

## Understanding Material Price Uncertainty

Design-Build Institute  
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## Material Prices

- When we speak of material prices we are generally speaking of commodities.
- Commodities are objects that come out of the earth, such as corn, sugar, cattle, and oil
- Commodities are also raw materials used to create consumer products, iron ore, copper, zinc, plastics.
- Note: Commodities are priced in US Dollars

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## Factors Affecting Commodity Prices

- Availability of Raw Materials
- Ability to Process and/or Transport
- International Market Demand
- US Construction Demand
- Strength/Weakness of the US Dollar

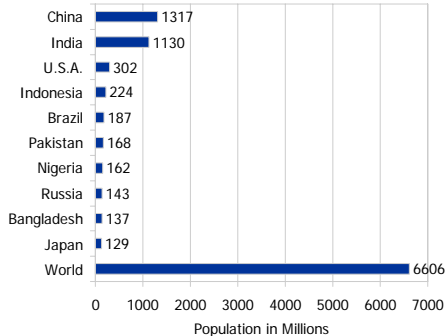
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## Materials Cost Drivers

- Metals: Low inventories – big jump in Asian demand – 50% + rise in ore prices – the peak price rises will be May through August
- Energy-Based Products: \$130/bbl. crude oil – July prices reflect approx. \$115-125 oil
- Declining \$US dollar – decline may be over – no recovery soon
- Outlook: Prices up 4.5% during both 2006 and 2007 – prices will rise 7-8% in 2008 and 5-6% in 2009

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## Top Ten Countries By Population



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## Emerging Markets (BRIC)

- Brazil
- Russia
- India
- China

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## Brazil

- Population: 187 Million
- Catalyst for Emergence:** Gradual abolishment of socialist government beginning in 1988 and more recently the election of a new president in 2002. Brazil has vast natural resources and began exporting to provide capital for internal growth. Due to exports and the infusion of capital the middle class is growing.
- Inflation:**
  - Consumer price inflation 9%
  - Producer price inflation 27%
- Construction Growth:** Exceptionally strong 8% to 9%. Growth based upon transportation, ports and commodity processing
- Major Exports:**

Oil	Iron ore
Transportation equipment	Industrial equipment
Steel	
- Major Imports:**
  - No world strain from Brazil
  - Manufactured products

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## Russia

- Population: 143 Million
- Catalyst for Emergence:** Collapse of Communism and subsequent privatization of industry resulted in a significant growth of the middle class much more than Brazil or India.
- Inflation:**
  - Producer price: 5% - 10% and getting worse.
- Construction Growth:** 9% GDP
- Major Exports:**
  - Oil and gas
- Major Imports:**
  - Very self sufficient

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## India

- Population: 1.13 Billion
- Catalyst for Emergence:** In 2002 a non socialist prime minister was elected. He reduced import tariffs, encouraged foreign investment, increased government subsidies for higher education. This resulted in a growth of Indian manufacturing and the emergence of a middle class.
- Inflation:**
  - Consumer price inflation 8%
  - Producer price inflation 12%
- Construction Growth:**
  - 9% GDP
- Major Exports:**
  - Intellectual capital
- Major Imports:**
  - Oil

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## China

- Population: 1.3 Billion
- Catalyst for Emergence:** Western influence on construction began in the early 80's followed by privatization of industries. The result was the migration of workers from the farm to a better standard of living in the cities. These workers man the factories for better pay and thus create demand. A huge middle class is developing.
- Inflation:** 7% to 8%, compared to 0% traditionally. Food and fuel are inflation drivers
- Construction Growth:** 15% to 20% between 2004 and 2006, 25% in 2007 and 25% projected in 2008. Note: China plans to complete 80 billion sq. m of new housing by 2010.
- Major Exports:**

Computer Products	TVs and Radios
Apparel and Shoes	Misc Industrial Equip
Toys	Everything at WalMart
- Major Imports:**

