PERSI

Public Employee Retirement System of Idaho

Presentation to Economic Outlook and Revenue Assessment Committee

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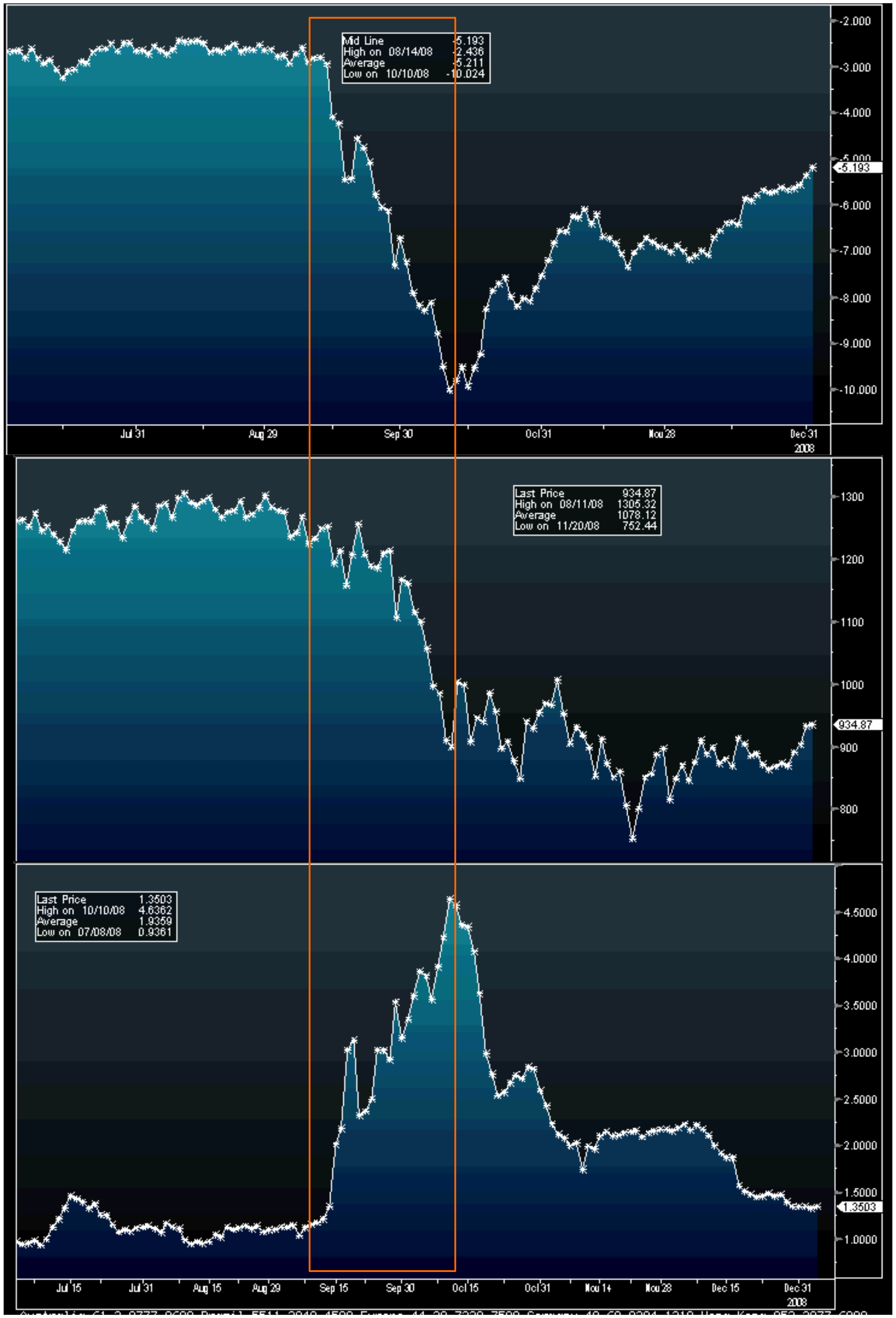
Chief Investment Officer

January 8, 2009



THE GREAT COLLAPSE

September 11th to October 10th

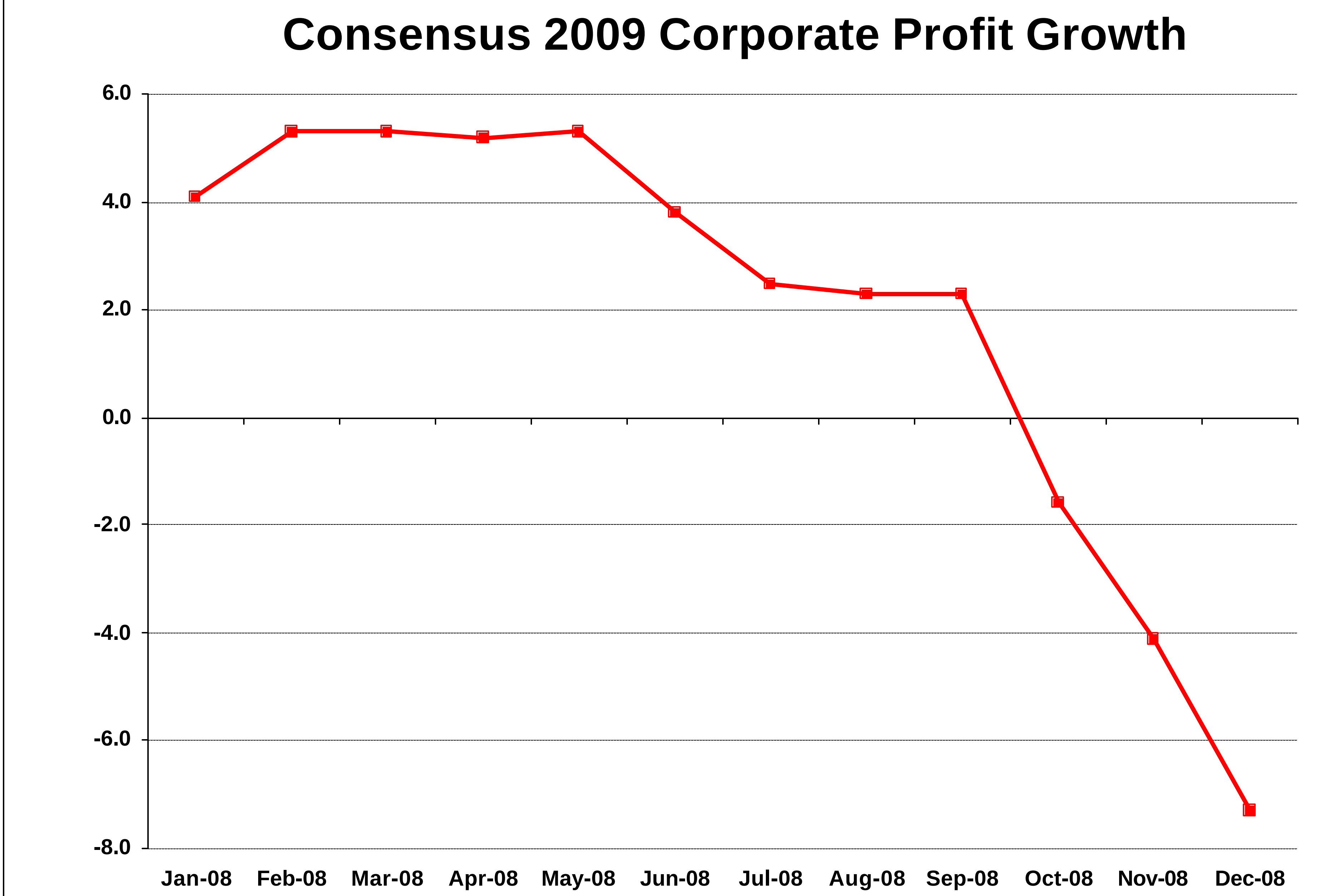
BLOOMBERG FINANCIAL CONDITIONS — **-2.8 to -10.1**

S&P 500 — **1249 to 899**
-28%

TED SPREAD

(3 Month LIBOR minus 3 Month T-Bill) — **1.2% to 4.6%**

	J-08	F-08	M-08	A-08	M-08	J-08	J-08	A-08	S-08	O-08	N-08	D-08
2009	4.8	4.7	4.6	4.4	4.2	4.0	3.8	3.6	3.8	2.3	1.5	0.3



	J-08	F-08	M-08	A-08	M-08	J-08	J-08	A-08	S-08	O-08	N-08	D-08
2009	4.1	5.3	5.3	5.2	5.3	3.8	2.5	2.3	2.3	-1.6	-4.1	-7.3

Fundamental Questions

- **How Did We Get Here?**
  - Excess Liquidity
- **What was the Cause of the Great Collapse?**
  - Lehman was a snowball
- **Where are we now?**
  - Limbo
- **What will next year be like?**
  - Better than last year
- **What is the central questions for the future?**
  - Who’s going to lend?
  - Who’s going to spend?

How Did We Get Here?

