SCUDDER PUBLISHING GROUP

the DESK

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Around the Desk

Lots of News Around *The Desk* This Week. The Big C, **Caminus** that is, released some pretty respectable quarterly numbers earlier this week. System sales across the pond – power and gas – seem to be steaming along nicely. At this weeks earnings reporting/analyst Web cast, the company announced a hat trick of sorts. Spanish utility **Endesa** picked up **Zai*Net Risk Analytics**. The company will be using the system to primarily calculate V@R and other risk measures across its Spanish and European power trading, fuel trading, generation and retail activities. More interesting perhaps is the **Zai*Net Manager** sale to **GE Power Systems**. Neither company would offer any details on the that deal, though we are aware the company has nearly completed the construction of a 500MW CCGT in Wales. Hmm. The third deal went to London-based gas trader **Trafigura** – it picked up **GasMaster** (international version) and **Zai*Net Manager**. Company CEO **Dave Stoner** painted a pretty strong picture for the company, despite a slight revenue downturn on the consulting side in the UK, "a quicker than anticipated wind-down in the UK with respect to NETA." Europe is the new game for Caminus it seems, for consulting and systems, as the UK appears to be played out for the time being. He says in particular the new GasMaster product version should be a "significant new revenue stream in Europe." On the US side, he said the new NA strategic consulting unit has already backlogged over $1 million in work. Yikes. A side note:

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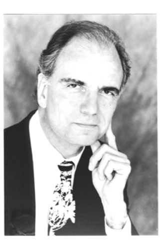
Power Moves

The Mystery of the Eighteen Happy Meals

By Dr. Robert Michaels, CalState, Fullerton

I once had a friend who sold new cars on commission. After a couple of months on the job he asked the sales manager what to do when friends or relatives came in and asked for a special deal. "Easy," said the sales manager. "Those are the ones you can really roll because they're never going to shop anywhere else."



It sounds like California's new power contracts, which are as far above market as any stranded costs in our history and negotiated by friends. Beyond its prior rationalizations, the Gray Davis administration has a new excuse. Specifically, some of the people who negotiated the contracts, owned stock in generators and marketers and did not bargain as hard as they should have.

For legal reasons yet to be articulated, the contracts should therefore be voided.

As Yogi Berra should have said, "let's run the numbers." Assume that an unprincipled consultant is in charge of negotiating with, say, Calpine. Assume that his incredible efforts, which must also be kept secret, produce an extra $50 million in profit for the company, all (for ease of calculation) arriving today. After taxes, etc., let $30 million find its way to shareholders.

Most of the consultants checked "$10,000 to $100,000" box on their disclosure forms, so assume our crook owns $50,000 of Calpine. As this is

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A Healthy War

By Leslie McNew, senior columnist, Scudder Publishing Group and Executive Professor, AB Freeman School of Business, Tulane University

Okay, I Admit it; I am a Geek. Well, a geek in YSL red lipstick and a girly-girl outlook on life, but still, mostly your garden-variety geek. And geeks do have a certain outlook on life. Like, we prefer to be intellectually right to justify the hefty cost of our education. Of course, on the other side of the trading floor, traders have a certain outlook on life. They like to be right, and they are paid cash on the barrelhead to be right (the almighty bonus). Us geeks, we get the intellectual satisfaction of being right, and the pay does keep me in YSL #2 red lipstick and cigars for my Daddy.

When it comes to option pricing, the age-old question is, "Who's right, the geeks or the traders?" Under different circumstances, both can be. Being a geek, let's review option pricing from the geek view of the world. So, you approach the

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Trimming Climatic Swings

By Scott Mathews, United Weather

'The Weather Variables That Impact Your Cash Flow,' as the script goes, 'require a fixed-for-floating approach similar to that applied to currency, commodity and interest rate fluctuations.' This sounds fine, but chief financial officers and risk managers have not exactly queued up to buy the stuff. This indifference may soon fade as Wall Street research departments begin to track weather hedging on their radar screens.

