The Outlook for Construction Machinery

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### Dealer Reported Retail Statistics - Machines

<table>
<thead>
<tr>
<th>Region</th>
<th>Change from Year Earlier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America</td>
<td>+35%</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>+16%</td>
</tr>
<tr>
<td>Europe/Africa ME/CIS</td>
<td>-9%</td>
</tr>
<tr>
<td>North America</td>
<td>-12%</td>
</tr>
<tr>
<td>World</td>
<td>-2%</td>
</tr>
</tbody>
</table>

Source: Changes computed using dealer reported deliveries of machines to end users in constant dollars; posted by Caterpillar Investor Relations on www.cat.com.
Caterpillar Machinery Sales, 2007

<table>
<thead>
<tr>
<th>Region</th>
<th>Million Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>12,596</td>
</tr>
<tr>
<td>Europe/Africa Middle East/CIS</td>
<td>8,588</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>4,026</td>
</tr>
<tr>
<td>Latin America</td>
<td>3,149</td>
</tr>
<tr>
<td>Outside North America</td>
<td>15,763</td>
</tr>
</tbody>
</table>

Source: Caterpillar Inc. 2007 Annual report, p. 39.

Over 55% outside North America.
New Machine Distribution to End Users, 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Construction</td>
<td>34</td>
</tr>
<tr>
<td>Mining</td>
<td>22</td>
</tr>
<tr>
<td>General Construction</td>
<td>20</td>
</tr>
<tr>
<td>Quarry &amp; Aggregates</td>
<td>10</td>
</tr>
<tr>
<td>Industrial</td>
<td>5</td>
</tr>
<tr>
<td>Paving</td>
<td>4</td>
</tr>
<tr>
<td>Forestry / Other</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Caterpillar Inc. 2007 Annual report, p. 38.

Construction and mining are main drivers.
Preliminary Outlook for 2009

North America

• Recession in the United States
• Fed Funds rate to 1% or lower; substantial liquidity increases
• No improvement in the economy until late in the year

Other Developed Countries

• Recession in Europe
• Recession in Japan

Developing Economies

• Many positives of this cycle still in place
• Expect most to halt, or reverse, policy tightening
• Should fare better than developed economies

Housing – An Industry in Distress

United States (000 units)

Source: Haver Analytics/Census Bureau/Business Economics
Housing Problem: Declining Prices

Case-Shiller Index, January 2000 = 100

Source: Haver Analytics, S&P, Fiserv, and MacroMarkets LLC.
Housing Problem – No One Wants to Buy

New Single Family Homes Sold, Thousand Units

Source: Haver Analytics, Census Bureau.
Housing Problem – Plenty for Sale

New Single Family Homes for Sale, Months of Sales

Source: Haver Analytics, Census Bureau.
Housing Problem – Cautious Lenders

Spread between 30-Year Mortgage Rate and 10-Year Treasury (Basis Points)

Source: Haver Analytics, Federal Reserve Board.
Housing Problem – Bad Loans

% of Mortgage Loans Delinquent at Commercial Banks

Further increase in repossessions

Source: Haver Analytics, Federal Reserve Board.
Total Housing Supply

New Housing Units Produced, Thousand Units

Housing Starts + Mobile Homes

Housing Starts

Source: Haver Analytics, Census Bureau.
Households Drive Housing Stock

Housing Stock and Household, Thousands

Source: Haver Analytics, Census Bureau.
New Units and Stock Growth

Housing Stock and New Homes, Thousand Units

- Cumulative Housing Starts (includes mobile homes)
- Change in Housing Stock
- Replacement of Homes

Source: Haver Analytics, Census Bureau.
U.S. Housing Needs

Housing Stock

<table>
<thead>
<tr>
<th></th>
<th>Demand</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Replace</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>1.9</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Driven by population

Source: Haver Analytics, Census Bureau, Business Economics.
Types of Housing

New Housing Starts, Thousand Units

Source: Haver Analytics, Census Bureau.

Likely to be more apartments
Building Construction – Heading for Trouble

% Change in Building Orders

<table>
<thead>
<tr>
<th>Year</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>3.4</td>
</tr>
<tr>
<td>2008</td>
<td>-3.9</td>
</tr>
<tr>
<td>2009</td>
<td>-4.2</td>
</tr>
</tbody>
</table>

Orders are declining

Source: McGraw-Hill/Business Economics
Recoveries in U. S. Nonresidential Structures

Source: Data from Bureau of Economic Analysis, Haver Analytics
A Leading Indicator Is Down

Architectural Billings Index (+50 = Increasing)

Signals worse decline than in last recession

Source: Haver Analytics, American Institute of Architects.
Prices Are Dropping

Price Indices (1st Quarter 1994 = 100)

Declined for several quarters

Source: Haver Analytics, MIT Center for Real Estate.
Delinquencies Are Rising

% of Commercial Real Estate Loans Delinquent at Commercial Banks

Source: Haver Analytics, Federal Reserve.
Vacancy Rates Are Rising

Bottomed at higher rates than in the last cycle

Source: Haver Analytics, CB Richard Ellis.
U. S. Growth and Construction since 1929

