Short hedging strategies for commodity operator.

Disclaimer
The example provided is purely for illustration and should not be construed in any way as a recommended trading strategy or current market conditions. The reader should verify current contract specifications and other relevant information before using these techniques and products.

Introduction

Stelco Inc is one of the biggest Canadian hot-rolled coil steel producers located in Ontario. This company is an example of a company operator who produces and supplies commodities. An essential part of the company's ERM framework is to mitigate the market risk. Stelco is affected by the exposure of coil steel price volatility as well as price decrease. In other words, the company is looking for a way to reduce market risk by a short hedge.

The company has several ways to mitigate market risk. However, the company operator has their hedging peculiarities do this. Internal risk mitigation techniques can't give sufficient protection against full commodity risk amount, and the company-operator has to search for external solutions (fig. 1):

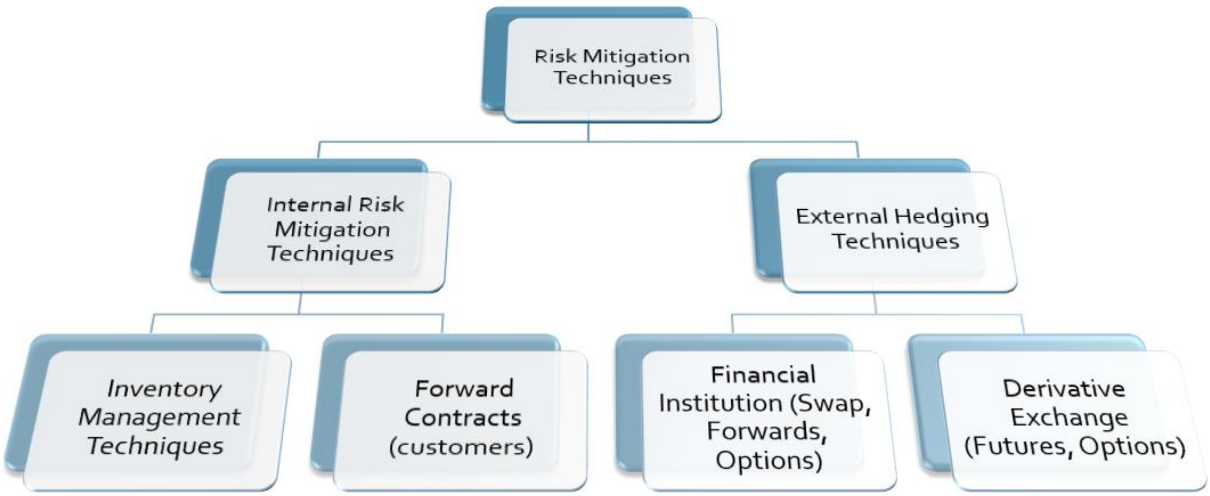


Fig. 1. Risk mitigation techniques.

