# Energy Futures Markets – Myths and Realities

*By Robert J. Weiner**

**The IAEE Newsletter** ought to provoke some controversy. In the case of energy futures markets, this should not be very difficult; much writing on the subject is prone to fallacy and even foolishness. In this article, I examine common myths about energy futures markets, with an eye toward correcting popular misconceptions, increasing understanding, and generating discussion. The views presented here are strictly my own, but I have benefited over the years from extensive discussions about energy futures markets and pricing with Ed Krapels and Phil Verleger; Mike Lynch and Michael Pratt provided helpful comments on earlier versions of this article. Citations are to articles published under IAEE auspices when possible.

*Note: the names of the exchanges trading energy futures contracts are abbreviated below: CBOT – Chicago Board of Trade, COMEX – Commodity Exchange, IPE – International Petroleum Exchange, KCBT – Kansas City Board of Trade, MGE – Minneapolis Grain Exchange, NYMEX – New York Mercantile Exchange, SIMEX – Singapore Monetary Exchange.*

### MYTH I: Energy Futures Markets Are New

Energy futures markets are widely described as part of the worldwide economic and financial liberalization of the last twenty years (see e.g., Deaves and Krinsky [1992]). In fact, crude oil futures trading was extensive in North America in the early years of the petroleum industry. For about a quarter-century starting in 1870, crude oil futures were traded on about two dozen exchanges in the United States and Canada. In the early part of this period, trading was primarily concentrated in Pittsburgh and the small towns of the oil regions of western Pennsylvania, but later the action shifted to New York.

In the era before the current distinction between stock and commodity exchanges, “pipeline certificates” (as futures contracts were known) were even traded on the New York Stock Exchange. By the mid 1890s, the current North American system of “posted prices” had replaced exchange trading, and the oil exchanges were soon forgotten. The 1930s witnessed a second era of petroleum futures trading, with listing of crude oil and gasoline contracts on COMEX (now part of NYMEX). The absence of oil price fluctuations resulted in the failure of these contracts, which were delisted in 1942. For detailed historical and economic analysis of oil futures trading, see Weiner [1992,1998b].

Futures trading in natural gas and electricity, in contrast, is indeed new.

### MYTH 2: Energy Futures Contracts Are Mostly Successful

Most new futures contracts, like most new products in any industry, fail. For example, prior to the introduction of its successful cash-settled Brent crude-oil futures contracts in 1988, the IPE had twice introduced unsuccessful Brent contracts calling for physical delivery. NYMEX’s Henry Hub LA natural-gas contract has been very successful, but its natural-gas contracts for delivery in the Permian Basin and in Alberta have failed, as has its sour-crude contract for U.S. Gulf Coast delivery; KCBT’s western natural-gas contract is moribund. SIMEX has introduced several unsuccessful petroleum contracts, including Dubai crude oil, fuel oil, and gas oil.

The definition of “successful” itself is subject to interpretation. While the failed contracts listed above have ceased to trade, a number of energy futures contracts trade at low levels. In order to receive detailed coverage in *The Wall Street Journal’*s futures pages, a contract must trade at least 1000 lots per day, and have an open interest of at least 5000 lots. Although this threshold is relatively low (for example, NYMEX crude oil averages over 150,000 contracts traded per day, with open interest over 600,000 contracts), only six energy futures currently (Summer 99) exceed the threshold – WTI crude oil, eastern natural gas, heating oil, and unleaded gasoline on NYMEX, and Brent crude oil and gasoil on IPE. None of the new electricity contracts listed on NYMEX, CBOT, or MGE come close.

### MYTH 3: Energy Futures Trading Has Wrested Control over Pricing away from OPEC

OPEC’s ability to maintain prices depends on three factors – internal cohesion (members honoring their quotas), external competition from non-OPEC members, and availability of alternative fuels and conservation. While the petroleum industry increasingly looks to the futures markets for pricing information, this should not be confused with influence over supply and demand (e.g., Edwards [1999]). Similar statements, such as “OPEC no longer sets prices; speculators do” are just as fallacious (speculation is discussed in more detail below).

