

Moving From Making Money to Creating Wealth

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Abstract:

By changing two rules, albeit drastically, U.S. stock markets can be transformed from a volatile casino for the few to a stable and reliable wealth-creation machine for the many. Currently, money can be made if the price of a share changes in either direction. It is in every trader's (extremely) short-term interest to keep the prices changing. The idea presented here is to slow the fall of a stock's price so that the market can soberly evaluate the true worth of a share. We hope to begin a conversation that will allow investors to realize that their long-term interest lies in a stable market, immune from shocks, rather than a market resembling a frantic casino.

It turns out that by applying the proposed rules to a fictitious stock index made of 36 randomly chosen stocks that are traded on the NYSE, the recession from 2007 – 2010 would probably not have occurred. This "T²" or "TSQ" index (named for the authors) almost exactly mirrors the DJIA and S&P indexes during the same period. (We suspect that *any* randomly chosen stocks would also mirror the DJIA and S&P.) Companies that suffered greatly, either from being swept up in the selling frenzy in October 2008 or from being poorly managed, will still suffer but much more slowly. Money can still be made by shorting over-priced stocks but not as quickly. Overnight fortunes can still be made, but not by betting on price changes.

Introduction:

First, a necessary disclaimer. I am not trained in either Finance or Economics; my background is Aerospace Engineering and Computer Science. My sole exposure to finance and economics is the basic courses required for an MBA. What follows is based solely on the data.

The history of the stock market, and presumably the economy, as measured by the DJIA and the S&P since mid-December, 1994, has been one of rapid climbs and precipitous drops (Figure 1).

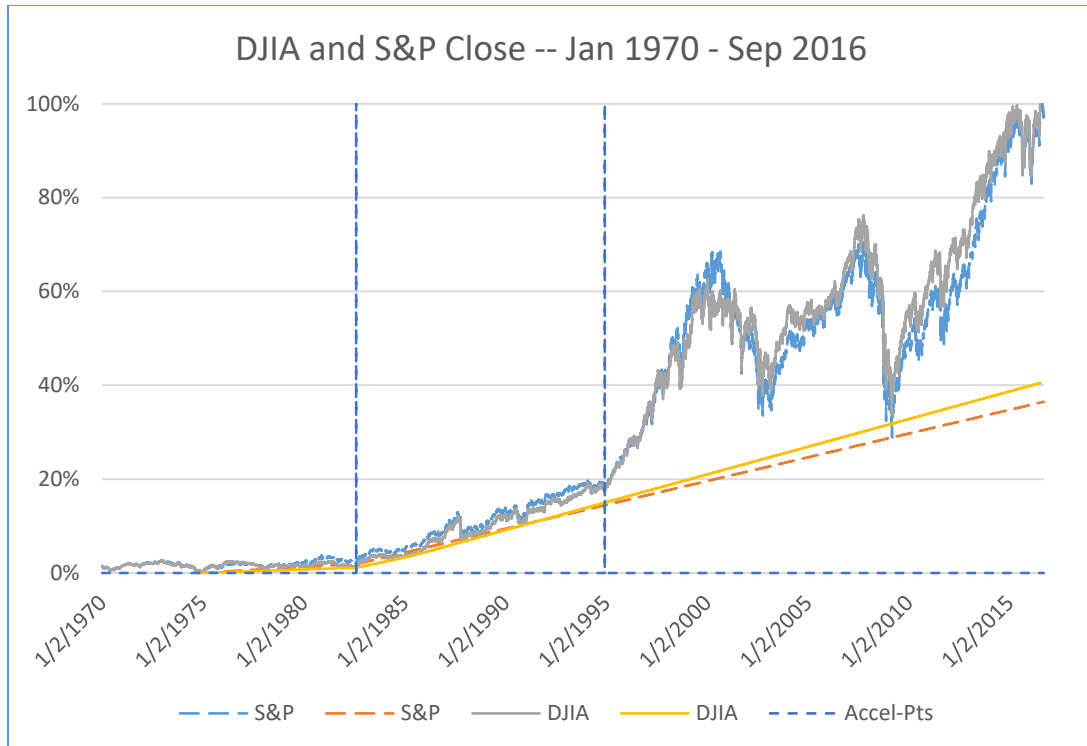


Figure 1: DJIA and S&P Close, January, 1970 – September, 2016

When risk assessment falters, as it did ten years ago, or when algorithms get caught in a loop, as happened seven years ago, a great deal of money is lost. The recession of 2007 – 2010 and the “flash crash” of May, 2010, didn’t hurt those traders who trade just for money. All that’s required for that population to make money is that prices change.

