RiskGrades

By

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KINDS OF RISK

Company, Industry, and Sector Risk:
The risk that a company will encounter unexpected difficulties in their business, thus causing stock prices to fall, missed dividends, defaults on bonds and other unpleasant things. Industries and Sectors can experience bad times because of broad changes in supplier or customer characteristics. When these occur, they usually not only affect the sector as a whole, but also all of the individual companies in the industry or sector, even those not affected by the factors involved. This risk is usually addressed by fundamental analysis combined with diversification.

Market Psychology Risk:
The risk that prices will fluctuate based on changing investor sentiment unrelated to the fortunes of the underlying businesses. This can occur at the level of the company, industry, sector, the entire market. In the last case it is usually called "Market Risk" This kind of risk is usually addressed by technical analysis or behavioral finance. At the entire market level it cannot be reduced by diversification.

Investment Technique Risk:
The risk that the method selected for investment will result in losses not related to market factors. For example, fees imposed by funds may reduce or eliminate profits to the investor, and the use of leverage in investments magnifies both profits and losses thus increasing risk as measured by volatility.

PREDICTING RISK

As is usual in investing, risk measured in the past is only useful if it is correlated with risk experienced in the future. The only useful risk is *predicted risk*!

This is a classical boom-bust cycle. At the the start of the boom, the market moves smoothly up. With time, volatility increases, becoming larger just before the bust, and remaining high during the downturn. *This cycle is driven by fundamentals, greed, fundamentals, fear, and fundamentals in that order.*

RISK GRADE

Risk Grade: The annual volatility/risk of an investment as measured by an exponentially-weighted standard deviation that emphasizes recent data. It is calculated using the most recent 151 trading days of data (about 31 weeks). The Risk Grade is 0 for no volatility, and is presently set equal to 100 for a annual volatility of 20%. The Risk Grade for some investments can exceed 1000.

- **The 20% annual volatility is based on the historical value for a market-weighted basket of international equity indices. If that value changes in the future, the normalization factor may also change.**
- **Much is made of the fact that Risk Grades are asset class-independent. However, this is true of all standard-deviation based measures**
- **Risk Grades are corrected for currency risk based on the user's country**
- ***The exponential weighting and 151-day cut-off limits the utility of Risk Grades to about 3 months to 1 year.***

RISKGRADES ANALYSIS

Test

Set as default

- This portfolio's RiskGrade™ of 130 suggests Speculative Plan investment strategy.
- Diversification benefits have lowered this portfolio's risk by 40%.
- This portfolio is 1.34 times as volatile as the S&P - S&P 500 Index.

Portfolio Views CC RA GV FA RR PR

Symbol	Risk Grade™	Risk Impact	XLoss	XLoss %	% of Holding	Market Value	Risk Chart™
AVCI	500	15%	$801	11.96%	6.86%	$6,696	
CAE	331	10%	$311	5.13%	6.22%	$6,075	
CLB	168	4%	$252	3.87%	6.66%	$6,507	
CVS	93	2%	$273	4.14%	6.74%	$6,583	
EDGW	169	2%	$261	3.82%	7.00%	$6,832	
EGN	179	7%	$234	3.71%	6.48%	$6,324	
FTI	164	6%	$219	3.54%	6.32%	$6,176	
HSC	178	6%	$212	3.38%	6.43%	$6,275	
IBI	213	4%	$281	4.41%	6.52%	$6,372	
MOG.A	200	4%	$261	4.26%	6.28%	$6,134	
NE	179	8%	$272	3.96%	7.05%	$6,883	
NOV	238	10%	$343	4.86%	7.22%	$7,055	
PDE	172	6%	$264	4.04%	6.69%	$6,536	
SILC	299	4%	$469	6.94%	6.93%	$6,765	
TGI	205	6%	$244	3.78%	6.60%	$6,449	
Equities	**130**	**100%**	**$2,586**	**2.65%**	**100.00%**	**$97,660**	
Portfolio	**130**		**$2,586**	**2.65%**		**$97,660**	
Diversification Benefit	**90**		**$2,112**	**44.96%**			

This is the results from the SI Pro Zweig Screen with data from Aug. 24, 2007 as entered into a RiskGrades portfolio on www.riskgrades.com. The site is free to individual investors. It shows a summary analysis of the risk inherent in the portfolio and each component of the portfolio. It also shows which components are contributing the most to the residual risk in the portfolio. These reported parameters will be discussed individually in the next slides.

The risk grade of 130 places the portfolio in the "speculative" category.

RISK IMPACT

Risk Impact: This is the reduction in the volatility of a portfolio that would occur if a given investment were sold and replaced with cash.

Test Set as default

- This portfolio's RiskGrade™ of 111 suggests Aggressive Plan investment strategy.
- Diversification benefits have lowered this portfolio's risk by 40%.
- This portfolio is 1.14 times as volatile as the S&P - S&P 500 Index.