### MYTH 4: Futures Trading Results in Lower Oil Prices and Greater Volatility

Markets are a convenient scapegoat of those who do not like their message, especially because markets do not vote, complain, lobby, or make political contributions. Just as farmers have long claimed that futures markets were hurting their business (and indeed have succeeded in having onion futures trading banned in the United States since the late 1950s), so too have oil producers blamed the market for low prices. An early (1878) attempt to raise prices by limiting production was made by the Petroleum Producers’ Union, which listed among the causes of low prices “the manipulation of the stocks by speculators and buyers to suit their purposes, which are always adverse to the interest of producers” [Petroleum Producers’ Union, 1878].

In fact, every futures contract has a seller and a buyer, making the claim that futures trading affects the *level* of prices difficult to support. The analogous claim that futures trading exacerbates price *volatility* is also widespread. For example, “The cost [of speculation in futures markets], as the academic literature has begun to recognize but as practitioners in financial markets have long known in their bones, is volatility” [Krapels 1999].

While not farfetched, such claims are difficult to assess because they are seldom backed up by evidence. Indeed, turbulent periods in energy markets are characterized by both high volatility and increased trading activity, but this association need not imply that the latter causes the former. A certain amount of skepticism is in order here – futures

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markets are *visible*, which makes them a target during crises. It should be recalled, however, that spot markets played an analogous scapegoat role during the energy crises of the 1970s, when futures trading was not a factor (see e.g., Danielsen [1984]).

Defenders of futures markets, in contrast, tend to assume reverse causality – market turbulence creates the need for more hedging, as well as speculative opportunity, and hence, more trading. According to this view, futures markets help smooth the industry adjustment to disruptions. Evidence in favor of this assumption is similarly scant.

The modern finance view allows for two fundamentally different reasons for the widely observed correlation between trading activity and volatility. First, both trading and volatility are seen as outcomes of news about current and future supply and demand conditions, rather than a causal relationship. Second, the trading process itself may generate volatility, either through "noise trading" (e.g., trading decisions based on charting – extrapolation of past price trends), or through "herding" (traders copying each other's behavior).

The impact, if any, of futures trading on volatility, can only be assessed through empirical investigation. Distinguishing "news" from "noise" as a driving factor behind volatility and trading activity is tricky, however, and relatively little progress as been made. A study of the Gulf Crisis, which witnessed tremendous increases in trading and volatility, and relatively little obvious change in production and consumption, concluded that trading indeed increased volatility in the crude oil market in the periods before and after the Crisis, but not during the crisis itself [Weiner 1998a]. Evidence on herding is discussed below.

**MYTH 5: Energy Futures Markets are a Sideshow, Having Little to do with the Energy Business**

A quite different claim is sometimes heard – futures trading has nothing to do with the energy business, and has no influence on the industry. Futures traders are widely perceived to be ignorant about energy production, refining, distribution, etc. For example, according to Edwards [1999], "The reasons why [futures-market] professionals take a buy or sell stance is not based on their understanding of the oil supply/demand situation because they have no real knowledge of this and in addition, they don't care." While it is difficult to administer an exam to participants in futures markets, it is nonetheless instructive to examine the list of the companies that are members of NYMEX (as of Summer 99), as membership is necessary to trade futures and options on the exchange. Among the companies whose names ought to be recognizable to IAEE members are (alphabetically, A-E only): Amerada Hess, Arco, BP Amoco, Chevron, Cinergy, Coastal, Conoco, Duke Energy Trading, El Paso Energy Marketing, Elf, and Enron.

