The CJ Investment Newsletter
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Misusing Financial Engineering

Quick Look

Market	Next Expected Move
?	

	Month	YTD
DJI	0.32%	**<0.58%>**
COMP	1.09%	7.87%
SPX	0.05%	1.04%
Gold	**<6.75%>**	**<10.11%>**

- The Fed has announced they will raise the overnight Fed Funds rate by 0.25%.
- This month's topic is misusing financial engineering. Hopefully, you will get additional perspective on the levels of the stock markets, including indices – AND why the prices/levels now will not be sustainable, except in individual cases.

Update 12/11/2015:

	Month	YTD
DJI	**<2.57%>**	**<3.13%>**
COMP	**<3.43%>**	4.17%
SPX	**<3.27%>**	**<2.26%>**
Gold	1.06%	**<9.15%>**

The volatility this month is pretty extreme. As you can see, (of the major indices) only the COMP is still positive for 2015. Daily volatility is extreme, although volume is not overly excessive. Still, up or down 100's of Dow points almost every day is not normal, and reminds us of a caught fish flopping around in the boat, in its death throes.

Gold's decline this year is indicative of the generalized decline in the commodity complex. Oil and natural gas have been decimated this year, along with most metals and other extracted materials.

When something if free, a lot of it is wasted. The cost of money is interest. Do you think the oversupply driving down raw material prices could be related to overblown capital expenditures for production equipment due to the insignificant cost of money for the past *seven* years? Just a thought.

Financial Engineering

Investopedia defines financial engineering as: "The use of mathematical techniques to solve financial problems. Financial engineering uses tools and knowledge from the fields of computer science, statistics, economics and applied mathematics to address current financial issues as well as to devise new and innovative financial products."

From *Wikipedia*: "Financial engineering is a multidisciplinary field involving financial theory, the methods of engineering, the tools of mathematics and the practice of programming. It has also been defined as the application of technical methods, especially from mathematical finance and computational finance, in the practice of finance.

"Financial engineering draws on tools from applied mathematics, computer science, statistics and economic theory. In broadest definition, anyone who uses technical tools in finance could be called a financial engineer, for example any computer programmer in a bank or any statistician in a government economic bureau. However, most practitioners restrict the term to someone educated in the full range of tools of modern finance and whose work is informed by financial theory.

(Continued on page 2)

** Merry Christmas and Happy Holidays **

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(Continued from page 1)

"An older use of the term "financial engineering" that is less common today is aggressive restructuring of corporate balance sheets. It is generally (but not always) a disparaging term, implying that someone is profiting from paper games at the expense of employees and investors."

It is this "older" use of the term (from *Wikipedia*) that is the focus of this article. To provide context, however, let's quickly review a couple of concepts.

In general, companies, regardless of their legal structure, *are charged with maximizing shareholder value*. Ideally, this would be accomplished through revenue and/or profit growth of the company itself. During difficult economic times or in the case of a competitive, mature industry that will likely grow little, it can be an appropriate use of *shareholder capital* to acquire other businesses to generate more profits and, therefore, shareholder value.

It also delivers shareholder value to pay *dividends* directly to shareholders. A direct return of profits unneeded for operating purposes to shareholders is completely appropriate. After all, as owners, the profits (and unencumbered assets) belong to them anyway. During difficult economic times, it could also be prudent to withhold funds to insure its ability to pay its obligations and provide working capital, perhaps even cutting or eliminating dividend payments during such times, especially if there may be a continuing entity issue with the company in question.

So… (to copy the annoying use of this word in the media nowadays as the beginning of a sentence, giving the speaker time to hopefully come up with a convenient dodge or lie when asked a penetrating question), where does financial engineering come into this discussion?

Financial engineering can be ***misused*** by applying financial techniques (we are trying to avoid the use of the term *tricks*) *to prop up or increase share price of an ownership share without actually growing the company or providing any additional* ***aggregate real*** *shareholder value*. In other words, the company is not growing either revenue or profits significantly, but certain techniques can prop up or increase share price, but not overall collective shareholder value.

Treasury Stock Purchases

Treasury stock is created when a company buys back its own stock, either privately or using equity markets, if the company is publicly traded. Treasury stock purchases are a normal part of returning capital to specific shareholders in both private and public companies. Especially in private companies, this may be the only practical method for a minority owner to convert his/her ownership interest to cash when leaving or retiring from the firm. Obviously, majority owners present a different kind of problem. In such a case, the majority owner (or ownership team) has to sell their stock to an outside buyer, creating a change in ownership.

