ALL STAR FINANCIAL GROUP STUDY SESSION

Uncompensated Risk & Diversification Analysis Report

For the 1-Year Period Ended on February 19, 2016 of Selected ROBO Portfolios

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Financial 2nd Opinions J BEN VERNAZZA, CPA/PFS, TEP (UK) emeritus APTOS,CA 95003 Phone: 831-688-6000 Email: ben@benvcpa.com URL: www.benvcpa.com

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Portfolios Tested

ROBO Portfolios

We tested two ROBO portfolios obtained from a major brokerage house as follows:

- 1. An existing portfolio of an ASFG member client labeled Child Account.
- 2. Vernazza queried the brokerage house on the internet acting as a 45 Year old with \$100,000, adding \$500 per month in savings, and retiring at 65. This portfolio is labeled 45 Year Old.

Reasonable Portfolio

For comparison purposes we used our ""reasonable portfolio" which we used in the fall of 2015 for purposes of comparison with the Wall Street Journal recommended portfolio at that time. The results of that study for the quarter ending September 30, 2015, were presented by Stewart Frank at the AICPA PFP Conference in Las Vegas in January 2016.

Benchmarks

The All Country World Index (ACWI) was used as the benchmark for analyzing the relative systematic risk. MACRO Asset Allocation benchmark is a blended index consisting of 73.5% ACWI as proxy for the portfolio's risk portion and 26.5% as proxy for its risk reduction (fixed income) portion.

Risk / Reward Scatter Plot - Explained

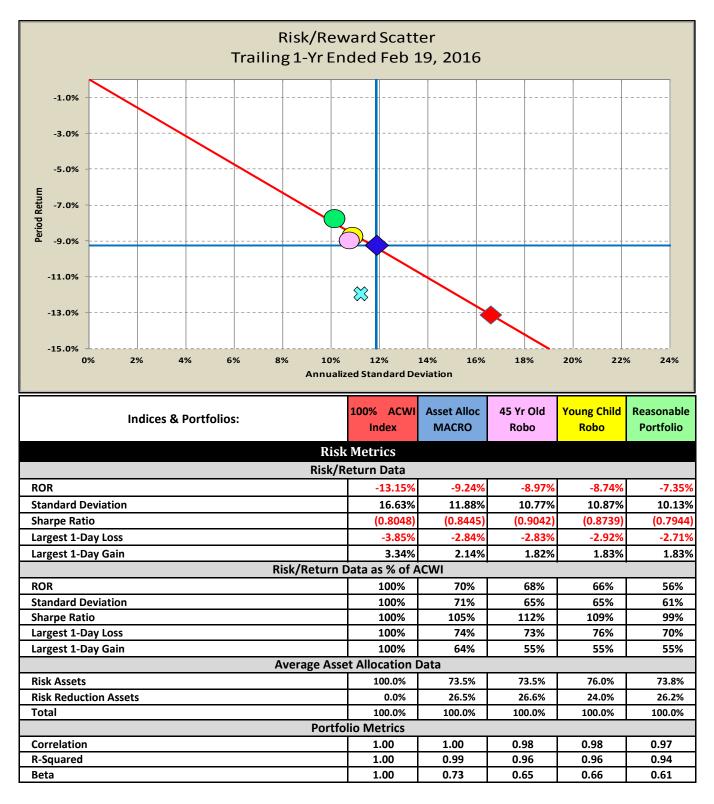
The Risk/Reward Scatter Plot appearing on the next page, is a graphical snapshot of the risk versus return performances of all three portfolios (denoted by circles) and the two mentioned benchmarks (denoted by diamonds). The color code key for each portfolio and benchmark can be found in the Indices & portfolios section of the table header appearing immediately below the graph.

The diagonal red line connecting the two benchmarks to the graph's zero point (risk free asset) is known as the Capital Markets Line (CML). All points along the CML have the same Sharpe ratio (see Glossary). The data points for all three portfolios are located on the CMLL indicating systematic risk is well managed in all of the portfolios.

The turquoise "X" on the chart is where the WSJ portfolio stood for the year ended February 19, 2016 (data not presented in the table below the chart).

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Comparative Risk / Return Analytics For the Trailing 1-Year Period Ended February 19, 2016



Also, see Appendix-B for the results of the fall 2015 study with similar charts and tables for the WSJ portfolio and the "reasonable portfolio" for the quarter ending September 30, 2015.

