



BERUNDA CAPITAL

PREPARED FOR PRIVATE CLIENT

By

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Introduction

In the report, we analyze the Client's three portfolios: (1) Stocks/Brokerage, (2) IRA-1 and IRA-2. The Stocks Portfolio consists of common equities (64.71% weightage), mutual funds (27.19% weightage), exchange-traded funds (ETFs) (5.98% weightage) and cash (2% weightage). The Client has invested in the common stock of 215 listed companies with significant investments in Comcast Corp (CMCSA, 1.78% weightage), United Health (UNH, 1.67%), Biogen (BIIB, 1.52%), etc. The Client has invested in two mutual funds (MF) namely, Franklin Mutual Financial Services Z (TEFAX, 18.29%) and Principal Small-MidCap Dividend Inc Inst (PMDIX, 8.9%). The Client has also invested in Vanguard FTSE Developed Markets ETF (VEA, 5.98%) and the remaining 2% is held as cash. The Client's IRA-1-Portfolio and IRA-2-Portfolio primarily consist of mutual funds and ETFs only.

The report comprises two sections. In the first section, we analyze the performances of the Client's Stocks Portfolio and compare it with a suitable benchmark. We assume that the combination of SPY and AGG ETFs as a suitable comparable to the Client's all three portfolios. For the Client's Stocks Portfolio, we have assumed a mix of 80% investment in SPY and 20% in AGG as the appropriate benchmark. We call this as "Combined SPY (80%) & AGG (20%) Portfolio". In the second section, we analyze each mutual fund in the Client's two IRA portfolios and compare them with similar top ETFs in their respective categories. We then compare the performance of the Client's two IRA portfolios with the Combined SPY (75%) & AGG (25%) ETFs as a benchmark. While the client's portfolios are managed actively by an advisor, this analysis assumes the weights of the stocks and funds to be static during the time period analyzed (typically five years). We also caveat our findings by acknowledging that the advisor may be reacting actively to better manage the portfolios during a downturn.

Summary of Key Findings

- The Client's Stocks Portfolio has a strong correlation with the Combined SPY (80%) & AGG (20%) Portfolio with an adjusted R-squared of 0.9052
- The Combined SPY (80%) & AGG (20%) Portfolio beat the Client's Stocks Portfolio by about 9.3 percentage points over the period of the past five years.
- The Combined SPY (75%) & AGG (25%) Portfolio also beat the Client's IRA-1-Portfolio and IRA-2-Portfolio by about 11.2 and 10.0 percentage points respectively over the period of the past five years.
- About 49% of the positions in the Client's Stocks Portfolio have outperformed their respective sector ETFs, indicating that stock picking (during this time period) was not a major winning factor
- Investment in a combination of two ETFs, namely, SPY and AGG, may have offered better returns with lower risk compared to the Client's investment in more than 200 positions for the past five years, which have predominantly been bull market conditions
- Most of the mutual funds invested by the Client offer better returns at lower risk compared to ETFs in respective categories
- However, our analysis shows that the Invesco QQQ Trust (QQQ), iShares Russell 1000 Growth ETF (IWF), Vanguard Growth ETF (VUG), iShares S&P 500 Growth ETF (IVW), SPDR® Portfolio S&P 500 Growth ETF (SPYG) and Vanguard Mega Cap Growth ETF (MGK) offer higher returns at lower risk compared to the Client's investment in the American Funds Growth Fund of Amer F2 (GFFFX) mutual fund. The Client may invest in any of the suggested ETFs.
- Our analysis also found that both Schwab US Dividend Equity ETF™ (SCHD) and iShares Core Dividend Growth ETF (DGRO) have beaten the performance of BlackRock High Equity Income Instl (BMCIX) mutual fund by 43 and 42 percentage points during comparable periods of 2,039 and 1,376 days respectively. These two ETFs also have lower risk and volatility measures compared to BMCIX.
- The Client could change his investment in Diamond Hill Large Cap I (DHLRX) to SPDR® Dow Jones Industrial Average ETF (DIA) and/or iShares Core Dividend Growth ETF (DGRO), as they offer higher returns with lower risk compared to DHLRX. Both DIA and DGRO ETFs have beaten the DHLRX mutual fund by 16 and 21 percentage points during the comparable period of 3,733 and 1,376 days respectively.



We now discuss the analysis of the Client’s Stocks Portfolio vs Combined SPY (80%) & AGG (20%) Portfolio in detail.

1. Composition and Characteristics of the Stock/Brokerage Portfolio

Exhibit 1 displays the weightage of assets in the Client’s Stock Portfolio and Combined SPY (80%) & AGG (20%) Portfolio.

Exhibit 1: Investments Weightage: Stocks Portfolio vs Combined SPY (80%) & AGG (20%) Portfolio

Client's Portfolio	Tickers	Weightage
Common Equities (210 common shares)		64.7%
American Funds Growth Fund of Amer F2	TEFAX	18.3%
Principal Small-MidCap Dividend Inc Inst	PMDIX	8.9%
Calamos Market Neutral Income I	VEA	6.0%
Cash/AGG		2.1%
Total		100.0%
Combined SPY & AGG Portfolio	Tickers	Weightage
SPDR® S&P 500 ETF Trust	SPY	80.0%
iShares Core US Aggregate Bond ETF	AGG	20.0%
Total		100.0%

Source: Extract from Client’s investment report
*Assumed AGG for cash

49% of total stocks generated higher return compared to respective ETFs during the past five years

Exhibit 2 displays the client’s investments in various stocks, mutual funds and ETFs and their weights as well as average return differences to respective sector ETFs. We analyze each stock with their respective sector ETFs for over a certain period. From our analysis, we have noticed that about 48.62% of total investments (or 106 positions) in the Client’s Stocks Portfolio beat their respective sector ETFs. Meanwhile, 112 positions provided lower returns compared to their respective sector ETFs. For instance, as seen in Exhibit 2, the Client has invested about 11.32% of his net assets in the Technology sector. We have assumed XLK as the suitable comparable ETF to the Client’s investments in the Technology sector. 14 out of 34 positions in the Technology sector have beaten XLK’s returns during the comparable period. The Client’s investments in the Technology sector have beaten XLK by about 43.60 percentage points. This was mainly due to Shopify (SHOP), which offered approximately 1,846% returns during the comparable period of 1,142 days (from 05/20/2015 to 11/29/2019 trading days). Meanwhile, XLK provided about 115% returns.



Exhibit 2: Analysis of all positions in the Client's Stocks Portfolio vs comparable ETFs

Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.
Financial Services			Technology			Industrials			Health Care		
XLF	11.72%	-19.40%	XLK	11.32%	43.60%	XLI	7.05%	67.60%	XLV	10.07%	14.50%
AAGIY	0.20%	-20.00%	ADSK	0.80%	67.90%	AER	0.28%	2.40%	AGN	1.18%	-80.50%
ACGL	0.29%	1.00%	ANSS	0.24%	79.90%	ASAZY	0.07%	-9.70%	ANTM	0.41%	90.80%
AIG	0.51%	-110.10%	ASML	0.40%	33.80%	CAT	0.28%	24.70%	BIIB	1.52%	-69.70%
ALL	0.29%	-37.80%	AVGO	1.04%	118.00%	CFX	0.14%	-93.40%	BMY	0.34%	-45.60%
AON	0.41%	14.70%	BKI	0.35%	-59.50%	CPRT	0.30%	323.60%	CAH	0.19%	-77.20%
BAC	1.00%	-10.00%	CGNX	0.03%	22.00%	DKILY	0.22%	480.10%	CVS	0.28%	-65.80%
BAM	0.63%	-23.70%	CHKP	0.23%	-78.80%	EMR	0.34%	-16.30%	ELAN	0.02%	-30.30%
BK	0.33%	-78.30%	CREE	0.35%	-93.40%	ETN	0.40%	3.60%	HOCPY	0.18%	126.40%
BRO	0.23%	45.10%	CRNC	0.10%	-46.60%	FAST	0.14%	12.20%	IDXX	0.15%	185.90%
C	1.02%	-63.70%	CSCO	0.41%	-39.00%	FERGY	0.25%	12.80%	IMGN	0.06%	-100.40%
CACC	0.04%	106.10%	CTXS	0.53%	-2.60%	GE	0.21%	-103.80%	IONS	0.50%	-51.50%
CFG	0.27%	-38.30%	FEYE	0.28%	-174.50%	HEI-A	0.03%	260.40%	LZAGY	0.22%	193.40%
DBOEY	0.12%	28.20%	GWRE	0.14%	11.40%	INFO	0.26%	113.80%	MCK	0.20%	-83.00%
DBSDY	0.24%	-66.80%	IFNNY	0.24%	-12.90%	JCI	1.21%	-35.10%	MDT	0.37%	15.40%
FITB	0.22%	-42.50%	INTC	0.48%	-44.80%	PNR	0.24%	-48.80%	MTD	0.19%	84.50%
FNF	0.34%	5.80%	IT	0.32%	-38.60%	ROP	0.24%	75.70%	NVS	0.23%	-24.20%
FRC	0.28%	50.40%	LOGM	0.09%	-58.20%	RTOKY	0.20%	184.20%	QGEN	0.08%	29.20%
GS	0.21%	-91.30%	MCHP	0.23%	7.10%	SBGSY	0.12%	-1.50%	RHHBY	0.42%	-21.60%
HDB	0.14%	33.90%	MSI	0.10%	46.00%	SGSOY	0.21%	-5.20%	SGIOY	0.07%	43.50%
JBAXY	0.17%	-95.20%	NUAN	0.43%	-83.80%	SMGZY	0.10%	-8.90%	SNN	0.07%	-19.70%
JPM	0.77%	27.90%	NXPI	0.14%	-75.60%	TDG	0.52%	196.70%	SNPHY	0.14%	31.90%
KBCSY	0.22%	-55.30%	QCOM	0.39%	-95.30%	TLPFY	0.12%	181.30%	SNY	0.40%	-32.70%
KKR	0.22%	-61.30%	RP	0.15%	25.20%	TRU	0.25%	180.40%	SONVY	0.31%	10.50%
LNSTY	0.17%	26.10%	SAP	0.33%	-22.00%	TTNDY	0.35%	99.40%	TRUMY	0.15%	178.90%
MCO	0.18%	38.70%	SHOP	0.06%	1731.20%	TXT	0.28%	-47.20%	UNH	1.67%	143.80%
MET	0.29%	-89.30%	SQ	0.03%	300.80%	UHAL	0.07%	-28.50%	VRTX	0.68%	24.20%
MKL	0.42%	-47.30%	ST	0.26%	-129.40%	VRSK	0.22%	72.30%	Real Estate		
MS	0.41%	-70.50%	STX	1.26%	-107.90%	Basic Materials			VNQ	1.35%	14.30%
MSCI	0.13%	360.40%	TEL	0.76%	-67.00%	XLB	2.47%	42.83%	BPR	0.04%	-14.00%
MTB	0.08%	-65.40%	TSM	0.20%	56.20%	AIQUY	0.16%	5.20%	CBRE	0.31%	26.90%
PGR	0.12%	91.90%	VRSN	0.25%	96.20%	APD	0.17%	61.80%	EQIX	0.15%	144.90%
PNC	0.26%	-22.60%	WDC	0.44%	-175.00%	ARKAY	0.16%	45.20%	HHC	0.16%	-48.00%
PUK	0.23%	-110.90%	WIX	0.20%	344.90%	BNTGY	0.20%	-30.10%	KW	0.14%	-33.90%
SPGI	0.09%	101.40%	WORK	0.06%	-52.50%	CRH	0.31%	46.80%	SBAC	0.51%	73.70%
STT	0.37%	-105.10%	Small Cap			GVDNY	0.20%	54.00%	VNO	0.04%	-49.80%
SWDBY	0.07%	-138.30%	MDY	8.90%	1.00%	MLM	0.33%	118.70%	Global		
UBS	0.21%	-116.40%	PMDIX	8.90%	1.00%	NUE	0.66%	-1.60%	EFA	5.98%	2.50%
WFC	0.34%	-97.60%				VMC	0.28%	85.50%	VEA	5.98%	2.50%



