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Sorro's black Wednesday

Speculation often gets a bad rap as "gambling," but in the financial world, it's really about taking a calculated risk on a future price change. Possibly the most classic example of successful speculation is George Soros breaking the Bank of England in 1992.

In the early 90s, European countries didn't have a common currency, Euro, that they have these days. As a precursor to Euro, many European countries linked their currencies together to keep exchange rates stable. The UK was part of this system, meaning the British government was legally committed to keeping the value of the Pound (£) within a specific range relative to the German Deutschemark.

George Soros and his team noticed a fundamental flaw while in reality the UK economy was struggling with high inflation and a recession, to keep the Pound's value up, the UK had to keep interest rates artificially high, which was hurting their economy even more. Soros speculated that the UK couldn't sustain this pressure forever. He believed they would eventually be forced to devalue the Pound and exit the ERM.

Soros borrowed billions of pounds and immediately sold them for Deutsche Marks. In effect, because suddenly billions upon billions of pounds are being sold, the price of pounds dropped (ask TA for supply and demand curve explanation). Because British governments are legally committed to keeping

the value of pound within a specific range, they are forced to purchase the excess pounds using foreign reserves (that were ultimately, finite relative to pounds available to borrow and short).



On September 16, 1992, now known as Black Wednesday in GB, the British government realized they were burning through their gold and foreign currency reserves trying to prop up the price of Pound. They admitted defeat, withdrew from the ERM, and the Pound's value plummeted. To repay the pounds he borrowed, Soros can now repurchase them at a much lower price than before. He can keep whatever foreign currency is left over, and that is his profit.

Soros reportedly made 1 billion in profit in a single day. This was a speculation because he wasn't investing in the long-term growth of the UK; he was betting on a specific, short-term price correction based on an economic mismatch.

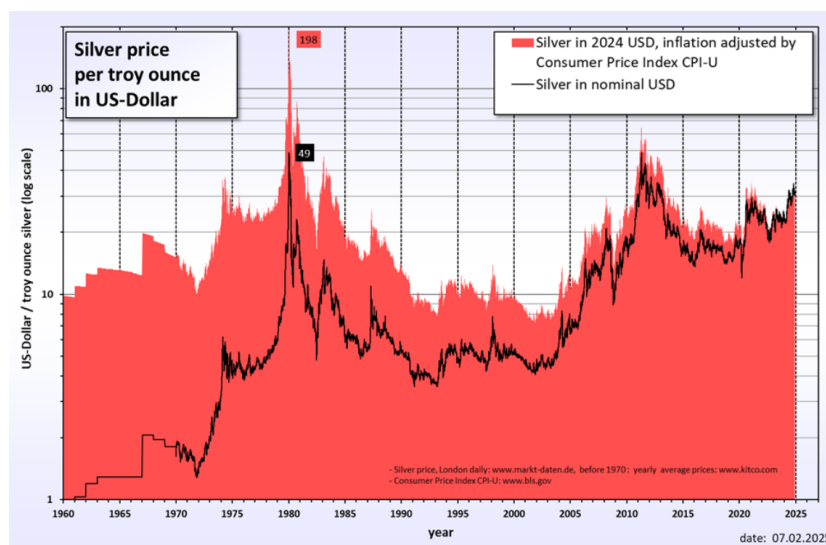
Successful speculation usually involves identifying a gap between the market price (what people are currently paying) and the fundamental reality (what the asset is actually worth or can realistically sustain). However, often times speculation can go wrong, and historically there are many examples,

Hunts brothers' Silver Thursday

One form of market speculation is to corner a market, and induce a squeeze. In the 1970s, the Hunts brothers, sons of oil tycoon and executives themselves, decided to quietly buy up silver and silver derivatives.

The result was, by 1979, the Hunts brother single handedly controlled all non-government held silver. The effect of cornering a market is that by controlling and withholding the literal supply of the underlying, the supply is reduced which artificially inflates the price. For parties that shorted or needed to deliver/use silver, seeing price inflation induces panicked responses. Panicked responses include sudden demand to buy silver before prices rise further, which reinforces the cycle itself.

For the Hunts brother, this cornering proved very effective (at least for a time). In the span of 3 months, silver prices rose from \$11 to \$50 dollars. Not only did the Hunts brother hold physical silver supply, to deny others silver they also borrowed heavily to purchase silver future contracts. However, borrowing also meant they now have debt obligations, something whose covering is contingent on the rising silver prices.



The activities of Hunts Brother is not unnoticed. Tiffany's, the famous

New York jeweler, took out an ad in The New York Times, stating “We think it is unconscionable for anyone to hoard several billion, yes billion, dollars’ worth of silver and thus drive the price up so high that others must pay artificially high prices for articles made of silver”.