**MYTH 6: Energy Spot Prices are "Real;" Energy Futures Prices are "Speculative"**

*i) Energy Spot Prices Reflect Current Supply and Demand; Energy Futures Prices Reflect Speculation Regarding Future Supply and Demand*

Except for electricity, energy is storable. As for any storable commodity, *both* spot *and* futures prices reflect not only current but also expected future supply and demand conditions – thus if "paper" trading affects "paper" prices, it affects "wet-barrel" prices as well. For example, news of a likely end to sanctions against Iraq three months in the future would indicate increasing availability of future supplies, depressing futures prices now and reducing inventory levels now. The inventories released augment current supply, depressing spot prices also.

**MYTH 7: Causal Relationships between Inventories and Futures Prices**

*i)Lower Inventory Levels Result In Backwardation (Spot Prices above Futures Prices)*

*ii)Backwardation Tends To Reduce Inventory Levels*

Energy futures prices are closely related to inventory levels. Beyond this statement, however, there seems to be much confusion. According to the first view, low inventory levels reflect current scarcity, and hence push up spot prices. The further into the future one goes, the less relevant are inventory levels for prices. The second view is accompanied by the claim that holding inventories is uneconomic when futures prices are below spot prices, since it implies that prices are expected to fall, resulting in a capital loss on inventory held. Thus companies seek to reduce their inventories as much as possible.

It should be clear that these views cannot both be true, since the resulting explanation would be completely circular. Unfortunately, such is not the case, judging by the frequency with which these arguments are encountered. For example, "expected [crude oil] price drop discouraged stock building" [Bohn 1997]; "storage gas utilization practices appear to have been a major factor in determining prices in 1996-97" [Trapman and Todaro, 1997]. There is indeed a close relationship between inventory levels and backwardation, often referred to as the supply of storage – low inventory levels are associated with greater backwardation. Nevertheless, neither claim is true. Both views suffer from the fundamental fallacy that price relationships and inventories are causes, or drivers, of market relationships. They are not.

Instead, a correct statement would be that both backwardation and inventory levels are outcomes of shocks to current and expected future supply and demand. For example, an unexpectedly cold winter would deplete heating oil and natural gas stocks, and raise spot prices of these fuels relative to futures prices. Also correct is the statement that news about inventories (e.g., the weekly API petroleum-inventory report) can affect price spreads, but this is because revelation of the size of inventory changes helps traders infer the size of these shocks, which are not directly observable.

Unfortunately, these views are reinforced by so-called "tests" of the supply-of-storage theory, which typically entail regression of price spreads on inventory levels (see Cho and McDougall [1990]) or inventory levels on spreads (see e.g., Zyren [1995], who concludes "stock level of gasoline relative to normal levels seems to be the important variable in explaining short-term gasoline spread movements"). These regressions suffer from "simultaneity bias" in the language of econometrics, and the interpretation of their results is unclear.

**MYTH 8: Hedgers are the "Good Guys," Speculators are the "Bad Guys"**

*i) Hedging is behind most futures trading*

*ii) Futures trading is mostly speculation; little hedg-*

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*ing takes place*

*iii) Companies in the energy business hedge; "outsiders" speculate*

As in all futures markets, commercial players (those involved in the energy business), tend to put on and adjust hedges when their underlying exposure changes, typically periodically. In contrast, speculators may adjust their positions when their expectations, exposure, or capital-base changes, typically frequently. The bulk of futures trading is among locals – members trading for their own accounts on the floor of the exchange [Manaster and Mann 1996].

The opposite view is no more accurate; commercial players hold the vast bulk of futures contracts, referred to as "open interest." Speculators tend to reverse their trades quickly; many are "day traders," closing their entire position by the end of each day. Not surprisingly, commercials often hold their positions open until hedges are no longer needed.

The assumption (often implicit in the trade press) that energy companies that hedge hedge all of their exposure is not only false, but also ill advised. Even companies that wish to minimize risk usually should hedge less than 100 percent of their cash positions. The risk-minimizing hedge ratio depends on the relationship between spot and futures price changes.