WLTW	0.20%	-31.90%									
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Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.	Tickers	Sum of PF Weights	Avg of Return diff.
Consumer Cyclical			Communication Services			Energy			Consumer Defensive		
XLY	5.72%	-13.90%	XLC	6.55%	6.30%	XLE	4.65%	3.10%	XLP	3.69%	6.60%
BABA	0.33%	8.10%	AMCX	0.17%	-48.90%	NOV	0.42%	-47.40%	ADM	0.35%	-49.00%
BRDCY	0.28%	-49.10%	CHTR	0.38%	55.00%	BP	0.41%	49.30%	BF-B	0.10%	69.80%
CCL	0.36%	-67.60%	CMCSA	1.78%	31.70%	CLB	0.06%	-42.70%	BZLFY	0.28%	-32.10%
CFRUY	0.15%	-85.50%	DISCA	0.35%	13.30%	CVX	0.45%	41.80%	DG	0.14%	85.40%
CMPGY	0.23%	-17.50%	DLB	0.66%	-0.20%	DNOW	0.19%	-42.70%	HEINY	0.29%	19.00%
CTTAY	0.09%	-146.50%	FWONA	0.03%	26.90%	DVN	0.25%	-47.30%	KAOOY	0.21%	-103.20%
DPZ	0.19%	145.90%	FWONK	0.23%	27.00%	ECA	0.21%	-55.60%	KMB	0.39%	-8.40%
EBAY	0.35%	-31.60%	GLIBA	0.26%	50.50%	ENB	0.10%	16.40%	KRYAY	0.31%	43.70%
GM	0.45%	-54.30%	LBRDA	0.14%	50.70%	EQNR	0.04%	50.40%	LRLCY	0.23%	39.80%
H	0.11%	-43.10%	LBRDK	0.23%	51.60%	GLPEY	0.09%	112.90%	PDRDY	0.34%	35.90%
HLT	0.35%	22.00%	LBTYA	0.05%	-28.70%	HES	0.40%	4.70%	PM	0.67%	-16.50%
IP	0.34%	-75.80%	LBTYK	0.07%	-29.50%	MRO	0.30%	-39.80%	RBGLY	0.21%	-32.30%
KMX	0.44%	-35.90%	LGF-B	0.16%	-69.70%	NBL	0.22%	-38.00%	UN	0.17%	33.50%
LEN	0.14%	-44.00%	LSXMA	0.16%	-3.20%	OXY	0.37%	-25.70%			
MTN	0.23%	117.30%	LSXMK	0.32%	-4.40%	RDS-A	0.40%	32.70%			
ORLY	0.39%	51.00%	RELX	0.27%	9.30%	SU	0.53%	37.40%			
QRTEA	0.36%	-148.90%	T	0.44%	20.70%	TOT	0.21%	46.50%			
QSR	0.32%	6.40%	TWTR	0.85%	-37.80%						
ROST	0.03%	78.00%									
SMSEY	0.23%	-103.20%									
TM	0.27%	-50.60%									
W	0.08%	218.10%									

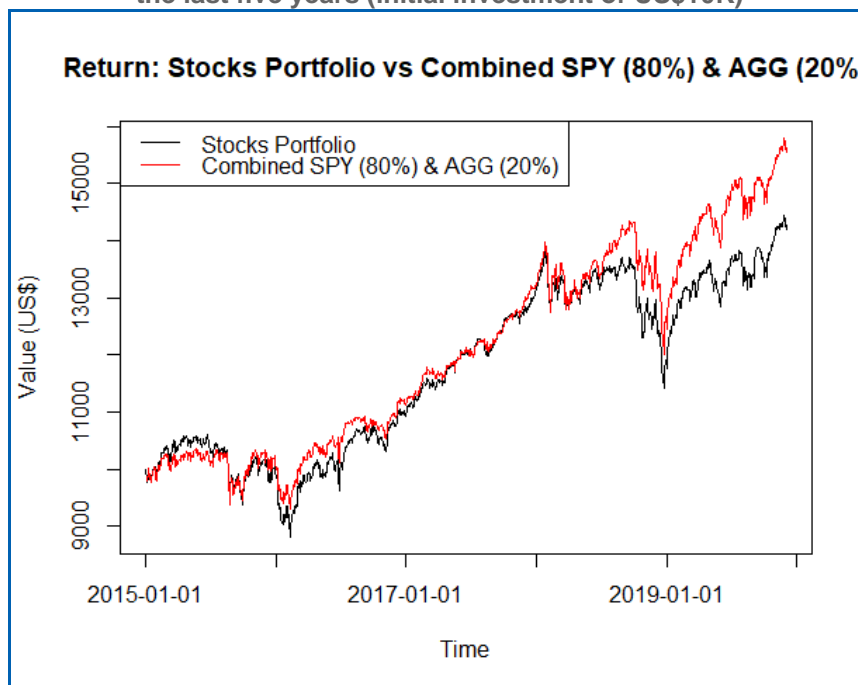
Source: Berunda Capital analysis
 *TXHPF, SUM and ALC stocks are not included due to inconsistent data

Combined SPY (80%) & AGG (20%) Portfolio offers higher returns compared to the Client’s Stocks Portfolio

Exhibit 3 displays the total returns of the Client’s Stocks Portfolio and Combined SPY (80%) & AGG (20%) Portfolio for the last five years. The Client’s Stocks Portfolio and Combined SPY (80%) & AGG (20%) Portfolio is estimated to have an adjusted R-squared of 0.9052. From Exhibit 3, it can be clearly seen that the Combined SPY (80%) & AGG (20%) Portfolio offers higher returns compared to the Client’s Stocks Portfolio during the past five years of comparison. If we had invested a sum of \$10,000 five years ago, the Combined SPY & AGG Portfolio would have offered \$15,638, whereas the Client’s portfolio would have provided a return of \$14,709 only.



Exhibit 3: Return comparison of the Client’s Stocks Portfolio and Combined SPY (80%) & AGG (20%) Portfolio for the last five years (initial investment of US\$10K)



Source: Berunda Capital analysis

Combined SPY (80%) & AGG (20%) Portfolio also offers relatively lower risk compared to the Client’s Stocks Portfolio

Exhibit 4 displays the downside risk and ratios for the Client’s Stocks Portfolio vs Combined SPY (80%) & AGG (20%) Portfolio for the last five years. The Client’s Stocks Portfolio and Combined SPY (80%) & AGG (20%) Portfolio exhibit a maximum drawdown of 17.99% and 16.64% respectively. Further, the Combined SPY & AGG Portfolio has better downside risk ratios such as Sortino ratio (0.0746) and Omega-Sharpe ratio (0.17) compared to the Client’s Stocks Portfolio.

