

Combining trend and momentum for investment success



Abstract: The study of stock market history exposes the grave risks that buy and hold investors face during significant downturns. Not many of us could take the losses and the time to breakeven that markets have and will continue to deliver from time to time. Thanks to key market characteristics such as their moving in trends, the correlation of world markets and relative strength differentials between markets, it is possible for an investor to beat the market. This white paper reviews practical approaches to identify broad market trends and to identify the strongest world markets. The specific strategies presented here provide long-term investors with an effective "all-weather" alternative to buy and hold investing and can easily be implemented with cost effective ETFs and minimal trading.

Buy and hold is the most commonly used form of investment strategy because it is the simplest, and because it is a favorite of Wall Street and large segments of the investment industry. Buy and hold is often defined as being fully invested in the stock market, all the time, for the long term, regardless of what happens in the markets. Under this passive strategy, investors only sell their stocks when they have achieved their goal, such as having enough money to retire or buying a house. Supporters of the strategy base their conviction on several arguments:

- In the long run markets always go up
- Markets spend more time in bull markets (average duration is 40 months) than bear markets (average duration is 9 months)
- Taxes are lower (all capital gains are long term by definition)
- Costs are lower (no trading, no transaction fees)

To any questions about risk, the answer is portfolio diversification. As a tacit admission that the risks during bear markets are too severe, the concept of asset allocation came to be. Instead of risking your entire nest egg in the stock market, the common buy and hold investment wisdom suggests to place a portion of your assets in other investments such as bonds because they are not affected by stock market vagaries. The direct result of such asset allocation is that you guarantee average results.

It is true that if you had invested \$10,000 in the Nasdaq at the very bottom in October 1990 and held on to the very top of one of the longest lasting bull markets in history, in March 2000 you would have accumulated a tidy \$277,000! However, human emotions being what they are, it is highly unlikely that you would have 1) invested at the very bottom, 2) held on through the crashes and corrections along the way, and 3) sold at the very top.

In the end, the killer arguments against buy and hold, and in favor of market timing, are the losses incurred during bear markets and the time it takes to breakeven afterwards. We don't know many people who would stand-by while their life's savings - say the \$277,000 in the example above - shrinks to less than \$50,000. Yes, for those with short memories, the Nasdaq did return -83% from March 2000 to October 2002. Looking at the 14 bear markets since 1929, the buy and hold investor would have lost an average of 39% and waited an average of 5.2 years to recoup her/his money. And if this sounds bad, how about the 87% loss and over 25 years to breakeven incurred by the faithful buy and hold investor after the 1929 crash.

Having established how critical avoiding major market downturns is to any wealth building and preservation endeavor, we next look at some key stock market characteristics.

Markets move in trends

Anyone looking at a graph of the stock market, or even individual securities, can readily see that they do not bounce around in random fashion but display clear organization and patterns. Stock market prices move in trends. These trends can be up, down, or sideways (trendless), and they can be of short or long duration. Looking at the last ten years on **Chart 1** below clearly reveals the long-term uptrends and downtrends corresponding to the major cyclical bull and bear markets. There are also longer duration trends called secular or generational bull and bear market cycles which last between ten and twenty years. Within the cyclical market moves are shorter trends too. There are pullbacks, generally defined as declines of up 10% from an intermediate top, and corrections for anything between 10% and 20%. As long term trend followers know, profits are made by exploiting major trends, be they up or down, by riding them for all they are worth, until they reverse. The investor's challenge is to recognize the significant trends at the earliest possible without getting tripped by the innumerable false alarms along the way.

Chart 1: Long-term trends 1998-2007



World stock markets are correlated

The relationship between world stock markets is not something many investors think about, because most invest exclusively in their own country's stock market. When they think about international markets, they intuitively feel that every country has such varied circumstances that their economies and stock markets are on cycles of their own, and largely unrelated to others. The reason most people do not perceive the world-wide synchronization is because of the much too short observation periods. Yes, on an hourly, daily or even weekly basis there is not always agreement, but the mid-term trends do not lie, and points of inflections in these trends become clearly visible across most broad geographic markets.