Also inaccurate is the view that risk minimization is energy companies' only objective in trading futures. A few years ago I asked a few traders for large oil companies whether they ever engaged in speculation, and received a negative response; they were not permitted to speculate. I then asked them whether they tried to cover all of their cash-market exposure. "Of course not," was the reply; they were in the trenches buying and selling every day; had a good feel for where the market was going; and looked for opportunities to make money.

I hope that the two preceding paragraphs provide a sense of the difficulty in identifying (and hence, managing) differences between trading for speculative vs. hedging purposes. A good case-study for these issues in practice is the Metallgesellschaft debacle of 1993; much has been written about whether the U.S. subsidiary of the German conglomerate was following a sensible hedging strategy in the petroleum futures markets, and even whether the company's strategy was hedging or speculation (a brief introduction to the debate can be found in Barcot et al [1998]; see also Verleger [1999]).

The role of noncommercial players in energy futures markets has received a great deal of scrutiny in the past few years. In response to pressure from the U.S. Department of Energy, the chairman of Amerada Hess pointed to speculators as responsible for heating-oil price increases [Sullivan 1996] . In a series of consulting reports and articles in energy publications (only the latter are cited here), Krapels [1995, 1996, 1997, 1999], and Verleger [1995] have related speculative activity to price fluctuations in petroleum markets (see also Dale and Zyren [1996]). Utilizing *Commitments of Traders* (*COT*) data (described below), they demonstrate a strong correlation between aggregate non-commercial net open interest and the level of oil prices. These findings have received attention in the trade press [e.g., *PIW* 1995, 1998, Arnold 1995, Keefe 1996, 1998], and have been used to support positions held by both industry supporters and detractors of futures markets.

These articles have helped to focus attention on entry into energy futures markets by large, sometimes well-capitalized speculators – commodity pools and hedge funds. The concern is whether these funds have a positive or negative effect on market functioning. The answer comes down to whether the funds can be characterized as "smart money," undertaking extensive analysis on possible changes in future industry, macroeconomic, political, etc. conditions and their likely consequences for prices. If so, their presence would help smooth market adjustment to these changes.

On the other hand (after all, I am an economist!), if funds represent "dumb money" – noise traders chasing trends or herding sheep, buying and selling because others are doing so, they would exacerbate volatility. Only if speculators are not reacting to expected changes in fundamentals can they meaningfully be said to be "causing" prices to rise or fall. As the result of the recent near bankruptcy (and bailout by some of its lenders) of the hedge fund Long-Term Capital Management, however, the funds are no longer just assumed to represent "smart money", raising the specter of a destabilizing influence in financial markets.

The answer cannot be determined without evidence, which does not prevent analysts from holding strong views on the subject. For example, according to Krapels [1999], "Of the hundreds of fund managers and commodity traders, the vast majority are 'systems traders,' relying upon the analysis of price trends for their trading decisions, and paying little, if any, attention to the fundamentals of the markets in which they are trading." While Krapels's statement is consistent with his view (cited earlier) that speculators are a source of volatility, the same cannot be said about Dale and Zyren [1996], who claim that aggregate data shows that funds are price followers (termed "sheep" by *PIW* [1995]) rather than an influence on prices. Even if their analysis showed such to be the case (which it does not, as pointed out by Krapels [1996], who notes "occasionally there is a wolf under that wool"), their reassuring interpretation is backwards, reflecting a complete misunderstanding of the discussion above. If these be sheep, then one is safer among wolves!

Unfortunately, in the absence of disaggregated data, the widely observed correlation between price fluctuations and changes in non-commercial positions implies little about the profitability of such positions, the effect of speculation on market efficiency and volatility, or whether this phenomenon is a cause for concern in the industry. Interpreting these relationships requires information on individual-trader behavior, to which we now turn.

