Cement Outlook: 2007

NESMEA Workshop
Newark, DE
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For the Second Straight Year Awarded Most Accurate Forecaster (GDP) by the Chicago Federal Reserve
Introduction
Construction Market In Transition

- Slowing Economic Growth
  - Rising Inflation, Higher Interest Rates, High Energy Prices

- Construction Market Flattening
  - Harsher Decline in Residential
  - Slower Nonresidential & Public Recoveries
  - Higher Material Costs
  - Potential for Market Contraction in 2007

- Cement Supply Slow to Adjust to Slower Growth Environment
  - Imports May Smash Last Year’s Record
    - If unchecked, could create a 6 MMT overhang by year-end.
  - Tight Market Conditions Dramatically Reduced

- Add Extra Dose of Conservatism to Forward Plans
  - Particularly true for states where total cement consumption is highly dependent on housing.
  - Prepare Contingency Plans Incorporating Downside Risks.
Key Points of Analysis

U.S. Economic Outlook:

Construction Outlook

- Residential
- Nonresidential
- Public

Demand
Operating Conditions

Cement Outlook
U.S. Economic Outlook
Higher Oil Prices

Inflation Runs Stronger

Interest Rates Rise Faster

Slower Net Job Creation

- Accounts for $2 out of every $3 total economy generates.
Energy Outlook
Slower Economic Growth: Oil Price Outlook

- **Strong International Demand**
  - Japan’s Economic Recovery
  - Stronger Asian Demand: China & India

- **Supply Disruptions Continue**
  - Middle East Uncertainties, Nigeria, Venezuela
  - Iran & Uranium Enrichment

- **Structurally Weaker Dollar**
  - Higher Energy Prices

- **2006: $68.87 per barrel WTI  2007: $65.22**

- **Impact**: Higher oil prices raises inflation, inflationary expectations, trims growth in consumption and overall economic activity.
Slower Economic Growth: Gasoline Price Impact

- **Gasoline Prices Top $3**
  - Seasonal patterns suggest September peak.

- **Gasoline Purchases To Account for 5.3% of Total Consumption.**
  - 2005: 4.2%, 2004: 3.6%, 2003: 3.3%

- **Steals $125 Billion from Consumer Spending Compared to 2005**
  - Rising gasoline prices stole $75 Billion in 2005 and $50 Billion in 2003

- **Impact:** Going forward, consumer spending growth reduced...slower economic growth.
Slower Economic Growth: Heating Oil Impact

- **Peak Heating Season Begins In November**
  - Seasonal patterns suggest move to more than $3.10 per gallon.

- **Nearly $500 Increase Over High 2005 Levels.**
  - $1200 increase over “normal” 2004 levels.
  - 2005 impacts minimized by mild winter conditions.

- ** Assumes “Average” Winter.**
  - Adverse impact increases with severity of winter.
  - Going forward, consumer spending growth reduced…slower economic growth.

80% of Total Heating Bills Occur Nov - March
Inflation Outlook
Slower Economic Growth: Inflation Outlook

- **Higher Energy Prices Structure**
  - Still Cyclical…but…
  - Stronger Asian Demand: China & India

- **Labor Costs Rising**
  - Unemployment Rates Decline below 5%
  - Workers Cautious in Pushing for Increases
  - Productivity Growth Easing?

- **Structurally Weaker Dollar**
  - Trade Deficit Widens

- **Structurally Higher Transportation Costs**
  - Energy & Logistical bottlenecks

- **2006: 3.6%  2007: 2.9%**

- **Impact:** Higher prices undermine consumer affordability & raise long term interest rates (mortgages)

![Graph showing annual percent change, CPI Urban](image)
Interest Rate Outlook
Inflationary Expectations

18 Month Moving Average, CPIU

200 Basis Point Increase Since Mid-2003. When Fully Digested Implies 7%+ Mortgage Rate
Federal Reserve Policy Actions

- Overall Economy & Job Growth Slowing.

- Inflation a growing concern.
  - Fed Policy: Reaction to potential future inflationary threats…not current CPI.

- Dilemma: Inflation or Growth?
  - Fed Fights Inflation!

- One more rate hike anticipated during 2006/early 2007.
  - Federal Funds to 5.5%

- Risk of Fed over-reaction.
Total Public U.S. Debt .... Approaching $10 Trillion

Government Relief & Rebuilding Efforts Exceed $250 Billion

CBO Estimate: Debt Increases $1.1 Trillion by 2010
Net Foreign Purchases: US Bonds & Notes

China May Diversify its Portfolio Away from U.S.
Interest Rate Conclusions: 2007-2010

- **Higher Inflation Premiums**
  - Add to “Real” Rates

- **Federal Reserve Pursues Tighter Monetary Policy**
  - New Fed Chairman demonstrates resolve
  - Favors Inflation Targeting (2%)

- **Larger Public Demand for Funds**
  - Middle East
  - New Orleans

- **Private Demand for Funds Increase**

- **Foreign Supply Slows**
  - Weak Dollar lower foreign returns
  - Competing Investment Instruments
Employment Outlook
Slower Economic Growth: Labor Market Outlook

- Job growth slowing from 1st Quarter average of 176,000 net new jobs per month to 2nd Quarter averaging 110,000 net new jobs per month.