Risk mitigation techniques overview

<u>Internal risk mitigation techniques:</u>

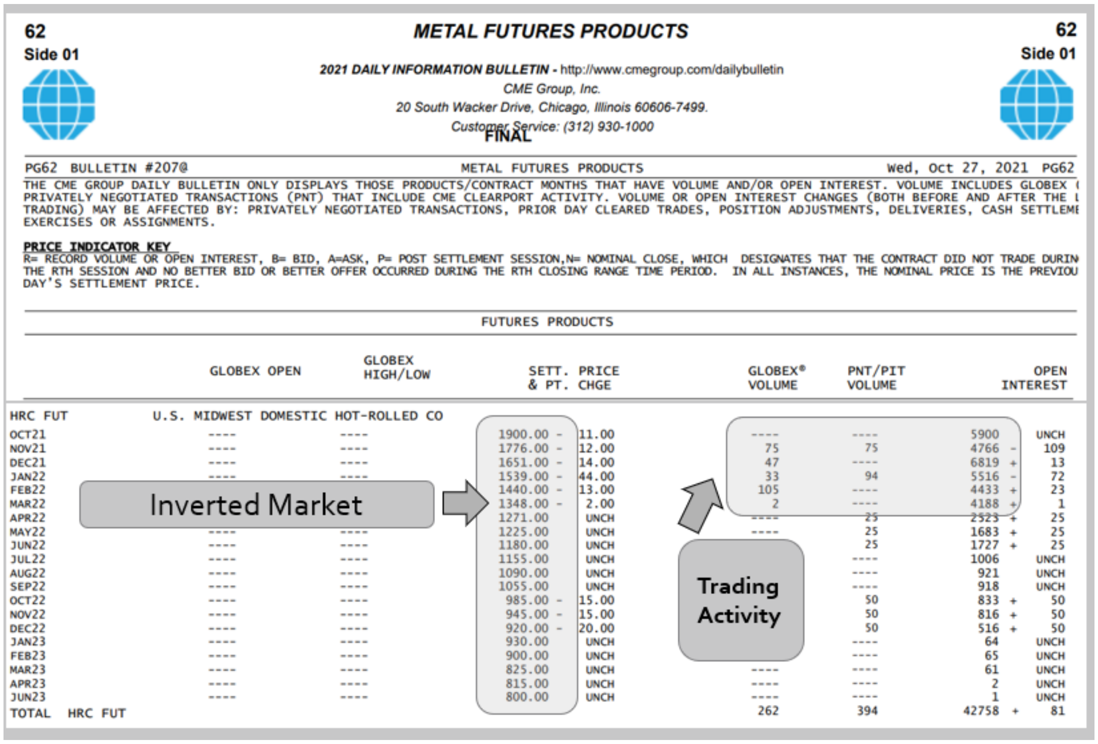
1. The first way is to manage commodity risk is doesn't use hedging practices at all. In this way, the company assumes full market risk acceptance and tries to transfer risk to their clients by selling prices increasing. The company also may try to reduce risk by adequately managing inventory. However, this way is more common for company resellers or companies who use commodities in their production process. Commodity operators and commodity producers are hardly affected by market risk and can't transfer all commodity price volatility to their clients and use hedging techniques to reduce this risk.
2. The operator can try to use inside risk mitigation techniques. For example, he can develop fixed price delivery forward contracts with their current and potential customers. However, this way depends on the market situation and the client's interest in doing this. This way is mostly not acceptable for the big commodity operator as a complex commodity risk mitigation solution. To sign hundreds of small forward contracts with many clients may significantly increase credit risk, the operations amount, and be very costly to the company. The commodity operator can develop forward contracts practices for clients, but this will be an additional service for clients and not a total solution for commodity risk mitigation.

<u>Next two way is an external hedging solution:</u>

3. The first way is short hedging by commodity exchange-traded derivatives contracts. The company can sell futures contracts, buy put options or develop an option strategy using contracts listed in one of the derivative exchanges. These hedging techniques highly depend on the availability of futures or options on underline assets. In our case, STELCO can use U.S. MIDWEST DOMESTIC HOT-ROLLED COIL STEEL (CRU) INDEX future contracts available in Chicago Mercantile Exchange (CME). The contract unit size is 20 short tonnes, and it is financially (cash) settled. Monthly contracts are listed for the current year and the next three calendar years.
   Note 1: Stelco can also try to hedge the risk by hot-rolled coil steel contracts traded in London Metal Exchange (LME); however, they do not have enough liquidity today.
   Note 2: Hot-rolled coil steel futures contracts actively traded on Shanghai Futures Exchange. This contract is deliverable. However, it is traded in Chinese currency (renminbi), creating additional currency exchange risk during the hedging process. Another problem is a difference in the specification of Chinees traded steel.

   This hedging method for Stelco requires additional calculations and estimates:

- The underline asset for CME futures contracts is U.S. MIDWEST DOMESTIC HOT-ROLLED COIL STEEL (CRU) INDEX; however, Stelco produces and distributes their productions in Canada. This example demands developing a Risk/ Hedging model and the basis calculation. Important to note that this hedging may be a subject of substantial basis risk due to differences between Canadian and U.S. Midwest markets.
- Additional risk is currency exchange fluctuation risk between CAD and USD. The futures contracts are settled in USD, but the company uses CAD for its operations.
- The subsequent risk is a margin risk. According to exchange regulations, the company is subject to mark-to-market margin adjustment. It may be significant demand funds to keep sufficient margin requirements.
- The next problem that I see is market liquidity. The trading activity and open interest are concentrated around the first 4-5 months. At fig. 2, is presented the fragment of the daily Information bulletin CME. To create a longer hedging horizon, we'll have to roll over the futures in the hedging process and make other basis and trading risks.