Coal	Copper Ore
Iron Ore	Soy Beans

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## Other Emerging Markets

- Thailand
- Korea
- Vietnam
- Pakistan
- Indonesia
- Nigeria

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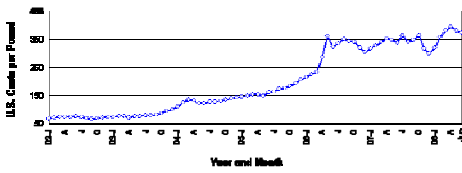
## Decline of the US Dollar

The Dollar has declined in value 40% over the last six years

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## World Commodity Prices – Resource Industries

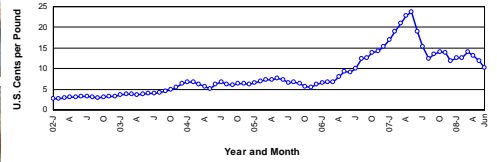
### Graph - Copper



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

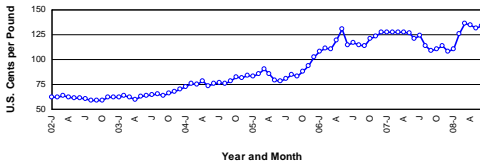
### Graph - Nickel



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

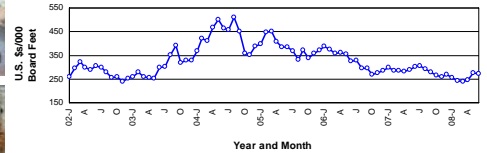
### Graph - Aluminum



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

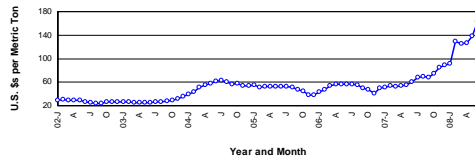
### Graph - Lumber



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

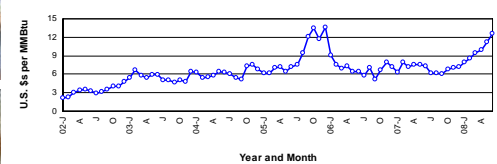
### Graph - Coal



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

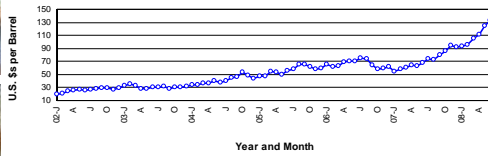
### Graph – Natural Gas



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

## World Commodity Prices – Resource Industries (Cont'd)

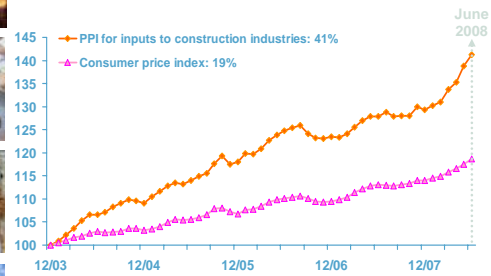
### Graph - Oil



Commodity prices reflect demand (versus available supply) and help drive expansion plans. Prices shown are monthly averages.

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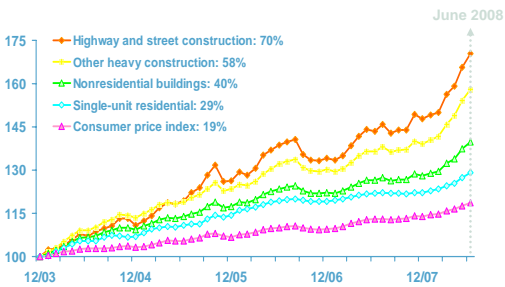
## Change in Producer Prices for Construction vs. Consumer Prices, 2003 - 2008 (December 2003 = 100) – AGC of America



Source: BLS (CPI, PPI)

