

## Peso Possibilities

One of the more successful publishing strategies of recent years has been to include the words "For Dummies" in the title. Mercifully, no one has done this for currency trading. ("Barrier Options For Dummies?" Who's ready for that?)

Yet simplicity, like the occasional trader, has virtue. The fictional Gordon Gekko and the nonfictional Ivan Boesky both proclaimed "greed is good." The first two corollaries of this principle might be "lending money at 35% is just peachy," and selling 26% volatility ain't too bad, either." Incredibly, the new Mexican peso instruments at the Chicago Mercantile Exchange offer an opportunity to do all of these things at once.

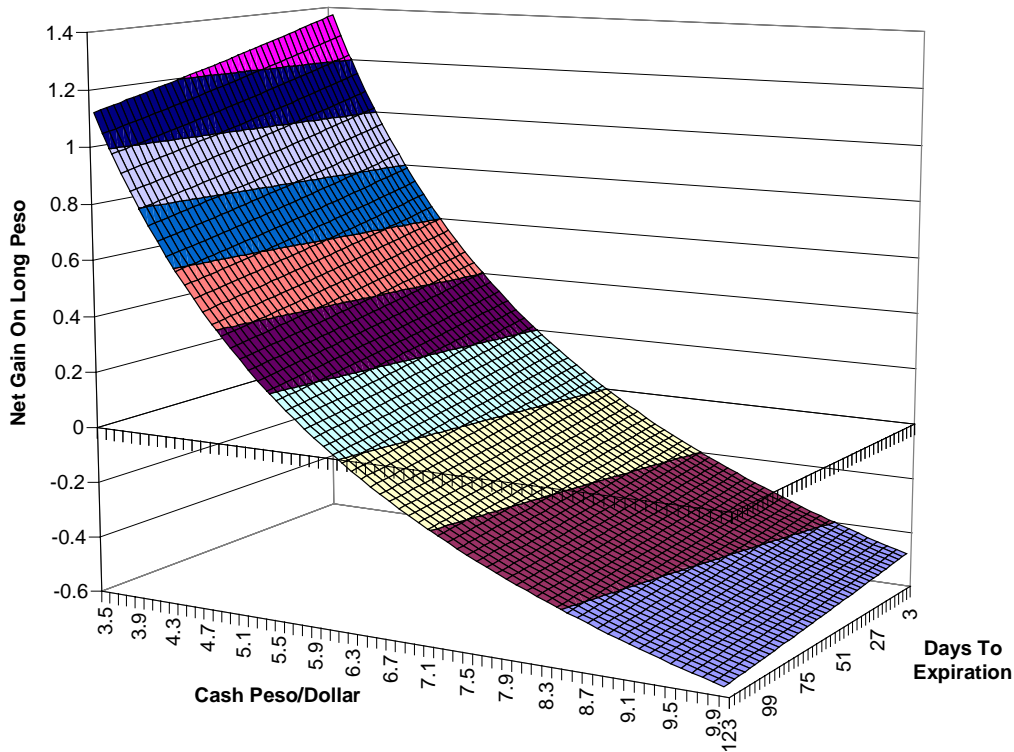
Mexican cetes (roughly the equivalent of a U.S. Treasury bill) presently are yielding between 35% and 40%, depending on their maturity - substantially more than the 5.6% available on a U.S. T-bill. Once the spot market rate for the peso and the number of days to expiration of the contract are known, it's possible to determine the price of a peso future with the following formula:

$$\text{Future} = 1/[\text{spot}*(1+\text{Tbill}*\text{days}/360)/(1+\text{cetes}*\text{days}/360)]$$

A little manipulation demonstrates that, all else held equal:

- The futures price will be substantially below the spot price, and the magnitude of this discount will increase along with the cetes rate; and
- This discount must disappear as expiration approaches

This is illustrated below. The cash pesos per dollar rate is held constant at 6.22, (resulting in a December 1995 futures prices of 1.4785 with 123 days remaining to expiration) yet the profit profile over time is not the plane that one might expect, but rather a convex curve whose slope becomes more pronounced as expiration approaches. Gains on a long future accelerate as the cash market rallies, and losses are moderated as the cash market weakens.



Of course, even if the loss potential for a long futures position is not linear, it is still substantial. Unless one is naturally short pesos, (such as an importer of auto parts manufactured in Mexico) then an effective hedge against a declining peso may be desirable for a risk-averse trader.

Here's where peso options come into play. Remembering the synthetic future relationship, (short future = long put + short call) we can choose to combine of these components with our long future to reduce the overall risk level. Because all option trades have a loan component, (buyers are borrowing money, sellers are lending) we can add this interest revenue to that already being collected from the long futures position. Moreover, because peso options trade with implied volatilities around 26%, option sellers start with an immediate advantage, apparent from the formula below:

$$\text{Range} = \text{Price}_{t_0} * \pm[\exp(Z * \sigma * \sqrt{\text{days}/365})]$$

Where Z is the number of standard deviations from the mean of a normal probability distribution. Plugging in Z=1, (which includes 84% of the observations over the lower confidence bound) volatility at 26%, and days = 113, (the options expire day days prior to the futures) the formula yields an expected range bound at expiration of 1.2795 for the December future before accounting for the interest rate convergence described above and 1.3925 after accounting for the expected gain.

### Gain On Long Peso Future / Short 1.3000 Call