Looking solely at the data, it appears that the desire of those with a stake in keeping the rising stock market rising has led to an economically dangerous path of printing money and borrowing against an inflated stock market. See Figures 2 and 3.

I will propose two rules changes that appear to be capable of returning the capital markets of the U.S. to the creation of wealth for the many and away from the creation of extraordinary amounts of money for the few. The probability that these rules will be adopted is zero, but the thought experiment is worthy of a serious conversation.

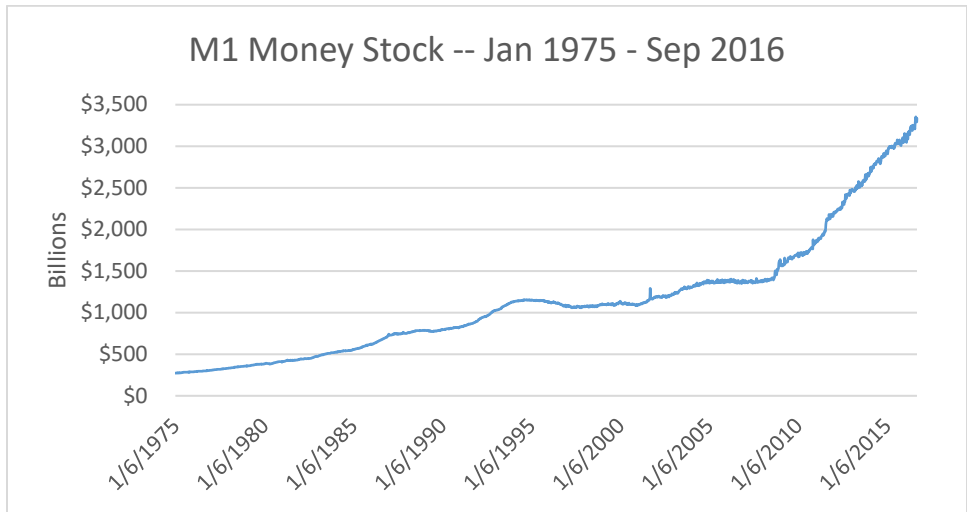


Figure 2: M1 Money stock, showing rapid increase beginning in 2008.

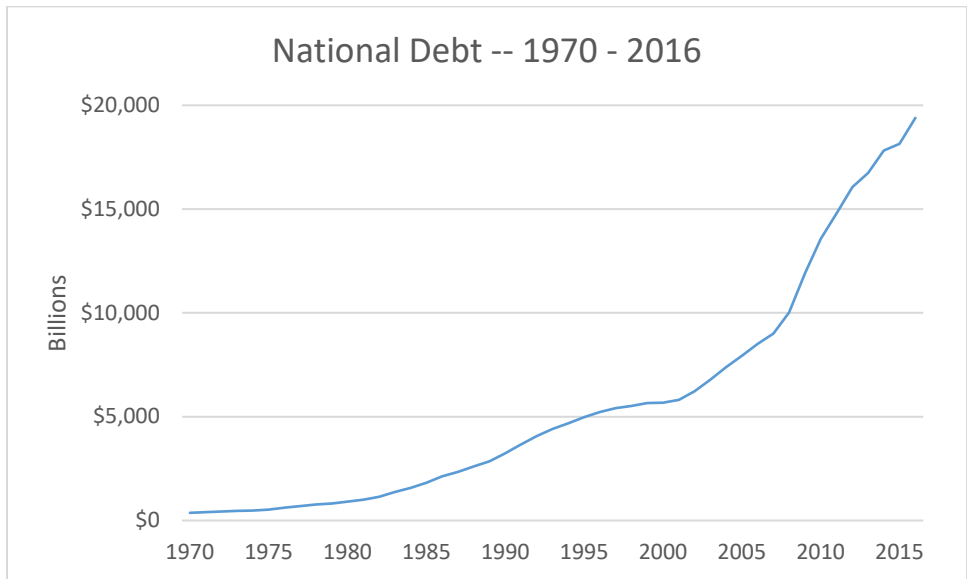


Figure 2: National Debt, showing rapid increase beginning in 2001 and accelerating in 2008.

