Recent Economic Trends

1. Two fears hang over the U.S. economy, wrenching recession and possible deflation.
2. The deleveraging and reckoning process has begun.
3. The labor market has fallen off a cliff with the unemployment rate expected to rise to 9%.
4. The government will implement a massive ($800 – 1,000 billion) fiscal stimulus package.
5. The Federal Reserve has implemented a near zero interest rate policy and created new unconventional facilities to liquefy the banking system, stabilize financial markets and monetize the recession.
6. Government intervention into the economy has proved to be less than effective and may have many unintended consequences.
7. Falling home prices will continue through 2009.
8. The housing market is in a severe meltdown.
9. Residential mortgage underwriting standards have tightened up.
10. Falling wealth, jobs, income, and confidence will restrain household spending and increase the savings rate.
Maximum Sustainable Growth Rate = 3.5%

Spending = C + I + G + X - M

% of total = (71.1) (14.5) (17.6) (13.2) (-16.4)

Growth rate = (-3.8) (0.4) (5.8) (3.0) (-3.5)

Contribution = (-2.8) (0.1) (1.1) (0.4) (0.7) = -0.5%

(1 + -.005)^{1/4} - 1 = -0.00125 = -0.125%
**Real Personal Consumption Expenditures**

(\% chg from quarter one year ago)

- **Total average growth = 3.3%**
- (Furniture, appliances, autos) average growth = 6.0% (14%)
- (Food, clothing, energy) average growth = 3.4% (29%)
- Services average growth = 2.8% (57%)
- (Housing, transportation, medical care, recreation)

**Q3 SAAR**
- Durable = -14.8%
- Nondurable = -7.1%
- Services = -0.1%
- Total = -3.8%

---

**Business Fixed Investment**

Structures, Equipment & Software

- **Annualized Quarter Growth Rate**
- **\% Change From Quarter One Year Ago**
Consumer Price Index
1970 to Present

Falling production costs
Falling energy prices
Falling U.S. demand
Falling global demand
Rising inventories

Inflation (CPI)
(year over year % growth)

<table>
<thead>
<tr>
<th></th>
<th>12 month Growth Rate</th>
<th>3-Month Growth Rate (annualized)</th>
<th>1-Month Growth Rate (November)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI (211.5)</td>
<td>-0.1</td>
<td>-12.7</td>
<td>-0.7</td>
</tr>
<tr>
<td>Core CPI (216.8)</td>
<td>1.7</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Labor market is in a self-reinforcing wrenching recession
2.6 million job loss in 2008 (biggest 12 month loss since WWII)
1.5 million job losses in Q4
Best indicator of recession
Expect to lose 3 million in 2009

- December -524,000 (largest 12/74)
- Broad-based losses across service (173k) and goods producing (251k)
- Job losses increasing at an increasing rate
- Government, healthcare and education are adding jobs.
- Average workweek dropped to lowest ever (33.3 hrs)
- Layoffs + fewer hours + pay cuts => lower income => lower spending

December 7.2% (highest since 12/92)
LF = Employed + Unemployed
Δ Labor force = -173k (154.4 million)
Δ Employment = -806k (143.3 million)
Δ Unemployment = 632k (11.1 million)
13.5% unemployment rate (discouraged + part time) up from 8.7% 12/07

Full Employment 5%
Cyclical Unemployment
Frictional Unemployment
Structural Unemployment

Source: Department of Labor
2009 Budget:
On-budget = -1,340
Off-budget = 155
Total = -1,186

$53 Trillion unfunded liabilities

3% Euro-Zone Fiscal Rule

$53 Trillion unfunded liabilities

3% Euro-Zone Fiscal Rule

Foreign Lenders will finance the large deficit due to their large demand for "safe harbor" Treasury bills

Fiscal Stimulus The risk of inaction may be greater than the risk of action

5% Macro Economic Danger Zone
# Obama Fiscal Stimulus Plan
## 2009-2010
($750 bil is 5% of GDP)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>$750</td>
</tr>
<tr>
<td><strong>Government Spending</strong></td>
<td>$451</td>
</tr>
<tr>
<td>Unemployment Insurance Benefits</td>
<td>$26</td>
</tr>
<tr>
<td>Food stamps</td>
<td>$21</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>$162</td>
</tr>
<tr>
<td><strong>Traditional</strong></td>
<td>$88</td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td>$74</td>
</tr>
<tr>
<td>Aid to State Governments</td>
<td>$125</td>
</tr>
<tr>
<td>Health Care/Education</td>
<td>$117</td>
</tr>
<tr>
<td><strong>Tax Cuts</strong></td>
<td>$300</td>
</tr>
<tr>
<td>Business tax credits</td>
<td>$100</td>
</tr>
<tr>
<td>Payroll Tax Credit</td>
<td>$200</td>
</tr>
</tbody>
</table>

