

# The Outlook for Construction Machinery

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## Dealer Reported Retail Statistics - Machines

Weakness in North America.

Chang	ge from
Year	<u>Earlier</u>

-5%

Asia/Pacific	+21%
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Source: Changes computed using dealer reported deliveries of machines to end users in constant dollars; posted by Caterpillar Investor Relations on www.cat.com.



North America

# Caterpillar Machinery Sales, 2005

Over ½ outside North America.

	Million <u>Dollars</u>
North America	12,822
Europe/Africa Middle East/CIS	5,222
Asia/Pacific	2,905
Latin America	1,982
Outside North America	10,109

Source: Caterpillar Inc. 2005 Annual report, p. 32.



New Machine Distribution to End Users

Construction and mining are main drivers.

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	% Share
Heavy Construction	32
General Construction	27
Mining	18
Quarry & Aggregates	8
Industrial	4
Forestry	3
Waste	3
Paving / Other	5

Source: Caterpillar Inc. 2005 Annual report, p. 32.

# **Preliminary Outlook for 2007**

Significant change from last 4 years.

Slower world economic growth: 3.5% (vs. nearly 4% in 2006)

- Significant slowing in the U. S., to about 2.5%
- Generally good growth elsewhere

Interest rate trends vary

- Expect rate cuts in the United States (50 100 basis points)
- Increases in other countries, but from low rates

Company sales and revenues up 0 to 5%

- Market demand down modestly; largely U. S.
- Dealers cut inventories

Source: Caterpillar SEC 10-Q, filed 11/2/2006, pp. 58-73.



## 2007 Market Risks

Major concerns are in the U. S.

#### U.S. risks

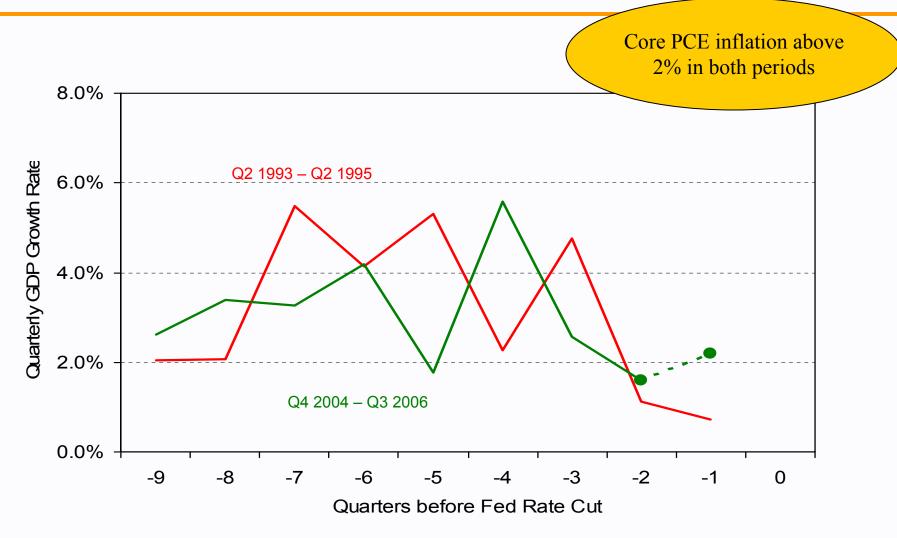
- Housing
- New truck emission standards
- Replacement buying (impact of interest rates)
- Most areas of construction and mining look healthy
- Long-term fundamentals are positive
- Slowdown most likely outcome

Areas outside the United States are generally strong

Source: Caterpillar SEC 10-Q, filed 11/2/2006, pp. 58-73.