Discussion:

The descent into recession and subsequent recovery of 2007 – 2010 can be easily seen in Figure 4, which shows the DJIA and S&P indexes normalized to vary from 0% to 100% of their value during that period of their history. The two indexes are so similar it is virtually impossible to tell which line is which even though the S&P is a dashed red line and the DJIA is a solid black line.

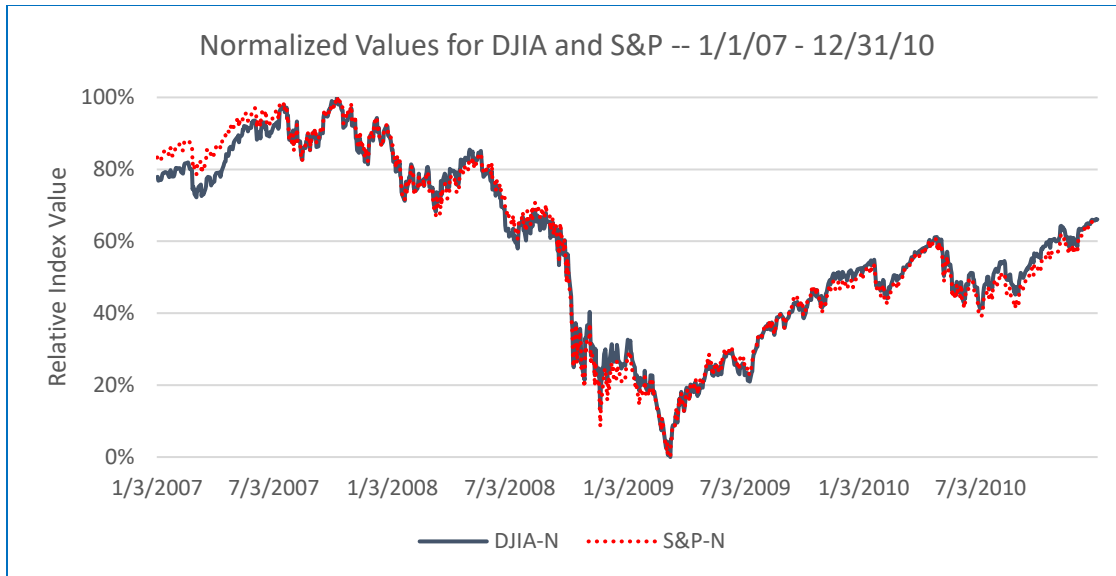


Figure 4: Normalized DJIA and S&P, January 1, 2007 – December 31, 2010

What is particularly striking are the increasingly steep declines through 2008 until early 2009, almost as though a positive feedback loop was involved. What would happen, I wondered, if such a thing weren't possible?

As mentioned above, I am not trained in Economics or Finance, but it seems to me that the success of American capital markets has attracted increasingly complex investment instruments that have added many layers of separation between investor and company. The complexity of the instruments has made investing an almost incomprehensible task as risk is divided up and spread around into layer after layer of thoroughly hedged bets.

This is not economically healthy, since the underlying worth of the endeavor being financed is moved farther and farther from consideration and all the activity is about money rather than a sound economy. As money is moved farther and farther from what gives it value, the market becomes more and more unstable and subject to large and sudden moves.

Suppose, however, that a share of stock could not lose more than a small fraction of its value each 24 hours. Any share could rise as much as demand dictates, but could not fall more than, say, 0.2% from its opening price in any 24 hour period. A company deserving of being punished by the market for poor management would still lose half its value in a year; a severe punishment indeed. There would, however, be time for management to clean up its act or be replaced, so that employees and investors wouldn't lose everything.

To investigate this idea, my graduate assistant and I created a fictitious stock index of 36 randomly chosen stocks traded on the NYSE. We meant to choose from the 419 stocks on the NYSE with a dollar volume over \$20M as reported by the National Volume Summary, 18 Jun 2002 to 30 Sep 2016. Data availability changed our stock list from the original 36 to 15 from the original list and 21 from the 2,439 stocks with dollar volumes over \$100K, all but two of which were over \$1M. Our stock index's component stocks turned out to be quite random indeed.

