

# AFP<sup>®</sup> Annual Conference



— November 7-10, 2010 | San Antonio —

ORIGINAL  
ESSENTIAL  
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INFORMATION



## The Global Economy and Known Unknowns in Commodity Risk

Jason Schenker  
President and Chief Economist  
Prestige Economics, LLC

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# We are a Leading Research and Management Consulting Firm

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- Guest on CNBC, Bloomberg,

Monthly Economic Report  
PRESTIGE ECONOMICS  
March 11, 2009

PLUS C'EST LA MÊME CHOIX

Key Economic Forecasts

	08 Q1	08 Q3	09 Q3	09
Real GDP (Year-over-Year)	-3.3	-3.0	-2.6	0
Unemployment Rate	8.2	9.3	10.0	10
Core Consumer Price Index	1.8	1.8	1.5	1.1
Fed Funds Rate*	0.25	0.25	0.25	0.25
Dollar Index	85.7	82.4	78.4	78.0
Crude Oil	145.25	158.75	168.21	178.18

Oil Prices

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Create long-lasting, high-quality impact and insight for our clients as industry and market experts

# Objectives of Today's Discussion

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- Place commodity market activity within a context of global growth
- Discuss some critical threats to commodity market prices and activity
- Discuss threats to the global economy with second order implications for commodities

# Fundamental Beliefs

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- Growth underpins fundamentals
- Commodity markets have become financially integrated
- The global and U.S. economies have second order implications for commodities

# Agenda

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**Current Economic Conditions and Outlook**

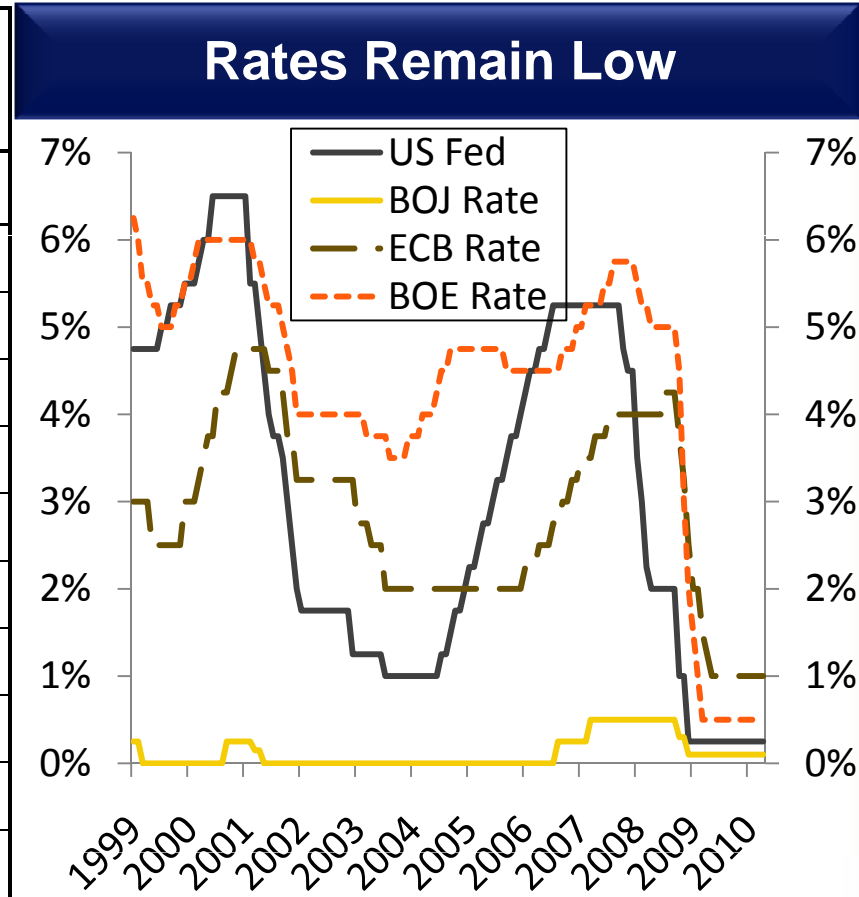
**Energy and Metals Outlook**

**Economic and Energy Market Risks**

**Actionable Steps to Find Upside**

# Global Recovery is Expected by 2011

IMF Growth Forecasts			
Real GDP YoY % Change			
	2009	2010	2011
Global	-0.6	4.8	4.2
Euro-zone	-4.1	1.7	1.5
U.S.	-2.6	2.6	2.3
Japan	-5.2	2.8	1.5
U.K.	-4.9	1.7	2.0
Canada	-2.5	3.1	2.7
Brazil	-0.2	7.5	4.1
Russia	-7.9	4.0	4.3
India	5.7	9.7	8.4
China	9.1	10.5	9.6



Source: Prestige Economics, LLC, IMF

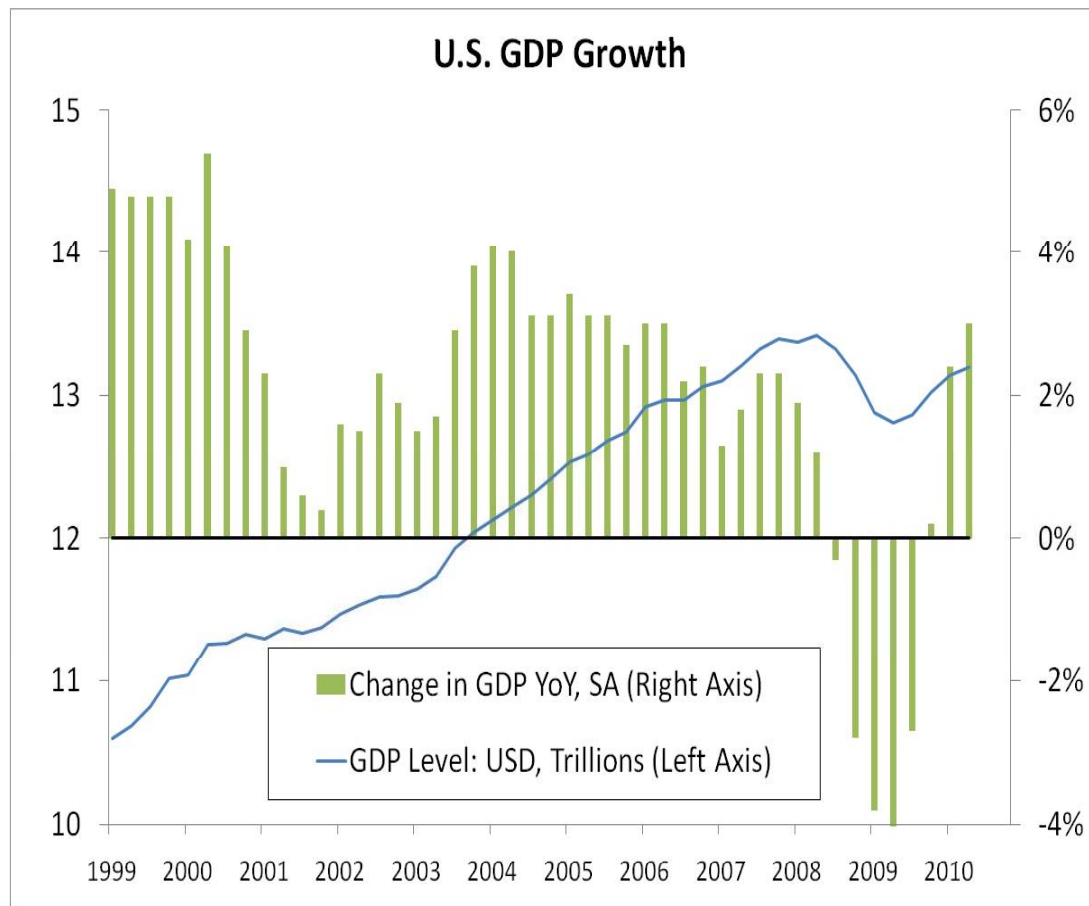
# Prestige Economics U.S. Forecasts

<b>Key Economic Forecasts</b>			
	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Real GDP (Year-over-Year)</b>	-2.6	2.6	2.1
<b>Unemployment Rate</b>	9.4	9.7	9.6
<b>Core Consumer Price Index</b>	1.7	1.1	1.5
<b>Fed Funds Rate<sup>1</sup></b>	0.25	0.25	0.75
<b>Dollar Index</b>	80.6	81.0	77.0
<b>Crude Oil</b>	\$61.81	\$79.01	\$87.50

