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PRICE RISK MANAGEMENT STRATEGIES  
TO PROTECT MARGINS IN A VOLATILE  
STEEL MARKET



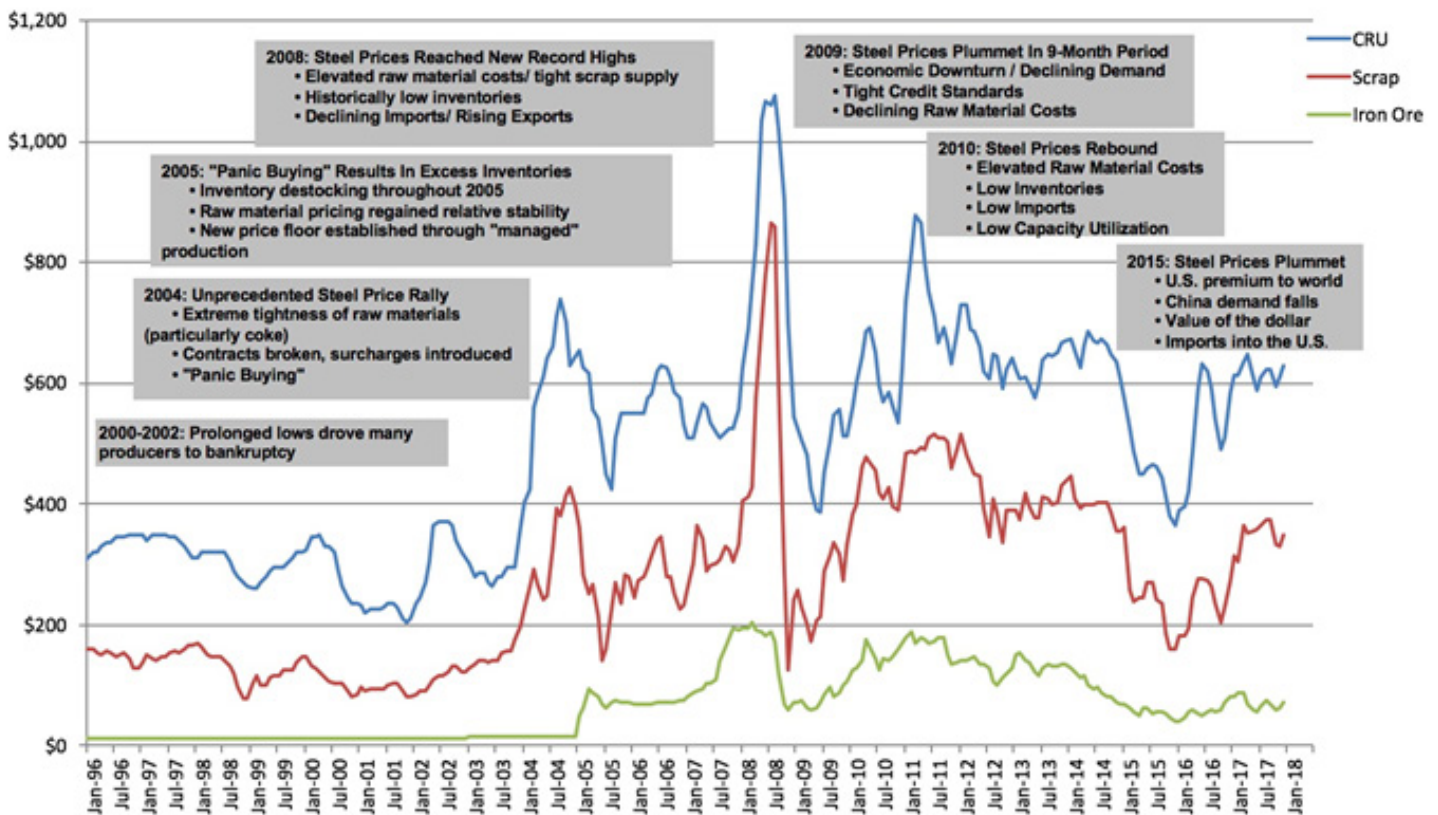
**WORTHINGTON**  
INDUSTRIES

## WHY PRICE RISK MANAGEMENT IS IMPORTANT TO YOUR BUSINESS

Steel prices have always fluctuated, however, due to recent various market influences, there has been a significant increase in the volatility of steel inventory and prices. According to CME, the average five month transactive volume of Hot Rolled Coil (HRC) in the US from January through May of 2018 was up 128% over the same five-month period in 2017.<sup>1</sup> Not only has the volume increased significantly but the price of HRC has also increased. According to the American Metal Market Daily, the cost per ton of HRC is up 54.3% from where it was a year ago.<sup>2</sup> What does this mean to your business?