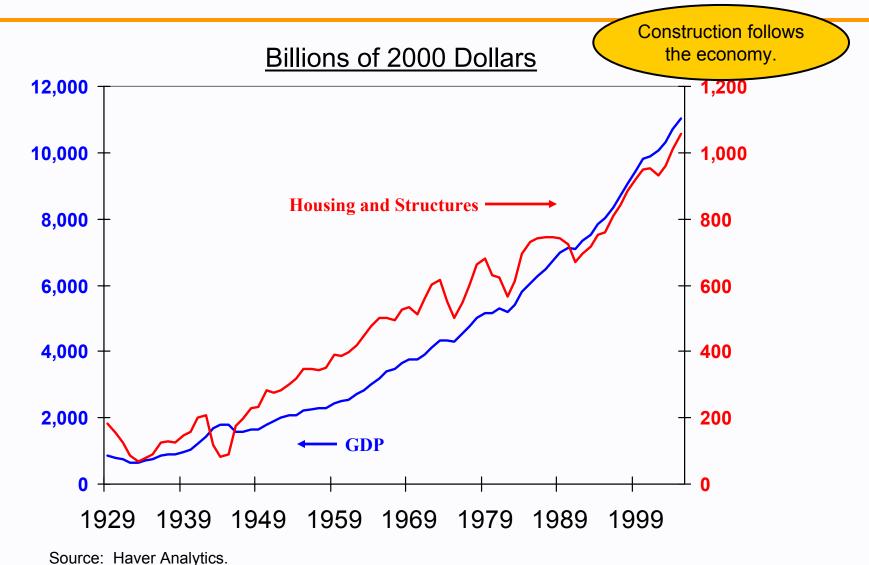
## The Case for a U. S. Slowdown



Source: Haver Analytics, Macroeconomic Advisers.



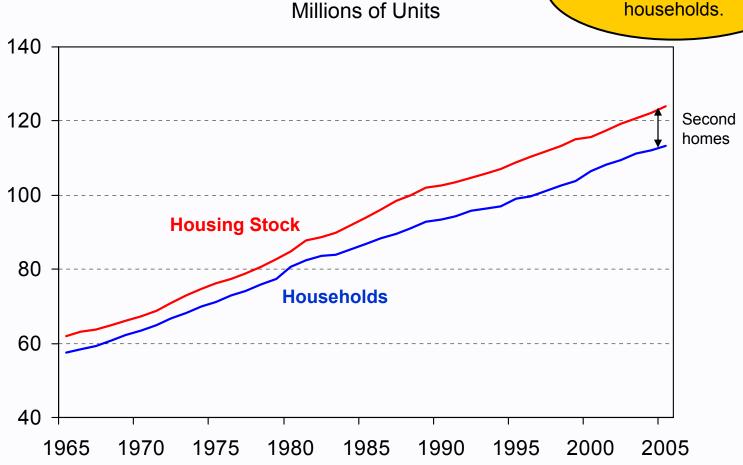
## U. S. Growth and Construction since 1929





# Drivers of U. S. Housing Demand

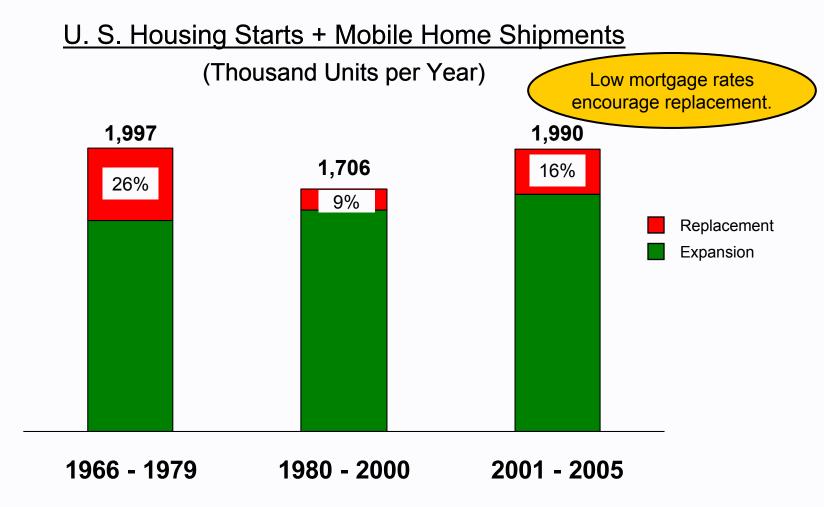
Growth in housing stock driven by households.



Source: Bureau of the Census, Haver Analytics.



