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Making Money in the Stock Market:

Possible for Non-Financial Professionals!

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Abstract

Regardless of the overwhelming amount of data about financial securities and instruments available, it is possible for the non-financial professional to make money in the stock market. Using the instruments discussed herein, with an understanding of some fundamentals: News and rumors, analyst ratings, options & open interest, volume trading, Moving Average Convergence-Divergence, Stochastic Oscillator, and price movement; there is a high probability of making money in the stock market.

Listening to the various personal finance radio talk shows, books and audiobooks, and other media, one can get the impression that personal finance and investing can be a very daunting thing, even if due only to the increasing amount of information available on the subject (Berguis, 2005). This can be tied to feelings of overwhelm and panic. If one were to take heed of the financial advice from professionals in the field of personal finance and investing, one would also grab such insights as the most powerful tool one has in attaining greater wealth is their own income; that time is an active factor in this value formula; and that behavior and a little effort and discipline are invaluable tools in the entire personal finance and investing process. Sure, the entire notion of the stock market may be simultaneously exciting and intimidating, but it has made many a fiscally-ordinary person into a very wealthy one. With that said, I will present that making money in the stock market is possible for anyone, even the non-financial professional, using a little more than a handful of tools.

Before getting into the tools, I want to take the opportunity to point out a couple things. The first consideration: While any of the individual tools may indicate a movement in stock price—some of the tools indicating upward movement, some indicating downward movement, and some that may indicate either—the more of these tools that have data to propagate them, the more that are acting for you in regards to a particular stock and the more of a probability that there will be movement. The second consideration is that, while the above is true, finding the right combination of indications in each of these indicators may help you find stock movement without waiting for all seven indicators to give a green light. And, the third consideration, there is always risk when putting money into the stock market. Because of the volatility of the stock market and that there is a probability of success, there is a greater chance of reward for managing the risk with calculated decisions that rely more on rational decisions than feelings in the long

term (Authers, 2007). The last consideration that one should have about the stock market is that it has been shown time and again to be one of the most efficient instruments of relaying information such that the financial markets and their components seem to be very aware of the information available to them throughout the areas which they serve. For instance, the individual stock price of a company is said to be very efficient and, according to the Efficient Market Hypothesis, "prices traded on assets, e.g., stocks, bonds, or property, already reflect all known information and therefore are unbiased in the sense that they reflect the collective beliefs of all investors about future prospects." (www-e-m-h.org, 2008)

The first tool that can be used to determine movement in the stock market is the "News & Rumor Tool." Purchasing a stock on the rumor and selling it on the news has been a tried financial suggestion for, supposedly, as long as stocks have been traded. This may be a "softer," and "undeniably more dangerous" (Kimmel, 2004), instrument in measuring the barometer of the financial markets more than the others, but it is one that indicates momentum, albeit in a less quantitative sense. As such, it is less of a long term financial indicator and more so tells of short term movements in a stock's price. The EMH thus asserts that it is impossible that one can consistently outperform the markets by using information that the market already knows, except through luck. News and rumors, however, aren't immediately known to the markets and thus can theoretically outperform the markets until such information becomes known widely enough such that the market reflects the belief that the news or the rumor dictates. This holds true because of the earlier work of French Mathematician Louis Bachelier (Sullivan & Weithers, 1991) who posed that an inherit inefficiency existed in the markets because of "intelligent agents," investors that exist to maximize their utility, or satisfaction, don't have rational expectations of the markets and, as such, must update their expectations appropriately as new

relevant information appears about their economic interests in the marketplace (Bachelier, 1900). Because there is this gap—itself a market inefficiency—between the time that the information is made available and the updating of the stock price with the new information, it is possible for the active investor to make money *in the short term* with this method.

