Conflicting News & Opinion

- Manufacturing Sector Productivity Up in 2nd Quarter – August 10
- Nonfarm Payroll Declines in July – August 10
- “Taleb Says Government Bonds to Collapse, Avoid Stocks” – Bloomberg, August 11
- “U.S. Economy to Improve Slowly, Former Treasury Secretaries Say” – Business Week, August 9

Where is the Economy Now and Where is it Going?

- No way to know with certainty!!
  - Impossible to define “economy”
  - Measurement error
  - Inherent uncertainty about future
- Reliance on “indicators”
  - Survey indicators
  - Single indicators
  - Composite indicators
Characteristics of a Good Economic Indicator

- High “signal-to-noise” ratio
- Clearly interpreted
  - Timing is right
  - Low measurement error
- Displays clear trends
- For leading indicators:
  - Very few false negatives
  - Few false positives

Survey Indicators

- Examples: ISM Purchasing Managers, Mid-America Business Conditions, University of Michigan Consumer Sentiment, Senior Loan Officer Survey
- Strengths: Easy to Interpret, Captures “Latencies”
- Weaknesses: Measurement Error, Noisy

Graph generated by FRED: [http://research.stlouisfed.org/fred2/](http://research.stlouisfed.org/fred2/)
Single Indicators

- Examples: Housing Starts, Initial Jobless Claims
- Strengths: Easy to Interpret, Relatively Low Measurement Error
- Weaknesses: Only Partially Captures Latencies, Can Be Noisy
Composite Indicators

- “Indices” that combine information from many survey and single indicators
- Examples: Aruoba-Diebold-Scotti Business Conditions Index, ISM PMI, Conference Board Indicators, Chicago Fed National Activity Index, State Coincident Indices
- Strengths: Easy to Interpret, Low Measurement Error, Low Noise, Captures Latencies
- Weaknesses: Timeliness, Depending on Index May be Ad-Hoc

Aruoba-Diebold-Scotti Business Conditions Index

- Composed of 6 indicators with varying frequency of data, allows for “real-time” business conditions measure
- Dynamic factor analysis
  - Common trends
- Strengths: Timely, Few False Positives
- Weaknesses: Noisy, False Negatives
ISM Purchasing Managers’ Index

- Weighted average of separate indicators from ISM surveys
  - Including Production, Import Orders, Export Orders, Supplier Deliveries, Customer Inventories, Order Backlog
  - Proprietary model; weights not known
- Strengths: Easy to Interpret
- Weaknesses: Coincident Indicator at Best, False Positives, One Month Lag
Conference Board Index

- Weighted Average of Indicators
  - Proprietary model, known factor weights
- Strengths: Easy to Interpret, Few False Positives or Negatives
- Weaknesses: One-Month Lag
Chicago Fed National Activity Index

- Index of 85 Monthly Indicators compiled by Chicago Federal Reserve Bank: http://www.chicagofed.org/webpages/publications/cfnai/index.cfm
  - Production and income; Employment, unemployment, and hours; Personal consumption and housing; Sales, orders, and inventories
- Dynamic Factor Analysis
- Strengths: Very Few False Positives and Negatives
- Weaknesses: Somewhat Difficult to Interpret, Effectively Two-Month Lag
State Coincident Indices

- Index of 4 Monthly Indicators compiled for each state (and the US as a Whole) by the Philadelphia Federal Reserve Bank: http://www.philadelphiafed.org/research-and-data/regional-economy/indexes/coincident/
  - Nonfarm payroll employment, Average hours worked in manufacturing, Unemployment rate, Real wage and salary disbursements

- Dynamic Factor Analysis
- Strengths: Measurement Error, Very Few False Positives and Negatives
- Weaknesses: 6-Week Lag

So…Where Are We?

- Stylized Facts
  - Recession started in last quarter of 2007/first quarter of 2008
    - ADS becomes increasingly negative in December 2007
    - CFNAI-MA3 goes below -0.7 in February 2008
    - US/NE Coincident Indices peak in March 2008
  - Trough reached/recovery commences in summer/fall 2009
    - ADS becomes positive in July 2009, bounces back to negative, persistently positive in October 2009
    - CFNAI-MA3 rises above -0.7 in October 2009
    - US Coincident Index trough in November 2009
    - NE Coincident Index trough in March 2010
So…Where Are We?

• Stylized Facts
  – Soft Patch starting Spring/Summer 2010
    • ADS/CFNAI-MA3/US Coincident turn negative in June 2010
    • ADS turning upward again in late July/early-August
  • Both indices indicate softening but not necessarily recession
  • Every recovery since World War II except for one has seen differing rates of growth over recovery cycle
    1. Trough in late 2001, soft patch in late 2002
    3. Trough in winter 1983-4, soft patch in summer 1983
    4. Trough in winter 1974-5, soft patch in late 1975

And Where Are We Going?

• My Humble Estimates
  – Based on time-series analysis of composite indicators
  – Slow growth through mid-to-late 2012
    1. 1.95% growth in US economy during next 12 months, 2.54% in Nebraska
    2. Very low probability of double dip, however, 25.7% chance of low growth in US (only 14.7% in NE)
    3. 23.4% probability of more robust growth in US (37.7% in NE)
Where Are We Going?


<table>
<thead>
<tr>
<th>Real GDP ( % Change)</th>
<th>Unemployment Rate (%)</th>
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</thead>
<tbody>
<tr>
<td>Previous</td>
<td>New</td>
</tr>
<tr>
<td>2010 Q3</td>
<td>3.3</td>
</tr>
<tr>
<td>Q4</td>
<td>2.8</td>
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<tr>
<td>2011 Q1</td>
<td>2.7</td>
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<tr>
<td>Q2</td>
<td>3.2</td>
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<tr>
<td>Q3</td>
<td>N.A.</td>
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<tr>
<td>Annual average</td>
<td>2010</td>
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<tr>
<td>2011</td>
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<td>2012</td>
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<tr>
<td>2013</td>
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