In a world so connected, so intertwined in the way information, products and services flow, it is surprising that the fact that the economies and stock markets of major industrialized and developing nations are tightly inter-dependent is not self-evident. The simple logic here is that events, news, action in other markets are all known virtually instantly and thus influence the investor mood everywhere. But proof is better than logic. Amongst many tools available to assess how synchronized world stock markets really are, we prefer the Correlation Coefficient, or CC for short, which calculates how closely two data sets move together. CC varies between -1 and +1, with +1 being perfectly correlated. For example, two investments gaining 0.1% every day will have a CC of 1. Conversely, an investment which does exactly the opposite of another is said to be inversely correlated and earns a CC of -1.

Table 1 below shows the monthly Correlation Coefficient between the Nasdaq Composite index and other world indexes, over 1 year and 5 years. The data clearly shows that most of the major world stock markets are well correlated most of the time, and that the correlation between world markets is increasing over time. These conclusions generally hold for other periods of observation, but longer windows of observation increase the correlation, and correlation increases with market volatility. The key takeaway from the correlation study is that world equity markets generally follow the same exact broad trend and that we can use the same signal to time buying and selling the various markets.

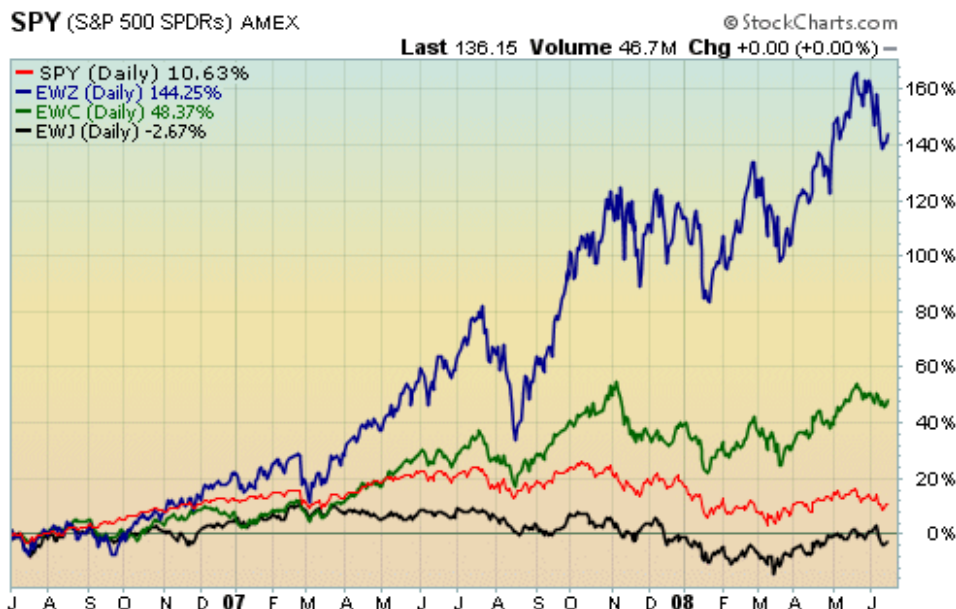
Table 1: Monthly Correlation of World Markets

	5 years	1 year
Nasdaq Composite	1.00	1.00
NASDAQ 100	0.98	0.97
Australia	0.60	0.93
Singapore	0.62	0.88
Japan	0.49	0.87
UK	0.57	0.87
Dow Jones Wilshire 5000	0.90	0.85
France	0.68	0.84
Italy	0.64	0.84
Canada	0.66	0.83
Germany	0.73	0.83
S&P 500	0.86	0.83
Brazil	0.53	0.83
Switzerland	0.60	0.82
Belgium	N/A	0.81
South Korea	0.59	0.80
S&P 400	0.87	0.79
Hong Kong	0.54	0.79
Austria	0.53	0.77
Taiwan	0.45	0.76
India	0.50	0.75
Sweden	0.64	0.74
Russell 2000	0.89	0.73
Dow Jones Industrials	0.76	0.70
China	N/A	0.68
Malaysia	0.39	0.57
Spain	0.55	0.55
Russia	N/A	0.53
Mexico	0.56	0.33