- 2006: 1.7 million 2007: 1.6 million net new jobs creation


- Unemployment rises to 4.8% year end. 2007: 5.2%

- Slow down in trend of accelerating wages by 2008.

- **Impact:** Slower consumer spending & Federal Reserve increasingly more cautious approach toward future rate hikes.
Economic Outlook
Consumption acts as the anchor for US economic activity.

Any retrenchment in consumer spending will lead to slower economy-wide growth rates.
Slower Economic Growth: Consumer Spending

- Consumer spending accounts for more than 2 out of every 3 dollars created by U.S. economy.
- Slower Job & income growth implies slower growth in consumer spending.
- Higher Oil prices, inflation and rising interest rates dampen improvement in sentiment.
- Affordability erodes, but high from historical perspective.
- Less home refinancing activity & growth in mortgage ARMs dampen
- Slower Automotive Spending
- **Consumer Spending** Grows below 3.0% next two years. Downside risk.
Near term outlook remains positive…but less so than six months ago.

Fixed, Non-residential investment has recorded strong growth during last two years.
- Economic growth improves expected return on investment.
- Funds availability
  - Internal Funds: Profitability
  - External Funds: Favorable rate environment
- Risk premiums reduced
  - Small borrowers – easier credit terms and conditions.

Going Forward:
- Slower economic growth, higher costs reduce expected ROI.
- Slower profit environment adds extra does of caution in spending for investment.
Net Exports: Rising Trade Deficit

Higher Price of Oil Imports Worsens Trade Deficit
Value of U.S. $: Sustained Weakness

Percent Change, Broad Index

-20.0%  -15.0%  -10.0%  -5.0%  0.0%  5.0%  10.0%  15.0%  20.0%

Economic Outlook: Real GDP Growth

Real GDP Annual Growth Rate

2005: 3.5%
2006: 3.3%
2007: 2.8%
2008: 2.6%

Risks On Downside: 2nd Half 2007 and Beyond

Recent Government Data Puts 2nd Quarter GDP at 2.9%...PCA Projected 2.8%.

Forecast Remains on Track
Construction & Cement Outlook

Overview
Total Construction

Billion 1996 $

- 2005: 4.4% Growth
- 2006: YTD: 2.6% Growth
Changing Composition of Construction Spending

**2001-2005**

- Low Interest Rates, Weak Economy

  - Growth Leader: Residential
    - Low Interest Rates
  
  - Public
    - State Tax Revenues Hurt by Anemic Economic Growth
  
  - Growth Laggard: Nonresidential
    - Weak Economy

**2006-2010**

- Rising Interest Rates, Strong Economy

  - Growth Leader: Nonresidential
    - Strong Economy
  
  - Public
    - State Tax Revenues Recovery Due to Strong Economic Growth
  
  - Growth Laggard: Residential
    - Rising Interest Rates
Cement Intensities
Composition Of Cement Growth: Construction Activity Vs Cement Intensity Growth

Annual Percent Change, Real Put-In-Place Construction & Cement Intensity

- 2003: Cement Intensity Growth 3%, Construction Activity Growth 4%
- 2004: Cement Intensity Growth 2%, Construction Activity Growth 5%
- 2005: Cement Intensity Growth 1%, Construction Activity Growth 6%
Composition Of Intensity Growth Preliminary Estimates*

*Based on Forthcoming PCA Economics Report
Cement Intensity Outlook

- Competitive price position
  Vs other building materials
- Composition of construction
- Nonresidential intensities are cyclical
- Code changes: hurricane
- Green environment
- Product
- SCM’s steal some intensity growth
- Fiscal healing: local roads higher portion of construction $
Residential Construction

Single Family
The Cyclical Upside: 2001 - 2005

- Low mortgage rates key factor in single family starts over past few years.
- Emergence of exotic mortgages also a key factor...particularly in strong home appreciation environment.
- Easy credit conditions contributed to strong home-buying environment.
- Speculators add froth to market in light of strong appreciation rates.