Our index was calculated the way we understand the S&P is calculated. Specifically,

$$TSQ = C \sum \frac{S_i}{\sum S_i} P_i$$
 where S_i is the number of shares outstanding and P_i is the price of the stock.

C is a constant that we left at 1. When TSQ is normalized and placed on the same graph as the DJIA and S&P, Figure 5 resulted.

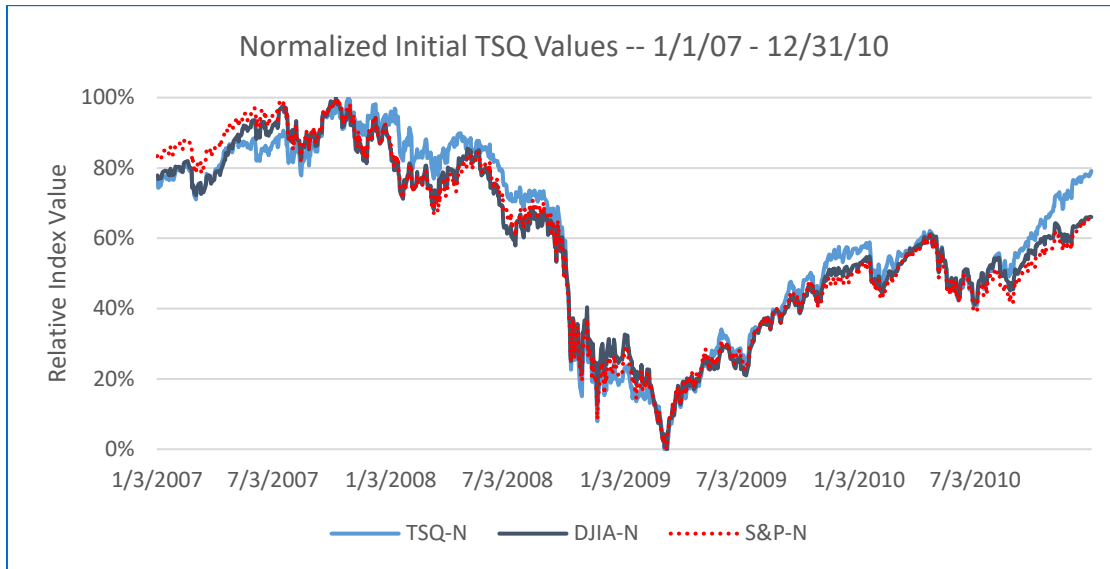


Figure 5: TSQ index compared with the DJIA and S&P, Jan 1, 2007 – Dec 31, 2010.

These results gave us some confidence that whatever we did to our fictitious index would be a close approximation to what would have happened to the major indexes.

Our thesis is that preventing stock prices from dropping precipitously will make stock selection a decision of choosing quality rather than one of anticipating price movement, in effect transforming the market from a casino back into a capital market.

We acknowledge that the “get mine *now*” mentality of those currently prospering in the “casino” will prevent anything like that from actually happening, but we hope that enlightened self-interest of an economy that promulgates long-term and widespread prosperity will eventually triumph over infantile instant gratification.

Rules Changes:

We are not familiar with the (probably) hundreds of procedural rules that the various stock exchanges are subject to and we acknowledge that what we propose will have a significant “ripple effect” throughout all the various procedures currently in place. Our purpose is not to propose a detailed program, but to simply ask “What if?”

The first rules change is that once a stock’s price has fallen a small amount, say, 0.2%, from its opening value, it cannot fall further until the next opening bell.

The second rules change is that the opening bell signals the beginning of a 24-hour period of trading on the exchange and the end of the previous 24-hour period: thus around-the-clock trading. No after-hours trading or reward or penalty for time zone differences. (There should probably be a short “no-program-trading” window, maybe 30 minutes, after the opening bell so that small investors aren’t locked out from selling down-trending stocks or from shorting stocks.)

Consequences:

If no one is willing to purchase a stock at the marginally lower price, so be it. Perhaps by the next day the company will have figured out what to do to make its stock desirable again. If not, it may well decline again. And again, and again, inching downward, and after a year the company will be worth only half what it was. During the year, management can clean up its act, or its Board can get new management.

If some political event occurs somewhere in the world that causes widespread uncertainty, the market cannot fall precipitously. The economy will not be affected while the political situation resolves itself. The same will be true for any event that would today roil the market.