World stock markets vary in strength

Yes, it is critical to fully understand the broad correlation which exists between world markets, but we also want to recognize the differences, such as their relative strength, and exploit them to our advantage. A quick glance at **Chart 2** below which compares the returns of EWZ (Brazil), EWC (Canada), SPY (the U.S. S&P 500) and EWJ (Japan) over the last 2 years shows that while they generally move up and down together, Brazil has been the place to be. Our study of stock market history shows that strong markets tend to remain strong over prolonged periods of time. Alas, the inherent inertia or lag works against the pure momentum approach at major turning points. The combination of relative strength based market targeting with the safety of trend following to step aside, or even benefit from the more severe market downtrends, removes the primary weakness of momentum investment approaches.

Chart 2: Relative strength of world markets



Finding the dominant market trend

The two main schools of investing thought are fundamental analysis and technical analysis. Economists and market strategists apply fundamental analysis on a macro scale to determine future economic trends for the market as a whole or for specific sub-segments. Broad measures such as employment levels, inventories, the money supply, interest rates, and currency fluctuations can all be indicators or even catalysts for stock market movements. The main issue with fundamental analysis is that the markets are influenced by so many unknown factors such as news and investor psychology that they ultimately move in mysterious ways at times of their own choosing, and attempts to predict them are mostly futile. Also, the stock market itself just happens to be one of the most reliable leading indicators of the economy's future direction. Not the other way around.

Instead of attempting to measure a market or a security's intrinsic value, technical analysis strictly looks at past and present market data such as price and volume, and attempts to identify patterns that suggest future activity. Technical analysis has traditionally placed a lot of importance on charting and the recognition of key formations and patterns. As arguably the most basic charting technique, trend lines are widely used and valued because they are so effective and reliable at graphically representing trends and spotting trend reversals. Other key tools of the trade are various types of charts, recognition of patterns such as head and shoulder, cup and handle or double bottom formations, moving averages, relative strength indexes, and support/resistance zones to name a few.

While there is an endless number of ways to identify trends, many concentrate on identifying the major bull and bear market phases. One popular approach is a simple technical analysis method combining the 10-day and 200-day exponential moving averages (EMA) of the index or investment being analyzed. Whenever the faster moving EMA (10) is above the slower one, EMA (200), we are in a predominant bull market; otherwise we are in a bear market.

Another flavor of moving average crossover signals is shown in **Chart 3** below. It combines longer simple moving averages (125 and 250 days) to issue **Buy** and **Sell** signals for the S&P 500 ETF (SPY). When the fast average (the trigger) crosses the slower average to the downside, we have a **Sell** signal. When it crosses back above, a **Buy** signal is issued. The trouble with moving average systems is that signals tend to lag the market by substantial amounts or, if faster parameters are selected, they can generate excessive false signals and whipsaws. The same parameters will not work equally well at all times and for all markets.

Chart 3: Trend based Buy and Sell signals



The trend detection techniques referenced so far, such as moving averages, focused primarily on price and how it evolves over time. There are other techniques applying volume as an indicator of acceleration, momentum and money flow, which can assist greatly in pointing out trend changes.

Many in the investment community have come to recognize institutional investors as a force to be reckoned with. Institutional investors including banks, insurance companies, mutual funds, and pension funds, are often collectively referred to as "the big money" or "the smart money". They are the elephants in the swimming pool (the market). The more elephants jump in, the more the water level (the price) rises. When the elephants go home, the water drops sharply. Numerous studies have shown that as a group they have a huge influence on individual stocks and the market in general, which is why so many try to understand and emulate what institutional investors are doing.

Regardless of whether institutional investors are smart enough to anticipate changes in the economy and the stock market, their collective movements make the markets. Changes in trading volume, and the direction of price movements during these changes, can be a reliable telltale sign of what institutional investors are up to. The theory behind all volume indicators, including accumulations and distributions, is that quite frequently volume precedes major price moves.