The Cyclical Downside: 2006 - 2009

- Mortgage rates rising.
- Exotic mortgages losing favor.
- Defaults and delinquencies cause a deterioration in credit quality and a tightening of credit conditions.
- Speculators reduced/disappear in lower appreciation rate environment
Mortgage Rate History: 30 Year Conventional

Annual Growth Rate, 30 Year Conventional

- Peak to Trough: 294 Basis Points
- Trough to Trough: 294 Basis Points
- Decline: 108 Basis Points

Last 12 Months Reflect a 108 Basis Point Increase
Mortgage Rate History: 1 Year Adjustable Rate

Annual Growth Rate, 1 Year ARM

- Peak to Trough: 387 Basis Points
- Decline
- Trough to Peak: 230 Basis Points
- Increase

Trough to Peak Reflect a 230 Basis Point Increase
Mortgage Rate Outlook

- Higher inflation premiums
- Federal Reserve pursues tighter monetary policy
- Larger public demand for funds
- Private demand for funds increase
- Foreign supply slows

2006 Year End: 7.1%  2007 Year End: 7.5%

Note: 2005: 5.87%

Well past 6.5% Tripping Rate for Starts Decline.
Growing Home Price & Income Gap

Annual Growth Rate Comparison

Home Prices

Household Income

Emergence of Exotic Mortgages

Interest Only Loan Share of Sub-Prime Market

Note: Sub-Prime accounts for 36% total mortgage market
Sub-Prime Mortgage Resets

Total Loans Scheduled for Reset

- Period of Emerging Trouble

- 2000 to 2003: Low loan resets
- 2004 to 2008: Steady increase in loan resets
- 2008: Highest reset period
Structure of Borrowing: Credit Tightening?

- Strong Appreciation Rates
- Monthly Mortgage Payment to Income Ratio Threatens Housing Expansion
  - Fewer “Qualify”, Home Sales decline
- Increase in Alternative Financing
  - Sub-Prime, 75% Adjustable
  - “Exotic” Mortgages
- Amplified by Aggressive Appraisals
- Higher Risk in Rising Interest Rate Environment
  - Alternatives Re-Adjusted to Prevailing Rates
- Mortgage Shock
  - Consumer spending habits slow to change
  - Increase in delinquencies & defaults
- Credit Tightening On Horizon?
  - Ingredients in place
  - At Issue: Timing, Magnitude

Ratio of Home Prices to Income

20 Year Average
Inventory Draw Required

Homes on Market/Monthly Selling Rate

Ten Year Average

Inventory Draw Required

Inventory Build Required

Highest Level Since 1997
SF Inventory Adjustment Outlook

(000) Units

10 Years of Inventory Build Conditions Disappear

1997-2005 Average
Single Family Housing Starts

(000) Units

Growing Downside Risks

Mortgage Bankers Association
National Association of Realtors
NAHB
Nonresidential Construction

Overview
Nonresidential Construction

Annual Growth Rate

+9.2% 2006 First Half
7.6% Projected 2006
Nonresidential Outlook

- Non-residential turned in 2005 after 4 years of decline.
- Underlying nonresidential drivers improving.
- Impatient: Improvement slower than expected
  - Story Correct
  - Timing
- Despite large percentage gains for 2006, most markets weak from historical perspective.
- Past cyclical peak not realized.
- Slower growth outlook depresses expected ROI and tempers recovery.
- Increasing cement intensities reinforce construction activity gains.
Sustained economic growth.

Weak dollar.

Utilization rates top 80%.

Improved corporate profitability.

Improvement in expected ROI leads to accelerated construction.

Healing process already two years in progress.

Big Three retreat partially offset by transplant expansion.
  - Regional impacts arising from automotive widely different.
Lodging Outlook

- Business Travel Improves:
  - Reflecting economic growth & strong profits & looser travel budgets

- Vacation Travel Improves
  - Reflecting employment gains, wage gains and weak dollar

- Hotel demand growth averages 4%-6% annually

- Occupancy rates improve

- Average room rate increases with revenues growing at 8% Clip

- Improvement in ROI’s eventually lead to accelerated supply expansion

- Another year of burn-off likely before more significant gains materialize.
Office Building Outlook

- Office employment grows at 3% annual rate.
- Leasing rates firm.
- Improvement in expected ROI leads to accelerated office construction.
- Healing process already two years in progress.
- Gradual recovery anticipated in 2006 and beyond.
Recent double-digit growth not an illusion.

Baby Boomers are aging...adding demand

Demand increases have been offset by HMO reductions in length of hospital stay.

Insurance requirements reducing hospital stay have played out.

Increase in-patient per bed suggests new investment/expansion.

Supplemented by outpatient construction & nursing homes.
Run-up in oil prices 2000-2005 results in:
- 50% increase in rig count
- 120% increase in sector cement consumption.

Oil Prices remain high and decline slowly.

Cement consumption mirrors trend in oil prices.
Public Construction
Public Construction Outlook: Importance of Sector

Public Share of Total Construction: 24%

Public Share of Total Cement: 50%
Public Construction Outlook:
State & Local Share of Public Construction

Percent of Total Public Construction Spending


Percent: 85% 87% 89% 91% 93%
93% of public construction performed at state/local level.