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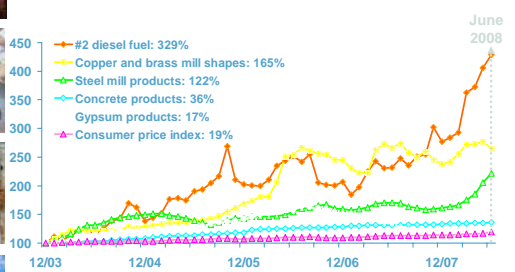
## Change in Producer Prices for Construction Segments, 2003 - 2008 (December 2003 = 100) – AGC of America



Source: BLS (CPI, PPI)

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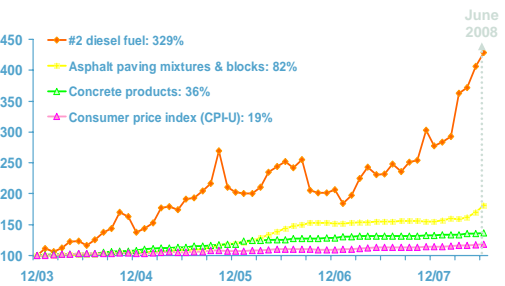
## Change in Producer Prices for Major Construction Inputs, 2003 - 2008 (December 2003 = 100) – AGC of America



Source: BLS (CPI, PPI)

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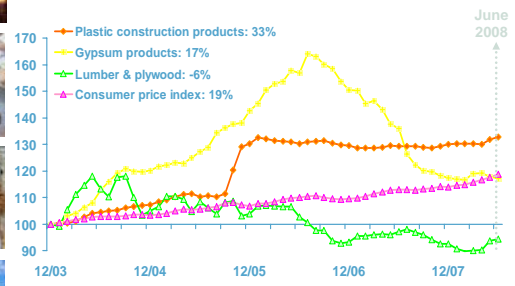
## Change in PPIs for Selected Highway Inputs, 2003 - 2008 (December 2003 = 100) – AGC of America



Source: BLS (CPI, PPI)

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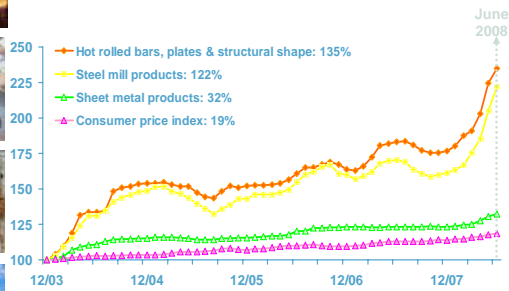
## Change in PPIs for Selected Building Inputs, 2003 - 2008 (December 2003 = 100) – AGC of America



Source: BLS (CPI, PPI)

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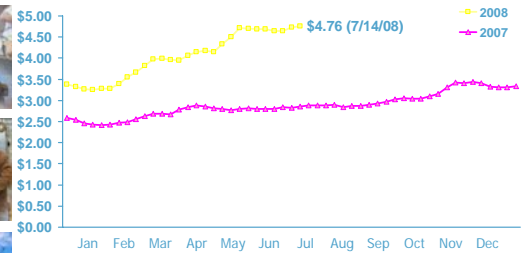
Change in Producer Prices for Steel Products, 2003 - 2008  
(December 2003 = 100) - AGC of America



Source: BLS (CPI, PPI)

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Diesel Fuel Prices (dollars per gallon) - AGC



Source: Energy Information Administration

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Where are we and where are we going from here???

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2007-08 Recession is Mild Compared to 2001 Recession

- Quick 3.25% cut in interest rate
- Quick \$160 billion tax rebate
- Net foreign trade grows rapidly
- Inventories stay lean
- Commercial real estate not overbuilt
- "Core" inflation remains in 2-2.5% range

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Economic Growth Risks: Credit

- Credit crisis has largely passed
  - No longer the major constraint on housing or a significant constraint on nonresidential construction
- Recapitalization by lenders has provided adequate funds for loans
  - But now higher premiums for risky loans
- Still funds adequacy risks from defaulting auto and credit card loans and European mortgages

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Economic Growth Risks: Energy