It has always been important to have Price Risk Management, and with the heightened volatility within the steel market, it is more important than ever to protect your commodity exposure. For companies that do not currently have Price Risk Management implemented in their business, now is the time to consider putting it in place.

An historical look at steel prices shows the ups and downs of the market. Prior to 2008 there wasn't an option to implement a Price Risk Management program, but today you have that option so your company's margins don't have to mirror the ups and downs of this graph.



<sup>1</sup> <ftp://ftp.cmegroup.com/webmthly>

<sup>2</sup> American Metal Market Daily, June 21st, 2018

Effective Price Risk Management protects your profit margins and minimizes risk. It reduces risk across the entire supply chain by aligning customer demand with production and supply. Stabilized pricing and supply tends to help drive increased demand (sales) and profitability. It can also help manage changes in supply.



In this white paper, Price Risk Management experts from Worthington Industries present strategies and how to apply them to your business that can be used to protect margins while minimizing risk.

## HOW PRICE RISK MANAGEMENT WORKS

Price Risk Management matches supply with demand, eliminates speculation and reduces volatility, resulting in a fixed margin and protected inventory value. The three necessary components of any price risk strategy are:

### 1) Price: Fixed or Indexed

A fully indexed steel pricing strategy is one where steel pricing is 100% tied to spot market or index pricing. On the opposite end of the spectrum is a fully fixed steel pricing strategy. In this approach, a buyer locks in a set price for steel for the duration of a contract.

### 2) Quantity:

The quantity you are willing to commit to purchasing over a designated time period. All price risk strategies include some type of quantity commitment. Some strategies have more flexibility than others in the mix of products or materials that can be included in a quantity commitment.

### 3) Delivery:

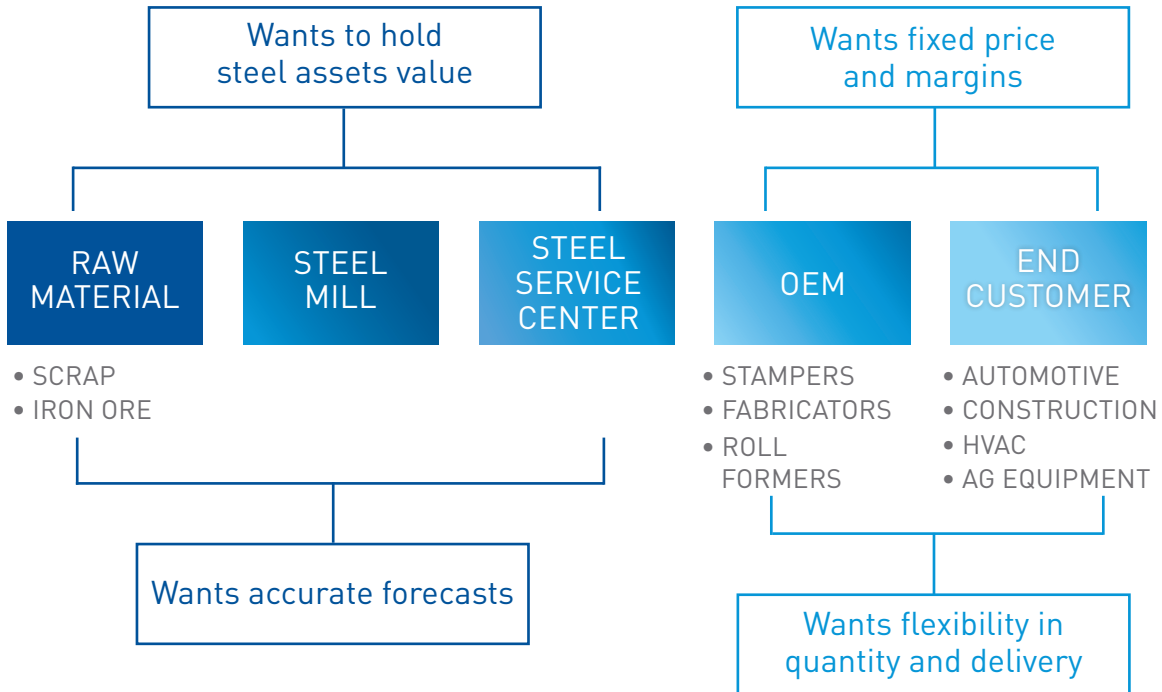
The time period over which you are willing to commit to accepting the agreed upon quantity.