1: Fed Funds Rate is end of period. All other values are averages, including the Dollar index  
Source: Prestige Economics, LLC



# Improving U.S. Growth is likely to exceed pre-recession levels in 2011

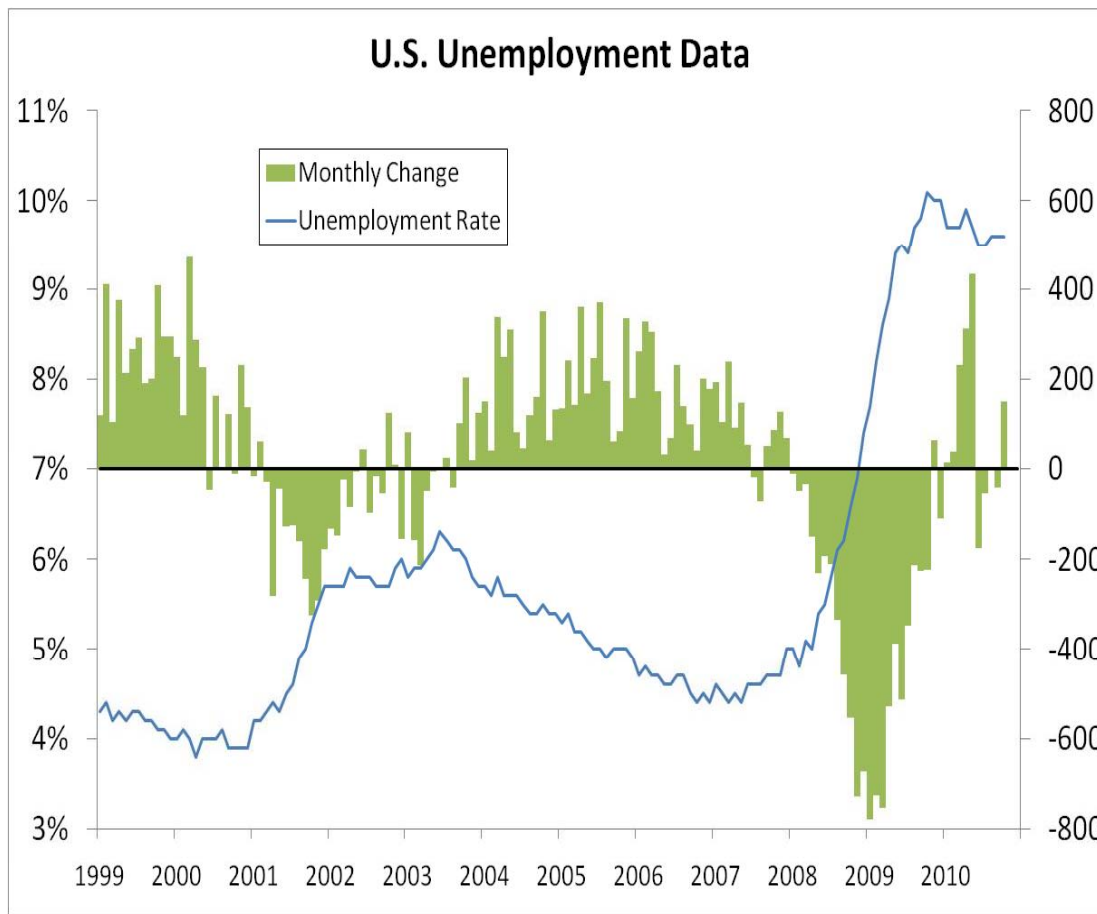


## Historical Perspective

- GDP at 2007 levels
- Recent YoY GDP at lowest level since the 1930's

Source: Prestige Economics, LLC , BEA

# But Employment Remains Weak

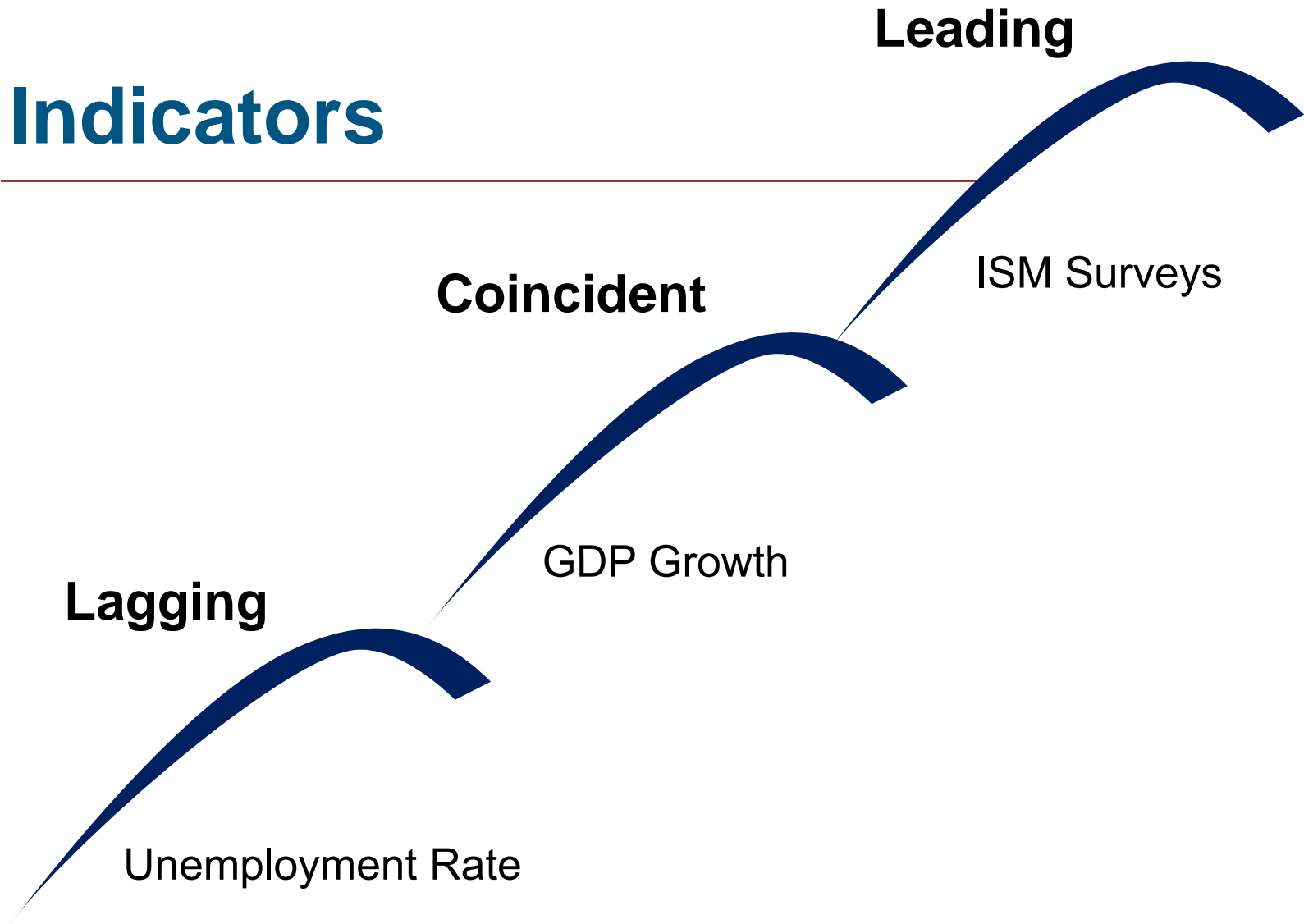


## Lessons of the Last Recession

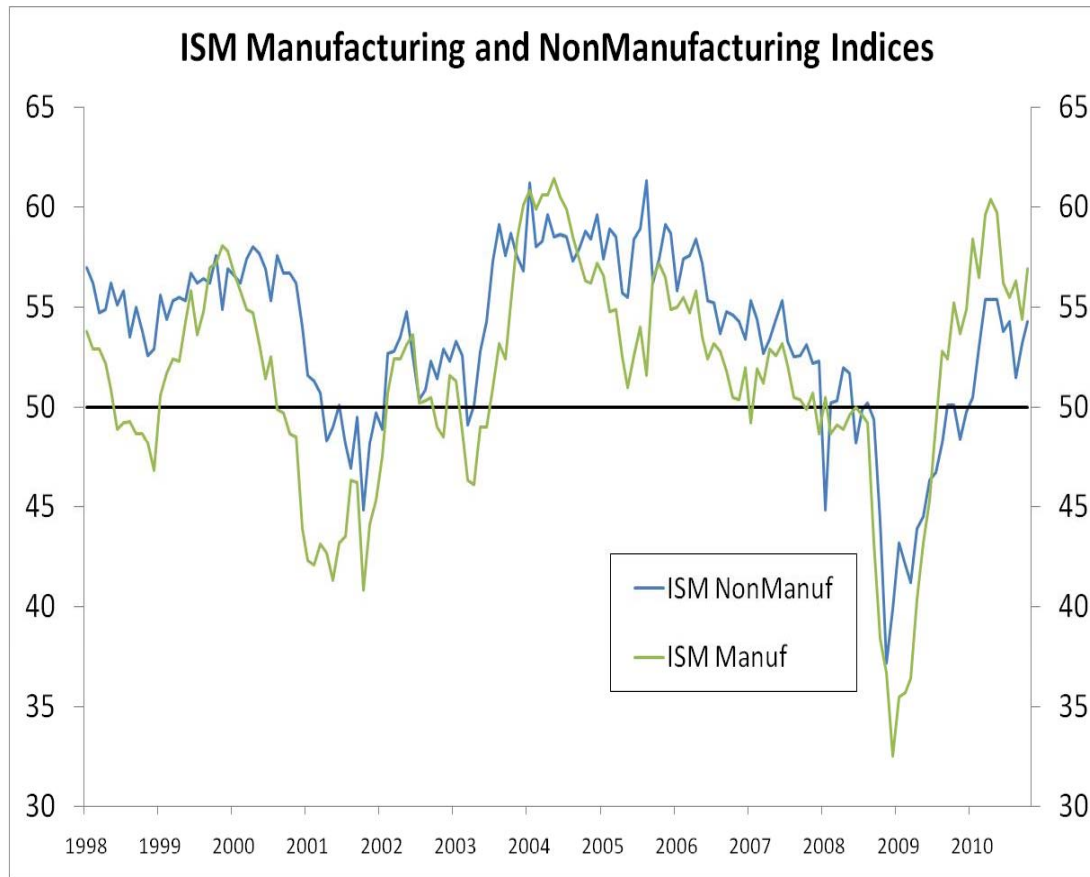
- Job-loss recovery
- Jobless recovery
- Gradual job creation

# Indicators

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# ISM Surveys Indicate Growth with Some Deceleration

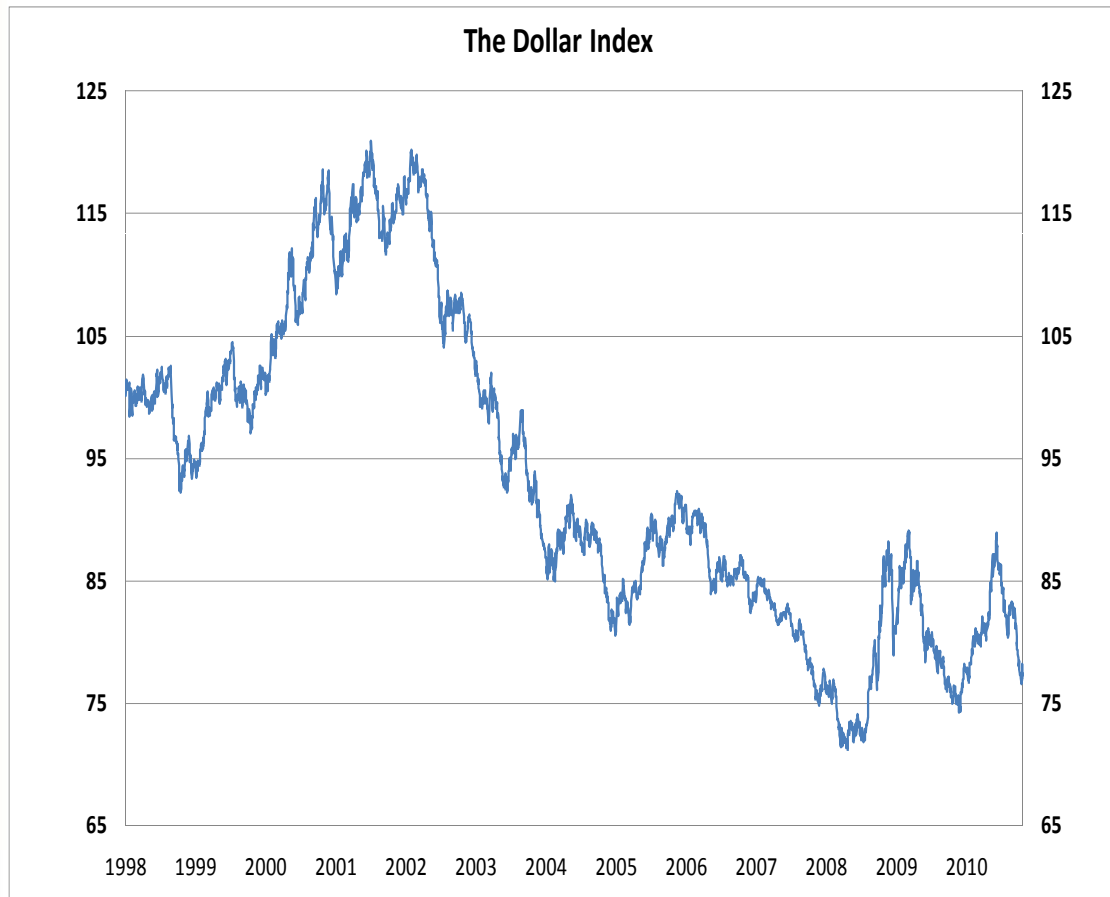


## Role of ISM

- Forward-looking
- Below-50 indicates contraction
- Above-50 indicates expansion

Source: Prestige Economics, LLC, ISM

# The Dollar is Expected to Fall From Current Levels



## Trend Expectations

- Dollar likely to weaken
- Commodity currencies likely to strengthen

# The Dollar is Expected to Fall This Year On-Trend

Key Currency Forecasts								
	09 Q1	09 Q2	09 Q3	09 Q4	10 Q1	10 Q2	10 Q3	10 Q4
<b>Dollar Index</b>	85.4	80.1	76.7	77.9	81.1	86.3	80.0	78.0
<b>USD/EUR</b>	1.33	1.40	1.46	1.43	1.35	1.22	1.34	1.37
<b>USD/GBP</b>	1.43	1.65	1.60	1.62	1.52	1.50	1.58	1.62
<b>CAD/USD</b>	1.26	1.16	1.07	1.05	1.02	1.06	1.03	1.00
<b>JPY/USD</b>	99	96	90	93	93	88	84	82
<b>USD/AUD</b>	0.69	0.81	0.88	0.90	0.91	0.84	0.95	1.00
<b>ZAR/USD</b>	9.50	7.71	7.51	7.40	7.38	7.76	7.15	7.00

