



RESEARCH

Stock Scoring System

An in-depth look at Burney's
stock selection process

Burney Scoring System

An in-depth look at Score

Burney's proprietary, quantitative stock selection model, called Score, evaluates companies according to key growth, valuation, profitability, safety and technical attributes. Chosen from a growing factor library of more than 4,000 factors, Burney analysts update the model twice a year – in April (model A) and October (model B).

Factors that correlated best over the most recent correlation interval while also exhibiting strong long-term correlations are whittled down so only the top 40 factors make the model. Any factors that correlate strongly with other factors are excluded to avoid too much overlap. The stock market moves in Size and Style phases so, for Score to be effective, it must be Size and Style neutral. A growth model won't work in a value phase and vice versa. To adjust for these effects, the four most recent Size and Style phases comprise the correlation interval.

Stocks in different industries tend to have different characteristics. The factors that are important to Utility stocks may not be important for Technology stocks, for example, so stocks are sorted into 8 "types" – Manufacturing, Healthcare, Services, Technology, Energy, Financials, REITs and Utilities – with a different model created for each type. In the end, each of the 8 models are fed into the Burney Analytical System (BAS4), which evaluates

each company in our stock universe and assigns a Score. Scores are normalized so 50 is the average company and each 10 point increment represents one standard deviation.

Stocks with Scores in the 60's and above are considered buys, stocks with Scores below 40 are considered sells and anything in between is considered a hold. Each model is refreshed with the latest numbers regularly to ensure the most recent data is reflected.

Score Effectiveness

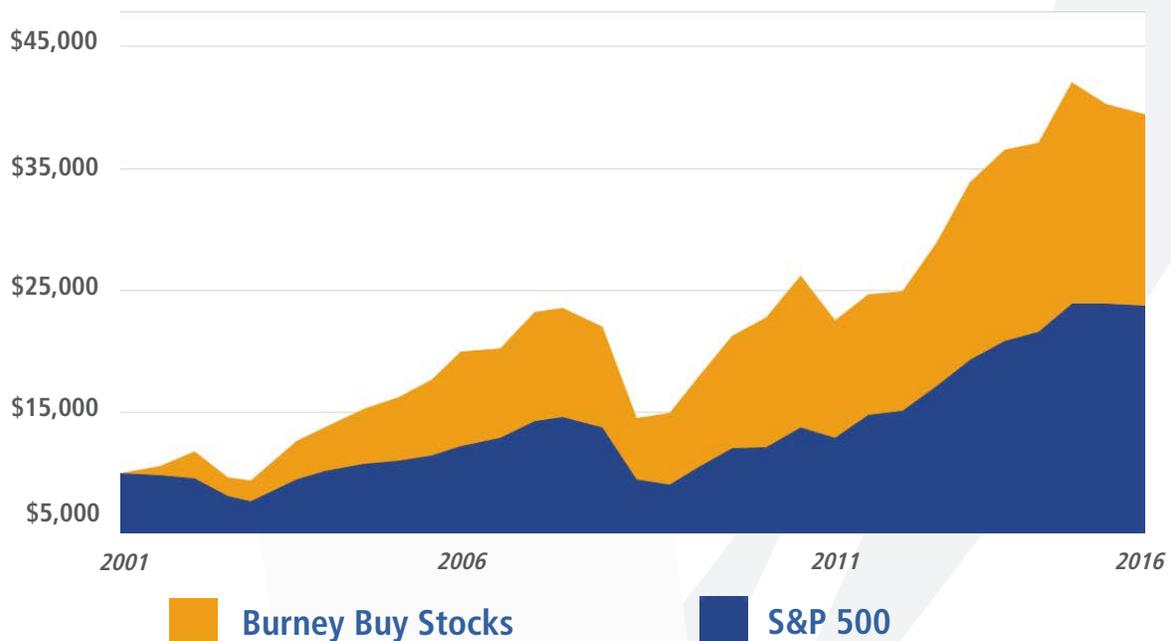
The Burney Analytical Department has been analyzing Score's effectiveness since 2001 by taking the first Scores produced by a newly updated model and reviewing stock returns over the next 6-month period. Evaluations are focused on the Buy-Sell delta, the average of which has been 3.0% since 2001. Over time, this delta has added up to a 155.7% overall advantage for Buy stocks versus Sell stocks.