Exhibit 4: Downside risk measures of the Client’s Stocks Portfolio vs Combined SPY (80%) & AGG (20%) Portfolio

Downside risk			Downside risk ratios		
Particulars	Client’s Portfolio	Combined SPY & AGG Portfolio	Particulars	Client’s Portfolio	Combined SPY & AGG Portfolio
Semi Deviation	0.52%	0.52%	Daily downside risk	0.51%	0.50%
Gain Deviation	0.44%	0.45%	Annualized downside risk	8.10%	7.94%
Loss Deviation	0.55%	0.56%	Downside potential	0.23%	0.22%
Downside Deviation (Rf=0%)	0.51%	0.50%	Omega	1.1338	1.1700
Maximum drawdown	17.99%	16.64%	Sortino ratio	0.0613	0.0746
Historical VaR (95%)	-1.21%	-1.17%	Upside potential ratio	0.6679	0.6368
Modified ES (95%)	-1.79%	-1.15%	Omega-Sharpe ratio	0.1338	0.1700

Source: Berunda Capital analysis



We now analyze each mutual fund in the portfolio against top ETFs available in respective fund categories.

2. Client's IRA Portfolios

The Client's IRA portfolios (IRA-1-Portfolio and IRA-2-Portfolio have been consolidated as one for the analysis) consist of mutual funds and ETFs. However, both IRA-1-Portfolio and IRA-2-Portfolio slightly differ in terms of investment weights. Exhibit 5 shows the Client's investments and corresponding weightages in the two IRA portfolios. We have compared these two IRA portfolios with a combined portfolio, consisting of a hypothetical 75% investment in SPY ETF and 25% in AGG ETF.

Exhibit 5: Investments Weightage for the Client's Portfolio: IRA-1 & IRA-2*

Ticker	MFs/ETFs/Stocks	Client's IRA-1-Portfolio	Client's IRA-2-Portfolio
		Weightage	Weightage
AEPFX	American Funds Europacific Growth F2	7.3%	8.3%
GFFFX	American Funds Growth Fund of Amer F2	21.0%	22.9%
BMCIX	BlackRock High Equity Income Instl	4.4%	4.9%
CMNIX	Calamos Market Neutral Income I	3.6%	3.4%
DCCIX	Delaware Small Cap Core I	3.3%	3.6%
DHLRX	Diamond Hill Large Cap I	12.2%	12.8%
TGBAX	Templeton Global Bond Adv	6.9%	5.9%
TIBIX	Thornburg Investment Income Builder I	12.9%	11.8%
PIMSX	Virtus Newfleet Multi-Sector S/T Bd I	5.8%	5.4%
GLD	SPDR® Gold Shares	3.7%	3.6%
VWO	Vanguard FTSE Emerging Markets ETF	6.1%	5.0%
VO	Vanguard Mid-Cap ETF	3.7%	4.7%
VNQ	Vanguard Real Estate ETF	4.1%	3.5%
VB	Vanguard Small-Cap ETF	3.0%	3.2%
IYR	iShares US Real Estate ETF	2.1%	1.1%
Total		100.0%	100.0%

Source: Client's investment report
*Assumed IYR for cash

American Funds Europacific Growth F2 (AEPFX)

Category: US Fund Foreign Large Growth

Fund Overview: According to AEPFX's Fact Sheet, the fund *invests in attractively valued companies in developed and emerging markets that are positioned to benefit from innovation, global economic growth, increasing consumer demand or a turnaround in business conditions.* As of 11/28/2019, according to Morningstar, AEPFX had a 3-star* (past performance) and Gold** (future performance) rating in the large growth investment style. AEPFX has an expense ratio of 0.58%. As the name suggests, the fund primarily invests (at least 80% of its net assets) in Europe and the Pacific Basin. The fund may invest the remaining portion of its assets in common stocks of companies in emerging markets. As of October 31, 2019, the fund invested 87.9% of its net assets in non-US equities and 1.7% in US equities. The fund holds 10.3% of its net assets in cash and cash equivalents. AEPFX holds US\$163.7 billion as Assets under Management (AUM).

ETF substitutability: Exhibit 6 shows suitable top ten ETFs that could be compared to American Funds Europacific Growth F2 (AEPFX). WisdomTree Intl Hdgd Qual Div Gr ETF (IHDG) and AdvisorShares Dorsey Wright ADR ETF (AADR) offer relatively higher returns of 60.4% (in 1,401 trading days) and 117.1% (in 2,356 trading days) respectively. However, WisdomTree Intl Hdgd Qual Div Gr ETF (IHDG) has total assets of US\$535 million, which is significantly lower



than AEPFX (US\$163.7 billion). AADR has a significantly higher maximum drawdown of -35.19%, compared to AEPFX's maximum drawdown of -19.90%.

Exhibit 6: AEPFX: Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM	Average Daily Volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with AEPFX	AEPFX Return	ETFs Return
iShares MSCI EAFE Growth ETF	EFG	Gold	\$4.40 billion	237,504		2,851	0.951	77.1%	59.2%
Vanguard Intl Div Apprec ETF	VIGI	Bronze	\$1.40 billion	89,061		943	0.897	47.1%	43.9%
WisdomTree Intl Hdgd Qual Div Gr ETF	IHDG	Gold	\$534.9 million	59,926		1,401	0.812	34.2%	60.4%
iShares Edge MSCI Intl Momentum Fctr ETF	IMTM	Neutral	\$210 million	47,168		1,219	0.452	33.2%	28.5%
Invesco DWA Developed Markets Mom ETF	PIZ	Negative	\$181.5 million	13,946		2,851	0.907	77.1%	57.0%
ProShares MSCI EAFE Dividend Growers	EFAD	Neutral	\$130 million	10,796		1,327	0.820	31.3%	11.3%
AdvisorShares Dorsey Wright ADR ETF	AAADR	Neutral	\$104 million	7,839		2,356	0.633	97.1%	117.1%
WisdomTree International Qual Div Gr ETF	IQDG	Bronze	\$108 million	10,998		918	0.789	44.6%	33.4%
WisdomTree Global ex-US Qual Div Gr ETF	DNL	Bronze	\$93.7 million	9,447		2,851	0.869	77.1%	74.1%
Alpha Architect Intl Quant Momt ETF	IMOM	Negative	\$63.6 million	19,978	989	0.623	37.0%	8.6%	

Source: Morningstar and Berunda Capital analysis
2,851 express date starts from 08/01/2008 to 11/27/2019

* Morningstar ranks mutual funds on a scale of one to five stars based on how the fund has performed

** Morningstar analysts offer ratings on a five-tier system, with three positive ratings of Gold, Silver and Bronze, plus a Neutral rating and a Negative rating for future performance

Exhibit 7 shows the volatility and risk measurements for AEPFX along with the ETFs for the past five years. AEPFX has an alpha of 1.85, beta of 0.94 and maximum drawdown of -19.90% in the last five years.

Exhibit 7: AEPFX - Risk and Volatility Measures Comparison*

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Funds	Tickers	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
iShares MSCI EAFE Growth ETF	EFG	2.44	0.92	90.92	0.47	12.14	96	81	-16.84%
WisdomTree Intl Hdgd Qual Div Gr ETF	IHDG	5.82	0.7	62.53	0.75	11.03	80	44	-14.67%
Invesco DWA Developed Markets Mom ETF	PIZ	0.24	0.86	72.99	0.26	12.57	81	79	-20.78%
ProShares MSCI EAFE Dividend Growers	EFAD	-0.4	0.82	80.33	0.21	11.41	79	80	-16.20%
AdvisorShares Dorsey Wright ADR ETF	AAADR	3.3	0.99	61.73	0.43	15.78	104	111	-35.19%
WisdomTree Global ex-US Qual Div Gr ETF	DNL	1.94	0.97	91.43	0.42	12.67	99	87	-18.40%
American Funds Europacific Growth F2	AEPFX	1.85	0.94	92.15	0.42	12.23	98	87	-19.90%

Source: Morningstar. *5-year data not available for VIGI, IMTM and IQDG

Recommendation: We recommend the Client hold his investment in American Funds Europacific Growth F2 (AEPFX) rather than investing in other comparable ETFs in the US Fund Foreign Large Growth category.

American Funds Growth Fund of Amer F2 (GFFFX)

Category: US Fund Large Growth

Fund Overview: According to GFFFX's Fact sheet, the fund seeks opportunities in traditional growth stocks as well as cyclical companies and turnaround situations with significant potential for growth of capital. As of 11/29/2019, according to Morningstar, GFFFX holds 3-star and Bronze rating with a large growth investment style. The GFFFX fund invests approximately 83.1% of its net assets in US equities and 10.6% in Non-US equities. As of October 31, 2019, GFFFX's top five holdings are Facebook (5.5%), Microsoft (5.1%), Netflix (4.0%), Amazon (3.9%) and Alphabet (3.7%). Further, GFFFX's top five industry allocations are Information technology (23.0%), Communication services (16.4%), Health care



(14.8%), Consumer discretionary (12.4%) and Financials (8.5%). GFFFX has an expense ratio of 0.41%. GFFFX holds US\$191.1 billion in Assets under Management (AUM).

