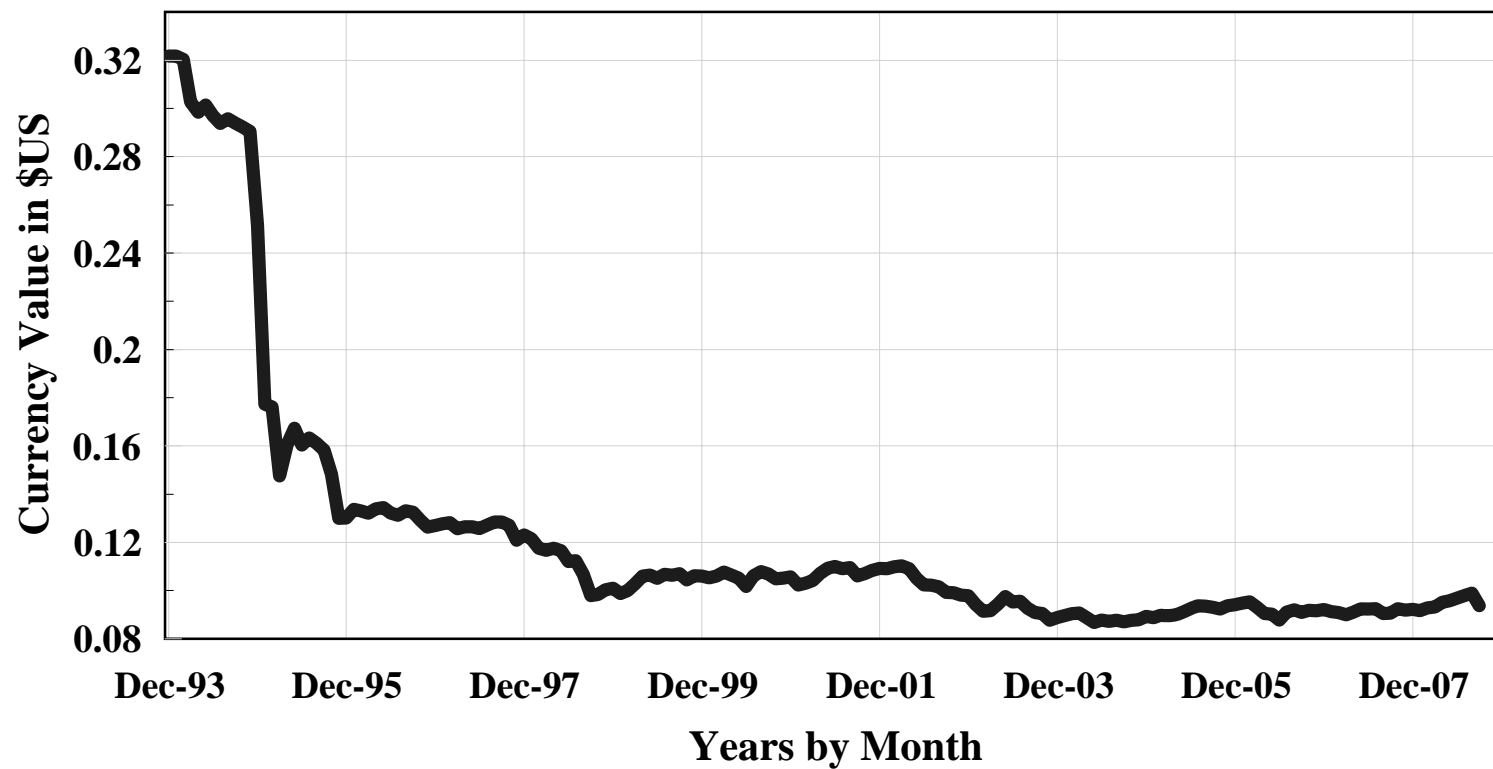
# Supplemental Slides



**Wintonbury Risk Management**

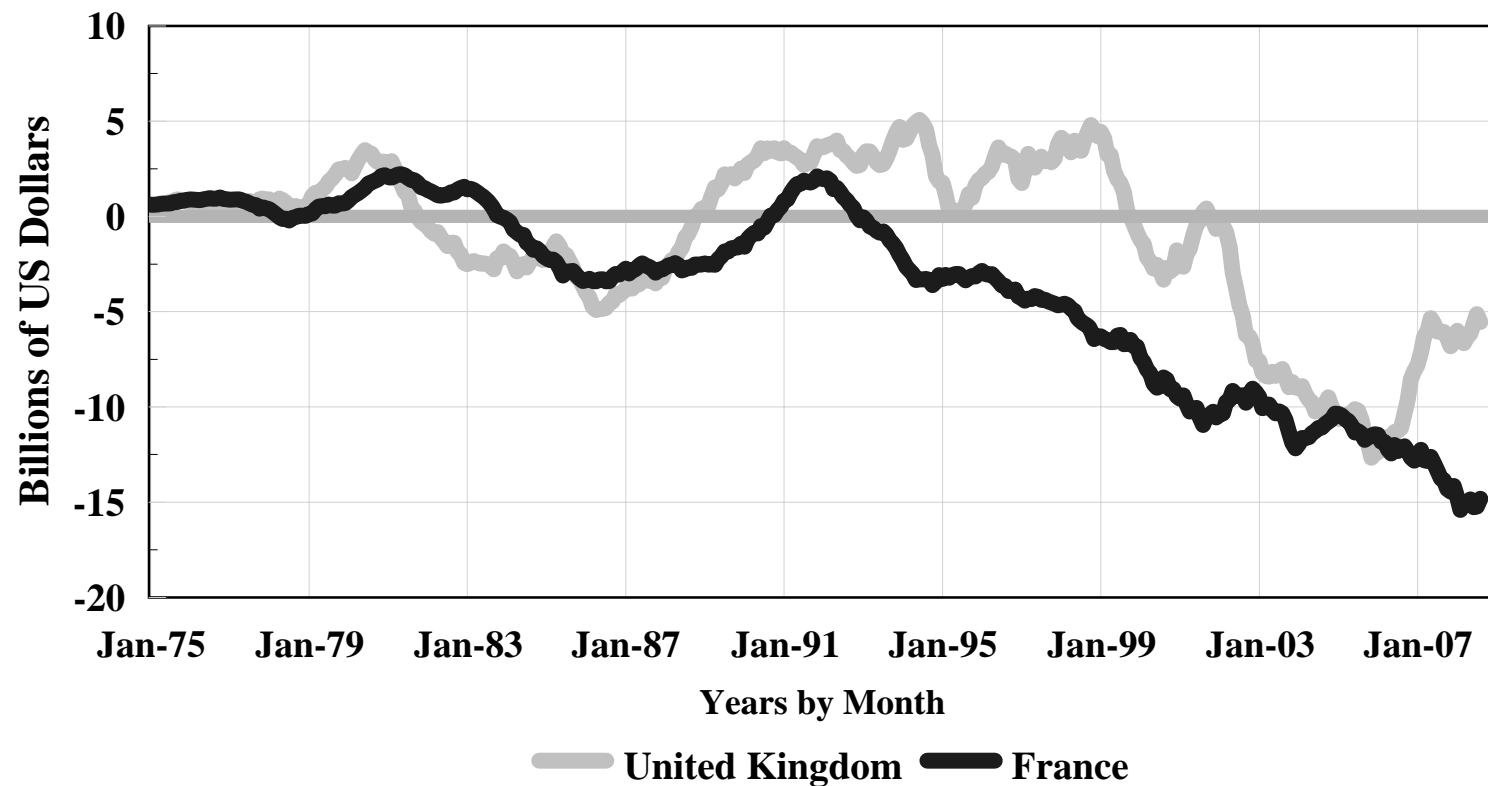