- Flood of Liquidity
  - Central Banks (especially US and Japan) kept rates low and money supply high
  - Emerging market currency policies exported excess savings at low rates
  - De-regulation of world financial system

- Impacts
  - Capital, both debt and equity, became plentiful and cheap worldwide
    - Investor's started "chasing yield"
  - Low rates made additional leverage attractive and easily available
  - Some Asset bubbles created
    - US, UK housing in particular
  - Explosion of highly levered "Shadow Finance System" dependent on short-term liquidity to fund operations

THE SHADOW FINANCE SYSTEM
UNREGULATED PRIVATE RELATIONSHIPS

INVESTMENT BANKS

SIVs

Hedge Funds

Loan Financing
(GMAC, etc)

Private Entities
Lightly Regulated
Highly Levered
Complex and interconnected

Private Equity Partnerships

Syndicated Loans

VISIBLE FINANCE SYSTEM
Insurance Companies
Money Center Banks
Regulated by Central Banks
Access to Discount Window
Transparent Balance Sheets
Public Securities
Regulated or Exchange Trading
Public Pricing

40%

Private Contracts
Individual
Often Collateralized
Marked to Model

Credit Default Swaps

LIBOR Based Swaps

Asset Backed Securities

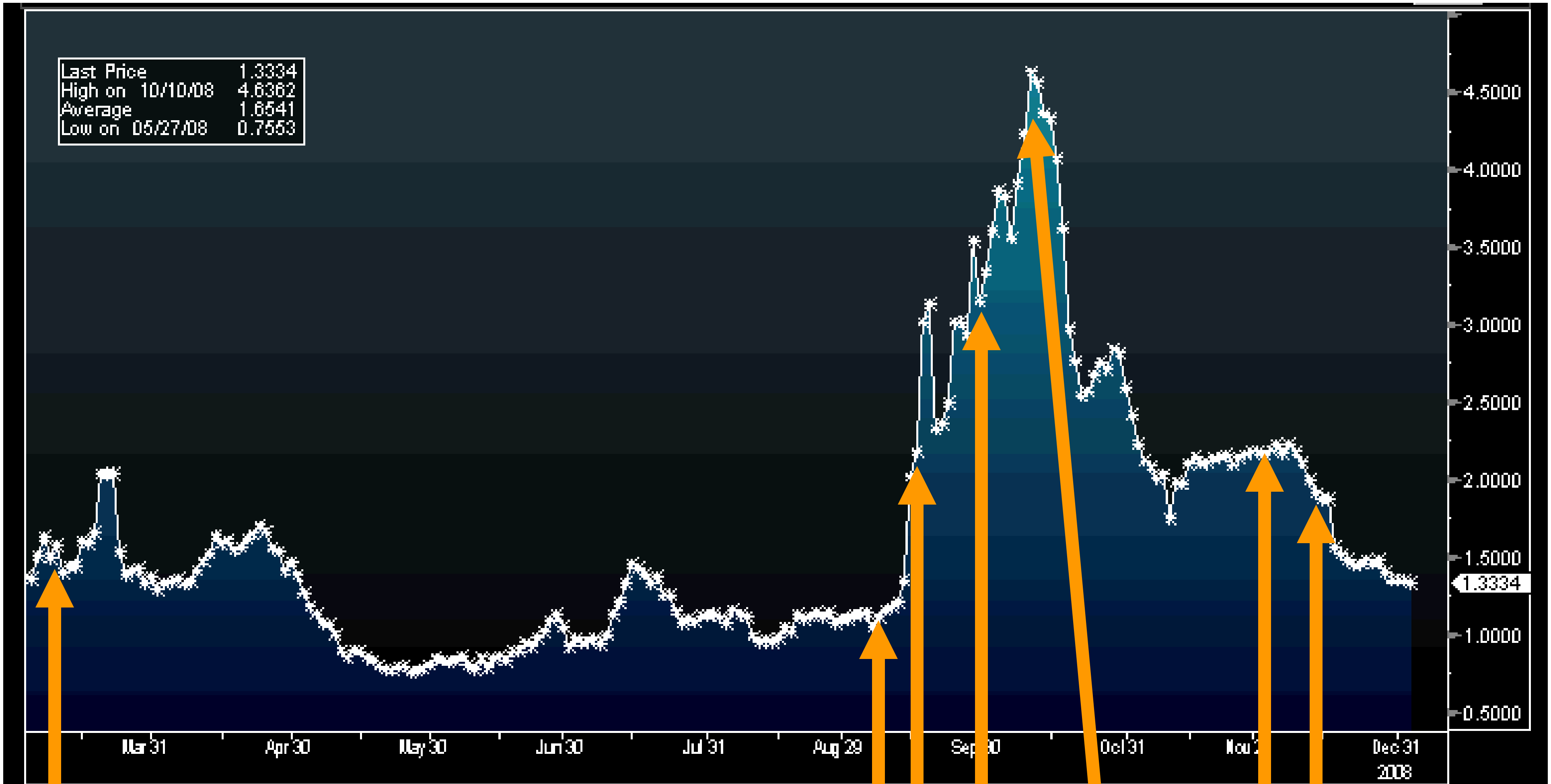
Collateralized Mortgage Obligations

Collateralized Debt Obligations

FALL OF 2008
Set-up for an Avalanche

- Subprime assets had become toxic
  - No trading, no pricing
  - Bear Stearns collapse showed fragility
  - Many banks had already taken large write-downs
- Economic Activity slowing but still positive
  - Statistics still showed growth, stimulus checks had moderated GDP drop
  - Consensus was slow growth in 4th quarter of 2008 (0.1% real), with improvement starting in 2009 (0.9% rising to 2.9% real by end of 2009)
  - Commodity Prices still robust
    - Oil above $100 barrel
- Federal Reserve providing Liquidity
  - Still worried about inflation
  - ECB standing firm on inflation
- Markets were down but not out
  - US stock market even since June, down -10% for calendar YTD

TED SPREAD – 3 MONTH LIBOR MINUS 3 MONTH T-BILL



Bear Stearns Collapse

Fannie Mae Freddie Mac Seized

TARP fails

Lehman Bankruptcy AIG Loan

Central Banks Intervene and Guarantee

Fed Direct Purchase

Fed goes "all in" Discount rate to 0

March 16 **Sep 7** **Sep 15** **Oct 7-12** **Nov 25** **Dec 16**

What was the Cause: The Snowball Effect

- What is good for the individual is sometimes bad for the system
- The Paradox of Thrift
  - Good for an individual to save, but if everyone saves, no one spends
- Attempt to reduce individual risk creates greater system wide risk
  - Individual lender decides to wait a week to make risky loan
  - Business or hedge fund sees too much volatility, sells liquid assets to raise cash. Everyone sells, creates greater volatility.
- Happens regularly in Finance
  - 1987 Market Crash
  - Long Term Capital and the “super portfolio”

Lehman as the Main Snowball

- If Lehman could go, who's next?
  - Lending institutions decided not to lend for a while at the same time
- Lehman debt caused money funds to "break a buck"
  - Institutions pulled money from funds
  - Funds couldn't buy new commercial paper
  - Institutions couldn't roll debt, defaulted
  - Probably main transmission of crisis from US to the world
- Lehman as third party broker froze assets
  - London was the problem
- Assets Lehman held now had to be marked down across the market, making fragile financial balance sheets likely insolvent
  - Problem of Mark to Market
  - Decision to wipe out Fannie and Freddie preferred also hurt
- Leveraged institutions all decided to reduce leverage at same time because volatility spiked
  - Had to sell liquid assets, causing prices to fall even more

CONSEQUENCES OF THE GREAT COLLAPSE

- **Shadow Finance System wiped out**
  - Investment banking model disappears
- **“Real” economy abruptly nosedived**
  - Financing stopped for consumers and regular businesses
  - Impact quicker and more extensive than most would have predicted
- **Governments moved to support visible financial system and widen it’s scope**
  - Guarantee banks, provide capital (Europe and US)
  - Guarantee money market funds
  - Stand behind commercial paper market
  - Poured money into visible system (late November)
    - Direct purchases of mortgages and asset backed securities
    - Dropped money rates to zero and pledged to keep them there for a substantial period
    - Vowed to do “all that is necessary”

CAN ENOUGH MONEY BE POURED INTO AN EXPANDED VISIBLE SYSTEM TO REPLACE SHADOW SYSTEM?

Money Market Funds

SIVs

Private Equity Partnerships

Investment Banks as real banks

Hedge Funds

VISIBLE FINANCE SYSTEM

Insurance Companies

Money Center Banks

Regulated by Central Banks

Access to Discount Window

Transparent Balance Sheets

Loan Financing
(GMAC, etc)

Private Entities
Lightly Regulated
Highly Levered

Public Securities

Regulated or Exchange Trading

Public Pricing

Private Contracts

Asset Backed Securities

Credit Default Swaps (AIG)

Agency Securities

Mortgage Backed Securities

Collateralized Debt Obligations

Commercial Paper

Syndicated Loans

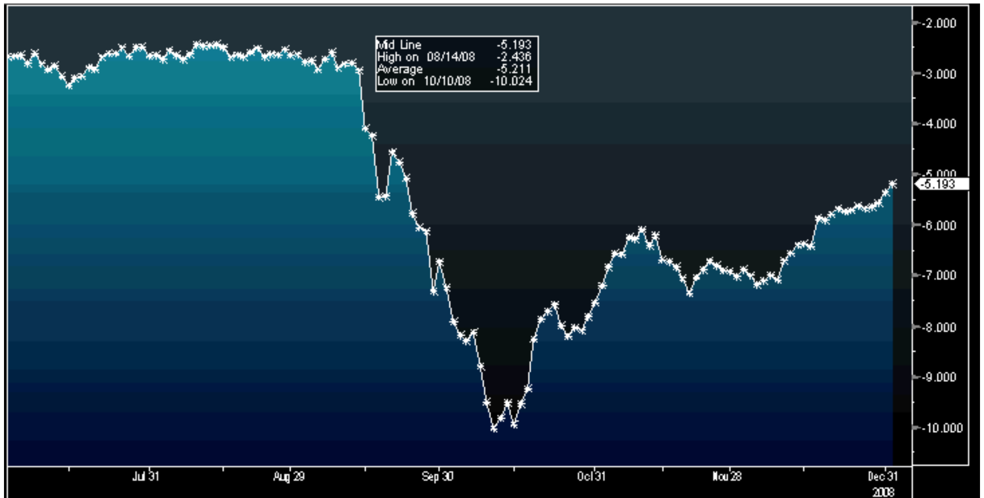
Collateralized Mortgage Obligations

Where Are We Now? CURRENT CONDITIONS

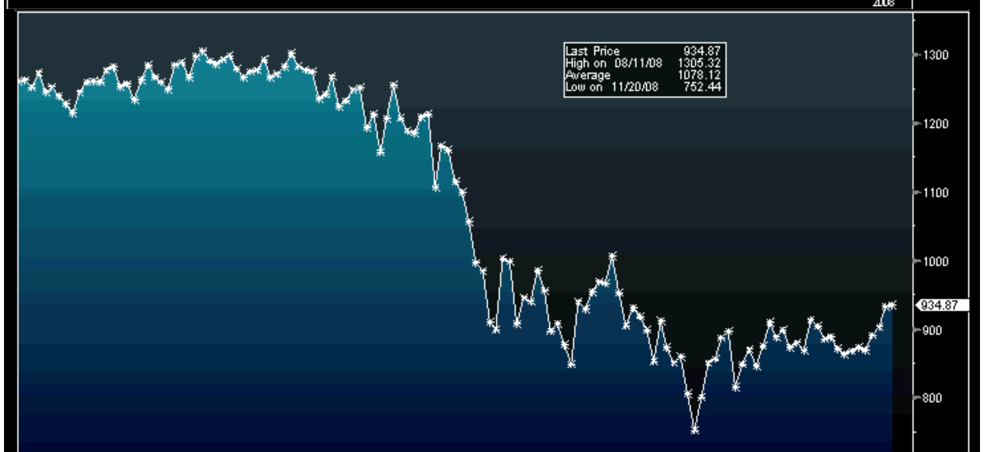
- **Fear of Financial Armageddon has faded**
  - Financial Markets seem to have stabilized at deep recession or “normal” crisis levels
  - Markets seem to be awaiting tangible signs of recovery
- **Economic Conditions at Recession Levels**
  - Bottom not yet generally in sight
- **Government only Lender and Spender**
  - Private activity still near-frozen
  - Only improving activity in the “visible circle”
    - Few signs of life outside
  - Problem of getting banks to lend
- **Race to restart system before too much damage is done**

