

Will rising iron ore prices impact the cost of structural steel?

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There should be no direct impact on the price of structural steel due to rising ore prices and any secondary impacts will most probably not be seen by project owners.

While most media outlets treat steel as a homogenous industry, the fact is that various steel products originate from different production processes with significantly different price drivers and do not behave the same in the marketplace. Only 38% of the steel produced in the United States uses iron ore as its primary feedstock material. The majority of domestic steel, 62%, is produced in what are often referred to as mini-mills using recycled steel scrap as their feedstock material while consuming no iron ore. These mills melt scrap in electric arc furnaces (EAF) producing products with a recycled steel content in excess of 93%.

Also contributing to this distinct product based behavior is the fact that steel mills are not generic in their product mix. A mill designed to produce sheet steel for use in the automobile industry cannot produce structural steel sections for use in building construction. And a mill producing reinforcing bar for concrete cannot produce plate steel for the ship building industry.

Since the specific product produced by a specific steel mill is a commodity product, the price of that product is typically driven two factors: the cost of production and balance between the supply of and demand for the product. There can be no question that those steel products that are produced at integrated mills using basic oxygen furnaces (BOF) that consume iron ore and coke will see an increase in their cost of production as a function of increasing iron ore costs and those increased costs will be passed to the end product manufacturer and ultimately the consumer.

However, the vast majority of all steel used in the construction of buildings originates in mills using EAF technology. In fact, all domestically produced hot-rolled structural steel used in buildings and the vast majority of steel plate used in bridges comes from these EAF mills and uses no iron ore. Therefore, there will be no direct impact on the cost of production of these steel products to be passed on to consumers.

Instead, the pricing of these products is driven by the price of steel scrap. Historically the scrap market has operated differently than the iron market. Iron ore producers and BOF steel mill consumers of iron ore agreed to an annual contract fixing the ore cost over that period of time. In the contrast, the scrap market is a transaction based market with the price of scrap driven by both domestic and global supply and demand. The new iron ore agreement moves from an annual to a quarterly pricing structure which will introduce a higher level of volatility into both the ore market and the end products produced from ore. Initially this will probably increase the price of ore based products but ultimately will result in both increases and decreases in material pricing. Consumers of products, like structural steel sections and reinforcing bars, originating in EAF mills have experienced this pricing volatility over the past 5 years as the price of steel scrap, which represents between 30% and 50% of the product price, has varied based on supply and demand. That same type of volatility will now occur quarterly for consumers of integrated mill products.

Relationship of Scrap and Structural Steel Pricing

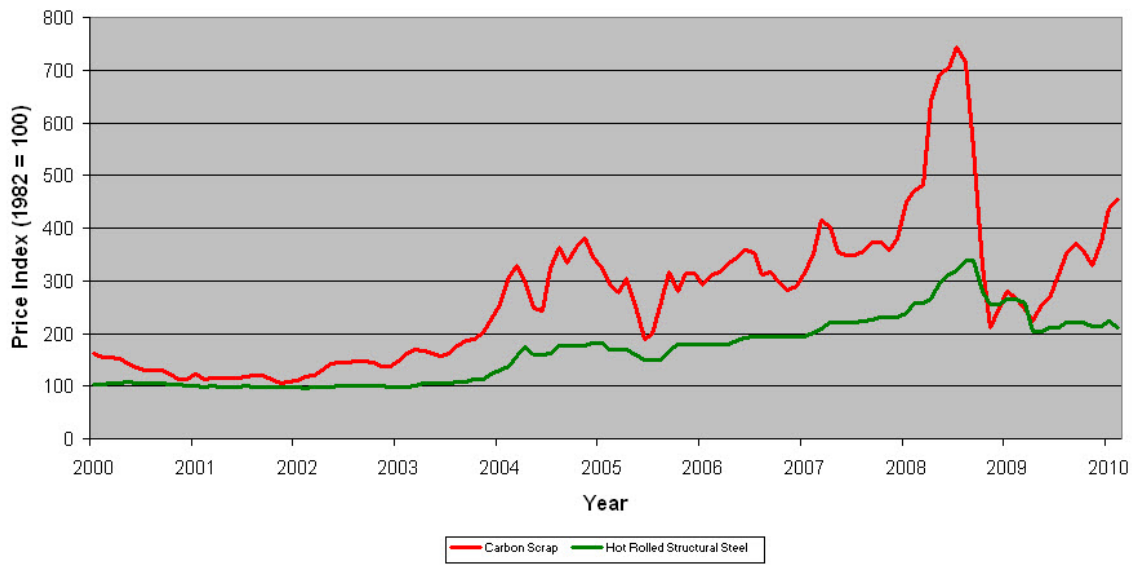


Figure 1: Scrap and Structural Pricing (source: Bureau of Labor Statistics)