Shorting a stock is still possible and a 100% annual return on a seriously flawed stock is the result of shorting a stock that incurs a 0.2% daily drop in price. Could anyone, no matter how greedy, be disappointed with a 100% annual return?

There is no limit to how much or how fast a stock can rise in price. But purchasing a stock must be tempered by the knowledge that it may not be salable if the price becomes too inflated. One must choose wisely based on the underlying quality of the stock.

With no after-hours trading and with no quick exit from a “gambling purchase,” where will the trillions of dollars currently inflating the market go? Realistically, we feel that most of it will go overseas to less regulated markets, at least until severe tax consequences for such off-shoring are implemented, but the idealistic answer is “new ventures.”

New ventures can create an overnight fortune, provided they are sound investments. With trillions of dollars available for sound investments, perhaps many new ventures will need to hire many people. With many new ventures hiring new people, perhaps governments will have more tax dollars to care for fewer people. Perhaps with more dollars available for fewer needy people, major infrastructure projects can be undertaken, further increasing employment.

Index Behavior:

Is the idealistic fantasy of the previous section possible? What would an index do if the draconian curbs on selling and the abolition of after-hours trading were implemented? What would have the market done, how would it have behaved, if the rules changes above were in place during the recession? Of course, no one knows or can know, but again, what follows seems like a reasonable thought experiment.

There are three scenarios that we feel could have happened; these are illustrated in Figures 6 and 7.

Figure 6 shows the first 16 days of 2007 for the alphabetically first-by-symbol company in the TSQ index. The solid (blue) line is the actual price history of the stock. When the actual price declines, we limited that decline to 0.2% of its opening price. But what would the market have done when the price rose?

The first possible response was what we call “Up when up” or UWU. When the historical price rose, the imaginary historical price also rises and by the same amount. That behavior is shown by the top (orange) dotted line.

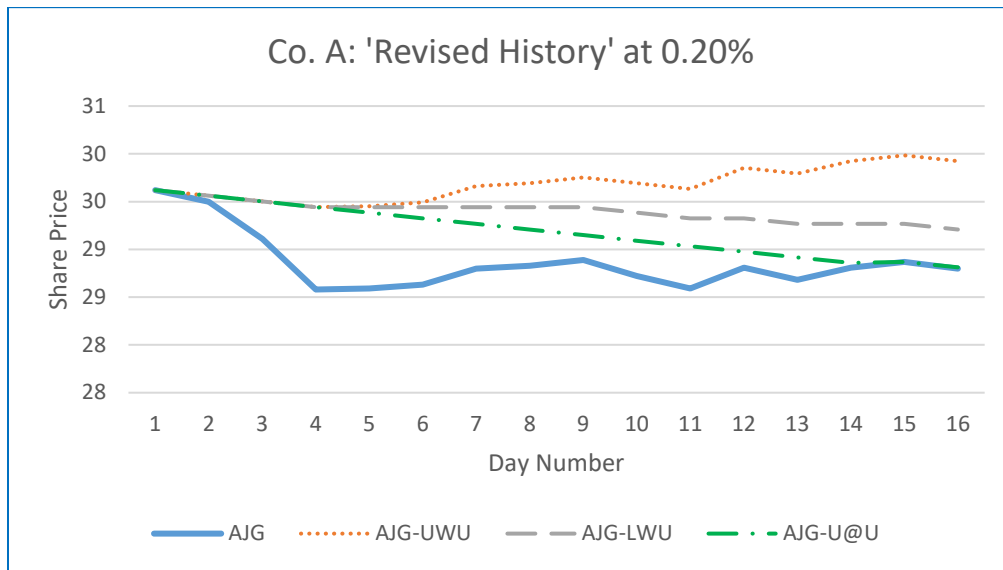


Figure 6: Illustration of three possible alternative histories.