# The Value of the Mexican Peso in \$US

U.S. Dollars per Mexican Peso



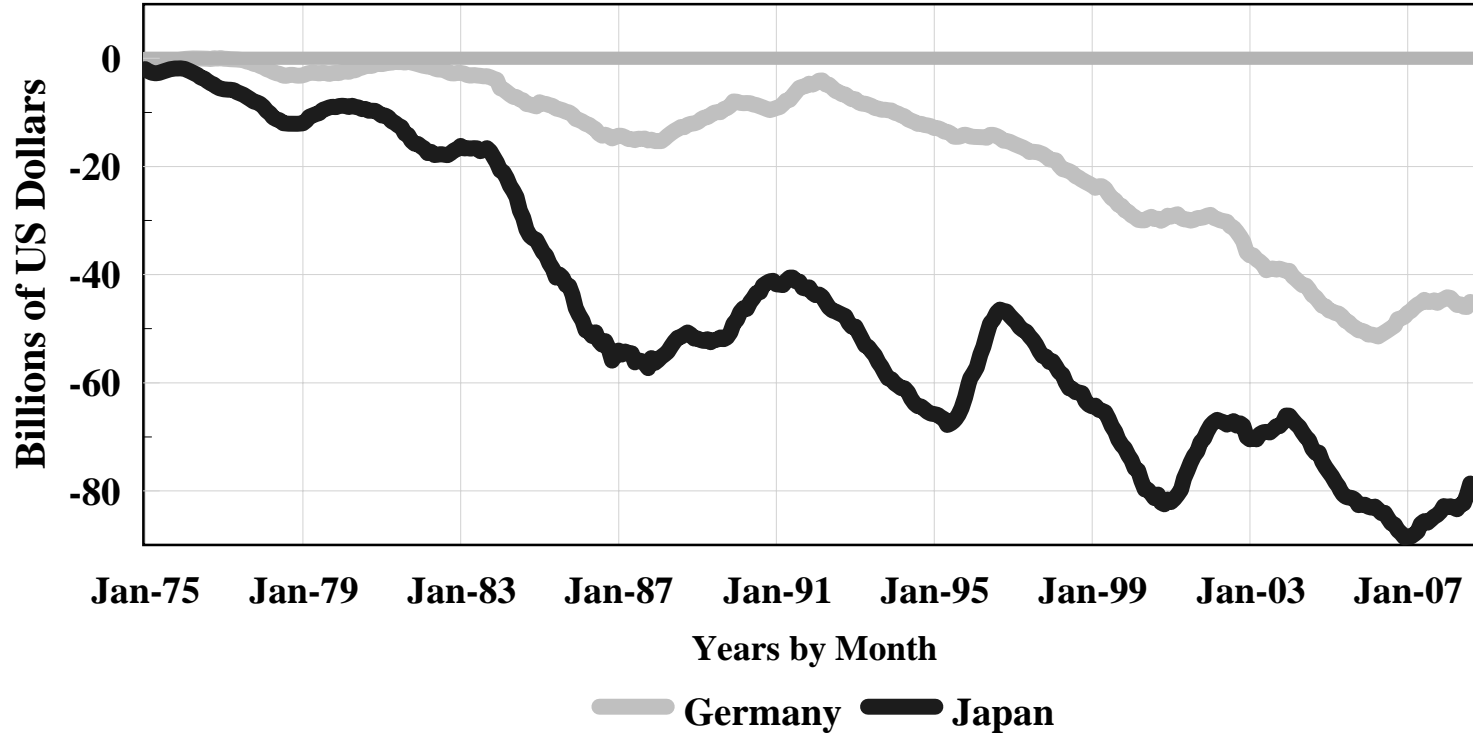
## U.S. Trade Balances with Britain & France