All values are end of period.  
Source: Invesco Economics, LLC, NYBOT

**AFP Annual Conference**



# Agenda

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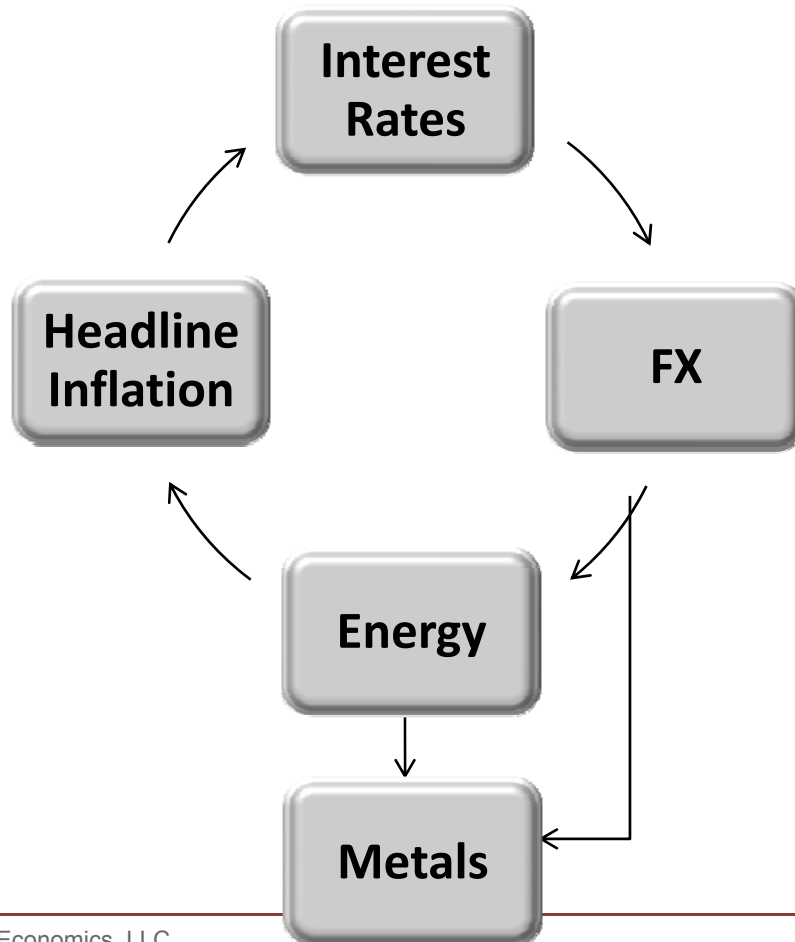
Current Economic Conditions and Outlook

**Energy and Metals Outlook**

Long-Term Challenges

Actionable Steps to Find Upside

# FX and Monetary Policy are Critical for Energy and Metals Commodities



**Influence**

- FX rates impact energy and metals prices
- Energy prices impact metals price and affect headline inflation
- Circuitous feedback loop

Source: Prestige Economics, LLC



# Key Drivers – Trends Matter, But Known Unknowns Matter More

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- Expectations – Future Supply and Demand
- U.S. dollar and monetary policy (e.g. quantitative easing)
- Speculative market activities – non-participants across markets
- Inventories – Current Supply & Demand

# Crude Oil and Natural Gas Outlooks

## Brent Crude Oil - \$/Bbl

	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2
Quarterly Forecasts	\$77.59	\$77.99	\$79.47	\$84.00	\$88.00	\$87.00
	2008	2009	2010	2011	2012	2013
Annual Forecasts	\$99.86	\$62.94	\$79.54	\$89.00	\$100.00	\$110.00

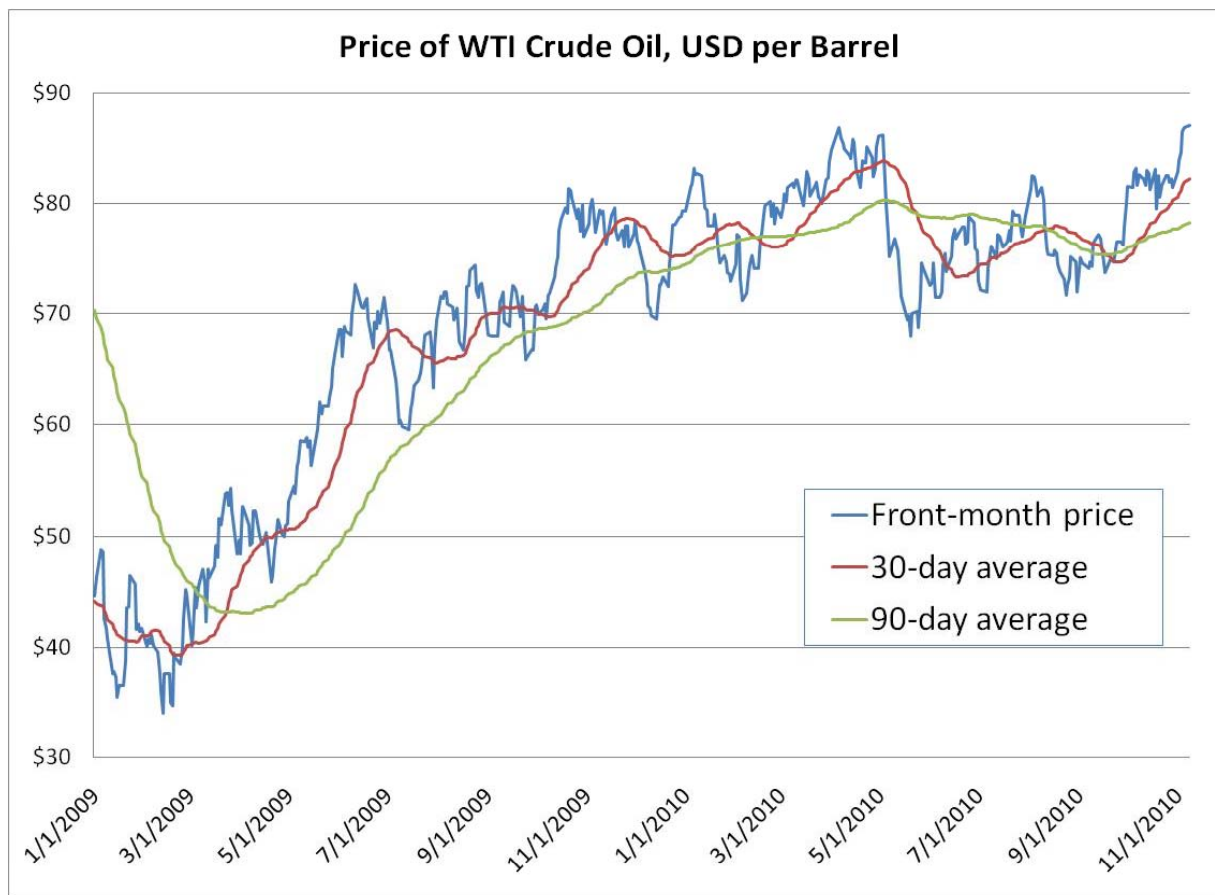
## WTI Crude Oil - \$/Bbl

	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2
Quarterly Forecasts	\$78.81	\$77.99	\$76.24	\$83.00	\$87.00	\$85.00
	2008	2009	2010	2011	2012	2013
Annual Forecasts	\$99.63	\$61.76	\$79.01	\$87.50	\$98.00	\$109.00

## Natural Gas - \$/MMBTU

	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2
Quarterly Forecasts	\$5.02	\$4.35	\$4.24	\$4.25	\$5.00	\$4.50
	2008	2009	2010	2011	2012	2013
Annual Forecasts	\$8.90	\$4.18	\$4.47	\$5.00	\$5.50	\$6.00