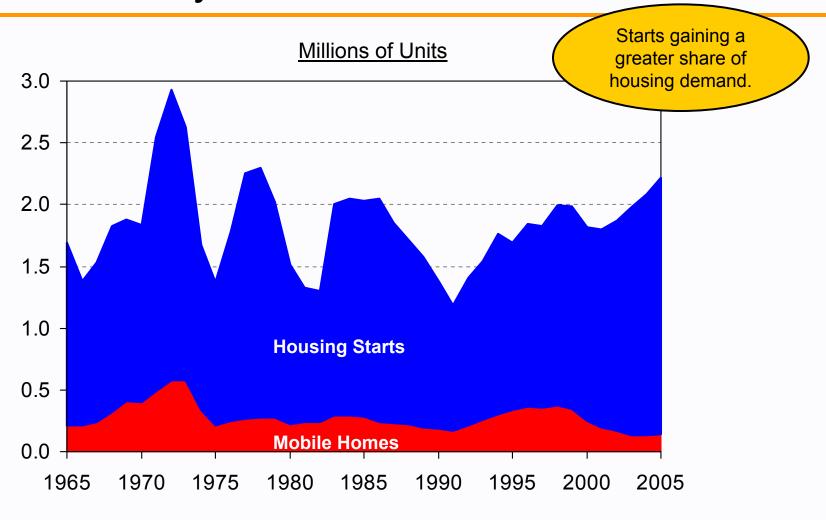
## Housing Underinvestment in the Past



Source: Haver Analytics; change in housing stock vs. sum of housing starts and mobile home shipments



## U. S. Shift away from Mobile Homes



Source: Bureau of the Census, Haver Analytics.

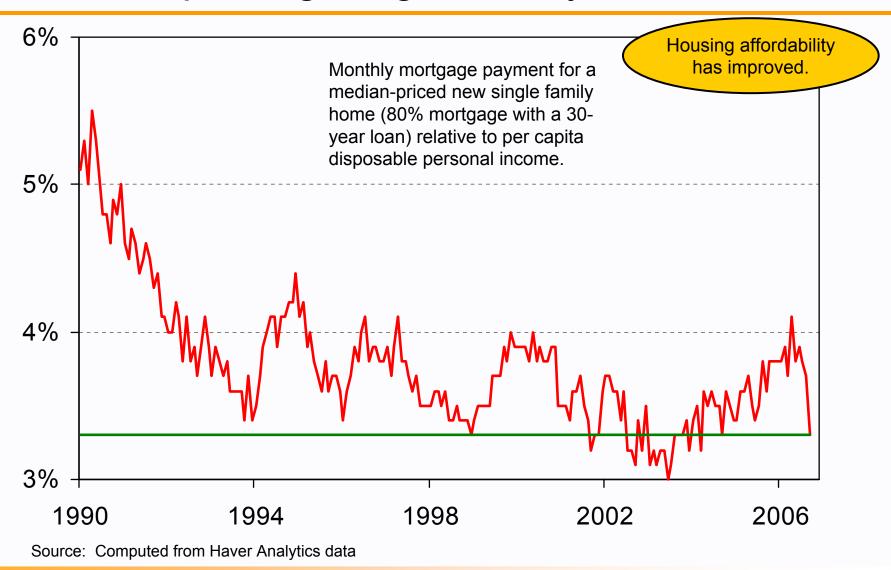


# U. S. Housing Fundamentals

	Stock	Annua	l Changes
	(Mil. Units)	<u>Percent</u>	(Mil. Units)
Demand:			
Primary homes	109.6	1.1	1.2
Vacant/secondary	16.6	2.2	0.3
Replacement	126.2	0.4	<u>0.5</u>
Total			2.0
Supply:			
Mobile homes			0.15
Construction starts			<u>1.85</u>
Total			2.00
Source: Computed from Haver Analytics data			



# Factors Impacting Single Family Sales





## A Closer Look at Some U. S. Housing Drivers

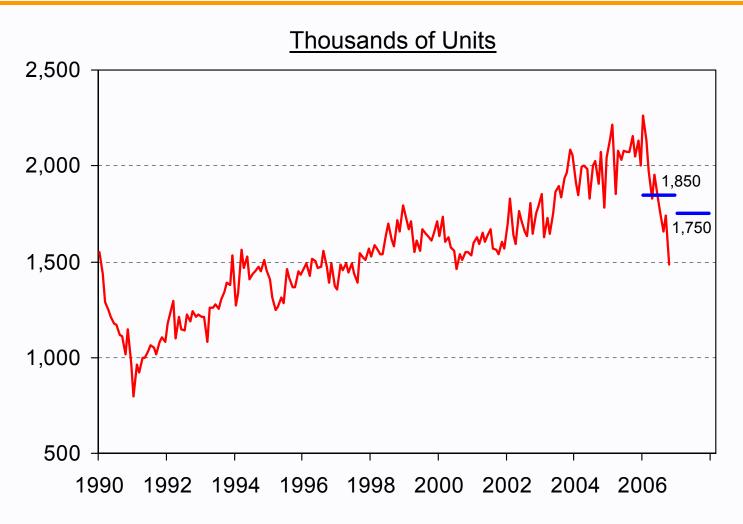
Home sales and starts increasingly out of line with fundamentals.

