

**THE CARLYLE GROUP**

**The Impact of the Financial Services  
Meltdown on The Global Economy And The  
Private Equity Industry**

**David Rubenstein, Co-Founder**

**Super Return Dubai**

**October 15, 2008**

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# THE CARLYLE GROUP

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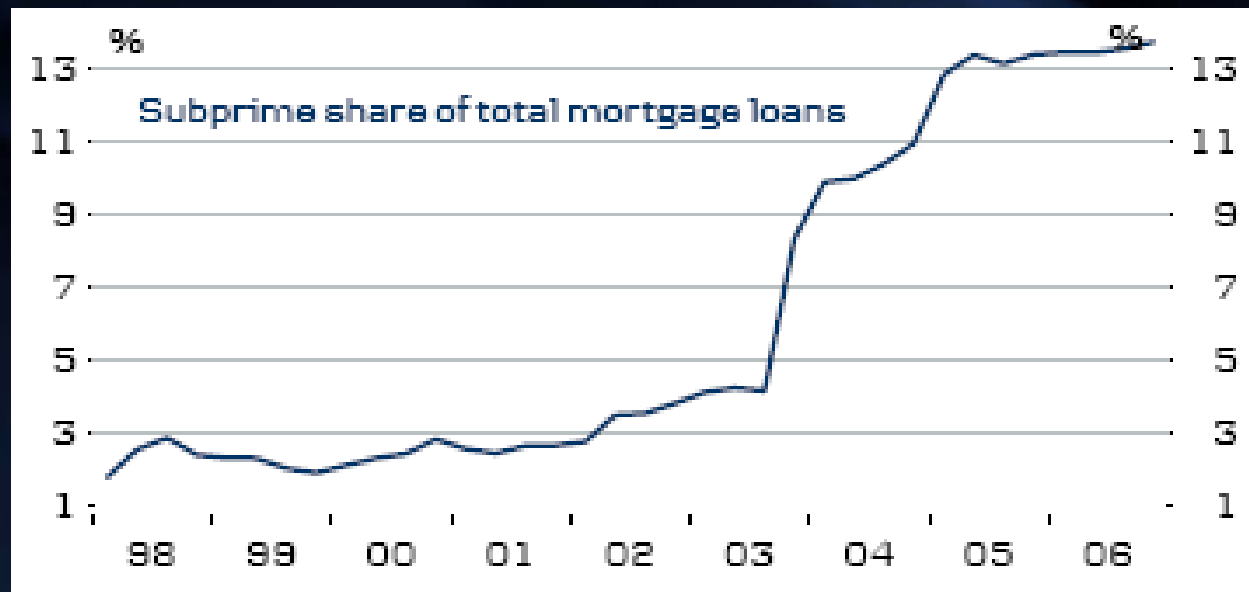
## The Meltdown

**How Did This Happen?**

# Excesses in The US Housing And Mortgage Markets Are A Root Cause

- Subprime loans accounted for 15% of the US mortgage market in 2006 vs. 3% in 2002

**Subprime Share of Total Mortgage Market<sup>(1)</sup>**

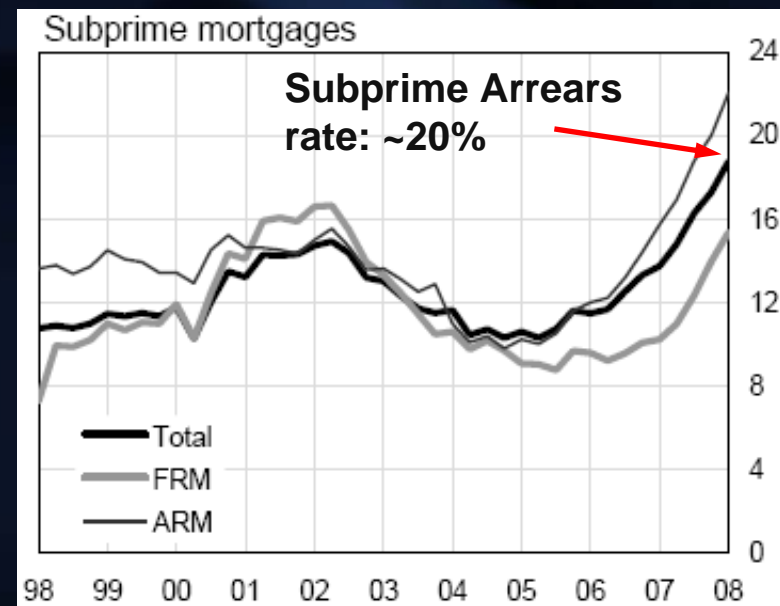
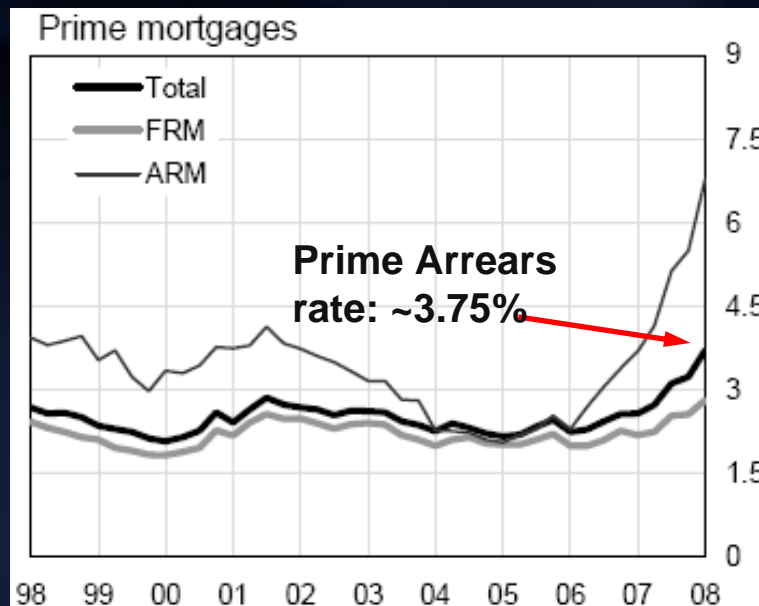


(1) Source: Danske Bank. March 30, 2008.

# Excesses in The US Housing And Mortgage Markets Are A Root Cause

- The more than \$600 billion of subprime mortgages that were issued in the US proved riskier than anticipated

## Mortgage Arrears Rates: Prime vs. Subprime<sup>(1)</sup>

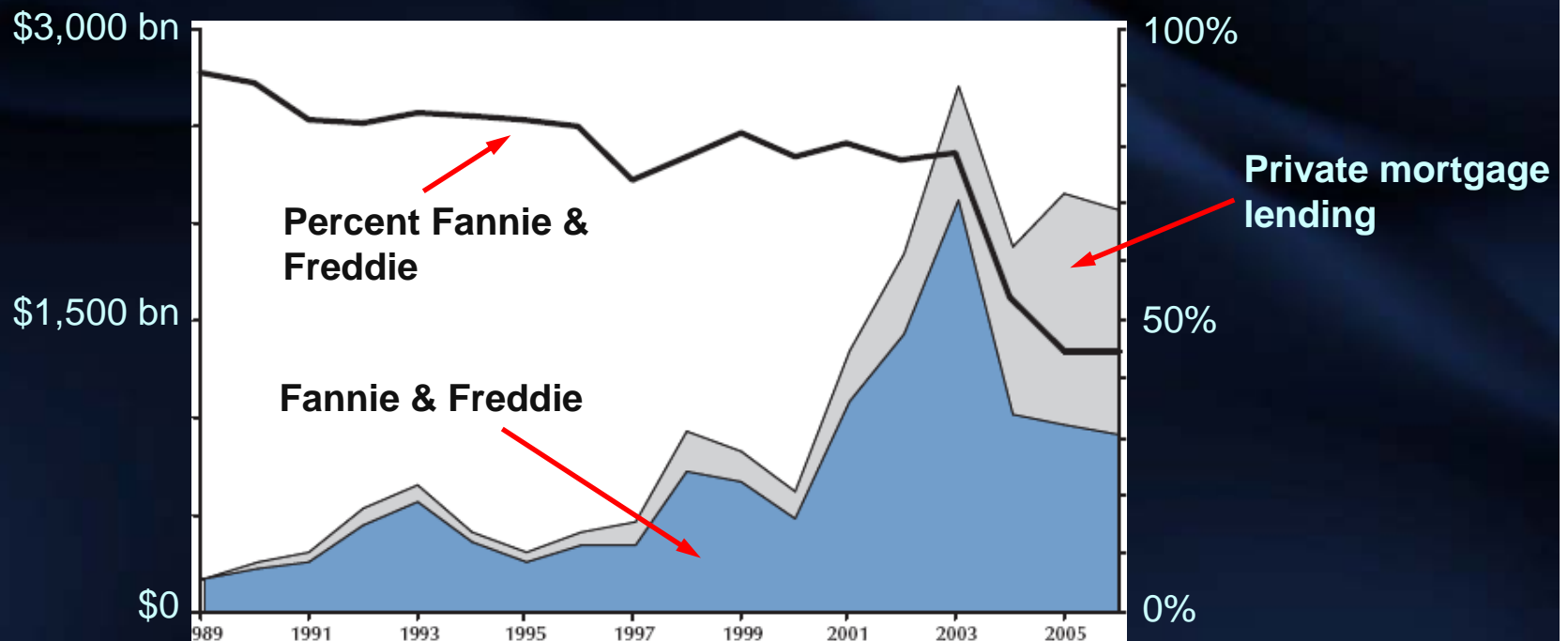


(1) Source: Chicago Fed Letter, August 2007.

# Excesses in The US Housing And Mortgage Markets Are A Root Cause

- To compete with private lenders, Fannie Mae and Freddie Mac lowered lending standards and provided mortgage loans to subprime borrowers

## GSE Mortgage Lending: Total Value & % of Market

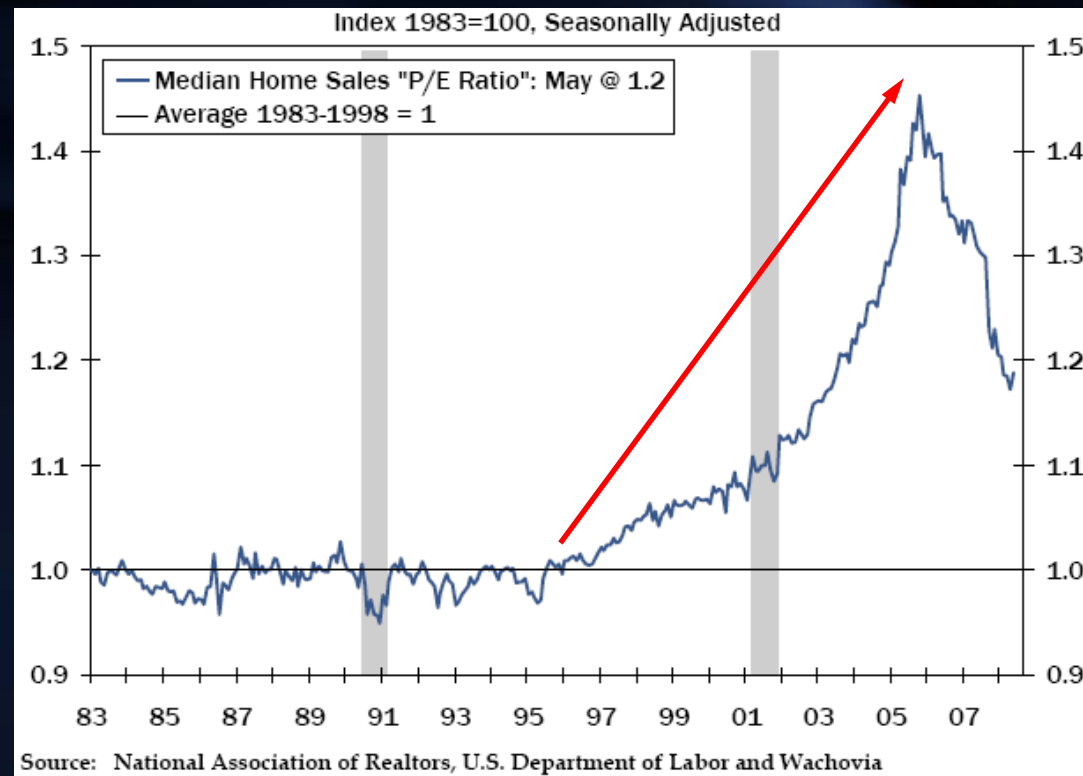


(1) Source: *A Primer on the Mortgage Market & Mortgage Finance*, St. Louis Fed. Reserve Bank. February 2008.