Current Conditions

From Calamity to Mere Disaster
October 10th to January 2, 2009

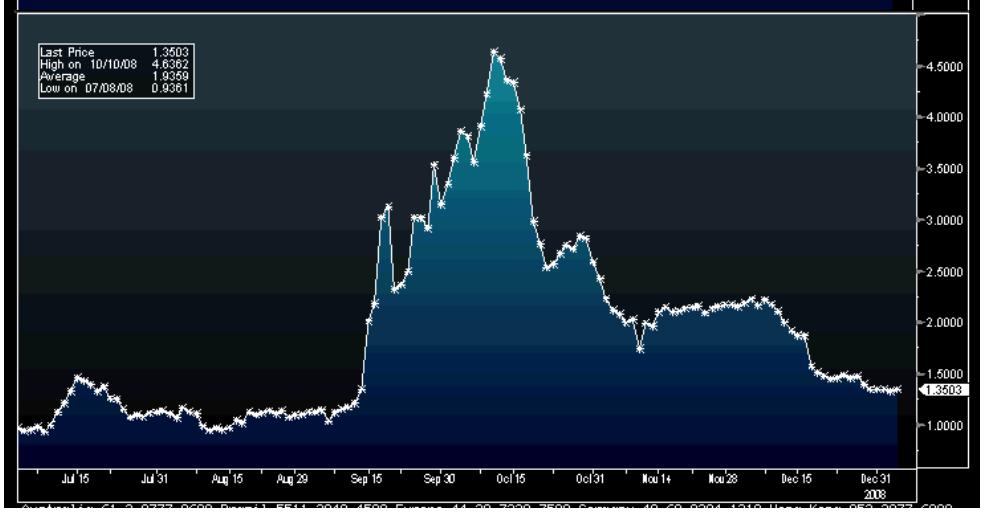


BLOOMBERG FINANCIAL CONDITIONS — **-2.8 to -5.2**



S&P 500

899 to 932
+4%
(+24% since Nov 20th)



TED SPREAD

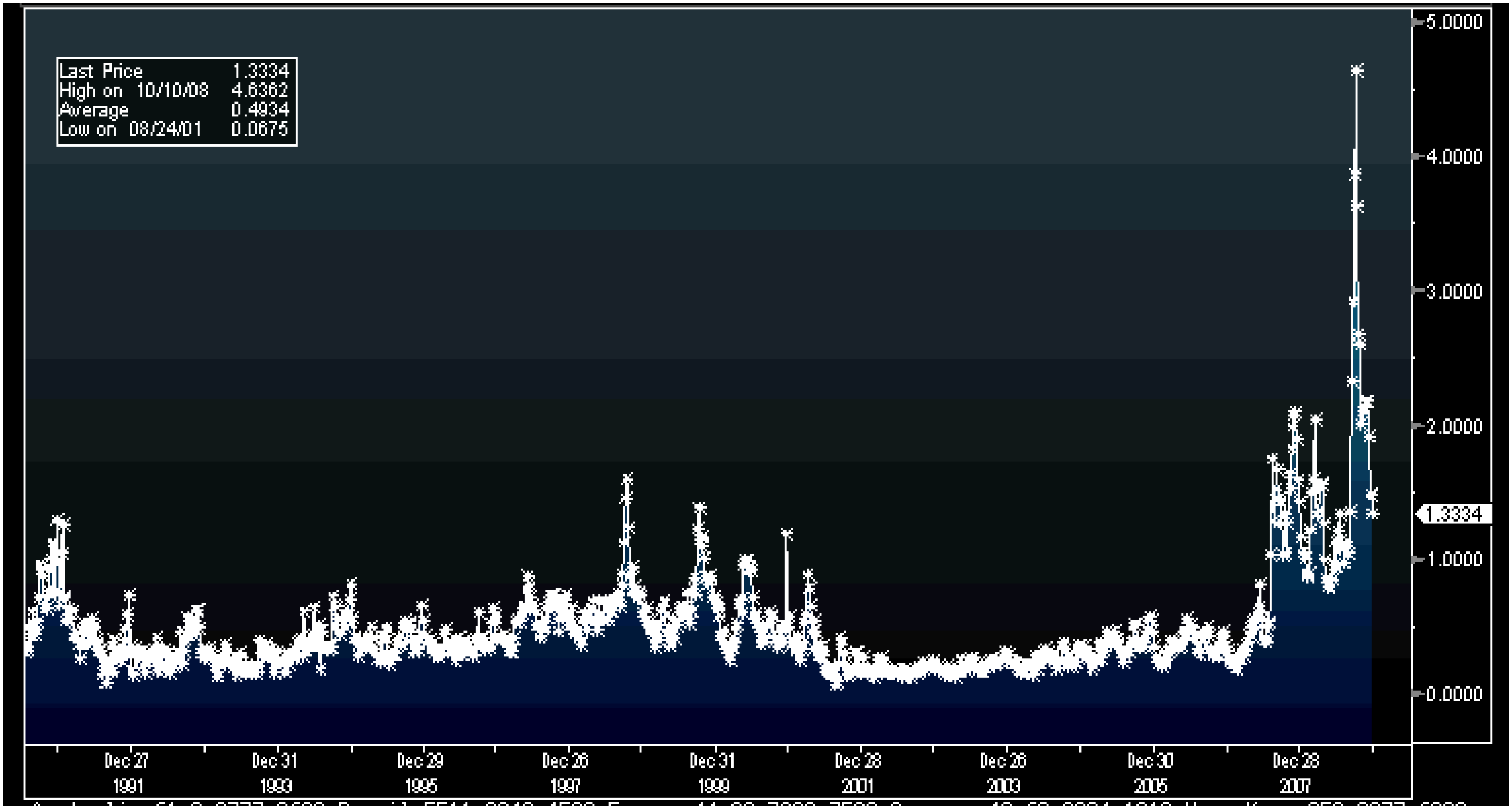
(3 Month LIBOR minus 3 Month T-Bill)

