

Economic Turbulence Ahead: How Much, How Long, and What Markets Are Telling Us



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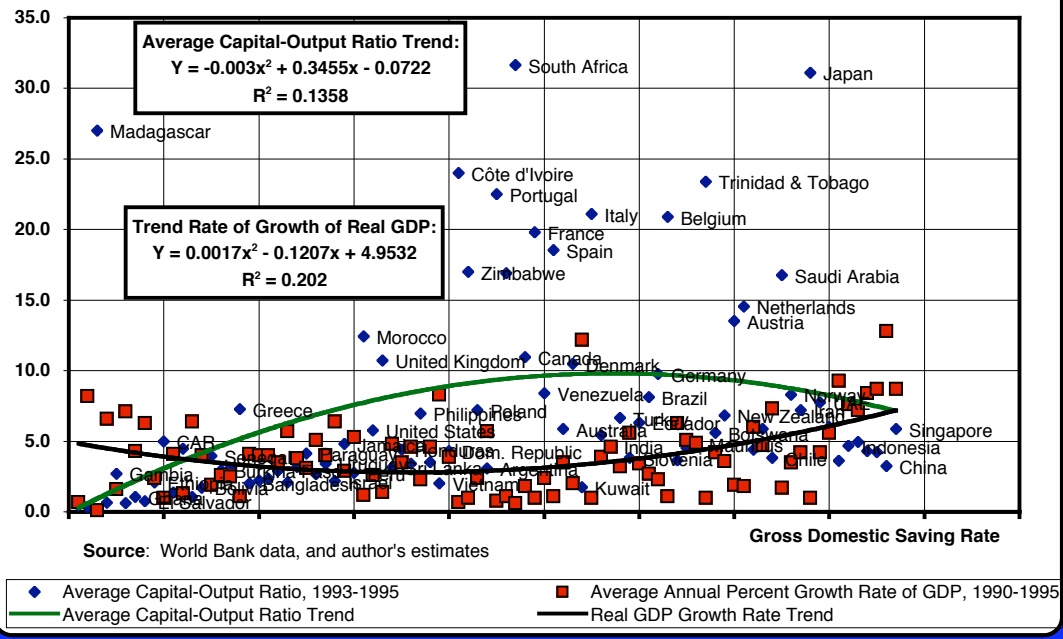
What Drives Economic Growth?

Determinants:

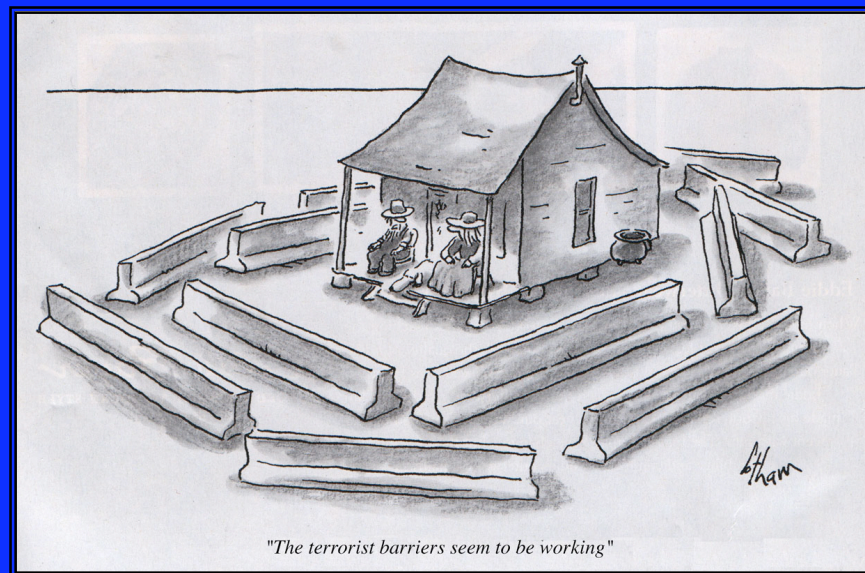
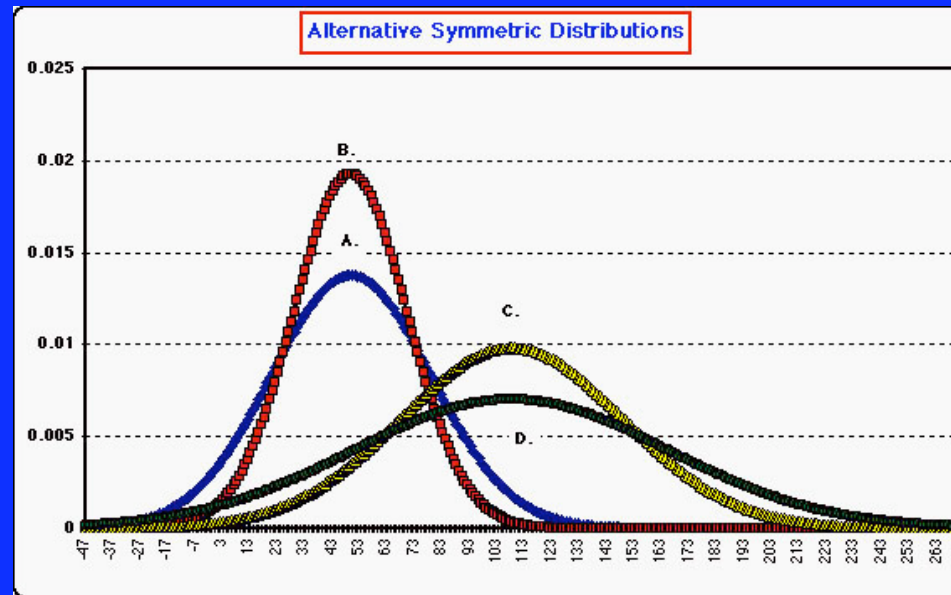
1. Increases in the stock of inputs - (Saving and Investment Policies)
2. Technological Change - (Research and Development Incentives, Environmental Quality)
3. Input specialization - (Industry and Firm Incentives and Strategies)
4. Output specialization and Trade - (International Monetary, Fiscal, and Trade Policy)