# Excesses in The US Housing And Mortgage Markets Are A Root Cause

- Easy credit and lax lending standards fueled an unprecedented bubble in house prices

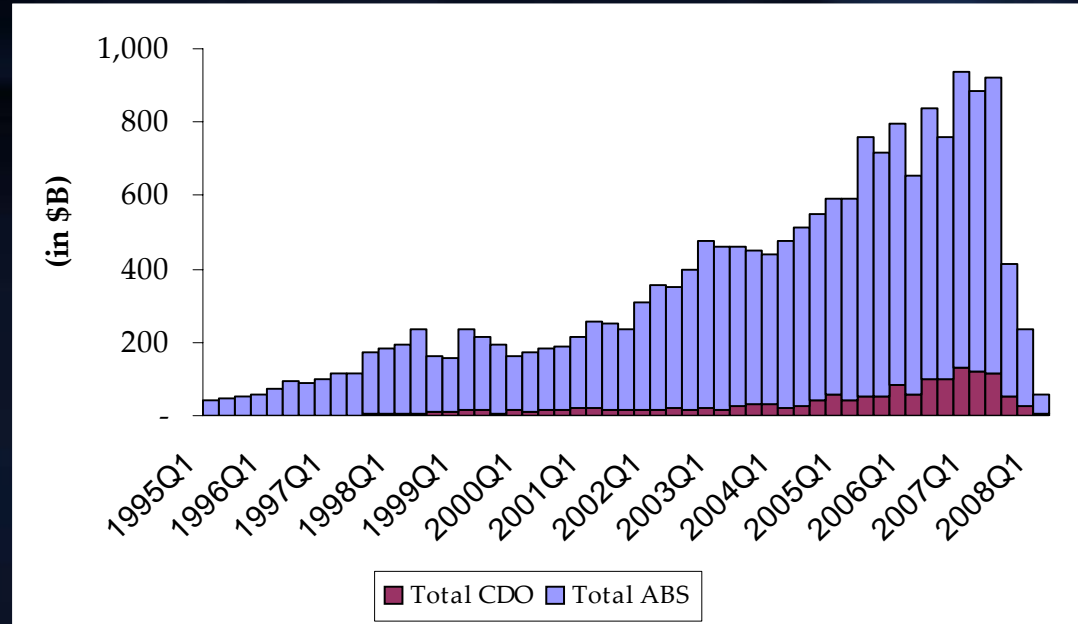
## Median US Home Price Relative to Owner's Rent



# Mortgages Were Packaged Into Structured Financial Products

- Trillions of dollars of asset backed securities and CDOs were distributed throughout the financial system

**Global Issuance of Structured Financial Products<sup>(1)</sup>  
(\$ billions)**



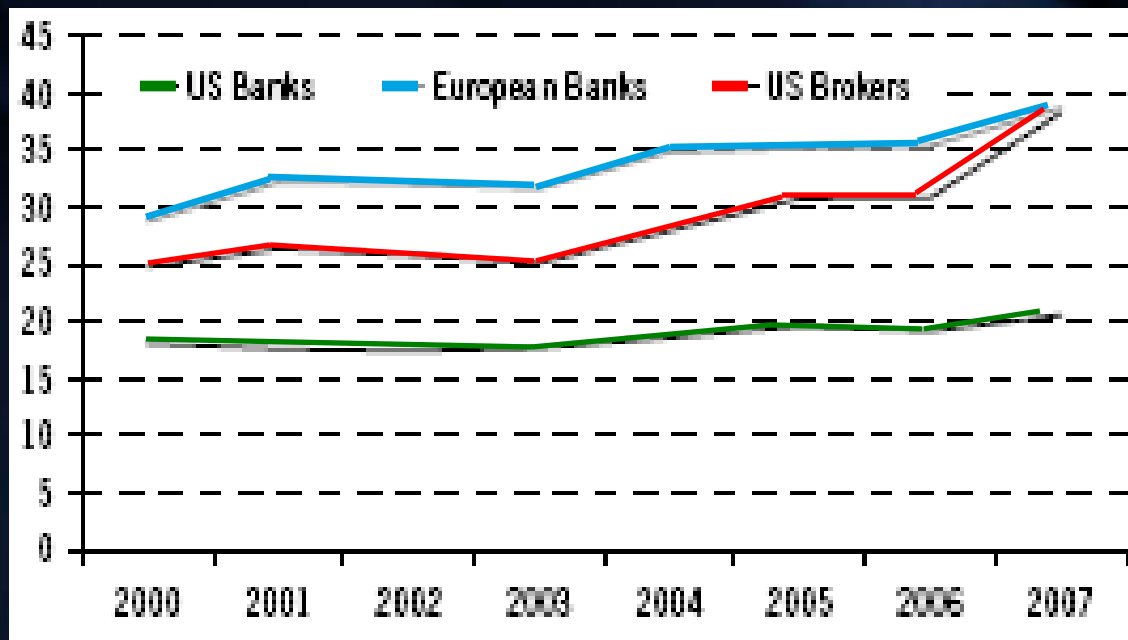
(1) Source: Lehman Brothers, April 2008.



# Financial Institutions Dramatically Increased Leverage Levels

- Investment banks, hedge funds, and even commercial banks used borrowed money to invest in structured financial products

**Bank & Broker Leverage Levels (Assets/Equity)**

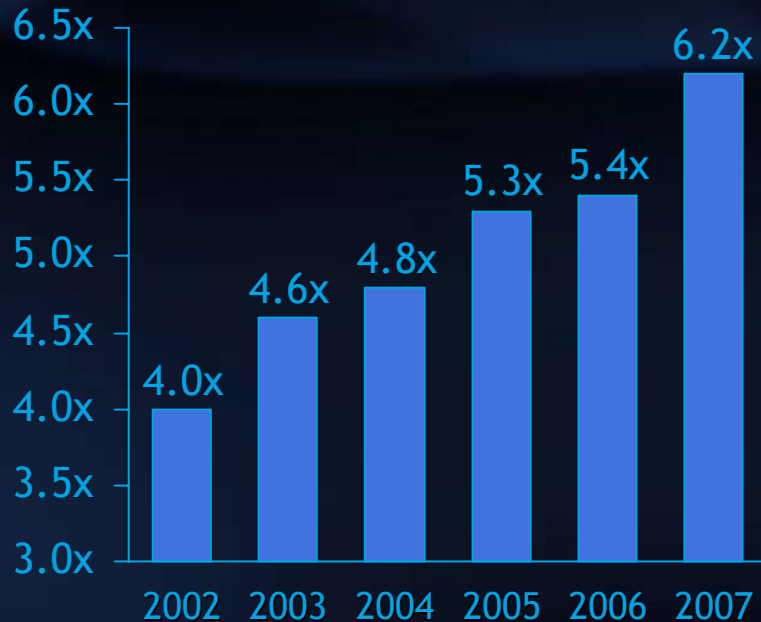


(1) Source: Citigroup. September, 17 2008.

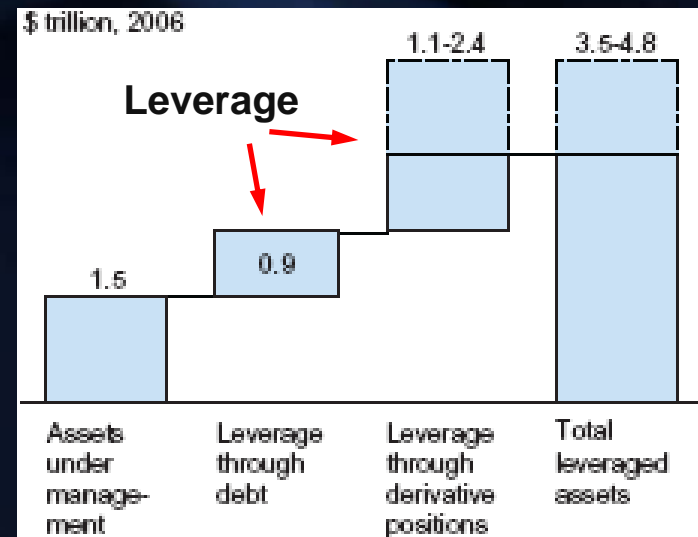
# Hedge Funds and Private Equity Firms Increased Their Use of Leverage

- Hedge funds and private equity firms control ~\$2.5 trillion of equity but borrowed several times this amount to fund their investments

### Private Equity Leverage Multiples<sup>(1)</sup>



### Estimated Hedge Fund Leverage<sup>(2)</sup>



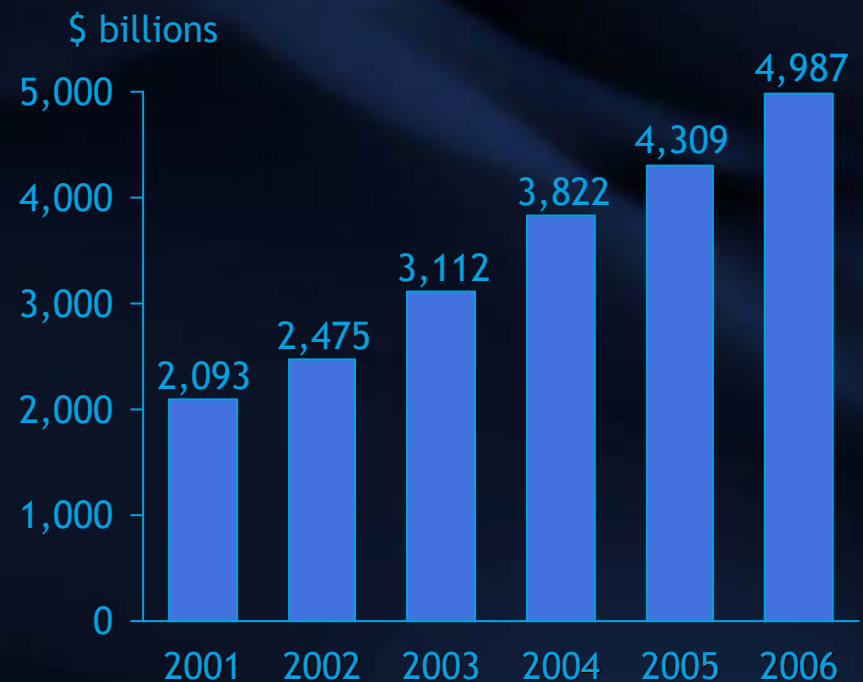
# Sovereign Wealth Funds And Central Banks Bolstered Global Liquidity

- Petrodollar inflows and exchange rate management policies resulted in massive capital accumulations throughout the developing world

**Top Five Sovereign Wealth Funds<sup>(1)</sup>**  
(\$ billions)



**Global Foreign Exchange Reserves<sup>(2)</sup>**



# Rating Agencies Propagated The Illusion of A Low Risk Investment Environment

- They assigned high, investment grade ratings to opaque structured financial products and debt issued by highly leveraged companies
- Since the outbreak of the credit crisis, they have downgraded over \$1.9 trillion of mortgage backed securities

**Rating Agency Downgrades: Mortgage Backed Securities<sup>(1)</sup>**  
**(\$ billions)**



(1) Source: Citigroup. September, 17 2008.