	Year Ago	Latest
30-year Mortgage rate (%)	6.28	6.18
Median Price of Single-Family New Home	\$240,000	\$217,100
Disposable Per Capita Personal Income	\$30,852	\$32,392
Single-Family New Home Sales (000)	1,253	1,075

Source: Haver Analytics



## U. S. Housing Start Projections

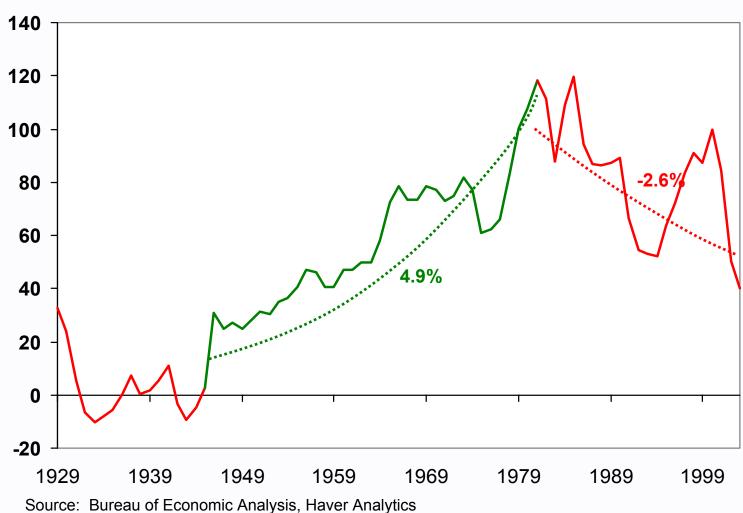


Source: Haver Analytics, Caterpillar SEC 10-Q, filed 11/2/2006.



## No Net Growth in U.S. Business Structures

Real Net Investment in Structures: 2000 = 100





## **Drivers of Business Investment**

Source: Haver Analytics

(% Changes from a Year Earlier unless Otherwise Noted)

	1995	1999	Now
Interest Rates (%)			
Fed Funds	5.8	5.0	5.3
3-year Treasury	6.3	5.5	4.9
GDP Inflation	2.1	1.4	2.9
Real Rates (%)			
Fed Funds	3.7	3.5	2.3
3-year Treasury	4.1	4.0	1.9
<u>C&amp;I Lending</u>			
Nominal	13	7	15
Real	10	5	11
<u>Placements</u>			
Bonds	32	-5	69
Stocks	42	49	55

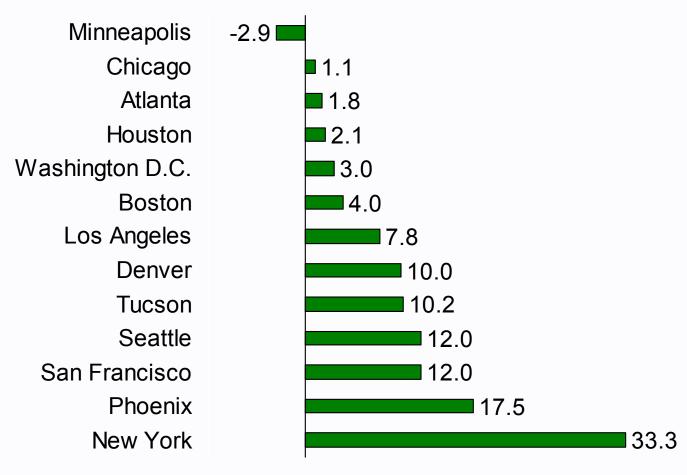


Chicago Fed December 1, 2006

## Office Rents

Vacancy rates declining nationwide.