Portfolio Views: CC RA GV FA RR PR

Symbol	Risk Grade™	Risk Impact	XLoss	XLoss %	% of Holding	Market Value	Risk Chart™
CAE	331	11%	$311	5.13%	6.68%	$6,075	
CLB	168	5%	$252	3.87%	7.15%	$6,507	
CVS	93	3%	$273	4.14%	7.24%	$6,583	
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PDE	172	7%	$264	4.04%	7.19%	$6,536	
SILC	299	4%	$469	6.94%	7.44%	$6,765	
TGI	205	8%	$244	3.78%	7.09%	$6,449	
Equities	**119**	**100%**	**$2,163**	**2.38%**	**93.14%**	**$90,965**	
USD	0	0%	$0	0.00%	100.00%	$6,695	
Cash	**0**	**0%**	**$0**	**0.00%**	**6.86%**	**$6,695**	
Portfolio	**111**		**$2,163**	**2.21%**		**$97,660**	
Diversification Benefit	**74**		**$1,734**	**44.50%**			

That is to say, if the risk impact of a component is 15% (as reported for AVCI on the previous chart), then the risk grade for this chart (in which AVCI was removed and replaced with cash) should be 130 x 0.85 = 110.5. 111 is reported. Note the reduction of the plan rating from "speculative" to "aggressive."

XLOSS

Xloss: The average loss for a given position on the worst 5% historical *daily* returns for the year. *This is an average, not worst case.*

Test

Set as default

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- This portfolio is 1.34 times as volatile as the S&P - S&P 500 Index.

Portfolio Views CC RA GV FA RR PR

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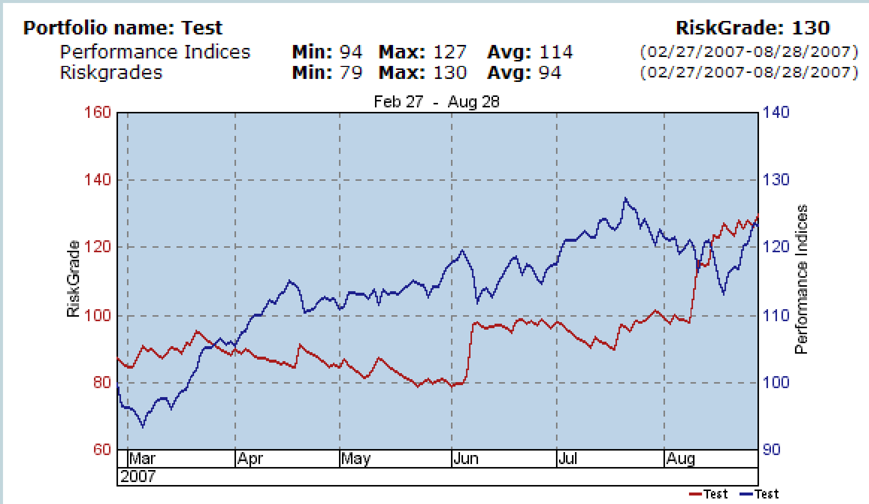
Portfolio	**130**		**$2,586**	**2.65%**		**$97,660**	
Diversification Benefit	**90**		**$2,112**	**44.96%**			

This means, for example, that for AVCI you can expect to lose at least 11.96% on the worst 5% of the days of the year.

CHARTS

An Example: Historical Price and Risk Grade for the current Zweig screen portfolio.



OTHER ASSETS

AssetClass

Set as default

RISKMETER
EDIT

- This portfolio's RiskGrade™ of 47 suggests Balanced Plan investment strategy.
- Diversification benefits have lowered this portfolio's risk by 24%.
- This portfolio is 0.48 times as volatile as the S&P - S&P 500 Index.

Portfolio Views CC RA GV FA RR PR

Symbol	Risk Grade™	Risk Impact	XLoss	XLoss %	% of Holding	Market Value	Risk Chart™
CVS	**93**	6%	$818	4.14%	20.26%	$19,748	
EGN	**179**	13%	$703	3.71%	19.47%	$18,972	
HSC	**178**	14%	$654	3.38%	19.85%	$19,347	
NOV	**238**	17%	$971	4.86%	20.51%	$19,989	
T	**122**	10%	$508	2.62%	19.90%	$19,395	
Equities	**125**	**60%**	**$2,473**	**2.54%**	**24.52%**	**$97,451**	
AGTHX	**83**	38%	$1,831	1.87%	100.00%	$97,798	
Mutual Funds	**83**	**38%**	**$1,831**	**1.87%**	**24.61%**	**$97,798**	
USD	**0**	0%	$0	0.00%	100.00%	$100,000	
Cash	**0**	**0%**	**$0**	**0.00%**	**25.17%**	**$100,000**	
USD Govt 11/07 4.5%	**4**	0%	$41	0.04%	100.00%	$101,169	
Bonds	**4**	**0%**	**$41**	**0.04%**	**25.46%**	**$101,169**	
T (P) 35 01/09	**634**	-3%	$100	10.64%	100.00%	$942	
Options	**634**	**-3%**	**$100**	**10.64%**	**0.24%**	**$942**	
Portfolio	**47**		**$3,930**	**0.99%**		**$397,359**	
Diversification Benefit	**15**		**$1,698**	**30.17%**			

ISSUES & PROBLEMS

- Several pages on the RiskGrades website currently return error messages.
- The "What If" Portfolio Analysis page seems to be unable to read portfolios already saved, so they must be typed in again.
- I haven't found a way to change the RiskGrade exponential decay time or the sampling period in order to get decent results for holding periods longer than a year.
- For active traders, RiskGrades are a convenient way to balance portfolios, but probably no better than using numerous other measures. One nice touch is the inclusion (for a few major countries) of currency exchange risk.

MORE INFORMATION

RiskGrades: Getting a Handle on Volatility
Wayne Thorpe, CFA
Computerized Investing, May/June, 2003
Available at www.aaii.com if you're a subscriber.

Return is Only Half the Equation
RiskMetrics
Available at www.riskgrades.com

RiskGrades Technical Document
Jongwoo Kim and Jorge Mina
RiskMetrics
Available at www.riskgrades.com