All three of these components need to be considered when determining which strategy is best to adopt for your business. This white paper is focused on aligning production, supply and a fixed price option as a way to protect margins.

*“All three components of Price Risk Management have cost vs benefit implications.”*

## PLAYERS IN THE STEEL MARKET

Price Risk Management strategies take into account the various players or types of businesses involved in the Supply Chain. From creating raw steel to steel service centers, to manufacturers and their customers all are dependent upon each other. Each have their own set of goals and requirements that affect the strategy or combination of strategies they select for Price Risk Management.



Steel Mills want to sell at a variable **price** because they most often have to buy their raw materials at a variable price. The more accurate their forecasts, the better their ability to manage costs and **price** as well as produce the **quantity** necessary to fill orders within the **delivery** timelines required by their customers.

Steel Service Centers buy products from Steel Mills at a variable **price** and would like to sell at a variable price to their customers (OEMs). They are particularly concerned with making sure that their inventory doesn't lose value. Accuracy in forecasting the **quantity** and **delivery** of steel products are important in servicing their customers as well as maintaining proper inventory levels.

OEMs are interested in fixed margins with a potential for fixed **price**. They need flexibility in the **quantities** and **delivery** terms for the products they buy from a Steel Service Center in order to align with customer demands.

End Customers need flexibility in the **quantity** and **delivery** of products they buy from the OEM due to the uncertainty of consumer demand. They rely heavily on analytic tools to aid them in forecasting purchases from OEMs and securing fixed **prices** if possible.



## STRATEGY ONE: FORWARD BUY

A Forward Buy is a customized contract where you buy a large quantity of a particular steel product at the current price and take delivery immediately. This strategy is sometimes used when a business has sales contracts at a fixed price for a specific product during a confined time period. They may not need all the product now but know they will need it over the next 3-4 months.

For example, let's say the price of steel is currently \$800/ton. An OEM has contracted orders for a specific product that has to be manufactured and delivered over the next 3-4 months. The OEM buys the quantity of the steel products they need to fulfill those orders and takes delivery at a \$800/ton price.



Let's say at the time the steel is actually used in production, the price of Steel is \$1000/ton. The Forward Buy has avoided additional potential costs associated with purchasing those steel products on the spot market. If by chance the cost of steel goes down to \$700/ton over that 3-4-month period, the OEM will not have lost money because their COGS and margins were calculated on the steel material price at the time of purchase. Whether the market goes up or down it doesn't matter, your margins are secure. In addition, you have locked in a consistent supply, supply chain, delivery and quality.

### Costs

- Cost of storing the materials/products until they are put into production
- Additional inventory insurance
- Interest costs associated with the capital used to purchase the materials several months prior to using it in production

- ▶ STORAGE COSTS
- ▶ INSURANCE
- ▶ INTEREST OR HOLDING EXPENSE

### Commitment Terms

- Need to make a tonnage quantity commitment by size and by specific product
- No flexibility in gauge or grade of steel or delivery
- Price cannot be renegotiated