An investor's homework should always include reading research output from financial institutions. Buy and sell recommendations from analysts are vital signs that investors consider in making decisions. Joanne Fairechio, who covers the natural gas distribution sector for Salomon Smith Barney in New York, assesses weather transactions when making earnings evaluations.

"An investor gets greater value in a company that buys protection against

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written, it sells for $36.38, so he must have 1,374 shares. Calpine has 298.7 million shares outstanding, so the malefactor owns 0.0000046 of the company. Each share gets 10.04 cents of the $30 million, leaving him with a princely $138. Take 40 percent in personal taxes out of this and he is left with $82.80 to buy his long-suffering family about 18 Happy Meals. In return for all this he has worked long hours and risked his reputation and future employability. His contract doesn't let him work for Calpine for a few years so he doesn't win that way either. (And why would the company hire someone it knew was so dishonest?)

New conflicts are turning up every day. Five negotiators have been fired, some with under $10,000 in stock. Two days ago it leaked that the governor's press secretary holds a bunch of Calpine, the only generator for which he has ever had a good word, perhaps because it's headquartered in San Jose. William Keese, chairman of that unsinkable plant-siting relic of Jerry Brown, the California Energy Commission, also owns some. Best of all, the *Los Angeles Times* just discovered that Bruce Willison of the Electricity Oversight Board (the super-panel that has jurisdiction over everything but does hardly anything) owns $1 million of Enron. Willison, who is also dean of the b-school at UCLA, has been on the EOB for a couple of years.

The basic message of the conflict calculations is, "Why care?" The media always responds with answers about visibility and symbolism, but journalists are the ones who make all of this visible and symbolic. Republicans and Democrats alike love the conflict issue because it diverts everyone from the real questions, and you can take the vice president's word for that.

Since it's now clear that state negotiators don't know much about buying power, why would anyone think they were smart at picking stocks? Calpine is down 16 percent since Jan. 1, and Enron is off by 42 percent. The negotiators I want to meet are the ones who shorted them.

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They need experienced people for the US consulting group, ASAP. Altogether, license revenues were $7.5 million (a 51 percent increase over Q2 '00), total quarterly revenues $17.7. "Outlook for the remainder of the year and into 2002 is positive...we expect to end the year in this $74-76 million range." Average licenses, Stoner said, were in the $600,000-$700,000 range...Main competitor in this space, **KWI,** landed a big sale to **WPS** recently. We plan to run a full interview on the details of that deal next week...Word on the street is that KWI also nailed a deal with **Alliant** recently for a full system suite, though confirmation was not available from KWI at deadline...Across the pond it appears that some of the US' big hitters have had some difficulty with the new UK power and gas market. Sources in London tell us that **Aquila** has recently cut back power and gas desks "significantly," and that recent losses in gas trading may provide an interesting footnote for the Q3 financial statement...They're not the only US trading operation cutting back. **El Paso** seems to be the only shop in London these days that is actually expanding their power and gas desks, according to a source at the company...In the publishing space, we appear to be days away from the announced acquisition of **FT Energy** by **Platts/ McGraw Hill**. Many months ago, a deal was close to ink between Reuters and FT Energy, but it ultimately fell apart. McGraw Hill was rumored to be the next contender after Reuters. Looking at the combined stables of publications and services, we see lots of overlap. Data-wise, these guys will about own the index business for power and gas, which in one way is good news for everybody. The jury is still out as to which pubs will stay and which will fold...

New UK Energy Indices

Arthur Andersen has Hooked Up With UK-Based Energy Broker, Spectron to deliver the Andersen Spectron Energy Indices – comprehensive pricing data for the gas and power markets in Europe. At present, they focus on day ahead and month ahead trading in the UK natural gas and power markets, and Belgium's Zeebrugge natural gas market.

According to company material, The indices are calculated on a volume weighted average basis of all the daily transactions executed by Spectron, and are free from editorial comment. Access to the daily indices and the previous three months indices is **free**.