Another reason why the "News & Rumor" method may show potential for short-term gains in the marketplace is because the investor is often able to just insert their own speculative values into the fact that there will often be many pieces of unknown information in the rumor; filling in these variables with numbers of their own speculation can make a stock move more than it would on the fact because the speculators may insert a valuation into the unknown places of the rumor equation that are worth more than the actual news may dictate—allowing for a correction after the fact. Thus "buying on the rumor" allows the investor to take advantage of what can be irrational valuations of a stock, while selling on the news will allow for an investor to profit on that speculation before the correction moves the valuation of the new information into a place more in line with facts: As the speculation grows, and the "rumor" grows into "news," the new information becomes "baked into" the stock price and the limitations of the valuation of the rumor become better known, and the market comes to reflect this; more so after the information in the news is factored into the stock price ("Ask the Fool", 1999).

An example of this can be found with Pixar Animation. Having produced the box office success *Toy Story,* the company was slated to release *A Bug's Life* on Thanksgiving weekend of 1998. Prior to its release, rumor was circulating about the potential for the film. Valuation of the stock went from $20 per share at the beginning of 1998 to $53 per share just prior to release of the newest movie. When the movie did release, despite it breaking all the box office records for an animated film opening on a Thanksgiving weekend, the stock price lost nearly 40 percent

of its value over the next month to fall below its previous $20 price. Over the next few years, though, Pixar would be vindicated when Disney purchased Pixar for $7.4 billion; or $59.77 per share in 2006 (Holson & Sorkin, 2006). If an investor had purchased on the rumor of how well Pixar would do and sell on or prior to the news that the market was already speculating they could have more than doubled their money. If an investor would have invested after the stock dropped and continued in this pattern they could have had their money returned several times over.

For those people who lack the time, effort, or ability to analyze various stocks, there are several brokerages which will do it for you! Companies like Merrill Lynch, Goldman Sachs & Company, Morgan Stanley-Dean Witter, Lehman Brothers, J.P. Morgan, and many others do all sorts of quantitative and qualitative analyses of companies and give them grades and make various other recommendations regarding them. For instance, the stock of Netflix, Inc. dropped 24 percent recently to close at about $30, despite recording a larger-than-expected first quarter profit (Silicon Valley / San Jose Business Journal, 2008). Why? Analysts were disappointed with the guidance which the company had set. Figuring that recent and expected future successes were already known by the market, and thus were already figured into the stock price, it was determined that investors should hold the stock and wait for better earnings from the company to translate into a better stock price somewhere down the road. When one of these investment houses initiates coverage of a particular stock, there is a reason for them to do so: This coverage can indicate an upward-moving momentum, as in the case when a stock's outlook is upgraded; or downward momentum when something as was discussed with Netflix above.

According to the financial glossary at Marketwatch.com, an option is a "[contract which gives] the holder the right to buy or sell securities at a set price or a set period of time. Investors

often use them to protect, or hedge, an existing investment. An option is part of a class of securities called derivatives, so named because these securities derive their value from the worth of an underlying investment," (Marketwatch.com, 2005). Open interest is the net total of outstanding contracts which are open in a particular series of options; whereas an opening transaction increases the open interest, while any closing transaction will reduce the interest. If you go through an option chain—essentially a way of quoting options prices through of list of all options for a given security (Firstdata.com, 2004) – an investor can see where speculation lies in options open interests: High open interests for any strike price means that someone is very likely hedging—taking a position in a market that reduces the risk exposure of the individual stock or entire portfolio—their positions against known or anticipated future events. High open interest should catch your interest as an investor.

When a storm is likely to hit someplace people are also likely to flock to their local supermarket, grocery store, or other place that they can acquire supplies: It can be said that the movement volume increases before the "strike" of the storm. This is analogous to what happens prior to a large stock move. Volume data can be, and often is, used to assess what the prevailing sentiment is in the market in regards to a particular stock. The ratio of advance and decline is an excellent indicator for a stock being either "overbought" or "oversold." Either of these can be considered "volume spikes," or large surges in trading that look like "spikes" when trading activity is plotted on a graph. In a sentence, when the number of shares traded during a given period in a stock or a group thereof surges once or more in that period it can indicate that the stock or market may reverse course. Volume data indicates that shares are being transferred between different groups of investors, indicating what has happened in the past, not directly indicating demand for a particular stock or security.