Twelve Month Moving Sums of Not Seasonally Adjusted Data

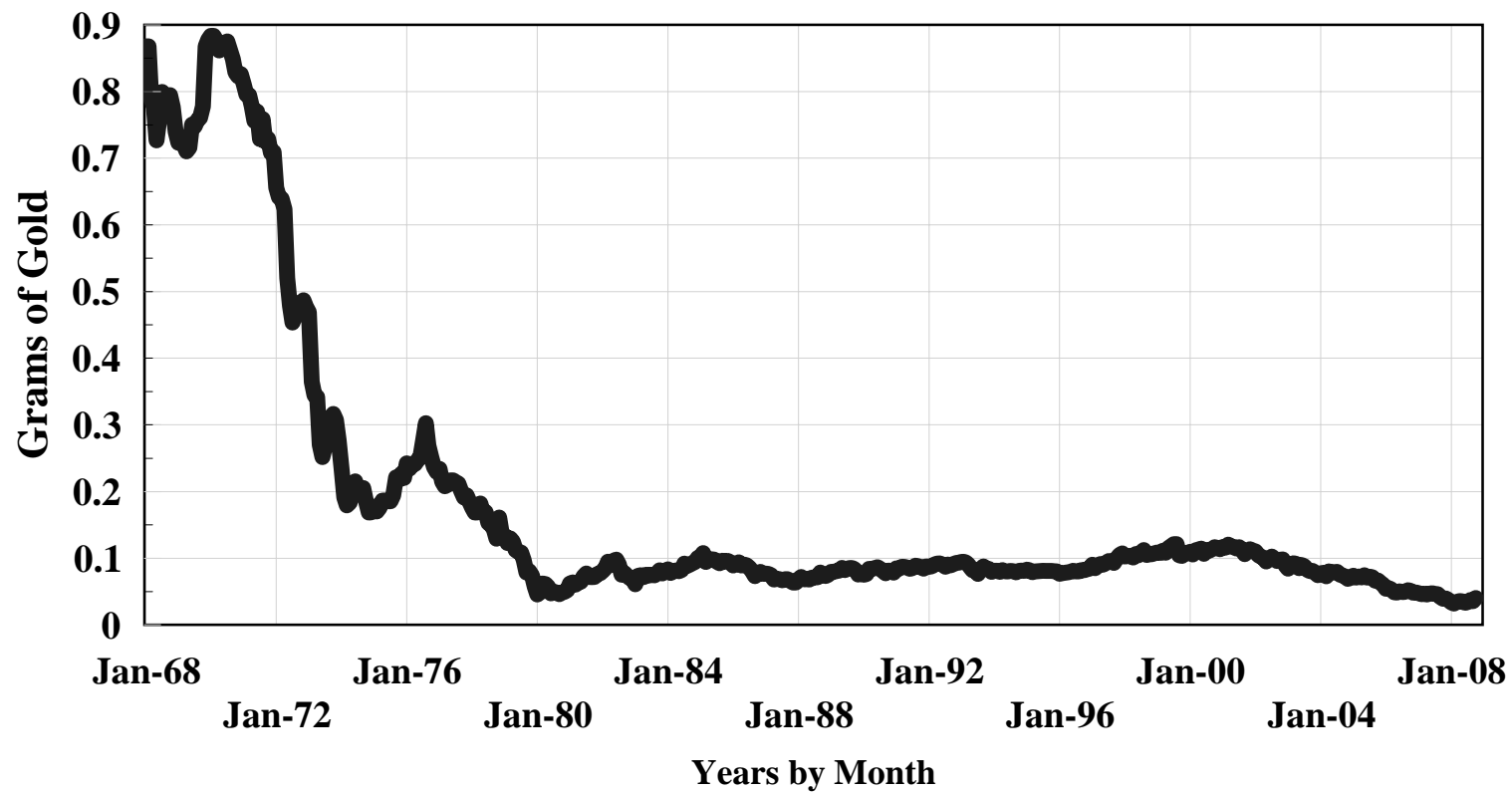


# U.S. Trade Balances with Germany & Japan

Twelve Month Moving Sums