# The Bottom Line Is That Systemic Leverage Rose To Unprecedented Heights

- Total U.S. Credit Market Debt Has Risen to 350% of GDP

## Total Credit Market Debt / U.S. GDP (1)



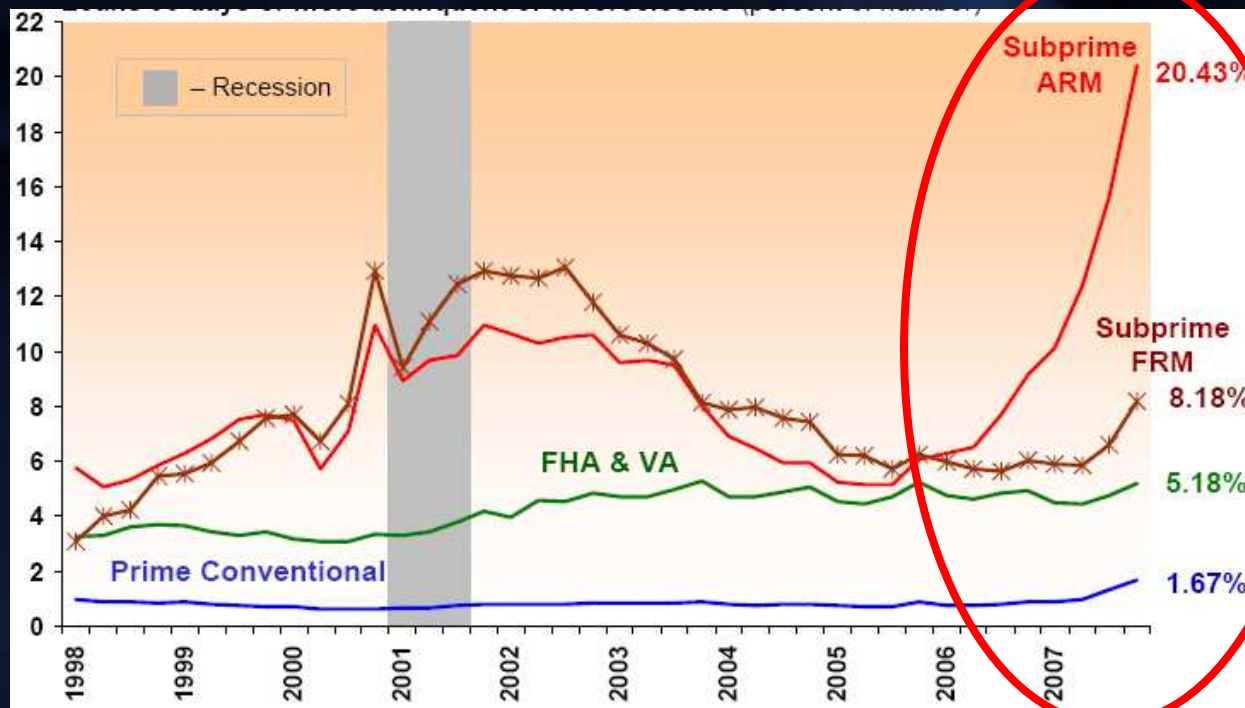
(1) Source: Ned Davis Research, 2008.

# Warning Signs

# Default Rates Started to Rise

- Default rates on certain types of subprime mortgages had risen to above 20% (vs. 6% at the beginning of 2005)

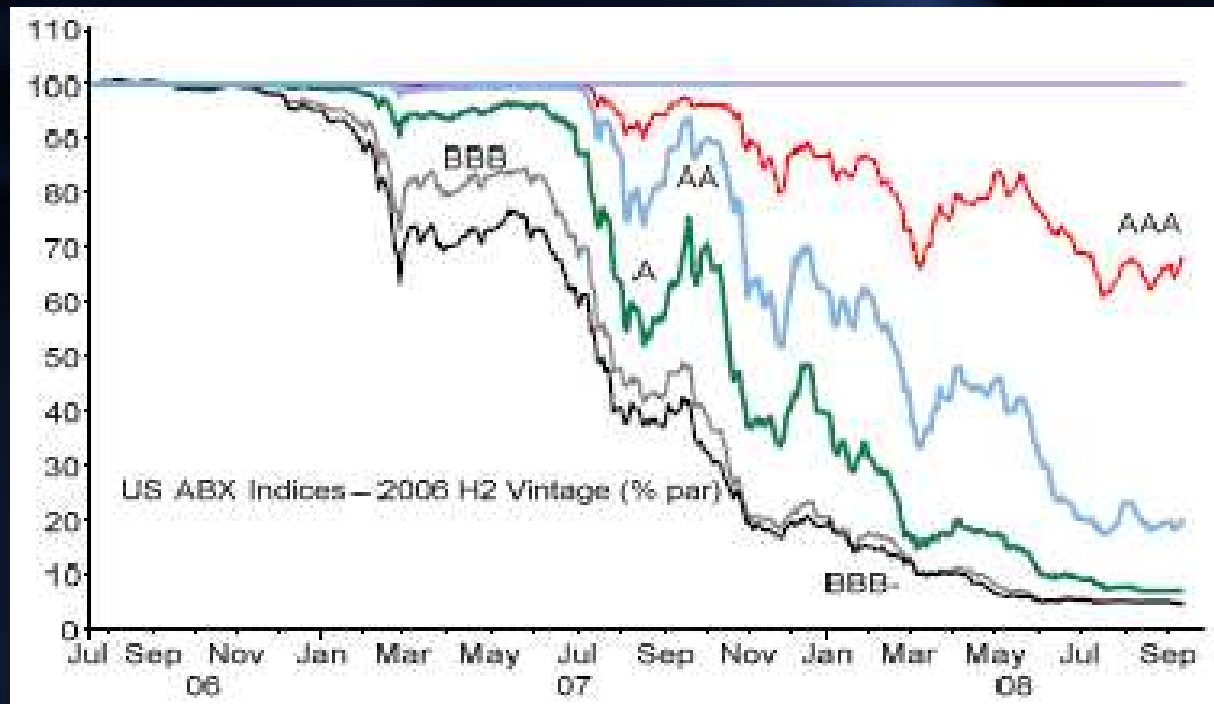
Mortgage Default Rates<sup>(1)</sup>



# The Market Prices of Mortgage Backed Securities Fell Precipitously

- Market prices of mortgage backed securities had fallen dramatically by the end of last summer

## Price Performance of Asset Backed Security Indexes<sup>(1)</sup>



(1) Source: BNP Paribas, September 15, 2008.



# Investment Banks Couldn't Syndicate High Yield LBO Debt

- Private equity deals started to fall apart as debt markets re-priced risk and rejected complex structures

## Large LBO Failures

- Sallie Mae (\$25.5 billion)
- Huntsman (\$10.6 billion)
- Affiliated Computer Services (\$8.0 billion)
- Harman International (\$8.2 billion)
- Alliance Data (\$7.8 billion)
- Penn National Gaming (\$6.1 billion)
- United Rentals (\$4.0 billion)
- Acxiom (\$2.9 billion)

# Investment Funds Lost Billions Betting on Risky Credit Instruments

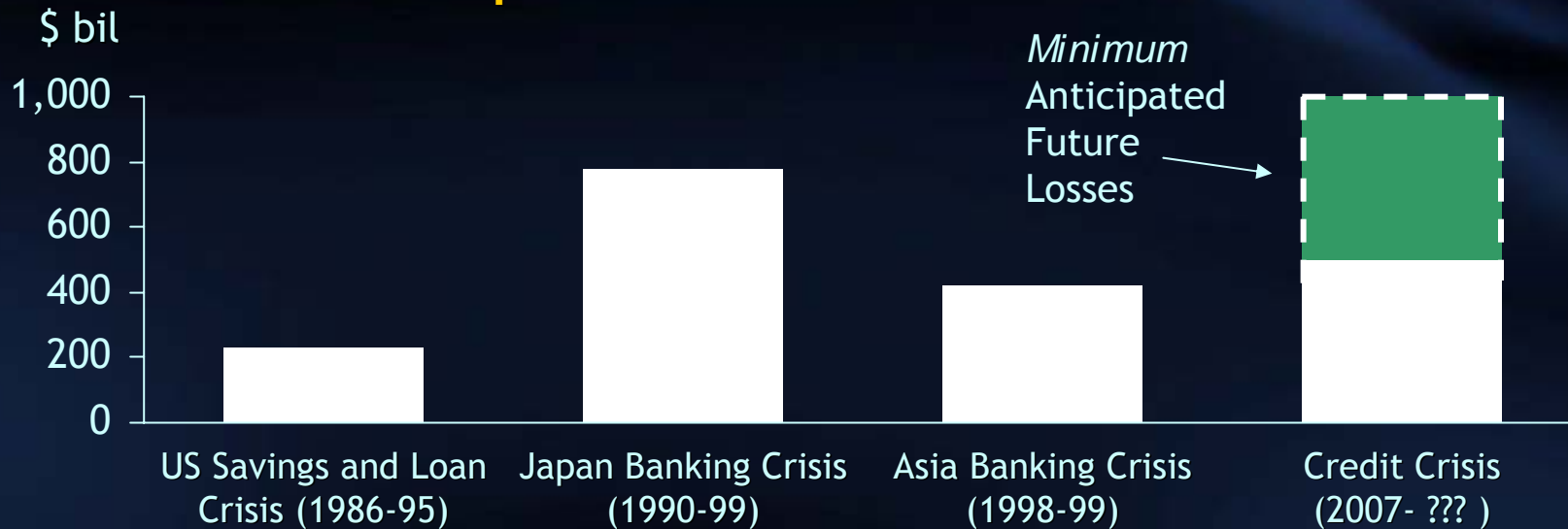
- Two of Bear Stearns' flagship hedge funds collapsed in July 2007
  - The funds had invested \$1.5 billion in subprime CDO's
  - These failures were followed by the collapse of Sowood Capital, a prominent \$3 billion hedge fund
- Structured Investment Vehicles (SIVs) announced billions of dollars of losses and were liquidated
  - They had borrowed heavily in the short-term debt markets to fund purchases of CDOs and other long-term, risky debt instruments

# Systemic Risk

# Financial Institutions Announced Massive Losses On Mortgages and Credit Instruments

- Financial institutions have sustained over \$500 billion dollars of write-downs since the credit crisis began
  - The IMF expects that total financial losses will exceed those of any past crisis

**IMF Comparison of Losses Across Financial Crises<sup>(1)</sup>**



(1) International Monetary Fund, "Global Financial Stability Report," April 2008.

# Several Systemically Important Institutions Have Failed in the US

- Victims of the credit crisis:
  - Bear Stearns (investment bank) – Saved from bankruptcy by government backed sale to JP Morgan
  - Lehman Brothers (investment bank) – Bankrupt
  - AIG (world's largest insurance co.) – Bailed out
  - Washington Mutual (6<sup>th</sup> largest US bank\*) – Assets seized by the government and sold to JP Morgan
  - Wachovia (3<sup>rd</sup> largest US bank\*) – Sold to Wells Fargo after an aborted bid by Citigroup

# A Radical Policy Response Seeks To Prevent A Systemic Collapse

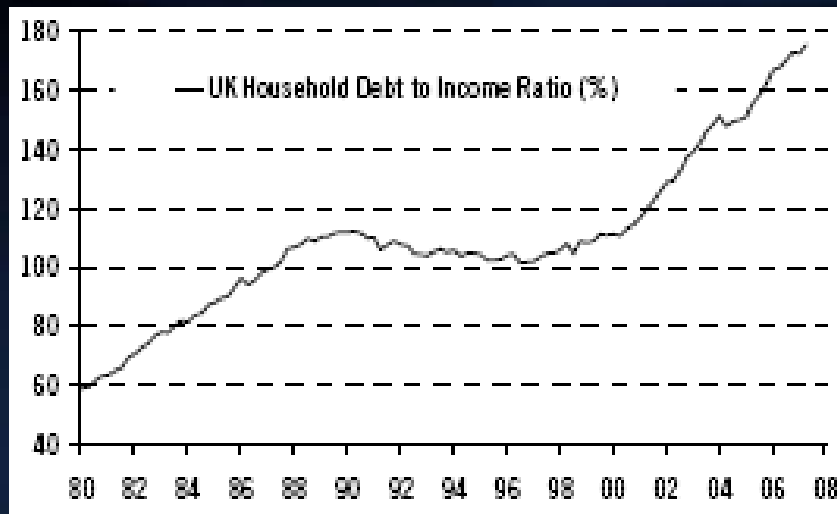
- Under the Troubled Asset Relief Plan (TARP), the Treasury Department is:
  - Purchasing up to \$250 billion in equity stakes in US financial institutions, including \$20-25 billion stakes in Bank of America, Citigroup, and Wells Fargo and \$10 billion stakes in Goldman Sachs and Morgan Stanley
  - Purchasing up to \$700 billion of financial sector assets
- The FDIC is guaranteeing certain types of bank debt and has increased deposit insurance to \$250,000
- The Federal Reserve has taken extraordinary steps:
  - Allowed banks to post unconventional assets as collateral
  - Begun purchasing commercial paper from corporations
  - Extended a \$50Bn credit line to money market funds
  - Begun paying interest on bank reserves

# Europe

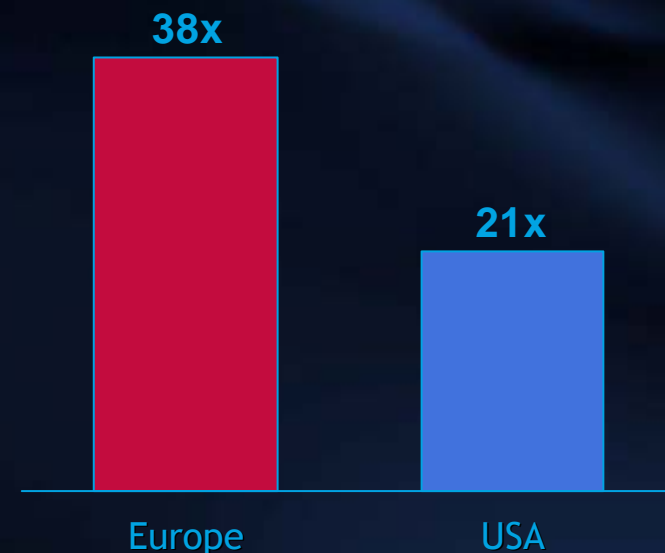
# The Credit Crisis Has Struck Europe With A Vengeance