### Risks

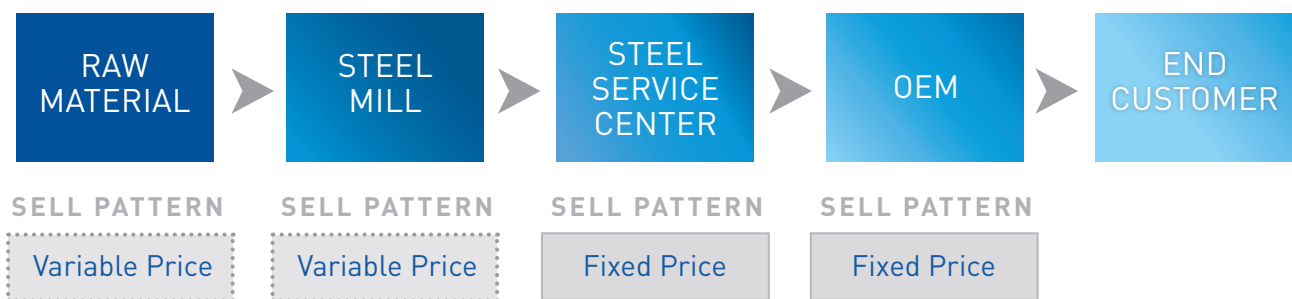
- Some credit exposure
- Not much control over product or material quality
- No flexibility if there is a change in the products needed for production



## STRATEGY TWO: FINANCIAL HEDGE

Similar to Forward Buy, a Financial Hedge gives you the ability to hold margins and fix costs. The difference is that there is greater flexibility in delivery terms, product mix and it requires a limited amount of capital to be tied up. This strategy focuses on the ability to turn variable prices into fixed prices.

By using steel derivatives as a price risk management tool, earnings volatility can be reduced and finished goods can be sold to End Customers at a fixed price. Steel derivatives are financially settled contracts that can be used to manage price risk 24 months or longer into the future.



**A Service Center buys raw steel at variable pricing and sells finished steel at fixed pricing over an extended period through the purchase of HRC (Hot Rolled Coil) derivative contracts.**

Here is an example of how this strategy works. An End Customer wants to buy finished goods from an OEM at a fixed price. Let's say that at the time, the OEM is negotiating a price and purchase quantity of 1,000 tons of processed steel to produce the finished goods the End Customer orders, at a steel price of \$810/ton. The OEM figures the selling price and the margins of the sale of those finished good using that current price of \$800/ton. To protect the price and margins of that sale with minimal risk exposure, the OEM needs be able to purchase 1,000 tons of finished steel to be used in the production of that product at a fixed price of \$800/ton.

The OEM purchases processed steel from the Steel Service Center, who in turn, will need to buy raw steel from a Steel Mill at a variable price that fluctuates daily or weekly. For example, raw steel pricing has been ranging from \$700-\$1,000/ton. The Steel Service Center wants to be able to sell 1,000 tons of finished steel to the OEM at a fixed price of \$800/ton.

To limit the risk between purchasing the raw steel at a variable price and selling processed steel over time at a fixed price, the Steel Service Center buys a financial derivative from a Hedge provider committing to the purchase of 1,000 tons of raw steel at \$790/ton. The derivative fixes the purchase price while protecting margins.

The result is that the Steel Service Center is able to sell the 1,000 tons of processed steel to the OEM at a fixed price of \$800/ton, thus allowing the OEM to sell a finished good to the End Customer at a fixed price without anyone risking margins.

### Costs

- There can be additional costs associated with changing the delivery schedule

### Commitment Terms

- Price is locked in and can't be renegotiated
- Need to make a monthly tonnage quantity commitment, but there is flexibility in the product mix

### Risks

- Limited credit exposure
- Large volume requirements during specific time periods can be challenging in a limited market liquidity environment
- The steel price is fixed during the contract term



## STRATEGY THREE: WAIT AND SEE

Another strategy a company might embrace is to simply not do anything and purchase steel on the spot market. There are questions that need to be answered when considering this strategy including:

- 1) Can your business withstand the risk of prices being significantly higher when you need to purchase them?**
- 2) Are there other things you can do to mitigate price risk such as make changes in the products you manufacture or share inventory with sister companies, etc.?**
- 3) What are your competitors going to do in reaction to lower or higher steel prices?**
- 4) Can your business withstand the risk if inventory loses value due to a price drop?**
- 5) What is your company's appetite for earnings volatility?**



### Costs

- No direct costs however there are indirect costs associated with the risks

### Commitment Terms

- There aren't any commitments to quantities or to price
- There may be a commitment to a fixed price for your product to your customer

### Risks

- Competitors may be able to take advantage
- Product availability could be an issue at the time it is needed
- Consistent product quality can be an issue
- Prices may be significantly higher when you need to order products
- Steel prices may not align with your sales commitment
- Inability to raise price to customer to cover if a rise in raw material costs

## STRATEGY FOUR: A PORTFOLIO APPROACH

In a portfolio approach, the company analyzes steel price risk along with a more detailed analysis of the potential impact on financial and operating activities and considers using a combination of the strategies to align with Corporate goals.

