ETFG Red Diamond Risk Scores: Daily Selection (Short Portfolio)

Background: With the explosive growth of Exchange-Traded-Products (ETPs), many firms now use ETPs to execute their trading or investment strategies more than ever before. Research and analytics providers have historically coupled return and risk factors to achieve a holistic view of investment products.

We believe that a quantitative scoring system which independently gauges reward and risk provides more flexibility and precision in modeling ETPs. Although the ETFG Reward and Risk Ratings were not intended as short-term trading indicators, our analysis demonstrates that value exists via daily portfolio selection.

Note: While it may be tempting to view the discussed methodology as a stand-alone strategy, it is certainly not. This paper demonstrates the value and potential Alpha within our quantitative model and more specifically the ETFG Red Diamond Risk Ratings. Clearly, there exist many methods to apply to these underlying ratings in creating various trading and investing strategies.

Summary: ETFG maintains two quantitative models to score ETPs for Reward and Risk respectively – these scores are generated daily by the ETFG Quant model. **Since inception (July 2012), it appeared that a strong relationship may exist between the highest ranked Red Diamond ETFs and downside potential.**

- **ETFG Red Diamond Risk Ratings** employ fifteen measures within six categories to score all ETPs. The ETFG Risk Rating combines price-based risk factors with non-price based factors such as liquidity, structure and efficiency. Similar to the reward model, the various factors are weighted and combined to create a raw risk score which is then scaled from 1 to 10 with 10 being the highest risk and 1 being the lowest. The full Red Diamond Risk Ratings are available at http://www.etfg.com/research/red-diamond-risk-rating

Methodology: As a quantitative-based firm, we are constantly analyzing the performance of our models in various ways over a multitude of timeframes. This paper reviews the strategy of creating a short portfolio which hold ETPs with similar Risk scores. Since our models are updated daily, this creates the need to perform daily portfolio rebalancing as scores and selections change. For the purposes of this exercise, all portfolios are flat at the close (no positions are held overnight) and do not include the impact of transaction or borrowing costs, although we have estimates for both.

For the ETFG Red Diamond portfolios, a short position is assumed for each group of red diamond rated ETPs. Each day we calculate three, separate, short portfolios for the 7, 8 and 9 Red Diamond Risk Rated ETPs respectively. These daily portfolios are also equally weighted.

Calculation: The calculation for the daily, short position performance is:

(Opening Price-Closing Price)/Opening Price

Daily performance calculates the arithmetic average of the performance of all 7, 8, 9 Red Diamonds that were traded on that day. If an ETP did not trade that day, it is excluded from the day's calculation.

Monthly returns are calculated by geometrically linking the daily returns for every trading day in the month.

$$(1+r_1)*(1+r_2)*\ldots*(1+r_n)-1$$ where:
r = return on "n" day
n = number of trading days in the month

Cumulative returns are then calculated geometrically using the same formula as above except substituting the monthly return for "r" instead of using the daily returns. To make the returns more comparable, annualized returns are calculated using the following formula:

$$R^{(1/(n/12))}-1$$ where:
R = 1+ Cumulative return
n = number of monthly returns

Annualized standard deviation is calculated to enable the comparison between risk adjusted returns as raw return numbers do not always provide the complete picture and investors have different risk tolerances. To calculate the risk measure, the standard deviation of the monthly returns is multiplied by the square root of 12.

The tables below reflect summary statistics for the 3 portfolios. It is important to note that margin cost, all trading costs and borrowing availability are not included.

Conclusion: Although the ETFG models were not designed specifically for short term trading, our evaluation of the ETFG Red Diamond scoring system has demonstrated an inherent value for daily trading strategies.

Because volatility, leverage and dispersion are factors within the Red Diamond Risk scores, levered products tend to score the highest. Hence, the higher returns are not unexpected. What may be somewhat unexpected is the relatively low volatility of the Red Diamond daily portfolios. In part, this may be somewhat attributable to being both short an inverse and non-inverse product on the same underlying index thereby hedging the equity exposure while taking on an exposure to the effects of the daily reset inherent in these products.

As it relates to crafting potential trading strategies, the ETFG Red Diamond Risk Ratings can serve as a starting point in identifying a selection pool and determining the side of the market on which to reside. Effectively, the Red Diamond Risk Ratings provide a basis for a trading strategies by enabling one to achieve alpha through a variety of risk premia. Additionally, for those on the Risk Management side, a concentration in these names on the long side may cause concern.

