The Best Metric for Predicting Recession Losses

By Sure Dividend

A Sure Dividend reader question recently made me curious about what ratio best predicts recession losses on Dividend Aristocrats. I decided to look at different quantifiable commonly used risk proxies:

- Standard Deviation
- Downside Deviation
- Maximum Drawdown
- Beta

Unlike some of my other studies, this one uncovered some useful information that I was not expecting.

Methodology

The experiment tests the 4 ratios above (using 10 years of data, starting at the end of 2007 and going through 1998) to see which best sorted for losses during the year 2008 – when the market collapsed.

The image below shows the Dividend Aristocrats at the start of 2008 used in this experiment (BUD, WWY, and ROH are excluded due to not having price data).

Dividend Aristocrats - Start of 2008			
ABT	DOV	LLY	RF
ADM	ED	LM	SHW
ADP	EMR	LOW	SIAL
AFL	FDO	MCD	SNV
APD	FHN	MHP/MHFI	STR
AVY	FITB	MMM	STT
BAC	GCI	MTB	SVU
BBT	GE	NUE	SWK
BCR	GWW	PBI	TEG
BDX	JCI	PEP	TGT
CB	JNJ	PFE	USB
CINF	KEY	PG	VFC
CLX	KMB	PGR	WBA/WAG
CMA	KO	PPG	WMT
CTL	LEG		

Hypothesis

Going into this experiment, I thought that the standard deviation would best predict losses during recessions (the lower the standard deviation, the lower the loss). I thought that downside deviation would be close behind, with maximum drawdown and beta being less indicative of future losses.

Results

The results of the experiment were very interesting to say the least… The image below summarizes the results of the study:

	Std. Dev	Downside Dev	Max DD	Beta
Correllation with 2008 Return	0.072	0.069	0.077	-0.196
Return of 10 'Best' Ranked	76.73%	75.08%	81.32%	80.08%
Return of 10 'Worst' Ranked	79.66%	77.80%	69.21%	63.30%

The further away the correlation is from 0, the more accurate a ratio was in sorting Dividend Aristocrats by return in 2008. The year 2008 was chosen because it has been the worst year for stocks in decades – it is an excellent year to test what happens when stock prices collapse.

Contrary to what I expected, Beta was by far the best predictor of losses during 2008 (using stock price data from 1998 through 2007). Beta had a correlation of -0.196 to 2008 returns of the Dividend Aristocrats – a far higher number than any other tested.

This makes sense because the entire market collapsed. Stocks with less exposure to overall market prices performed better in 2008. Low Beta Dividend Aristocrats had lower losses than the stock market as a whole or the Dividend Aristocrats Index as a whole in 2008. The 10 lowest Beta Dividend Aristocrats in 2007 are listed below:

- Consolidated Edison (ED)
- Integrys Energy Group (TEG)
- Procter & Gamble (PG)
- Kimberly-Clark (KMB)
- Questar Corporation (STR)
- PepsiCo (PEP)
- Coca-Cola (KO)
- Johnson & Johnson (JNJ)
- Archer-Daniels-Midland (ADM)
- Clorox (CLX)

Today's 10 Lowest Beta Dividend Aristocrats

The 10 lowest Beta Dividend Aristocrats now are listed below:

- Consolidated Edison (ED)
- Kimberly-Clark (KMB)
- McDonald's (MCD)
- AT&T (T)
- Clorox (CLX)
- HCP, Inc. (HCP)
- Family Dollar (FDO)
- PepsiCo (PEP)
- Procter & Gamble (PG)
- Colgate-Palmolive (CL)

There are several similarities with the current low Beta Dividend Aristocrats of now and those at the start of 2008. Consolidated Edison, Kimberly-Clark, Clorox, PepsiCo, and Procter & Gamble are on both lists. As you can see, the consumer products industry is heavily over-represented in low beta stocks.

Final Thoughts

Based on the study above, Beta is the best metric to apply to high quality stocks in order to find stocks that are likely to fall less during recessions. When recessions occur, the correlation between all stocks moves closer to 1; everything falls at the same time. Low beta stocks don’t fall as far as fast, and therefore tend to outperform in recessions.