- Europe's economies are in many ways as vulnerable as America's
  - Leverage levels are high, house prices are inflated, and financial institutions have suffered deep losses

**UK Household Debt/Income (%)<sup>(1)</sup>**



**Bank Leverage: Europe vs. USA<sup>(1)</sup>  
(Assets/Equity)**





# Large European Financial Institutions Have Experienced Extreme Distress

## ➤ In the United Kingdom

- RBS – The British government is recapitalizing Europe's largest bank by assets
- HBOS & Lloyds TSB – The UK government is injecting capital into both banks (Britain's 4<sup>th</sup> & 5<sup>th</sup> largest), having already engineered their merger
- Northern Rock and Bradford & Bingley – Two of the UK's largest mortgage lenders became insolvent and were nationalized

## ➤ In Germany

- Hypo Real Estate – Bailed out by the German government

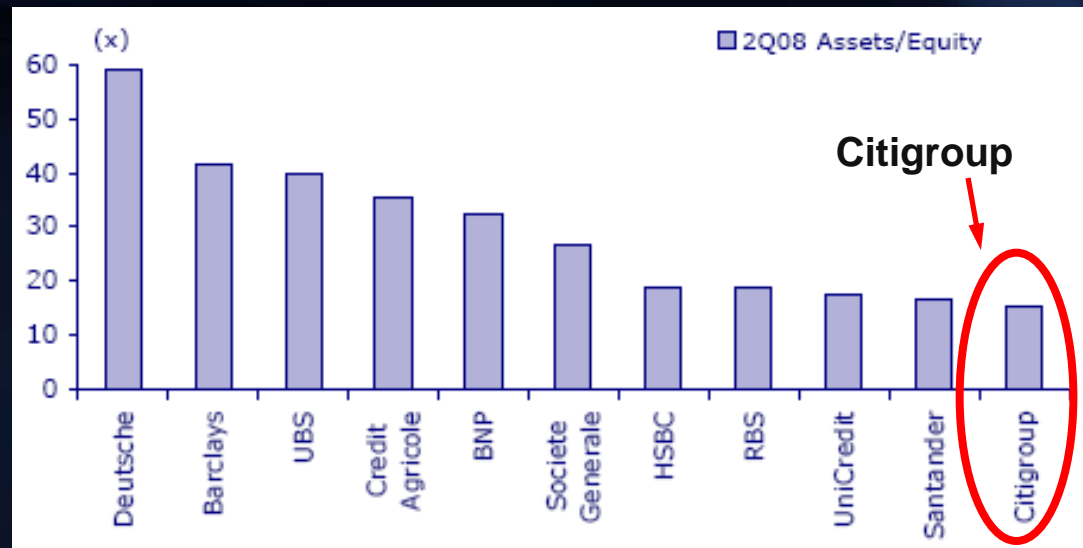
## ➤ In France & Belgium

- Fortis – Europe's 11<sup>th</sup> largest bank was sold off piecemeal and partly nationalized
- Dexia – France and Belgium were forced to recapitalize Europe's 16<sup>th</sup> largest bank

# Other Systemically Important European Banks Are at Risk

- Many of Europe's largest banks operate at very high leverage levels
  - One reason is that many of them have highly leveraged investment banking operations

## European Banks' Leverage Ratio Compared With Citigroup<sup>(1)</sup>



# European Governments Have Been Forced To Take Radical Action

- European governments have pledged a total of \$2.5 trillion to guarantee bank debt and purchase equity stakes in financial institutions
- Eurozone governments have agreed to guarantee all new bank debt issuance through 2009
- Ireland, Germany, and Denmark have guaranteed all consumer bank deposits
- European central banks are offering unlimited dollar funding to banks in order to unclog interbank lending

# European Governments Have Been Forced To Take Radical Action

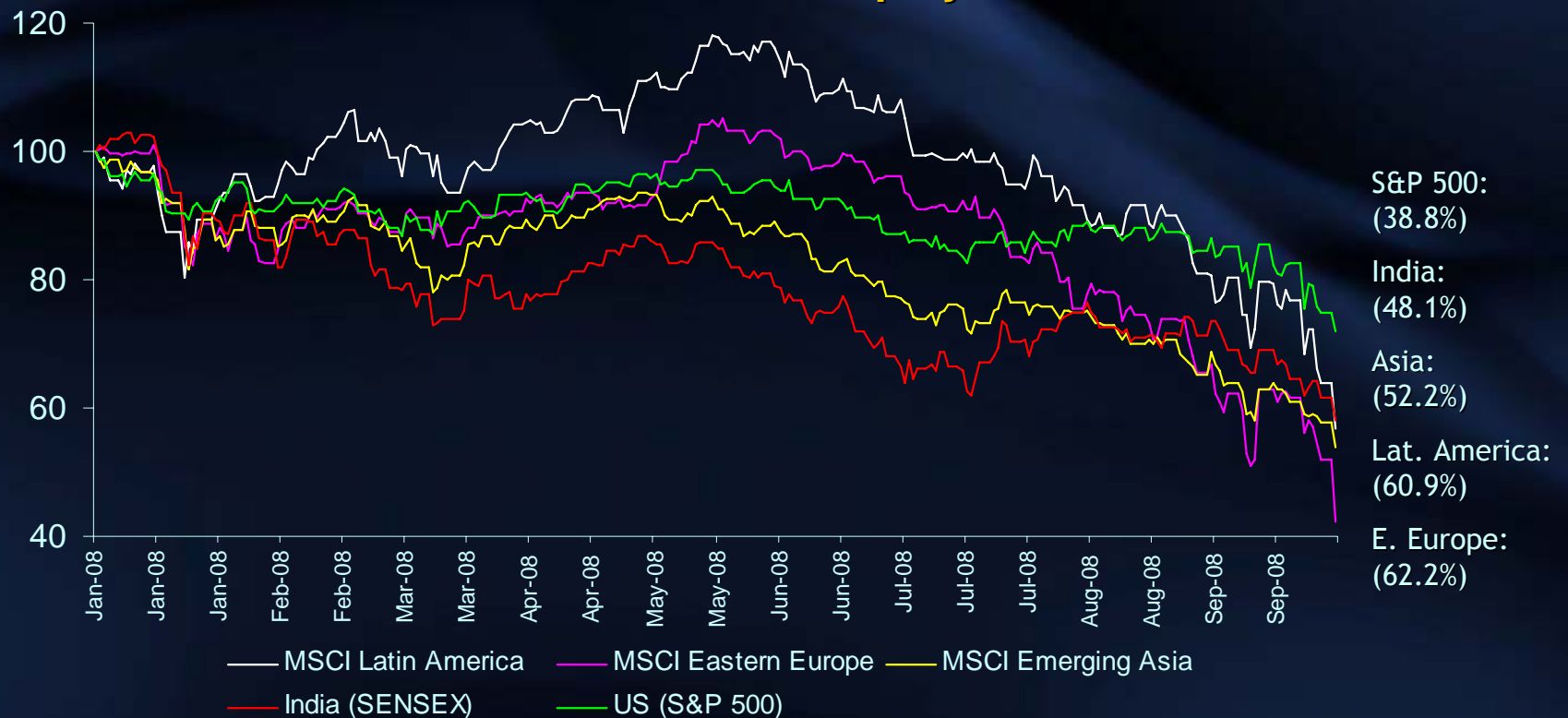
- Specific national policies include:
  - The UK Government is guaranteeing bank debt and injecting £50 billion into banks including RBS, HBOS, and Lloyds TSB
  - Germany is guaranteeing up to \$544 billion of bank debt and plans to buy equity stakes worth up to \$109 billion
  - France is creating a state fund to buy stakes in financial institutions and has guaranteed \$435 billion of bank debt
  - Spain is guaranteeing up to \$136 billion of new bank debt, has set up a facility to purchase equity stakes, and plans to buy up to \$68 billion of bank assets
  - Iceland has nationalized its entire banking system and may borrow billions of dollars from Russia and the IMF

# Emerging Markets

# Emerging Markets Have Posted Steep Stock Market Losses

- Heightened risk aversion, capital flight, and deteriorating economic growth prospects have produced dramatic equity price declines

**YTD Performance of EM Equity Markets<sup>(1)</sup>**



# The Credit Crisis Has Disrupted Capital Markets and Exposed Fiscal Weaknesses

- Regions and countries with major fiscal imbalances have been hit hard
  - Many emerging markets rely on foreign capital inflows to finance large current account deficits
  - They have funded domestic credit growth with foreign borrowing
  - Some developing economies are heavily commodity dependant and will weaken as commodity prices fall
- Capital flight is a major risk for these economies

# Certain Emerging Markets Are Vulnerable

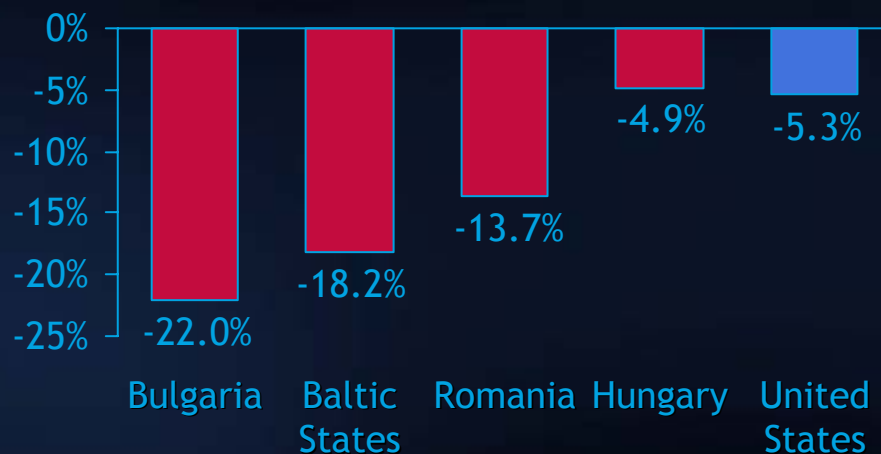
- Emerging markets with high current account deficits and tight banking sector liquidity could experience full-blown financial crises
- Regions/Countries at risk include:
  - Central & Eastern Europe – The Baltic states, Bulgaria, Romania, Ukraine, and Hungary have large current account deficits and have experienced unrestrained credit growth
  - Latin America – Countries including Brazil, Peru, Argentina, and Venezuela could see their fiscal positions deteriorate if commodity prices fall further
  - Pakistan – The country's credit ratings have been cut due to its deteriorating external liquidity situation and dwindling foreign reserves



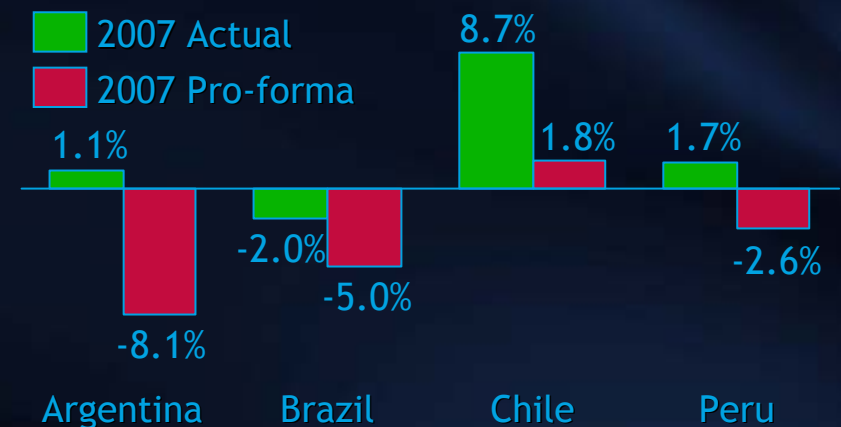
# Certain Emerging Markets Are Vulnerable

- Eastern European current account deficits and Latin American commodity dependency are key vulnerabilities
  - Certain CEE countries will experience credit contractions, reduced investment, and slower growth
  - Latin American governments may have to raise taxes or cut spending as commodity related revenues fall