- High and uncertain energy prices have pushed business and consumer confidence down to recession level
  - This is now the major constraint on the economy and on construction
- Most of the energy price rise is over
  - Like any bubble, this one could persist for 6-9 months longer
  - The consensus outlook is for prices to begin falling later this year and drop to the \$90's a year ahead

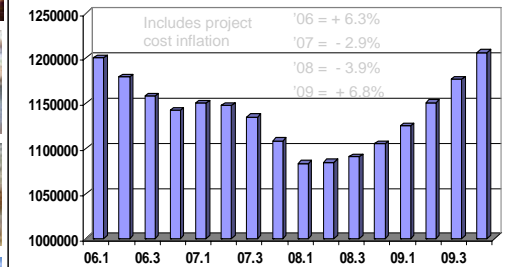
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## Economic Environment for Construction

- Slow GDP growth
- Uncertainty due to fear of deep recession
- Tightened mortgage lending standards
- Soaring construction materials costs
- Lower expected commercial returns
- Funding adequacy problems for highways (now) and public buildings (soon)
- Surplus of residential units for sale
- **All of these constraints ease in 2009**

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## US Construction Spending Outlook (\$ millions, annual rate)



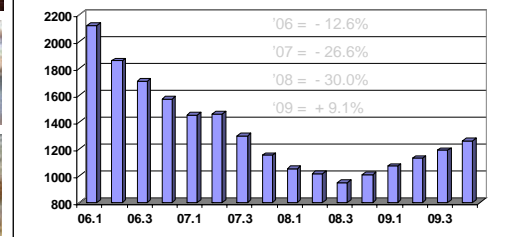
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## Housing Collapse Ending

- Prices have fallen enough (20-50%) for bargain hunters to stop the slide in home sales
- However the lowest prices and peak foreclosures are still ahead

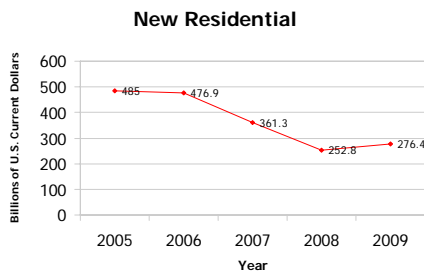
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## Housing Starts Outlook (000's, annual rate)



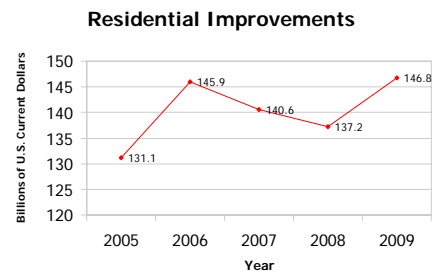
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## U.S. New Residential Construction Spending



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## U.S. Resid. Improvements Construction Spending



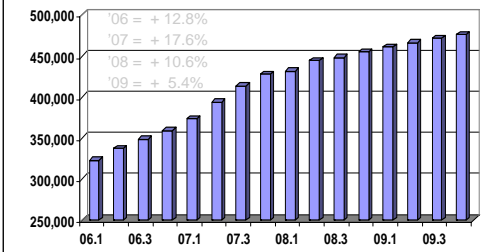
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## Non-Residential Building Boom Stalls

- Starts (\$) peaked in July/August 2007
- Spending (after inflation, \$put-in-place) peaked in November/December 2007
- No significant persistent decline
  - Vacancy and rental rates weakening but still near average
  - This is not the end of a building boom – as in 2000 – to be followed by a 2-3 collapse

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## NR Construction Spending Outlook (\$ millions, annual rate)



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## Commercial Market

- Hotel: Weakening activity for luxury and economy hotels
- Office: Financial market hiring boom is over and beginning to reverse
- Retail: Weak consumer spending forces expansion & renovation delays

Construction Spending (% change)				
	2007	2008	2009	
Hotel	59	21	9	
Office	19	14	5	
Retail	15	0	1	
Total	22	10	4	

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## Commercial Market Still Strong