Much like the sort of indicies we may have once seen through the AltraNet/Amerex/Prebon triad, the UK gas index and the Zeebrugge gas index comprises all transactions executed through Spectron's phone and Internet-based broking systems. The UK index is expressed in pence per therm (one therm = 100,000 British thermal units = 29.3071 kWh) at the British National Balancing Point (NBP). UK power index is based on the Grid Trading Master Agreement (GTMA) terms as produced by Allen and Overy. The index is expressed in pounds per magawatt hour. Prices include payment from buyer to seller of Transmission Charge as defined in GTMA Schedule 5 i.e. Schedule 5 off.

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THE DESK

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geek and ask said geek, "What is the value of a call option?" and the geek turns to her computer and spits out the following equation (just the basic Black Scholes option pricing model):

$$C = e^{-rt}\ [Ue^{t}N(d_1) - SN(d_2)]$$

$$d_1 = [\ln (Ue^{t}/S) + 1/2v^{2}t]\ /\ vt^{1/2}$$

$$d_2 = d_1 - v?\ t$$

C	call premium
P	put premium
r	short-term interest rate
t	time to expiration in years
U	underlying commodity price
S	strike price
v	implied volatility
N(x)	standard normal distribution function of x
N'(x)	$(1/[2\ \pi\ ]\ \hat{}\ ½)\ x\ e\ (x^2/2)$

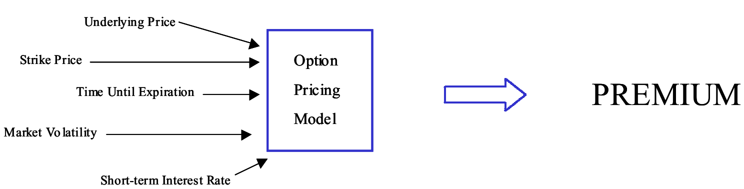
Which I might admit, if I show this to my Daddy, he is definitely not going to think that the answer is in English. In fact, like most traders, he may think that I have lost my mind. But really, the model is the value of a call option under certain circumstances. I agree that these circumstances exist in the rarified environment of the mathematical laboratory, but we must consider them when solving for the equation. Some of the circumstances include, but are not limited to, an ideal market environment:

- For every underlying there is an option available
- Perfect market liquidity
- There is a riskless-costless arbitrage strategy available to drive market prices to model prices

It is very unfortunate that we all do not live in the ideal market. If I did, someone else would be providing me with YSL #2 lipstick! So now we know how the trader feels. The poor person comes onto the floor in the morning, not even Starbuck's coffee in his mug, and confronts the chipper geek with her wild equations. And a war ensues. Gnashing teeth and flailing arms, the trader states:

"An option is worth whatever I can get some poor sucker to pay for it."

The trader has a good point. The geek lives in the perfect world, and thus the geek's models are useful for option valuation. The trader lives in the real world, the word of no mathematical assumptions, facing expectations, risk and risk aversion and market imperfections every day. Heck, an important input to the option model is market volatility itself, which in itself is an assumption:

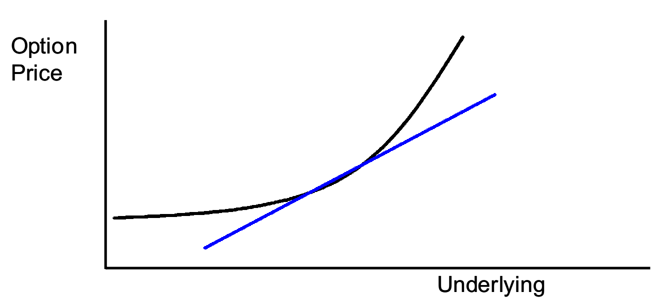


For example, are we geeks using historical volatility or mean-reverting volatility? Big difference in outputs (value of options). For example, reviewing COB peak prices from 1/28/99 to 2/28/01, the historical volatility is computed at 290.31 percent, whereas the mean reverting volatility is computed as 84.46 percent. Big difference in inputs. The trader knows the old saying "garbage in, garbage out" when it comes to modeling. The trader trusts the geek to input the right assumptions into a model built in the perfect model environment. No wonder the trader trusts his gut.