of Not Seasonally Adjusted Data

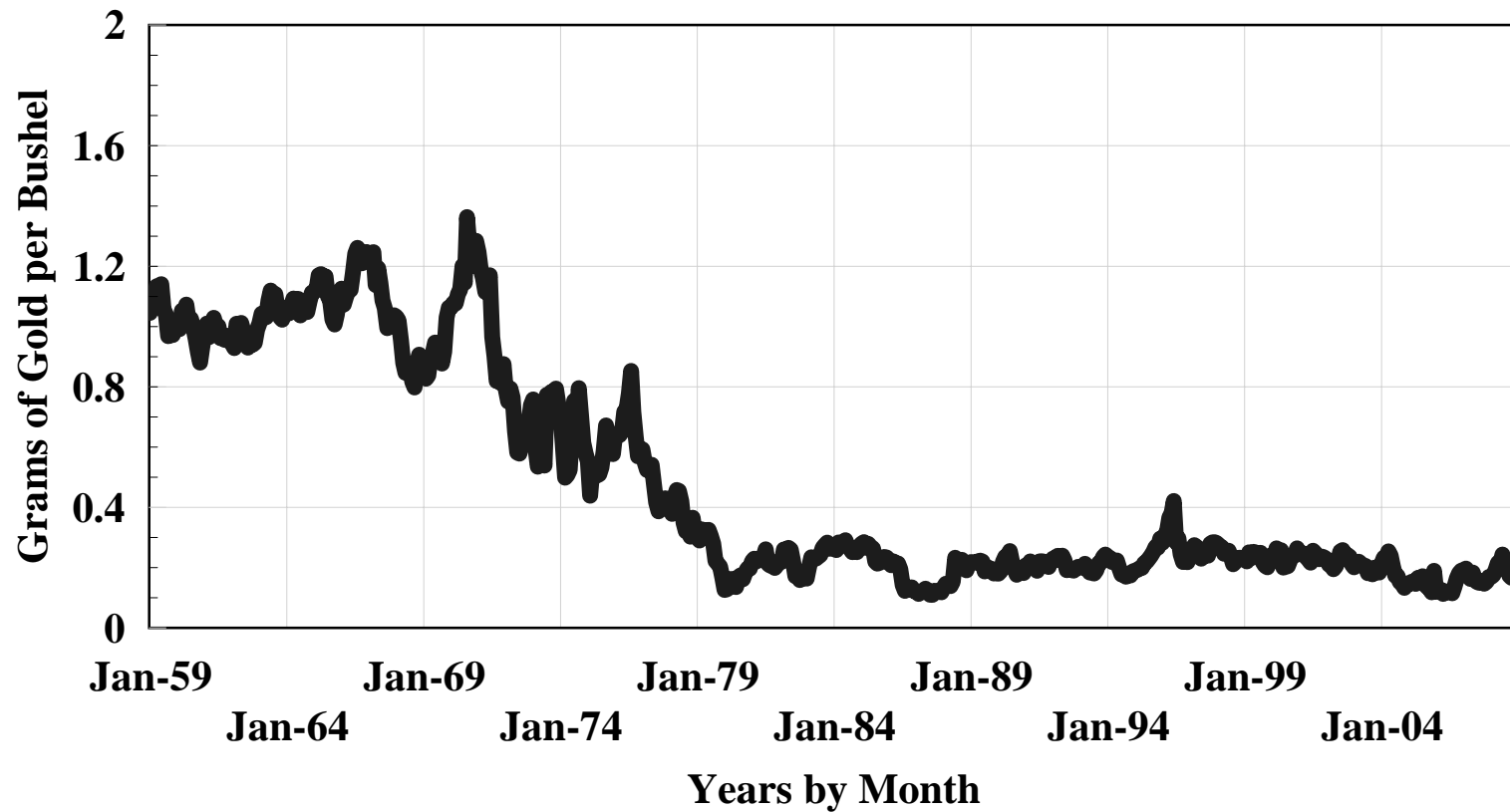


# Value of the Dollar in Grams of Gold

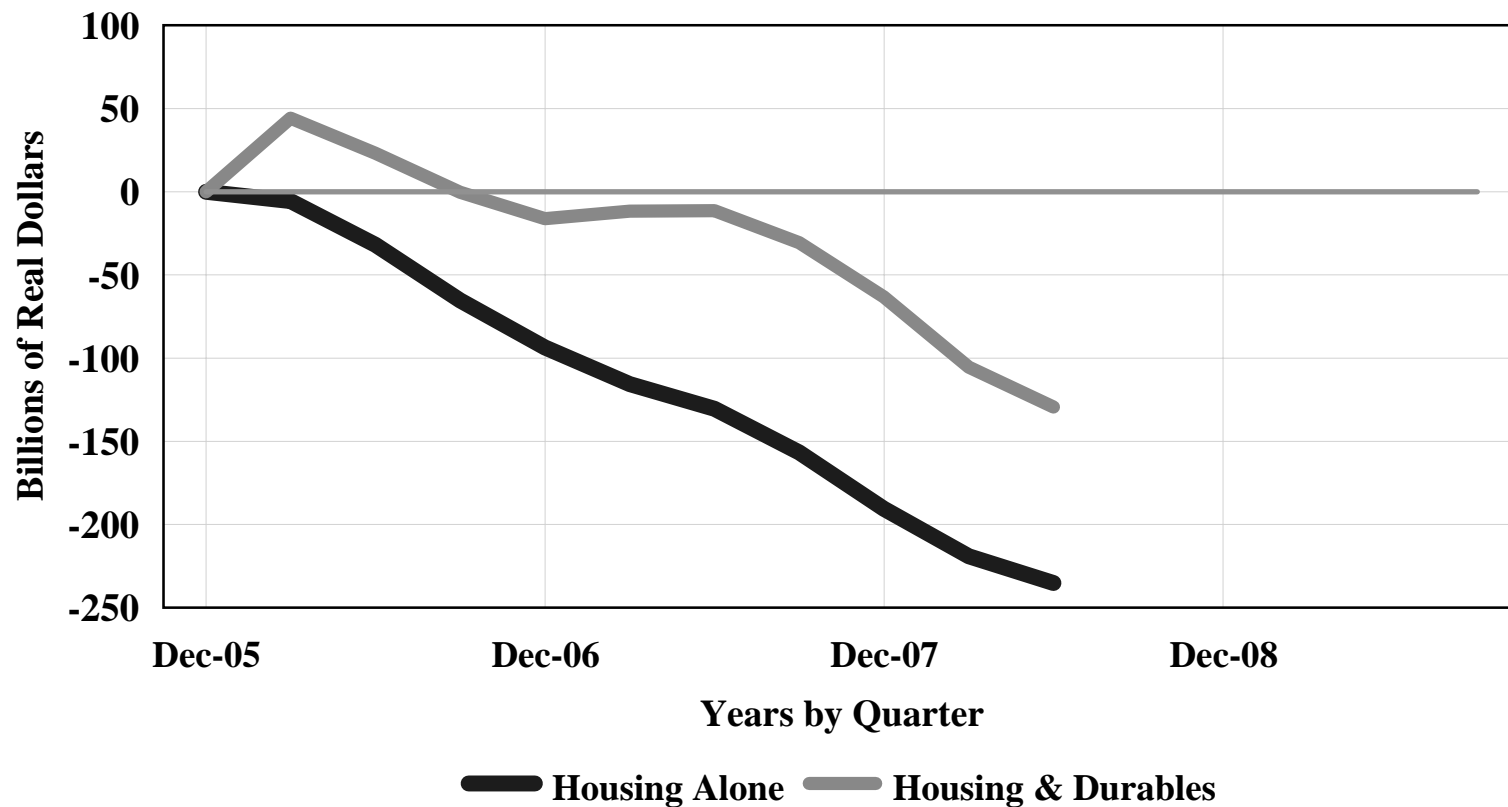