*iv) Speculative "herding" is an important phenomenon in energy futures markets*

As noted above, it is often assumed that funds and other speculators have a tendency to "herd" or act like "sheep," trying to buy and sell at the same time as a consequence of using the same models or copying each other's trading strategy. The consequence is increased price volatility. This is an empirical question, impossible to address without data on individual speculators' positions.

As part of its oversight and monitoring role as the regulator of futures markets in the United States, the U.S. Commodity Futures Trading Commission (CFTC) compiles position data for large commercial and noncommercial users of futures and options contracts (which under the U.S. Commodity Exchange Act are required to report their open interest each day they hold a large position), but ordinarily makes them public only in aggregate form, as part of its biweekly *COT* report (see Krapels [1999] for details). As part of a U.S. Department of Energy project on the impact of speculation on heating oil prices and inventory levels (motivated in part by the claims noted above), however, data on individual trader positions in heating oil, crude oil, and gasoline were made available for the period 1993-1997 to the author, as well as to Ederington and Lee [1998], who provide a description and summary of the individual-trader data.

Preliminary investigation of these data reveals little evidence of herding behavior among commodity pool operators (CPOs - managers of funds that invest customer money in futures and options markets) with large positions in the heating-oil futures market (250 or more open contracts of 1000 barrels each). If CPOs tend to herd, i.e., to buy and sell at the same time, this should show up in high correlations among their daily changes in open position.

As can be seen in Table 1 (taken from Weiner [1999]), the average correlation among position changes of the 80 CPOs large enough to be in the database (i.e., those holding a reportable position on at least one day during the 1993-97 period) was only about 11 percent. Most of these CPOs are relatively small, infrequent players in this market; the median number of days with a reportable position was only 92 out of 963 trading days during the period covered by the data.

As a result, only about a third of the 3160 possible correlations could even be calculated. Only about one-tenth of the 1115 correlations calculated exceed 50%; the median correlation does not differ from zero significantly at conventional levels. Moreover, the few high correlations tend to be among the smaller players; when attention is restricted to the ten largest CPOs (measured by number of days with an open position of at least 250 contracts), the herding measures are still weaker. The median correlation is again close to zero; only one of the 45 exceeds 50% and only five exceed 30%.

**Table 1**
**CPO Herding in Heating Oil Futures**

| | | |
|---|---|---|
| Number of CPOs | | 80 |
| Maximum possible number of correlations | | 3160 |
| | **all 80** | **largest 10** |
| Median # of reportable days (out of 963 total) | 92 | 536 |
| Number of correlations | 1115 | 45 |
| Correlation order statistics | | |
| lowest | -100% | -16.9% |
| 5% | -30.4% | -8.0% |
| 10% | -17.4% | -6.4% |
| lower quartile | -3.5% | 0.2% |
| median | 4.7% | 2.2% |
| upper quartile | 24.9% | 10.7% |
| 90% | 50.1% | 32.2% |
| 95% | 76.2% | 38.5% |
| highest | 100% | 51.3% |
| ***average*** | ***10.9%*** | ***7.2%*** |

*v) Oil-exporting countries use the futures markets for price protection*

While the arguments for government hedging are stronger than those for hedging by private companies (because governments, as agents for nationals of oil-exporting countries, are poorly diversified, whereas investors that hold shares of private companies tend to be well diversified), use of futures for hedging export revenue, tax revenue, etc. by oil-exporting countries is minimal.

While some observers have attributed this to ignorance, it is more likely due to asymmetric rewards to government decisionmakers, in combination with *ex post* evaluation of hedging performance. Locking in a price that *ex post* turns out to be higher than the market price results in a pat on the back, and perhaps a promotion, whereas the opposite result can lead to political difficulties (see Verleger [1993] for a brief discussion of this in Ecuador, as well as Mexico's successful experience). A second factor limiting use by the larger exporters is liquidity – if for example, Saudi Arabia tried to hedge its future oil sales through NYMEX and IPE, the result would be a reduction in futures prices, in order to elicit buyers for the large addition to the supply of futures contracts.

