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Black Swans

Overview: When the market experiences significant swings, some investors may be tempted to try to time the market in an effort to boost returns. The following explains why it is extremely difficult, if not impossible, to enhance returns through market timing efforts.

In his book *The Black Swan*, Nassim Nicholas Taleb notes three things that constitute a black swan:[1]

- It is an outlier, as it lies outside the realm of regular exceptions.
- It carries an extreme impact.
- Human nature makes us concoct explanations for its occurrence after the fact, making it explainable and predictable.

In other words, events that occur without any forewarning that they would occur are considered black swans. The events of September 11, 2001 are an example of a black swan, as is the stock market crash of October 19, 1987, when the Dow fell 23 percent in one day.

If investors could avoid the effects of black swans, the impact on investment returns would be enormous. Consider the following: The working paper, “Black Swans and Market Timing: How Not to Generate Alpha,” studied stock market returns in 15 developed countries (including the U.S.) for varying time periods, ranging from 31 years for Canada and Thailand to 79 years for the U.S. The authors found that if investors could avoid the worst 10 days, their returns would be 150 percent more than the returns of buy-and-hold investors.[2] This makes market timing a tempting strategy.

However, before being tempted, consider these words of wisdom from legendary investor Peter Lynch, who noted that he had never seen a market timer on *Forbes’* list of the richest people in the world: “If it were truly possible to predict corrections, you’d think somebody would have made billions by doing it.”[3] Lynch’s warning is supported by the evidence demonstrating the staggering odds against the likelihood of successfully timing the market, such as the aforementioned working paper. Here are some of the paper’s findings:

Stock Returns Are Not Normally Distributed

Black swans appear with far greater frequency than predicted by normal distributions. For example, for the Dow Jones Industrial Average, 29,190 trading days (107 years) produced a daily mean return of 0.02 percent and a standard deviation of 1.07 percent. This means investors should expect 39 days to produce returns above 3.22 percent and 39 days to produce returns below –3.17 percent. However, there were six times the number of returns outside that range — 253 daily returns below –3.17 percent and 208 above 3.22 percent. Also consider the evidence in the following table:

Mean Returns		
	Returns	Standard Deviations From the Mean
Best 10 Days	11.10%	10.4
Best 20 Days	9.37%	8.8
Best 100 Days	5.92%	5.5
Mean Return	0.02%	N/A
Worst 10 Days	–10.46%	9.8
Worst 20 Days	–8.73%	8.2
Worst 100 Days	–5.87%	5.5

Impact of Missing the Best and Worst Days

The table above also demonstrates how the markets' returns (both good and bad) often come from short bursts. The following table shows how missing the best days and worst days of the market would affect overall returns.

Missing Best and Worst Days	
	Change in Terminal Wealth
Best 10 Days	–65%
Best 20 Days	–83%
Best 100 Days	–99.7%
Worst 10 Days	+206%
Worst 20 Days	+532%
Worst 100 Days	+43,397%

The author concluded: "These figures speak for themselves and should help investors notice the odds they are against when trying to successfully time the market. A negligible proportion of days determines a massive creation or destruction of wealth. The odds against successful market timing are just staggering."

International Markets Produce Same Results

The departure from normal distributions was clear in all 15 countries studied:

- Australia
- Canada
- France
- Germany
- Hong Kong
- Italy
- Japan
- New Zealand
- Singapore
- Spain
- Switzerland
- Taiwan
- Thailand
- United Kingdom
- United States

Across all 15 markets, the average number of outliers was more than five times higher than expected. Also, in 14 of the 15 countries (with the exception of Australia) missing the 100 best days resulted in a loss of initial capital invested.

Conclusions

In his book *Common Sense on Mutual Funds*, John Bogle said "After nearly 50 years in this business, I do not know of anybody who has done it [market timing] successfully and consistently. I don't even know anybody who knows anybody who has done it successfully and consistently."[4] Bogle understood that investors do not earn returns smoothly over time. Instead, they earn them largely as a result of unpredictable bursts and crashes. Given that so much of the action happens on a small number of days, the odds of successfully predicting the days to be in and out of the markets are close to zero. The real danger for investors is not being there when the big up moves occur.

The winning strategy is to both accept that markets cannot be timed and build the expectation of black swans into an investment plan. Forewarned is forearmed. In addition, broad global diversification (including an allocation to high quality fixed income assets sufficient to reduce overall portfolio risk to an acceptable level) helps mitigate the impact of the inevitable appearance of black swans. As the working paper's author, Javier Estrada, concluded: "Much like going to Vegas, market timing may be an entertaining pastime, but not a good way to make money."[5]

[1] Nassim Nicholas Taleb, **The Black Swan.** (Random House, 2007).
[2] Javier Estrada, "Black Swans and Market Timing: How Not to Generate Alpha." Working Paper, November 2007.
[3] Peter Lynch, "Fear of Crashing." *Worth*, September 1995.
[4] John Bogle, **Common Sense on Mutual Funds.** (Wiley, 1999).
[5] Javier Estrada.

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