Billions of 2000 Dollars

Source: Haver Analytics, Bureau of Economic Analysis.
No Net Growth in U. S. Business Structures

Real Net Investment in Structures: Billion 2000 Dollars

Source: Bureau of Economic Analysis, Haver Analytics
# Structures Have Aged

Average Age of Private Nonresidential Structures (Years)

<table>
<thead>
<tr>
<th></th>
<th>1945</th>
<th>1982</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>1945</td>
<td>1982</td>
<td>2007</td>
</tr>
<tr>
<td>Hospitals</td>
<td>19.8</td>
<td>19.0</td>
<td>21.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>21.5</td>
<td>15.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Power</td>
<td>20.2</td>
<td>20.1</td>
<td>26.1</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis, Haver Analytics
Nonbuilding Construction – More Delays

% Change in Nonbuilding Orders

-0.9
-4.8
0.6
2007 2008 2009

Source: McGraw-Hill/Business Economics

But we will probably try!
Government Structures

Real Net Investment in Structures: Billion 2000 Dollars

Source: Bureau of Economic Analysis, Haver Analytics

Inadequate investment.
State Budget Problems

At least 29 states are faced with an estimated $48 billion in combined budget shortfalls for fiscal year 2009.

**States with a general fund budget gap**

- $50 to $300 million
- 301 to 600
- 601 to 1 billion
- >1.1 billion

Massachusetts: $1.3 billion

California: $15.2 billion

NOTE: Ohio’s gap is estimated between $733 million and $3.5 billion

*As of Aug. 5, 2008 (California and Massachusetts are current); fiscal year began July 1, 2008

SOURCE: Center on Budget and Policy Priorities

Will impact construction.
Government Structures Are Aging

Average Age of Government Nonresidential Structures (Years)

<table>
<thead>
<tr>
<th></th>
<th>1945</th>
<th>1969</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>24.0</td>
<td>16.2</td>
<td>21.6</td>
</tr>
<tr>
<td>Highways</td>
<td>17.0</td>
<td>16.2</td>
<td>24.1</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis, Haver Analytics
U.S. Infrastructure Indicators

1. 25% of bridges are structurally deficient or obsolete
2. 50% of waterway locks are obsolete
3. 20% of airports have runways that are in poor to fair condition
4. 30% of dams are at or over their designed lifespan
5. Traffic congestion costs $63 billion yearly

Source: Congressional Research Service, American Society of Civil Engineers, Bureau of Transportation, Federal Highway Administration
European Housing Permits

EU 27: Housing Permits
(SA, 2000 = 100)

Source: Statistical Office of the European Communities, Haver Analytics

Turning down sharply

Jun. 2008
## Developing Country Economic Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1990s</th>
<th>Latest</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth (%)</td>
<td>3.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Inflation (%)</td>
<td>51.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Current account (Billion $)</td>
<td>-65</td>
<td>785</td>
</tr>
<tr>
<td>Foreign Debt/GDP (%)</td>
<td>39</td>
<td>26</td>
</tr>
<tr>
<td>Liquid Assets (Trillion $)</td>
<td>1.1</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Source: IMF/World Bank/Business Economics Estimate

Still looking better than in the past.
Construction in Developing Countries

Year-to-date Percent Changes

- Russia: 17.7%
- Poland: 14.7%
- S. Africa: 14.5%
- Chile: 12.4%
- India: 11.2%
- Brazil: 9.4%
- Argentina: 7.6%
- Venezuela: 6.9%
- Turkey: 1.9%
- Mexico: 1.6%
- S. Korea: -0.6%
- Ukraine: -3.3%

Source: Haver Analytics
Mining Is a Growing Industry

Average Annual Percent Growth

<table>
<thead>
<tr>
<th></th>
<th>Long-term</th>
<th>Current cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>3.8</td>
<td>7.8</td>
</tr>
<tr>
<td>Nickel</td>
<td>3.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Copper</td>
<td>3.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>3.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Gold</td>
<td>1.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Zinc</td>
<td>2.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Coal</td>
<td>1.1</td>
<td>6.6</td>
</tr>
</tbody>
</table>

Source: U. S. Geological Survey

Strong growth this cycle
Worldwide Metals Exploration Budgets

Billions of Dollars

Source: Metals Economics Group/Business Economics’ estimate of real spending

6 years of double-digit percentage increases

1989 Prices
Commodity Prices

Dollars per Market Unit

- WTI Crude Oil: Recent Peak Price = 146, Latest Price = 49, Threshold for new investment = 50
- CA Coal: Recent Peak Price = 129, Latest Price = 70, Threshold for new investment = 41
- HH Natural Gas: Recent Peak Price = 13.28, Latest Price = 6.52, Threshold for new investment = 6.50
- Copper: Recent Peak Price = 4.07, Latest Price = 1.63, Threshold for new investment = 1.30

Prices still favorable for investment.
Key Points – 2009 Outlook

Most developed countries in recession
- Construction is already declining
- Some recovery in U.S. in last half year
- No recovery in Europe or Japan in 2009
- Likely to see new lows in interest rates

Developing countries to fare better
- Still retain strengths shown in the current recovery
- Have halted or reversed policy tightening
- Expect most will use reserves to combat serious difficulties