ETF substitutability: Exhibit 8 shows suitable ETFs, which could be compared to American Funds Growth Fund of Amer F2 (GFFFX). The most suitable ETFs for GFFFX would be in the Large Cap Growth category. Our analysis shows that the top 10 ETFs in the US Fund Large Growth category may offer higher returns compared to GFFFX. From 08/01/2008 to 11/27/2019 or 2,851 holding (market) days, GFFFX has offered a 210% return. Meanwhile, Invesco QQQ Trust (QQQ), iShares Russell 1000 Growth ETF (IWF), Vanguard Growth ETF (VUG), iShares S&P 500 Growth ETF (IVW), SPDR® Portfolio S&P 500 Growth ETF (SPYG) and Vanguard Mega Cap Growth ETF (MGK) offered returns of 413%, 276%, 257%, 266%, 270% and 268% respectively. These six ETFs are also more than 94% correlated with GFFFX.

Exhibit 8: GFFFX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in billion)	Average Daily Volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with GFFFX	GFFFX Return	ETFs Return
Invesco QQQ Trust	QQQ	Neutral	\$82.7	24,000,000		2,851	0.949	210%	413%
iShares Russell 1000 Growth ETF	IWF	Bronze	\$48.3	1,200,000		2,851	0.980	210%	276%
Vanguard Growth ETF	VUG	Silver	\$45.1	552,597		2,851	0.981	210%	257%
iShares S&P 500 Growth ETF	IVW	Bronze	\$24.5	387,024		2,851	0.977	210%	266%
Schwab US Large-Cap Growth ETF™	SCHG	Silver	\$8.9	366,271		2,493	0.983	232%	283%
iShares Edge MSCI USA Momentum Fctr ETF	MTUM	Silver	\$9.2	1,300,000		1,666	0.917	144%	165%
iShares Core S&P US Growth ETF	IUSG	Silver	\$7.5	484,534		2,851	0.981	210%	255%
Vanguard Russell 1000 Growth ETF	VONG	Silver	\$3.2	71,141		2,312	0.960	233%	284%
SPDR® Portfolio S&P 500 Growth ETF	SPYG	Silver	\$5.2	1,000,000		2,851	0.967	210%	270%
Vanguard Mega Cap Growth ETF	MGK	Silver	\$4.9	159,289	2,851	0.979	210%	268%	

Source: Morningstar and Berunda Capital analysis

Exhibit 9 displays the risk and volatility measures for GFFFX and its comparable ETFs for the past five years. GFFFX exhibits higher risk with relatively lower alpha and Sharpe ratio compared to other ETFs. GFFFX also has a higher maximum drawdown of -15.41% compared to other ETFs.

Exhibit 9: GFFFX - Risk and Volatility Measures Comparison

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
Invesco QQQ Trust	QQQ	2.8	1.17	84.62	0.95	15.14	127	115	-17.01%
iShares Russell 1000 Growth ETF	IWF	1.85	1.05	94.22	0.95	12.87	110	100	-15.90%
Vanguard Growth ETF	VUG	0.77	1.06	93.43	0.87	13.02	107	104	-16.29%
iShares S&P 500 Growth ETF	IVW	1.5	1	93.57	0.93	12.31	105	96	-14.72%
Schwab US Large-Cap Growth ETF™	SCHG	1.23	1.05	94.65	0.91	12.91	109	102	-15.52%
iShares Edge MSCI USA Momentum Fctr ETF	MTUM	4.2	0.87	77.57	1.09	11.74	103	80	-15.61%
iShares Core S&P US Growth ETF	IUSG	1.32	1.01	94.83	0.92	12.36	105	97	-14.92%
Vanguard Russell 1000 Growth ETF	VONG	1.92	1.05	94.22	0.96	12.88	111	100	-15.90%
SPDR® Portfolio S&P 500 Growth ETF	SPYG	1.57	1	93.53	0.93	12.29	105	96	-14.68%
Vanguard Mega Cap Growth ETF	MGK	1.15	1.06	92.64	0.89	13.18	110	105	-16.46%
American Funds Growth Fund of Amer F2	GFFFX	0.3	1.01	90.59	0.82	12.66	104	105	-15.41%

Source: Morningstar

Recommendation: In this US Fund Large Growth category, we estimate that the ETFs (mentioned above in Exhibits 8 & 9) perform better than GFFFX during the time period considered. Hence, we recommend that the Client could invest in any or all of the Invesco QQQ Trust (QQQ), iShares Russell 1000 Growth ETF (IWF), Vanguard Growth ETF (VUG), iShares S&P 500 Growth ETF (IVW), SPDR® Portfolio S&P 500 Growth ETF (SPYG) and Vanguard Mega Cap Growth



ETF (MGK)). These ETFs offer relatively higher return with low risk compared to GFFFX. According to Morningstar, QQQ holds a 5-star rating in the US Fund Large Growth category.

BlackRock High Equity Income Instl (BMCIX)

Category: US Fund Large Value

Fund Overview: BlackRock High Equity Income Instl (BMCIX) primarily seeks high current income with consideration for capital appreciation by investing in common stocks that pay dividends and have the potential for capital appreciation. As of October 31, 2019, BMCIX has invested 25.79% in Financials, 16.61% in Healthcare, 13.01% in Energy, 9.48% in Communication sectors etc. The fund also primarily focuses on an option writing (selling) strategy to enhance distributions paid to the Fund's shareholders and invests 80% of its net assets in dividend paying equities. The fund has a net expense ratio of 0.85%. Mr. Antonio (Tony) DeSpirito, the Managing Director, is the Director of Investments and lead manager of BMCIX since 2014. As of October 31, 2019, BMCIX holds \$118.5 billion in AUM.

ETF Substitutability: Exhibit 10 displays the comparable ETFs of BMCIX. The top 10 ETFs in the US Fund large value category have a significant correlation with BMCIX and ranges from 0.86 to 0.93. It can be seen that the iShares Russell 1000 Value ETF (IWD), SPDR® Dow Jones Industrial Average ETF (DIA), Schwab US Dividend Equity ETF™ (SCHD) and iShares Core Dividend Growth ETF (DGRO) beat the performance of BMCIX by 19, 54, 43 and 42 percentage points during the comparable periods of 4,907, 5,008, 2,039 and 1,376 days respectively. The SCHD and DGRO ETFs have strong correlations of 0.866 and 0.901 respectively with BMCIX in certain comparable periods. Both SCHD and DGRO hold 5-star Morningstar analyst ratings. The SCHD ETF invests in large-cap US equities and has an expense ratio of 0.06%. As of September 30, 2019, the SCHD ETF has invested 21.20% in Consumer Staples, 18.25% in Information Technology, 16.47% in Industrials, 10.45% in Consumer Discretionary sectors, etc. The DGRO ETF also primarily invests in large-cap US equities and has an expense ratio of 0.08%. As of December 04, 2019, the DGRO ETF has invested 19.80% in Financials, 16.44% in Health Care, 15.46% in Information Technology, 13.04% in Industrials sectors, etc.

Exhibit 10: BMCIX - Basic Measures & Return Comparisons

ETFs	ETFs Ticker	Morningstar Rating	AUM (in billion)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with BMCIX	BMCIX Return	ETFs Return
Vanguard Value ETF	VTV	Silver	\$54.60	1.2 million		3,985	0.929	351%	263%
iShares Russell 1000 Value ETF	IWD	Bronze	\$41.70	1.7 million		4,907	0.881	257%	276%
Vanguard High Dividend Yield ETF	VYM	Silver	\$28.60	1.1 million		3,279	0.914	195%	172%
SPDR® Dow Jones Industrial Average ETF	DIA	Neutral	\$22.60	2.6 million		5,008	0.793	234%	288%
SPDR® S&P Dividend ETF	SDY	Silver	\$19.80	525,162		3,532	0.891	267%	244%
iShares Select Dividend ETF	DVY	Neutral	\$18.40	489,505		4,041	0.877	401%	261%
iShares S&P 500 Value ETF	IVE	Bronze	\$17.30	735,742		4,907	0.883	257%	232%
Schwab US Dividend Equity ETF™	SCHD	Silver	\$11.30	755,398		2,039	0.866	145%	188%
iShares Core Dividend Growth ETF	DGRO	-	\$9.80	1.3 million		1,376	0.901	47%	89%
First Trust Value Line® Dividend ETF	FVD	Neutral	\$9.10	1.3 million	4,092	0.865	459%	387%	

Source: Morningstar and Berunda Capital Analysis

Exhibit 11 presents the risk and volatility measures of the mutual fund and the ETFs. The risk and volatility measures of both SCHD and DGRO ETFs are better compared to BMCIX's alpha of -2.48, Sharpe ratio of 0.86 and maximum drawdown of -16.82%. The SCHD and DGRO ETFs have an alpha of 0.26 and 1.59, Sharpe ratio of 0.82 and 0.96 and maximum drawdown of -10.59% and -9.94% respectively.