# Crude Oil Prices are Poised to Rise On-Trend

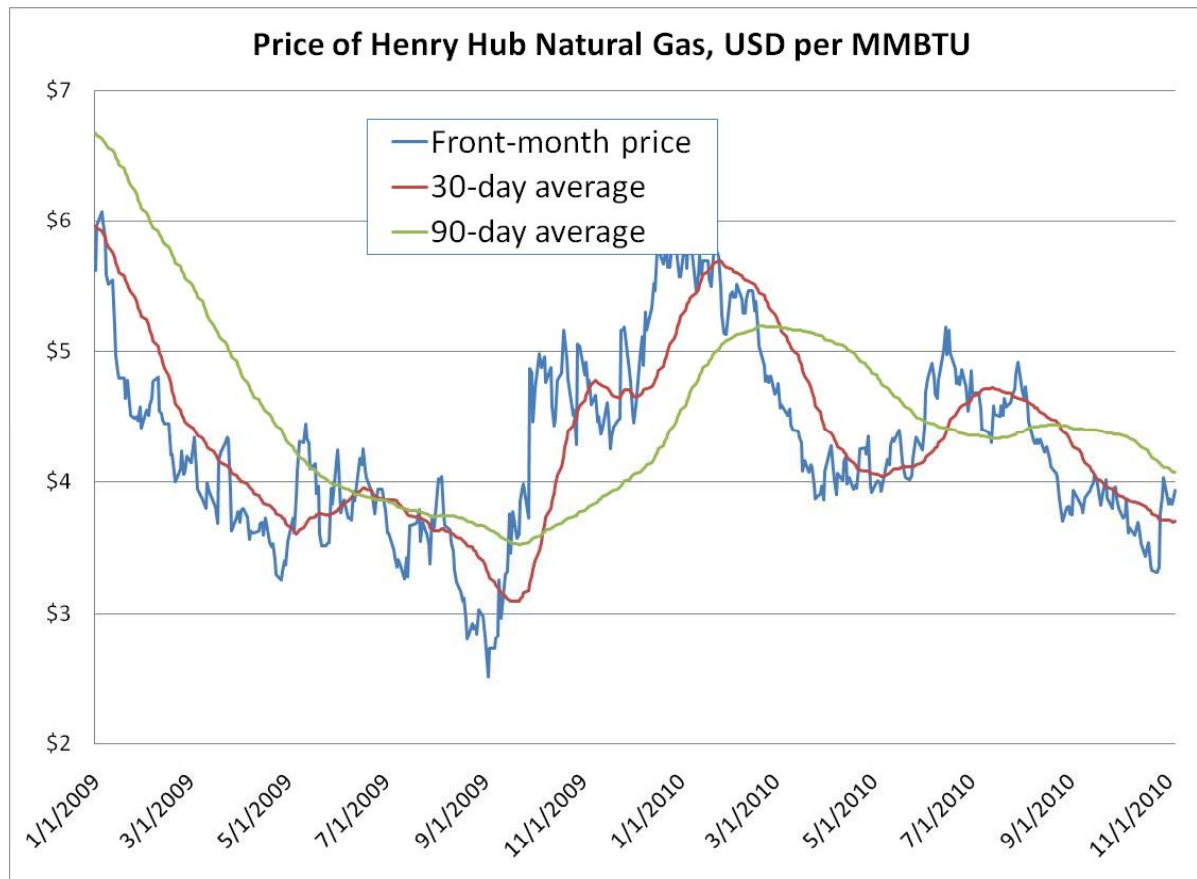


## Price Drivers

- Prices have been range-bound
- Inventories high
- OPEC production creep
- Monthly volatility

Source: Prestige Economics, LLC, NYMEX

# Natural Gas Prices are Under Pressure



## Price Drivers

- Expectations of future supplies
- Inventories high
- Lack of hurricanes
- Weak industrial demand
- Regional isolation

Source: Prestige Economics, LLC, NYMEX

# Metals Prices Are Also Poised To Rise On-Trend

Prestige Economics Metals Price Forecasts									
		10 Q1	10 Q2	10 Q3	10 Q4	2008	2009	2010	2011
Gold - Spot	\$/OZ	\$1,111	\$1,198	\$1,229	\$1,325	\$872	\$973	\$1,216	\$1,350
Silver - Spot	\$/OZ	\$16.95	\$18.36	\$18.98	\$23.50	\$14.97	\$14.68	\$19.45	\$25.00
Copper - COMEX	\$/LB	\$3.30	\$3.19	\$3.31	\$3.65	\$3.13	\$2.35	\$3.36	\$3.75
Aluminum - LME Spot	\$/MT	\$2,167	\$2,092	\$2,090	\$2,300	\$2,576	\$1,670	\$2,162	\$2,500
	\$/LB	\$0.98	\$0.95	\$0.95	\$1.04	\$1.17	\$0.76	\$0.98	\$1.13
Nickel - LME Spot	\$/MT	\$20,096	\$22,365	\$21,225	\$23,000	\$21,058	\$15,105	\$21,672	\$25,000
	\$/LB	\$9.12	\$10.14	\$9.63	\$10.43	\$9.55	\$6.85	\$9.83	\$11.34
Steel - Hot Rolled Coil	\$/ST	\$556	\$661	\$600	\$675	\$890	\$454	\$623	\$725

\*All prices are period averages.

Source: Prestige Economics, LLC, LME, COMEX

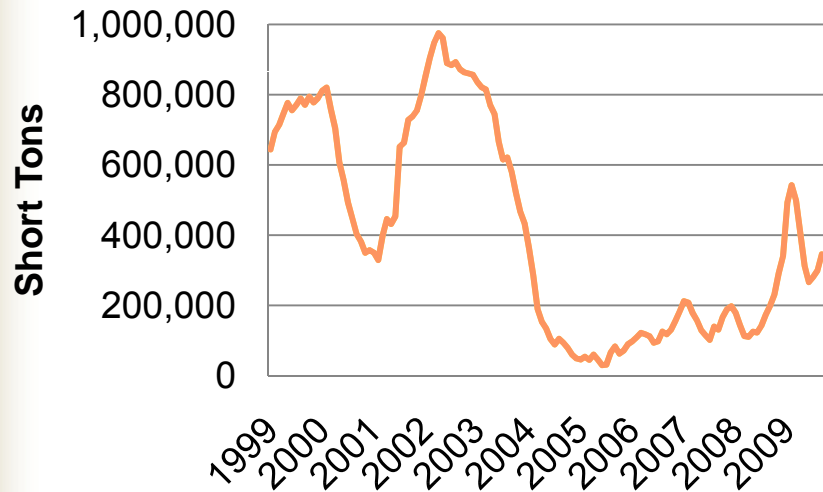
# Supply Side Dynamics Matter More for Metals

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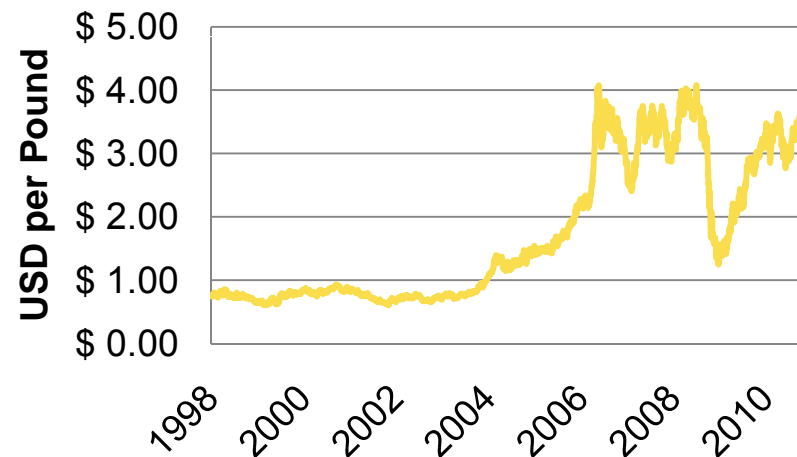
- Supplies are much lower globally
- Metals inventories have fallen sharply this year
- Oil inventories are at very high levels
- Natural gas inventories are at very high levels
- OPEC is allowing production creep

# Copper Outlook

### LME Copper Inventories



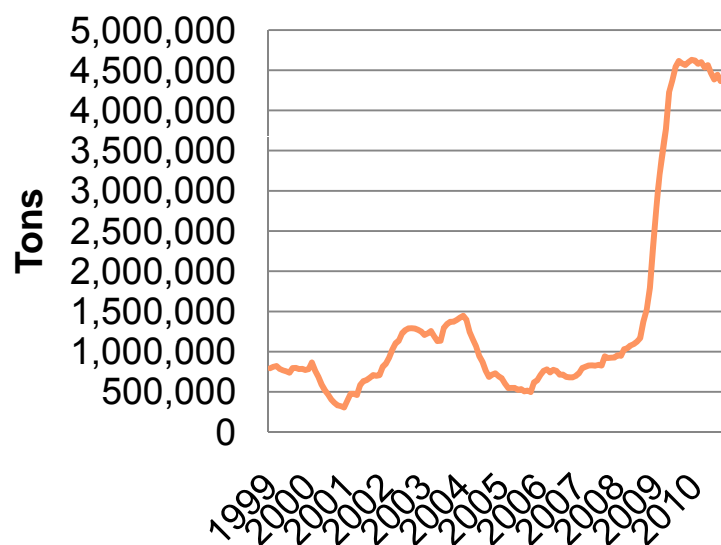
### COMEX Copper Front Month Price



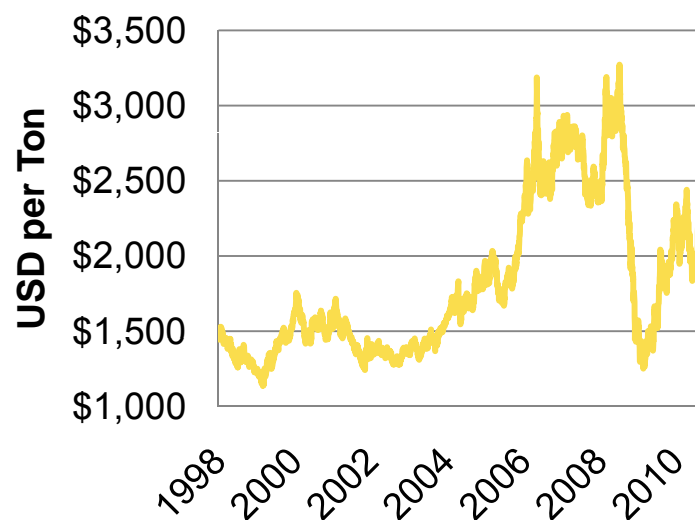
*Inventories are falling, growth is driving demand, and prices are poised to rise.*