#### Percent Change over a Year Earlier



Source: CB Richard Ellis

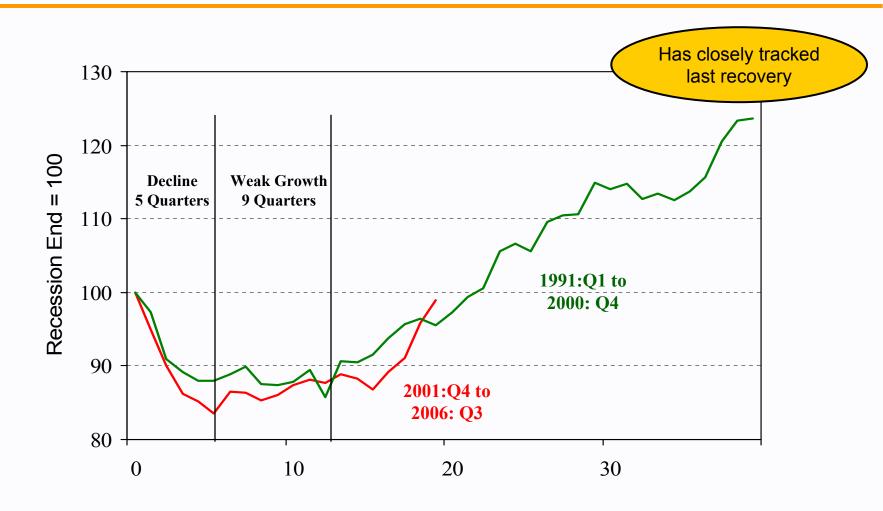


## Other Nonresidential Indicators

- National Association of Realtors' Commercial Leading Indicator up In 12 of last 13 quarters
- 2. Architecture Billings Index for September (6 9 month lead): Commercial, 58.3; Institutional, 57.8 (50+ is growth)
- 3. Smith Travel Research: hotel occupancies up in first half 2006 and revenue per room up 9%
- 4. McGraw-Hill: 2006 hotel construction to increase 48%
- 5. U. S. office employment up 2.3% from last year



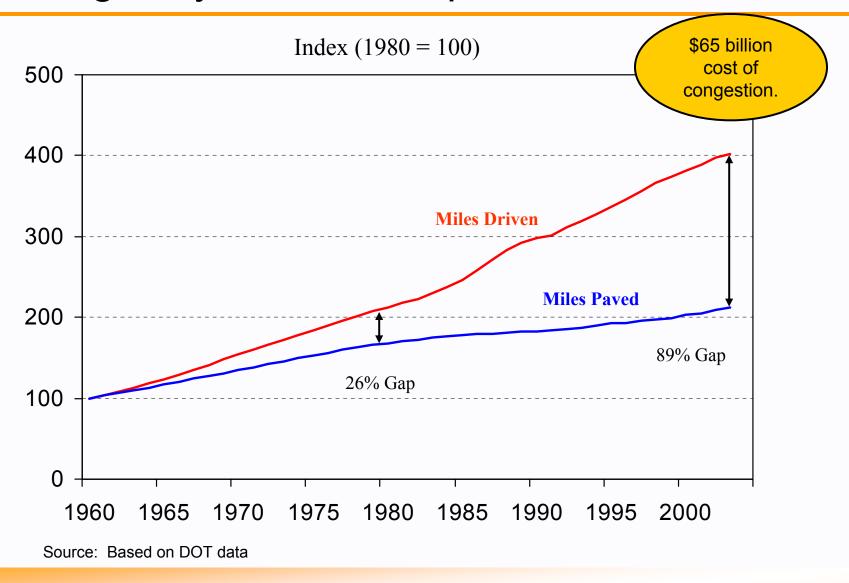
## Recoveries in U. S. Nonresidential Structures