Exhibit 11: BMCIX - Risk and Volatility Measures

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
Vanguard Value ETF	VTV	-0.87	0.95	93.83	0.73	11.71	93	98	-10.91%
iShares Russell 1000 Value ETF	IWD	-2.71	0.96	93.01	0.58	11.9	87	103	-11.80%
Vanguard High Dividend Yield ETF	VYM	-0.63	0.89	91.96	0.74	11.06	87	91	-9.64%
SPDR® Dow Jones Industrial Average ETF	DIA	1.07	0.99	93.34	0.89	12.16	101	94	-11.29%
SPDR® S&P Dividend ETF	SDY	1.37	0.83	83.36	0.89	10.79	86	76	-7.93%
iShares Select Dividend ETF	DVY	0.84	0.73	76.00	0.81	10.02	77	87	-10.08%
iShares S&P 500 Value ETF	IVE	-2.06	1.00	92.03	0.63	12.42	93	108	-12.70%
Schwab US Dividend Equity ETF™	SCHD	0.26	0.93	91.08	0.82	11.62	95	94	-10.59%
iShares Core Dividend Growth ETF	DGRO	1.59	0.92	95.49	0.96	11.24	98	88	-9.94%
First Trust Value Line® Dividend ETF	FVD	2.73	0.7	79.71	1.04	9.3	75	55	-7.62%
BlackRock High Equity Income Instl	BMCIX	-2.48	0.86	83.16	0.54	11.27	81	97	-16.82%

Source: Morningstar

Recommendation: The Client could shift his investment to SCHD and/or DGRO from BMCIX as both ETFs have beaten the mutual fund's return by 43 and 42 percentage points during the comparable period of 2,039 and 1,376 days respectively.

Diamond Hill Large Cap I (DHLRX)

Category: US Fund Large Value

Fund Overview: According to DHLRX's Fact Sheet, the fund seeks long-term capital appreciation by investing in companies selling for less than the Fund's estimate of intrinsic value. As of 12/02/2019, according to Morningstar, DHLRX had a 4-star and Gold rating in the large value investment style segment. DHLRX fund follows a disciplined approach and invests typically 40-60 positions with a maximum position size of 7%. Top 10 holdings are typically greater than 30% of the net assets. Maximum sector exposure is about 30% of net assets. DHLRX would invest at least 80% of its net assets in large capitalization companies with a market capitalization of \$5 billion or greater. As of 12/02/2019, DHLRX holds about \$6.7 billion in assets under management and has an expense ratio of 0.67%. DHLRX has invested 27.4 of its net assets in Financials, 13.5% in Consumer Discretionary, 13.5% in Health Care, 11.7% in Communication Services, etc.

ETF substitutability: Exhibit 12 shows suitable ETFs, which could be compared to Diamond Hill Large Cap I (DHLRX). The top 10 ETFs in the US Fund large value category have a significant correlation with DHLRX and ranges from 0.89 to 0.96. It can be seen that the SPDR® Dow Jones Industrial Average ETF (DIA), SPDR® S&P Dividend ETF (SDA), Schwab US Dividend Equity ETF™ (SCHD), iShares Core Dividend Growth ETF (DGRO) and First Trust Value Line® Dividend ETF (FVD) beat the performance of DHLRX by 16, 9, 1, 21 and 80 percentage points during the comparable periods of 3,733, 3,532, 2,039, 1,376 and 3,733 days respectively. The DIA and DGRO ETFs have strong correlations of 0.941 and 0.962 respectively with DHLRX in certain comparable periods. Both DIA and DGRO ETFs hold 5-star Morningstar analyst ratings. The SPDR® Dow Jones Industrial Average ETF (DIA) has an average daily volume of 2.6 million and total assets worth \$22.6 billion. The DIA ETF also invests in large-cap US equities and has an expense ratio of 0.17%. As of November 27, 2019, the DIA ETF has invested 20.28% in Information Technology, 20.06% in Industries, 14.74% in Financials, 13.12% in Health Care sectors etc. As of 12/02/2019, the DGRO ETF holds about \$9.8 billion in assets under management and has an expense ratio of 0.08%.



Exhibit 12: DHLRX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in billion)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with DHLRX	DHLRX Return	ETFs Return
Vanguard Value ETF	VTV	Silver	\$54.60	1.2 million		3,733	0.962	279%	226%
iShares Russell 1000 Value ETF	IWD	Bronze	\$41.70	1.7 million		3,733	0.963	279%	193%
Vanguard High Dividend Yield ETF	VYM	Silver	\$28.60	1.1 million		3,279	0.937	190%	172%
SPDR® Dow Jones Industrial Average ETF	DIA	Neutral	\$22.60	2.6 million		3,733	0.941	279%	295%
SPDR® S&P Dividend ETF	SDY	Silver	\$19.80	525,162		3,532	0.899	235%	244%
iShares Select Dividend ETF	DVY	Neutral	\$18.40	490		3,733	0.890	279%	261%
iShares S&P 500 Value ETF	IVE	Bronze	\$17.30	735,742		3,733	0.956	279%	195%
Schwab US Dividend Equity ETF™	SCHD	Silver	\$11.30	755,398		2,039	0.932	187%	188%
iShares Core Dividend Growth ETF	DGRO		\$9.80	1.3 million		1,376	0.962	69%	89%
First Trust Value Line® Dividend ETF	FVD	Neutral	\$9.10	1.3 million		3,733	0.896	279%	359%

Source: Morningstar and Berunda Capital analysis

Exhibit 13 shows the volatility and risk measurements for DHLRX along with the comparable ETFs for the past five years. Comparing DHLRX with other ETFs in the US Fund Large Value category, DHLRX exhibits higher risk and volatility. DHLRX has weaker alpha (-1.41) and Sharpe ratio (0.70) and higher maximum drawdown of 13.56% compared to other comparable ETFs in the category in the last five years.

Exhibit 13: DHLRX - Risk and Volatility Measures Comparison

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
Vanguard Value ETF	VTV	-0.87	0.95	93.83	0.73	11.71	93	98	-10.91%
iShares Russell 1000 Value ETF	IWD	-2.71	0.96	93.01	0.58	11.9	87	103	-11.80%
Vanguard High Dividend Yield ETF	VYM	-0.63	0.89	91.96	0.74	11.06	87	91	-9.64%
SPDR® Dow Jones Industrial Average ETF	DIA	1.07	0.99	93.34	0.89	12.16	101	94	-11.29%
SPDR® S&P Dividend ETF	SDY	1.37	0.83	83.36	0.89	10.79	86	76	-7.93%
iShares Select Dividend ETF	DVY	0.84	0.73	76	0.81	10.02	77	87	-10.08%
iShares S&P 500 Value ETF	IVE	-2.06	1	92.03	0.63	12.42	93	108	-12.70%
Schwab US Dividend Equity ETF™	SCHD	0.26	0.93	91.08	0.82	11.62	95	94	-10.59%
iShares Core Dividend Growth ETF	DGRO	1.59	0.92	95.49	0.96	11.24	98	88	-9.94%
First Trust Value Line® Dividend ETF	FVD	2.73	0.7	79.71	1.04	9.3	75	55	-7.62%
Diamond Hill Large Cap I	DHLRX	-1.41	1.07	93.41	0.7	13.17	101	110	-13.56%

Source: Morningstar

Recommendation: We recommend the Client shift his investment from DHLRX to DIA and/or DGRO ETFs among other ETFs in the large-value category. Both DIA and DGRO ETFs offer higher returns with lower risk compared to DHLRX. The DIA and DGRO ETFs have an alpha of 1.07 and 1.59, Sharpe ratio of 0.99 and 0.92 and maximum drawdown of -11.29%



and -9.94% respectively.

Calamos Market Neutral Income I Instl (CMNIX)

Category: US Fund Market Neutral

Fund Overview: According to CMNIX's Fact sheet, *the fund combines two complementary strategies with different responses to volatility: convertible arbitrage seeks alpha and uncorrelated returns, while hedged options provides income from options writing and upside participation.* As of 12/2/2019, according to Morningstar, CMNIX had a 5-star and Neutral rating in the US Fund Market Neutral category. CMNIX has an expense ratio of 0.82%. The fund allocates equally between an options-based equity and a convertible-arbitrage strategy. These allocations are aimed to complement each other in fluctuating market regimes. As of November 30, 2019, the fund allocated about 49.7% of its net assets in convertible arbitrage and the remaining 50.3% in hedged equity strategy. As of 12/02/2019, the fund had \$8.9 billion in assets under management.

ETF substitutability: Exhibit 14 shows suitable ETFs, which could be compared to Calamos Market Neutral Income I Instl (CMNIX). CMNIX offers significant returns compared to the IQ Merger Arbitrage ETF (MNA) and IQ Hedge Market Neutral Tracker ETF (QMN) in the US Fund Market Neutral category.

Exhibit 14: CMNIX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in million)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with CMNIX	CMNIX Return	ETFs Return
IQ Merger Arbitrage ETF	MNA	Neutral	\$896.50	107,227		2,524	0.379	51%	35%
IQ Hedge Market Neutral Tracker ETF	QMN	Neutral	\$14.80	2,079		1,798	0.370	30%	12%

Source: Morningstar and Berunda Capital analysis

Exhibit 15 shows the volatility and risk measurements for CMNIX along with the ETFs for the past five years. The CMNIX ETF has an alpha of 3.05, Sharpe ratio of 0.97 and maximum drawdown of -1.81%.

Exhibit 15: CMNIX - Risk and Volatility Measures Comparison*

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
IQ Merger Arbitrage ETF	MNA	3	-0.13	1.13	0.77	3.54	37	-63	-4.42%
IQ Hedge Market Neutral Tracker ETF	QMN	-0.12	0.24	10.8	0.18	2.19	40	34	-2.79%
Calamos Market Neutral Income I	CMNIX	3.05	-0.15	2.65	0.97	2.8	50	-55	-1.81%

Source: Morningstar. *No 5-year data for LMBS, IBDL and IBDK

Recommendation: We recommend the Client hold his investment in Calamos Market Neutral Income I Instl (CMNIX) as it offers relatively good return with lower risk compared to its comparable ETFs in the market neutral category.