Uncompensated Risk Tests Performed

We performed two separate tests on each of the three portfolios to determine the amount of Uncompensated Risk not reduced by diversification, and therefore remaining unnecessarily in each portfolio for the trailing 1-year period ended on February 19, 2016.

Our proprietary testing protocol leverages expertise, software and process to calculate and measure the absolute equivalent number of equally weighted diversification resources, also known as diversification dimensions (DD), present.

We use what we call "dimensionality" testing to measure the amount of Uncompensated Risk present in a portfolio and / or a benchmark. Each DD has the ability to move independently within a portfolio's structure. More DDs equal more diversification and the presence of less Uncompensated Risk.

After calculating the number of DDs present in each benchmark and portfolio, we compare the results to learn the number of DDs increased (or decreased) between the benchmark and its related portfolio to ascertain the extent to which portfolio diversification drove risk reduction.

See Glossary for definition of terms

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Test Results - Young Child's Robo Portfolio

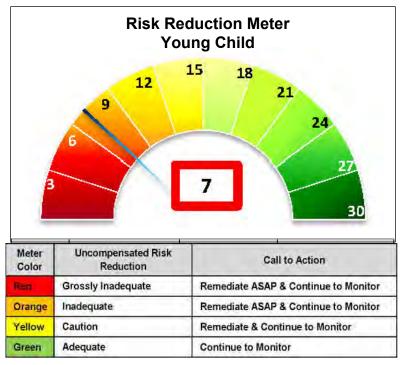
For the 1-Year Period Ended, February 19, 2016

The dimensionality test results for this \$10k, 16 constituent, portfolio show that it behaves as though it had only 7 individual holdings (based upon equally weighted diversification dimensions).

The numeric scale and corresponding red- orangeyellow-green sectors of the Risk Reduction Meter show, reading left to right, where the range of measurements fall for an investment portfolio with an asset allocation similar to the portfolio being measured.

The corresponding three major asset class benchmarks tested at 2 individual holdings (based upon equally weighted diversification dimensions).

With 13 (16-3) more constituents than its blended benchmark, this portfolio registered an increase of 5 DDs (from 2 to 7) which is still an Inadequate level of uncompensated risk reduction and diversification.



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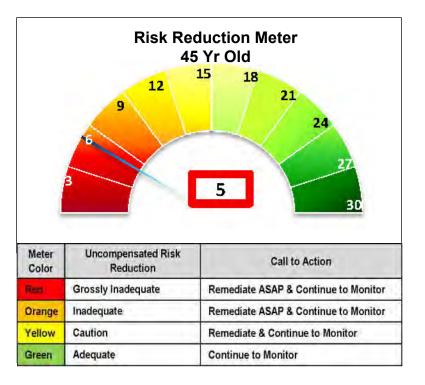
Test Results - 45 Yr Old's Robo Portfolio For the 1-Year Period Ended, February 19, 2015

The "dimensionality" test results for this \$100k,15 constituent, portfolio show that it behaves as though it had only 5 individual holdings (based upon equally weighted diversification dimensions).

The numeric scale and corresponding redorange-yellow-green sectors of the Risk Reduction Meter show, reading left to right, where diversification measurements are for an investment portfolio with an asset allocation similar to the measured portfolio.

The corresponding three major asset class benchmarks tested at 2 individual holdings (based upon equally weighted diversification dimensions).

With 12 (15-3) more constituents than its blended benchmark, this portfolio registered an increase of 3 DDs (from 2 to 5) which is still an Inadequate level of uncompensated risk reduction and diversification.



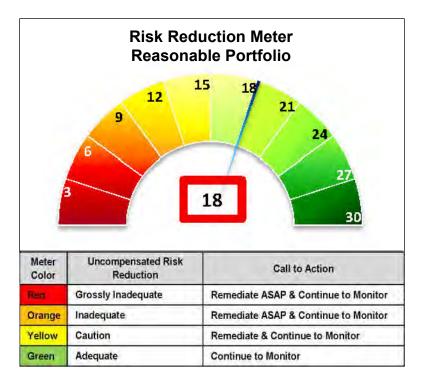
Test Results - Reasonable Portfolio For the 1-Year Period Ended, February 19, 2016

The "dimensionality" test results for this \$100k, 37 constituent portfolio show that it behaves as though it had only 18 individual holdings (based upon equally weighted diversification dimensions).

