Outlook for the Economy: Considerations for Business

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What did we just witness?

• Complexity of financial system has exploded in the last decade
  - Asset-backed securities & Structured finance (e.g., MBS, CDOs, etc.)
  - New intermediaries
  - Institutions expanded into nontraditional areas
  - New, poorly-understood derivative products (e.g., CDS)

• It is so complicated that many institutions do not understand what they own, let alone what others own
Securitization and Complexity

Risk Profile of Subprime Mortgage Loans

- Subprime Mortgage Loans
- Borrower Down Payment
- Borrower Credit

Subprime Mortgage Bonds

- ‘AAA’ 81%
- ‘AA’ 11%
- ‘A’ 4%
- ‘BBB’ 3%

Mezz ABS CDO

- Senior ‘AAA’ 62%
- Junior ‘AAA’ 14%
- ‘AA’ 8%
- ‘A’ 6%
- ‘BBB’ 6%
- NR 4%

High Grade ABS CDO

- Senior ‘AAA’ 88%
- Junior ‘AAA’ 5%
- ‘AA’ 3%
- ‘A’ 2%
- ‘BBB’ 1%
- NR 1%

Other credit support: Excess Spread, Over-collateralization

Real Estate (in Meltdown)

S&P/ Case-Shiller Real Estate Indices

“I want my bubble back.”

Washington, DC  Charlotte  Composite
Mortgage Delinquency Rates

Sub-Prime Borrowers vs. Prime Borrowers

Mortgage Bankers Association
To recover, banks need to sell “troubled” assets and/or raise new capital…

Role for Government(s):

- Extend guarantees to other markets (money market funds, interbank lending, other types of accounts)
- Raise deposit insurance limits
- Encourage lending (e.g., by injecting equity capital)

Big fear: the financial accelerator
Market Anxiety

CBOE VIX Index
(Equity Market Volatility)
Where are we now?

Financial / Credit Crisis

Housing Market Contraction

Economic Recession

• Upside
  – Commodity prices are off their peaks
  – Central banks and governments are serious

• Downside
  – Negative ‘wealth effect’
  – Employment picture
  – Anxiety

• Unknowns
  – Scale of global economic contraction
  – The “unknown” unknowns
Real U.S. GDP Growth
(2003-present, quarterly)
Consumption and GDP data from the Bureau of Economic Analysis (BEA). Mortgage equity withdrawals are measured as the year-over-year change in mortgage debt (from the Federal Reserve Flow of Funds) minus 70 percent of residential investment spending (from the BEA). (Source: L. Josh Bivens, Economic Policy Institute)
Consumer Confidence
U.S. Unemployment Rate

(Percent)
Pushing on a String?

Federal Funds Target Rate (DFEDTAR) vs. 30-Year Conventional Mortgage Rate (WRMORTG) vs. Moody's Seasoned Baa Corporate Bond Yield (DBAA)

2008 Federal Reserve Bank of St. Louis: research.stlouisfed.org
How deep will this recession be?
- Q4/2008 will show a significant contraction
- Likely to mirror recessions of 70s and early 80s
- Unemployment could easily approach 8% in 2009
- Credit constrained businesses will struggle

How long will this recession go on?
- Financial crisis is better understood
- 2009 is likely to be a tough year

Forecast uncertainty?
Further rate cuts & fiscal stimulus?
Recession... Borrowing Costs
(Spreads over Treasuries)

- U.S. Corporate High Yield Bonds
- Emerging Market Sovereign Spreads
Recessions: An Historical Perspective

Business Cycles: Duration and Amplitude since WWII

<table>
<thead>
<tr>
<th>Dates of Contraction</th>
<th>Duration (Months)</th>
<th>Maximum Negative Quarterly Growth Rate</th>
<th>Dates of Expansion</th>
<th>Duration (Months)</th>
<th>Maximum Positive Quarterly Growth Rate</th>
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<td>Oct49-July53</td>
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<td>May54-Aug57</td>
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<td>Nov01-?</td>
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<td>Now?</td>
<td>?</td>
<td>?</td>
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Downturns, while painful, are relatively brief
Forecasting Caveats: The Recession of 1982

The predicted unemployment rate (in green) is the median forecast of about 20 forecasters.
May you live in interesting times…
Unfortunately, we have much bigger fish to fry…
Greenspan (*Age of Turbulence*, 2007): Collectively, the entitlement issue is “likely to be a defining question of the next quarter century.”