Treasury stock may also be purchased legitimately in order to make sure sufficient inventory of shares exists to meet share compensation needs or perhaps other contractual covenants into which a company may have entered. These obligations could then be met without having to issue new shares unnecessarily.

Other than the situations described above, the use of excess cash to acquire treasury stock of a marketable equity security is a questionable practice at best. Rather than returning profits to their rightful owners as dividends, company management is admitting they don't have any better uses of the funds than to buy up their own company shares. The only possible value in this maneuver is the argument that the per share value will increase and that shareholders could then sell their shares recognizing a capital gain for tax purposes, as opposed to the ordinary income treatment that receiving dividends would get. Capital gains treatment is generally taxed at lower rates than ordinary income.

But, wait. What if the shareholders do *not* choose to sell their shares, realize their gains and get capital gains treatment? Effectively, they are denied an actual return on their invested capital, and shareholders are now taking a risk that those dividends (or more) will be lost through a decline in share price from market forces. Such a deal! Give me two!

Given this, why would company management use liquid funds, let alone borrowings, to purchase treasury stock? Management is attempting to *prop up or increase* the price of the shares in order to camouflage faltering revenue and/or profit performance.

There are several aspects to why this strategy would be used:

- Reducing outstanding shares in the marketplace increases earnings per share (EPS) and revenue per share, and reduces the price to earnings (P/E) and price to sales ratios. This can prop up the price, as explained more fully later.

(Continued on page 3)

(Continued from page 2)

- Preventing significant price drops can help prevent a nonperforming company's shareholders from panicking and selling in large amounts, *really* driving down the price.
- Significant price drops can cause a company currently included in a market index such as the DJI, SPX, Russell 2000 or any number of indices to be dropped from such indices. This could potentially create a large drop in the market price of a stock as the mutual funds and ETF's that mirror the performance and/or makeup of one of those indices then sell shares in that company and replace them with shares in the company that replaces it in the indices.

While the second two bullets are definite issues, they do not provide justification for falsely propping up a nonperforming company's per share price.

Market/Crowd Behavior

Expanding upon the first bullet, how would purchasing treasury stock in sufficient amounts prop up or increase the per share price of a company's shares? The psychology of the markets is complex, as one might expect from markets having millions of participants with different opinions and approaches. However, there are a few basic principles (with thousands of permutations) that can provide a very rough guide to market behavior.

Value – Essentially, this is what market participants at a point in time use to evaluate whether the investments they own or want to own are worth the prices that are asked for them. There are many methods for determining value (valuation). These range from gut feelings to many different mathematical measures and ratios, often considered under the larger category of fundamental analysis. The key point: are the securities or indices in question undervalued, fairly valued or overvalued? Opinions obviously vary, but, to quote the old adage: *That is what makes a market*.

Market Sentiment – As one might expect, opinions of the market are fluid, not static. Otherwise, markets would not continually cycle from bull markets to bear markets. Market sentiment is (roughly) measured with market sentiment indicators, but the reality is that sometimes market sentiment is obvious to all and at other times, few, if any, know when it will change. Often, the direction of market sentiment indicators is more important than their absolute measures. However, our salient point here is that value measures such as P/E are highly dependent upon market sentiment. The opinions regarding under-, fair and overvaluation can change dramatically from a roaring bull market to a crushing bear market. P/E's of 15-16 may seem fair for large cap dividend stocks in a roaring bull. In a crushing bear, P/E's of 5-6 may be what is considered fair.

Technical Analysis (TA) - TA uses charts of price and volume for securities or indices to attempt to predict future price or index movements. From the two measures of price and volume, thousands of different types of indicators and other measures can be calculated and used to attempt to understand market movements in the short, intermediate, and long terms.

Unlike others, we at TCM actually define what those time frames mean. They mean:

- Short Term (Trading) – Less than 6 months
- Intermediate Term (Speculation) – 6 months to 2 years
- Long Term (Investment) – Longer than 2 years

We don't pretend to understand crowd behavior fully, but we can observe it and, hopefully, understand some of how the crowd behaves in certain circumstances.

