



## Coin Flipping and the Search for Alpha

May 13, 2008

The following letter is in response to a [letter to the Editor](#) published last week.

*Dougal Williams and I have been debating the merits of active vs. passive investing. Mr. Williams seems open to the possibility that skilled managers exist but since he cannot identify them in advance, he believes active investors must live in a Fantasy Land. In this article, I explain what we have done to find skilled investors and provide links to data showing the effort has been worthwhile.*

### **The Search for Alpha**

As surprising as this may sound, very few people in the investment industry have a track record they can call their own. Funds have track records, but managers do not. Without knowing a manager's track record, how does any advisor find skilled managers to put to work for their clients?

When I realized this, it occurred to me that if we knew the track records of all the managers and their analysts we could do a better job of identifying skilled investors than any other firm. We started Marketocracy to let managers, analysts, and everyone else establish their own track record so we could use the data to assemble the best portfolio management team in the industry. We do this through a website that enables anyone to manage a model portfolio that is priced each day as if it were a mutual fund.

Since we started, more than 100,000 people have set up a model portfolio, and there are now over 30,000 whose track records are more than 5 years old. For each investor, we can drill down into their track record to analyze returns stock-by-stock, and even trade-by-trade. I would like to share some of the lessons we've learned from analyzing this data about how to identify and harness investment skill.



## **Lessons from Coin Flipping**

But first, let's revisit the coin-flipping analogy I used in my first letter. In this analogy, 42,000 people in a stadium are each given one of three types of coins - gold, silver, or bronze. The gold coins are weighted to come up heads 60% of the time, the silver coins 50%, and the bronze coins only 40%. All the coins are painted green so you cannot tell what kind of coin anyone has. After each coin-flip, those who throw tails are asked to leave the stadium. After the 10th coin-flip, we expect there will be 100 people left who each threw heads 10 times in a row: 85 of them will have gold coins, 14 will have silver coins and 1 will have a bronze coin.

In the next 10 coin-flips the entire group of 42,000 is expected to average 5 heads. But among the 100 who previously threw 10 consecutive heads, the expected average is 5.84. Based on their track record, these 100 can be expected to outperform everyone, even though these 100 include 15 who don't have gold coins, and none of these 100 is expected to repeat their performance by throwing 10 heads in a row again.

When it comes to investing, we could never be as confident about beating the market. Nevertheless this thought experiment has three lessons for us.

First, we are not looking for the one person with the best track record. We are looking for a group.

Second, we don't have to be right about every manager we select for the group. Randomness will ensure that some lucky people appear skilled. We have to set our standards high enough so we can be confident that most of the lucky ones wash out, leaving us with a group that is largely made up of the skilled.

Third, in order to outperform an index fund, the group as a whole has to do better than the average investor, but none of the managers has to repeat their stellar returns.

## **Back to Investing**

When it comes to investors, throwing heads is analogous to generating alpha. In concept, an investor has a universe of stocks from which to select a portfolio. If an investor's portfolio delivers a higher return than a portfolio consisting of the entire universe of stocks, then the excess return (alpha) can be attributed to the investor's skill. Investors who don't deliver alpha can be excluded from further consideration. As in the coin-flipping analogy, these people can leave the stadium.



Of the investors who generated alpha, it is certainly possible that any of them could just be lucky. However, the larger the alpha, and the longer the track record, the less likely that is the case. And, when we are talking about investors instead of coin-flippers, other metrics can increase our confidence that we are finding skill.

### **Improving Confidence**

At the heart of it all, skilled investors have to do two things well — pick the right stocks, and trade them well.

To tell us whether an investor is skilled at picking stocks, we use a metric we call the winning percentage. It is simply the number of profitable stocks divided by the total number of stocks that an investor has ever put into their model portfolio. An investor with a winning percentage of 85% is someone who puts a lot of effort into stock selection and is doing a very good job.

To determine whether an investor is skilled at trading we use a metric we call the average gain to average loss ratio. We calculate it by taking the average gain from all the winners and dividing by the average loss from all the losers. A ratio of 2 means that the investor makes twice as much money when they are right about a stock as they lose when they are wrong. This investor is doing a good job of selling the losers before the losses become large, while also letting the winners run.

### **Putting it Together**

Consider two investors who each delivered the same alpha over the last five years. Many would say they are equally skilled but also equally likely to be lucky.

But, what if I told you that one investor's alpha came from a single trade (buying Google at its IPO) and the other made hundreds of trades of which 85% of the stocks were profitable, and the average gain to average loss ratio was 2? Would this information change your confidence in one versus the other?

It does for me. Although we use alpha as a measure of skill, it is not a good estimate of future returns because it is the result of past opportunities that may no longer be available. We should not expect that future opportunities will be the same as in the past.

However, a winning ratio of 85% and an average gain to average loss ratio of 2 tells us that the investor has good judgment about stock selection and trading decisions. I have more confidence that the investor will apply the same judgment in the future as in the past, than that he will achieve comparable alpha.



It is metrics like these (and others) that go well beyond what is typically available about mutual fund managers that improve our confidence that the investors we are selecting are skilled.

### **Putting Theory into Practice**

From our coin-flipping analogy we learned that if we want to outperform an index fund, our chances are better if we use a team of skilled investors rather than just choosing the one with the best track record. Our data shows that skilled investors exist, but they are rare. Based on our analysis and, after additional due diligence, we have selected and signed research contracts with roughly 500 investors who have demonstrated a high level of skillfulness. It is from this group that we select our research team, which we call the "m100."

Our coin-flipping analogy also teaches us that no matter how good someone's track record looks, there will inevitably be some lucky people mixed in with the skilled ones. For this reason, when we select someone for the m100, we make it clear from the outset that ongoing membership is at our discretion. This arrangement allows us to correct mistakes, and gives us more flexibility than any other portfolio manager to change our research team as the landscape of market opportunities changes.

Finally, just as none of the 100 coin-flippers needs to throw 10 heads in a row a second time in order to for the group to beat all 42,000 people in the stadium, none of the m100 has to repeat their stellar performance in order for the m100 to outperform an index fund. If the m100 possesses above-average skill, we can be confident that, over a reasonable investment horizon, they will outperform the average investor -- which is what an index fund will mirror.



## **The Acid Test**

The acid test of any active strategy is whether clients get a better return than an index fund. Since November 5, 2001, we have put this strategy to the test by using it to manage a mutual fund. I cannot say much about the fund without turning this into a marketing piece. However, I can give you navigational links to the information you need to determine if this strategy passes the acid test. [Click here](#) to go to Morningstar's webpage for our fund. [Click here](#) to go to the fund's website.

If you would like to know more about how we find and manage skilled investors, contact me at [ken.kam@marketocracy.com](mailto:ken.kam@marketocracy.com). Or, if you will be attending the NAPFA conference in Long Beach, look for David Diesslin. Dave is on our Board of Directors and is quite knowledgeable about everything we do.

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