So if the geek is good for option valuation, what is the trader good for? Option pricing. The trader knows that in the real world all pricing can be boiled down to supply and demand. Buyers of call options are looking to possibly capture upside market movement (demand). Sellers of call options are looking to possible generate income and are hoping for a non-volatile market in which to create it (supply). There are tons of other reasons for supply and demand. But the trader, when he states that he is trading on 'his gut' is really trying to judge the supply and demand of the market to pick the point of intersection thereof and value his position.

But the trader does need the geek. One good reason to use the valuation of options is for positions that are not liquid. There simply is no liquid market for five year at the money calls on COB. So if the trader wants to get an idea of what the option is worth (value), he will turn to the geek and her mad models. The geek and the trader could actually work together to price the position, varying assumptions. The flip side to non-transparent market valuation is when valuing the trader position for the close-of-day pricing. A good risk manager will use marks that have been traded during the day. If no marks are available, however, the risk manager will have to turn to the geek and the theoretical value of a position and the resulting risk value.

Many traders actually embrace the humble geeks when it comes to using option models to value deltas:



The delta is the rate of change of the option price with respect to the price of the underlying commodity. Delta is not

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linear and to manage a hedge position as the trader must continuously rebalance the position as the market changes.

The delta tells the trader how to hedge an option. An option is delta-hedged when a position has been taken in the underlying commodity that matches its delta. For example:

Example: Long Call Position

Delta = 0.6Option Price = $2 Underlying Pr

100 calls: Delta = 0.6 (100) = 60

Hedge by *selling* 60 underlying. Delta = 60 + (

Market makers and active traders often hedge options against each other, rather than against the underlying. This is useful to understand as the effects of model input assumptions and inaccuracies and changing volatility partially offset each other in different options. As long as one continues to use the same model to hedge with, the errors within the model are somewhat irrelevant. Effectively, it is in hedging that the healthy war between geeks and traders comes to a standstill. However, I still have not ever received the YSL #2 lipstick from an option trader. But theoretically, I can wait forever.

The author would like to thank Stephen Figlewski, professor of finance, Stern School of Business, New York University, for his article "What Does an Option Pricing Model Tell Us About Option Prices," Financial Analysts Journal, September-October, 1989, and Dr. David Shimko of Risk Capital Management Partner, New York, New York, for his help on mean-reverting volatility. This geek is very thankful to live in the light of these great intellectuals.

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adverse weather than from one that remains unprotected," says Fairechio, whose January 2001 outlook for Dallas, Texas-based Atmos Energy Corp cited weather hedges as contributing to her increased earnings-per-share estimate.

Voicing a similar view is David Maccarrone, vice president, investment research at Goldman Sachs in New York. In November 2000, a Goldman's publication pointed to weather insurance purchased by Washington Gas Light, the utility subsidiary of WGL Holdings, as positive for its shareholders. "All things being equal," says Maccarrone, "a company having downside weather risk will trade at a lower valuation relative to a company that has deployed financial weather mitigation measures."

Jonathan Mogil, director, natural gas/power equity research at CIBC World Markets, draws a line defining where weather hedging makes a difference. "Weather derivatives are better suited for companies where weather has a direct impact on their core business," he explains. A propane distributor's earnings and cash flow are more sensitive to seasonal temperature variations than those of a diversified natural gas/power company with several drivers contributing to the bottom line. "We would certainly reward companies with a more concentrated line of business for trying to hedge the impact of adverse weather conditions" Mogil says.

Over in another corner of the research community, ratings analysts give high marks for a company's ability to diminish uncertainties. "Cash is king," says John Kennedy in the energy group at Standard & Poor's (S&P) New York headquarters. "Overall, the prudent use of weather derivatives or insurance can only enhance credit quality," adds Kennedy, "as cash flows should stabilize."