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PG62 BULLETIN #207@ METAL FUTURES PRODUCTS Wed, Oct 27, 2021 PG62

THE CME GROUP DAILY BULLETIN ONLY DISPLAYS THOSE PRODUCTS/CONTRACT MONTHS THAT HAVE VOLUME AND/OR OPEN INTEREST. VOLUME INCLUDES GLOBEX (PRIVATELY NEGOTIATED TRANSACTIONS (PNT) THAT INCLUDE CME CLEARPORT ACTIVITY. VOLUME OR OPEN INTEREST CHANGES (BOTH BEFORE AND AFTER THE (TRADING) MAY BE AFFECTED BY: PRIVATELY NEGOTIATED TRANSACTIONS, PRIOR DAY CLEARED TRADES, POSITION ADJUSTMENTS, DELIVERIES, CASH SETTLEME EXERCISES OR ASSIGNMENTS.

PRICE INDICATOR KEY
R= RECORD VOLUME OR OPEN INTEREST, B= BID, A=ASK, P= POST SETTLEMENT SESSION,N= NOMINAL CLOSE, WHICH DESIGNATES THAT THE CONTRACT DID NOT TRADE DURIN THE RTH SESSION AND NO BETTER BID OR BETTER OFFER OCCURRED DURING THE RTH CLOSING RANGE TIME PERIOD. IN ALL INSTANCES, THE NOMINAL PRICE IS THE PREVIOU DAY'S SETTLEMENT PRICE.

FUTURES PRODUCTS

HRC FUT U.S. MIDWEST DOMESTIC HOT-ROLLED CO	GLOBEX OPEN	GLOBEX HIGH/LOW	SETT. & PT.	PRICE CHGE	GLOBEX® VOLUME	PNT/PIT VOLUME	OPEN INTEREST	
OCT21	----	----	1900.00 -	11.00	----	----	5900	UNCH
NOV21	----	----	1776.00 -	12.00	75	75	4766 -	109
DEC21	----	----	1651.00 -	14.00	47	----	6819 +	13
JAN22	----	----	1539.00 -	44.00	33	94	5516 -	72
FEB22	[illegible]	[illegible]	1440.00 -	13.00	105	----	4433 +	23
MAR22	[illegible]	[illegible]	1348.00 -	2.00	2	----	4188 +	1
APR22	[illegible]	[illegible]	1271.00	UNCH	----	25	2523 +	25
MAY22	----	----	1225.00	UNCH	----	25	1683 +	25
JUN22	----	----	1180.00	UNCH	[illegible]	25	1727 +	25
JUL22	----	----	1155.00	UNCH	[illegible]	----	1006	UNCH
AUG22	----	----	1090.00	UNCH	[illegible]	----	921	UNCH
SEP22	----	----	1055.00	UNCH	[illegible]	----	918	UNCH
OCT22	----	----	985.00 -	15.00	[illegible]	50	833 +	50
NOV22	----	----	945.00 -	15.00	[illegible]	50	816 +	50
DEC22	----	----	920.00 -	20.00	[illegible]	50	516 +	50
JAN23	----	----	930.00	UNCH	[illegible]	----	64	UNCH
FEB23	----	----	900.00	UNCH	[illegible]	----	65	UNCH
MAR23	----	----	825.00	UNCH	----	----	61	UNCH
APR23	----	----	815.00	UNCH	----	----	2	UNCH
JUN23	----	----	800.00	UNCH	----	----	1	UNCH
TOTAL HRC FUT					262	394	42758 +	81

Fig 2. Daily Information Bulletin CME. U.S. MIDWEST DOMESTIC HOT-ROLLED COIL STEEL (CRU) INDEX future contracts.

Stelco: The company's short hedging strategy.

4. <u>The company chose the OTC hedging with US financial institutions.</u>

The company "entered into a series of commodity-based swaps with U.S.-based financial institutions as part of a strategy to mitigate the Company's exposure to hot-rolled coil steel price fluctuations in connection with future sales orders from customers" (Fig. 3). In other words, the company entered into Fixed - Floating commodity swaps. The commodity swap contract is an exchange by cash flow between two parties. STELCO as a commodity producer is looking for a short hedge, so the company is interested in receiving a fixed price accepted in the contract and paying floating to the counterparty. These cash flows will net out each period, and the party will pay or receive the difference. If the market price is lower than the fixed price, STELCO has positive net cash flow and gets a difference from a financial institution and vice versa.

