

How can Buffett generate a 22% compound annual return to Berkshire Hathaway's book value year in and year out? One of the techniques he uses is financial arbitrage to significantly boost returns. As with the Microsoft example, if you can generate a 12% return over a six month period on a relatively certain one time payment while also preserving principal --- the annual return goes up to 2 x 12% or 24%. Is this a new concept? No, Buffett picked up this idea from Dr. Benjamin Graham during he worked at Newmont-Graham.

Later on we will show how **Buffett can generate an even higher return by using borrowed money.** Recall, in the Microsoft example, margin was used to borrow funds in making this arbitrage investment, which further boosted the overall rate of return.

What is new about this type of investing? In the 1960's, 70's and 80's, if the individual investor wanted to participate in arbitrage investing they had to do so by going through a full service broker. A full service broker charged much higher rates on margin to lay investors – brokerage costs were as much as 10 to 20 times that of professional investors, a trade that would cost a retail customer \$3,000 might cost an institutional client as little as \$150. **In the late 1990's with the advent of internet trading, brokerages started offering deep discounts to online customers. With the lower rates of trading, the world of arbitrage and special situation investing became available to astute individual investors.** However, this area is not completely without risks for an individual --- **it is important to have a set of investment guidelines that will limit potential catastrophic risk, you also need to have the temperament to stay with those guidelines when making these investments.**

Further Information on Buffett's financial arbitrage --- study by two business faculty –Martin and Puthenpurackal:

These authors study the extent to which arbitrage impacted the overall return on Berkshire Hathaway intrinsic value. If you left out the 59 arbitrage investments made during their study period, Berkshire Hathaway average annualized return would have gone from 39.38% to 26.96%. Arbitrage activities significantly improved the overall rate of return to Berkshire Hathaway shareholders.

With this type of investing, the certainty of the arbitrage deal is of paramount importance in order to avoid risk of principal. The high probability of an event occurring produces a rare opportunity in which arbitrage is possible – and, if the deal is very certain to be made, the use of leverage will further enhance overall return.

Overview of Arbitrage and Special Investment Situations

Pure Arbitrage

London and Paris Gold Markets

On a given day if gold is trading on the Paris exchange at \$1,650 an ounce, and at the same time gold trades at \$1,600 an ounce in London, there is an arbitrage opportunity [assuming no delivery costs, if there are these costs as long as they are below \$50 to deliver from London to Paris there will still be an arbitrage play]. For the day, some arbitragers will begin buying gold in London and simultaneously selling gold in Paris, the profit from the trade initially will be \$1,650 - \$1,600 or \$50. However, note that as more investors hit these two markets, the price of gold in London will go up from \$1,600 due to higher demand, while the Paris market for gold will decline due to the greater supply from London deliveries – consequently, the arbitrage profit will do down eventually reaching 0. This idea is sometimes referred to as contango in futures and options trading – for more information see:

<http://en.wikipedia.org/wiki/Contango>

Stock Arbitrage

Instead of arbitraging the difference between two markets as in the case of our pure arbitrage, **this investment involves arbitraging the price difference between what a stock is trading for today versus what someone has offered to buy it from us on a certain date in the future.**

Example: Boston Scientific versus Johnson and Johnson takeover of Guidant

Articles:

Description of the proposed merger first – JNJ with Guidant [friendly] then BSX with Guidant [White Knight]

<http://www.nytimes.com/2006/09/27/business/27device.html>

Buyers Regret:

http://money.cnn.com/magazines/fortune/fortune_archive/2006/10/16/8390284/index.htm

Background and Historical Information:

<http://en.wikipedia.org/wiki/Guidant>

Original Price Information:

http://www.businessweek.com/investor/content/nov2005/pi20051115_1918_pi010.htm

On November 14, 2005, JNJ and GDT announced that after a year of working together they had reached an agreement for the two to merge. At the time of this merger, GDT shares were trading at \$48/share. JNJ was offering \$63 cash for each share of GDT subject to regulatory approval. However, during the past year, the two companies had received indication from the various federal agencies that they were unlikely to object. After the announcement shares of GDT shot up to \$55. The merger was set to be completed by January 2006. The simple arbitrage play would be to buy shares of GDT and then wait to receive the cash price paid by JNJ in January. Buying at \$55/share your profit per share on this transaction would be: $\$63 - \$55 = \$8/\text{share}$ producing a rate of return on investment of:

$\text{ROI} = \$8/\$55 = .145$ or 14.5% .

However, if the terms of this merger played out and ended in January, you would have invested for 3 months [i.e., November 1, 2005 to January 31, 2006], so the ROI above is a quarterly rate. Your annualized rate of return on investment would be approximately: $14.5\% \times 4 = 58\%$.

The risk in this trade is whether the merger will take place in January. This difference between this and your everyday stock investment is that the \$8/share three months from now, is that unless something screws up you will be able to collect a significant future cash payment in a relatively short period of time. This type of arbitrage is sometimes referred to as –“time arbitrage” in that we are arbitraging two different prices for a company’s stock between two points in time, as distinguished from “market arbitrage” where we are arbitraging the price difference between two different markets.