Do Capital-Output Ratios Affect the Rate of Growth of Real GDP?

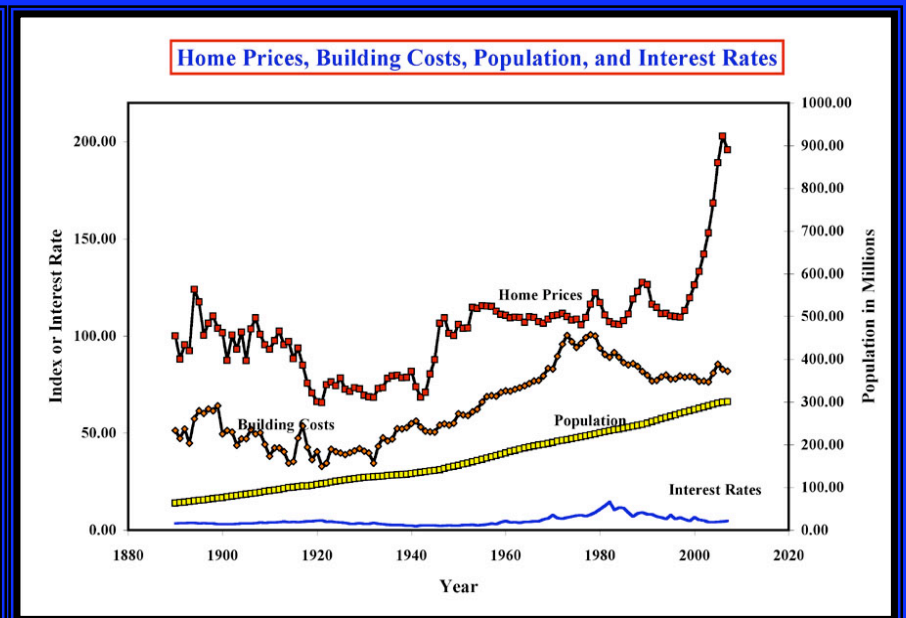
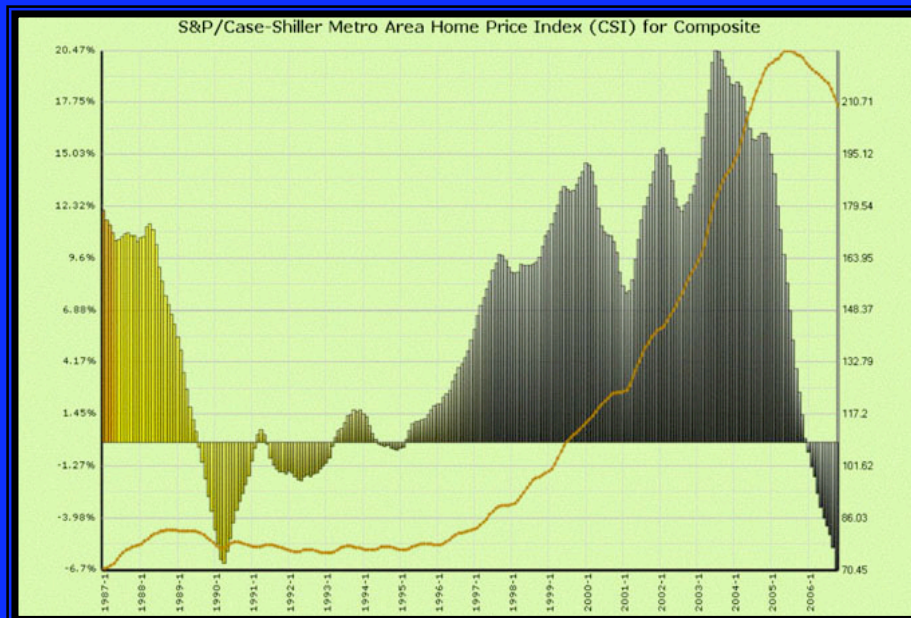
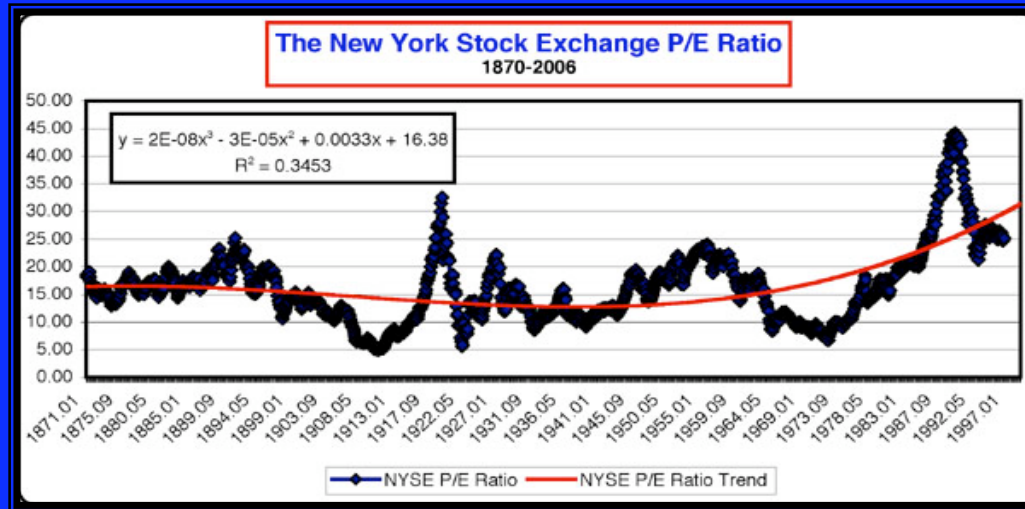
Capital-Output Ratio, GDP Growth Rate