Source: Data from Bureau of Economic Analysis, Haver Analytics



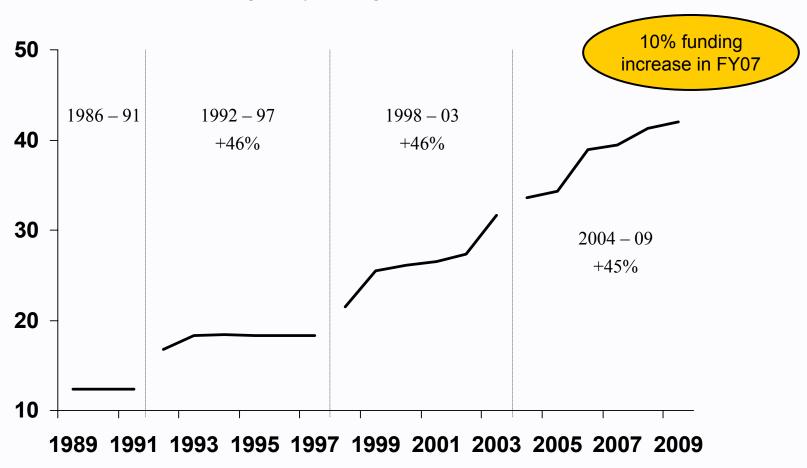
## U. S. Highways Are Inadequate





## Good Outlook for U. S. Highways

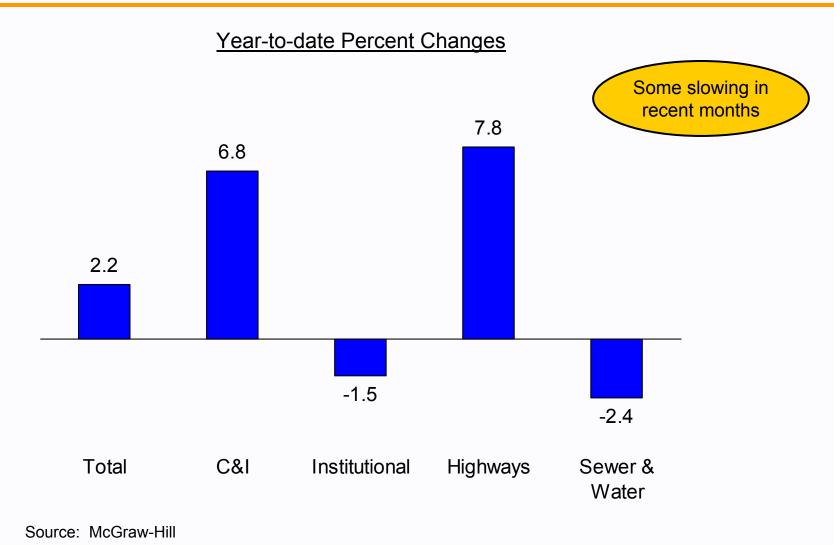
U. S. Federal Highway Obligations – Billion Dollars



Source: Federal Highway Administration



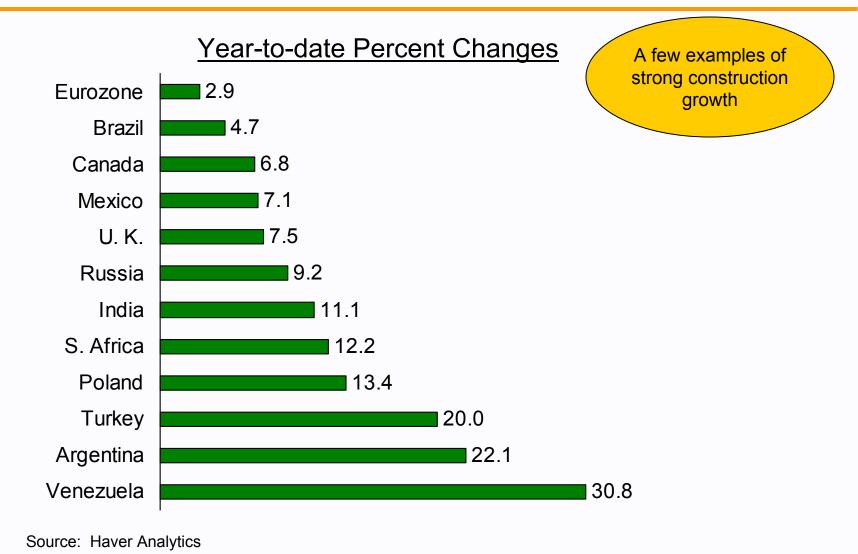
## Nonresidential Contracts Awarded







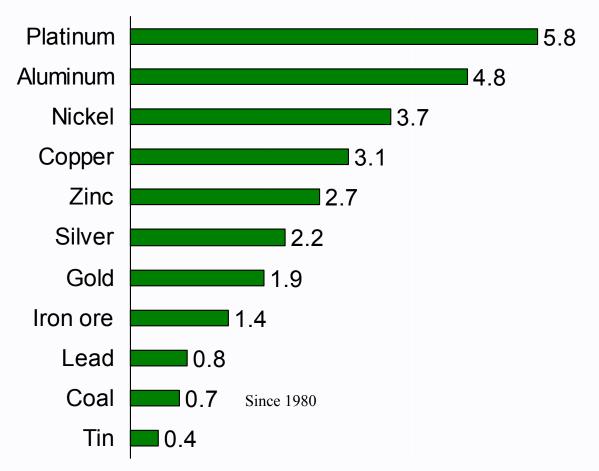
## Construction outside the United States