The numeric scale and corresponding redorange-yellow-green sectors of the Risk Reduction Meter show, reading left to right, where diversification measurements are for an investment portfolio with an asset allocation similar to the measured portfolio.

The corresponding three major asset class benchmarks tested at 2 individual holdings (based upon equally weighted diversification dimensions).

With 34 (37-3) more constituents than its blended benchmark, this portfolio registered an increase of 16 DDs (from 2 to 18) which indicates its level of uncompensated risk reduction and diversification is *adequate*.



GLOSSARY

<u>Uncompensated Investment Risk</u> is "risk that can be eliminated with diversification" and unlike systematic or compensated risk, investors cannot expect added return for assuming more uncompensated risk. Uncompensated risk comes from the inherent risk of investments in industry and sector groupings, individual firms and, in addition, having too many of industries/sectors/firms that are closely correlated. Uncompensated risk represents approximately 2/3 of total risk.

Compensated Investment Risk is unavoidable. It is the inherent risk assumed when making any investment. Compensated risk, also known as "undiversifiable risk," "market risk," or "systematic risk" because it affects all investments, and is not limited to a particular investment type, security, industry, etc. and investors expect higher returns when assuming more of it. As a result, every participant in the investment market is exposed to it. This compensated risk is both unpredictable and unavoidable. It cannot be changed or diversified away. It changes only when market conditions change. It is considered to be the "price of admission" paid by everyone who becomes a market participant. Compensated risk is approximately 1/3 of total risk.

Note: The source of the estimate of 2/3 of risk attributable to uncompensated risk, and 1/3 of risk attributable to compensated risk comes from Yale Law School Legal Scholarship Repository John H. Langbein, THE UNIFORM PRUDENT INVESTOR ACT AND THE FUTURE OF TRUST INVESTING, 1-1-1996, page 646-7. They cite Brealy at the bottom of page 647 who estimated 69% and 31%. We have rounded it to 2/3 and 1/3.

Diversification Dimensions and Resources (DD) is a companion metric of CC used to quantify the amount of uncompensated risk removed from a portfolio by diversification. DD measures the number of independent diversification elements or intrinsic dimensions present in a portfolio. Each dimension represents an element which has the ability to act or move independently within a portfolio's structure. The larger the number, the greater the ability of each portfolio dimension to perform independently.

Because independent performance is the essence of diversification, when CC is used in combination with DD, a thorough understanding of uncompensated risk removal is obtained.

Concentration Coefficient (CC) provides a measure of a portfolio concentration and is equal to the number of assets if equally weighted. As concentration increases, the number becomes proportionally less. (E.g. a portfolio with 2 assets, equally weighted at 50% each has a CC of 2; if instead, the weighting changed to 75% and 25%, the CC would be 1.6). CC is an important diversification metric because of the significance constituent weightings have on a portfolio's diversification. CC is used in combination with the KLD metric to quantify uncompensated risk removed from a portfolio by diversification. Higher CC values indicate more uncompensated risk removed through diversification.

Systemic Risk in finance is the risk of collapse of an entire financial system or entire market, as opposed to risk associated with any one individual entity, group or component of a system that can be contained therein without harming the entire system. It refers to the risks imposed by inter-linkages and inter-dependencies where the failure of a single entity or cluster of entities can cause a cascading failure, which could potentially bankrupt or bring down the entire system or market. Normally systemic risk is not a great factor, but when it is, it becomes a tsunami and it overruns all other factors in the market place.

GLOSSARY (CONTINUED)

<u>Alpha</u> is a risk-adjusted measure of the so-called active return on an investment. It is the return in excess of the compensation for the risk borne, and thus commonly used to assess active managers' performances. The return of a benchmark is subtracted in order to reflect relative performance.

Beta is the measure of an investment's sensitivity to market movements. The beta of the benchmark is 1.00. So a fund with a 1.10 beta is expected to perform 10% better than its benchmark index in up markets and 10% worse in down markets. Conversely, a beta of .85 indicates that the fund is expected to perform 15% worse than the benchmark index in up markets and 15% better in down markets.

<u>R</u>-Squared (R2) is the percentage of the portfolio's performance explained by the behavior of the assigned benchmark. R- Squared values range between 0 and 100, where 0 represents the least correlation and 100 represents full correlation. The R-Squared of a portfolio indicates whether the index being used to analyze beta is an appropriate benchmark. If a portfolio's R-Squared value is close to 100, the beta of the investment can be trusted. On the other hand, an R-Squared value that is less than 75 indicates that the beta is not particularly useful because the portfolio is being compared to an inappropriate benchmark.