% change from a year ago	NY CITY	US
Office Rent	14.4%	4.7%
Retail Rent	2.8%	0.6%
Hotel Room Rate	6.7%	2.7%
Apt. Rent	5.0%	2.9%
Office Vacancy Rate	10.7%	15.5%
Retail Vacancy Rate	2.8%	11.9%
Hotel Occupancy Rate	82.9%	66.6%
Apt. Vacancy Rate	4.4%	6.2%

Source: PR&R

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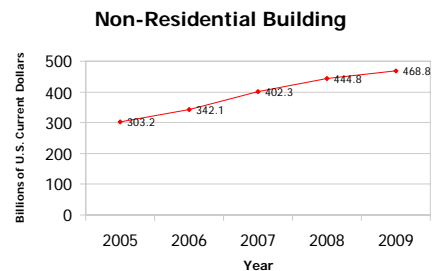
## Institutional Market

- Education: Falling tax receipts force construction cuts in high growth states
- Health: Hiring stall stalls insurance receipts
- Mfg.: '08 catch up on capacity needs in process industries

Construction Spending (% change)				
	2007	2008	2009	
Educ.	13	9	8	
Health	12	6	8	
Total	14	11	7	
Mfg.	21	27	3	

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## U.S. Total Non-Residential Construction Spending



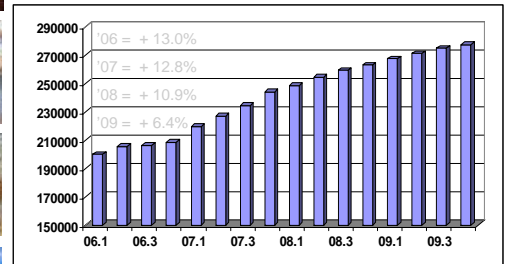
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## Heavy Construction Slows

- Spending grew at a 12% pace for three years through December – off in 2008
- The value of starts peaked last summer
- Transportation, communication and power spending slows from 21% (07) to 12% (09)
- Highway, water/sewer, and conservation spending growth stays at about 6%

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## Heavy Construction Spending Outlook (\$ millions, annual rate)



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## Heavy Construction Market

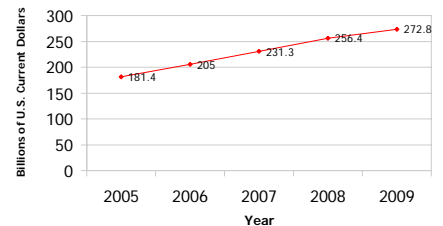
- Highway: Restraint from falling fuel taxes & higher costs
- Power: Usual surge after cyclical peak
- Water/Sewer: Down due to cutback in new building sites

Construction Spending (% change)				
	2007	2008	2009	
Hwy.	5	5	6	
Power	32	29	8	
W&S	2	7	6	
Tran.	16	10	7	

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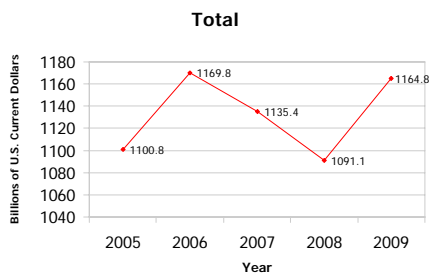
## U.S. Total Heavy Construction Spending

### Non-Building (Heavy Engineering)



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## U.S. Total Construction Spending (billions of U.S. current dollars)



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## Regional Economic Growth Varies

### Economic Activity Index – last three months vs. year ago

- Gulf Coast 1.4%
  - New England 0.8%
  - Pacific 0.0%
  - Mid-Atlantic -0.2%
  - South Atlantic -0.7%
  - Plains -0.8%
  - Great Lakes -1.5%
  - Rocky Mountain -2.1%
- Source: Philadelphia Federal Reserve Bank

See Expansion Index for Dallas, TX

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## Regional Growth Depends on Export Industries