Briefly, an "overbought" situation is one in which demand for a stock (or other asset) "pushes" the price of that underlying asset to levels which do not support the fundamentals of that asset, usually on high volume. Put another way, the stock is overvalued. Likewise, "oversold" is a condition of a stock being undervalued in which the price of a stock has fallen sharply, often below the level where the true value of the asset can be found. This position is often considered to be one in which a market overreaction or panic selling has occurred; like an overbought position, an oversold position is also one of volume.

When the data shows that a period of trading is initiated by a volume surge that stops or reverses an ongoing trend, it can indicate a change in market sentiment, marking the critical point where the market is in danger of becoming "overbought," one of the kinds of volume spikes. Likewise, when the duration of a distribution phase—that is, following an ongoing up-trend in the market—is extended to allow for enough shares to change hands between different traders, this can also become an overbought situation.

Another tool used to quantitatively analyze trends is the Moving Average Convergence-Divergence tool (Globeinvestor Gold, 2008). An indicator that follows trends across different trading periods, the MAC-D is calculated using the relationship between three different exponential moving averages—a moving average is a reactive calculation which averages; or smoothes out, price fluctuations in a stock price. Plotted using a selected frequency—hourly, daily, weekly, monthly, quarterly, etc.—the simple moving average tool alone can indicate a "bearish" or "bullish" position, that is, downward-moving or upward-moving, respectively: If a stock is trading higher than it has in the last 50 trading days, it can indicate upward momentum; if it is trading below its moving average for the last 50 trading days, it can indicate downward momentum. A more sophisticated tool uses the Exponential Moving Average, and requires more

data than the other moving average. The EMA puts more weight on recent price activity, calculating more over shorter periods which follows the price line more closely than longer periods—for example a 9-day EMA will follow the a plotted line on a graph of a stocks ongoing price than would a 12-day EMA than would a 26-day Exponential Moving Average.

Determining the EMA is easy, once you have all the data for it:

$$Exponent = \frac{2}{(Number\ of\ Periods + 1)}$$

For instance, the exponent for a 9-day Exponential Moving Average would be calculated as:

$$0.2 = \frac{2}{9 + 1}$$

And, the exponent for 12- and 26-day EMAs, respectively:

$$.153846154 = \frac{2}{12 + 1}$$

$$.074074074 = \frac{2}{26 + 1}$$

The EMA is then calculated by applying the exponents into the following formula:

$$EMA = (Today's close * Exponent) + \left(previous\ EMA * (1 - Exponent)\right)$$

The Moving Average Convergence-Divergence (MAC-D) requires that three different EMAs are formulated: One for the 9-day, one for the 12-day, and one for the 26-day. Subtracting the 26-day exponential moving average from the 12-day EMA gives the main portion of the MAC-D; but a signal line is required to be plotted, as well, in order to offer

indications for buying and selling. This is done by plotting the 12-day EMA onto the same graph as the plot from the subtraction operation of the former two EMAs (Investopedia, 2004).