# Aluminum Outlook

### Aluminum LME Inventories



### Aluminum LME Spot Price

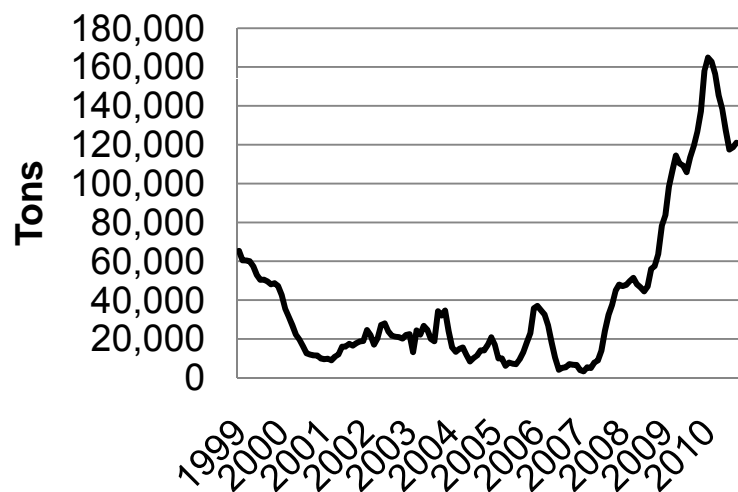


*Inventories are poised to fall, spare capacity is high, natural gas prices are expected to remain soft, and price increases are likely to be muted.*

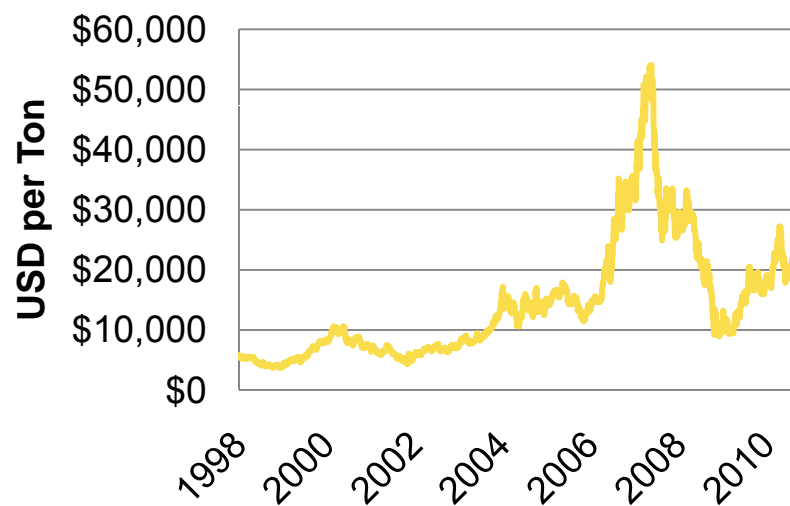


# Nickel Outlook

## Nickel LME Inventories



## Nickel LME Spot Price



*Demand for nickel is rising, inventories have been falling, and prices are poised to rise significantly.*

# Nickel Demand and Pricing is Linked to Energy Markets

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- **Solar Energy**
    - Nickel is found in the stainless steel of solar power plants
  - **Offshore Projects**
    - Nickel alloys have excellent resistance to seawater corrosion
    - Application in offshore oil and gas platforms, uses being found in offshore wind projects
  - **Batteries**
    - Nickel Zinc Batteries have relatively high density; 25% higher voltage & safety
    - Nissan Motor Co. is working on development of lithium ion battery using Nickel, which can store about twice as much electricity
  - **Fuel Cells**
    - Proton exchange membrane fuel cells generate electricity from Hydrogen
    - Catalysts of platinum nickel alloys improve performance of these fuel cells
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# Agenda

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Current Economic Conditions and Outlook

Energy and Metals Outlook

**Economic and Energy Market Risks**

Actionable Steps to Find Upside

# There Are a Number of Economic Concerns

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**Credit  
Ratings**

**Entitlements**

**Real Estate**

**Healthcare  
Reform**

# Sovereign and Muni Credit Risk Poses Real Threats To Growth

## Near-Term Risks

- Credit concerns affect entire sovereign debt market
- Higher costs of credit hinder economic recovery in the near-term
- Munis under pressure from reduced real estate taxes

## Long-Term Risks

- U.S. debt burden affects AAA credit rating
- Other foreign debt obligations affect other sovereign credit ratings
- Higher rates reduce long-term output potential

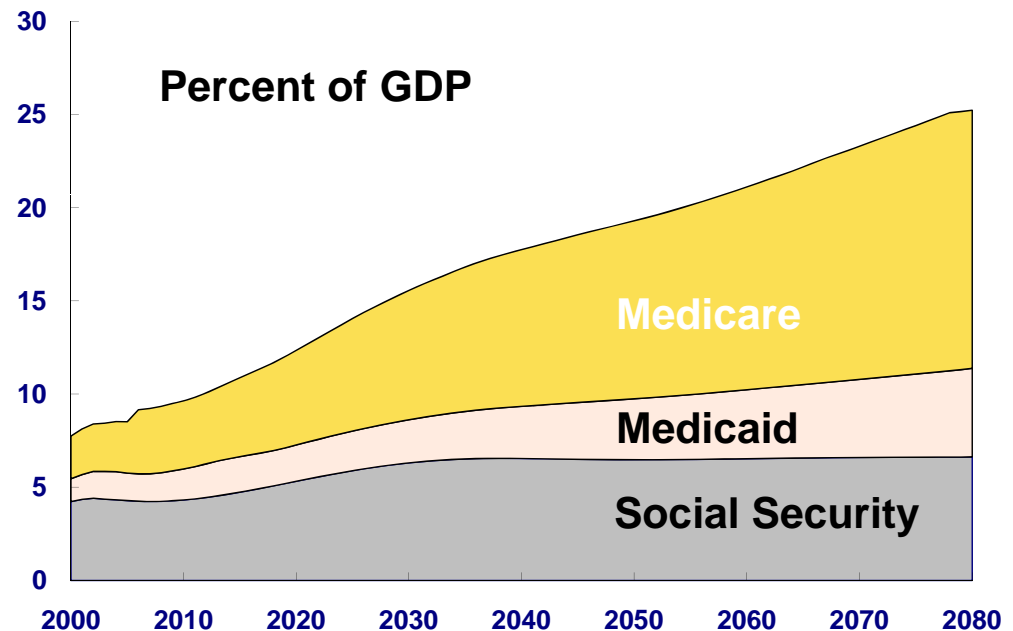
Source: Prestige Economics, LLC

# Entitlement Expenditures Threaten Long-Term Growth

Medicare is poised to rise to almost 20% of GDP

If cost of Medicare premiums rise, Medicaid may be inadvertently used as an offset

AAA Credit Rating is at risk



Source: Prestige Economics, LLC GAO analysis based on data from the Office of the Chief Actuary, Social Security Administration, Office of the Actuary, Centers for Medicare and Medicaid Services, and the Congressional Budget Office. Prestige Economics