# Mining Is a Growing Industry

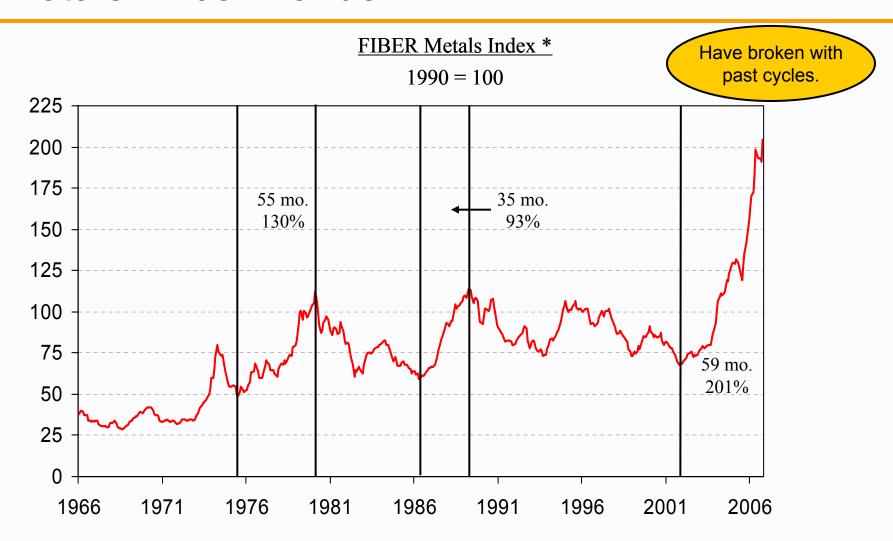
#### Average Yearly Growth in World Production, 1951 - 2002



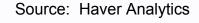
Source: U. S. Geological Survey



## Metals Price Trends

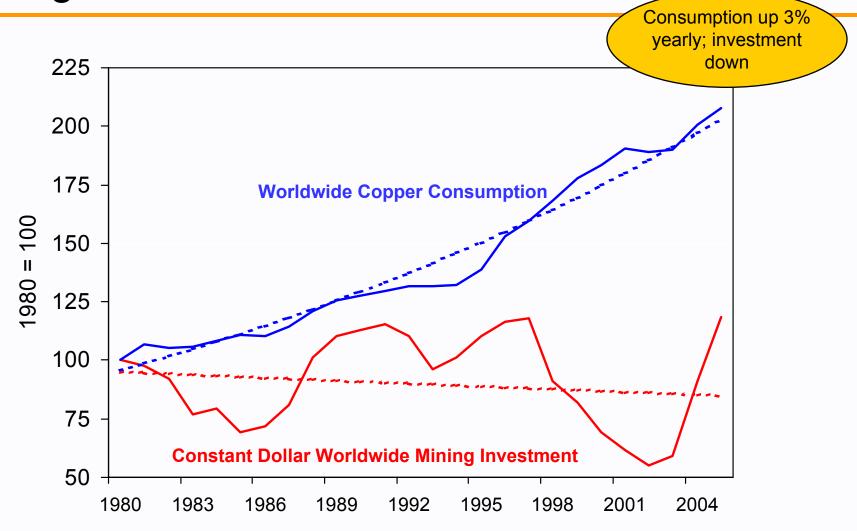


<sup>\*</sup> Aluminum, copper scrap, lead, scrap steel, tin and zinc.





Mining Investment Has Been Limited



Source: Metals Economics Group, Haver Analytics



# Impact of Commodity Prices

Huge benefit to developing countries

Revenue Gains (2002 – 2005): \$Bil.