<u>Sharpe Ratio</u> measures the portfolio's excess return over the risk free rate divided by the standard deviation of the excess return. It is a measure of absolute rate of return per one unit of risk. The better an investment's risk adjusted performance has been, the higher its Sharpe ratio will score. A negative Sharpe ratio indicates that a risk-less asset would have performed better than the investment being analyzed.

Conclusion

Systematic or compensated risk of the two ROBO portfolios as well as the "Reasonable Portfolio" is well managed. The portfolios' similarities can be seen by their nearly identical correlations, Rsquared, betas, and Sharpe ratios. Furthermore, all portfolios have R-squares of 94 or greater.

However, uncompensated risk management is inadequate in both ROBO portfolios. Their respective scores of 5 and 7 of equally weighted diversification dimensions (DD) indicate a small amount of uncompensated risk being eliminated by diversification. The amount removed is not sufficient and exposes the fiduciary to claims of multiple breaches of fiduciary duty, because, according to Commentary to Sec. 227, Restatement 3rd of Trusts:

"Failure to diversify on a reasonable basis ... to reduce uncompensated risk is ... a violation of both the [fiduciary] duty of caution and the [fiduciary] duties of care and skill." [Emphasis added]

The "reasonable" portfolio," with its score of 18 DDs, reasonably reduces uncompensated risk through diversification and thereby prudently manages its uncompensated risk.

Of interest, although not the purpose of this report, is the worst performance of the WSJ portfolio compared to both Robo portfolios and the reasonable portfolio during the year ending February 19, 2016.

Consultants' Biographical Sketches

Stewart Frank, CPA/PFS, AIFA

Stewart has been a CPA for 53 years, and for the past 12 years has specialized in the fieldof Prudent Investor Compliance valuation. During this time, Stewart has provided expert opinions in more than 30 breaches of fiduciary cases for both plaintiffs defendants. He and is а recognized expert in fiduciary compliance, having recently contributed content for two handbooks on fiduciary best practices, published by fi360. He also served as a Special Consultant on Fiduciary Matters to the Fiduciary Task Force of the American Institute of CPA's (AICPA) Personal Financial Planning Executive Committee during their technical review of the two handbooks. He is a frequent speaker at meetings of judges, attorneys, CPA's, trustees. RIAs. stockbrokers. Certified Financial Planners (CFP), and not-for- profit board members on the subject of fiduciary compliance. Stewart is also a founding member of the Overseas Oversight Group he founded Precision Fiduciary and Analytics in 2013.

J. Ben Vernazza, CPA/PFS, TEP (UK) emeritus

Ben has been a CPA for 55 years, and an investment adviser for 40 years. He is founder of The Overseas Oversight Group that has oversight privileges as protector of trusts and companies, as well as starting three other financial advisory organizations. He served on five different occasions for four year terms on committees of the American Institute of CPAs including a four year term on the Investment Committee. He was chairman of the AICPA special task force Tax on International Reporting Requirements. Additionally, he served on the asset protection committee of the Bar Association and American as a member of the Probate and Trust Division. Ben received the Private Sector Initiative Commendation from President Ronald Reagan in 1984. Prior to these professional assignments he participated actively in California CPA Society Committees. He sold his investment advisory business in 2012 and started FINANCIAL 2ND OPINIONS in 2014.

