Acciaio Fabricators, Inc.[1]

Brad Stevenson
Bellarmine University

David Collins
Bellarmine University

ABSTRACT

This short case is designed for use in an undergraduate finance course to help students understand risk management and the use of hedging instruments (futures and options) to moderate fluctuations in the price of manufacturing inputs.

Keywords: Risk Management, Hedging, Futures, Options, Derivatives.

[1] Acciaio Fabricators, Inc. Teaching Note and two Excel files (a template for students and a solution to accompany the teaching note) are available from the authors: Brad Stevenson (bstevenson@bellarmine.edu) and David Collins (dcollins@bellarmine.edu).

BACKGROUND

Acciaio Fabricators, Inc. is a steel fabrication company located in Los Angeles, founded in 1959 by Antonio Adami, and now run by Antonio's daughter, Paulina Romano. Acciaio has a successful history in the greater Los Angeles and southern California market. While Paulina's operational skills have maintained Acciaio's reputation and quality, she is less comfortable with the firm's financial side.

Acciaio is profitable but Paulina is deeply concerned about the variability from quarter to quarter. The quarterly uncertainty makes operational decisions more difficult and Paulina wants to find a way to smooth out the ups and downs. Her research indicates that derivatives can meet this need, but Paulina has no experience in that area. To add that skill to her management team, Paulina decided to hire a CFO for Acciaio.

In February 2015, Paulina hired Angelo Corelli as the CFO. Angelo's experience with large manufacturing firms exposed him to environments similar to Acciaio and made him a good fit for the company. Paulina also was pleased that Angelo has experience with derivatives and would be able to implement them at Acciaio.

AVAILABLE HEDGING CONTRACTS

Acciaio is a steel fabrication firm and their biggest material input is rolled coil steel. On average Acciaio uses 3,000 short tons per month and Angelo uses futures and options contracts to hedge price movements in rolled coil steel. Angelo expects that hedging would provide some control over rolled coil steel prices and reduce the variability in quarterly profitability.

Each futures contract is for 20 short tons and prices are quoted in dollars and cents per ton. Like most commodities, the option contracts use the futures contract on rolled coil steel as the underlying asset and the option price is also in dollars and cents per ton. The attached charts show the current futures (Table 1) and options (Table 2 and Table 3) available for rolled coil steel on the Chicago Mercantile Exchange (CME).

In addition to the available futures and options contracts, Angelo has been working with LA First Bank on over-the-counter alternatives to the exchange-traded contracts. LA First has proposed a commodity swap which is like a future and a cap and a floor which are akin to a call and a put, respectively. The prices associated with these different instruments are in Table 4. There are some major differences between the over-the-counter contracts from LA First and the exchange-traded contracts from the CME.

One, a distinctive characteristic of the LA First contracts is that the gain or loss on each contract is determined using the average price over six months. This is different from the exchange-traded contracts where the gain or loss would be determined by the price on the day the contract settled/expired or was traded.

Two, since the LA First contracts are not exchange-traded, they do not settle daily and LA First assumes the default risk in the contract as opposed to the exchange. Since the bank assumes the default risk, their contracts cost more upfront. For example, the commodity swap requires a fee ($0.10 per ton) to be paid by Acciaio.

Three, since the LA First contracts are for six-months, there would be less stress on, and time spent by, Angelo and other members of his team to buy and/or sell the contracts monthly. Also, six-month contracts would potentially reduce price variability even more.

HEDGING STRATEGY

Angelo realizes that Paulina is very concerned about the Acciaio's financial health. Most of her and her family's wealth is tied up in the firm and it provides most of the income for her and her family. In addition, she is responsible for the family's legacy and she wants to successfully continue the business her father worked so hard to build.

Angelo's main objectives are to let Paulina focus on operations – where her expertise lies – and to reduce fluctuations in the firm's performance due to variability in steel prices. Angelo can accomplish those objectives by taking on responsibility for steel prices, which would allow Paulina to focus on Acciaio's core business.

Angelo's strategy is a six-month hedging plan, beginning in April, that will keep steel prices below $640 per ton, the price which allows Acciaio to be profitable. To help other members of the management team understand the hedging strategy, and to guide Acciaio's policy on steel purchases going forward, Angelo sets out to answer the following questions.

QUESTIONS

1) What are the risks faced by Acciaio? What are the costs or potential costs faced by Acciaio from hedging and from not hedging?

2) Some senior managers at Acciaio suggested negotiating long-term fixed price contracts with their suppliers of rolled coil steel. What are the benefits and perils of this policy?

3) Based on Acciaio's needs for rolled coil steel, which of the contracts offered by LA First and on the CME (i.e. puts/floors, calls/caps, futures/commodity swaps) are possible fits for their needs? No numbers are needed here; just describe how the strategy would reduce Acciaio's risk.