**MYTH 9: Futures Markets and Oil Supply Disruptions**

*i) Futures Markets make Strategic Petroleum Reserves Unnecessary*

Making sense out of this claim requires assumptions about why strategic reserves are necessary in the first place. If they are to make oil available to favored groups (e.g., defense-related industry, police, firefighting and sanitation services, public transport, agriculture, low-income households) at low prices during a crisis, then futures markets will not provide it. If they are to make oil widely available to reduce macroeconomic damage from a crisis, futures markets will not help either (except to the extent that those most likely to be seriously affected might seek to protect themselves in advance by purchasing futures contracts). If they are to enable governments to influence prices, raising them when they are low by buying up production, and reducing them when they are high through releases, futures markets are not a substitute, although they may help in making reserve policy more effective (e.g., by making announcements of future releases more credible through selling futures).

*ii) Futures trading exacerbates oil supply disruptions*

This view was popular during the Gulf Crisis, when there were proposals to shut down petroleum futures trading, either for a "cooling off" period, or indefinitely (a collection of these views were presented at congressional hearings; see U.S. Senate [1991]). According to the trade press [*PIW* 1990], the CFTC considered halting futures trading in petroleum at the time, just as it had briefly closed down wheat trading on the CBOT at the time of the Soviet invasion of Afghanistan in 1979. As noted above, evidence presented in Weiner [1998a] suggests that the enormous increase in price volatility during the Crisis was due to fundamental factors (invasion, war, etc.); futures trading actually played a mitigating role.

**MYTH 10: Oil Spot and Futures Prices Follow Simple Patterns**

*i)Oil Prices Follow A Random Walk*

*ii)Oil Prices Tend To Revert To A Long-Run Price Of $xx/Barrel*

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*iii)Oil Prices Tend To Rise at the Rate of Interest, à la Hotelling*

The inaccuracy of oil-price forecasts and frustrations of forecasters are well known (see, e.g., Lynch [1999]). A natural question to ask is what the pattern of futures prices can tell us about where prices are going. After all, these prices represent forecasts by market participants willing to put money where their mouth is (mouths are?).

Variations on the above three claims are commonly heard among analysts from industry and academia. They clearly cannot all be true. Based on evidence from futures prices, none is true (at least for crude oil, the price of which underlies all energy forecasts). Let's take them one at a time.

The "random walk" theory of price changes in markets for securities, foreign exchange, and commodities was popular in the 1980s. The theory is simple – price changes are inherently unforecastable (because they result from unanticipable future shocks). The best forecast of tomorrow's price (or the price next month, or next year, for that matter) is today's price. The theory is less popular today, but still holds up reasonably well for some markets, notably foreign exchange.

In contrast, commodity prices, including oil tend to be *mean-reverting*, i.e., price changes tend to be partially reversed over time. This is true for two reasons. First, responses to shocks tend to be gradual. On the demand side, for example, the move to greater fuel efficiency and conservation followed the energy shocks of the 1970s. On the supply side, these price hikes led to increased exploration, discovery, and production from areas around the globe. The fact that supply and demand elasticities are higher in the long-run than the short-run implies i) in the short run, most of the adjustment to shocks will occur through price; and ii) in the long-run, more of the adjustment will take place through production and consumption. The result is mean reversion. Second, the shocks themselves tend to dissipate over time, e.g., cold weather returns to normal, wars and political turmoil end, etc.

Evidence of mean reversion can easily be seen by examining futures prices, e.g., in *The Wall Street Journal* or on the Web (for NYMEX, www.nymex.com, for IPE, www.ipe.uk.com). Prices for longer-term contracts move much less than those for shorter-term contracts. Even during the Gulf Crisis, for example, when over a few months nearby crude-oil prices rose from roughly $20 to $40/barrel, then fell back to about $20, longer term prices did not exceed $25/barrel (for a statistical analysis of mean reversion in oil, gas, and coal prices over a long time horizon, see Pindyck [1999]).