Delaware Small Cap Core I (DCCIX)

Category: US Fund Small Blend

Fund Overview: According to DCCIX's Fact Sheet, *the fund is focused on uncovering the best opportunities across the traditionally under-researched US small company market and a daily review of the portfolio's risk exposures ensures alpha is driven by stock selection.* As of 12/02/2019, according to Morningstar, DCCIX had a 5-star and Silver rating in the small blend investment style. DCCIX has an expense ratio of 0.87%. The fund primarily invests in the US and a smaller portion of the remaining net assets in global markets. As of October 30, 2019, the fund invested 95.4% of its net assets in the US domestic equities and 2% in international equities & depositary receipts. The fund holds 2.6% of its net assets in cash and cash equivalents. DCCIX holds US\$5 billion as Assets under Management (AUM).



ETF substitutability: Exhibit 16 shows Delaware Small Cap Core I's (DCCIX) suitable top seven comparable ETFs. iShares Core S&P Small-Cap ETF (IJR) offers a significantly higher return of 542% compared to DCCIX's 331% during the comparable period of 4,907 trading days (from 05/26/2000 to 11/27/2019). DCCIX and IJR are estimated to have a correlation of 0.90. Further, iShares Russell 2000 ETF (IWM) and SPDR® S&P 600 Small Cap ETF (SLY) offer relatively higher returns of 360% (in 4,907 trading days) and 266% (in trading 3,532 days).

Exhibit 16: DCCIX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in billion)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with DCCIX	DCCIX Return	ETF Return
iShares Core S&P Small-Cap ETF	IJR	Gold	\$47.00	3.2 million		4,907	0.902	331%	542%
iShares Russell 2000 ETF	IWM	Bronze	\$46.40	18.6 million		4,907	0.896	331%	360%
Schwab US Small-Cap ETF™	SCHA	Gold	\$8.90	338,940		2,534	0.980	273%	248%
Schwab Fundamental US Small Company ETF	FNDA	Silver	\$3.80	216,441		1,583	0.959	85%	75%
Vanguard Russell 2000 ETF	VTWO	Bronze	\$1.60	179,803		2,312	0.964	222%	183%
Vanguard S&P Small-Cap 600 ETF	VIOO	Gold	\$1.10	51,932		2,321	0.926	234%	226%
SPDR® S&P 600 Small Cap ETF	SLY	Silver	\$1.40	60,201		3,532	0.795	225%	266%

Source: Morningstar and Berunda Capital analysis

Exhibit 17 shows the volatility and risk measurements for DCCIX along with the ETFs for the past five years. DCCIX has an alpha of -2.48, beta of 0.86 and maximum drawdown of -16.82% in the last five years.

Exhibit 17: DCCIX - Risk and Volatility Measures Comparison*

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
iShares Core S&P Small-Cap ETF	IJR	-2.45	1.12	69.66	0.54	15.98	97	111	-22.62%
iShares Russell 2000 ETF	IWM	-3.99	1.14	72.76	0.46	15.97	98	124	-22.12%
Schwab US Small-Cap ETF™	SCHA	-4.24	1.14	77.78	0.46	15.38	95	126	-21.76%
Schwab Fundamental US Small Company ETF	FNDA	-3.95	1.11	77.59	0.47	14.94	92	115	-20.50%
Vanguard Russell 2000 ETF	VTWO	-3.97	1.14	72.77	0.46	15.96	98	124	-22.11%
Vanguard S&P Small-Cap 600 ETF	VIOO	-2.5	1.12	69.75	0.54	15.98	97	111	-22.65%
SPDR® S&P 600 Small Cap ETF	SLY	-2.48	1.12	69.6	0.54	16.01	97	111	-22.61%
Delaware Small Cap Core I	DCCIX	-2.48	0.86	83.16	0.54	11.27	81	97	-16.82%

Source: Morningstar.

Recommendation: Even though the ETF IJR beats DCCIX in terms of performance, it has higher maximum drawdown compared to the mutual fund. Hence, its best to continue with the investment in DCCIX as it offers lower risk compared to the ETFs.

Templeton Global Bond Adv (TGBAX)

Category: US Fund Nontraditional Bond

Fund Overview: According to TGBAX's Fact Sheet, the fund primarily focuses on current income with capital appreciation and growth of income by investing at least 80% of its net assets in bonds of governments, government related entities and government agencies located anywhere in the world. As of 12/02/2019, according to Morningstar, TGBAX had a 3-star and Gold rating in the US Fund Nontraditional Bond category. TGBAX has a net expense ratio of 0.96%. As of October 31, 2019, TGBAX allocated 78.97% of its net assets in fixed income and remaining 21.03% is held as cash and cash equivalents. The fund has an average duration of -1.04 years and average weighted maturity of 1.32



years. TGBAX holds US\$29.4 billion in AUM. Mr. Michael Hasenstab, the Chief Investment Officer (CIO) of the firm's global macro group, is the lead manager of the fund since 2006. Mr. Michael Hasenstab is an experienced corporate finance advisor with international background.

ETF Substitutability: Exhibit 18 shows the comparable ETFs to the Templeton Global Bond Adv (TGBAX) mutual fund. Based on our analysis, ProShares Investment Grade—Intr Rt Hdgd (IGHG), WisdomTree Interest Rt Hdg Hi Yld Bd ETF (HYZD), ProShares High Yield—Interest Rate Hdgd (HYHG) and WisdomTree Negative Dur High Yld Bd ETF (HYND) are the top ETFs that are comparable to TGBAX on the US Fund Nontraditional Bond category. However, the top ETFs in the US Fund Nontraditional Bond category have a relatively weak correlation with TGBAX and ranges from 0.12 to 0.44. Based on the correlation, HYHG ETF could be chosen as the best comparable to TGBAX among the group. On comparing the performance of HYHG with the fund for 1,641 days, HYHG beats TGBAX's return by nine percentage points.

Exhibit 18: TGBAX - Basic Measures & Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in million)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with TGBAX	TGBAX Return	ETFs Return
ProShares Investment Grade—Intr Rt Hdgd	IGHG	Silver	\$275.20	24,572		1,520	0.269	9%	17%
WisdomTree Interest Rt Hdg Hi Yld Bd ETF	HYZD	Bronze	\$236.30	57,981		1,496	0.260	7%	18%
ProShares High Yield—Interest Rate Hdgd	HYHG	Neutral	\$117.80	8,184		1,641	0.443	6%	15%
WisdomTree Interest RtHdgUS Aggt Bd ETF	AGZD	Silver	\$86.20	9,205		1,496	0.115	7%	8%
WisdomTree Negative Dur High Yld Bd ETF	HYND	Negative	\$24.00	6,982		1,496	0.204	7%	-4%

Source: Morningstar and Berunda Capital analysis

Exhibit 19 shows the volatility and risk measurements for TGBAX along with the ETFs for the past five years. TGBAX exhibits higher risk with an alpha of 1.43 compared to HYHG's alpha of 3.1. However, during the five years, the maximum drawdown from the fund was -9.58% compared to HYHG's drawdown of -15.58%.

Exhibit 19: TGBAX - Risk and Volatility Measurements

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds/ETFs	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
ProShares Investment Grade—Intr Rt Hdgd	IGHG	2.69	-0.48	8.09	0.33	5.07	19	-61	-7.94%
WisdomTree Interest Rt Hdg Hi Yld Bd ETF	HYZD	3.29	-0.25	2.85	0.62	4.45	44	-47	-9.03%
ProShares High Yield—Interest Rate Hdgd	HYHG	3.1	-0.77	10.75	0.2	7.1	4	-80	-15.58%
WisdomTree Interest RtHdgUS Aggt Bd ETF	AGZD	0.68	-0.11	6.37	0.35	1.3	16	-22	-2.65%
WisdomTree Negative Dur High Yld Bd ETF	HYND	4.16	-1.83	51.66	0.02	7.68	-63	-238	-10.27%
Templeton Global Bond Adv	TGBAX	1.43	-0.74	11.15	-0.03	6.68	-26	-86	-9.58%

Source: Morningstar

*PSMG's risk and volatility measurements are available only for a three-year period

Recommendation: Even though the ETF HYHG beats TGBAX in terms of performance, it has higher maximum drawdown compared to the mutual fund. Hence, its best to continue with the investment in TGBAX as it offers relatively lower risk compared to the ETFs.



Thornburg Investment Income Builder I (TIBIX)

Category: US Fund World Allocation

Fund Overview: According to TIBIX's Fact sheet, *the fund invests in companies (both in the U.S. and abroad) with histories of paying dividends and showing the capacity to increase them. To provide additional income, the Fund may invest in debt obligations of any kind.* As of 12/02/2019, according to Morningstar, TIBIX had a 5-star and Bronze rating with large value investment style. The fund has \$14.4 billion as AUM and an expense ratio of 1.04%. As of September 30, 2019, the fund invests about 1.3% of its net assets in A rated debt obligation and over 44% in BBB rated debts, 20.3% in BB, 24.9% in B, 6.3% in CCC, 0.1% in D and 2.8% in not rated debt obligations. Sector breakdown: 24.1% of its investments in Financials, 15.6% in Communication Services, 12.8% in Energy and 10.8% in Information Technology.

ETF substitutability: Exhibit 20 shows the top nine ETFs, which could be compared to Thornburg Investment Income Builder I (TIBIX). The top nine ETFs in the US Fund World Allocation category have a relatively modest correlation with TIBIX and ranges from 0.51 to 0.75. Further, the fund offers higher returns compared to the ETFs.