4.6% to 1.3%

BANKS WOULDN'T EVEN TO LEND TO EACH OTHER

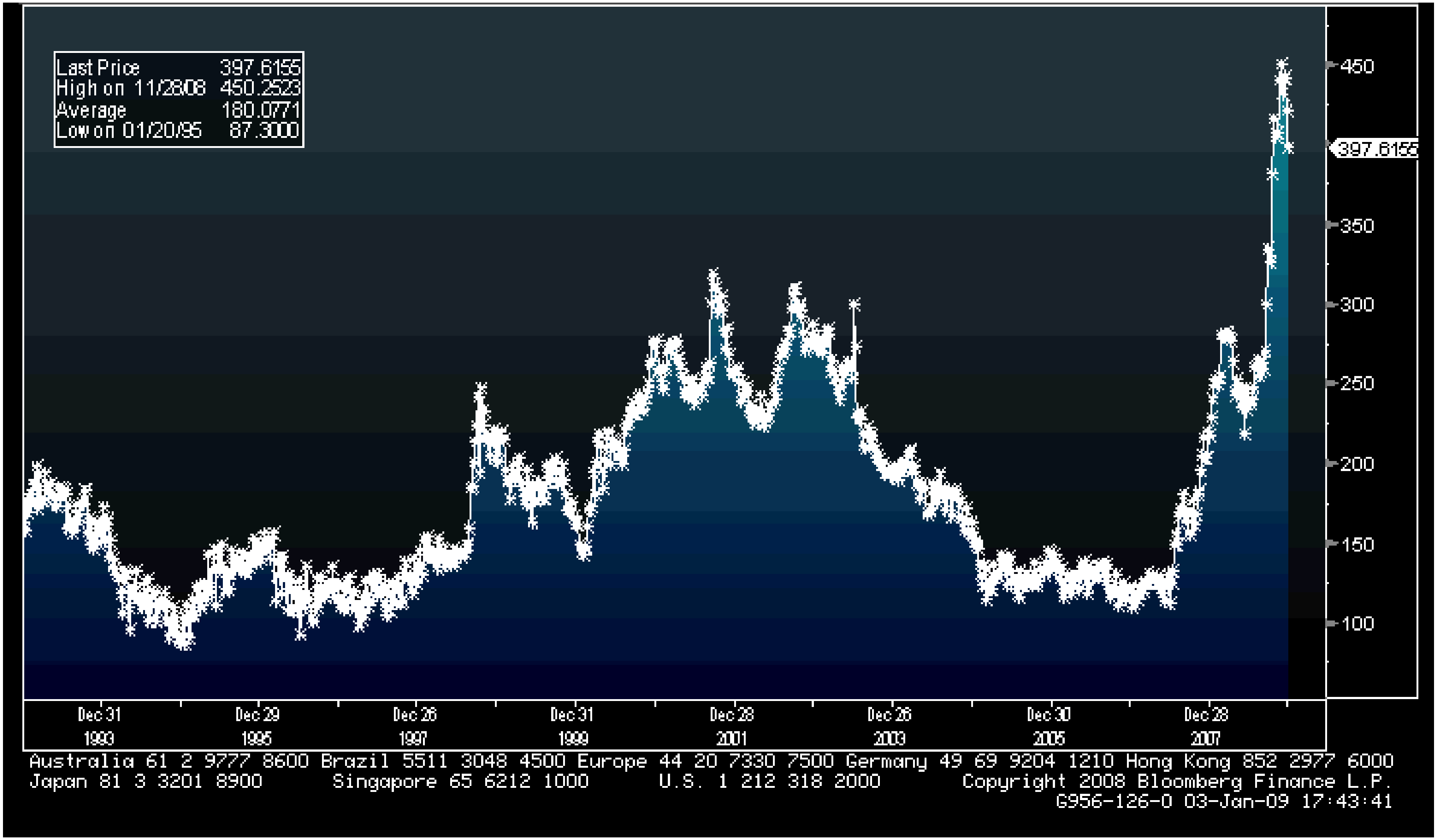
TED SPREAD REACHED HISTORIC HIGHS

NOW AT MERE CRISIS LEVELS



“A” Rated Corporate Debt Spreads to Treasuries Still At Historic Highs

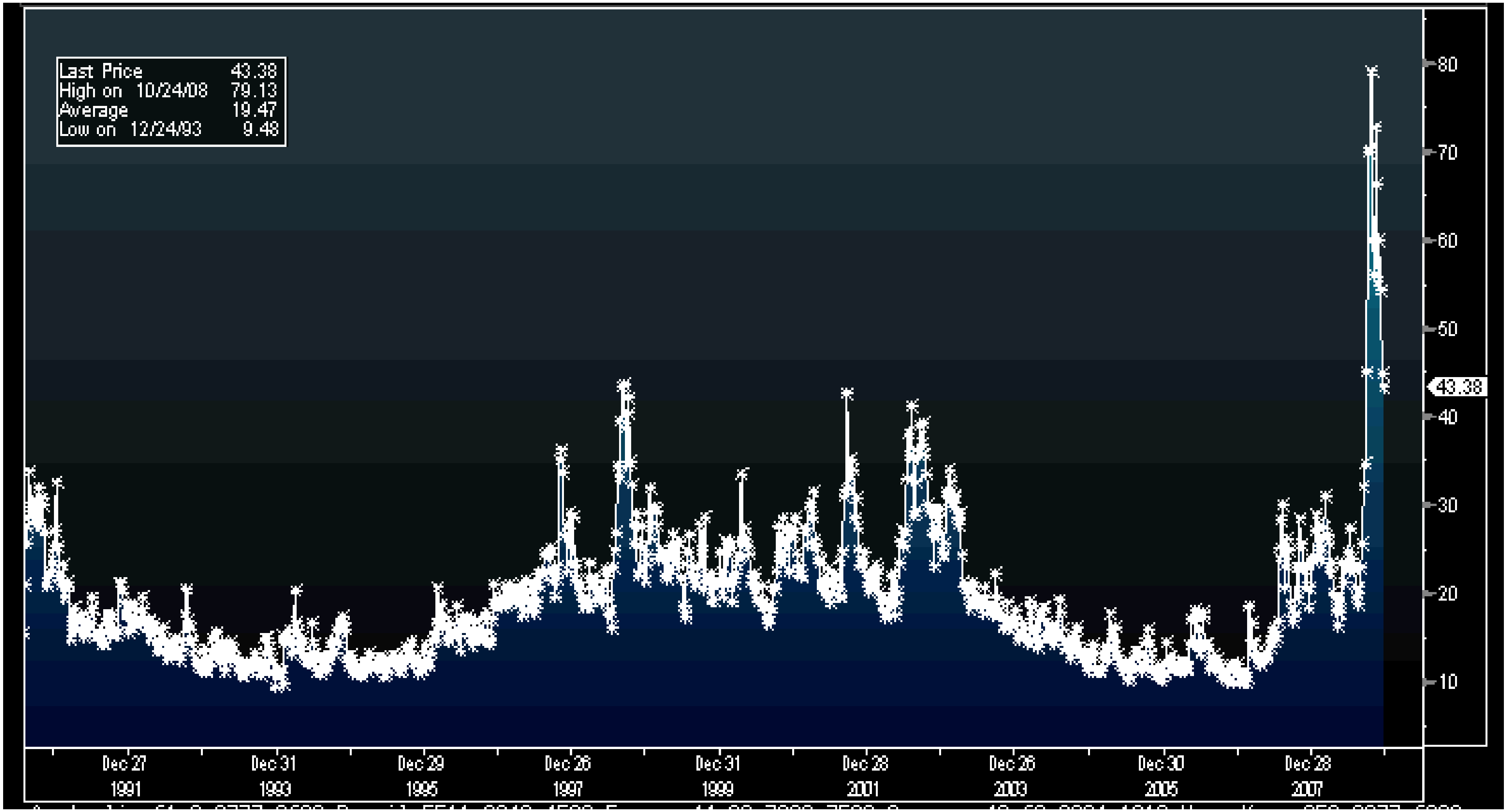
Only recently have begun to narrow



UNCERTAINITY REACHED ALL TIME HIGHS

VIX INDEX -

NOW BACK TO "NORMAL" CRISIS LEVELS



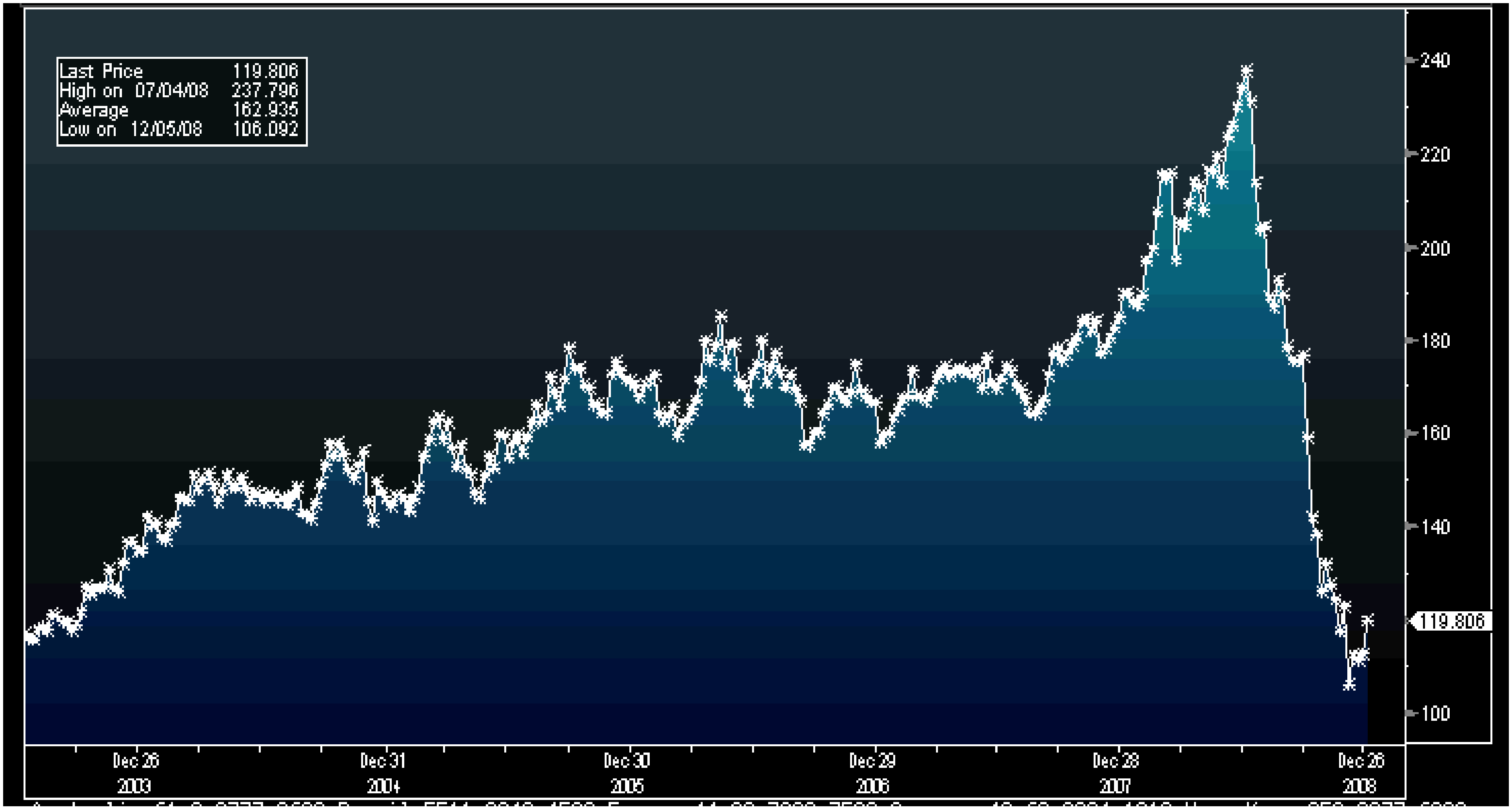
INTERNATIONAL SHIPPING COLLAPSED

Baltic Dry Index

Collapse has stopped, but at very low levels

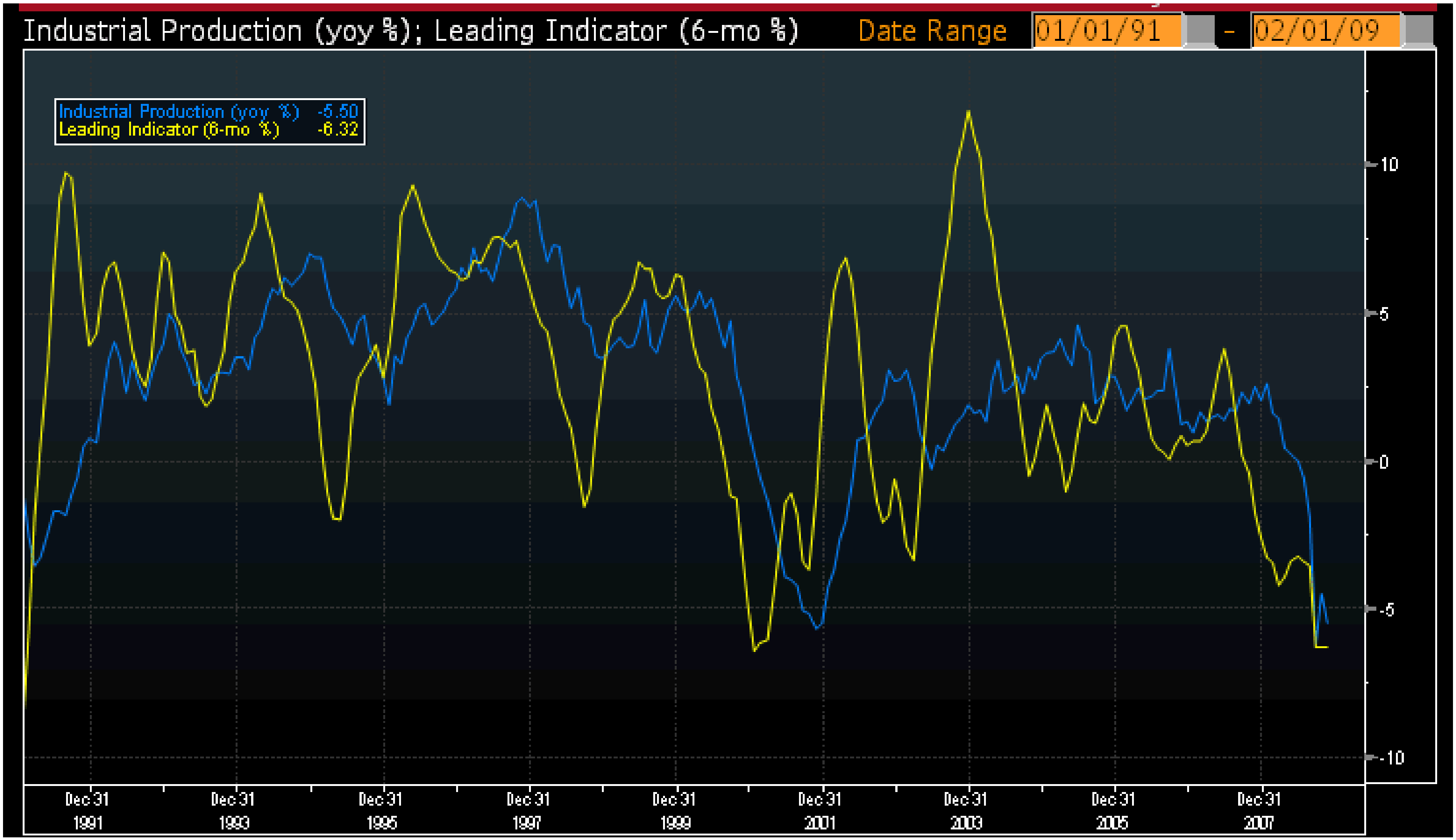
COMMODITY MARKETS FELL OFF A CLIFF AS DEMAND DISAPPEARED

Dow Jones/AIG Commodity Index

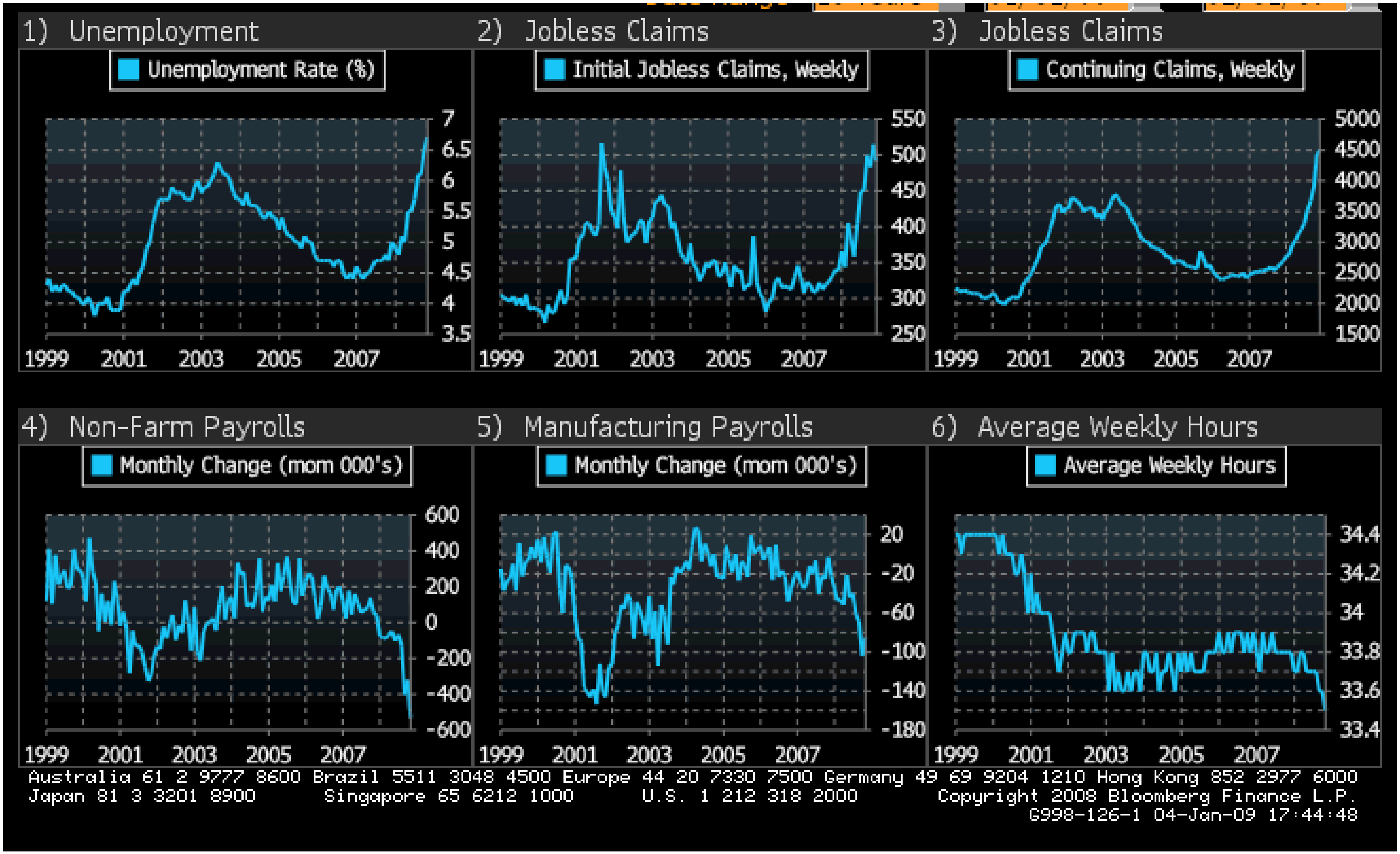


INDUSTRIAL PRODUCTION STILL FALLING

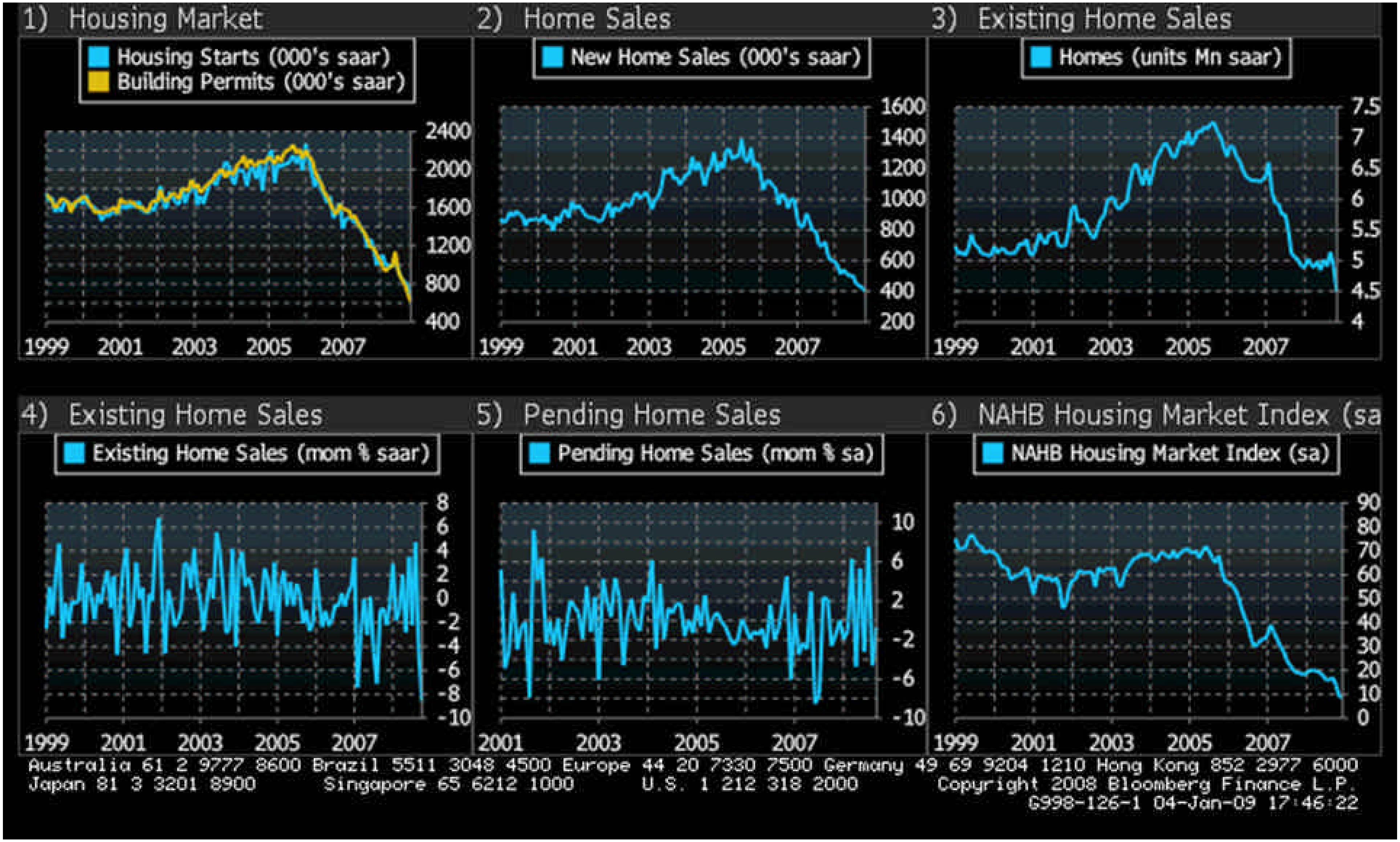
LEAD INDICATOR HASN'T YET TURNED UP



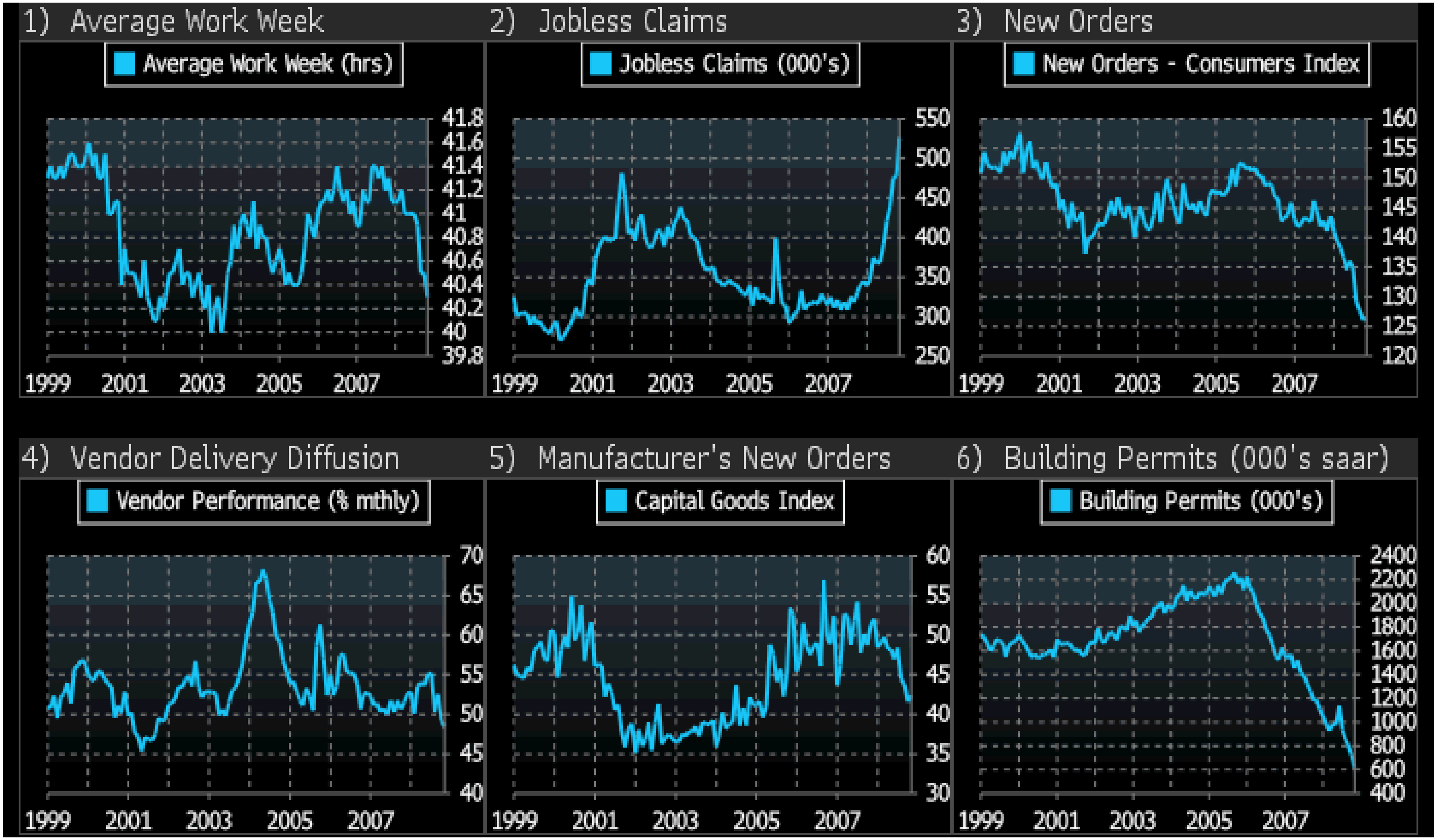
LABOR MARKETS STILL DETERIORATING



HOUSING HASN'T HIT A CLEAR BOTTOM



LEADING INDICATORS SHOW NO SIGN OF APPROACHING TURNAROUND



CURRENT ISSUES

- **How much permanent damage was done by the Great Collapse?**
  - What is the future of securitized markets to support business and consumer loans (auto loans, credit card, new mortgages, commercial real estate)
  - Can or will banking system take up slack with direct loans and credit lines?

- **Can the money being poured into the visible system get to the regular business and consumer?**
  - Problem of getting banks to lend, businesses to borrow and spend, consumers to shop and housing defaults to be addressed?
  - How much?
  - How fast?

- **Will Sharp Global Recession lead to deflation despite Fed Efforts?**

What Will Next Year Be Like? CAPITAL MARKETS 2009