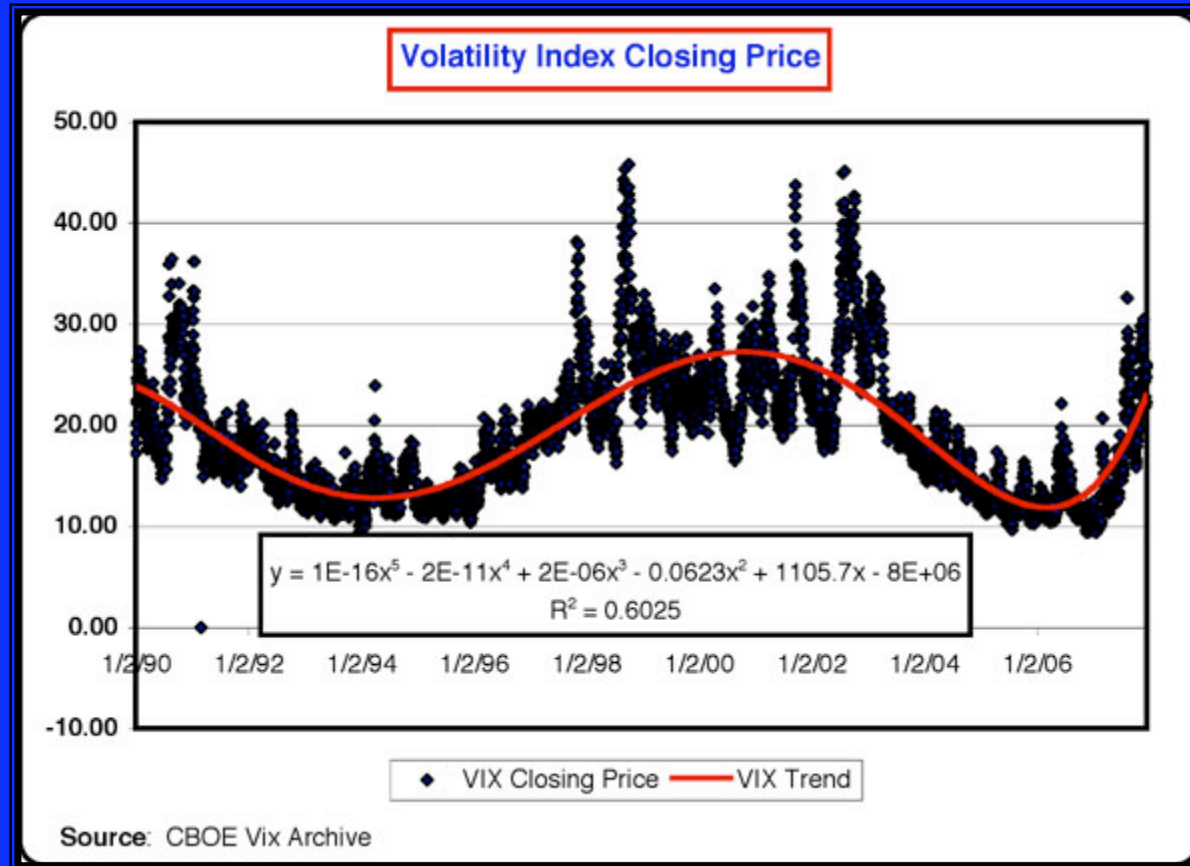
All Growth Determinants Depend Significantly on Perceptions of and Attitudes Toward Risk