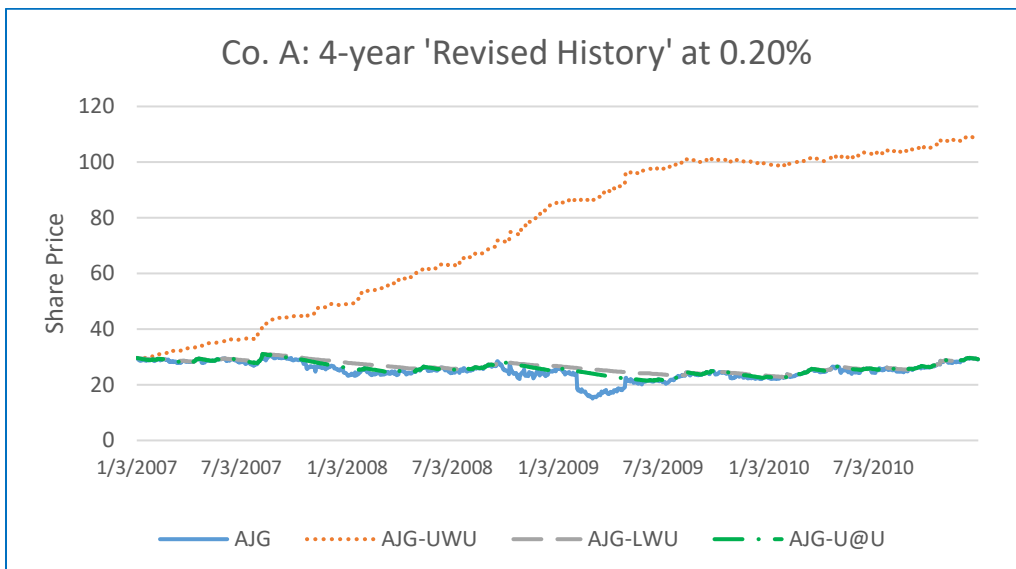


Figure 7: Illustration of 4-year history of three possible alternative behaviors.

The second possible response was based on the following. The historical price rose on that particular day because the price of the stock was what it was. If it had been higher, perhaps it would not have risen that day even though it actually did. Our second scenario, then, is that if the price actually rose, it would might or might not have risen from a higher price, but it would not have declined. This scenario is called “Level when up” or LWU. (It actually should have been called “at least not down when up” since there are days when the alternative history is just slightly higher than the actual price and then the price rose. In that case, the alternative price also rose, but only enough to close at the historical price.)

Finally, the third and most conservative scenario is that the stock would not have risen until the price was what it was historically. Only at that price was the stock deemed attractive enough to rise in price. This scenario we’ve called “Up at up” or U@U. (This scenario also has the “at least” provision built in, as above.)

In all three possible behaviors, none results in the stock price going below its historical price. This is true for every publically traded company in the index and, in fact, in the country. The scale in Figure 7 makes the historical losses in 2009 seem less dramatic, but even the most conservative alternative behavior caused the deep recession to disappear; it never happens.

When these adjustments are made to all the stocks of the index, Figures 8, 9, and 10 result.

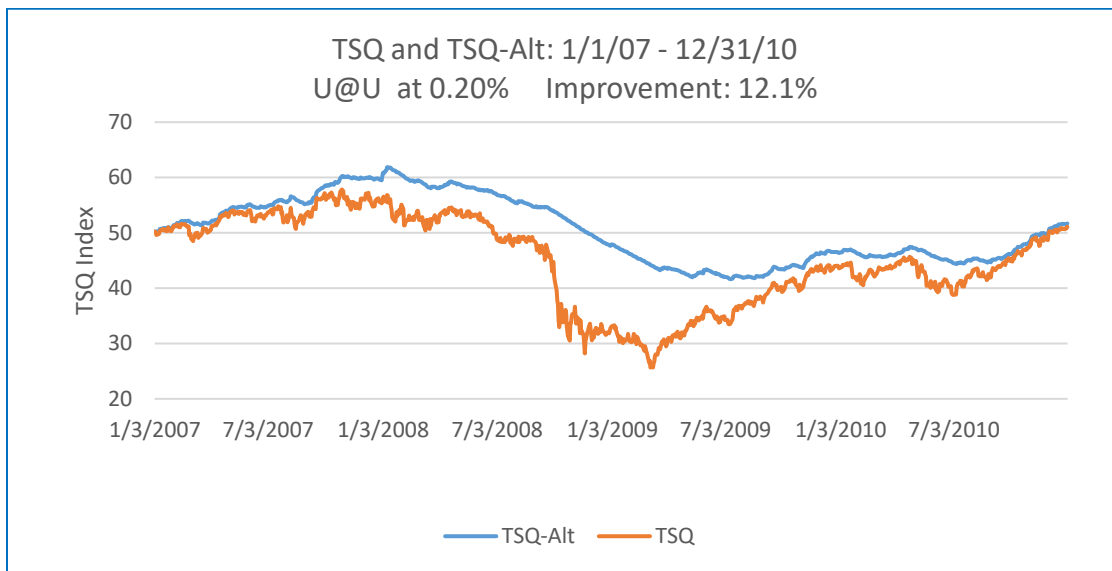


Figure 8: Most conservative alternative history.