During the second part of 2020 and the first half of 2021, the steel prices rocketed. The company had to pay the difference between market prices and Commodity Swap prices. According Q2-21 report "company paid approximately $111 million in cash in connection with commodity-based swap contracts that matured during the period". We can see this loss in the quarterly report as a "loss from hedging operations." (Fig. 3).

However, the commodity swap agreement with US institutional is only one part of the hedging strategy. The second part is profit from the higher prices for company production due to the higher steel prices. Unfortunately, the hedging effectiveness and results are not presented in the company quarterly report, and we can't estimate this hedge.

10. DERIVATIVE LIABILITIES

Commodity-based swaps

During 2020, Stelco Inc. entered into a series of commodity-based swaps with U.S.-based financial institutions as part of a strategy to mitigate the Company's exposure to hot-rolled coil steel market price fluctuations in connection with future sales orders from customers. As at June 30, 2021, Stelco's commodity-based swap liability was nil (December 31, 2020 - $84 million), as the Company did not have any outstanding commodity-based swap contracts at the reporting date.

During the six months ended June 30, 2021, the Company paid approximately $111 million in cash in connection with commodity-based swap contracts that matured during the period. Refer to note 19 for further details. Stelco did not enter into these contracts for trading or speculative purposes.

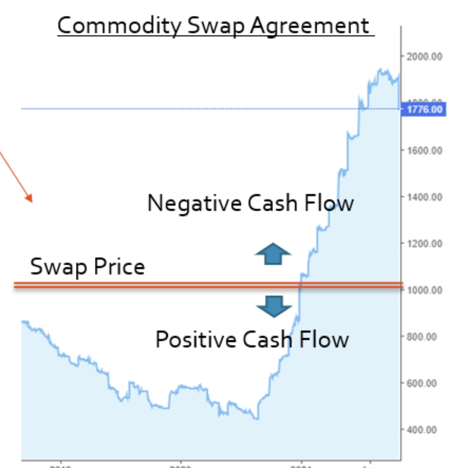
19. FINANCE AND OTHER INCOME (LOSS)

Finance and other income (loss) comprised of:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	**2021**	2020
Gain (loss) on commodity-based swaps	$ —	$ 1	$ **(27)**	$ 3
Gain (loss) on derivative asset	**(2)**	—	**7**	—
Finance income	—	—	—	1
Other income	—	1	**1**	2
Total	$ **(2)**	$ 2	$ **(19)**	$ 6

Commodity-based swaps

During 2020, Stelco Inc. entered into a series of commodity-based swaps with U.S.-based financial institutions as part of a strategy to lessen the Company's exposure to hot-rolled coil steel market price volatility in connection with existing and future sales orders from customers. During the three and six months ended June 30, 2021, the Company recorded nil and a loss of $27 million, respectively, on the Interim Condensed Consolidated Statements of Income (Loss) and Comprehensive Income (Loss) in connection with these swap contracts.



STELCO HOLDINGS INC.
NOTES TO UNAUDITED INTERIM CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(In Canadian dollars, and tabular amounts in millions, except where otherwise noted)
THREE AND SIX MONTHS ENDED JUNE 30, 2021 and 2020

Gain (loss) on commodity-based swaps, is comprised of the following items:

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	**2021**	2020
Realized gain (loss) on settled swap contracts	$ **(29)**	$ 3	$ **(111)**	$ 3
Reversal of opening derivative liabilities in connection with settled swaps contracts [1]	**16**	—	**84**	—
Change in unrealized loss (gain) during the period on unsettled swap contracts	**13**	(2)	—	—
Total	$ —	$ 1	$ **(27)**	$ 3

[1] Refer to note 22 for changes in non-cash working capital and other operating activities.

Stelco did not enter into these contracts for trading or speculative purposes.

Fig 3. Commodity – Based Swap. Q2 2021 finance results.

References.

Stelco: Q2 2021 Quarterly Report.