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ETFG Red Diamond Risk Ratings							
Period		Monthly Performance			Average Count		
Month	Year	7	8	9	7	8	9
August 15,	2012	0.50%	0.63%	1.06%	86	68	22
September	2012	0.39%	1.73%	-3.43%	99	65	20
October	2012	0.17%	1.26%	6.93%	99	57	21
November	2012	-0.56%	4.88%	3.10%	93	58	21
December	2012	0.33%	-1.36%	0.11%	95	63	20
January	2013	0.76%	2.47%	-3.26%	92	65	21
February	2013	0.03%	0.47%	6.14%	96	54	83
March	2013	1.29%	1.54%	-2.58%	89	55	18
April	2013	0.77%	1.56%	7.99%	91	56	19
May	2013	0.33%	1.88%	-1.71%	87	64	17
June	2013	0.27%	2.45%	3.15%	93	60	15
July	2013	2.05%	0.62%	3.28%	89	71	17
August	2013	-0.15%	2.63%	-1.46%	98	70	18
September	2013	0.45%	-0.65%	-5.58%	103	63	16
October	2013	1.17%	-0.44%	2.34%	92	63	16
November	2013	2.55%	1.62%	7.03%	101	66	17
December	2013	0.58%	-0.22%	1.07%	107	76	19
January	2014	2.04%	1.24%	7.56%	118	89	30
February	2014	0.44%	-0.38%	1.70%	111	85	27
March	2014	1.53%	1.51%	3.57%	123	88	21
April	2014	1.27%	0.97%	0.02%	115	78	12
May	2014	0.61%	2.45%	0.70%	122	79	14
June	2014	0.71%	-0.02%	-11.24%	121	78	12
July	2014	0.09%	0.18%	1.89%	126	87	14
August	2014	0.55%	0.20%	-1.05%	112	75	12
September	2014	0.77%	0.67%	19.66%	135	79	12
October	2014	0.42%	1.38%	13.38%	124	77	12
November	2014	0.90%	1.74%	-0.97%	136	80	14
December	2014	1.87%	1.96%	13.76%	160	84	16

ETFG Red Diamond Risk Ratings - Continued									
Period			Monthly Performance				Average Count		
Month	Year		7	8	9		7	8	9
January	2015		2.32%	1.95%	0.32%		141	81	19
February	2015		-0.88%	-0.25%	-9.05%		125	74	12
March	2015		1.84%	0.63%	5.90%		135	72	12
April	2015		0.39%	0.92%	-7.72%		146	82	15
May	2015		0.52%	1.38%	6.50%		135	83	16
June	2015		1.31%	0.59%	3.96%		138	88	15
July	2015		1.64%	1.26%	8.26%		132	93	15
August	2015		0.86%	-0.25%	-2.97%		185	105	17
September	2015		2.73%	2.29%	8.22%		166	104	22
October	2015		0.40%	0.46%	1.16%		173	123	24
November	2015		1.01%	0.71%	-0.52%		175	109	23
December	2015		1.06%	-0.52%	7.10%		168	83	14
January	2016		0.85%	6.43%	23.82%		190	83	12
February	2016		-0.70%	-1.90%	2.50%		194	109	30
March	2016		-0.55%	-0.26%	-4.24%		181	108	23
April	2016		7.74%	8.99%	8.11%		70	22	5
May	2016		1.02%	1.83%	15.86%		194	85	11
June	2016		-0.08%	0.33%	-5.91%		190	103	15
July	2016		0.00%	0.82%	-3.77%		171	90	17
August	2016		1.04%	1.64%	2.46%		181	93	23
September	2016		0.39%	-0.44%	-3.70%		159	85	18
October	2016		0.65%	0.38%	7.01%		156	81	14
November	2016		0.30%	-0.14%	7.95%		170	89	16
December	2016		0.36%	2.07%	0.77%		163	92	18
January	2017		-0.16%	0.00%	-2.47%		175	84	14
February	2017		0.25%	0.61%	-4.03%		153	61	6
March	2017		0.95%	1.33%	1.21%		165	89	16
April	2017		1.65%	1.07%	4.06%		175	85	16
May	2017		1.19%	0.97%	3.02%		172	90	18
June	2017		-0.40%	1.02%	-0.85%		168	86	15
July	2017		0.30%	0.21%	-3.53%		164	79	14
August	2017		0.37%	0.23%	2.93%		171	86	16
September	2017		1.07%	0.83%	-0.09%		153	75	14

Red Diamond Risk Ratings				Correlation				R^2			
Red Diamond Rating	7	8	9	Rating	7	8	9	Rating	7	8	9
Total Performance*	66.96%	95.61%	262.70%	Correlation (ACWI)	-0.15	0.18	0.48	R^2 (ACWI)	0.02	0.03	0.23
Standard Deviation (Monthly)	1.18%	1.65%	6.41%	Correlation (AGG)	0.12	-0.06	-0.02	R^2 (AGG)	0.01	0.00	0.00
Annualized Return*	10.43%	13.87%	28.85%	Correlation (DJP)	-0.10	0.13	0.26	R^2 (DJP)	0.01	0.02	0.07
Annualized Standard Deviation*	4.07%	5.71%	22.22%	Correlation (GLD)	0.02	0.14	0.27	R^2 (GLD)	0.00	0.02	0.07
Return/Risk*	2.56	2.43	1.30	Correlation (SPY)	-0.18	0.20	0.45	R^2 (SPY)	0.03	0.04	0.20

*Reflects no borrowing or transactions costs and spans inception (8/15/12) through current date

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