Exhibit 20: TIBIX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in million)	Average Daily volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with TIBIX	TIBIX Return	ETFs Return
Cambria Global Momentum ETF	GMOM	Neutral	\$105.80	-		1,275	0.591	33%	13%
First Trust Dorsey Wright DALI 1 ETF	DALI	Gold	\$72.70	10,469		388	0.689	10%	4%
Cambria Global Asset Allocation ETF	GAA	Neutral	\$64.80	8,511		1,250	0.749	35%	26%
Arrow Dow Jones Global Yield ETF	GYLD	Neutral	\$53.70	13,348		1,902	0.587	76%	8%
Premise Capital Diversified Tactical	TCTL	Negative	\$46.10	3,092		771	0.615	34%	33%
First Trust CEF Income Opportunity ETF	FCEF	Negative	\$41.80	5,956		796	0.660	29%	32%
Cambria Trinity ETF	TRTY	Neutral	\$40.60	8,714		305	0.692	10%	1%
IQ Leaders GTAA Tracker ETF	QGTA	Bronze	\$30.10	10,483		1,048	0.512	41%	36%
VanEck Vectors Real Asset Allocation ETF	RAAX	Negative	\$27.60	4,018		413	0.696	12%	8%

Source: Morningstar and Berunda Capital analysis

Exhibit 21 shows the volatility and risk measurements for TIBIX along with the ETFs for the past three years. TIBIX has an alpha of -0.26, beta of 1.13 and maximum drawdown of -7.49% for the last three years.

Exhibit 21: TIBIX - Risk and Volatility Measures Comparison*

MFs & ETFs		Risk & Volatility Measures - 3-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
Cambria Global Momentum ETF	GMOM	-1.44	0.84	57.6	0.57	7.35	83	105	-13.51%
Cambria Global Asset Allocation ETF	GAA	-1.11	0.85	84.89	0.75	6.2	76	79	-9.42%
Arrow Dow Jones Global Yield ETF	GYLD	-6.59	1.14	69.72	0.13	9.19	69	129	-11.28%
Premise Capital Diversified Tactical	TCTL	0.95	0.96	71.27	0.98	7.61	108	109	-
First Trust CEF Income Opportunity ETF	FCEF	-1	1.43	85.75	0.84	10.38	130	143	-13.31%
IQ Leaders GTAA Tracker ETF	QGTA	-1.46	1.09	96.26	0.8	7.46	99	114	-10.21%
Thornburg Investment Income Builder I	TIBIX	-0.26	1.13	78.97	0.87	8.56	111	118	-7.49%

Source: Morningstar

* 5-year data is not available for most of the ETFs in this category. Hence, we have selected 3-year data

Recommendation: We recommend the client hold his position in Thornburg Investment Income Builder I (TIBIX) due to its higher return and lower risk compared to other ETFs in the US Fund World Allocation.



Virtus Newfleet Multi-Sector S/T Bd I (PIMSX)

Category: US Fund Short-Term Bond

Fund Overview: According to PIMSX's Fact sheet, *the fund seeks to generate current income by applying extensive credit research to capitalize on opportunities across undervalued sectors of the bond market in a short duration portfolio.* As of 12/02/2019, according to Morningstar, PIMSX had a 5-star and Negative rating in the medium credit quality and limited interest rate sensitivity investment style. PIMSX has an expense ratio of 0.72% and holds \$6.4 billion in AUM. The fund invests at least 80% of its net assets in bonds, which are fixed income debt obligations of various types of issuers. The fund has a mixed assets allocation and invests in a multi-sector fixed income segments (about 14 major bond segments) as well as currencies, international economies, sectors and securities. As of September 30, 2019, the fund has invested 24.36% in high quality corporate bonds, 23.44% in Non-Agency Residential MBS and 22.20% in Asset Backed Securities. Mr. David L. Albrycht, CFA, is the portfolio manager of PIMSX with over 30 years of experience in fixed income investing, product development, asset gathering and portfolio management.

ETF substitutability: Exhibit 22 shows Virtus Newfleet Multi-Sector S/T Bd I's (PIMSX) comparable ETFs. Comparing with the top nine ETFs in the Short-Term Bond category, PIMSX offers significantly higher returns, except First Trust Low Duration Oppos ETF (LMBS) and Invesco BulletShares 2020 Corp Bd ETF (BSCK). LMBS and BSCK offer 19% (in 1,274 trading days) and 28% (in 1,929 trading days) returns respectively.

Exhibit 22: PIMSX - Basic Measures and Return Comparison

ETFs	ETFs Ticker	Morningstar Rating	AUM (in billion)	Average Daily Volume	Performance	Length of time in days (Fund and ETF together compared)	Correlation with PIMSX	PIMSX Return	ETFs Return
Vanguard Short-Term Bond ETF	BSV	Silver	\$22.00	1.7 million		2,890	0.209	68%	30%
Vanguard Short-Term Corporate Bond ETF	VCSH	Silver	\$25.70	1.5 million		2,520	0.389	51%	35%
iShares Short-Term Corporate Bond ETF	IGSB	Silver	\$13.20	1.2 million		2,890	0.218	68%	33%
First Trust Low Duration Oppos ETF	LMBS	Neutral	\$3.80	469,090		1,274	0.112	14%	19%
SPDR® Portfolio Short Term Corp Bd ETF	SPSB	Bronze	\$6.30	1.3 million		2,493	0.255	49%	23%
iShares Core 1-5 Year USD Bond ETF	ISTB	Bronze	\$3.30	411,431		1,784	0.308	21%	13%
iShares 0-5 Year Invmt Grade Corp Bd ETF	SLQD	Bronze	\$2.00	185,954		1,539	0.237	18%	15%
Invesco BulletShares 2020 Corp Bd ETF	BSCK	Neutral	\$1.80	282,145		1,929	0.256	26%	28%
iShares iBonds Dec 2020 Term Corp ETF	IBDL	Neutral	\$1.30	197,861		1,253	0.135	15%	13%

Source: Morningstar and Berunda Capital analysis

Exhibit 23 shows the volatility and risk measurements for PIMSX along with the ETFs for the past five years. PIMSX has an alpha of 1.07, beta of 0.26 and maximum drawdown of -1.76% in the last five years.

Exhibit 23: PIMSX - Risk and Volatility Measures Comparison

MFs & ETFs		Risk & Volatility Measures - 5-Yr					Market Volatility Measures		
Ticker	Funds	Alpha	Beta	R-squared	Sharpe Ratio	Std. Deviation	Capture Ratios (Upside)	Capture Ratios (Downside)	Max. Drawdown
Vanguard Short-Term Bond ETF	BSV	-0.09	0.44	87.23	0.61	1.46	48	33	-1.38%
Vanguard Short-Term Corporate Bond ETF	VCSH	0.7	0.43	75.43	1.09	1.54	58	25	-1.11%
iShares Short-Term Corporate Bond ETF	IGSB	0.57	0.3	66.88	1.1	1.19	53	10	-0.65%
SPDR® Portfolio Short Term Corp Bd ETF	SPSB	0.53	0.25	63.45	1.14	0.98	44	6	-0.60%
iShares Core 1-5 Year USD Bond ETF	ISTB	0.35	0.4	81.95	0.92	1.37	54	30	-1.14%
iShares 0-5 Year Invmt Grade Corp Bd ETF	SLQD	0.57	0.36	73.08	1.07	1.31	54	19	-0.93%
Invesco BulletShares 2020 Corp Bd ETF	BSCK	0.47	0.47	50.81	0.75	1.97	59	35	-1.66%
Virtus Newfleet Multi-Sector S/T Bd I	PIMSX	1.07	0.26	19.14	0.9	1.83	50	7	-1.76%

Source: Morningstar.



Recommendation: We recommend the Client stay with PMSX as it offers relatively higher return at low risk.