Falsely Propping Up Share Prices

Applying these principles to our current discussion, the manipulation of financial information or outstanding shares in the financial markets might work like this…

By reducing the number of shares outstanding, many value metrics are altered by the change. One of the most common of these is EPS, which is a simple ratio of the company earnings divided by the outstanding shares. For example, if a company makes $1,000,000 in a given ***quarter*** and its outstanding shares are 1,000,000, the company's EPS is then $1/share for that quarter. (Of course, it's never this easy, but for the purposes of explaining our concept here, the complications can be left out for our purposes.)

Suppose the company management buys 10% of the outstanding stock in the open marketplace (an outrageously large amount). The divisor changes from 1,000,000 to 900,000 and ***quarterly*** EPS then becomes $1.11/share. (Note: greater than 10% more)

Another very common value metric is the P/E ratio, which is the per share price of the company divided by the annual, annualized or trailing twelve months (TTM) earnings. We will use annualized earnings for our example. Based upon our facts above, the

(Continued on Page 4)

(Continued from Page 3)
company's EPS would jump from $4/share to $4.44/share. Assuming its share price was $50, its P/E would drop from 12.5 to 11.25.

Some investors, especially ones that tend to rely on valuation and fundamental analysis as decision-making tools, might note that the value of this company as measured by P/E has dropped from the last quarter. They may observe that the market overall, as measured by the SPX, has a P/E of, say, around 14 and that the company's industry segment has an average P/E of 13.5 and the company has the lowest P/E of their group of competitors. Other value measures, such as Revenue per share, and Price/Sales are affected similarly. Total market capitalization (outstanding shares x market price) has actually declined in the aggregate at this point.

All these changes happened simply by changing the number of shares outstanding, not for any operational reason. Suddenly to an investor or group of investors not aware of the entire story, the company's shares may look like a bargain, when, in fact, the aggregate operations of the company may be unchanged – or worse, declining.

Still, with value measures apparently improving, some investors will purchase the company's shares because they appear cheap relative to other comparable measures. Depending upon market sentiment (bear, bull, undetermined) and if there is enough purchasing activity, some momentum or other technical players may then enter positions in the company. All this activity will tend to prop up or increase the company's share price, which is what this manipulation was intended to do.

In a rational world, one would think, if the original market capitalization was an accurate reflection of aggregate company value that the share price would stop increasing when the company's market capitalization reaches the original level. However, the markets are NOT entirely rational, logical or mathematical. When stock prices go on a run and increase, they will often overshoot both the average valuation target and some of its moving averages. Such movements happen to both the over- and undervaluation sides, and give rise to a phenomenon called "reversion to the mean." Mean reversion is a phenomenon of which many traders, speculators and investors will take advantage. (See definitions above.)

Still, all this stock price movement is based upon a false premise. Operationally, the company in our example has improved neither its revenues nor its profits. The balance sheet manipulation of treasury stock purchases has brought about the price increase. Under the "greater fool" theory, the best company management can hope for in this case is a temporary reprieve. Unless, of course, management is executing plans that will improve the company's revenue and profit prospects.

But at what cost to the shareholders? It takes cash or, worse, borrowings to purchase treasury stock in the markets. One could suggest that this is a misuse of shareholder assets (at best) or theft of them (at worst) to manipulate outstanding shares or other balance sheet amounts in order to prop up share prices.

A final thought on this subject: One could certainly make an argument that this type of activity has become more prevalent in recent years due to the Fed's ZIRP policy for the last seven years. With the costs of borrowing so low, it could entice some to enter into these types of activities. They might not do this in a normal interest rate environment, due to added expense and, therefore, risk.

Purpose

The *CJ* Investment Newsletter deals with most of the spectrum of securities investing, including cash (money market funds), bonds, equities and derivatives. It will evaluate the overall investing environment and, from time to time, discuss the relative allocations (including avoidance) of these asset types, as well as strategies to implement them (individual stocks or bonds, CEF's, ETF's, open-end mutual funds, and derivatives). Essentially, it reflects what I'm actually doing with my clients.

However, that's not its only purpose. Even if you never become a client, if you want this information, I want you to have it – for a while, anyway. My hope is that providing this information and teaching you what I consider important when investing may help you. I'd also love to hear any questions or comments you may have about my letter.

These letters are not sent "cold." Either I know you or someone you know gave me your name. Yes, this letter *is* a sales tool. It communicates how I analyze the markets and economy, as well as how I apply my investment strategies, so that you can decide, without any sales pressure, if my thinking is compatible with how you want your money invested. If you're not already a client, I would like to discuss your *becoming* a client. Please contact me for more information.