### Rapid growth industries over the last year

- |                    |                             |
|--------------------|-----------------------------|
| Grain              | Business services           |
| Securities         | Personal financial services |
| Oil, Gas, Minerals | Off road equipment          |
| Aircraft           | Industrial machinery        |
| Chemical           | Biotechnology               |
| Consulting         | Healthcare                  |
| Software           | Pharmaceuticals             |
| Foreign tourism    |                             |

Declining industries: home construction, mortgage, real estate, motor vehicles

## Tentative Signs of Recovering Economy

- Jobs: June job loss (62,000) smaller than recent recessions
- Consumer: June quarter retail sales up 1.2%
- Construction: June project starts up 8% from May
- Inventory: June inventory/sales ratio low and declining
- Housing: Permits, starts and sales average above Dec. 2007 so far in 2008

## US GDP Growth Set to Pickup

- GDP growth stalls until housing market recovers
- Current lean inventories not consistent with deep recession
- Shrinking trade deficit offsets some of domestic spending weakness

Period	GDP Growth %
Q3 03 - Q3 07	3.4%
Q4 07- Q2 08	1.2%
Q3 08 - Q4 09	2.2%

## Outlook Summary

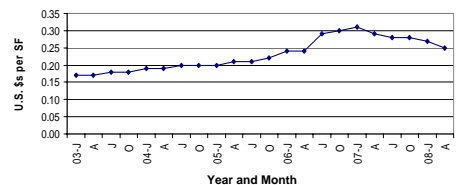
- National economic growth continues to be sub-par well into next year
- US construction activity growing by year end after two + year decline
- Housing recovers slowly
- NR building market stalls then recovers slightly in 2009
- Materials cost inflation surge lasts well into 2008 with little pullback in 2009

## Action Items

- We live in a world economy, monitor world conditions to understand what is happening or what might happen.
  - > [www.td.com](http://www.td.com)
  - > [www.agc.org](http://www.agc.org)

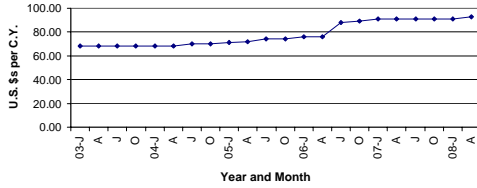
## Dallas Pricing

Graph - Gypsum Board



## Dallas Pricing

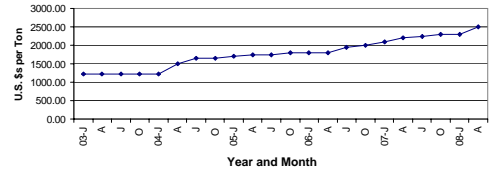
Graph - Ready Mix Concrete, 3000 psi



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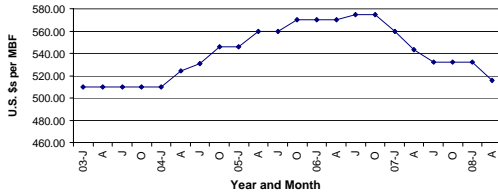
Graph - Structural Steel, A36 Fabricated



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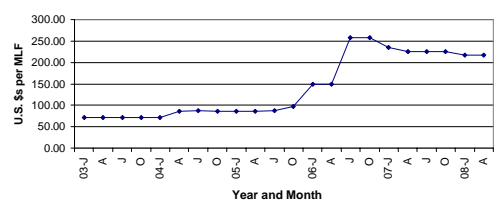
Graph - 2" x 4" Framing Lumber



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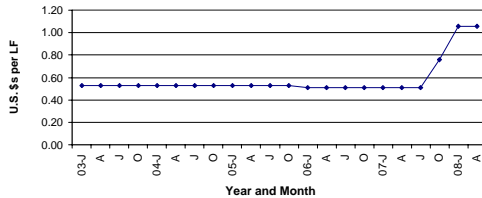
Graph - Electrical Wire, #10, Stranded



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## Dallas Pricing

Graph - 2" PVC



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