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

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



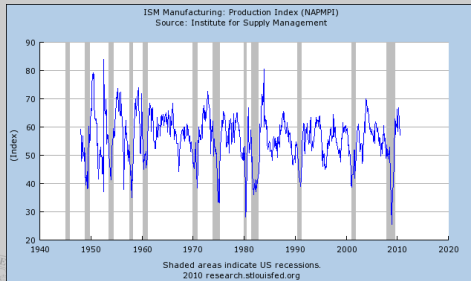
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Survey Indicators

- 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

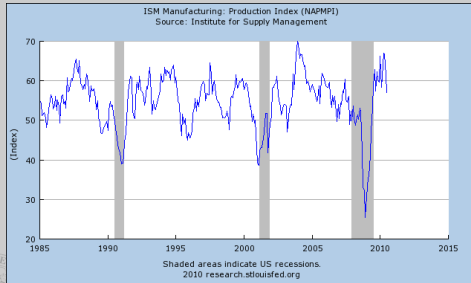


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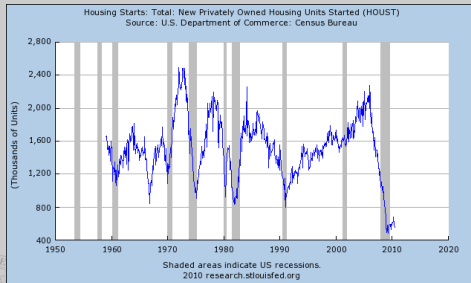
Graph generated by FRED: <http://research.stlouisfed.org/fred2/>

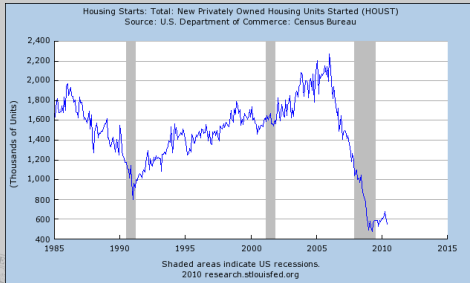
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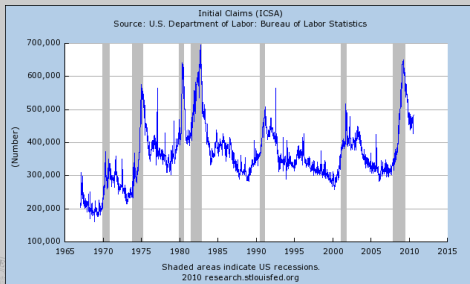
Single Indicators

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

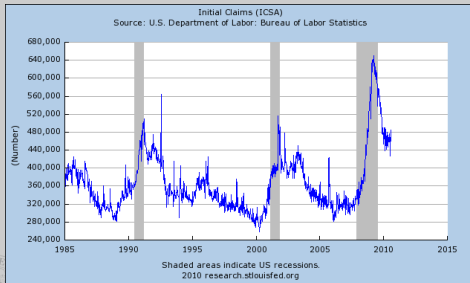




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Composite Indicators

- “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



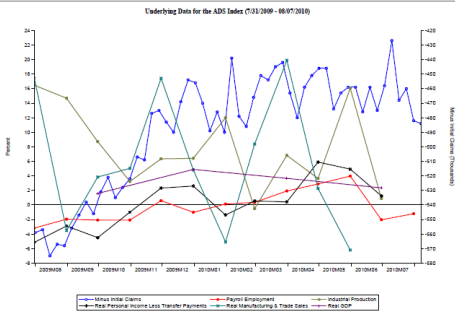
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Aruoba-Diebold-Scotti Business Conditions Index

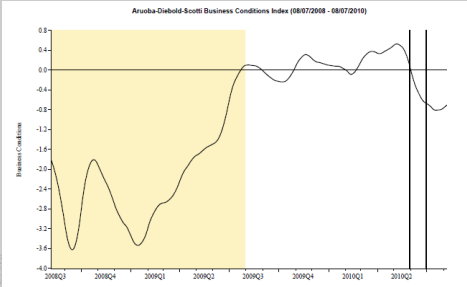
- Published by the Philadelphia Federal Reserve Bank: <http://www.philadelphiafed.org/research-and-data/real-time-center/business-conditions-index/>
- Composed of 6 indicators with varying frequency of data, allows for “real-time” business conditions measure
- Dynamic factor analysis
 - Common trends
- Strengths: Timely, Few False Positives
- Weaknesses: Noisy, False Negatives



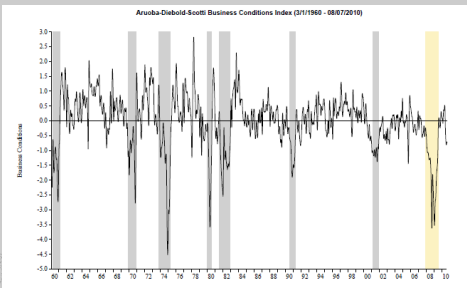
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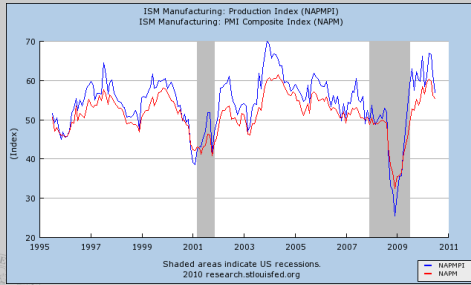