State/Local fiscal problems fading.

Revenue growth improves with economy and job growth.

Surpluses will re-emerge.

Pent-up demand released.

Highway Bill adds strength.

2006: +4.8%  2007: +5.5%

Note: 2005: +1.9%
Primary Source: Newsweek  July 28, 2003
Secondary Sources: Nat’l Conf. of State Leg., Center on Budget and Policy Priorities, Nat’l Assn. of State Budget Officers, Calif. Budget Project

Dollar figures, in billions, indicate amount states had to save to balance 2004 budget.

KEY
- 0-9%: Green
- 10-19%: Yellow
- 20-29%: Orange
- 30-39%: Red
Public Construction Outlook: State Deficit Estimates Fiscal Year 2005

Deficit as percentage of budget

<table>
<thead>
<tr>
<th>Deficit as percentage of budget</th>
<th>No available data</th>
<th>0-9%</th>
<th>10-19%</th>
<th>20-29%</th>
<th>30-39%</th>
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<tbody>
<tr>
<td><strong>Pacific</strong></td>
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<td><strong>West North Central</strong></td>
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<td><strong>East North Central</strong></td>
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<td><strong>South Atlantic</strong></td>
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<td><strong>Mountain</strong></td>
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<td><strong>New England</strong></td>
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Primary Source:
Center on Budget Policy and Priorities  Feb / 04

Secondary Source:
National Association of Budget Officers
Market Conditions
Supply
Cement Supply Survey Summer 2005

- **No Shortage**: States in dark green
- **Tight Supplies**: States in yellow
- **Spot Tight Supplies**: States with diagonal hatch marks

The map shows the distribution of cement supply conditions across the United States for the summer of 2005.
Cement Capacity Outlook

Thousand Metric Tons Clinker

$4.8 Billion Committed to Expansion
## United States Cement Domestic Production Outlook

(Thousand Metric Tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Clinker Capacity</th>
<th>Expansion</th>
<th>Operating Rate</th>
<th>Clinker Production</th>
<th>Cement Potential (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>91,490</td>
<td>0</td>
<td>89.1%</td>
<td>81,518</td>
<td>85,593</td>
</tr>
<tr>
<td>2003</td>
<td>92,165</td>
<td>675</td>
<td>88.6%</td>
<td>81,658</td>
<td>85,741</td>
</tr>
<tr>
<td>2004</td>
<td>93,925</td>
<td>1,760</td>
<td>92.4%</td>
<td>86,786</td>
<td>91,126</td>
</tr>
<tr>
<td>2005</td>
<td>93,925</td>
<td>0</td>
<td>92.9%</td>
<td>87,256</td>
<td>91,619</td>
</tr>
<tr>
<td>2006</td>
<td>94,305</td>
<td>380</td>
<td>93.9%</td>
<td>88,552</td>
<td>92,980</td>
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<tr>
<td>2007</td>
<td>95,591</td>
<td>1,287</td>
<td>93.9%</td>
<td>89,760</td>
<td>94,248</td>
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<tr>
<td>2008</td>
<td>103,781</td>
<td>8,190</td>
<td>93.9%</td>
<td>97,451</td>
<td>102,323</td>
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<tr>
<td>2009</td>
<td>112,781</td>
<td>9,000</td>
<td>92.0%</td>
<td>103,759</td>
<td>108,947</td>
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<td>2010</td>
<td>115,504</td>
<td>2,723</td>
<td>91.0%</td>
<td>105,109</td>
<td>110,364</td>
</tr>
</tbody>
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Import Volume & Freight Rates

Freight $ Per Ton, Handymax, Asia-Gulf

Import Volume, Million Metric Tons

2006 YTD: 42.4 MMT
2005: 33.6 MMT
Inventory : Days Supply

Inventory/Daily Selling Rate

Average: 19
Conclusions
Conclusions

- Slower Economic Growth Ahead
- Harsher Decline in Residential Construction
- Slower Nonresidential Recovery
- Less Robust State Fiscal Outlook Hinders Rate of Growth in Public Sector
- Slower Growth in Cement Consumption
- Imports May Smash Last Year’s Record
- Tight Market Conditions Dramatically Reduced
Risks: Threat to Growth

- One in five chance of occurrence.
- Beginning in late 2007-2008:
  - Mortgage rates rise rapidly and achieve higher levels.
  - Residential declines significantly.
  - Consumer spending growth moderates.
  - Job market flattens, declines.
  - Nonresidential flattens.
  - Public looses momentum as tax receipts ebb.
- Risk: 75 Million Ton Correction (2006-2010)
- Timing coincides with industry expansion.
Cement Outlook: 2007

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