# The Price of Corn in Grams of Gold

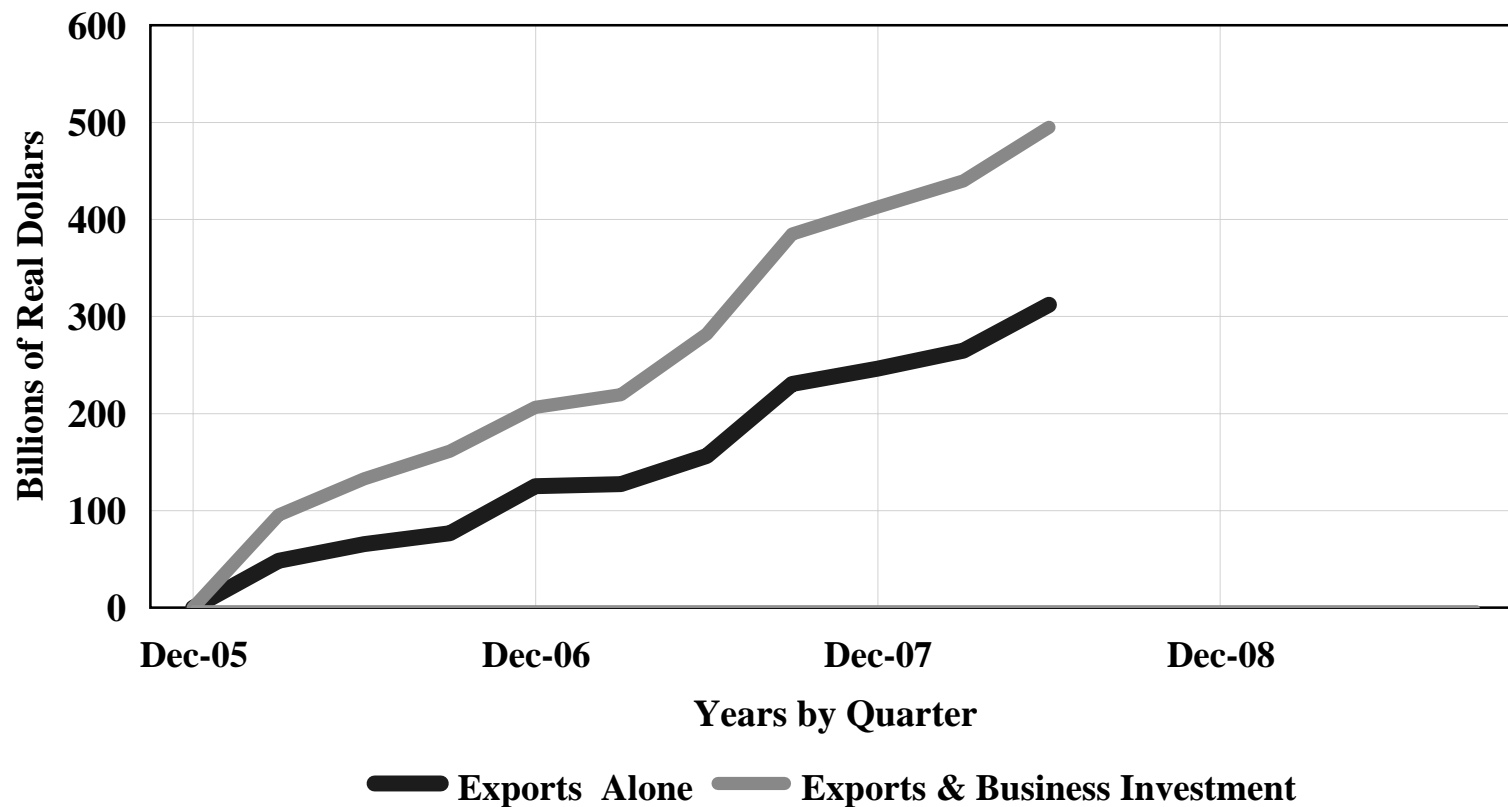
Grams per Bushel



## Real Change in GDP Sectors Since the Housing Peak (Billions of Real Dollars)

