

Back to the Book

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The Energy business has been driven back to book value accounting from mark-to-market accounting by the mark-to-model (MTMO) excesses during the mega-marketer heyday. Another reason for this is diminished liquidity as instruments that could be marked to market in 2000 cannot be today.

For internal reporting—and especially risk reporting—practice is varied. Some energy merchants make extensive use of MTMO valuations, going so far as to assign economic values to entire assets such as power plants or pipelines. In its 2002 white paper *Valuation and Risk Metrics*, the **Committee of Chief Risk Officers** (CCRO) endorses this practice. Some are more cautious. They use MTMO valuations for some illiquid traded instruments, but don't attempt to extend such techniques to physical assets or long-dated contracts for which no market exists.

MTMO valuation has an intellectual appeal. It promises to extend the clarity of mark-to-market reporting and risk analysis to the entire balance sheet. Critics maintain that this is an illusion—that MTMO valuations reflect arbitrary assumptions instead of economic reality. Suppose some energy trades out to two years. An asset that produces the energy has an expected life of 40 years, which means MTMO valuation using a discounted cash flow model will require a 40-year forward curve. Forward prices beyond two years don't exist, so MTMO valuation requires that we make them up.

Other Industries

Energy merchants aren't the only firms that hold assets that cannot be marked to market but whose outputs can. Firms that have long dealt with this problem include gold mines, coffee plantations, cattle ranches, airlines, computer chip manufacturers—firms in virtually every industry. It is informative that none of these industries has found a need to assign MTMO economic valuations to their mines, airliners or manufacturing plants. Why should energy merchants be different?

The answer may have something to do with the fact that so many energy merchants have set up energy trading operations. Trading requires effective risk management techniques such as mark-to-market valuation and value-at-risk (VaR). Many energy merchants have been impressed with the usefulness of these tools. It is understandable that they might explore means of extending the techniques beyond the trading floor.

Mark-to-market valuation and VaR originated in the capital markets—and capital markets firms have unequivocally not extended these tools beyond trading floors. To this day, banks' accounting is primarily book value accounting. A 1996 amendment to the Basle Accord on bank regulation segregates a bank's balance sheet. It identifies a trading book within each bank that is marked to market and subject to VaR-based capital requirements. The rest of the bank's balance sheet is not. In this context, it is worth distinguishing between

- **market risk**, which is exposure to the uncertain market value of a portfolio; and
- **business risk**, which is exposure to economic value that cannot be marked to market.

Market risk is the province of market value accounting and VaR. Business risk is the province of book value accounting and asset-liability management. Business risk relates to economic value that cannot be quantified from one day to the next. Rather, it is realized over years or even decades. Ascribing day-to-day fluctuations to that economic value is a meaningless exercise. Attempting to quantify those meaningless fluctuations with a VaR measure is doubly meaningless. It poses a risk that senior decision makers may perceive significance in the results, base decisions on those results, and be distracted from pursuing management techniques that are appropriate for business risks.

Assets as Forward Contracts?

Let's consider how the business risk of assets can be better managed. Consider generating assets held by a power merchant. The firm does not use VaR. Internal reporting is largely based on accrual accounting. Certain employees—called asset managers—are tasked with maximizing income from the assets. They decide when to sell power forward or to hold out and accept pool prices. They optimize their pool bidding strategy for the assets. They schedule required maintenance and decide whether or not to buy unit contingent insurance. These are the sorts of tasks that can maximize income—but which senior managers might be distracted from promoting if they think of assets as akin to forward contracts.

Asset managers' performance can be assessed through a system of benchmarking. A simple benchmark is to assess what the income from the assets would be if power were never sold forward; the assets were never bid as ancillaries; unit contingent insurance were never purchased; and the plant earned the pool clearing price every day multiplied by its average availability over the previous 12 months.

There is little that is new about this approach. It is largely how gold mines, coffee plantations and airlines have been operating for decades. It works perfectly well without mark-to-market valuation or VaR. The reason it does so is leverage—or more precisely, a lack of leverage.

It has been 10 years since the Group of 30 released its groundbreaking report on derivatives risk. The discipline of financial risk management that we know today barely existed in 1993, but it has grown explosively since. What has changed? Why did businesses survive for hundreds of years without these tools, but now those tools are so essential? The answer, again, is leverage.

Thirty years ago, the only person who could leverage a firm was the CFO, and only then with planning and consultation with other senior executives. Today, that is different. The tools of leverage have become widely available—and many employees can leverage a firm. There rarely is any consultation; they just pick up a phone. This is how Nick Leeson

bankrupted the oldest merchant bank in London. It is how Robert Citron bankrupted Orange County, Calif.

Energy merchants may theoretically go bankrupt overnight, but it is not going to happen because they own physical assets. Those assets may be leveraged in the sense that they are financed with debt. However, that debt was carefully structured by the firm's managers and creditors. It doesn't fluctuate from one day to the next. It isn't going to blow up.

Mark-to-market valuation and VaR address the risk of leverage that is not so carefully structured—leverage that can fluctuate dramatically from one day to the next. Management needs frequent reports on such risks, so they can effectively monitor and manage them. They don't need frequent reports on the risks in storage, production or other assets. Although significant, these risks are stable.

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