Financial and Economic Risk Affect Consumer and Investment Spending



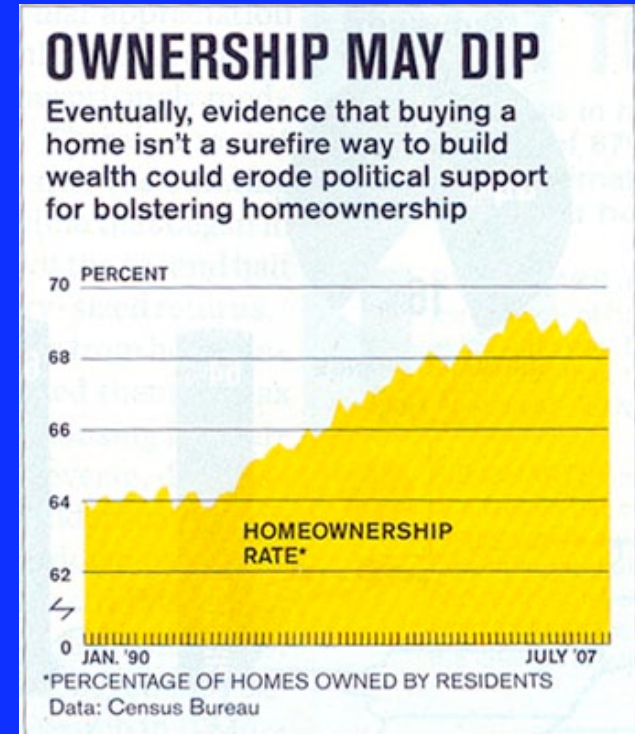
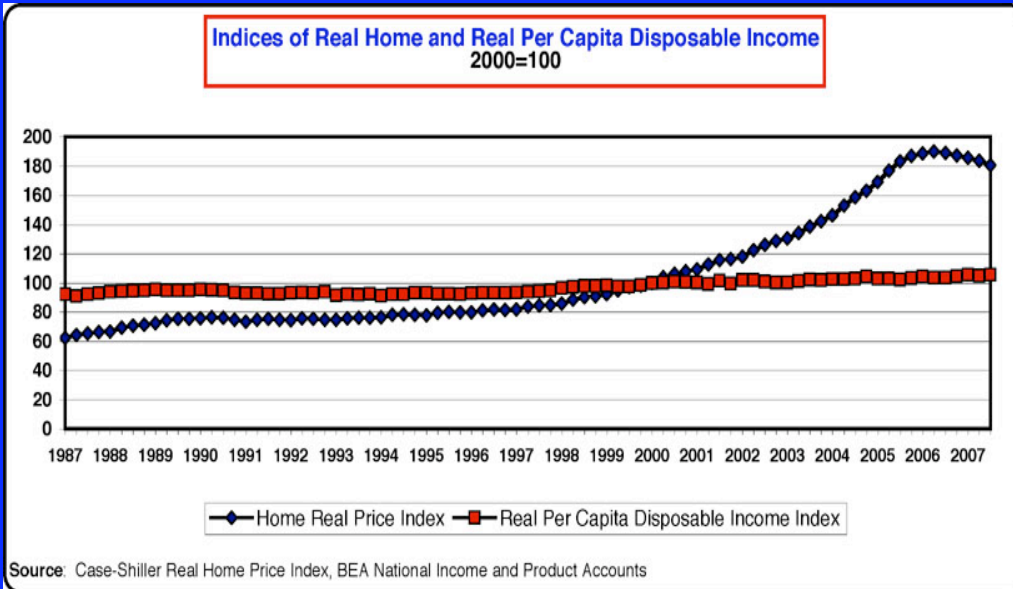
Tracking Risk and Uncertainty Draws on Common Economic Indicators



Risk and uncertainty can be tracked through various measures of volatility, as in the CBOE's Volatility Futures Index. Increases in index values reflect not only stock market noise, but underlying uncertainty in such sectors as housing that increase the volatility of industries tied to housing construction and sales.

Why Has the Sub-Prime Housing Market Created Recession Risk?