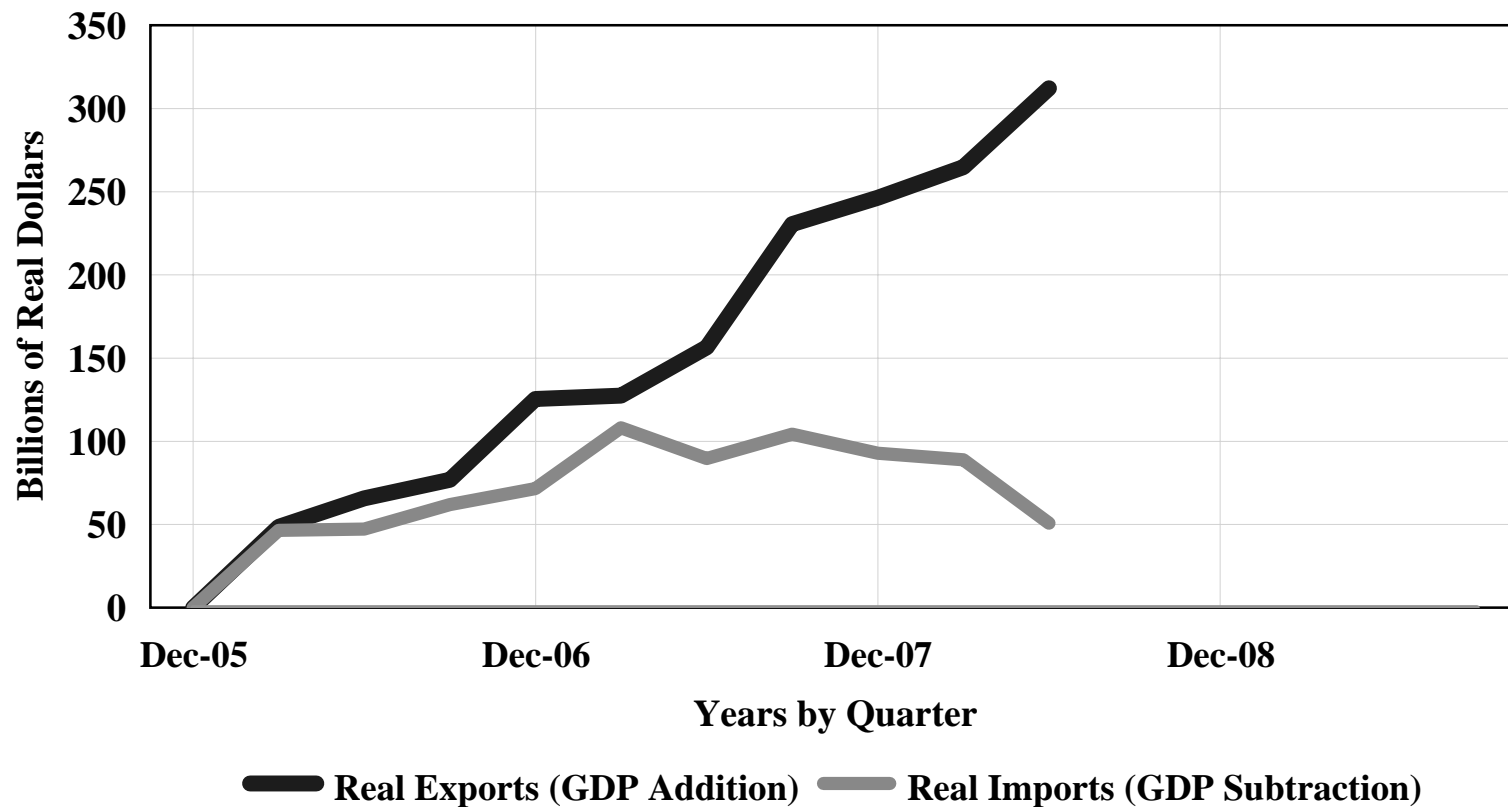


## Real Change in GDP Sectors Since the Housing Peak (Billions of Real Dollars)

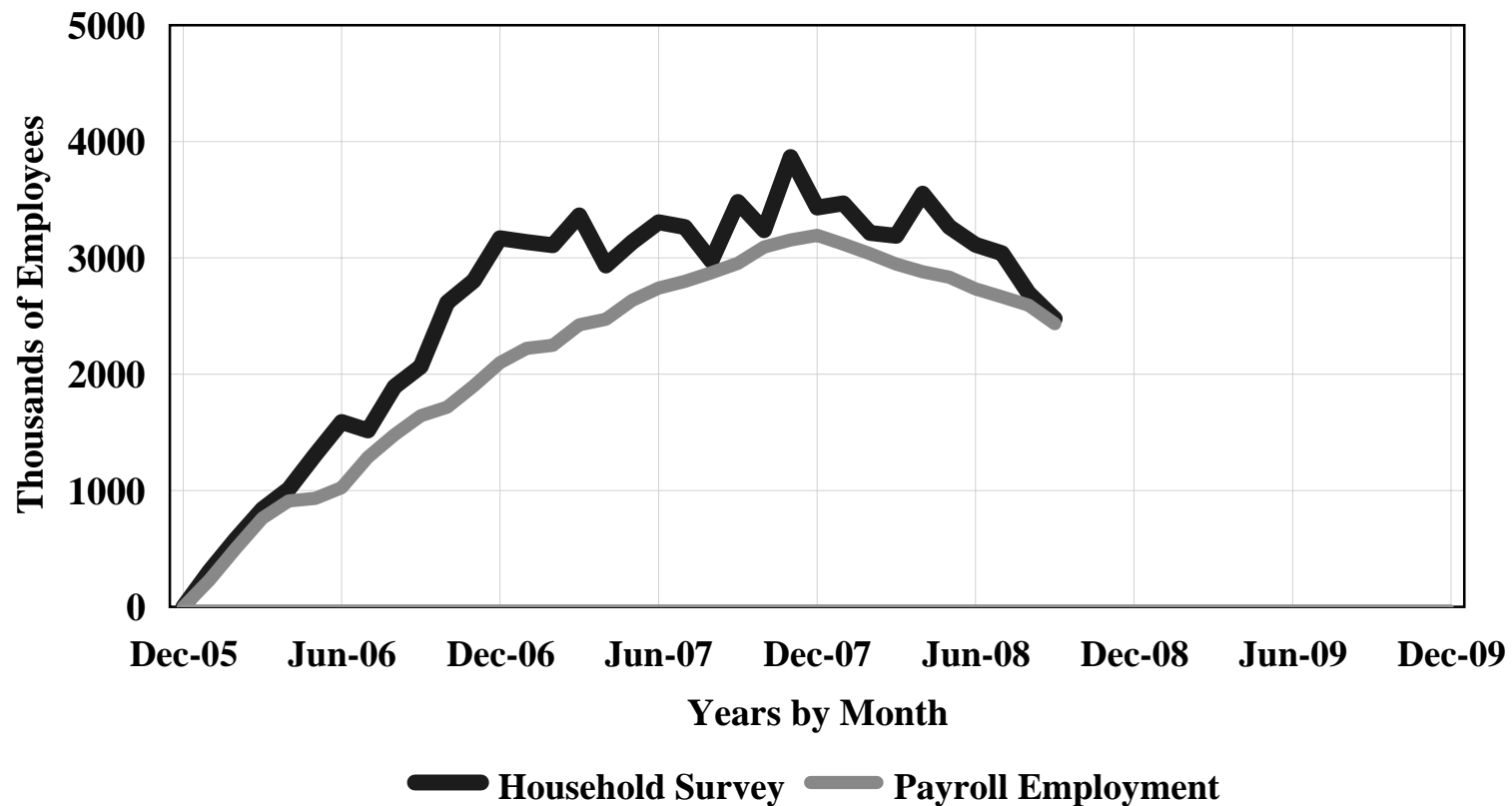