Appendix - A

ROBO Portfolios

Young Child's Robo Portfolio

	Toung china S Kobo F of dono																_	
					Ending:	2/19/2016	Ai	nnualized VC	DL									
No.	Name	Symbol	Quantity	Last Price	Market Value	Asset Alloc	Volatility	ProRata	tal VolatiliCo	orrelation	RSquared	Beta	al Min Reti	narpe Ratio	Volatility	Variance 9	% Total Vain	pound Ret
1	VANGUARD EMRGNG MKT ETF	VWO	1,586.03	30.68	48,659.55	5.35%	22.44%	1.32%	10.87%	0.98	0.96	0.66	-2.92%	-0.8739 Portfolio	10.87%	1.18%	100.00%	-8.74%
2	Sch Fnd Intl LG Shs	FNDF	3,512.12	22.08	77,547.71	8.53%	18.44%	1.64%						Active	2.20%	0.05%	4.09%	-0.14%
3	iShares Russell Microcap Index Fund	IWC	575.24	62.59	36,004.14	3.96%	18.29%	0.76%						Market	10.64%	1.13%	95.91%	-9.16%
4	Schwab US REIT	SCHH	1,299.89	37.10	48,225.91	5.30%	18.06%	0.94%										
5	Vanguard FTSE All-World ex-US ETF	VEU	2,072.53	40.07	83,046.28	9.13%	17.79%	1.69%										
6	Vngd Glb ex-US RE	VNQI	1,668.78	49.18	82,070.71	9.02%	17.11%	1.58%										
7	VANGUARD TOT STK MKT ETF	VTI	1,126.24	97.30	109,583.49	12.05%	16.16%	1.94%										
8	Schwab Fundamental US Large Company ETF	FNDX	2,727.80	27.30	74,469.08	8.19%	15.86%	1.30%										
9	SCHWAB FUNDAMENTAL INTL SM C	FNDC	2,391.24	24.42	58,393.99	6.42%	15.37%	0.99%										
10	iShares COMEX Gold Trust	IAU	5,389.22	11.86	63,916.17	7.03%	14.47%	0.96%										
11	Vn Em Mks Gv Ix Shs	VWOB	174.05	74.18	12,910.92	1.42%	4.81%	0.07%										
12	Vngrd Charlotte Shs Total International Bond Index ETF	BNDX	375.16	53.85	20,202.25	2.22%	3.54%	0.07%										
13	Schwab US Ag Bd Shs	SCHZ	1,110.59	52.30	58,084.05	6.39%	3.23%	0.20%										
14	Vanguard Asset Allc Shs Short-Term Inflation-Protected Secs Index Fund ETF	VTIP	537.97	48.32	25,994.62	2.86%	1.95%	0.05%										
15	Vanguard Short	VGSH	920.20	61.15	56,270.26	6.19%	1.05%	0.06%										
16	iShares Barclays Short Treasury Bond Fund	SHV	489.77	110.32	54,031.20	5.94%	0.16%	0.01%										
		•																
					909,410.31	100.00%	0.33%	13.59%	10.87%	0.98	0.96	0.66	-2.92%	-0.8739	10.87%	10.64%	-9.16%	-8.74%