**CEE Current Account Deficits<sup>(1)</sup>  
(2007)**



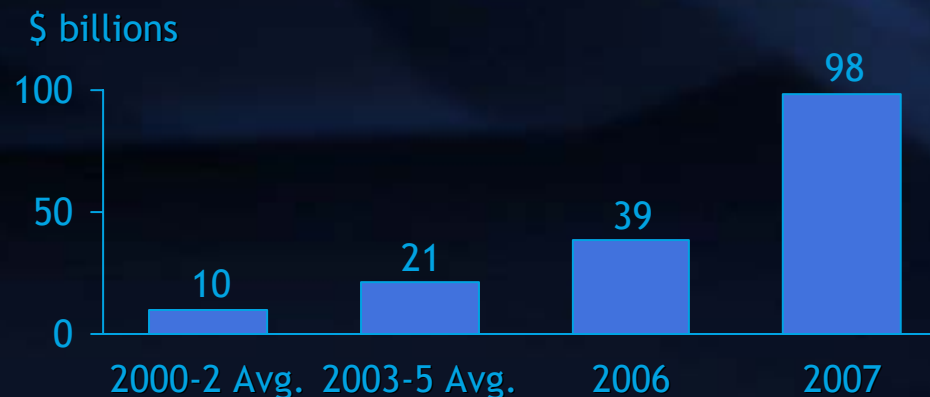
**Lat. Am. Fiscal Balances Pro-Forma  
for Commodity Prices at 10 Yr Avg.<sup>(2)</sup>**



# What About India?

- India has benefited from rapidly increasing capital inflows since 2000, but these are set to fall
  - Capital inflows funded investment and boosted GDP growth above its long-term sustainable rate

## Capital Inflows Received by India<sup>(1)</sup>



- But India should prove relatively resilient due to growing domestic demand low reliance on exports
  - Growth is likely to moderate to a more sustainable rate of ~6-7% (from a 3-year average of 9.3% as of March 2008)

# What About China?

- Of the world's major economies, China's is best positioned to weather the storm

## Key reasons include:

1. China has amassed \$1.8 trillion of foreign currency reserves as a result of its persistently high current account surpluses
2. The economy benefits from a very low level of leverage and low external debt — debt levels for households and the government are only 13% and 33% of GDP, respectively
3. Domestic banks remain awash with liquidity as a result of deposit growth and reserve accumulation
4. The banking system in China operates on a conservative basis with low leverage levels and without securitization

# Recession in The West Will Affect Chinese Growth Prospects

## Transmission mechanisms include:

- Trade
  - Western economies are key consumers of Chinese exports
- Investment
  - Western investors have supplied much of the capital that has been used to grow China's companies
- Opportunities for International Expansion
  - Many of China's most successful companies - such as Lenovo and Bank of China - are expanding abroad

# But China Will Continue to Grow Rapidly

- Domestic growth will offset weaker external demand
  - An increasing proportion of GDP derives from domestic demand
  - China's growing middle class has rapidly increased its consumption of items like cars and electronics
  - Abating inflationary pressures will allow China's central bank to further loosen monetary policy



(1) Source: China Statistics Bureau, August 2007.

# The Middle East

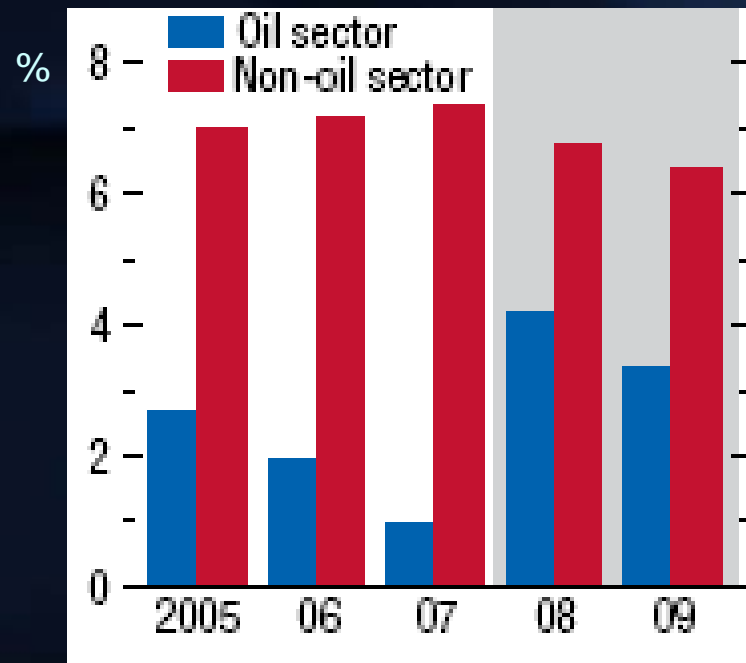
# The Middle East Is Likely To Prove Resilient

- The credit crisis is affecting the Middle East but not as much as other regions
  - The IMF forecasts only a slight moderation of GDP growth to 6.0% in 2009 (vs. 6.5% in 2008)
- Nevertheless, the credit crisis in the West has precipitated a regional liquidity contraction
  - Foreign banks in the region have stopped lending money
  - Regional stock markets have posted dramatic declines
  - Local banks are generally healthy
- This cloud has a silver lining
  - The credit down-cycle and falling food and energy prices are moderating inflationary pressures

# Oil Price Declines Are Significant But Not Disastrous

- Economic growth is being sustained mainly by non-oil sectors including construction, retail, transportation, and financial services

## Middle Eastern GDP Growth: Oil vs. Non-Oil Sectors <sup>(1)</sup>





# Oil Price Declines Are Significant But Not Disastrous

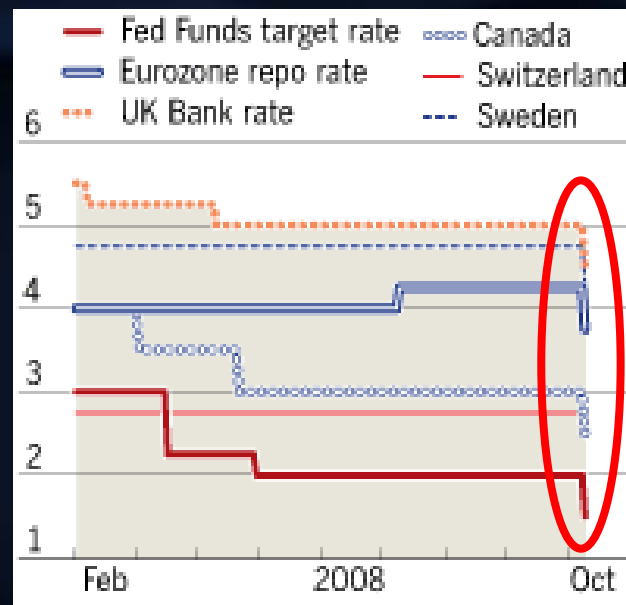
- Most government budgets and investment programs in the Middle East will remain intact unless oil falls below \$50/barrel
  - A prolonged drop below \$50 is highly unlikely because global demand for oil continues to rise while supply is largely static
- Middle Eastern governments have amassed huge reserve funds which they could deploy to support regional growth if the outlook darkens
  - Middle Eastern government saved 70% of their surplus oil revenues over the past five years
  - Sovereign wealth funds in the MENA region have over \$1.5 trillion at their disposal

# The Current Situation

# Central Banks Have Responded With Coordinated Global Rate Cuts

- On October 8<sup>th</sup>, 21 countries around the world simultaneously cut interest rates
  - The Federal Reserve cut the federal funds rate by 50 basis points to 1.50%

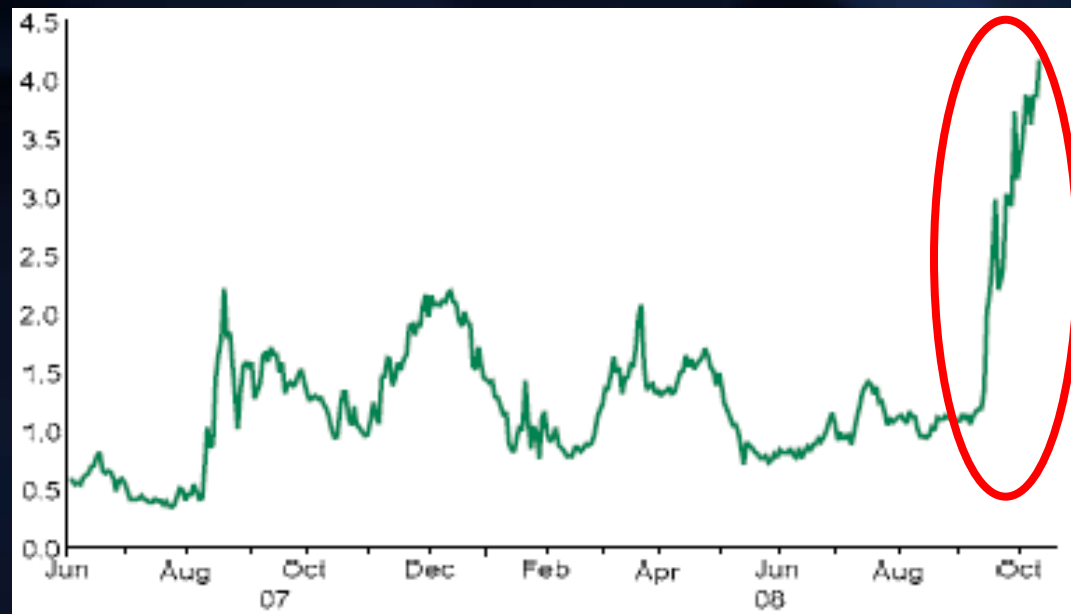
## October 8<sup>th</sup>: Key Interest Rate Cuts<sup>(1)</sup>



# Credit Market Stress Remains At Unprecedented Levels

- But global interest rate cuts have done *nothing* to encourage private sector lending
  - The spread between US Treasuries and the interbank lending rate remains at all time highs

**TED Spread: 3 month LIBOR – 3 month T-Bill<sup>(1)</sup>**



# Global Equity Markets Have Crashed

- Global stock markets are testing multi-year lows
  - The MSCI World index has fallen by over 40% since its 2007 high