An accumulation occurs when the price of a stock or index closes higher AND with increased volume. Conversely, a distribution takes place when the price of a stock or index closes lower AND with increased volume. Individual accumulations and distributions are not significant by themselves, but rather when they occur in succession over short periods of time. If the market tells us that for a number of days, more and more investors and institutions are placing increasingly larger size orders at consistently higher or lower prices, one gets a clear reading of the momentum's direction.

TimingCube's Trend Timing approach

TimingCube has developed an innovative investment system that combines a broad stock market Trend Timing approach for directional guidance with the momentum targeting of top-ranked world markets. At the heart of the system is our 100% mechanical, unemotional market timing Model that is both powerful and simple to use. It uniquely identifies the broad predominant stock market trend and issues clear, definitive Buy, Sell and Cash signals and provides investors with an effective "all-weather" alternative to buy and hold investing.

As long-term investors, the trend we are interested in is where the market is likely headed in the next 3 to 6 months, which corresponds with our average of 3 to 5 signals per year, and average signal duration of 3+ months. We are trend followers and we do not predict how long a trend will last or how strong it will be. No one can. As trend timers we are strong believers in listening to what the market is telling us, recognize the predominant trend, and following it. While our proprietary Model does look at various indicators such as moving averages it leans most heavily on the relationship between price and volume action.

Our primary Long and Short Strategy is designed to profit whether the market is going up or down. We believe this strategy offers the best risk/reward ratio for most investors. It keeps you invested whether our timing Model tells us that the

predominant market trend is up or down.

If you elect to strictly invest in the U.S. stock market, you directly apply the signals to the index(es) of your choice. We actively track and report on the ETFs tracking the Nasdaq 100, the Russell 2000 and the S&P 500, but there are many other choices. The majority of these indexes have ETFs to go long or inverse.

If instead you are more aggressive and want to seek the higher potential returns of the strongest world markets, during **Buy** signals you invest in the Top 5 world ETFs and rebalance on a 4 week schedule. During **Sell** signals you simply short the Nasdaq 100.

A somewhat more conservative **Long Only** strategy simply goes to cash during **Sell** signals.

Our investment selections

With its focus on broad stock market indexes, our trend following strategy can and is being implemented with anything from mutual funds, to index futures, options, and of course ETFs. There are several advantages of investing with ETFs, starting with being the most practical and economical investment vehicles, they have built-in diversification, with no active management involved they are transparent and predictable and, last but not least, their liquidity is never a problem. ETFs are also the only investments which offer such a broad selection of geographic funds.

Still, all ETFs are not created equal and we strongly recommend staying with true equity index ETFs. When we refer to ETFs we mean open-end index ETFs, NOT closed-end ETFs, NOT Exchange Traded Notes (ETNs), and NOT HOLDERS. These special types of funds all have some drawbacks which rule them out for our purposes. Further, since our strategy is entirely focused on the broad stock market trend, we avoid ETFs which deal in specialized market niches, like industry sectors, or hold other asset classes such as bonds, commodities or real estate which would not correlate well with our system.

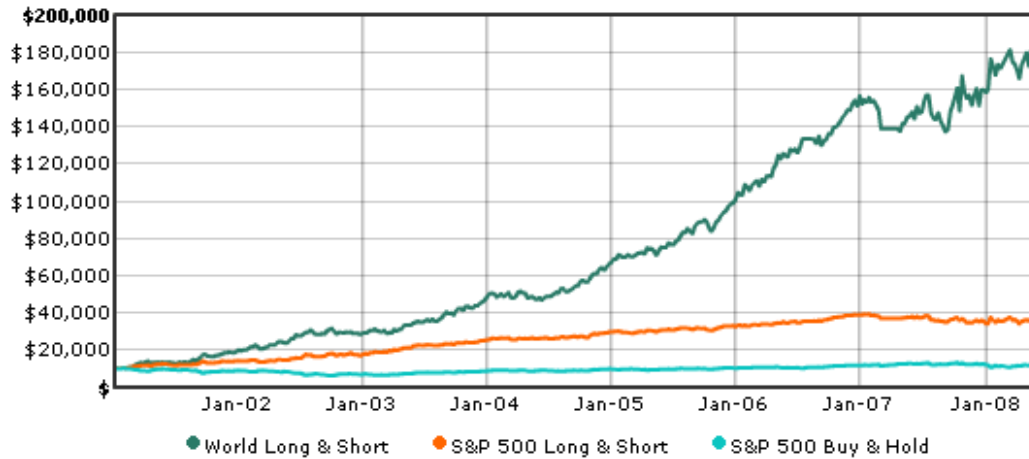
If your preference is to simply time the U.S. markets with the **Long and Short** strategy, you can buy the many ETFs tracking the broad U.S. stock market indexes such as the Nasdaq 100 ETF QQQQ, the Russell 2000 ETF IWM and the S&P 500 ETF SPY during **Buy** signals. We rank 8 separate broad U.S. index ETFs. During **Sell** signals you dispose of these ETFs and replace them with their inverse counterparts PSQ, RWM and SH respectively.