Turning to the second claim, a tendency toward mean reversion should not be confused with the idea that oil prices must always return to some underlying "true value." In fact, there is no evidence that any such value exists for petroleum (or any other commodity), nor should there be. If there were such a fundamental value, long-run supply and demand curves would have to remain unchanged (or at least shift out together), and the level of competition in the industry be stable. Given the tremendous technological changes in both production and consumption, as well as ongoing industry restructuring, these assumptions appear farfetched.

Of course, reversion to a fixed price would make forecasting much easier, at least in the long run. Again, a glance at futures prices is sufficient to refute this claim – while prices for long-maturity contracts move less than those for nearby contracts, they do not come close to being fixed. For example, the crude-oil futures price for December 2003 delivery has varied between $16 and $22 per barrel (as of Summer 1999) since it started trading in January 1997.

The third view, based on the seminal Hotelling [1931] model, predicts that the price (net of marginal extraction cost) of natural resources such as crude oil and natural gas will rise at the rate of interest to compensate producers for holding them in the ground. This would be reflected in futures prices in a *contango* pattern – futures prices higher than spot prices. In fact, throughout most of the 1980s and 1990s, crude oil prices have been in backwardation (Litzenberger and Rabinowitz [1995]).

*iv) Oil Futures Prices are Useless in Forecasting Future Spot Prices*

This view, held by many industry analysts, assumes that energy futures prices are simply irrelevant in forecasting future spot prices. Reasons offered for this view are several – futures markets are a sideshow having nothing to do with the real side of the energy business (see discussion above); futures markets are inefficient; futures prices are biased predictors of future spot prices because futures prices incorporate a risk premium.

The usefulness of futures prices for forecasting is a question that cannot be resolved on conceptual grounds alone. Empirical research (e.g., Dominguez et al [1989], Gülen [1998]) has found that, at least in the case of crude oil, futures prices are unbiased predictors of future spot prices. This implies, for example, that the best guess for the spot crude oil price in December 2003 is the December 2003 futures price prevailing today. While unbiased, the futures-price predictor is imprecise, however; i.e., the variance of prediction errors is high.

*v) WTI spot prices and NYMEX nearby futures prices track very closely, demonstrating that the futures market works well*

Indeed, spot and NYMEX WTI nearby (i.e., shortest maturity) futures prices are virtually identical, but this is because they are measuring the same thing – prices for future delivery. Unlike petroleum products and crude oil delivered by tanker, the term "spot" in a pipeline delivery system (such as used for West Texas Intermediate, the crude oil traded on NYMEX) refers to one month forward, the soonest it is possible to deliver. For example, the spot price for WTI in June refers to July delivery (until June 25, when the July pipeline delivery schedule is drawn up; afterwards, it refers to August delivery). The nearby futures price in June also refers to July (until June 22, when the July contract expires; afterwards it refers to August).

Thus the concepts "spot" and "nearby futures" in this market are virtually identical, and refer to the same future delivery period for all but three days (at least; sometimes more due to weekends and holidays) each month.

**Conclusion**

This paper has attempted to bring together and synthesize trade and research views regarding energy futures, focusing on speculation, herding and price volatility. Research writing on efforts often reveals a lack of familiarity with real-world institutions and practices. Much of the energy trade-press discussion of futures trading is simply wrong. Ideally, this paper should engender more informed debate.■

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*New Orleans, LA – January 5-7, 2001*

The IAEE annually puts together a session at the ASSA meetings in early January. This session will be structured by Carol Dahl of the Colorado School of Mines.

The theme for the session will be "Current Issues in Energy Economics and Modeling"

If you are interested in presenting please send an abstract of 200-400 words to Carol Dahl at (cadahl@mines.edu) by May 1, 2000. Final decisions will be made by May 29, 2000.

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