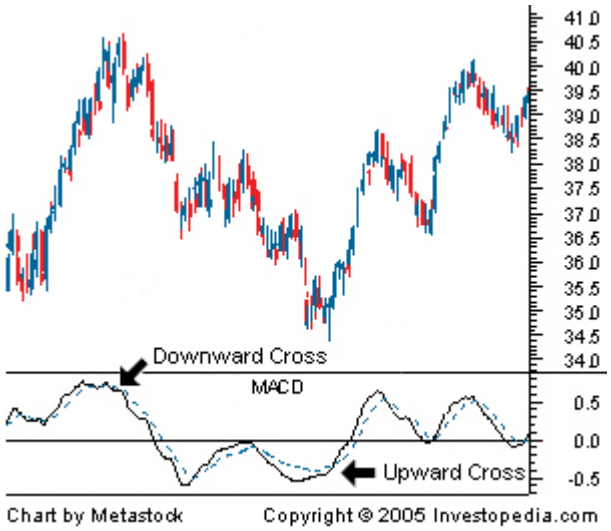


Figure 1 - MAC-D Example

There are a few ways to use the MAC-D to determine movements of a stock price. When the signal line (The 9-day EMA) goes above the MAC-D line (The subtraction of the 26-day exponential moving average from the 12-day EMA), it is an indication that an investor should sell their stock in this particular stock. Likewise, when the opposite happens and the MAC-D rises above the signal line, it is considered a "bullish" signal that the stock is experiencing an upward price momentum. A caveat to remember, though, is that you should, as an investor, absolutely wait for this convergence to happen in order not to enter a position in which a convergence is merely speculated and does not result. While a convergence is a definite way to determine momentum upward or downward, a certain method to determine that a particular trend is ending is to look for divergence in the plotted MAC-D and signal lines as it indicates that a trend is ending. Lastly, when the MAC-D is shown to rise dramatically such that the shorter exponential moving average pulls away from the longer-term moving average, this can be a

signal that the stock is overbought and normality will return to the stock. For this reason, the MAC-D tool should be able to be successfully used with the previous volume tool to determine trends in a specific stock or index and whether an investor should buy or sell.

The next tool for investors has, perhaps, the best name of the entire bunch: The Stochastic Oscillator. Sounding like it comes from a science-fiction movie; it is a serious quantitative tool which investors can use to determine price momentum in one way or another by indentifying overbought and oversold points which, as was discussed earlier, can indicate price reversals. The Stochastic Oscillator works by comparing a stock or security's closing price to a price range of said stock or security over a given period of time. Sensitive to market movements, this sensitivity can be reduced by adjusting the time period in the calculation or by using a moving average of the result. The formula looks like this:

$$\%K = 100 * \frac{C - L14}{H14 - L14}$$

Whereas:

C is the most recent closing price

L14 is the low price of the 14 previous trading sessions

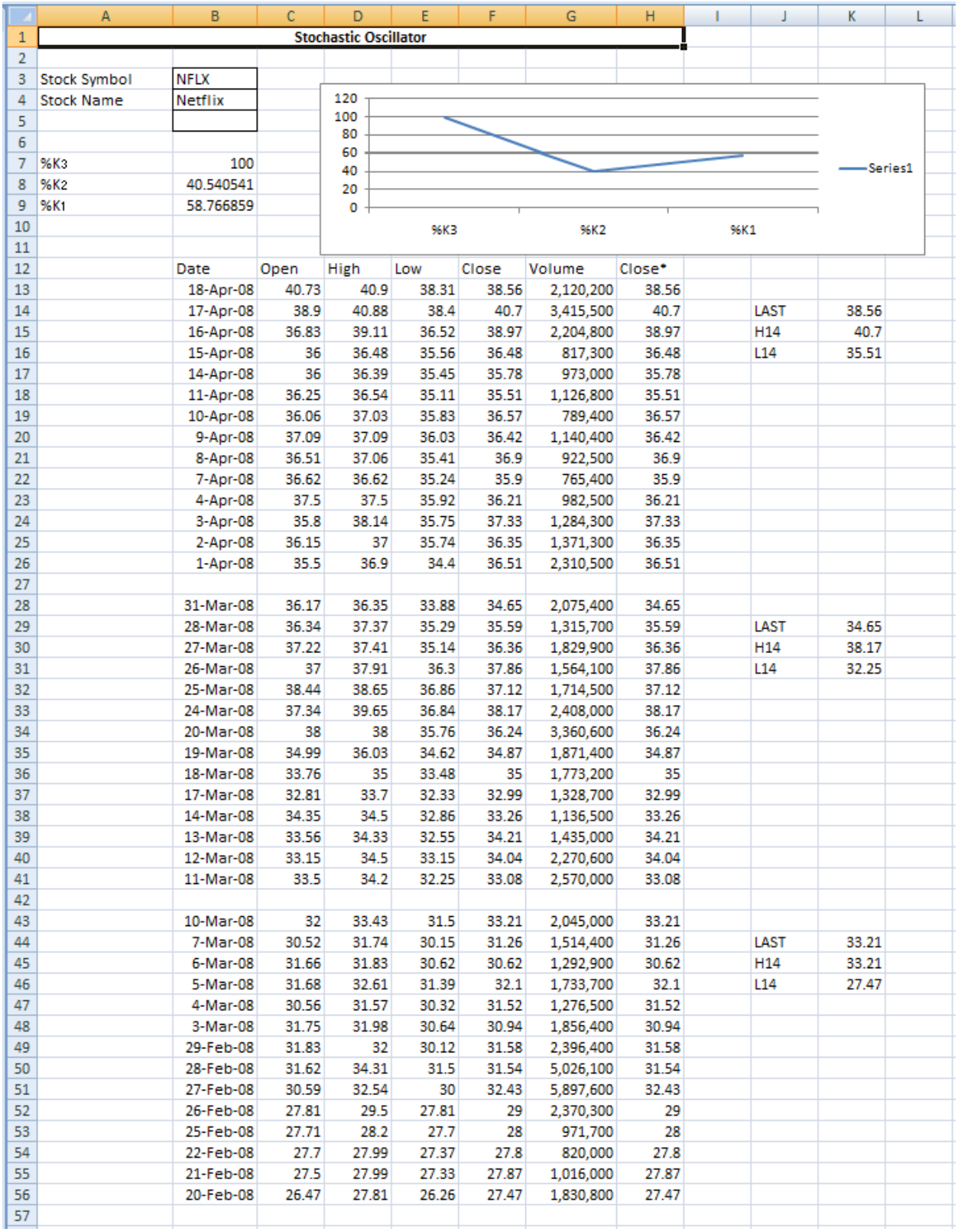
H14 is the highest price of the same 14 previous trading sessions as above

%K is the Stochastic Oscillator result

And, as mentioned, the Stochastic Oscillator can be plotted as a moving average—that is, plotted as a line along a graph to determine the Stochastic Oscillator's value over a given time frame, often 3 trading periods or more.

In a market that is trending upward, prices will tend to close near their high; and, conversely, prices will close towards their low in a downward-trending market. Buy and sell signals are indicated when the three-period moving average crosses through the plot of $\%K$, per the formula above.

An example of a simple Stochastic Oscillator plot, using recent data from the company Netflix, Inc. and Microsoft Excel:



	A	B	C	D	E	F	G	H	I	J	K	L
1	Stochastic Oscillator											
2												
3	Stock Symbol	NFLX										
4	Stock Name	Netflix										
5												
6												
7	%K3	100										
8	%K2	40.540541										
9	%K1	58.766859										
10												
11												
12		Date	Open	High	Low	Close	Volume	Close*				
13		18-Apr-08	40.73	40.9	38.31	38.56	2,120,200	38.56				
14		17-Apr-08	38.9	40.88	38.4	40.7	3,415,500	40.7		LAST	38.56	
15		16-Apr-08	36.83	39.11	36.52	38.97	2,204,800	38.97		H14	40.7	
16		15-Apr-08	36	36.48	35.56	36.48	817,300	36.48		L14	35.51	
17		14-Apr-08	36	36.39	35.45	35.78	973,000	35.78				
18		11-Apr-08	36.25	36.54	35.11	35.51	1,126,800	35.51				
19		10-Apr-08	36.06	37.03	35.83	36.57	789,400	36.57				
20		9-Apr-08	37.09	37.09	36.03	36.42	1,140,400	36.42				
21		8-Apr-08	36.51	37.06	35.41	36.9	922,500	36.9				
22		7-Apr-08	36.62	36.62	35.24	35.9	765,400	35.9				
23		4-Apr-08	37.5	37.5	35.92	36.21	982,500	36.21				
24		3-Apr-08	35.8	38.14	35.75	37.33	1,284,300	37.33				
25		2-Apr-08	36.15	37	35.74	36.35	1,371,300	36.35				
26		1-Apr-08	35.5	36.9	34.4	36.51	2,310,500	36.51				
27												
28		31-Mar-08	36.17	36.35	33.88	34.65	2,075,400	34.65				
29		28-Mar-08	36.34	37.37	35.29	35.59	1,315,700	35.59		LAST	34.65	
30		27-Mar-08	37.22	37.41	35.14	36.36	1,829,900	36.36		H14	38.17	
31		26-Mar-08	37	37.91	36.3	37.86	1,564,100	37.86		L14	32.25	
32		25-Mar-08	38.44	38.65	36.86	37.12	1,714,500	37.12				
33		24-Mar-08	37.34	39.65	36.84	38.17	2,408,000	38.17				
34		20-Mar-08	38	38	35.76	36.24	3,360,600	36.24				
35		19-Mar-08	34.99	36.03	34.62	34.87	1,871,400	34.87				
36		18-Mar-08	33.76	35	33.48	35	1,773,200	35				
37		17-Mar-08	32.81	33.7	32.33	32.99	1,328,700	32.99				
38		14-Mar-08	34.35	34.5	32.86	33.26	1,136,500	33.26				
39		13-Mar-08	33.56	34.33	32.55	34.21	1,435,000	34.21				
40		12-Mar-08	33.15	34.5	33.15	34.04	2,270,600	34.04				
41		11-Mar-08	33.5	34.2	32.25	33.08	2,570,000	33.08				
42												
43		10-Mar-08	32	33.43	31.5	33.21	2,045,000	33.21				
44		7-Mar-08	30.52	31.74	30.15	31.26	1,514,400	31.26		LAST	33.21	
45		6-Mar-08	31.66	31.83	30.62	30.62	1,292,900	30.62		H14	33.21	
46		5-Mar-08	31.68	32.61	31.39	32.1	1,733,700	32.1		L14	27.47	
47		4-Mar-08	30.56	31.57	30.32	31.52	1,276,500	31.52				
48		3-Mar-08	31.75	31.98	30.64	30.94	1,856,400	30.94				
49		29-Feb-08	31.83	32	30.12	31.58	2,396,400	31.58				
50		28-Feb-08	31.62	34.31	31.5	31.54	5,026,100	31.54				
51		27-Feb-08	30.59	32.54	30	32.43	5,897,600	32.43				
52		26-Feb-08	27.81	29.5	27.81	29	2,370,300	29				
53		25-Feb-08	27.71	28.2	27.7	28	971,700	28				
54		22-Feb-08	27.7	27.99	27.37	27.8	820,000	27.8				
55		21-Feb-08	27.5	27.99	27.33	27.87	1,016,000	27.87				
56		20-Feb-08	26.47	27.81	26.26	27.47	1,830,800	27.47				
57												

Figure 2 - Stochastic Oscillator Example

Lastly, a sure-fire way to determine if a stock is moving upward or downward—*is to see if that stock is actually moving upward or downward in price?* What is a better indicator for movement than actual movement itself? In many things, the moment you stop moving and things become stagnant, you are subject to concepts such as inertia such that it is more difficult to start moving after you have stopped. In fact, if you are to move from a stopped position it is more likely in the financial markets that you will be subject to decreasing value. Take, for example, Microsoft Corporation. From a high of $58.72 in late 1999 its value has steadily decreased and now hovers in the high $20s (Google Finance, 2008). In order for it to maintain a steady price it must grow at a certain rate each year; this means spending billions of dollars a year on research (Vigil, 2004). In 2002 it was spending $4.5 billion USD and this last year it is spending $7.5 billion USD just to maintain the company's stock price.