4) Suppose that the spot prices per short ton for the next six months starting in April are as follows: $619, $614, $620, $618, $616, and $620. Given these spot prices, the average price over the period is $617.83. Based on the future and commodity swap strategy that fits their situation from question 3 above, compare the results of a hedge using the CME contracts versus the LA First contracts.

5) Suppose that the spot prices per short ton for the next six months starting in April are as follows: $628, $621, $629, $631, $630, and $625. Given these spot prices, the average price over the period is $627.33. Based on the future and commodity swap strategy that fits their situation from question 3 above, compare the results of a hedge using the CME contracts versus the LA First contracts.

6) Acciaio decided to go with the call or cap option, what would be the benefits and what would be the downside of using the 635-strike price versus the 620-strike price? What would determine which they would use? No numerical analysis is necessary to answer this question.

7) If Acciaio did choose to go with a call or cap, what would the results be for the spot prices given in (4) and (5) above? How do these results compare with the gains and losses experienced with the futures and commodity swap contracts?

8) One of the main drawbacks of options is the option premium (price) that must be paid. If Acciaio could be profitable as long as steel prices were below $640 per ton and they could both buy *and* sell options, can you think of a way they could use the LA First caps and floors to limit their risk and reduce their cost? What are the implications of this position if rolled coil steel prices move above $635 per ton or below $620 per ton?

9) Given the different scenarios outlined in the questions above, what should Angelo's final recommendation be to Paulina and the other members of the management team? Why?

Table 1 - Rolled Coil Steel Futures Contracts[2]

Month	Last	Change	Prior Settle	Open	High	Low	Volume
Apr-15	**623.37**	0.63	624	**623.12**	**624.81**	**622.93**	169
May-15	**623.43**	0.57	624	**624.45**	**624.43**	**624.25**	167
Jun-15	**623.20**	0.80	624	**623.00**	**624.14**	**622.14**	162
Jul-15	**624.07**	-0.07	624	**623.30**	**624.21**	**622.90**	158
Aug-15	**624.00**	0.00	624	**623.02**	**624.09**	**622.38**	157
Sep-15	**623.82**	0.18	624	**624.00**	**624.31**	**623.04**	150

Table 2 - Rolled Coil Steel Option Contracts @635[2]

Settle	Strike	Type	Open	High	Low	Last
Apr-15	635	Call	1.319	1.336	1.315	1.320
May-15	635	Call	1.342	1.343	1.324	1.340
Jun-15	635	Call	1.358	1.373	1.357	1.360
Jul-15	635	Call	1.370	1.397	1.367	1.380
Aug-15	635	Call	1.397	1.404	1.388	1.400
Sep-15	635	Call	1.429	1.457	1.429	1.440
Apr-15	635	Put	12.189	12.211	12.184	12.210
May-15	635	Put	12.348	13.366	12.342	12.724
Jun-15	635	Put	13.399	13.405	12.895	12.980
Jul-15	635	Put	13.447	13.553	13.133	13.226
Aug-15	635	Put	13.512	14.514	13.500	13.750
Sep-15	635	Put	14.557	14.564	13.531	14.310

Table 3 - Rolled Coil Steel Option Contracts @620[2]						
Settle	Strike	Type	Open	High	Low	Last
Apr-15	620	Call	3.350	3.980	3.040	3.540
May-15	620	Call	3.190	3.960	2.610	3.776
Jun-15	620	Call	3.930	4.070	3.260	3.680
Jul-15	620	Call	4.490	4.950	4.380	4.884
Aug-15	620	Call	5.180	5.570	4.910	5.000
Sep-15	620	Call	4.700	5.010	4.620	4.967
Apr-15	620	Put	1.553	1.599	1.538	1.575
May-15	620	Put	1.627	1.637	1.607	1.635
Jun-15	620	Put	1.719	1.760	1.666	1.710
Jul-15	620	Put	1.767	1.860	1.708	1.785
Aug-15	620	Put	1.807	1.847	1.802	1.845
Sep-15	620	Put	1.887	1.947	1.837	1.905

Table 4 - LA First Six-Month Contracts		
LA First Cap and Floor Prices (in dollars and cents per ton)		
Strike Price	6-Month Cap	6-Month Floor
620.00	26.64	12.43
635.00	10.34	85.35
Note: Cap and floor prices are based on the average daily closing price of heating oil for six months.		
LA First Commodity Swap (in dollars and cents per ton)		
Price	Fee per Ton	
623.50	0.10	

[2]Rolled Coil Steel contract specifications are based on CME data from:
http://www.cmegroup.com/trading/metals/ferrous/hrc-steel_contract_specifications.html