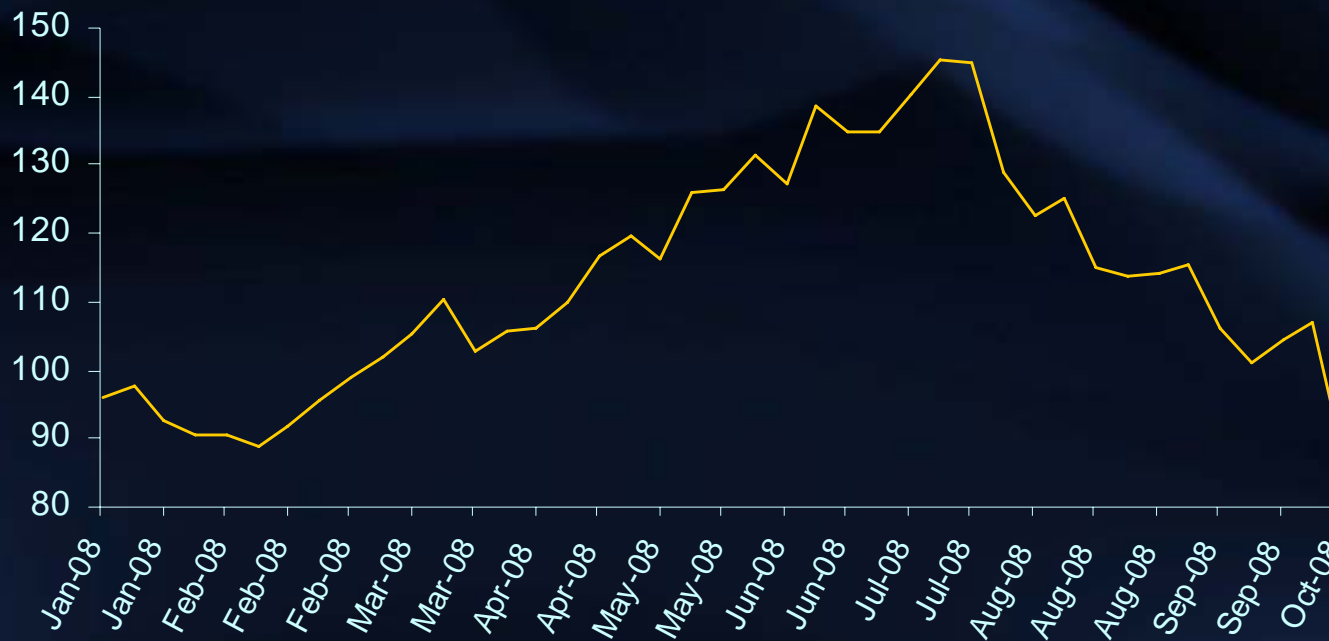
## MSCI AC World Index<sup>(1)</sup>



# Commodity Prices Have Retreated

- The price of oil has fallen by 40% since its peak in July 2008

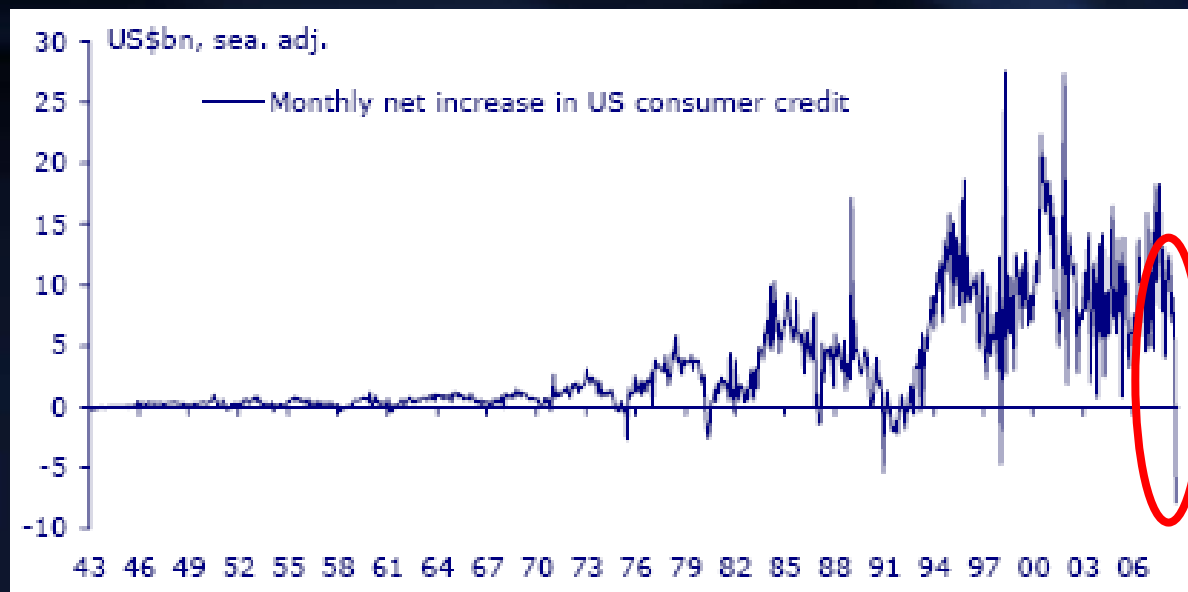
**Oil Price/Barrel Since January 1<sup>st</sup> (1)**



# Consumer Access to Credit Is Dwindling

- US Consumer credit fell by a record \$7.9 billion in August
  - This was the first drop since 1998 and the largest monthly decline *in history*

## Monthly Net Increase in Consumer Credit Outstanding<sup>(1)</sup>



# The United States Is Falling Into Recession

- Unemployment rose to 6.1% in August from 5.7% in July
  - The 1.1% surge in the unemployment rate over the past 4 months is the fastest in 22 years
- Retail sales fell by 0.3% in August and were down 0.7% excluding automobile sales
- The main index of US manufacturing activity fell 13% in September
  - The current level has only been seen before during full-blown recessions
- US GDP growth is slowing significantly, and outright contraction is likely
  - Goldman Sachs forecasts US GDP growth of 1.5% in 2008 and -0.2% in 2009 (vs. 2.0% in 2007)



# Much of the Rest of the World May Follow in America's Footsteps

- Economists are ratcheting down global growth estimates

Key factors likely to suppress growth:

- Decreased global liquidity
- Lower capital flows to emerging markets
- Reduced G-7 demand for imports
- Lower demand for commodities

- Key 2009 GDP growth forecasts\*

	<u>2009E</u>	<u>2008E</u>	<u>2007A</u>
Euroland	0.5%	1.1%	2.6%
United Kingdom	0.4%	1.0%	3.0%
Japan	0.5%	0.7%	2.1%
China	8.7%	9.8%	11.9%
Brazil	3.3%	5.6%	5.4%

**What's Next?**

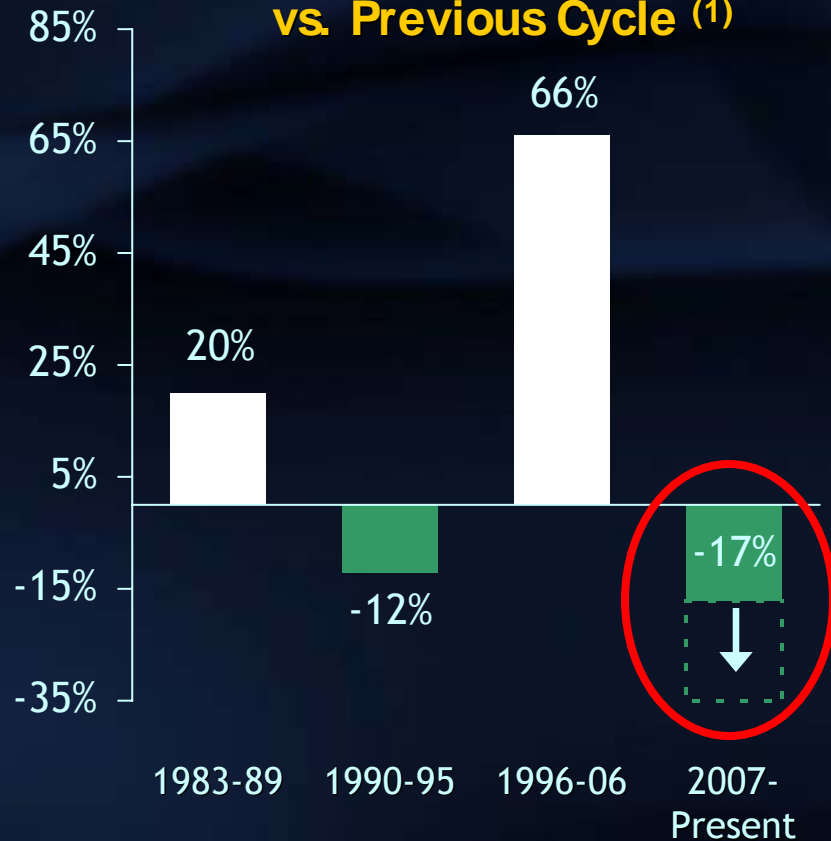
# Markets Will Recover From Recent Lows

- Investor panic had driven valuations to levels which were not warranted by fundamentals
- Monday's rally may mark the beginning of a medium term rally
  - It marked the largest ever one-day point gain for the Dow Jones Industrial Average and the largest percentage increase since 1933
- But this does not mean that equity markets won't touch recent lows again in the future
  - Volatility may return as the deleveraging cycle continues and as a consumer recession sinks in

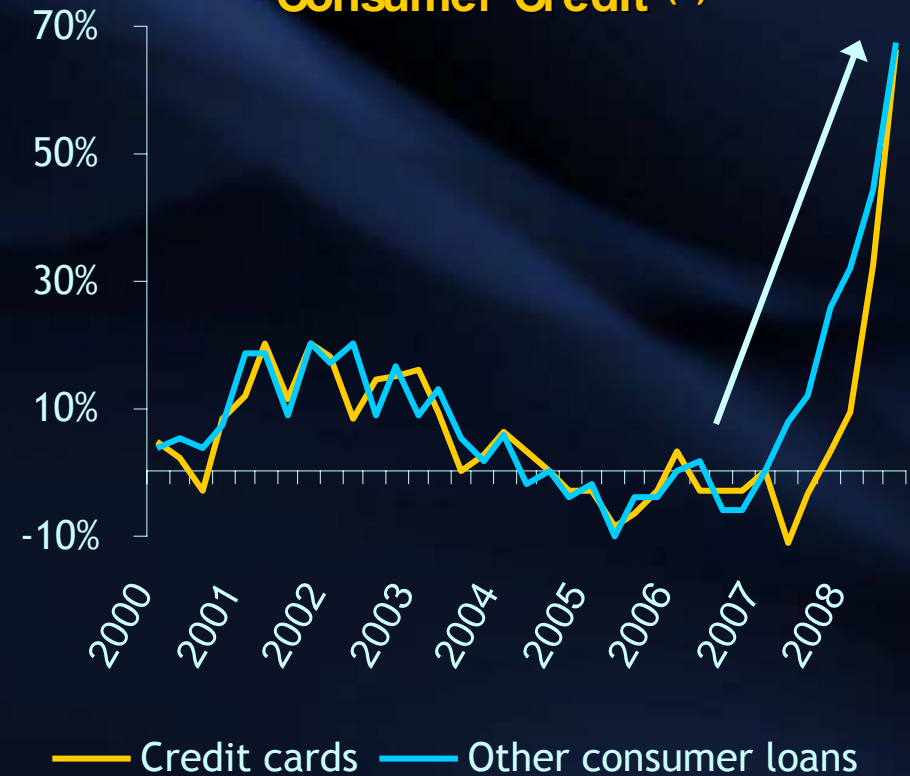
# A Broader Recession Will ensue

- Tighter credit and lower house prices will severely depress consumption

**Home Price % Change vs. Previous Cycle (1)**



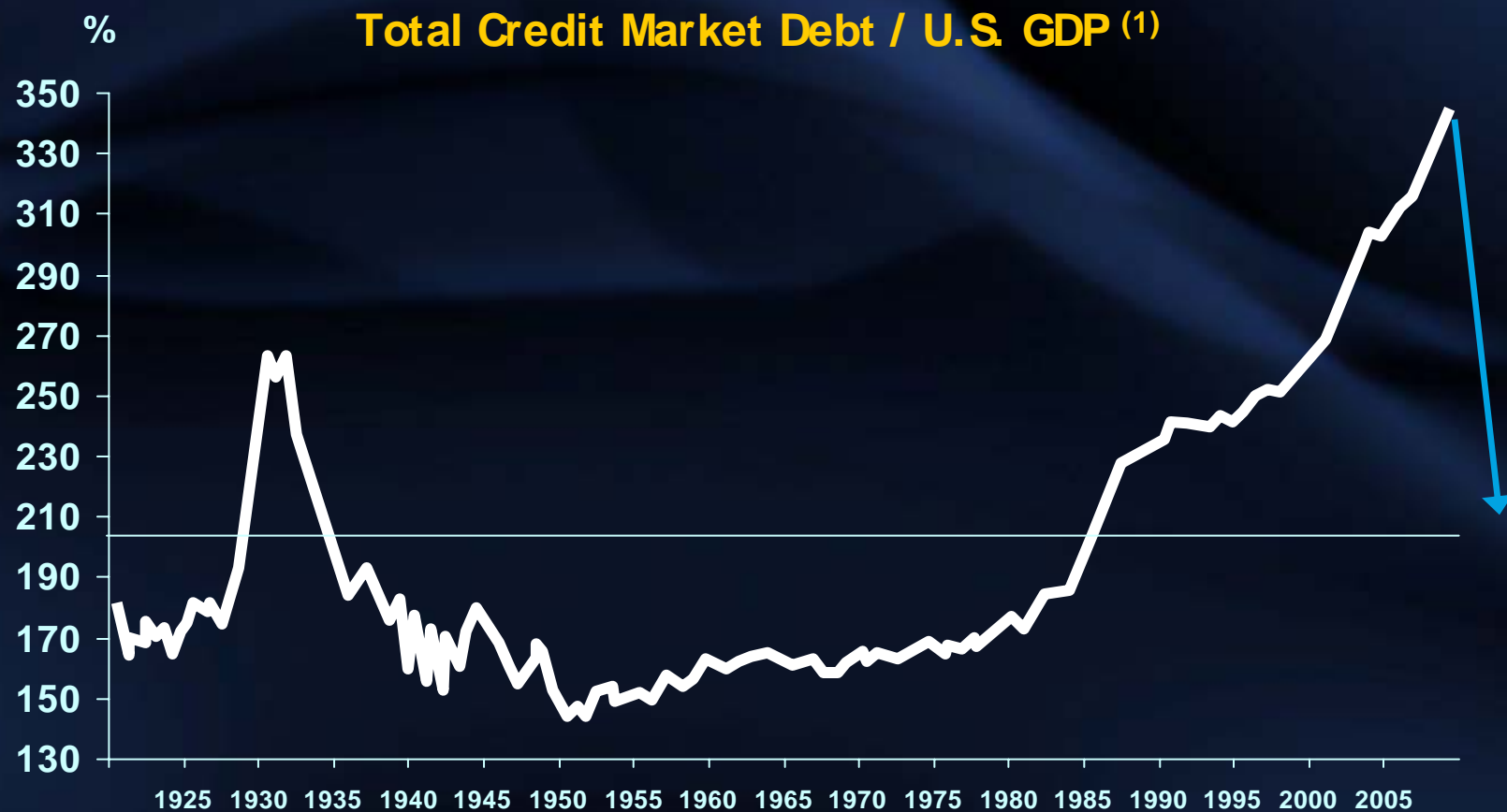
**% of US Banks Tightening Consumer Credit (2)**



Sources: (1) Zellman and Associates. September 2007; (2) The Federal Reserve Bank Officer Lending Survey, July 2008

# The Deleveraging Process Will Be Unpleasant And Will Take Time

- Debt levels need to become more sustainable before an economic recovery can ensue



(1) Source: Ned Davis Research, 2008.