There is a defensive element to Score as the model performs best, relative to the market, during times of market distress as higher quality companies do not sell off as much as the lower quality companies Score recommends avoiding. During the most recent market correction in 2015, Score produced a 6.1% differential between Buy stocks and Sell stocks. This pattern persists in prior periods of market distress.

Stock Selection

Refined over decades, Burney Company's proprietary analytical model building process ranks companies according to key growth, valuation, profitability, safety and technical attributes. The process identifies attractive equities, whittling down a factor library of over 4,000 factors to determine what predicts the top-performing stocks in various segments.

Performance of Burney "Buy" Stocks vs. the S&P 500



The chart above depicts the return of the stocks Burney Company's analytical system rated as buyable vs. the return of the S&P 500 since 2001. The advantage of knowing which stocks to own - and which to avoid - has been a major driver of alpha.

"When retail investors fail to achieve their investment goals, the culprit is typically poor equity execution. For example, since 2000, retail investors have captured less than half of the stock market return opportunity. Helping investors with this 'hard' investment problem is what we do best."

-Lowell Pratt Jr. CFA, President of Burney Company

Disclosure: The chart above spans 4/11/01 to 5/4/16. The start date of 4/11/01 was chosen because that is the first date the Burney Company Analytical Department began tracking the stock selection model's effectiveness. Buyable stocks include all stocks in the Burney Company's universe of stocks that achieved a Score rating of 60 or higher, excluding micro-cap stocks. The buyable stocks depicted are NOT a portfolio or strategy run by the Burney Company during this time frame. The chart is for illustrative purposes only to show the effectiveness of the Burney Company's stock selection model

through time. Both the return of the buyable stocks and S&P 500 are presented as total return. Past performance is not a guarantee of future results and there can be no assurance that the performances of Burney's analytical system will continue in the future. Equity investment includes the risk of loss. Retail investor performance claim is from the DALBAR 2012 Quantitative Analysis of Investor Behavior.

SCORE					
MDL	TOTAL	BUY	HOLD	SELL	DELTA
01A	6.7%	7.2%	7.1%	5.0%	2.2%
01B	15.6%	19.6%	18.5%	-1.0%	20.6%
02A	-20.3%	-15.6%	-19.6%	-26.6%	11.1%
02B	-5.0%	-4.1%	-4.7%	-7.0%	2.9%
03A	55.5%	42.5%	51.0%	78.6%	-36.1%
03B	10.1%	11.8%	10.1%	8.7%	3.1%
04A	7.4%	11.1%	7.7%	2.2%	8.8%
04B	1.2%	4.4%	2.2%	-3.7%	8.1%
05A	9.2%	10.3%	9.0%	9.2%	1.1%
05B	14.2%	12.9%	13.6%	18.0%	-5.1%
06A	1.4%	2.3%	2.3%	-2.4%	4.8%
06B	12.8%	12.9%	13.6%	9.5%	3.4%
07A	-0.2%	-0.7%	-0.7%	2.1%	-2.8%
07B	-11.0%	-8.3%	-10.4%	-14.5%	6.2%
08A	-32.1%	-30.5%	-30.0%	-37.7%	7.2%
08B	-1.1%	0.4%	-1.1%	-2.1%	2.5%
09A	31.9%	20.2%	26.1%	46.3%	-26.1%
09B	28.5%	22.8%	26.3%	36.3%	-13.5%
10A	0.7%	4.2%	-0.1%	0.0%	4.2%
10B	16.8%	14.7%	17.2%	17.4%	-2.7%
11A	-14.9%	-15.6%	-13.4%	-19.0%	3.4%
11B	15.9%	12.6%	15.3%	19.4%	-6.8%
12A	1.2%	2.1%	0.6%	2.2%	0.0%
12B	18.1%	17.5%	17.7%	19.5%	-2.0%
13A	18.8%	18.8%	17.9%	20.9%	-2.0%
13B	6.4%	7.9%	6.4%	5.4%	2.5%
14A	-1.9%	0.4%	-1.7%	-4.3%	4.7%
14B	12.0%	12.9%	12.1%	10.7%	2.2%
15A	-8.7%	-6.5%	-7.8%	-12.6%	6.1%
TOTAL	340.5%	379.7%	343.9%	224.0%	155.7%
Annualized	10.8%	11.4%	10.8%	8.4%	3.0%

Score has shown an ability to consistently differentiate between stocks to buy and stocks to sell but there are times when Score inverts. As shown in the table to the left, Score tends to perform well in normal and falling markets but inverts during recovery phases. This inversion occurs because the lower quality stocks Score recommends avoiding are the stocks that sold off the most during the correction phase and, as a result, bounce back the strongest during recoveries.