In order to determine the timing and the quantity of potential steel purchases to be included in each strategy a company must first assess:

- **The production process and production schedule**
- **Customer commitments**
- **Company risk tolerance**
- **Competitor positions and behavior**
- **Hedging products available in market**



Once that assessment has been made, a combination of the three strategies mentioned could be used to align production schedules with sales contracts to reduce the volatility in margins. For example, depending upon current inventory and production schedules, it may make sense to purchase a certain quantity on a Forward Buy based on known orders and the existing production schedules. Then work on a Financial Hedge plan for a six month to two-year span to provide flexibility in products and delivery associated with a forecasted sales and production schedule.

A portfolio approach allows you to realize the best cost control, flexibility and commitment terms from all the other three strategies while at the same time protecting your margins no matter how volatile the Steel market is.

### Costs

- Cost of storing the materials/products until they are put into production
- Interest costs associated with capital used to purchase the materials several months prior to using it in production
- There can be additional costs with changing the delivery schedule

### Commitment Terms

- Need to make a tonnage quantity commitment by size and by specific products with flexibility in the product mix
- Price is locked in and cannot be renegotiated

### Risks

- Some credit exposure
- Volume requirements during a specific time period with no flexibility if there is a change in products needed for production

## WHICH PRICE RISK MANAGEMENT STRATEGY IS BEST FOR YOUR COMPANY

Maybe today's market price works for you and you want to lock in at that margin. Or perhaps you need to defend your business from adverse market moves. Maybe your primary goal is cost predictability. Understanding your goals and requirements is the first step in determining the price risk strategy that is best for your company.

Diversification is essential for overall risk management. In previous years, hedging risk through the trading of futures and options was considered cutting edge. But now, risk managers are in need of strategies that enable more customization.

Hedging strategies should align with your diverse set of components including various volumes and timing parameters. Before moving forward with a price risk strategy you must do the following:

- 1. Assess your Company's risk tolerance and set levels of risk that are acceptable**
- 2. Understand the basis risk and correlation exposure**
- 3. Understand the drivers of your market including price, fundamental, technical, and competition**
- 4. Work with a Price Risk Management expert to help you develop and implement a plan that best fits your business**

Hedging applications can be revised on a regular basis for effectiveness, based on your goals and objectives. Tailored price risk management strategies can protect operating margins and build market share.

## CONCLUSION

Without a risk management strategy, you could be compromising your margins, budget, and ability to be price competitive. With all things equal, companies with lower earnings volatility should be more valuable in the marketplace compared to companies with a high level of volatility. In the end, prudent use of hedging tools like steel derivatives can help lower swings in earnings due to steel price movements and help you focus on what's most important – serving your customers.

You have taken the first step by increasing your knowledge of price risk management strategies. The next step is to use these financial tools to lower margin risk and give your customers a fixed price so you can focus on growing your business and stabilizing margins. Engaging with an experienced Price Risk Management team, like the one at Worthington Industries can be extremely helpful in helping you determine and implement the best strategies for your business.



## ABOUT WORTHINGTON INDUSTRIES

### PRICE RISK MANAGEMENT

#### **Providing customers a fixed price for raw materials.**

When you rely on materials with prices that fluctuate, it can be unsettling. That's why Worthington Industries developed our Price Risk Management services. They let you align in your price so that your manufacturing margins stay the same regardless of raw material prices.

Worthington Industries can help you match supply with demand, eliminate speculation and reduce earnings volatility—which decreases your risk of carrying inventory in a volatile market.

We're a leader in managing steel market futures and partner with customers to help reduce pricing risk. Every day we trade domestically and internationally, allowing us to help match demand with supply, eliminating speculation and reducing volatility. Pricing volatility for raw materials impacts the entire supply chain. Iron ore price impacts the hot rolled steel pricing, which in turn impacts the price of scrap.

When you partner with Worthington Industries you have access to risk management experts who understand your business objectives and the importance of not only price; but quantity, quality and delivery.

For more information or a free consultation, contact our Price Risk Management Team at **877-250-6689**.