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## Cost of Construction Materials Soaring

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—Bob Harmon, transportation engineer, Southern Region

**T**he construction industry is reeling from the dramatic increase in the cost of steel. Prices started to climb in the fourth quarter of 2003 after they had been relatively flat earlier in 2003. Prices rose dramatically, by 40 to 60 percent, from December 2003 through March 2004.

Steel is used in many facets of construction, including building construction (structural framing, piping, ductwork, and other applications), bridge construction (girders, rebars, and fasteners) and road construction (guardrails, culverts, and other applications). For many years, the United States was the largest producer of steel in the world and was able to use the world's excess steel production. Over the past 15 years, China climbed from being the fifth-largest world steel producer to being the largest consumer and manufacturer in 2003.

The following factors are contributing to the dramatic cost increases for steel:

- Iron ore deposits in the Pittsburgh, PA, and Birmingham, AL, regions are nearly depleted.
- Some ore deposits exist in the Lake Superior region of the United States and in West Virginia, but these resources are expensive to develop.
- Available coke resources, used in steel production, have been significantly reduced due to regulations restricting environmental emissions. As a result, the United States is forced to buy raw materials on the world market.
- The U.S. steel industry has been operating with old technology and has been saddled with high retiree costs. Since 1999, 46 U.S. steel companies have filed for bankruptcy.
- China has long-term contracts with the three largest ore producers (Spain, Australia, and Brazil). To expand steel production, China has subsidized steel production to expand the production capacity.
- The U.S. dollar is currently weak against some forms of foreign currency, such as the euro and the pound.

### Effects on the Construction Industry

Steel suppliers and fabricators, faced with higher prices imposed by steel producers, are passing the price increases on to contractors, who are passing the increases on to project owners. Price quotes of 30 days or less are common.

Many steel suppliers are requiring escalation clauses of 4 to 6 percent in their contracts and some suppliers are demanding (and getting) open-ended escalation clauses. The recent sharp increases in steel prices also have forced many steel suppliers, fabricators, and contractors into bankruptcy.

## Future Predictions

Industry analysts believe that steel pricing will follow cyclic trends of the past. John Anton of *Global Insight* expects the cyclical increase to abate in late 2004. However, steel prices will remain higher (figures 1, 2, and 3) than in the past.

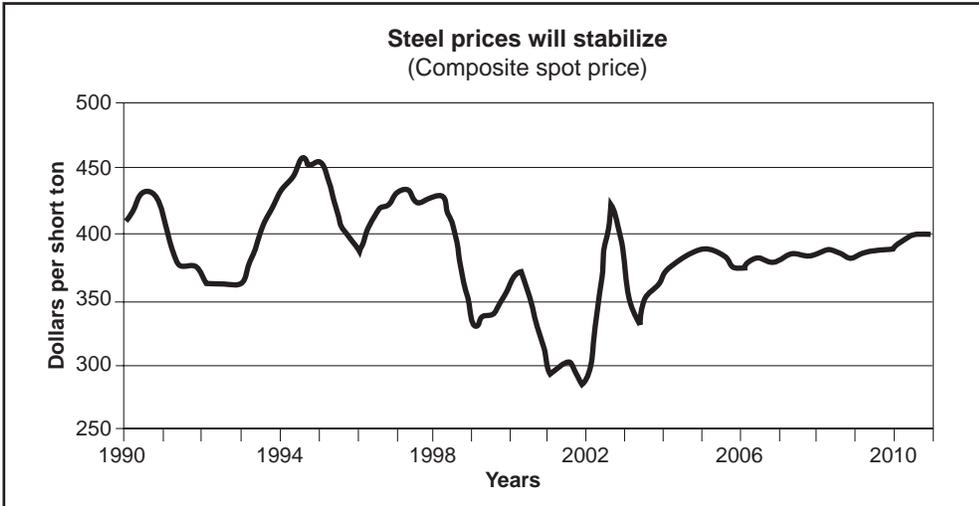


Figure 1—U.S. Steel Prices Rising as Consolidation Aids Market Discipline.—*Global Insight Perspectives*, John Anton.

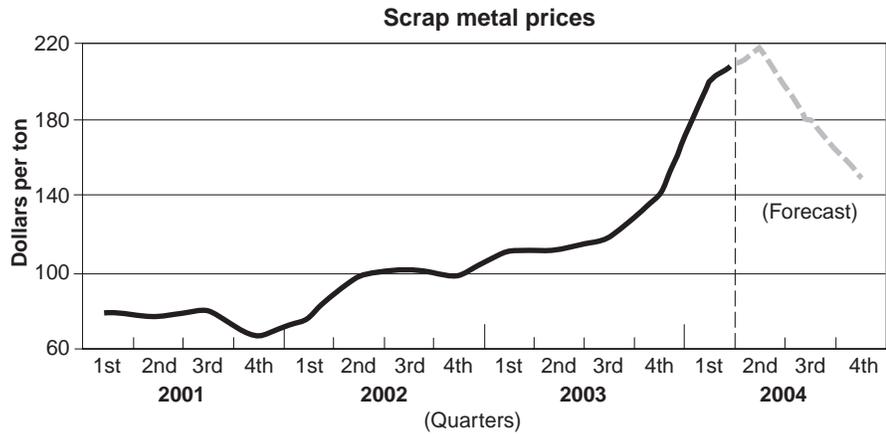


Figure 2—Spot Price of Steel Scrap, No. 1 Heavy Melt, Three-City Average.—*Global Insights, Inc., in Engineering News Record*, March 22, 2004.



Figure 3—Composite Price of All Long Products.—*Global Insights, Inc., in Engineering News Record*, March 22, 2004.

## **Costs of Other Construction Materials**

Strong market demands are also causing increased costs of other construction materials such as lumber, plywood, cement, copper, insulation, and gypsum products (drywall). Reduced oil production by the Organization of the Petroleum Exporting Countries (OPEC) is increasing the cost of crude oil, which affects the cost of asphalt and other petrochemical products, as well as transportation-related costs of all construction materials.

## **Effects on USDA Forest Service Construction Projects**

The USDA Forest Service will not escape the effect of sharply rising costs of construction materials. Accurately estimating material costs will be nearly impossible for the next year or so. When material costs do settle down, expect higher costs. It's important to check with material suppliers for current pricing and availability rather than relying on past contract bids or regional cost guides. When using commercially available cost estimating guides, check with representatives or Web sites for the latest updates. Construction projects currently under contract may also experience some problems as contractors encounter difficulties in locating available materials and in coping with escalating costs and delays in deliveries.

## **References**

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