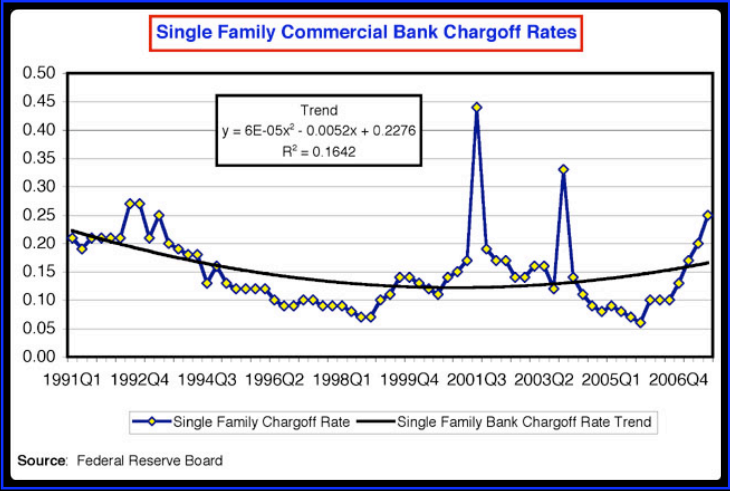
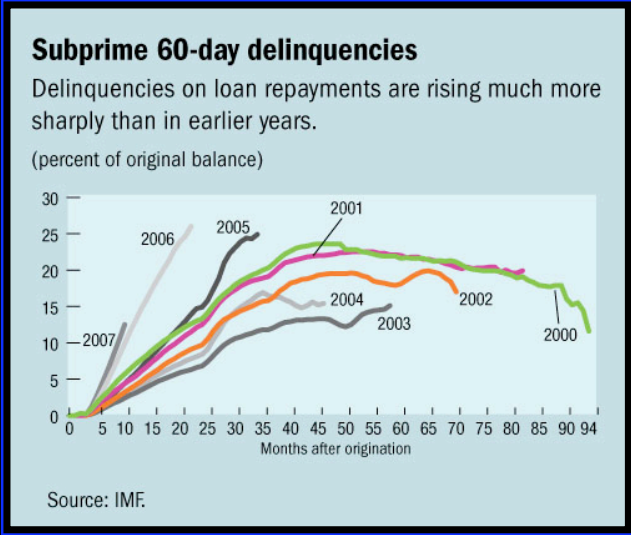
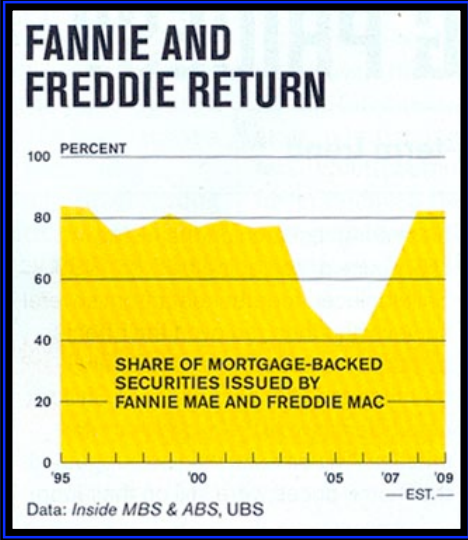
1. Housing Prices Have Risen Faster Than Incomes



When this happens, by any measure, it becomes increasingly difficult to service housing mortgage debt.

Why Has the Sub-Prime Housing Market Created Recession Risk, pt. 2?

2. When affordability declines, delinquency rates increase, as do foreclosures, leading to larger bank write-offs, and declines in equity values.



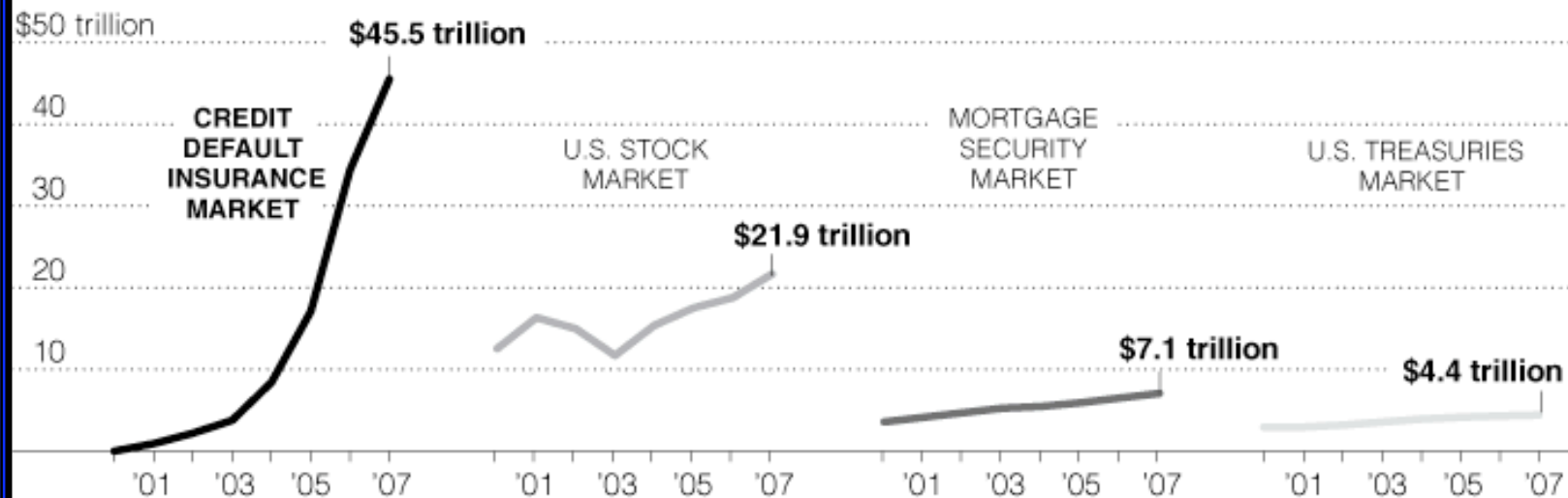
Delinquency strikes first in sub-prime markets, where balloon mortgages, ARMs, and interest-only mortgages represent a rising share of overall lending.

