The U.S. and Local Economy: Stats to Know

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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:
  - 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 Coincidental 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
    • Trough in fall 2001, soft patch in fall 2002
    • Trough in winter 1991-2, soft patch in winter 1992-3
    • Trough in winter 1980-1, soft patch in summer 1983
    • 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
      • 1.95% growth in US economy during next 12 months, 2.54% in Nebraska
      • Very low probability of double dip, however, 25.7% chance of low growth in US (only 14.7% in NE)
      • 23.4% probability of more robust growth in US (37.7% in NE)
**Where Are We Going?**


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<tr>
<th>Real GDP (% Change)</th>
<th>Unemployment Rate (%)</th>
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<tbody>
<tr>
<td></td>
<td>Previous</td>
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<tr>
<td>Quarter</td>
<td></td>
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<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>
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<tr>
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<table>
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<tr>
<th>Annual average data</th>
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<tr>
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