Pricing Variations of Feedstock Material

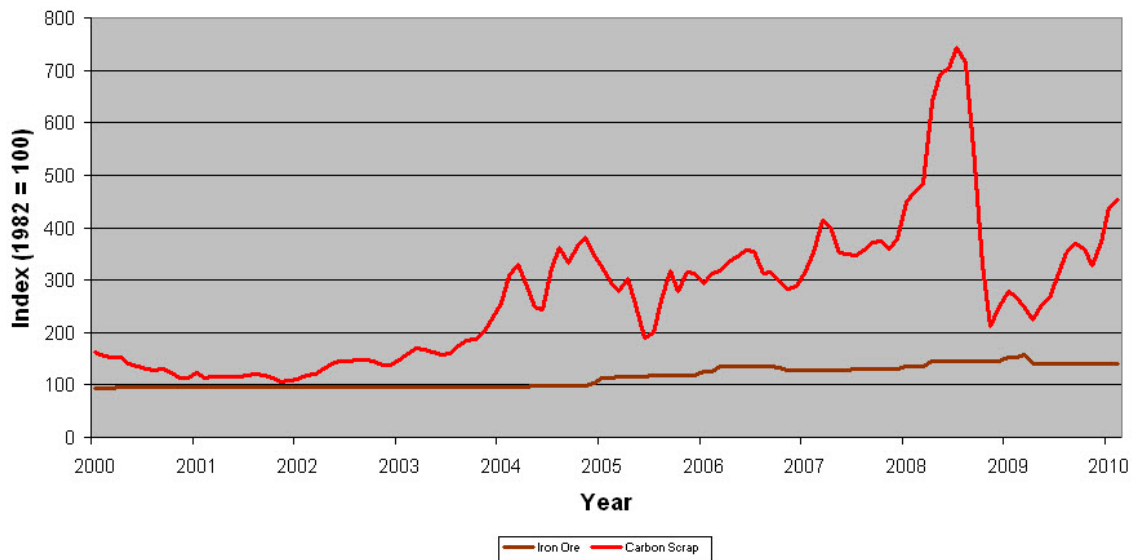


Figure 2: Scrap and Iron Pricing (source: Bureau of Labor Statistics)

When the trends of the past 5 years are examined it is clear that when scrap prices increased all mill products from both BOF and EAF mills have increased. This was the result of two factors. First, BOF mills mix scrap with iron ore in their furnaces in about a 3:1 iron ore to scrap ratio. Therefore increases in scrap prices will increase the cost of production in BOF mills but with only about one third the level of impact as in an EAF mill. Second, there is some bootstrapping effect that increasing costs of one type of steel may have on other types of steel. This is particularly true where both EAF and BOF processes may be used to create the same end product. For example, hot rolled sheet steel can originate in either a BOF or EAF mill. It is possible that while increasing ore prices will not directly increase the cost of production and therefore the price of hot

rolled structural steel, there may be some limited upward psychological pull on EAF products.

Pricing Variations of Different Steel Products

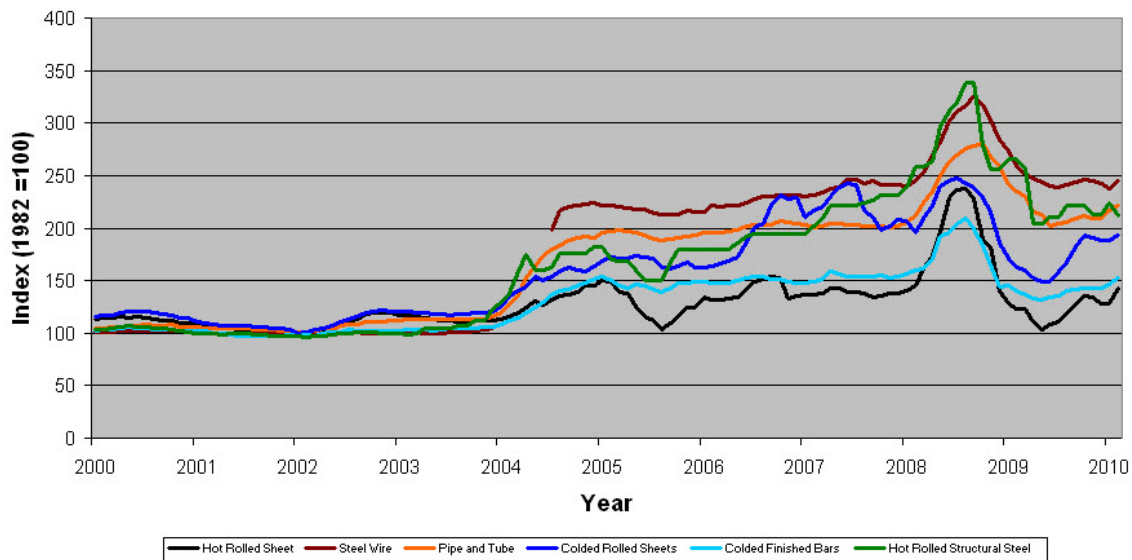


Figure 3: Variation in Pricing of Steel Mill Products (source: Bureau of Labor Statistics)

However, the end consumer of structural steel will most probably not see that impact in today's marketplace. It must be remembered that the cost of materials represents only between 25% and 30% of the total cost of the structural steel package for a building. The remaining 70% to 75% of the cost of the package is in the fabrication and the erection of the structural steel. Even an unanticipated 20% increase in the mill cost of structural steel will relate to only a 5% increase in the overall cost of the structural steel package and, assuming that the structural steel package is typically about 10% of the cost of the building, a 0.5% increase in project cost. But in today's market the project would probably not even see that cost increase.

Depressed levels of construction activity have resulted in an unbalanced demand versus capacity condition in the structural steel fabrication industry. Unlike commodity producers that can modify their production rates to meet changing demand, structural steel fabricators and erectors are specialty contractors that provide both services and product with shops geared to project size, not market size. When the construction market contracts the number of projects contract, not necessarily the size of projects. This results in gaps in shop schedules between projects and pressure on fabricators to fill those gaps with productive work. The result is downward pressure on the structural steel package pricing which is clearly documented over the past several months in data supplied by the Bureau of Labor Statistics showing a decrease in the average cost of fabricated structural steel even as the material costs were trending upward. The bottom line is that even as material prices have increased slightly, structural steel package prices have decreased.

Even if increasing ore prices exert an indirect upward pull on structural prices it is likely that the present market conditions will eliminate or at least minimize any increase in the structural steel package.