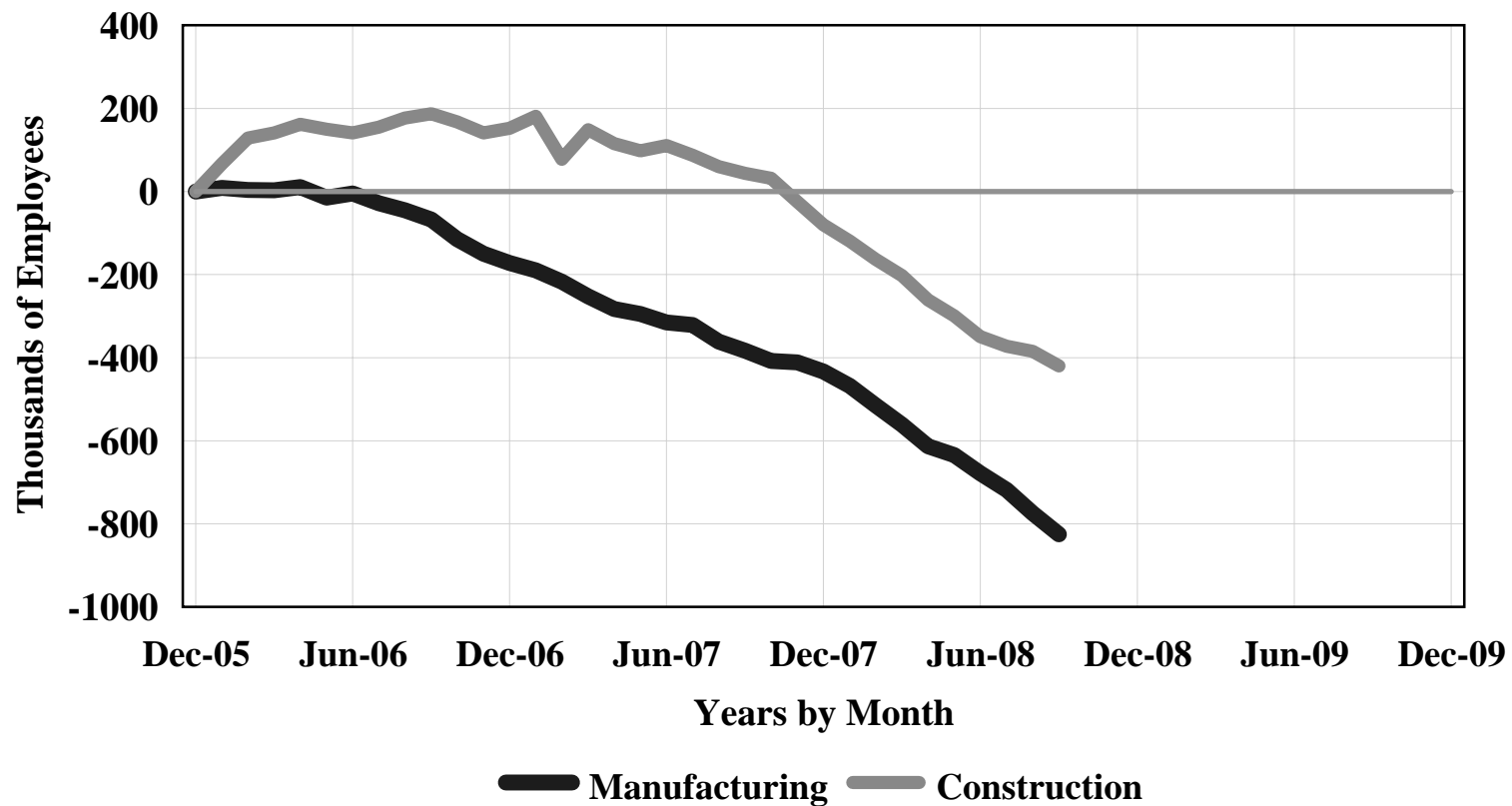
## Real Change in GDP Sectors Since the Housing Peak (Billions of Real Dollars)



## Changes in Employment Since the Housing Peak (Thousands of Employees)



## Changes in Employment Since the Housing Peak (Thousands of Employees)



## Changes in Employment Since the Housing Peak (Thousands of Employees)