# The Future Is Still Bright: Extraordinarily Positive Long-Term Macro Trends Exist

- Rapid growth of emerging markets
  - Billions of people will achieve relative prosperity
  - Opportunities for investment and development will abound
- Technological innovation
  - Technology is evolving at a more rapid pace than at time in human history
  - This will increase productivity and living standards globally
  - Improvements in science and medical technology will directly benefit millions of people
- Global peace and stability
  - The world is a more stable place than it has been for most of the past thousand years

# Impact on Private Equity

# Existing Investments Will Be Affected

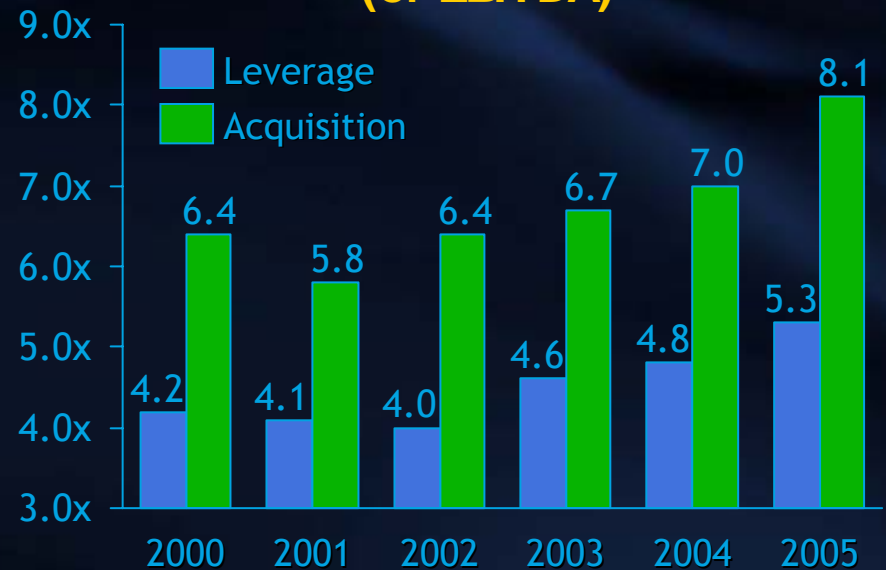
## ➤ 2000-2005

- LBO activity boomed but leverage levels and acquisition multiples remained reasonable
- Most deals done during this period will prove resilient

### Global LBO Activity 2000-2005<sup>(1)</sup>



### Leverage vs. Acquisition Multiples<sup>(1)</sup> (of EBITDA)



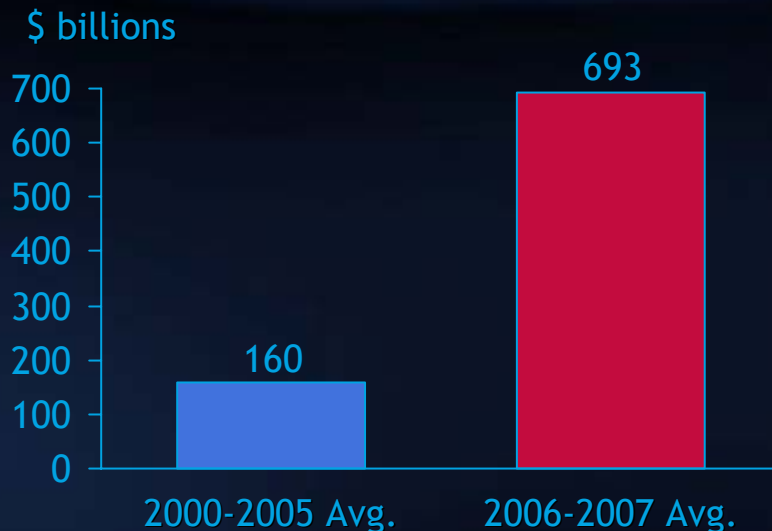


# Existing Investments Will Be Affected

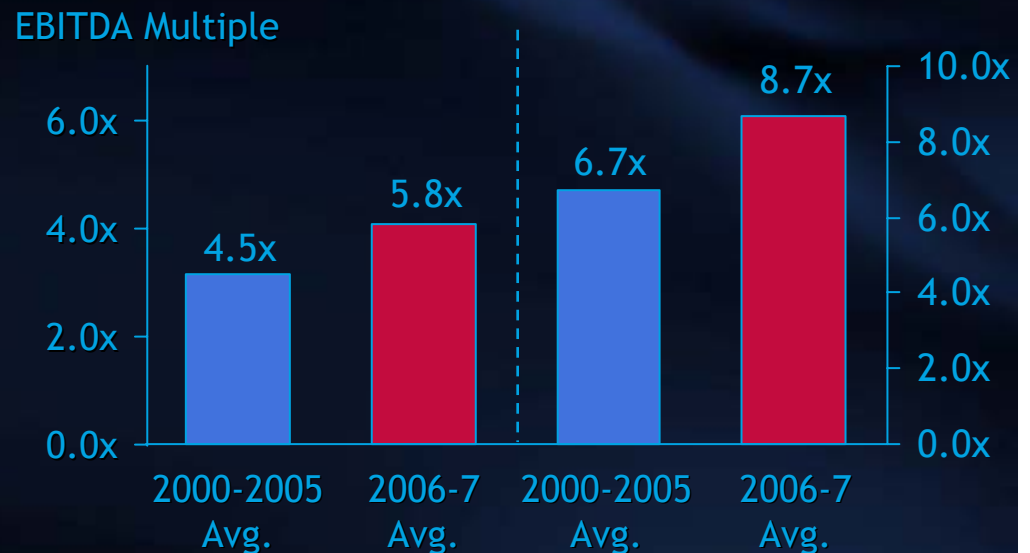
## ➤ 2006-1H 2007

- A bubble developed in the private equity market
- Debt and acquisition multiples rose above historical norms
- Some companies bought during this period may experience financial difficulties

### Global LBO Activity<sup>(1)</sup>



### Leverage vs. Acquisition Multiples<sup>(1)</sup>



# Existing Investments Will Be Affected

## ➤ 2H 2007

- After the credit crisis hit, many deals met with difficulty
- Investment banks could not syndicate LBO debt and a massive \$389 billion debt backlog developed
- Many deals were pulled; others were renegotiated on more favorable terms

### **Busted Deals<sup>(1)</sup>**

<u>Company</u>	<u>Value</u>
Sallie Mae	\$25.5 billion
Huntsman	\$10.6 billion
Harman Int.	\$8.2 billion
ACS	\$8.0 billion
Alliance Data	\$7.8 billion
Penn National	\$6.1 billion

### **Restructured Deals<sup>(1)</sup>**

<u>Company</u>	<u>Value</u>
ClearChannel	\$27.3 billion
First Data	\$26.3 billion
Harrah's	\$26.2 billion
Biomet	\$11.4 billion
HD Supply	\$8.5 billion
Thomson	\$7.8 billion

# New Private Equity Deals Look Different

- Private equity deals are smaller

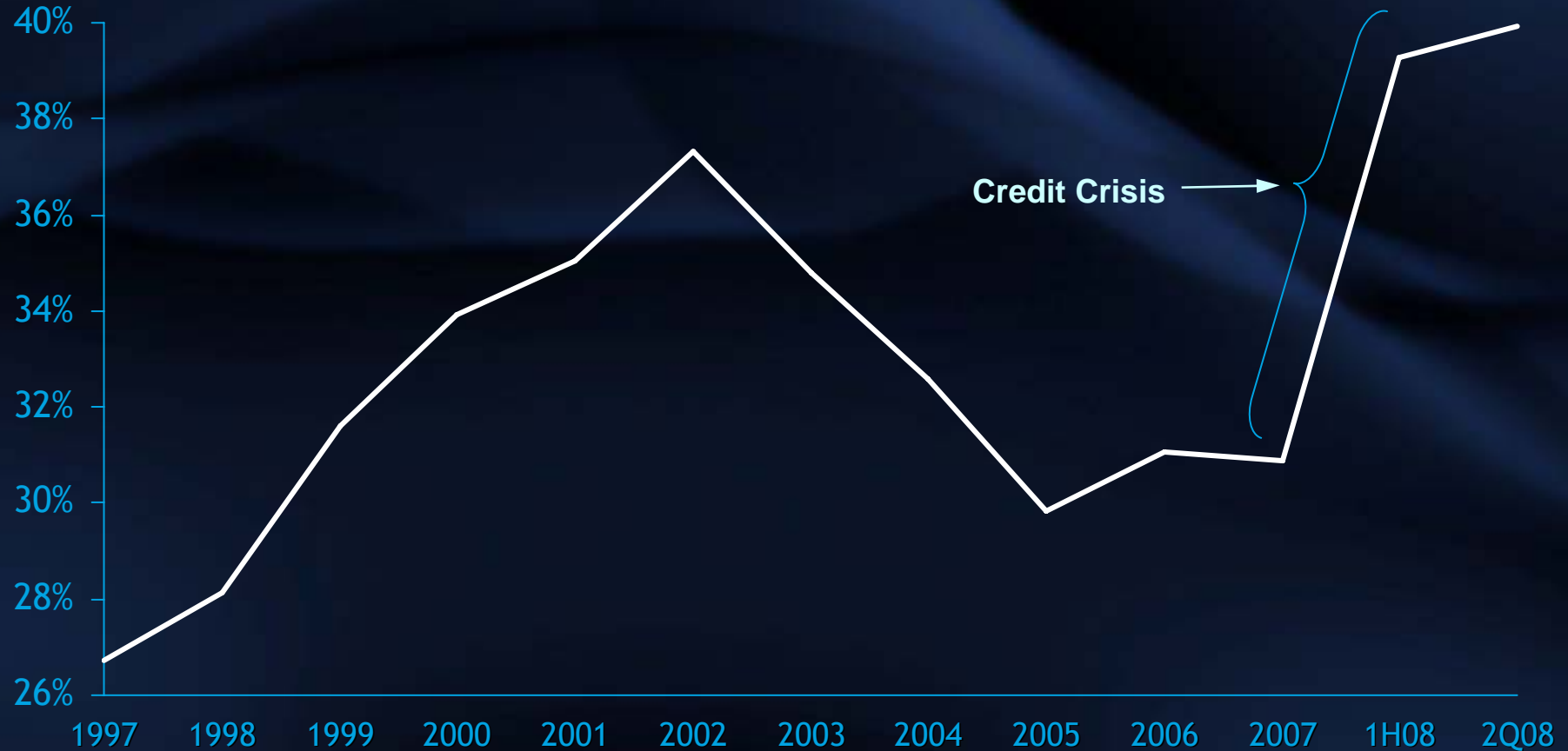
## Average Deal Size (1)