Recovery Score

To account for this known and predictable pattern, a special Score model is maintained for times following market downturns. We call this model Recovery Score.

In the normal Score process, factors are evaluated on correlation intervals that take into account the four most recent Size and Style phases to ensure that a growth, value, large and small phase are all accounted for in the interval. A complete cycle is necessary because factors behave differently during each phase of the market.

Recovery Score assumes that there is another phase in markets, a recovery phase. Rather than going back a complete Size and Style cycle, the correlation interval for Recovery Score consists of the four most recent recovery phases, when stocks returning the most

show characteristics that are not appreciated in normal times. The modeling process otherwise is exactly the same as the normal Score models.

Since Recovery Score was developed, it has been effective. The interval from 2011 to 2014 is a back-test but resulted in a 9.3% annualized delta between Recovery Score Buys and Recovery Score Sells.

MDL	TOTAL	Distressed Score sans Mc			
		BUY	HOLD	SELL	DELTA
11B	16.2%	24.3%	16.4%	13.0%	11.3%
12A	-0.5%	0.8%	-1.3%	0.6%	0.2%
12B	18.8%	24.6%	18.4%	16.8%	7.8%
13A	18.3%	20.6%	19.2%	14.9%	5.8%
13B	6.8%	7.9%	6.7%	6.7%	1.2%
14A	6.5%	6.8%	6.2%	7.3%	-0.5%
TOTAL	85.0%	117.0%	83.7%	74.5%	42.4%
Annualized	23.3%	30.1%	23.0%	20.8%	9.3%

2015's market correction provided us the opportunity to run Recovery Score live and evaluate its performance in real time. The correction ended on 9/28/15 and the results corroborated the back-test results. Recovery Score was, again, effective during this correction.

In the aftermath of a downturn, Burney Company Portfolio Managers will substitute low-Recovery Score stocks with stocks that are buyable by both traditional Score and Recovery Score to take advantage of the boost Recovery Score provides while Score inverts.

Score (9/28/2015-10/13/2015)

	All	Buy	Hold	Sell	Delta
LV	7.5%	8.3%	7.3%	5.5%	2.9%
LG	6.8%	6.7%	6.8%	6.9%	-0.2%
MV	7.6%	7.2%	7.7%	7.9%	-0.7%
MG	6.2%	5.8%	6.1%	7.1%	-1.3%
SV	8.4%	8.8%	8.4%	7.9%	0.9%
SG	6.4%	8.7%	6.0%	6.8%	2.0%
McV	8.0%	7.8%	6.9%	11.5%	-3.7%
McG	7.1%	9.1%	7.3%	6.6%	2.5%
NonMc	7.0%	7.3%	6.9%	7.1%	0.1%
All	7.2%	7.5%	7.0%	7.6%	-0.1%

rScore (9/28/2015-10/13/2015)

	All	Buy	Hold	Sell	Delta
LV	7.5%	10.6%	8.1%	5.1%	5.6%
LG	6.8%	9.5%	6.5%	6.8%	2.7%
MV	7.6%	11.9%	7.2%	6.5%	5.3%
MG	6.2%	7.1%	6.2%	5.9%	1.2%
SV	8.4%	12.3%	8.0%	5.3%	7.0%
SG	6.4%	7.1%	6.5%	4.8%	2.3%
McV	8.0%	15.7%	5.9%	3.0%	12.7%
McG	7.1%	9.4%	6.2%	2.3%	7.1%
NonMc	7.0%	9.4%	7.0%	6.0%	3.4%
All	7.2%	10.9%	6.6%	5.3%	5.6%

Conclusion

Score has been at the center of Burney Company's investment process since its founding in 1974. Though there have been countless tweaks to the process since that time, the underlying philosophy behind Score remains. Only the most meaningful factors correlating to stock returns make any given model.

We hope this paper provides a deeper understanding of our stock selection process.

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