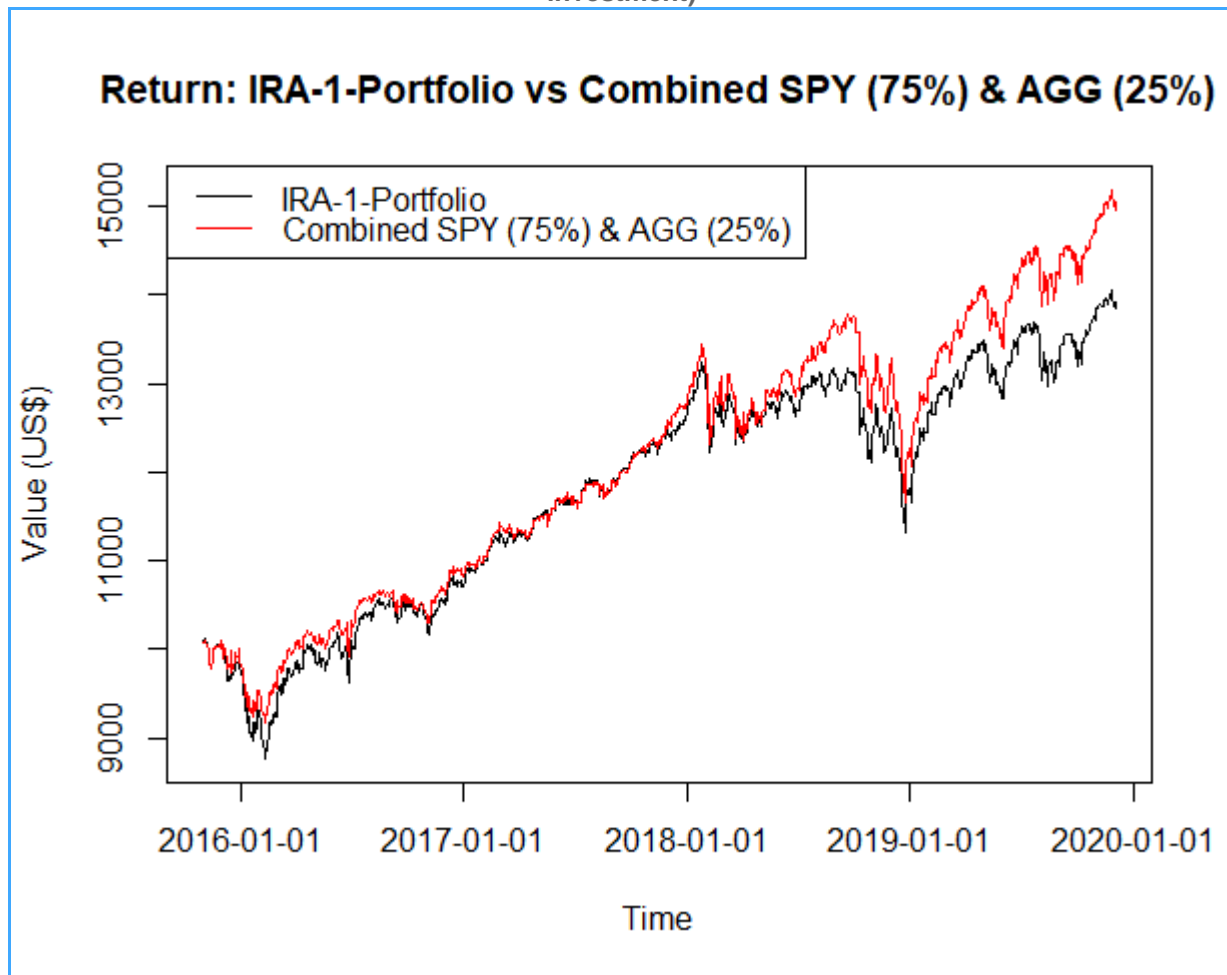
We now discuss the Client's two IRA portfolios and compare them with the Combined SPY (75%) & AGG (25%) Portfolio.

Analysis of MFs vs ETFs

Combined SPY (75%) & AGG (25%) Portfolio provides significant returns compared to the Client's IRA-1-Portfolio

Exhibit 24 shows the total returns of the Combined SPY (75%) & AGG (25%) Portfolio and the Client's IRA-1-Portfolio for the past five years. The Client's IRA-1-Portfolio and the Combined SPY (75%) & AGG (25%) Portfolio are estimated to have a multiple R-squared of 0.9351 and adjusted R-squared of 0.9350. If we had made an investment of \$10,000 five years ago, the Combined SPY (75%) & AGG (25%) portfolio would have offered \$15,034, whereas the Client's IRA-1-Portfolio would have provided a return of \$13,910 only.

Exhibit 24: IRA-1-Portfolio Return vs Combined SPY (75%) & AGG (25%) Portfolio Return (US\$10K initial investment)



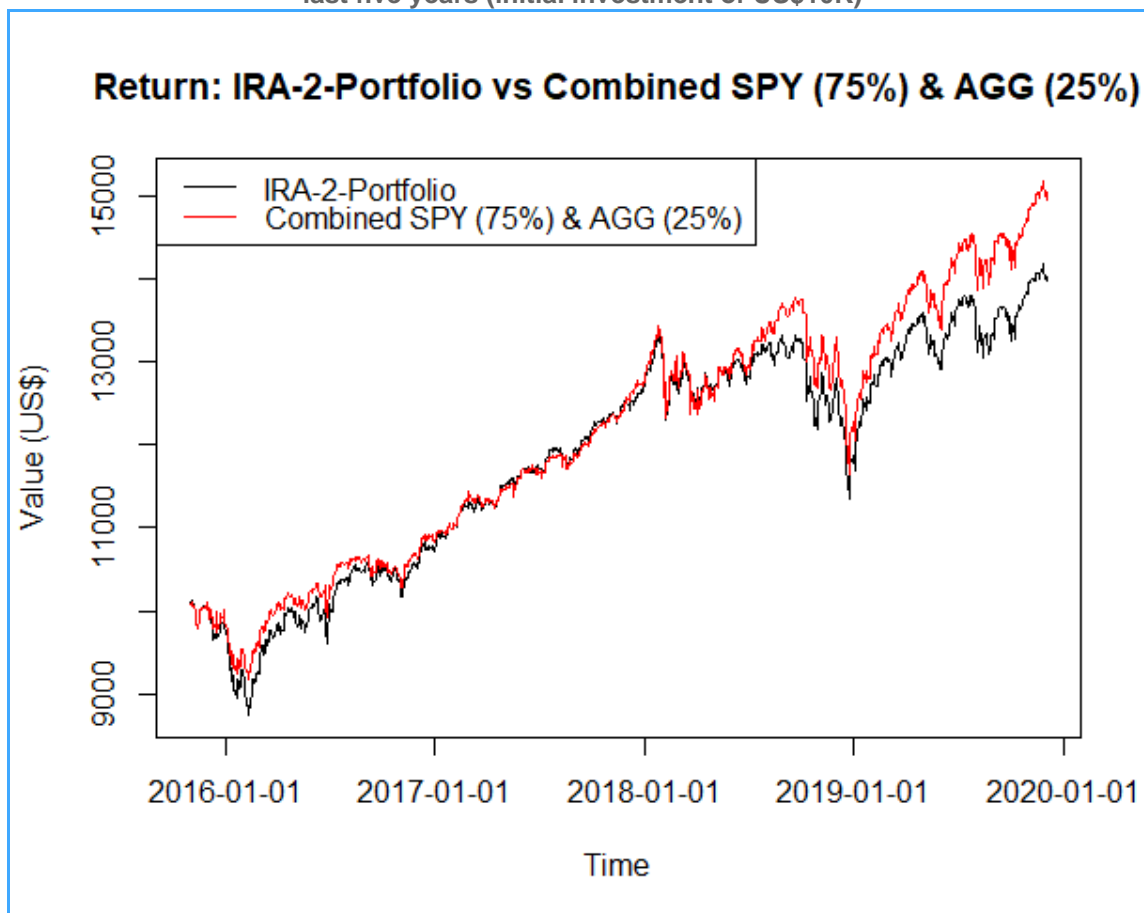
Source: Berunda Capital analysis

Combined SPY (75%) & AGG (25%) Portfolio provides significant returns compared to the Client's IRA-2-Portfolio

Exhibit 25 shows the total returns of the Combined SPY (75%) & AGG (25%) Portfolio and the Client's IRA-2-Portfolio for the past five years. The Client's IRA-2-Portfolio and the Combined SPY (75%) & AGG (25%) Portfolio are estimated to have a multiple R-squared of 0.9407 and adjusted R-squared of 0.9406. If we had made an investment of \$10,000 five years ago, the Combined SPY (75%) & AGG (25%) portfolio would have offered \$15,034, whereas the Client's portfolio would have provided a return of \$14,035 only.



Exhibit 25: Return comparison of the IRA-2-Portfolio and the Combined SPY (75%) & AGG (25%) Portfolio for the last five years (initial investment of US\$10K)



Source: Berunda Capital analysis

Exhibit 26 displays the downside risk and ratios for the Client’s IRA-1-Portfolio and IRA-2-Portfolio and the Combined SPY (75%) & AGG (25%) Portfolio for the last five years. The Client’s IRA-1-Portfolio and IRA-2-Portfolio and the Combined SPY (75%) & AGG (25%) Portfolio exhibit a maximum drawdown of 14.93%, 15.47% and 15.72% respectively. The Combined SPY (75%) & AGG (25%) Portfolio has slightly better downside risk ratios such as Sortino ratio (0.08), upside potential ratio (0.62) and Omega-Sharpe ratio (0.19) compared to the Client’s IRA-1-Portfolio and IRA-2-Portfolio.

Exhibit 26: Downside risk measures comparison: IRA-1 & IRA-2 portfolios vs Combined SPY (75%) & AGG (25%) Portfolio

Particulars	Downside risk			Downside risk ratios			
	Client’s IRA-1-Portfolio	Client’s IRA-2-Portfolio	Combined SPY (75%) & AGG (25%) Portfolio	Particulars	Client’s IRA-1-Portfolio	Client’s IRA-2-Portfolio	Combined SPY (75%) & AGG (25%) Portfolio
Semi Deviation	0.47%	0.49%	0.48%	Daily downside risk	0.46%	0.47%	0.46%
Gain Deviation	0.40%	0.41%	0.41%	Annualized downside risk	7.31%	7.52%	7.32%
Loss Deviation	0.51%	0.53%	0.53%	Downside potential	0.21%	0.21%	0.20%
Downside Deviation (Rf=0%)	0.46%	0.47%	0.46%	Omega	1.15	1.15	1.19
Maximum drawdown	14.93%	15.47%	15.72%	Sortino ratio	0.07	0.07	0.08
Historical VaR (95%)	-1.08%	-1.11%	-1.11%	Upside potential ratio	0.62	0.61	0.62



Modified ES (95%)	-1.86%	-1.93%	-1.94%	Omega-Sharpe ratio	0.15	0.15	0.19
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Source: Berunda Capital analysis