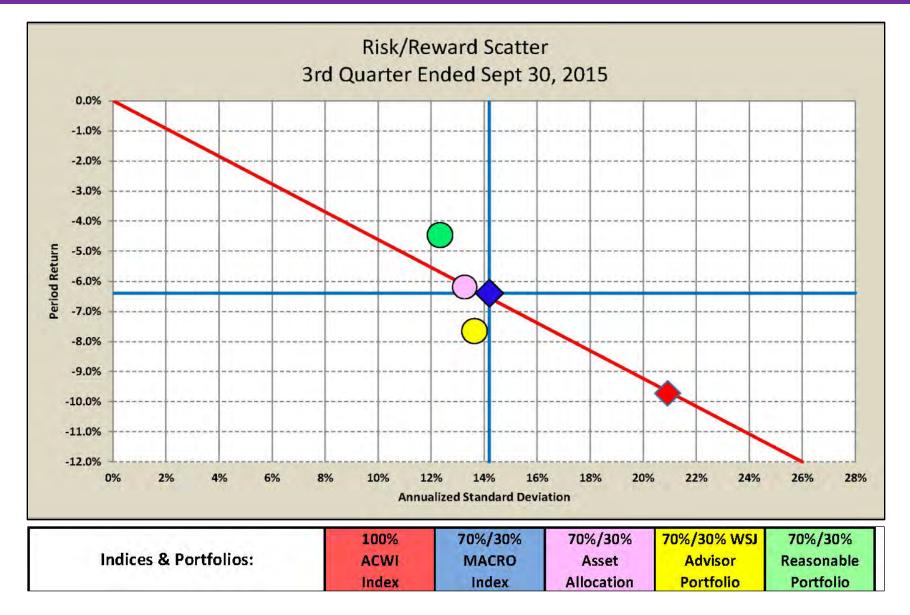
45 Year Old Portfolio

				Ending:	2/19/2016	Average	An	nualized VC	DL									Г	
Name	Symbol	Quantity	Last Price	Market Value	Asset Alloc	Allocation	Volatility	ProRata	otal Volatili	Correlation	RSquared	Beta	al Min Ret <mark>ta</mark>	Max Ret	narpe Ratio	Volatility	Variance 9	% Total Vanp	ound Ret
1 Sch Fnd Emrg Mk Shs	FNDE	2,520.06	17.53	44,176.57	4.87%	5.44%	23.81%	1.29%	10.77%	0.98	0.96	0.65	-2.83%	1.82%	-0.9042 Portfolio	10.77%	1.16%	100.00%	-8.97%
2 VANGUARD EMRGNG MKT ETF	VWO	991.27	30.68	30,412.22	3.36%	3.68%	22.44%	0.83%							Active	2.21%	0.05%	4.22%	-0.48%
3 Spider DJ Wilshire Mid Cap ETF	RSCO	485.11	68.3	33,132.98	3.66%	3.83%	17.27%	0.66%							Market	10.54%	1.11%	95.78%	-9.08%
4 Schwab Funamental Intl Shrs	FNDF	3,021.18	22.08	66,707.70	7.36%	7.68%	18.44%	1.42%											
5 Vanguard FTSE All-World ex-US ETF	VEU	1,256.08	40.07	50,331.08	5.55%	5.78%	17.79%	1.03%											
6 Schwab Fundamental US Small	FNDA	2,307.08	25.72	59,338.07	6.55%	6.77%	16.53%	1.12%											
7 Vngd Glb ex-US RE	VNQI	355.06	49.18	17,461.85	1.93%	1.96%	17.11%	0.34%											
8 Schwab US REIT	SCHH	764.64	37.1	28,368.18	3.13%	3.06%	18.06%	0.55%											
9 Vanguard Large-Cap ETF	VV	839.66	87.67	73,612.65	8.12%	8.06%	16.21%	1.31%											
10 Schwab Fundamental US Large Company ETF	FNDX	3,991.91	27.3	108,979.14	12.02%	12.01%	15.86%	1.91%											
11 SCHWAB FUNDAMENTAL INTL SM C	FNDC	3,362.68	24.42	82,116.54	9.06%	9.03%	15.37%	1.39%											
12 iShares COMEX Gold Trust	IAU	4,961.51	11.86	58,843.46	6.49%	6.15%	14.47%	0.89%											
13 Vn Em Mks Gv Ix Shs	VWOB	1,204.95	74.18	89,383.31	9.86%	9.43%	4.81%	0.45%											
14 Schwab US Ag Bd Shs	SCHZ	1,558.73	52.3	81,521.47	8.99%	8.50%	3.23%	0.27%											
15 iShares Barclays Short Treasury Bond Fund	SHV	743.72	110.32	82,047.38	9.05%	8.63%	0.16%	0.01%											
				906,432.60	100.00%	100.00%	0.33%	13.46%	10.77%	0.98	0.96	0.65	-2.83%	1.82%	-0.9042	10.77%	10.54%	-9.08%	-8.97%

Appendix - B

WSJ & REASONABLE PORTFOLIO COMPARISONS FALL 2015 (from AICPA Conference Presentation by Stewart Frank)

Risk /Reward Scatter Plot 3rd Quarter 2015



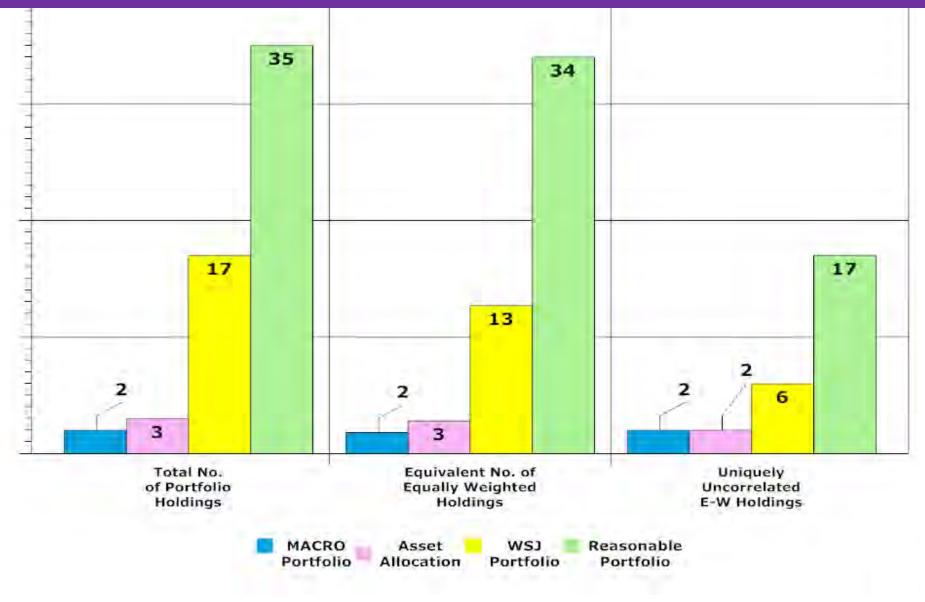
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Comparative Portfolios Data Table 3rd Quarter 2015