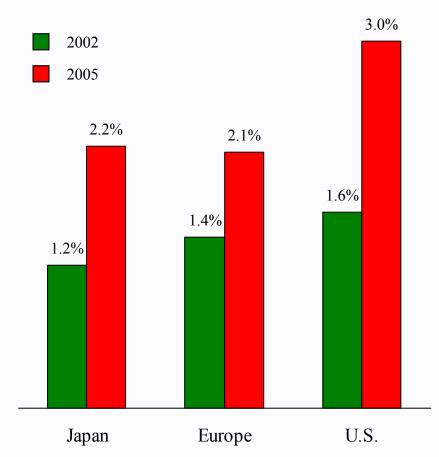
Energy	1,260
Precious metals	15
Industrial metals	150
Agriculture	100
Total	1,525

#### Share of GDP in Basic Industries

Low income36%Medium income29%High income10%

Source: Computed from data from Haver Analytics

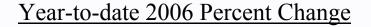
#### Crude Oil Consumption (% of GDP)

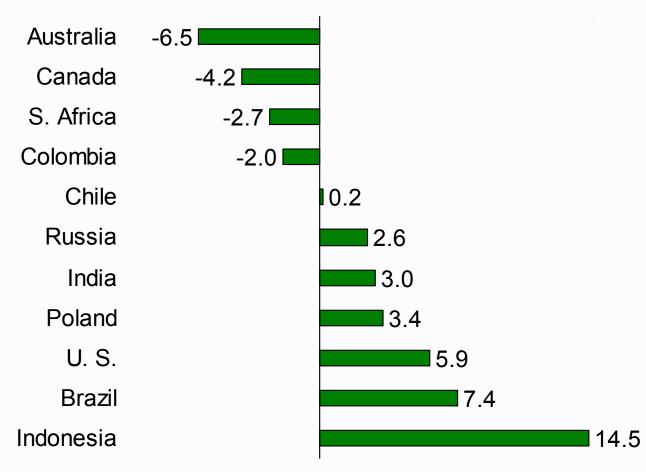




# Worldwide Mining Production

Output declining in key countries





Source: Haver Analytics



# **Current Positives for Mining**

Many positives still in place

- Prices currently well above previous lows
- Nonferrous metals mining companies increased worldwide exploration budgets 47% in 2006; 4<sup>th</sup> year of double-digit percentage increases
- Mines reporting difficulties in increasing production
- Metals inventories near critical lows
- Industrial production increasing rapidly in many countries

Sources: Metals Economics Group, Haver Analytics, Barclays Capital and various newspaper articles.



# Dimensions of Replacement Demand

U. S. Machine Population

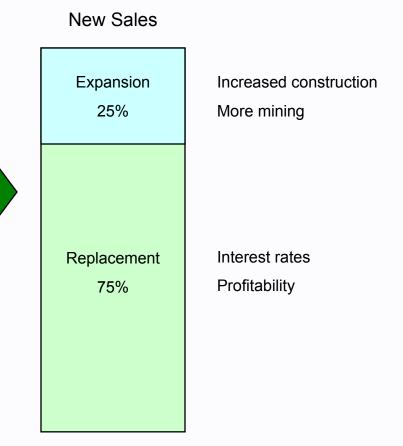
2003 Units 575,600

Yearly population growth 2.2%

Yearly activity growth 2.1%

Average age 8 years

Average life 15 years



Source: Survey data from <u>Construction Equipment</u> magazine provided estimates of population, population growth and average age. Average life was assumed to be roughly twice the average age. Activity growth was computed using a weighting of economic data provided by Haver Analytics that would be representative of construction machinery usage.



## Indicators for Key U. S. Sectors

# (Comparing YTD 2006 with YTD 2005)

#### **Commodities**

Coal mining

**Production** 6.8% 9.3 PPI for coal

**Metals mining** 

**Production** 2.3 58.5 CRB metals price index

Nonmetals mining, quarrying

**Production** 6.9 92 PPI for sand and gravel

**Forestry** 

-1.1 Logging production PPI for logs and timber 0.6

Crude oil and natural gas

Active drill rigs 20 1 WTI crude oil price 20.0 Henry Hub natural gas price -19.1

Generally positive in the U.S.

#### Construction

Housing

New units started -10 2% 3.6 Median price of a new home

Construction put in place

Manufacturing 22.9 Highways & streets 15.3 Commercial 12.6 48.4 Lodging

Source: Haver Analytics



# Key Points – 2007 Outlook

#### **Economies outside the United States doing well**

- Europe recovering
- Developing countries in best recoveries in years

#### Significant risks in the U.S. economy

- Housing, autos and trade weak
- Believe interest rates too high to support trend economic growth

#### Caterpillar sales and revenues to increase 0 to 5% in 2007

- Market demand down modestly, largely in the U. S.
- Truck engines impacted by new emission standards
- Expect dealers to reduce inventories

Source: Caterpillar SEC 10-Q, filed 11/2/2006, pp. 58-73.