Why Has the Sub-Prime Housing Market Created Recession Risk, pt. 3?

3. When mortgage-backed securities are traded in the market as collateralized debt obligations (CDO's), it becomes more difficult to price them efficiently, with the result that bank balance sheets do not provide an accurate measure of exposure.

In the Shadow of an Unregulated Market

The value of the credit default insurance market is now much larger than the domestic stock market, mortgage securities market and United States Treasuries market.



Sources: Thomson Proprietary Research; International Swaps and Derivatives Association

THE NEW YORK TIMES

Why Has the Sub-Prime Housing Market Created Recession Risk, pt. 4?

4. This is especially true when traders swap assets as a form of insurance against default.

A Primer on Credit Default Insurance

THE PLAYERS

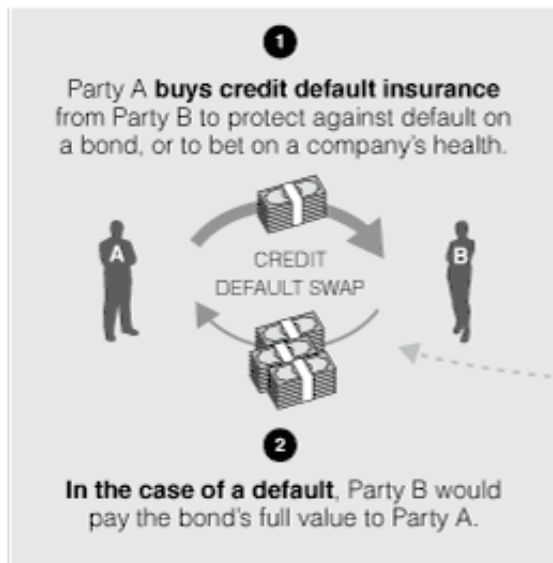
The insurance buyer is often a bond investor seeking protection against default on an asset he owns. But many are speculators, who do not own the asset, but use the credit default swap to bet on the health of a company.



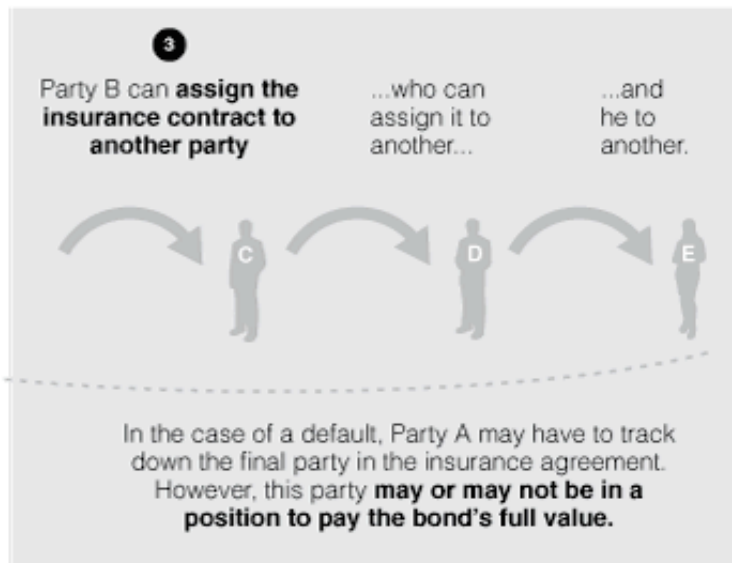
The insurance seller is often a hedge fund, insurance company or bank. It receives premiums from the buyer throughout the contract.



THE PROCESS



THE PROBLEM

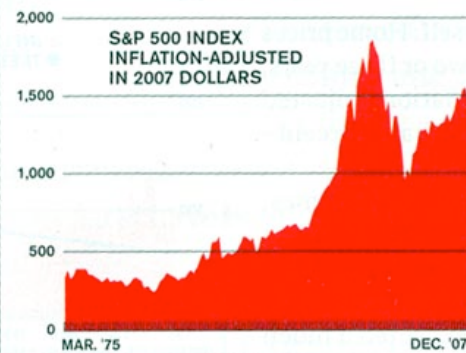


Can Market Information Predict Housing Price Stabilization?