# Known Unknowns

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**Unconventional  
Gas**

**Risks of  
Alternatives**

**WTI as a Broken  
Benchmark**

**Oil Spill  
Repercussions**

# Unconventional Sources of Gas are Critical for Future Production

2009 US Gas Production  
(black = high production)



US Shale Gas plays

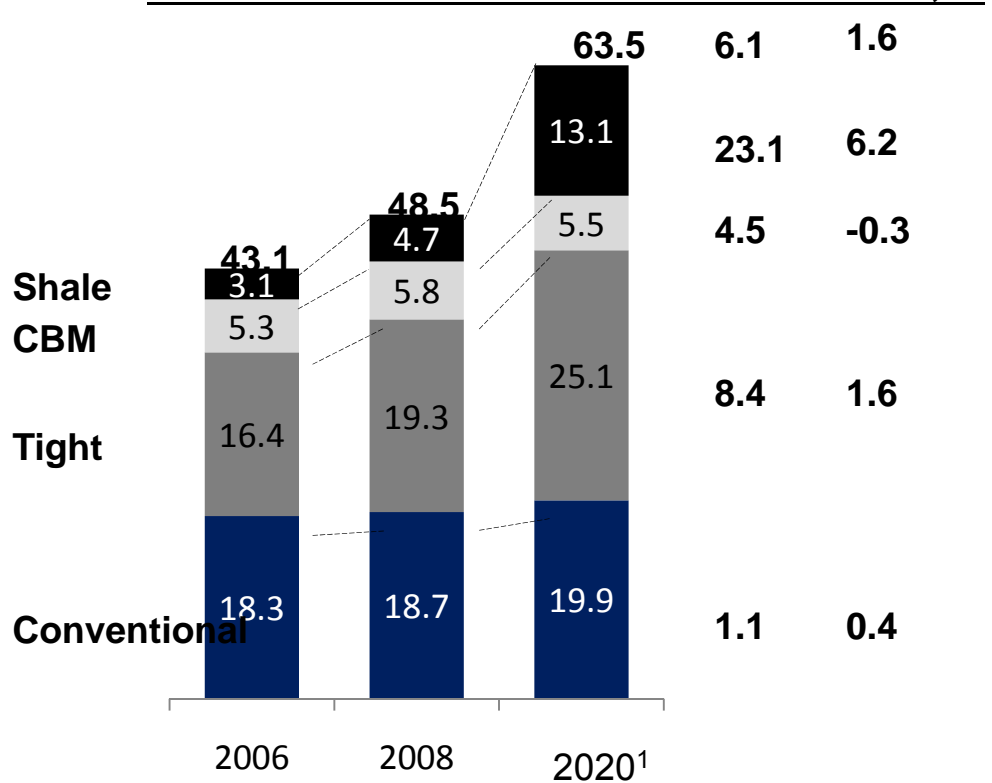


1: INGAA forecast

Source: Prestige Economics, EIA, INGAA

Natural Gas Production Bcf/d

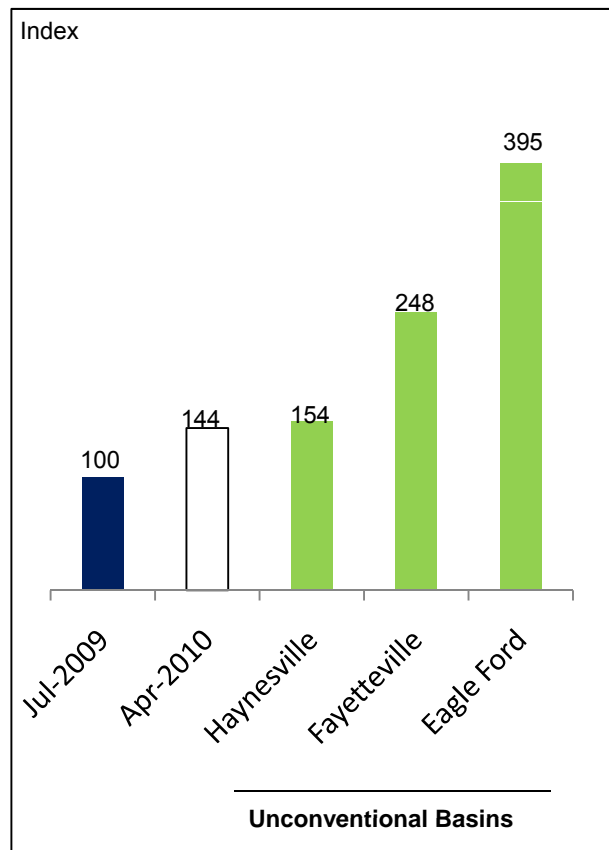
	06-08 CAGR, %	08-20 CAGR, %
Conventional	1.1	0.4
Tight	8.4	1.6
CBM	4.5	-0.3
Shale	23.1	6.2
Total	6.1	1.6