The most conservative alternative history shows the stock rising 20% in the first year and then falling about 30% over the next year-and-a-half. Comparing the two histories, the alternative history is a 12% improvement in collective worth relative to the actual history.

The improvement increases as the cut-off point falls closer to zero, as one would expect. At 0.15% (not shown), the improvement is 15% and the post-recession low is about 45 points. The difference is that poorly performing companies aren’t punished as severely. At 0.15% they lose 42% of their value in one year rather than 52% at 0.2%.

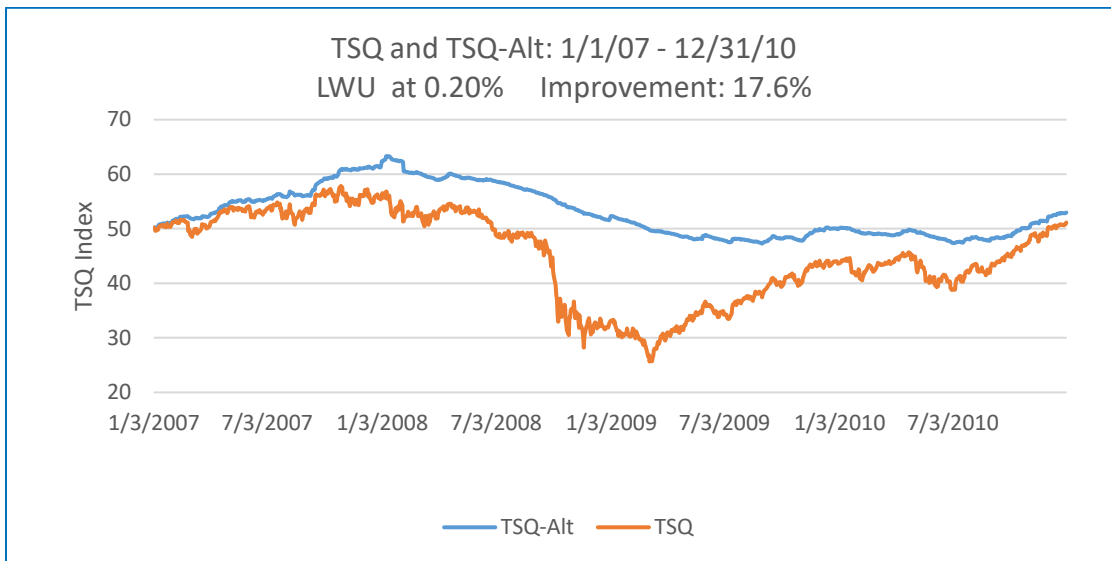


Figure 9: Mid-range alternative history.

With the “no decline if the historical price rose” scenario, the improvement is about 50% better than the most conservative alternative scenario. And for this scenario, the recession doesn’t happen: the index bottoms out at the same point where it began.