If you are willing to accept higher levels of volatility for you would opt for the **World Long and Short** strategy which calls for holding the Top 5 World ETFs during **Buy** signals, with a 4-week rebalancing schedule. We currently rank 24 separate world ETFs. During **Sell** signals you dispose of these ETFs and buy the inverse Nasdaq 100 ETF PSQ.

TimingCube Results

We introduced the original **TimingCube** Model in **2001** and the **World ETF Ranking** in **2006**. For illustration of the effectiveness of this combined investment approach in all market phases (bull, bear and trendless), we show the hypothetical growth of a \$10,000 investment since 2001 in **Chart 4** below (from 1/2/2001 to 5/27/2008). For that period, our **World Long and Short** strategy has returned over 1600%, that's a 16 fold return, or over 46% annualized. The initial \$10,000 investment would have grown to \$171,377. Had you followed instead the **Long and Short** strategy as applied to the S&P 500 ETF (SPY), the initial investment would have grown to \$35,278 for a return of 252%. This seems low compared to the **World** strategy, but it is outstanding performance compared to simply buying and holding the S&P 500 over the same period. This would have yielded \$11,769, a gain of just 17.69% for a period of almost 7-1/2 years. Such returns make our case against buy and hold for us, and vindicate the value of our investment strategy.

Chart 4: *TimingCube* World Long/Short strategy versus S&P 500. Growth of \$10,000 since 2001



To conclude, we want to emphasize again the simplicity and power of the *TimingCube* approach. By combining these two dimensions, a timing model that identifies the broad market trend and a ranking model that gives us the best world markets to invest in, *TimingCube* provides a unique tool designed to help investors achieve outsized returns over the long term.

For more information, please visit *TimingCube* at www.timingcube.com or contact us at: support@timingcube.com for any questions you may have about this Free Report or about our service.

Appendix A

Key World ETFs

United States	
Market	ETF Ticker
Large Cap Dow Jones 30	DIA
Wilshire 5000	VTI
Large Cap Nasdaq 100	QQQQ
Nasdaq Composite	ONEQ
Small Cap Russell 2000	IWM
Mid Cap S&P 400	MDY
Large Cap S&P 500	SPY
Micro Cap Russell 1000	IWC

North/Latin America	
Country	ETF Ticker
Brazil	EWZ
Canada	EWC
Mexico	EWW

Europe	
Country	ETF Ticker
Austria	EWO
Belgium	EWK
France	EWQ
Germany	EWG
Italy	EWI
Netherlands	EWN
Russia	RSX
Spain	EWP
Sweden	EWD
Switzerland	EWL
UK	EWU

Asia/Pacific	
Country	ETF Ticker
Australia	EWA
China	FXI
Hong Kong	EWH
India	PIN
Japan	EWJ
Malaysia	EWM
Singapore	EWS
South Korea	EWY
Taiwan	EWT

Africa	
Country	ETF Ticker
South Africa	EZA

Investing in international index ETFs comes with a set of specific risks which at times can include country or regional economic/natural/political issues impacting local stock markets, poor correlation with world markets and/or *TimingCube* signal, high volatility, low liquidity and currency fluctuations.

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