# New Private Equity Deals Look Different

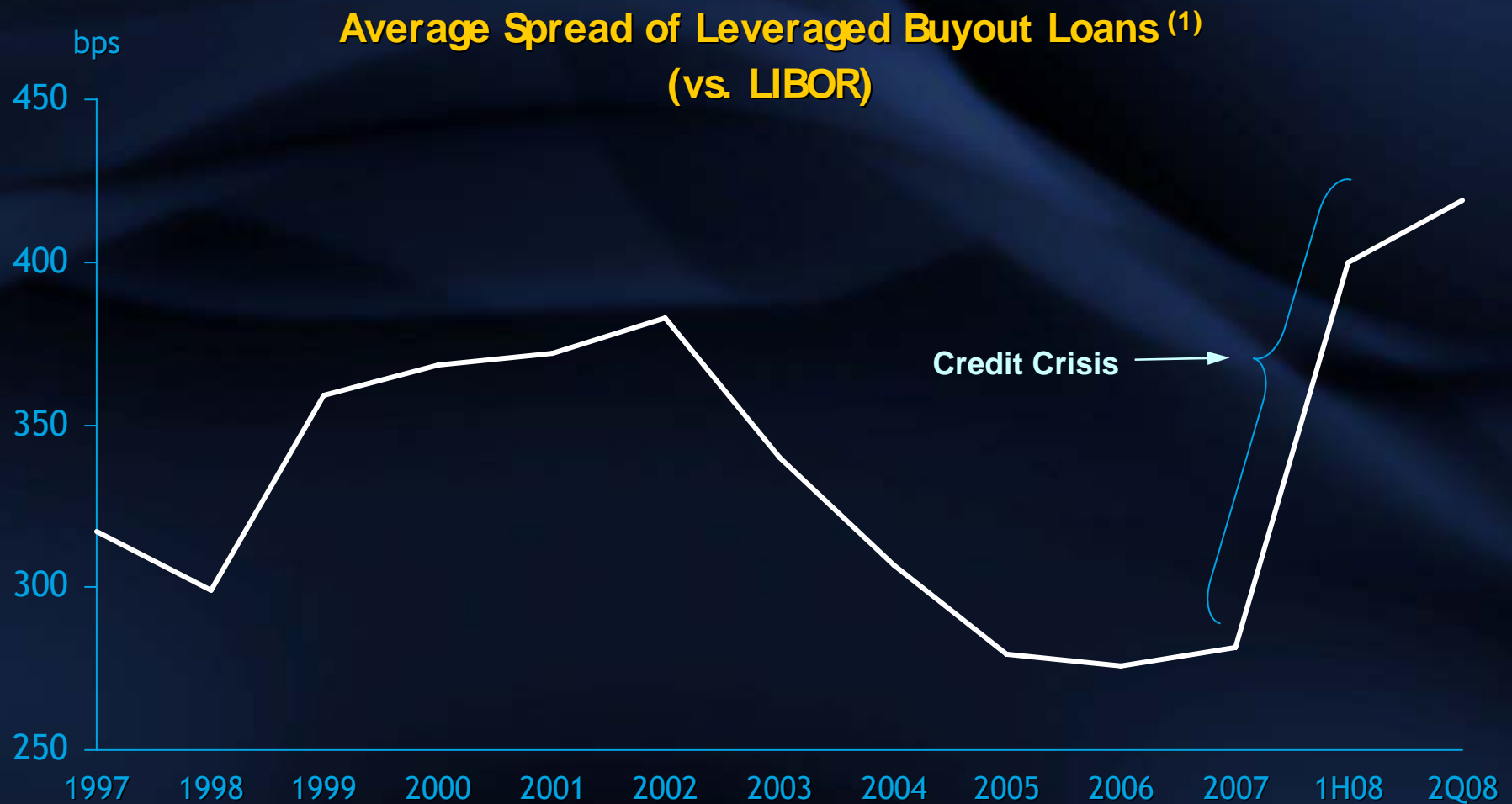
- Private equity deals involve more equity

**Average Equity Contribution (% of Purchase Price) <sup>(1)</sup>**



# New Private Equity Deals Look Different

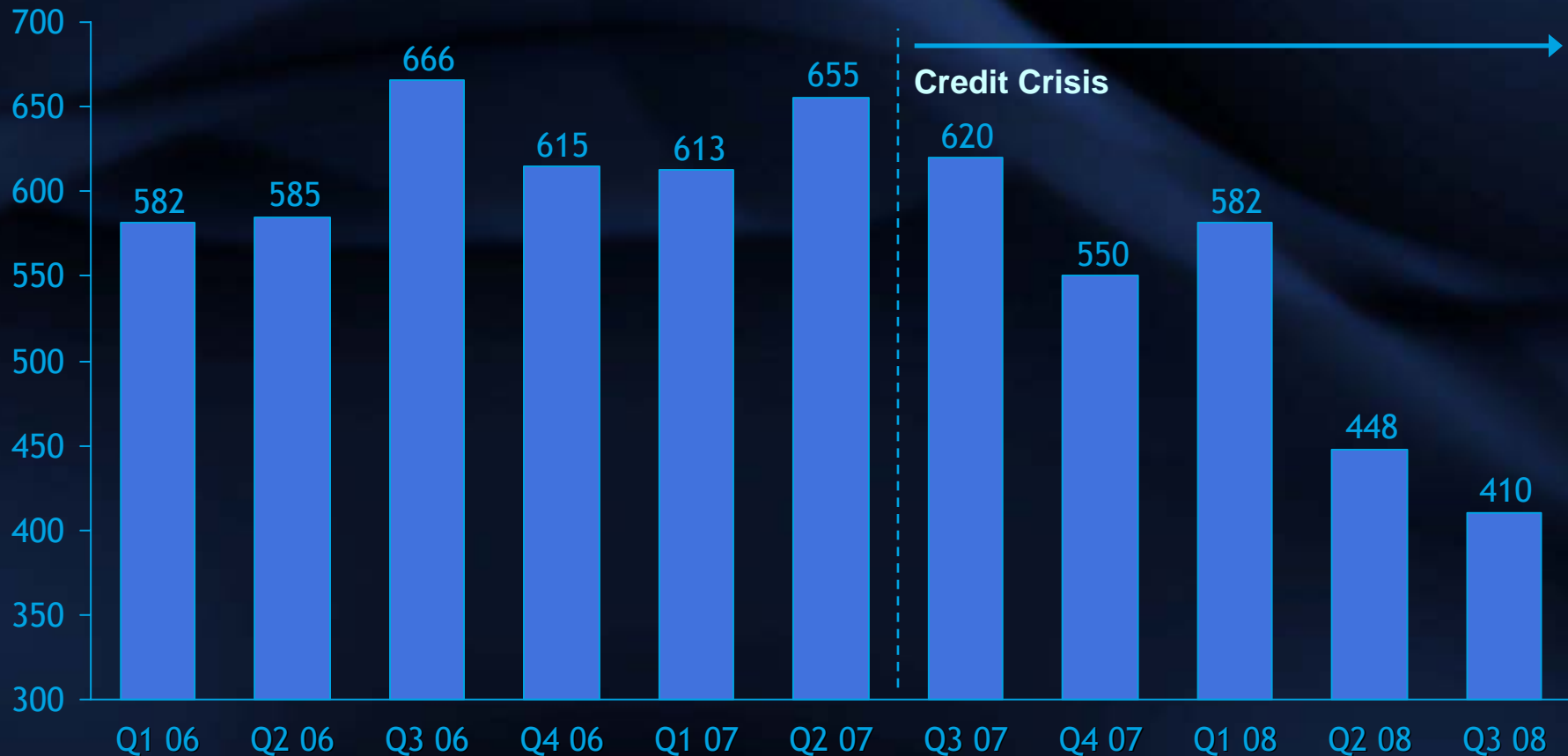
- Private equity deals involve less favorable debt terms



# New Private Equity Deals Look Different

- Private equity deals are fewer in number

Number of Private Equity Deals



# New Private Equity Deals Look Different

- Private equity deals are less debt-dependant

## Minority Investment by Financial Sponsors (1)



# New Private Equity Deals Look Different

- More private equity firms are investing alongside corporate partners or sovereign wealth funds
  - Recent examples include Blackstone and NBC Universal's \$3.5 billion joint acquisition of the Weather Channel
- Holding periods will rise as private equity firms spend more time improving portfolio companies' operational performance
  - Many exits will be delayed until the financial crisis subsides



# Private Equity Returns May Rise

- Private equity deals done during periods of economic difficulty tend to outperform

## U.S. Buyout Funds - Vintage Year Returns



# Private Equity Trends

# Several Key Trends Will Affect The Private Equity Industry

- Fewer lenders will provide debt to fund acquisitions
- Private equity firms will face less competition from investment & commercial banks
- Distributions to limited partners will fall in the medium term
- Decreased global liquidity will result in reduced commitments to new private equity funds
- There will be more co-investment opportunities
- There will be fewer PE commitments from high net worth individuals
- The terms of private equity partnerships may change
- Public perceptions of the PE industry will improve

# Four Big Questions Confront The Industry

1. Will governments intensify the regulation of the private equity industry?
2. Will tax rates on private equity distributions rise?
3. How will the industry's public image evolve?
4. Can the basic private equity business model still work?

# Opportunity & Challenge

# Private Equity Now Has Its Greatest Opportunity And Its Greatest Challenge

- Opportunity: To use its capital and expertise to save companies and turn them around
  - An enormous number of companies will now need fresh capital – private equity has the necessary capital
  - Low prices can yield attractive returns – perhaps the best ever

# Private Equity Now Has Its Greatest Opportunity And Its Greatest Challenge

- Challenge: Overcoming the widespread conception that private equity firms are short term investors
  - The industry needs to recognize that turnarounds will not be easy
  - Private equity firms will be operating under an even greater level of public scrutiny
  - Maintaining investor confidence will be critical

# The Opportunity And The Challenge Are Particularly Great In Financial Services

- Opportunity: To help strengthen financial institutions around the world, often working closely with governments in this endeavor
- Challenge: To restore confidence in financial institutions during times of unprecedented market disruption



# Private Equity Now Has Its Greatest Opportunity And Its Greatest Challenge

- Bottom Line: This could well turn out to be private equity's finest hour – if the industry moves carefully and skillfully to help with the global economic turnaround, partnering at times with corporations, sovereign wealth funds, and governments

# Private Equity in the MENA Region

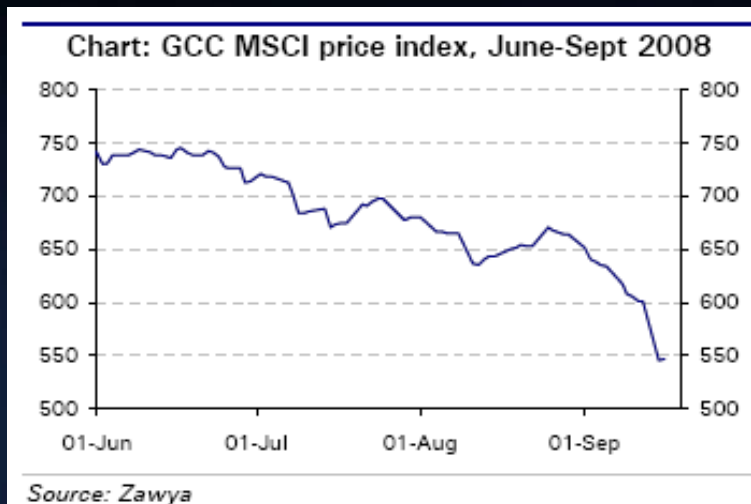
# Key Predictions

- Private equity activity may moderate but will remain strong
- Demand for investment capital from companies in the region will rise
- Local private equity firms will be the most active investors
- Some new global players will enter the market
- Minority state transactions will predominate
- Investment opportunities will be better than before
- Sovereign wealth funds in the region will focus more of their attention on the region

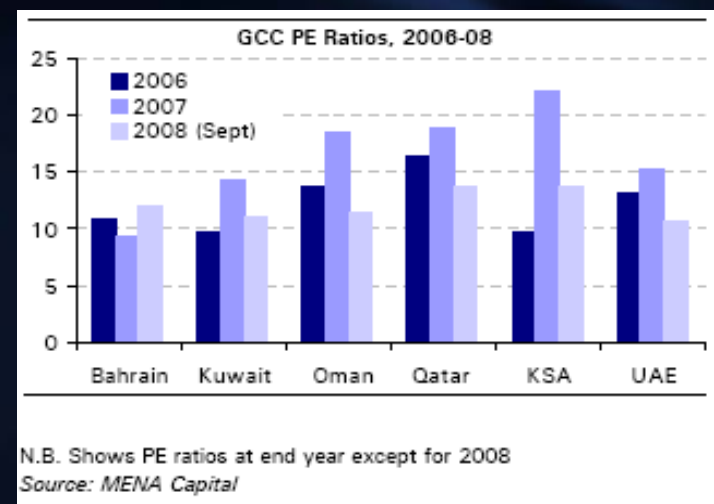
# Lower Stock Market Valuations Could Be A Boon For Private Equity Investors

- Regional stock markets have fallen because they were previously over-inflated
  - Investors had pushed up valuations to unsustainable levels
  - Many of them have withdrawn capital because the credit crisis has increased risk aversion and demand for cash

## GCC Stock Market Performance



## GCC P/E Ratios



# Lower Stock Market Valuations Could Be A Boon For Private Equity Investors

- Private equity investors can now buy assets at prices that are very attractive from a long-term perspective
  - The MENA region's robust growth prospects and insulation from the credit crisis make it one of most attractive areas in the world for private equity investment

# Conclusions

# Key Conclusions

- The world of private equity will change - for many years - as a result of the credit crisis and the unfolding economic slowdown
- The MENA region will be affected by changes in the United States and Europe
- The appeal of the MENA region will increase — although investment activity may moderate, it will be higher than in many other regions

**THE CARLYLE GROUP**

**The Impact of the Financial Services  
Meltdown on The Global Economy And The  
Private Equity Industry**

**David Rubenstein, Co-Founder**

**Super Return Dubai**

**October 15, 2008**