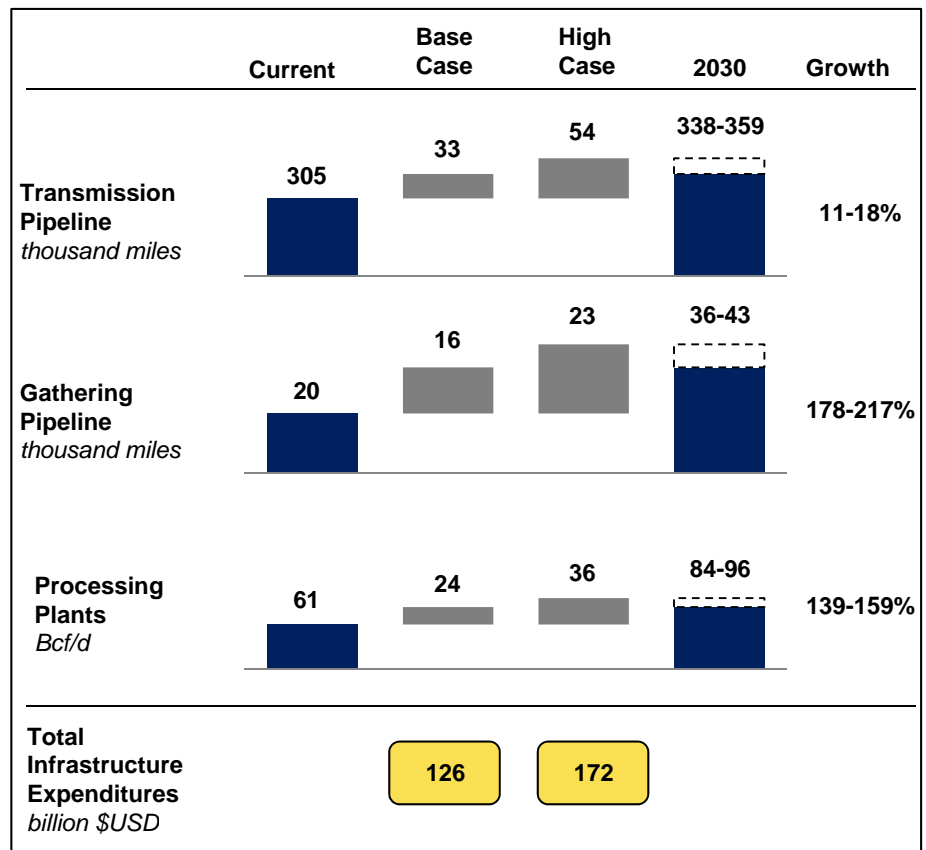


# Investment in Unconventional Natural Gas Infrastructure is Significant

Gas rig activity relative to July 10,2009 (low)<sup>1</sup>



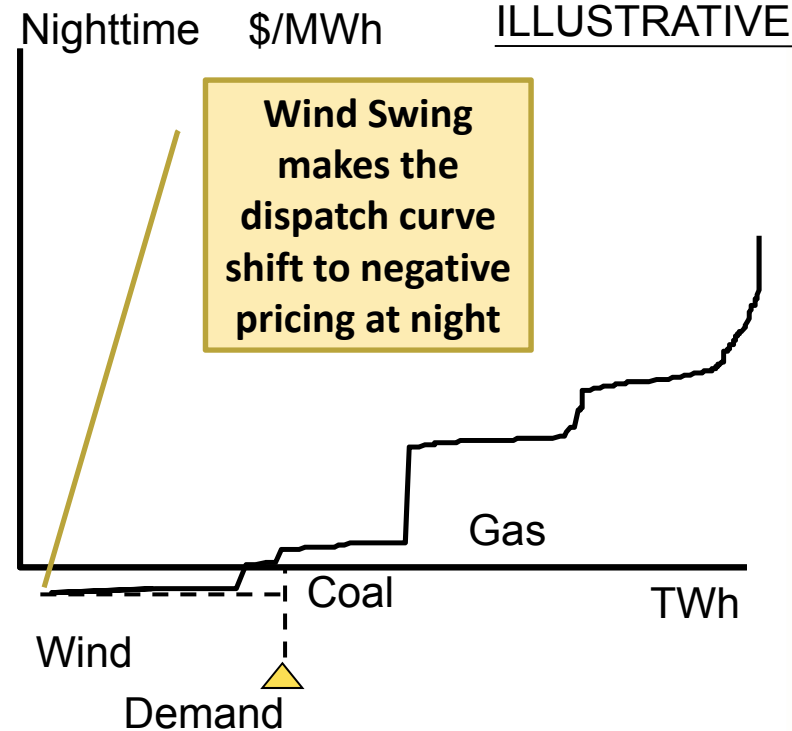
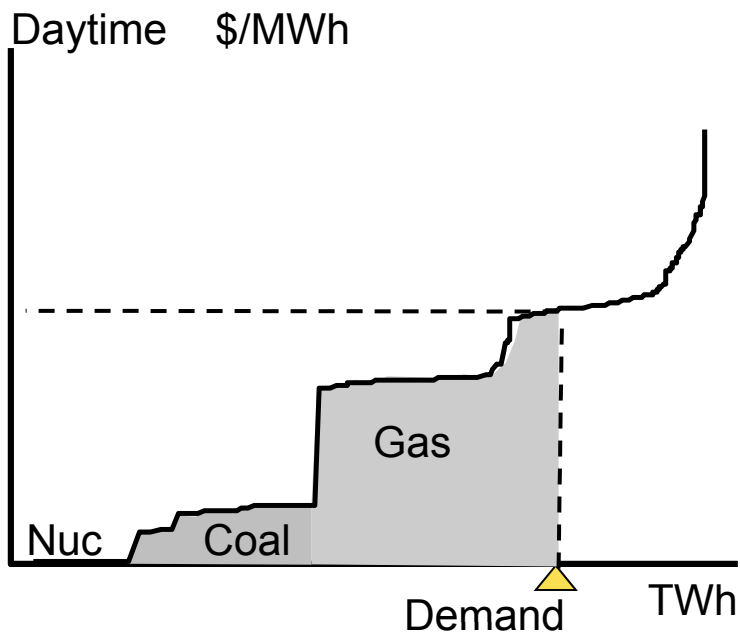
Projected Gas Infrastructure to 2030<sup>2</sup>



1: Rigs drilling for gas only 2: INGAA forecast

Source: Prestige Economics, EIA, INGAA, US Transportation Safety Administration, SmithBit S.T.A.T.S.

# Wind Power Generation Has A Negative Impact On Grid Power

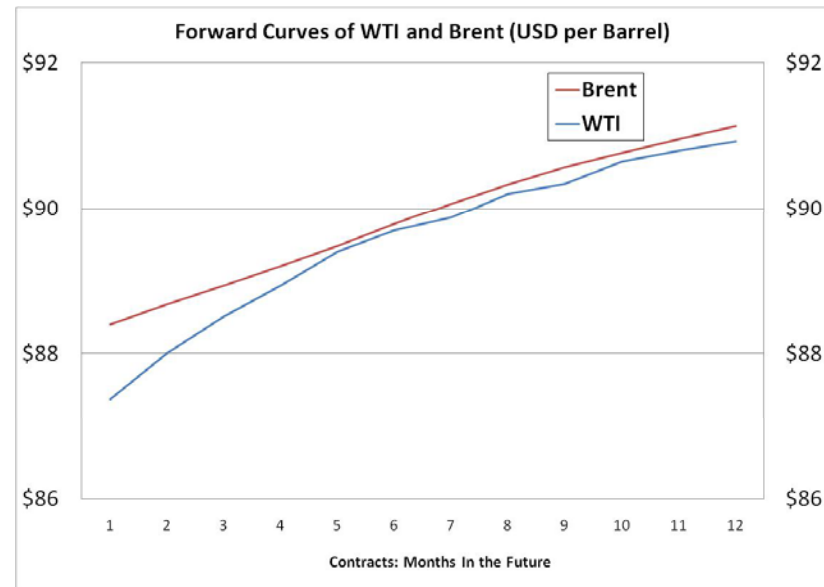
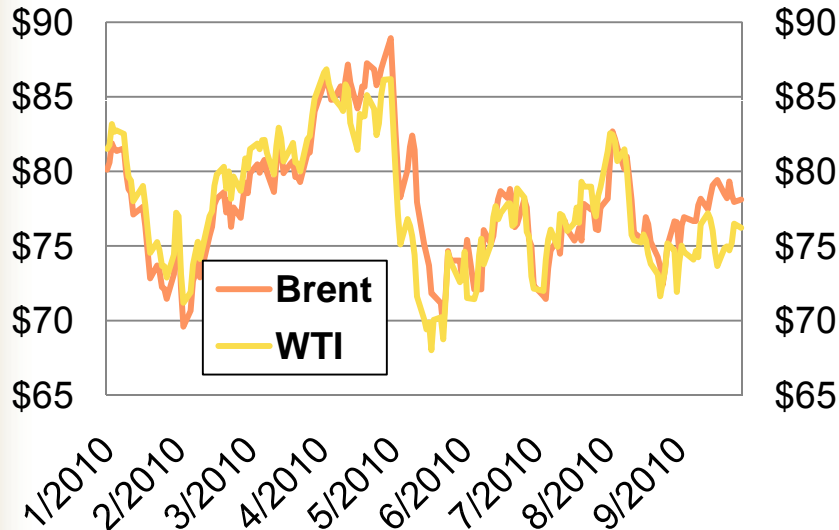


**Potential Outcomes: Coal Pushed Off Grid, Demand Modifications, Power Storage**

Source: Prestige Economics, LLC

# Major Disconnects in WTI from Brent and Across the WTI Forward Curve

Front-Month Price of WTI and Brent



**Earlier this year, WTI also traded at a discount to Brent, and was also trading at \$4 discount to Mars Blend and an \$8 discount to Louisiana Sweet Crude**

# Oil Spill Implications

## Near-Term Risks

- De facto moratoria replace de jure moratoria – Permitting stops in both cases
- Corporate players face planning risk for 2011
- Some drilling ships depart
- CO<sub>2</sub> legislation is dead

## Medium-Term Risks

- More drilling ships and semi-submersibles depart region
- Oil sands and other North American alternatives at end of cost curve
- Gulf economies see higher unemployment and slower growth rates

Source: Prestige Economics, LLC

# Agenda

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**Current Economic Conditions and Outlook**

**Energy and Metals Outlook**

**Economic and Energy Market Risks**

**Actionable Steps to Find Upside**

# There Are 2 Ways to Approach The Current Phase Of The Cycle

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**Defensive**

**Cost Leadership**

**Risk Management**

**Asset Recovery**

**Expansionary**

**Strategic Planning**

**Mergers & Acquisitions**

# Market Conditions Are Conducive To Expansionary Opportunities

**Acquire**

## Rationale

- Capital is cheap
- Multiples are low

## Risks

- Rates are poised rise
- Sovereign debt concerns will drive up credit costs
- Multiples are poised to rise

**Borrow**

- Capital is cheap
- Rates are low

- Cost of credit is poised to rise

**Hire**

- Labor is plentiful
- Labor is cheap
- Unemployment scarring

- Unemployment for educated workforce is low
- We are at the bottom of the market

# Defensive Projects Should Be Considered Prior To Key Expansions

## Actions

## Benefits

### Cost Leadership

- Build fact base on processes
- Generate ideas and best practices
- Capture value and negotiate

- 15-25% cost savings typical
- Lock in today's prices to compete on future costs

### Risk Management

- Understand and measure risks
- Make decisions regarding risks
- Implement risk ownership plan

- Reduce downside exposures
- Ensure decisions are consistent

### Asset Disposition

- Identify assets
- Valuation and planning
- Execution

- Contribute to cashflow
- Improve financial performance
- Mitigate unnecessary risk

Source: Prestige Economics, LLC



# Contact Information

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**Prestige Economics, LLC**  
6500 Champion Grandview Way  
Suite 27106  
Austin, Texas 78750  
Office: +1 512 425 0670  
[questions@prestigeconomics.com](mailto:questions@prestigeconomics.com)  
[www.prestigeconomics.com](http://www.prestigeconomics.com)