- **Quick but less effective**: Payroll Tax Credit
- **Slow but Very effective**: Unemployment Insurance Benefits, Food stamps, Infrastructure, Traditional, Green
- **No direct boost**: Aid to State Governments, Health Care/Education, Business tax credits
Government Intervention to Solve the Credit Crisis

**Policy Tools**

**Treasury**
- Inject capital/buy preferred shares
- Buy distressed mortgages/MBS

**FDIC**
- Guarantee new senior unsecured bank debt
- Unlimited deposit insurance for business transaction accounts
- $250K deposit insurance for individual accounts

**Federal Reserve**
- Zero interest rate policy (ZIRP)
- Purchase private assets (MBS/CP)
- Purchase longer term Treasuries
- Lend through discount window
- Policy commitment language

**Operating Targets**

Shore-up Financial Institutions
- ↑ capital/liquidity ratios
- Protect depositors
- ↓ bank runs
- Increase transparency
- ↓ uncertainty/fear

**Intermediate Targets**

Restore investor confidence in credit markets
- ↓ 3-month LIBOR
- ↓ Commercial paper rates
- ↑ T-bill interest rates

**Policy Goals**

Restore normal functioning credit markets
- ↑ business/consumer lending

---

**Federal Reserve's Balance of Risks**

**GDP and Core PCE Price Index**

(Percent Change From Quarter One Year Ago)

- **Price Stability Comfort Zone** (1%-2%)
- **Economic Growth Zone** (2.5%-3.5%)

Source: Bureau of Economic Analysis
Inverted Interest Rates and Recessions
1988-2008

Real Fed Funds
(fed funds - core CPI)

0.25% - 2.0% = -1.75%

4% = Recession causing level
Existing Home Market

(state of disequilibrium)

Median Home Price
($ thousands)

- Low pent up demand
- Fewer investors
- Tighter underwriting
- Higher interest rates
- Expected lower future home prices

Sticky prices in SR \(\Rightarrow\) \(\uparrow\) Inventory (overhang)

Market clears in the long run

Market bottom

Capitalists begin bottom fishing

\$222

\$??

\# of Houses (thousands)

6,510

\(\uparrow\) foreclosed houses

Expected lower future home prices

Price Discovery/Stabilization

Market Correction
The Housing Bubble Has Popped
(Nominal Annual Home Price Increases)

First time since Great Depression

The Housing Cycle
(Inflation-Adjusted Annual Home Price Increases)

Source: National Association of Realtors.
Negative Downward Spiral

Falling Home Prices

• Lower fed funds interest rate
• $300 billion FHA mortgage bailout

Falling Household Wealth

Falling Household Spending

• Salaries
• Commissions
• Bonuses
• Tips

Lower income

Economic Stimulus Plan
$600 Tax Rebates
Obama Stimulus Plan

Rising Inventories

• Self-reinforcing spiral
• Feedback Loop
• Multiplier Effect
• Sum of an Infinite Geometric Series

Increase unemployment

Lower Factory Production

HELOC
**Income Ratios**

(Financial Capabilities)

- **Loan-to-Value Ratios**
  - (Physical Security)

- **Credit Scores**
  - (Credit Characteristics)

- **Housing Expense**
  - Gross Income

- **Total Debt Expense**
  - Gross Income

- **Credit Scores** (Credit Characteristics)

### 3-Dimensional Mortgage Loan Underwriting

- **3 Cs of Lending**
  1. Collateral
  2. Capacity
  3. Character

- **Loan Approval Zone 2005**

- **Loan-to-Value Ratios** (Physical Security)

  - 80%
  - 100%

- **Marginal borrower is being denied**

- **Mortgage Crisis:**
  - Lending to high-risk borrowers
  - Large amounts of money
  - They could not afford

- **False Premise:**
  - Home prices always rise
  - So default risk is low

- **Inflated Appraisals**
Retail Sales (excluding autos)
(year over year % change)

Stock price wealth effect
Home Price Wealth effect
Long-run average = 5.5%

Falling jobs/wealth/credit access/consumer confidence => falling spending
Lower gas prices also reduced retail sales

Consumer Confidence & Sentiment Index

Recession  Confidence  Sentiment

Source: Conference Board.
S&P 500 Stock Index
(monthly average)

Household Net Worth
(4-quarter percent change)

Source: FRB Flow of Funds
Greater economic stability
Equity capital gains
Foreign savings/capital inflow
New Mortgage Products
Low interest rates

Fools Paradise
Rely on rising stock and home values to boost wealth.

Rainy Day Fund
Should save during the good times and dissave during the bad.

Paradox of Thrift
Everyone increasing their savings leads to a recession

Financial Stress

Source: Department of Labor & Federal Reserve.