- **Probably a good year**
  - Double digit equity and corporate bond returns
  - Poor private market, government, and real estate returns

- **Assumptions**
  - Fed follows statements with low rates, expanding balance sheet
  - US passes $750 billion + stimulus
  - Europe lowers rates, passes some stimulus
  - Asia provides fiscal stimulus, lowers rates

- **Economy bottoms in late second or third quarter**

- **Capital markets usually react in advance**
  - Bounce back about half to two-thirds of drop
    - Depends on extent of permanent damage
  - Too much damage to get back to even

Market Sectors - 2009

- **Large Cap US**
  - Probably good performer – good cash flows, best positioned to gain from stimulus and current cost reductions (commodities and labor)
- **Small Cap US**
  - OK – benefits from lower financing costs
- **Corporate Credit**
  - Best positioned for early rebound
- **Governments**
  - Mediocre, currently at all time low
- **Europe**
  - Poor economy, restrictive ECB, low coordination
- **Asia**
  - Best positioned for bounce back, great fiscal condition
- **Private Equity and Real Estate**
  - Still needs to reflect current market climate with write-downs
- **Commodities**
  - Likely will bottom, slow recovery from current overproduction
  - Financial Metals (Gold, Silver, etc.) might spike if there is a dollar run
- **Hedge fund and other alternatives**
  - Too much cash, no leverage, more redemptions

CAPITAL MARKET PROSPECTS LONG TERM ISSUES

- **Who will Lend?**
  - Replacement of “Shadow Finance System”
  - Currently only Government Supported institutions
- **Who will Spend?** ***The Paradox of Thrift***
  - US consumer 70% of US GDP, 25% of world GDP