The “time” element makes this type of arbitrage very difficult to model for computer trading [which means an individual investor, hedge fund manager, or highly capitalized investor [like Buffett] who is capable of analyzing the elements of the deal may enjoy a comparative advantage in these transactions]. An investor must process a dozen or more variables, some repetitive, some unique that can pop up over the course of the merger transaction. When doing this type of investing you need to constantly monitor the position and re-evaluate the economics which makes it to be more of an art than a science in generating a significant return.

If the future value at some fixed time is greater than the current price, a positive price spread is created. There are two reasons for this spread – (1) every deal has some possibility of not happening, and the greater the chance of the deal not happening, the larger the spread, as the deal nears completion the price spread will start to close (2) time value of money also enters into spread, the interest rate that could have been earned on the dollars going into the arbitrage needs to be considered for example, If company A offers to buy Company B in a year’s time for \$100 a share and we spend \$96 buying the shares we have an implied interest return of $[\$100 - \$96]/\$96$ or $.041 = 4.1\%$; but if I can

earn 5.5% on my money in a short term bond why would I enter this transaction. The time value issue in this type of arbitrage is similar to carrying cost in a futures or forward contract.

Ultimately, the positive price spread develops because of the risk of the deal falling apart and the time value of money. Note that the shorter the time it takes to complete the merger the less time will be a factor in these trades.

Stock Arbitrage with Borrowing

Given our comments on time value of money, and going back to the elements of the JNJ/GDT merger what would happen if we used borrowed money to complete the deal?

E.G. Suppose that we had borrowed \$55,000 to buy 1,000 shares of GDT on November 16th, 2005.

Margin rates at the time were around 6%. The interest cost on this transaction would be:

$\$55,000 \times .06/12$ [nominal monthly rate] $\times 3$ [months] = \$825 [interest for 3 months on \$55,000]

You buy 1,000 Shares of GDT at \$55/share for \$55,000.

On January 31, 2006 you tender your 1,000 shares of GDT for \$63 share for \$63,000.

Your net profit on this transaction is: $\$63,000 - \$55,000 - \$825 = \$7,175$

Because you used borrowed money, your return on investment is: $\$7,175/\$825 = 8.69$ or 869%

Different Classes of Arbitrage

There are 7 classes of arbitrage and special situations that deserve attention, in the

Classic Arbitrage Category: (1) Friendly Mergers (2) Hostile Takeovers (3) Corporate Tender Offers for their Own Stock

Special Situations: (4) Liquidations (5) Spin-offs and (7) Re-organizations

Friendly Mergers

This is where two companies have agreed to merge with each other. For example, BNSF [Burlington Northern Santa Fe] agrees to be taken over by Berkshire Hathaway [BRKA]. The arbitrage opportunity is based on the difference between BRKA's offer price and the market price of BNSF at the time shortly after the announcement. It is too risky to buy shares of a target firm before an announcement and without consulting the financial specifications of the deal.

Hostile Takeover

In this instance, Company A wants to buy Company B, but B's management is against the sale. Company A is going to try to buy a controlling interest by taking its offer directly to B's shareholders. A recent example of this scenario would be Kraft's takeover of Cadbury PLC.

Details of this hostile takeover:

<http://www.nytimes.com/2010/01/20/business/global/20kraft.html>

History of Cadbury and the takeover itself:

http://en.wikipedia.org/wiki/Cadbury_plc

Corporate Self-Tender Offer

Sometimes companies will buy back their own shares by purchasing them in the stock market by making a public tender offer directly to their shareholders. For example, Maxgen's tender offer for 6 million of its own shares, where a company decides to sell its assets and pay out the proceeds to its shareholders. Sometimes an arbitrage opportunity arises when the price of the company's shares are less than what the liquidated payout will be. Another example in a different area would be the liquidation of the real estate trust MGI Properties. In this case the market value of the real estate holdings were higher than the market value of MGI shares.

Spin-Offs

Over time, conglomerates have an uncanny ability to collect a lot of mediocre businesses [not withstanding BRKA]. Unfortunately, these mediocre businesses can dominate the valuation of the shares in the conglomerate and until these businesses get spun off the conglomerate's shares will suffer. Under this scenario, it may be possible to buy a great business at a bargain by purchasing the conglomerate's shares before the spin-off is completed.

Stubs [Sale of the Interest in some Asset of a Company]

This is a special class of financial instrument that represents an interest in a particular asset of a company that they are selling. It can also be a minority interest in a company that is being taken private. The arbitrage opportunity comes up when the current stub price is lower than the asset value that the stub represents and there is some plan in place to realize the stub's full value. For example, you buy shares in a cocoa producer, then trading the shares for warehouse receipts on the physical commodity, cocoa, and selling the cocoa on the open market for more than what you paid for the stubs. A warehouse receipt is known as a stub, other varieties are: minority interest, certificates of beneficial interests, certificates of participation, certificates of contingent interests, script or liquidation certificates.

Re-Organizations

In this instance, a company decides for tax reasons that by converting from a corporate form of ownership to either a master limited partnership or royal trust they can significantly reduce their overall tax on income distributions to shareholders. The arbitrage play is to buy the company before the conversion and then sell partnership or trust units after the market realizes the increased income for the business entity. This type of transaction would be like an inflation index bond when the rate of inflation increases. If the coupon payments increase substantially, those higher future cash flows will cause the nominal price of the bond to increase [on the other hand the real rate of return would remain constant due to inflation]. In this case the length of time for the re-organization to occur is critical to the overall return from this arbitrage opportunity.