Indices & Portfolios:	100% ACWI	70%/30% MACRO	70%/30% Asset	70%/30% WSJ Advisor	70%/30% Reasonable	
	Index	Index	Allocation	Portfolio	Portfolio	
	Risk	Metrics				
	Risk/Re	turn Data			-	
ROR	-9.27%	-6.39%	-6.19%	-7.65%	-4.46%	
Standard Deviation	20.92%	14.19%	13.26%	13.63%	12.33%	
Sharpe Ratio	(1.7453)	(1.7960)	(1.8608)	(2.2504)	(1.4349)	
Largest 1-Day Loss	-3.85%	-2.62%	-2.67%	-2.87%	-2.67%	
Largest 1-Day Gain	3.34%	2.27%	1.94%	1.90%	1.82%	
	Risk/Return Da	ata as % of AC	WI			
ROR	100%	69%	67%	83%	48%	
Standard Deviation	100%	68%	63%	65%	59%	
Sharpe Ratio	100%	103%	107%	129%	82%	
Largest 1-Day Loss	100%	68%	69%	75%	69%	
Largest 1-Day Gain	100%	68%	58%	57%	55%	
	Average Asset	Allocation Da	ta			
Risk Assets	100.0%	69.0%	68.9%	69.2%	69.2%	
Risk Reduction Assets	0.0%	31.0%	31.1%	30.8%	30.8%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	
	Portfoli	o Metrics				
Correlation	1.00	1.00	0.99	0.97	0.99	
R-Squared	0.99	0.99	0.99	0.94	0.94	
Beta	1.00	0.69	0.64	0.64	0.59	

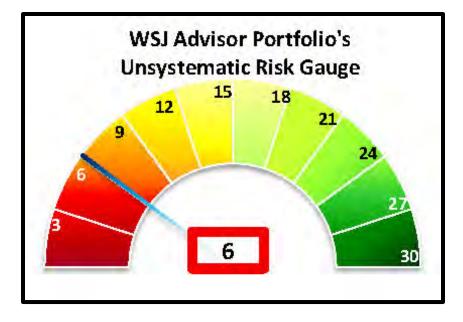
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Uncompensated (Diversifiable) Risk Analysis



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Uncompensated Risk Eliminated by Diversification





Meter Color	Uncompensated Risk Reduction	Call to Action
Red	Grossly Inadequate	Remediate ASAP & Continue to Monitor
Orange	Inadequate	Remediate ASAP & Continue to Monitor
Yellow	Caution	Remediate & Continue to Monitor
Green	Adequate	Continue to Monitor

Appendix - C

Assumptions, Limiting Condition & Disclaimers

Assumptions, Limiting Condition & Disclaimers

The information contained in this report is intended to provide limited diversification information on how the three analyzed portfolios would have performed during the trailing 1-year period ended on February 19,2016, under circumstances where no position changes occurred in any of the portfolios, and each portfolio's composite was equal to the sum of each position's beginning and ending average value. Accordingly, all three portfolios used for this analysis are hypothetical.

Information and data has been furnished by others and such information and data has been accepted as reliable. None of the information or data prepared by outside sources was independently verified for accuracy or completeness. Accordingly, no responsibility is assumed for information prepared and/or furnished by others.

We did not independently verify any of the historical financial data prepared by third parties for accuracy or completeness, and therefore, do not express an opinion or any other form of assurance regarding the historical financial data used in this report.

References made to any specific securities do not constitute an offer to buy or sell securities. The past performance of an ETF, mutual fund, individual security, or investment/diversification strategy cannot guarantee its future outcome or performance.