The Commodities Exchange Inc, COMEX, also noticed. On January 7th, they took action to restrict the excessive speculation and rein in the prices. The silver rule 7 was introduced, placing heavy restrictions on the purchase of commodities on margin. Margins on silver futures were tightened (i.e now it takes less price fall to trigger margin call), and Hunts Brother can no longer continue the purchasing of silver futures contracts. In other words, their grip on the supply is weakening.

Eventually, on March 27, 1980, silver prices crashed in response to news that the Hunt brothers had missed a margin call. Prices dropped by over 50% in a single day and fell below the \$11 level at which they had started in late 1979. To prevent a collapse of the financial market—as much of the Hunts’ speculation relied on money borrowed from investment firms and banks—a \$1.1 billion bailout was arranged. The Hunt brothers’ attempt to corner the silver market failed, and they bore the consequences by declaring bankruptcy. Millions of dollars in fines were paid, and they were permanently banned from commodity trading.

LTCM’s surprising fall

The collapse of Long-Term Capital Management (LTCM) in the late 1990s stands as another example where arbitrage stood on the knives’ edge. Founded in 1994 by renowned bond trader John Meriwether, LTCM brought together an elite team that included Nobel Prize-winning economists Robert Merton and Myron Scholes. The firm aimed to exploit small pricing discrepancies in global financial markets using advanced mathematical models. For several years, LTCM delivered exceptional returns, reinforcing confidence in its highly quantitative approach.

LTCM’s core strategy was based on convergence trading—betting that the price spread between related financial instruments would eventually narrow. These trades often involved government bonds, interest rate swaps, and other complex derivatives. Because the expected returns from these discrep-

ancies were small, LTCM relied heavily on leverage, borrowing vast sums of money to amplify profits. At its peak, the firm controlled over \$100 billion in assets while having only a few billion dollars in actual capital, making it extremely sensitive to market movements.

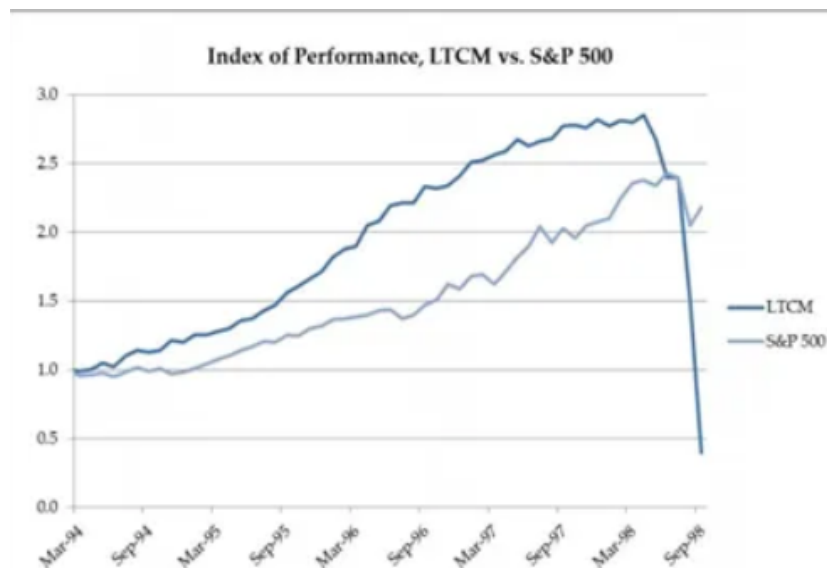
One well-known example of LTCM's convergence trading involved U.S. Treasury bonds. The fund would purchase "off-the-run" Treasury bonds—older issues that were less liquid—and simultaneously short "on-the-run" Treasury bonds, which were newer and more actively traded. These bonds typically had very similar (though not identical) maturity dates and interest rates, and therefore provided very similar cash flows. However, due to differences in liquidity and ease of trading, off-the-run bonds were usually priced lower than on-the-run bonds, resulting in a higher yield for the former.

LTCM expected this liquidity-driven yield gap to shrink over time as market conditions normalized. As a general principle in finance, if two investments provide very similar cash flows, their prices tend to move closer together over time. Under normal conditions, suppose an older bond is priced at \$99, while a newer bond is priced at \$101. Over time, the price difference may shrink as the liquidity premium on the newer bond fades and arbitrage activity pushes prices closer together.