  - Who can replace US consumer if returns to average saving of 5%-6% per year? (Currently 0.6%)
    - Equals 3.5% of GDP, $600 billion per year
    - Asia saving culture, Europe & UK worse off than us
  - Currently only Government Fiscal Stimulus to replace
- **Are we entering the era of deleveraging?**
  - Less borrowing, less spending, less growth
  - Higher equity percentage for purchases, lower price paid
- **Deflation vs Inflation**
  - Money isn’t printed until it is lent and spent
  - If efforts gain traction, can the Fed stop a potential wildfire of inflation?

APPENDIX

PERSI Performance and Allocations

Leverage

Liquidity

Solvency

Mortgage Backed Securities

Credit Default Swaps

PERSI Investment Strategy

- Simple – Rely primarily on Public Markets over time
  - Keep Control of Liabilities
  - Rely Primarily on Market Returns with 70/30 equity/fixed mix
    - Core Index, Play Hard around the Edges
- Transparent – easy to understand and explain
  - Concentrate on Broad Structures and Strategies
    - Broad Mandates with clear or concentrated styles
  - No Black Box Investing
    - Independent Daily Pricing of Public Securities
    - Explainable in Plain English
- Focused – Big Picture Over Long Term
  - Concentrate on material impacts on overall portfolio (10% rule)
  - Small Staff, Citizen Board, Few Decisions

PERSI PORTFOLIO STATUS REPORT

December 31, 2008

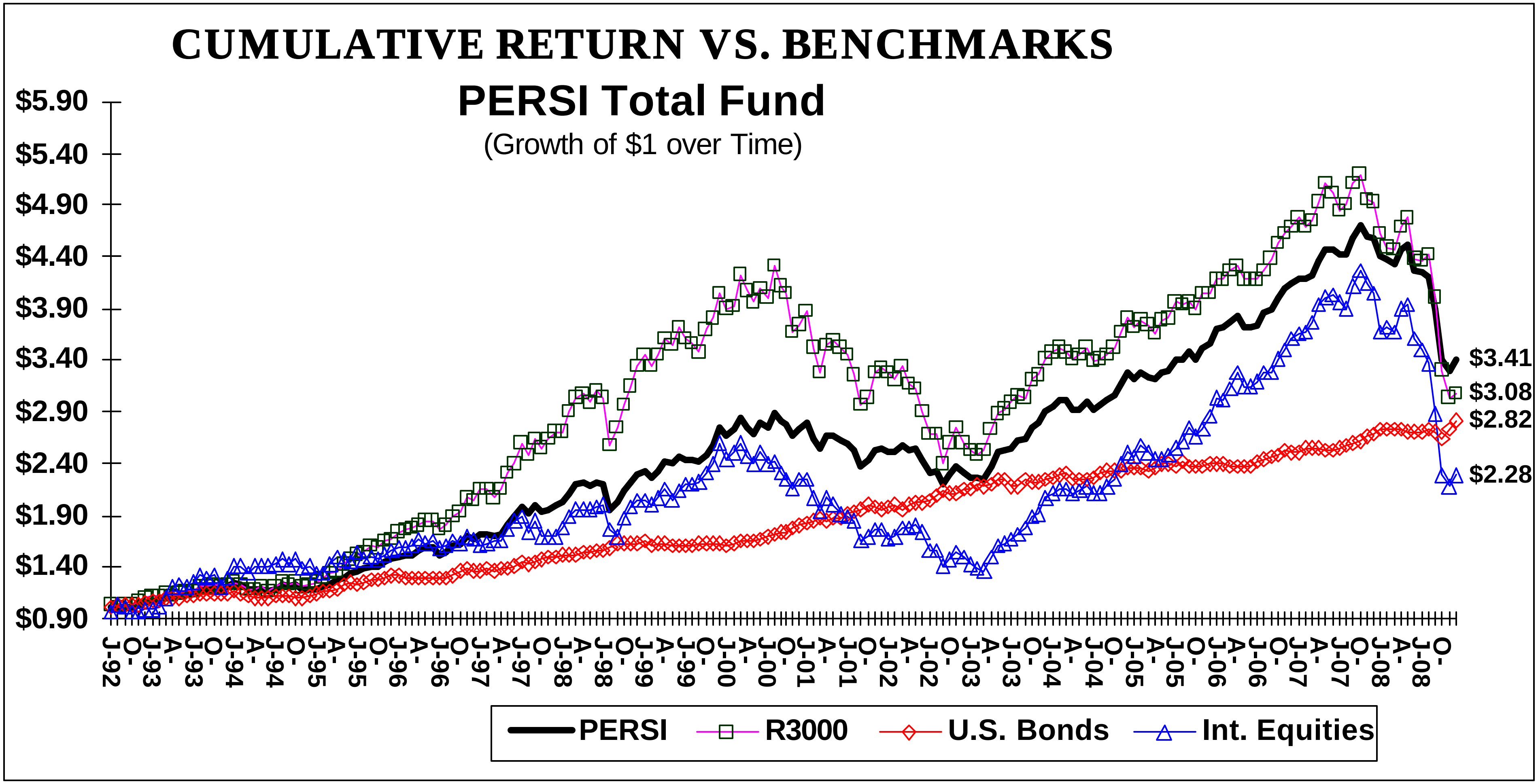
	Latest Month	Fiscal Year to Date
Beginning Value	**$8,373,440,386**	**$10,911,725,873**
Net Contributions	**$4,110,136**	**($37,209,663)**
Investment Gain	**$295,715,603**	**($2,201,250,086)**
Ending Value	**$8,673,266,125**	**$8,673,266,125**