S&P looked at last year's landmark transactions between the Sacramento Municipal Utility District (SMUD) and weather dealers Aquila, Axia Energy and Enron Corp. Both temperature and precipitation covers were purchased by SMUD to reduce its exposure to heat's effect on the California power market, and on hydropower's dependence on rainfall in the region. Kennedy's colleague Kathy Mock, who covers municipals out of S&P's San Francisco office, identified SMUD's weather hedging as 'a definite credit strength.'

The feedback from research reports may also generate additional weather derivative or insurance coverage. In June 2001, Atmos Energy reinforced their commitment by transacting again, this time with Element Re. Perhaps Atmos, WGL, SMUD and others who sail this course are giving investors an extra hand to steady the rudder? Goldman's Maccarrone offers a 'heads up' in saying, "This can only accelerate the weather market's growth, as the Street will begin to *penalize* businesses that don't hedge their weather exposure."

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UK Desk Dispatches

Consolidating Liquidity

When the UK electricity market liberalized, the government set out to prevent vertical integration in the interests of market competition. Today, the market is very much vertically integrated and this integration has contributed to the restricted development of market liquidity.

For many of the large UK utility groups the requirement for daily trading has subsided as the vertically integrated structure of these utilities enables them to benefit from natural market hedges. The result has reduced the number of active daily trading companies to just a handful, the most active of which is Enron.

It comes as no surprise therefore that Enron is the primary trading counterpart in the UK electricity market with other traders just trading of Enron's forward curve. Few if any traders are willing to trade against Enron, and this has further enforced the dominant position of Enron Online, the company's successful online trading platform.

The problem faced by the UK market: It is effectively over consolidated, which was achieved with the apparent blessing of the UK regulator. Last week, Ofgem hailed the New Electricity Trading Arrangements (NETA) as its greatest achievement of the past year in its annual report. But NETA, according to Ofgem ahead of its launch, was meant to open up trading opportunities in the competitive UK market and to encourage the development of liquid forward and futures markets. But four months after its launch there is no liquidity in forward trading. Apart from a spurt of activity in winter 2001/02 and summer 2002 a couple of months ago forward activity has effectively dried up.

UK market consolidation could increase further during the summer if London Electricity, owned by Electricite de France, were to successfully bid for the southeast regional electricity company, Seeboard. American Electric Power, owner of Seeboard, is expected to tender for its sale during the summer, providing it can overcome US accounting restrictions and minimize its tax exposure on the sale. The acquisition would provide London Electricity with a customer base of 5 million, which is considered the critical mass for electricity supply companies. Such is the interest in acquiring Seeboard that London Electricity is rumored to be pulling out of the bid for Fiddlers Ferry and Ferrybridge power plants, being sold by Edison Mission Energy, so as not to inflame the UK government which has registered its concern over the market growth of EdF.

One of the problems faced by the UK government is that it wants UK utilities to play an active role in the increasingly competitive market while promoting the UK as the most successful competitive market in Europe. But the UK's position as a role model for market competition is being eroded by the lack of trading liquidity in the medium- to long-term market. The responsibility for this lies with the regulator, which has effectively over-regulated against the best interests of the market. And the government is now supporting more regulations through the reintroduction of the market abuse license condition, which was vetoed by the Competition Commission last December. Its rationale is that it wants to prevent a "California" situation emerging. But in reality its over-regulation is proving equally damaging to the short-term development of the market.

Although market dynamics dictate that competition will lead to market consolidation, it is becoming increasingly clear that consolidation has developed too quickly. Consequently, although the UK has a growing number of traders seeking to exploit business opportunities in the competitive market environment, there is no real liquidity to support trading. And these trading companies lack the confidence in the market to set prices and develop liquidity. The increasing polarization of trade is limiting liquidity growth against the best interests of a competitive market.