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ISM Purchasing Managers' Index

- 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

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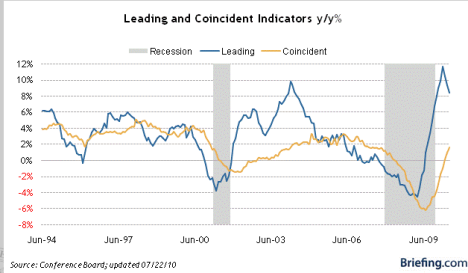


Conference Board Index

- Leading, Coincident, Lagging Indices published by the Conference Board: <http://www.conference-board.org/data/bccountry.cfm?cid=1>
- Weighted Average of Indicators
 - Proprietary model, known factor weights
- Strengths: Easy to Interpret, Few False Positives or Negatives
- Weaknesses: One-Month Lag

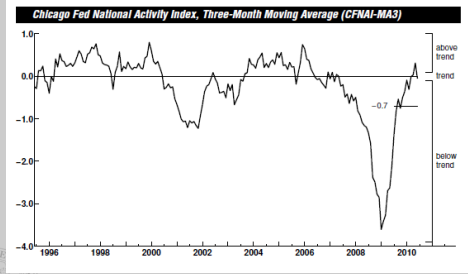
U.S. Composite Economic Indexes - Components and Standardization Factors

Leading Economic Index	Factor	
1	Average weekly hours, manufacturing	0.2725
2	Average weekly initial claims for unemployment insurance	0.0322
3	Manufacturers' new orders, consumer goods and materials	0.0809
4	Index of supplier deliveries - vendor performance	0.0715
5	Manufacturers' new orders, nondefense capital goods	0.0192
6	Building permits, new private housing units	0.0263
7	Stock prices, 500 common stocks	0.0373
8	Money supply, M2	0.3248
9	Interest rate spread, 10-year Treasury bonds less federal funds	0.1058
10	Index of consumer expectations	0.0295
Coincident Economic Index	Factor	
1	Employees on nonagricultural payrolls	0.4040
2	Personal income less transfer payments	0.2615
3	Industrial production	0.1346
4	Manufacturing and trade sales	0.1090



Chicago Fed National Activity Index

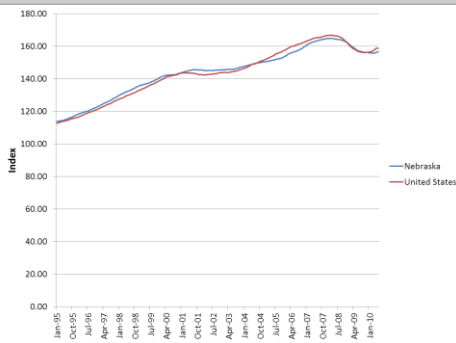
- Index of 85 Monthly Indicators compiled by Chicago Federal Reserve Bank:
<http://www.chicagofed.org/webpages/publications/cfnai/index.cfm>
 - Production and income; Employment, unemployment, and hours; Personal consumption and housing; Sales, orders, and inventories
- Dynamic Factor Analysis
- Strengths: 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



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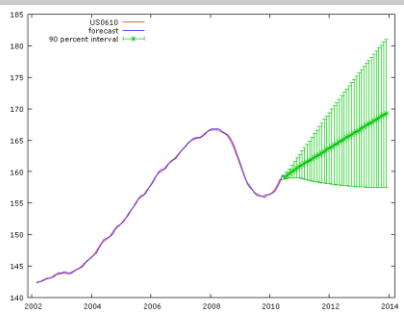
- Stylized Facts
 - Soft Patch starting Spring/Summer 2010
 - ADS/CFNAI-MA3/US Coincidental turn negative in June 2010
 - ADS turning upward again in late-July/early-August
 - Both indices indicate softening but not necessarily recession
 - Every recovery since World War II except for one has seen differing 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 1982-3, soft patch in summer 1983
 - Trough in winter 1974-5, soft patch in late 1975

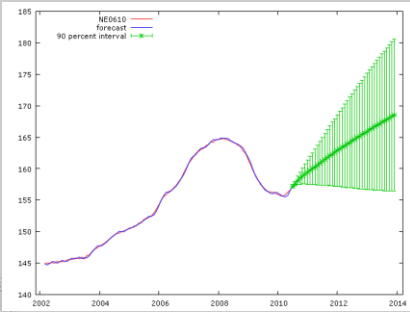


And Where Are We Going?

- 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)







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Where Are We Going?

- Survey of Professional Forecasters:
<http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/>

	Real GDP (% Change)		Unemployment Rate (%)	
	Previous	New	Previous	New
Quarterly data:				
2010:Q3	3.3	2.3	9.6	9.6
Q4	2.8	2.8	9.5	9.6
2011:Q1	2.7	2.3	9.3	9.4
Q2	3.2	3.1	9.1	9.3
Q3	N.A.	3.0	N.A.	9.0
Annual average data:				
2010	3.3	2.9	9.6	9.6
2011	3.1	2.7	8.9	9.2
2012	3.2	3.6	8.0	8.2
2013	2.9	2.6	7.1	7.3

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