



Futures of the Future

Forget Palladium and Soybeans,
Think Water, DRAM and Sand

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Memory Flash



David Gaffen: Technology has changed the face of financial markets. So it seems only natural that markets would want to seize technology, package it into some form of contract and trade it as a commodity.

"Natural" may be overstating it a bit. But efforts have been made to establish large-scale trading of computer chips -- specifically, dynamic random access memory chips used in PCs, high-definition TVs and other products -- the same way investors would trade grains and gold. A big push came from Enron Corp. -- for better or worse -- as far back as 2001.

It seems absurd to think about puts and calls on DRAM chips. But chip prices swing dramatically -- Hynix Semiconductor Inc. this week said average selling prices slid 20% in the second quarter, but will rise at a single-digit percentage rate in the third quarter. With that kind of movement, merchants tend to keep a short supply, adding to the volatility. "It's a fairly active market on a daily basis," says Rebecca Clarke, a London-based analyst at ICIS-LOR, which tracks spot-market prices for unregulated commodities.

The DRAM-chip market's \$27 billion in global sales in 2004, according to the Semiconductor Industry Association, provides another essential ingredient for a commodities market: liquidity. "There has to be a pretty vibrant cash market, with volatility and uncertainty," says Russell Anderson of Hedgestreet.com, an Internet-based market for derivatives contracts. That already exists: Semiconx, an online consortium, began matching buyers and sellers of DRAM chips in 2003. Exchanges in Singapore and Taiwan, two strongholds of memory-chip manufacturing, had seriously considered launching cash markets but backed off, according to Kamil Alsagoff, a vice president at Semiconx who runs his own shop trading chips. "It's been kicked around for a long time," he says.

Not surprisingly, there are skeptics. Sherry Garber, an analyst with Semico Research in Phoenix, likened DRAM-chip trading to eBay auctions. There are "too many different applications and specific characteristics" that limit the ability of a DRAM-chip market to exist.

Maybe DRAM-chip trading just needs a few more decades. The London Metals Exchange just completed its first month of trading contracts in plastics, which were invented almost a century ago. Other man-made commodities are catching on: the Metals Exchange will decide on steel-futures market in October, and the New York Mercantile Exchange is laying the groundwork for such a market. Electricity and interest rates are already traded. As for DRAM-chip contracts, an LME spokesman said, "Hmm, I haven't heard of that."