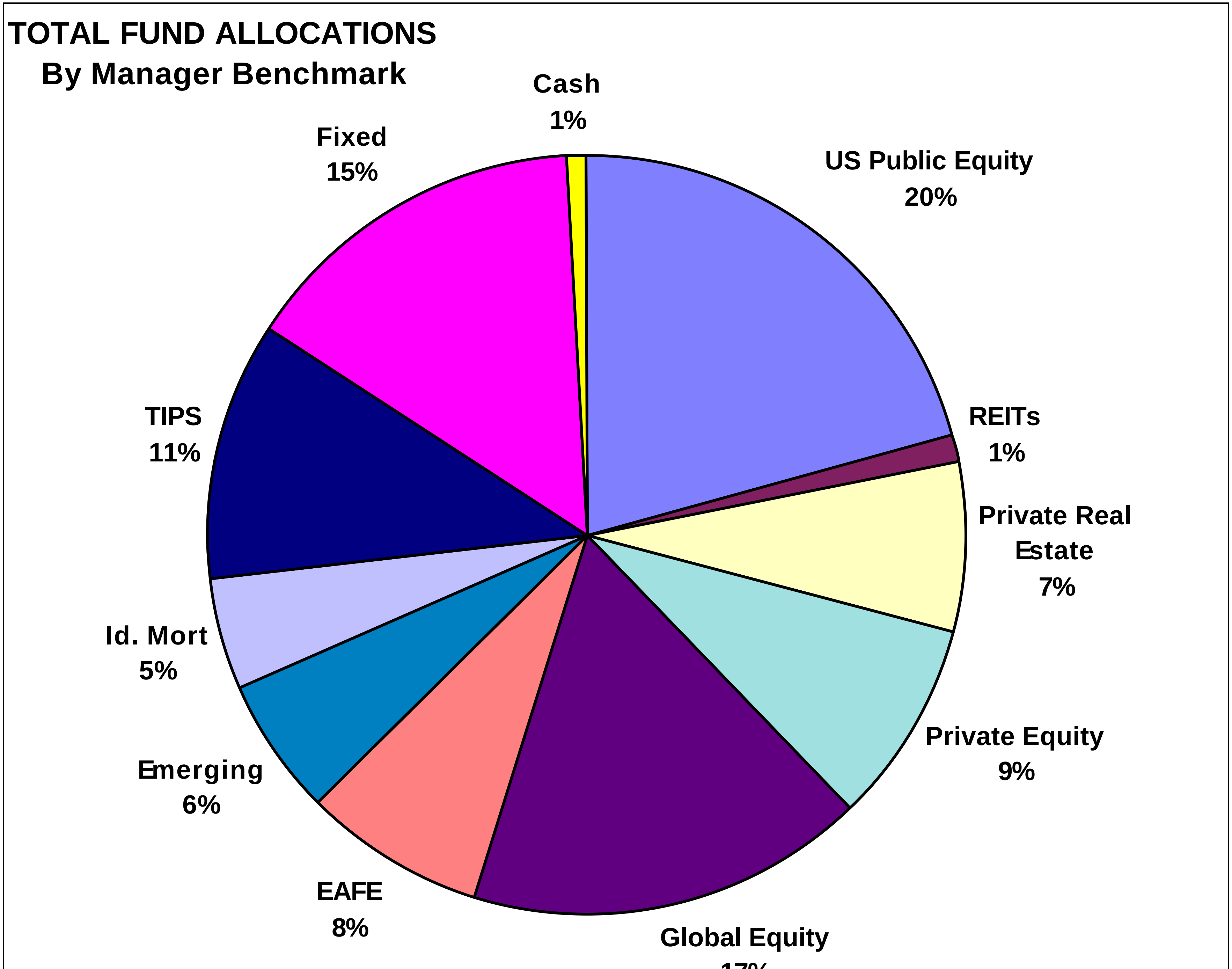
	Month	3 MO	FYTD	1 Yr	2 Yr	3 Yr	4 Yr	5 Yr
Total Fund	**3.5%**	**-12.6%**	**-20.2%**	**-25.3%**	**-9.2%**	**-1.5%**	**1.0%**	**3.3%**
No rebalancing	*2.8%*	*-14.4%*	*-20.6%*	*-25.6%*	*-11.7%*	*-4.2%*	*-1.8%*	*0.6%*
Benchmark (55-15-30)	*2.8%*	*-14.8%*	*-21.7%*	*-27.5%*	*-12.0%*	*-4.2%*	*-1.7%*	*0.7%*
PERSI rebalancing	*2.8%*	*-14.3%*	*-21.1%*	*-27.3%*	*-12.1%*	*-4.1%*	*-1.7%*	*0.7%*
Strategic Policies	*3.0%*	*-13.7%*	***-20.1%***	***-25.5%***	***-10.3%***	***-2.8%***	***-0.4%***	***1.9%***
U.S. Equity	**0.7%**	**-15.3%**	**-18.2%**	**-23.1%**	**-9.7%**	**-1.8%**	**0.5%**	**3.2%**
R3000 Index	*1.6%*	*-23.0%*	*-29.7%*	*-37.5%*	*-18.9%*	*-8.7%*	*-5.2%*	*-2.0%*
Global Equity	**5.9%**	**-23.2%**	**-37.4%**	**-46.7%**	**-22.1%**	**-8.8%**	**-3.9%**	**-0.7%**
World Index	*3.1%*	*-21.8%*	*-33.7%*	*-40.5%*	*-19.2%*	*-7.7%*	*-3.5%*	*0.0%*
Int. Equity	**6.5%**	**-22.8%**	**-39.6%**	**-45.4%**	**-19.3%**	**-6.1%**	**-0.2%**	**3.6%**
MSCI EAFE	*5.2%*	*-20.5%*	*-36.8%*	*-43.5%*	*-20.6%*	*-7.2%*	*-2.3%*	*1.9%*
Fixed Income	**4.5%**	**2.6%**	**1.1%**	**3.1%**	**5.9%**	**5.1%**	**4.5%**	**4.8%**
Lehman Agg	*3.7%*	*4.6%*	*4.1%*	*5.2%*	*6.1%*	*5.5%*	*4.7%*	*4.7%*

CAPITAL MARKET RETURNS SINCE 1992 (Annualized)

U.S. Equities (Russell 3000)	6.9%
S&P 500	6.9%
Small Cap (Russell 2000)	7.3%
International (MSCI EAFE)	5.5%
Emerging Markets	6.2%
Investment Grade Bonds	6.4%
Cash	3.8%

PERSI 7.7%




TOTAL FUND ALLOCATIONS
By Manager Benchmark
Cash
1%
Fixed
15%
US Public Equity
20%
REITs
1%
Private Real Estate
7%
Private Equity
9%
Global Equity
17%
EAFE
8%
Emerging
6%
Id. Mort
5%
TIPS
11%

Concepts - Leverage

- Buying an Asset with Debt
- Example – Buy $1 million House
  - $100,000 equity (personal assets)
  - $900,000 debt (borrow from bank)
    - 10% interest with 30 year loan, owe $90,000 per year
  - Levered 10:1 (Assets to Equity)
    - Each 1% price moves, Net worth moves 10%
      - House price up 10%, net worth up 100%
    - Key issue – financing assets