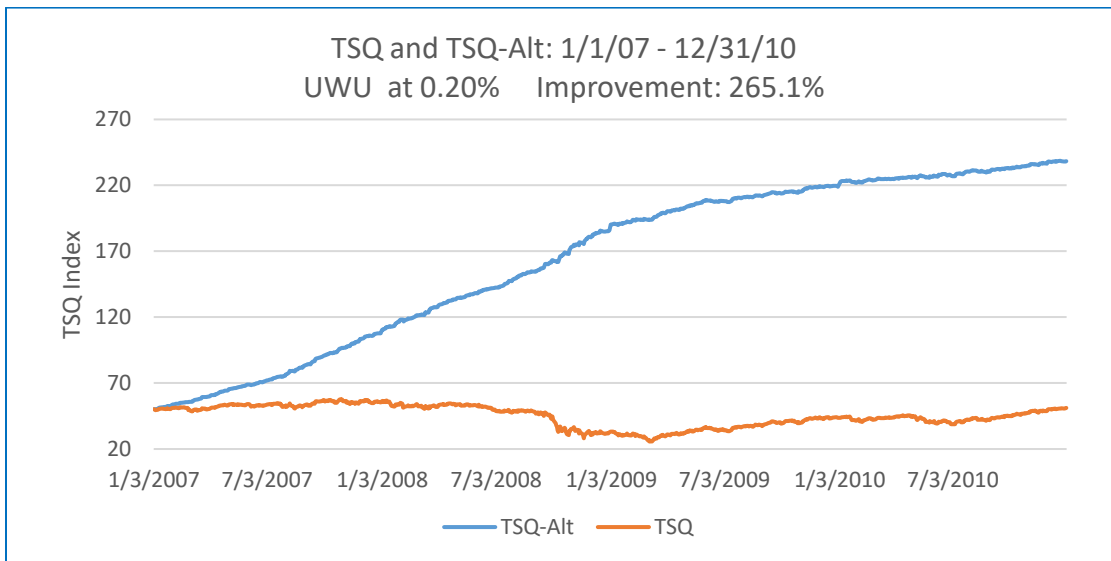


Figure 10: Least conservative alternative history.

The final scenario, the “if the stock actually went up this much on this day, then it will in this alternative history, too” option may be, surprisingly, not as unlikely as it seems at first glance. It is still our least favorite simply because it’s too good to be true, but if we consider the question, “Where else will the money go?” it might, in fact, produce a windfall for everyone.

Finally, the most realistic alternative history may well be a mixture of all three scenarios both from company to company and within one company’s history. If that’s the case, we feel that the

net effect will be something like the mid-range scenario (LWU) and if *that's* true, a cut-off point larger than 0.5% will have virtually no effect. See Figure 11.

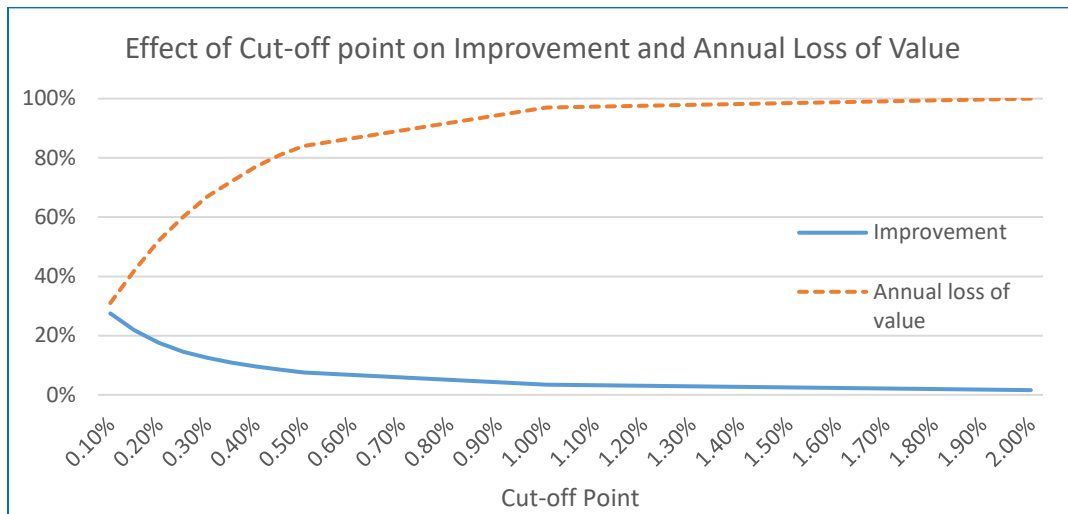


Figure 11: Only small cut-off values have a noticeable effect.

Conclusion:

We have offered a thought experiment of two rules changes that may be a reasonable path to returning the stock market to being a capital market for good ideas rather than a volatile casino.

The first is to eliminate the separation of the investor from the underlying value of the investment. So many layers of risk distribution have been created in increasingly obscure instruments that the investor is investing in algorithms rather than the underlying quality of the company. The first rule is simply “No share price may drop more than 0.2% from its opening price in any 24 hour period.” The second rule is to eliminate after-hours trading. The markets will be open around the clock.

We present data that shows that such rules will inure the market indexes from susceptibility to emotional shocks and attempts at manipulation. We also acknowledge that there is no chance that such a scenario will come to pass, but we feel that the thought experiment and the potential benefits to the world economy are worth a serious conversation.