

COPPER -NICKEL RATIO

The prices of copper and nickel have been chaotic in the last 5 years, eyeing significant up and down rally. These considerable moves help us to catch hold of some opportunities to earn quick profits and add to our investment returns.

Copper is known as the king of base metals. *The 3-month LME Copper forwards prices* have seen a rise of 134% in last 5 years, from \$3,150 per tonnes levels in 2004 close to \$7,375 per tonnes levels in 2009. This is in spite the great fall in the year 2008, to \$3,070 levels. It has seen historic high of \$8,730 in early 2008, when the inventories were at tad low levels, and demand was significant high

The 3-month LME Nickel forwards prices have seen a rise of 24.54% in last 5 years, from \$14,875 per tonnes levels in 2004 close to \$18,525 per tonnes levels in 2009. This is in spite the great fall in the year 2008, to \$11,700 levels. However, we also have seen highs of \$55,000 per tonnes of prices in mid-2007, when the inventories were in deficit due to heavy consumption and demand from the major consuming nations.

Year close	% change in Copper	% change in Nickel
2004-05	39.52%	-9.24%
2005-06	44.03%	146.85%
2006-07	5.45%	-21.08%
2007-08	-54.01%	-55.51%
2008-09	140.23%	58.33%



The above chart shows the ratio between the LME copper and nickel forwards since 2004. In the time frame of last 6 years, the ratio has moved in a broad range of 0.447 to 0.138 levels. The high was made on October 20th, 2008 when copper was quoting at 4,720 while Nickel at 10,555. The low was made on March 16th, 2007 when copper was quoting at 6,610 while Nickel at 47,700.



The above chart is performance for last year, where the high made was 0.442, and low was 0.244. Prices moved highly volatile and recovered most of their losses of recession. The high was made on December 3rd, 2009 when Copper was quoting at 7,080 while Nickel at 16,005. The low was made on January 2nd, 2009 when copper was quoting at 3,321 while Nickel at 13,200.

CONCLUSION

In the short run, we expect copper prices to eye a bearish trend while nickel would witness upside. Copper has made a run up of more than 140% in the year 2009, defying the inherent fundamental factors of rising inventories and reduced consumption and demand from major producing nations. Prices majorly rallied due to the speculative demand from China owing to arbitrage opportunities.

On the other hand, nickel moved up by around 58% cueing the rise in peer metals and a few other global factors. However the multi-year high level of inventories capped the major upside in prices. Thus to equate the run, we anticipate nickel to eye upside in short to medium term. Moreover the extensive demand from stainless steel industry, the major consumer of Nickel, will be a supplementing factor for prices to move up.

Thus the ideal investment strategy would be to sell Copper while buy Nickel.

THE INVESTMENT STRATEGY

The copper/nickel ratio made a high in last 5 years is 0.447, and low was 0.138. As per the prices on 13 January, **the ratio stands at 0.41769**, wherein prices were:

$$\frac{\text{Copper (Rs/Kg)} \quad 340}{\text{Nickel (Rs./Kg)} \quad 814} = 0.41769$$

We recommend entering at present levels when ratio is nearing at 0.41769, targeting 0.32 while keeping a stop loss above 0.480. The investment would involve selling 1 lot of MCX Copper-April contract while buying 4 lots of MCX Nickel- February contract.

The **total initial margin** required to enter into this ratio strategy is as under:

Metal	Margin per lot	No. of lots	Total
Copper @ 5%	17020	1	17020
Nickel @ 6%	12222	4	48888
		Total	65908

Apart from the initial margin, the investors would need to take care of the daily **mark-to-market margin (M-to-M)** as well. On the worst case scenario, copper might see a **maximum 10%** upside in the span of 45 days, while nickel also could be the same. Thus the adverse M-to-M requirement could turn out to be:

Copper: $340 \times 10\% \times 1000 = 34,000$

Nickel: $814 \times 10\% \times 250 \times 4 = 81,400$

The anticipated profit and loss matrix is as under:

Profit @ ratio being 0.32*	Losses @ ratio being 0.48*
Copper (340-290)*1000= 50,000	Copper (340-360)*1000= -20,000
Nickel (890-814)*4*250= 76,000	Nickel (750--814)*4*250= -64,000
Total = 1, 26,000	Total = -84,000

*the profit/loss is calculated based on the below mentioned assumption figures

EXPECTED RETURNS

Investment for 45 days: $65908 + 34,000 + 81,400 = \text{Rs. } 1, 81,308$

Anticipated returns in 45 days: $\text{Rs. } 1, 26,000$

Thus the percentage returns for 45 days turns out to be 69.5% (Approx.)

ASSUMPTIONS

1. *If the ratio moves as per our expectations, and hits the target of 0.32, then the probable prices of copper and nickel could be:*

$$\frac{\text{Copper (Rs/Kg)} \quad 290}{\text{Nickel (Rs./Kg)} \quad 890} = 0.325$$

2. *If the stop loss to hit, then the ratio would move up to 0.480, up by 0.06, and thus our view goes wrong, i.e. copper moves up while Nickel comes down. So the probable prices then could be:*

$$\frac{\text{Copper (Rs/Kg)} \quad 360}{\text{Nickel (Rs./Kg)} \quad 750} = 0.480$$

3. Technically, we expect Copper to face a stiff resistance at 360 levels, breaking which the ratio might turn adverse to our expectations
4. Similarly, a strong support for Nickel is seen at 750 levels, breaking which nickel would see a drastic fall ahead and disturb our ratio
5. We suggest to strictly stick to these support and resistance levels and exit the positions if either of them gives a breakout
6. Moreover, we could even need to roll-over the Nickel contract from February to March month, if neither the expected targets are achieved nor the stop loss is hit during the given time frame. Here the average difference of Rs. 5-6 (the cost of roll-over) in Feb and March month contract would have to be borne

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