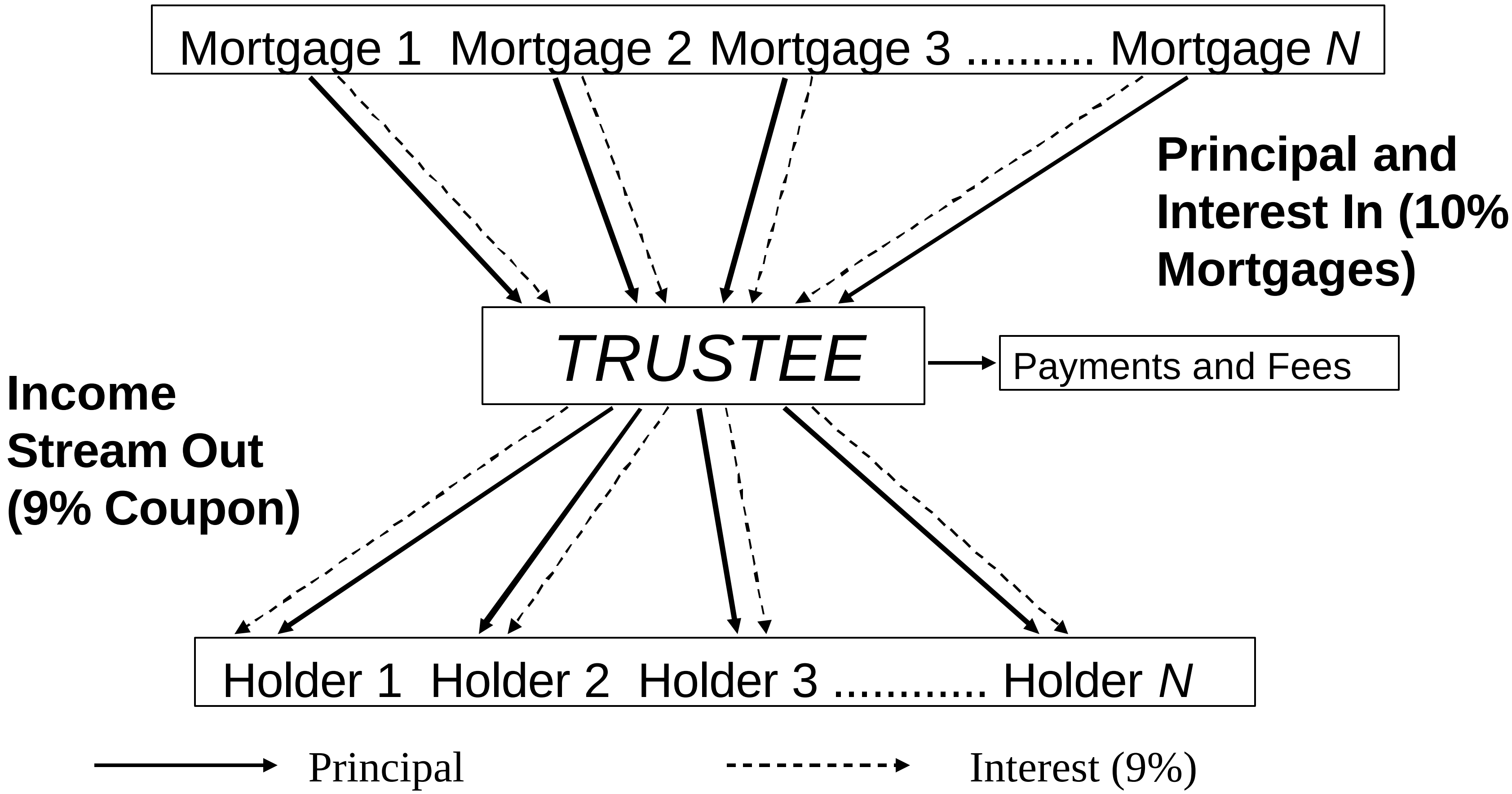
CONCEPTS - LIQUIDITY

- Ability to Pay Liabilities when Due
- Example – Need to pay financing
  - House now worth $1.2 million
    - New Worth now $300,000
      - $1.2 million house - $900,000 mortgage
  - Owe $90,000 in interest
    - If all of money is in house, can't pay and forced into bankruptcy for illiquidity
- May have secondary source for liquidity
  - Short term loan from another source
  - Need to renew year to year

CONCEPTS - SOLVENCY

- Net Worth less than $0
- Example – House now worth $800,000
- Insolvent –
  - House worth $800,000, owe $900,000
  - Net worth - -$100,000
- May or may not be able to pay mortgage
  - Short term lender may not renew loan
    - May not renew if uncertain about worth of house

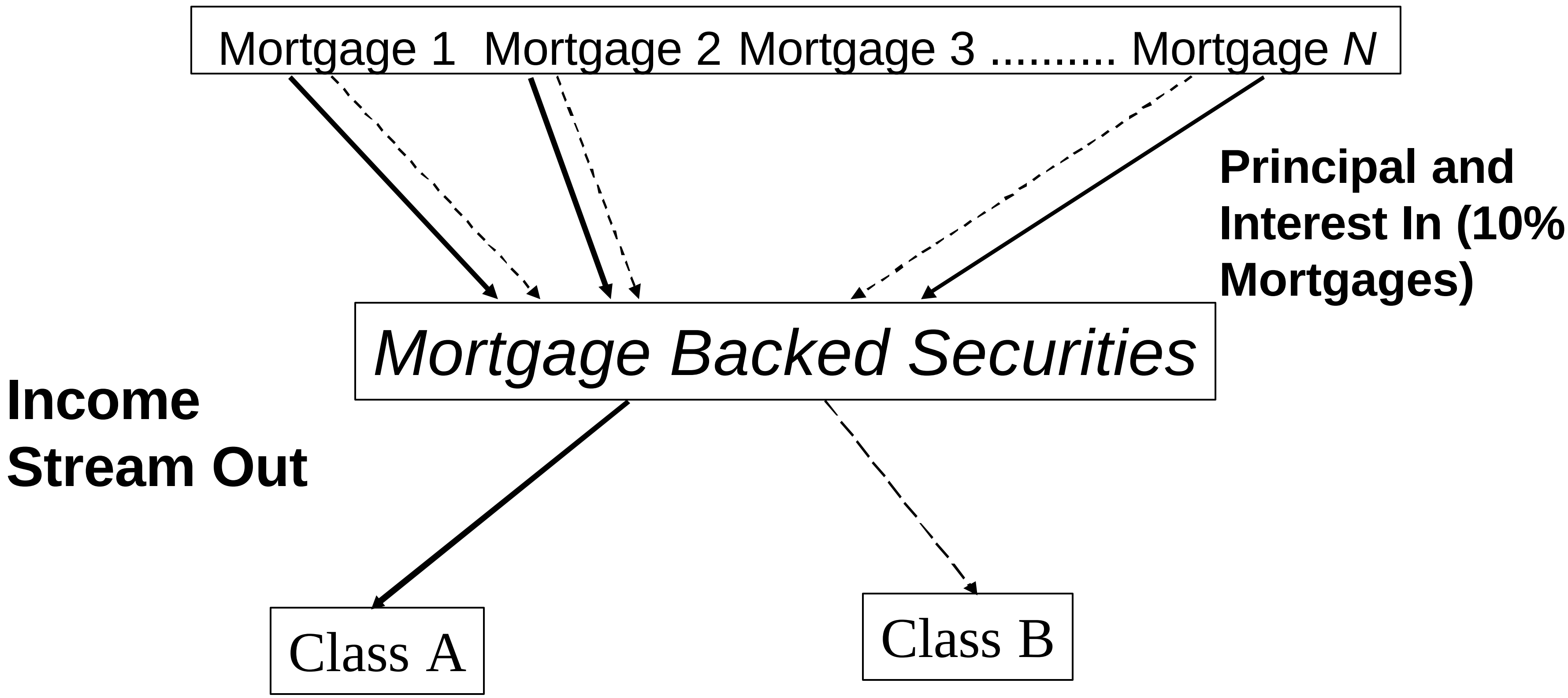
EXAMPLE - MORTGAGE BACKED SECURITIES



Principal paid pro-rata to holders

Interest paid pro-rata to holders

COLLATERALIZED MORTGAGE OBLIGATIONS - IOs AND POs



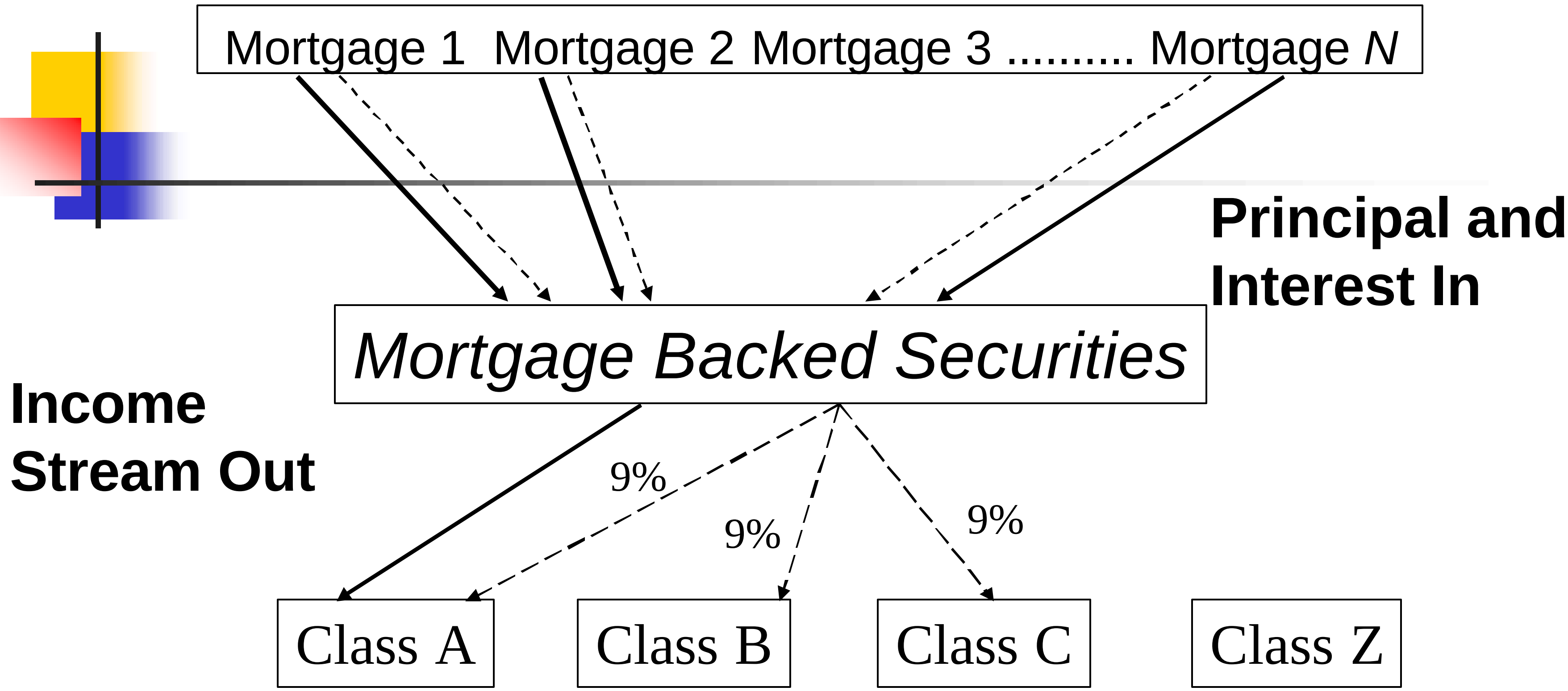
Principal

Interest (9%)

All Principal to A until completely paid off

Interest paid based on amount of outstanding principal.

CMO - SEQUENTIAL PAY WITH ACCRUAL



Principal

Interest

All Principal plus interest from Z bond to A until completely paid off, then to B, then to C

Interest paid based on amount of outstanding principal.

Accrual Bond - Does not receive current interest. Instead, interest accrues and is added to principal. Since principal increases, interest accruing increases.

CMO - VARIABLE INTEREST

Mortgage Backed Securities

9% 9%

Class A Class B Class C Class Z

Income Stream Out

Class F (Floater)
90 Day T-Bill

Class IF (Inverse Floater)
9% - 90 Day T-Bill

Floating Interest

Interest paid based on amount of outstanding principal. Here capped at 9%.

Principal

All Principal plus interest from Z bond until completely paid off

Inverse Floating Interest

Interest paid based on amount of outstanding principal. Here capped at 0%.