The strategy, then, is to short the newer bond for \$101 and use the proceeds to buy the older bond for \$99. If the prices converge to, say, \$100, the investor earns \$1 on the long position and \$1 on the short position, for a total profit of \$2. Specifically, you can short the newer bond, and long the longer bond (for \$101 in and \$99 out, you keep \$2). Eventually as price converges, you can sell of the newer bond and repay the short bond.

This type of trade is often described as a relative value or near-arbitrage strategy: it appears low-risk under normal market conditions, but it is not risk-free. During periods of financial stress, investors tend to flock to the most liquid securities, causing the yield spread to widen instead of converge and leading to potentially large losses.

The fund's downfall began in 1998 during a period of global financial instability, triggered in part by the Russian Financial Crisis of 1998. Contrary to LTCM's models, market spreads widened dramatically instead of con-



verging, as investors fled to safer assets. The correlations and assumptions embedded in LTCM’s models broke down under stress, leading to massive losses. Because of its high leverage, even relatively small adverse movements had devastating effects on the fund’s balance sheet.

As LTCM teetered on the brink of collapse, fears grew that its failure could trigger a broader financial crisis. The firm had extensive connections with major banks and financial institutions, meaning its collapse could cascade through the global financial system. In response, the Federal Reserve Bank of New York orchestrated a private-sector bailout in which major banks injected capital to stabilize the fund. This intervention prevented immediate systemic fallout but raised serious concerns about moral hazard and the risks of “too big to fail” institutions.

Southwesterns’ hedge of the decade

While speculation is about betting on a specific outcome to make a profit (i.e prices of bonds of similar cash flow converge or sentiment of the silver traders), hedging is the opposite: it is financial insurance used to reduce or cancel out risk.

A famous and highly successful real-life example is Southwest Airlines and their legendary fuel-hedging strategy in the early 2000s. For an airline, jet fuel is often their single biggest expense. If oil prices spike, profits can evaporate instantly. In the late 1990s and early 2000s, oil prices were volatile. If Southwest just bought fuel at the market price, that is the price on the day they needed it, a sudden war (Who would have thought?) or supply shortage could bankrupt them

Southwest's management decided to use derivatives to hedge their risk. These included options, futures, collar options, and other more complicated swaps/derivatives. They entered into contracts that allowed them to buy oil at a fixed price (for example, \$25 per barrel) for several years into the future, regardless of how high the market price went.

As we recall, depending on the degree of freedom, derivatives require the payment of premiums. While other airlines were exposed to the market, oil prices began to climb steadily, eventually skyrocketing toward \$140 per barrel by 2008, thanks to ongoing war in the Middle East. Because Southwest had hedged their costs, they were paying roughly \$25 to \$50 per barrel while their competitors were forced to pay \$100+ per barrel.

Southwest Airlines - Oil Hedging Summary			
Year	Hedged Price per Barrel	% Projected Oil Reqs Hedged	Avg Price if Spot @ \$135
2008	\$49	65%	\$79
2009	\$51	50%	\$93
2010	\$63	25%	\$117
2011	\$64	15%	\$124
2012	\$63	15%	\$124

Source: SWA (LUV) Annual Report

This allowed Southwest to keep their ticket prices low and remain profitable for 47 consecutive years, while almost every other major U.S. airline—United, Delta, and American—faced massive losses or bankruptcy during that same period. Today, Southwest is ending its hedging program due to the high cost of premiums paid on hedges. However, it was still a successful business strategy that made a real-world impact using hedges.

Fun Fact: Southwest's hedging was so successful that at certain points, they were making more money from their oil bets than they were from actually flying passengers!

A simple example of arbitrage: Imagine a basket of groceries.

Market A: You can buy the individual items, say, apple, bread, and milk, for a total of \$10.

Market B: A pre-packaged lunch box containing those exact same items is selling for \$11.

An arbitrageur would buy the individual items for \$10, put them in a box, and immediately sell it for \$11, making a \$1 profit with zero risk.

Problem 1 *Each student in the class has one million of mock \$\$\$ to invest. Design a speculation scheme that would attract your classmates' investments. You can have a competition based on that at the end of the quarter. The creator of the most attractive scheme will get \$100, the second most attractive \$50, and the third \$25.*

Problem 2 *Suppose in Soros' speculation, the pound stabilized in the long run at a price greater than when he entered the speculation. What does this mean for his profits?*

Problem 3 *Research the gamestop squeeze. How is it similar to the silver squeeze?*

Problem 4 *Can you think of any other example of convergence arbitrage?*

Problem 5 *Given how much your parents make and spend annually, design a hedging scheme for their retirement investments so that they can have a good living regardless of market volatility. Look up the 3-bucket hedging system for starters.*

Problem 6 *Find arbitrage in modern-day financial markets and report your findings.*