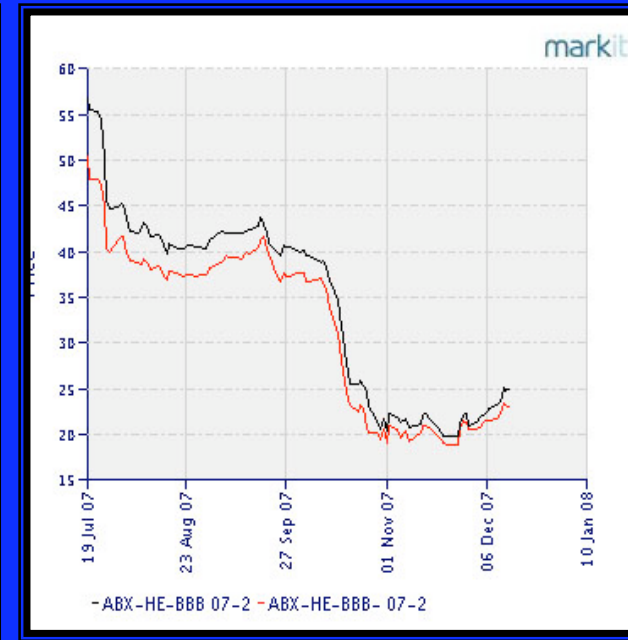
1. When sub-prime mortgage defaults reduce earnings and increase market volatility, traders look for tracking stocks to help them predict where the market is headed. One such measure is the use of the ABX index. This index provides an indicator of underlying values of sub-prime mortgages relative to prime mortgage valuations, and ranges from AAA to BBB levels.
2. Recent infusions of credit by the Federal Reserve and the creation of housing financial consortia by the Treasury have raised ABX ratings.

ONE BUBBLE THAT WENT POOF

The drop in stock prices earlier this decade shows how overpriced markets can abruptly decline



Data: Bloomberg Financial Markets,
Bureau of Labor Statistics



What Factors Have Led to the Housing Market Downturn?

- First is the shift from equities to housing that took place following the 2000 stock market decline
- Second is the computerized automation of mortgage filings that began in the 1990s
- Third is the use of mortgage-backed securities by major financial institutions such as Fannie Mae and Freddie Mac. These institutions are backed by the full faith and credit of the U.S. government, which led them to expand credit to higher risk markets. New debt instruments such as collateralized debt obligations (cdo's) were used to diversify mortgage risks through large portfolios, but whose buyers did not necessarily know the underlying risks when these assets were traded in the market.
- Fourth is the rise in interest-only and adjustable rate mortgages (ARM's) to default-prone borrowers on the assumption that rising prices would create sufficient equity to offset higher risks - in other words, a housing bubble economy
- Fifth is the reduction of interest rates by the Federal Reserve that began with the effort to offset the downside effects of 9/11 and which have continued up to the present.
- Sixth, in the presence of lower interest rates, borrowers used home equity loans to offset declines in personal savings to expand consumption to unsustainable levels.

What Policy Options Can Be User to Forestall a Recession?

- Recent declines in interest rates by the Federal Reserve have offset some of the decline in equity and housing market valuations.
- However, each decline in interest rates results in both higher energy prices and a fall in the dollar foreign exchange rate.
- Declines in the dollar exchange rate undermine two critical functions of a currency, namely a store of value and a standard of deferred payment. When this happens there is a shift out of dollar reserve holdings to other currencies, notably the euro.
- Continued decreases in interest rates are likely to replicate to some degree the effects in the recent past, namely, a short-term boost to the stock market countered by rising energy prices and a fall in the dollar exchange rate.
- One offsetting factor in a falling exchange rate is that the trade deficit, which has expanded in tandem with the budget deficit, is likely to decrease, which would work to strengthen the dollar in world currency markets.
- Rising consumer debt coupled with declining net worth from falling housing values raises the prospect of a recession. Since inflationary pressures have become more evident, the margin of maneuver by the Federal Reserve is more limited than it has been in the past.
- Faced with more limited options to restore the housing market, a more likely scenario is a tax cut, in particular one that forestalls the expansion of the alternative minimum tax, to maintain spending. Any such tax cuts will work to widen the budget and trade deficits, and risk adding additional pressure on inflation in the economy.

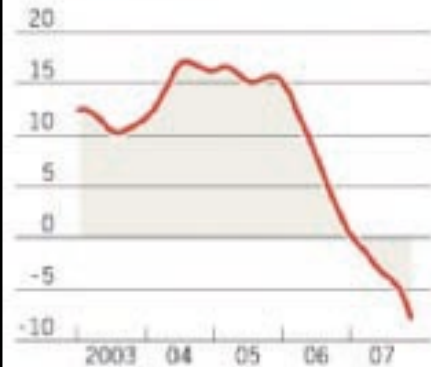
Can and Should the Federal Reserve Adopt Micro Policies to Manage Asset Bubbles?