We have discussed how news and rumors, analyst ratings, options and open interest, volume trading, Moving Average Convergence-Divergence, and the Stochastic Oscillator all have an effect on movement of stock price. While using any single one of these tools will indicate a movement in a stock's price, the right combination thereof can increase the probability of a money-making price movement occurring. Now, when you are exposed to the overwhelming amount of financial and investing information out there, you can be better prepared to process the information with the understanding that making money in the stock market is possible for even the non-financial professional.

References

"Ask the Fool", (1999, September 1). Don't buy on the rumor. Retrieved April 26, 2008, from The Motley Fool Web site: http://www.fool.com/foolu/askfoolu/1999/askfoolu990901.htm

Authers, J (2007, March 23). Risk is for the poor, and adventurers. Retrieved May 3, 2008, from Financial Times Web site: http://proquest.umi.com/pqdweb?index=130&did=1245544771&SrchMode=3&sid=3&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1209798798&clientId=31924

Bachelier, L (1900). Théorie de la spéculation. Retrieved April 26, 2008, from Numdam.org Web site: http://archive.numdam.org/article/ASENS_1900_3_17__21_0.pdf

Berghuis, B (2005, May 16). Sure Hand. Retrieved May 3, 2008, from Barrons Web site: http://proquest.umi.com/pqdweb?index=45&did=842889721&SrchMode=3&sid=1&Fmt=4&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1209797795&clientId=31924

Firstdata.com, (2004). Glossary. Retrieved April 26, 2008, from Firstdata.com News Web site: http://news.firstdata.com/glossary.cfm

Globeinvestor Gold, (2008). Technical studies: simple and exponential moving averages. Retrieved May 3, 2008, from Globeinvestor Gold Web site: http://gold.globeinvestor.com/public/help/flat/help_charts_ta_averages.html

Google Finance, (2008, May 3). Microsoft. Retrieved May 3, 2008, from Google Finance Web site: http://finance.google.com/finance?q=NASDAQ%3AMSFT

Holson & Sorkin, (2006, January 25). Disney to buy Pixar for $7.4 billion in stock. Retrieved April 26, 2008, from International Herald Tribune Web site: http://www.iht.com/articles/2006/01/24/business/disney.php

Investopedia, (2004). Moving average convergence divergence (MACD). Retrieved May 3, 2008, from Investopedia Web site: http://www.investopedia.com/terms/m/macd.asp

Investopedia, (2004). Stochastic Oscillator. Retrieved May 3, 2008, from Investopedia Web site: http://www.investopedia.com/terms/s/stochasticoscillator.asp

Kimmel, A (2004). Rumors and the financial marketplace. Retrieved May 2, 2008, from The Journal of Behavioural Finance Web site: http://proquest.umi.com/pqdweb?did=703934501&sid=4&Fmt=2&clientId=31924&RQT=309&VName=PQD

Silicon Valley / San Jose Business Journal, (2008, April 22). Netflix stock drops 24% on outlook. Retrieved April 26, 2008, from Silicon Valley / San Jose Business Journal

Marketwatch.com, (2005). "Options". Retrieved April 26, 2008, from Marketwatch.com Financial Glossary Terms Web site: http://www.marketwatch.com/pf/started/gettingstarted_glossary.asp#O%A0

Sullivan & Weithers, (1991). Content articles in economics, Louis Bachelier: the father of modern option pricing theory. Retrieved May 2, 2008, from Journal of Economic Education (1986-1998) Web site: http://proquest.umi.com/pqdweb?did=625296141&sid=5&Fmt=2&clientId=31924&RQT=309&VName=PQD

Vigil, B (2004, June 10). What Microsoft gets for its $7B R&D budget. Retrieved May 3, 2008, from Microsoft Exchange News Web site: http://searchexchange.techtarget.com/news/article/0,289142,sid43_gci969606,00.html

(2008, April 25). Efficient markets hypothesis. Retrieved 6 May, 2008, from www.e-m-h.org Web site: http://www.e-m-h.org/