- **The Federal Reserve functions essentially as an institution to promote non-inflationary full-employment and growth.**
- **While the Federal Reserve historically has had some sectoral authority to influence housing, it has largely been counterproductive against the larger needs of macroeconomic stabilization. Regulation Q, which limited interest rate ceilings in savings and loan institutions, precipitated a financial crisis in the housing sector in the 1980s following the increase in interest rates by the Federal Reserve to combat excessive inflationary pressures at the end of the 1970s. In response, Congress created the Resolution Trust Corporation to consolidate banking institutions and close out others. It was from that experience that Congress did not expand the authority of the Federal Reserve in housing, and instead, expanded the role of non-bank institutions to compete for financial services.**
- **The U.S. has relied primarily on government-sponsored financial institutions such as Fannie Mae, Ginnie Mae, and Freddie Mac to underwrite mortgage securities in promotion of the housing sector. Because these institutions have the implicit full faith backing of the U.S. treasury, their activities have promoted morally hazardous lending by underwriting institutions, and which accelerated when mortgage-backed securities became negotiable through collateralized debt obligations.**
- **Averting asset bubbles is not something that the Federal Reserve is equipped to handle. Congress will no doubt review the financial standards that apply to government-sponsored housing institutions in an effort to avert future housing asset bubbles. Similar actions may also be warranted in the case of equity market bubbles, and whose oversight falls largely under jurisdiction of the SEC.**
- **Despite the expansion of financial derivatives to improve risk management, there is no way to eliminate financial and economic risk from the market. Portfolio diversification will continue to drive most strategies for risk minimization. Prudential management of both monetary and fiscal policy are the twin complements necessary for effective risk management.**

When Economic Turbulence Comes Along, Trim Your Sails Until the Storm Has Past



US house prices
Annual % change in S&P/Case-Shiller index
(20-city composite)



Source: Thomson Datastream

Global slowdown

Growth in most advanced economies is decelerating.
(annual percent change unless otherwise noted)

	2006	2007	2008	Est. 2006 Q4 to 2007 Q4	Proj. 2007 Q4 to 2008 Q4
World output	5.0	4.9	4.1	...	...
Advanced economies	3.0	2.6	1.8	2.6	1.5
<i>of which</i>					
United States	2.9	2.2	1.5	2.6	0.8
Euro area (15)	2.8	2.6	1.6	2.3	1.3
Japan	2.4	1.9	1.5	1.2	1.6
Other advanced economies	3.7	3.8	2.8	3.9	2.9
Emerging market and developing economies	7.7	7.8	6.9	...	...
Africa	5.8	6.0	7.0	...	...
Central and eastern Europe	6.4	5.5	4.6	...	...
Commonwealth of Independent States	8.1	8.2	7.0	...	...
Developing Asia	9.6	9.6	8.6	...	...
<i>of which</i>					
China	11.1	11.4	10.0	11.2	9.4
Middle East	5.8	6.0	5.9	...	...
Western Hemisphere	5.4	5.4	4.3	...	...

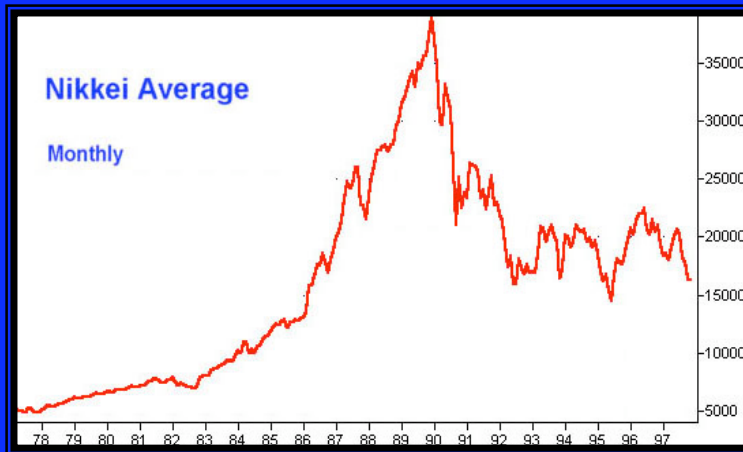
Source: IMF, *World Economic Outlook*, January 2008.

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during December 4, 2007–January 2, 2008.

And Remember that Any Crisis is Always Relative:



December 7, 1941



Some Markets Make the Dow Look Good,
Even in a Bad Season



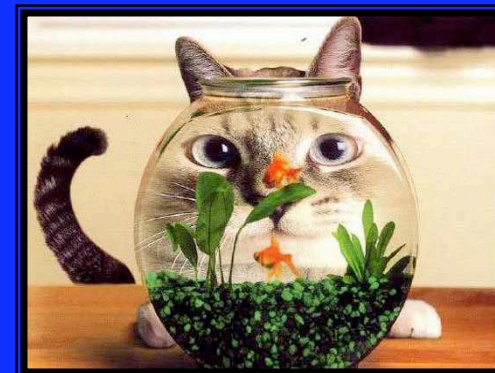
September 11, 2001



Government Is Not Santa Claus



Other Places Have More Risks Than the U.S.



Envy, Like Hope, Springs Eternal