



# PORTFOLIO COMPARISON

Prepared For Martha and George Washington

Prepared by Ed Smith October 14, 2022



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#### Risk Profile

The Risk Profile questionnaire is designed to help evaluate your tolerance for risk. Your answers have been tallied to determine your risk score and category. Your advisor can use this information to design an appropriate investment portfolio. If you do not agree with this analysis, you may adjust the risk category on the Investment Policy Statement with your advisor. Your advisor will then develop an appropriate investment portfolio based on the revised information.

Recommendation: 40%

Conservative Income	Income + Growth	Growth + Income	Growth	Aggressive Growth
	ŀ	loldings: 42% Risk Score: 48%	]	

The client's risk tolerance category is **Growth + Income**. They can accept losing **48.00%** in a market downturn to pursue long-term goals.

Conservative Income: 1-20% Accepting of lower returns for a higher degree of stability Seeks principal preservation and minimizing risk	
Income + Growth: 21-40% Comfortable accepting a small degree of risk volatility Accepting of lower returns in exchange for minimal losses	
Growth + Income: 41-60% Accepting of moderate risk to seek higher long-term returns Accepting of short-term losses of principal in exchange for long-term apprecial	ion

Aggressive Growth: 81-100%

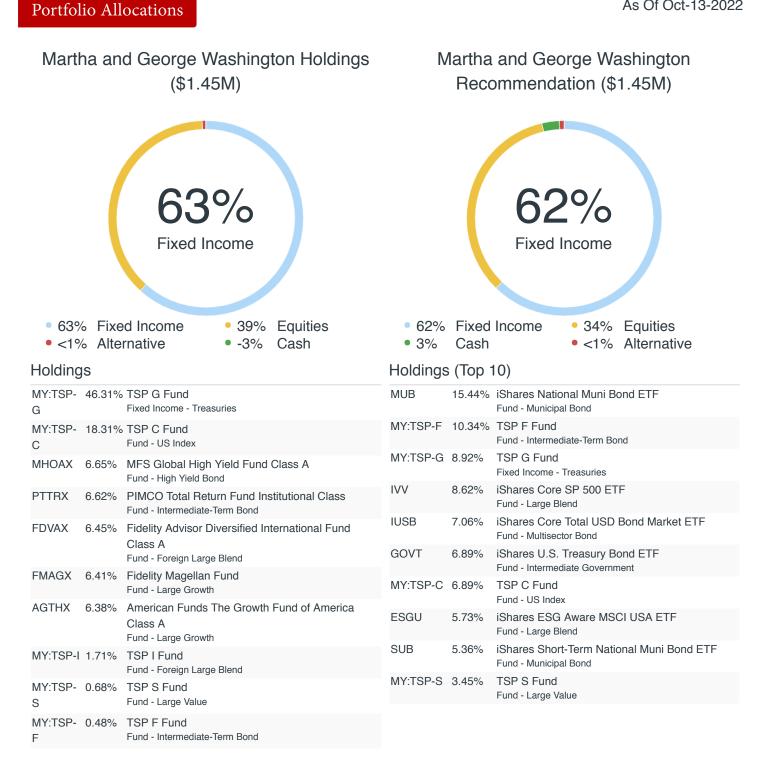
Willing to accept substantial risk

Maximizing long-term returns is more important than protecting principal



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As Of Oct-13-2022





# Accounts Summary

Martha and George Washington Holdings	Stress Test Risk & Return	% Allocation	Dollar Value
George TSP	-11% 🛑 -9%	67.50%	979,417
Joint Taxable Current	-51%53%	32.50%	471,628
Total			1,451,045
Martha and George Washington Recommendation	Stress Test Risk & Return	% Allocation	Dollar Value
• •		% Allocation 34.46%	<b>Dollar Value</b> 500,000
Recommendation	Risk & Return		
Recommendation George IRA Proposed	<b>Risk &amp; Return</b> -23% -25%	34.46%	500,000



# **Risk Statistics** The information here explores other measures of risk. Please see disclosures for a glossary and explanation of calculations.



Historical Calcs Timeframe: October 13, 2017 to October 13, 2022

Risk Stats		
Stress Test Risk	-21%	-20%
Correlation Risk	0.38	0.42
Beta (5yr)	0.40	0.34
Performance Stats		
Total Return*	14.97%	8.25%
Annualized Return*	2.83%	1.60%
Max Drawdown	-15.30%	-16.48%
Volatility	7.86%	7.02%
Portfolio Stats		
Yield	1.05%	2.57%
Sharpe Ratio	-0.18	-0.38
Sortino Ratio	-0.22	-0.42
Expenses		
Expense Ratio	0.29%	0.07%
Strategy Fee	0.00%	0.00%
Fee %	0.35	0.33

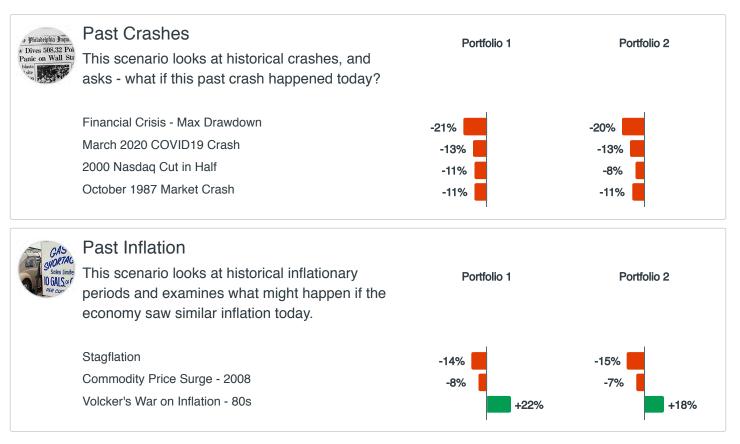
\* The hypothetical total return may not include all deducted fees (e.g. AUM fee) and charges inherent to investing.



Stress Test Summary



The above "potential downside" number is the hypothetical loss the portfolio could experience based on the potential downside scenario defined below. These scenarios are "what-if" economic simulations done on the portfolio.





Baseline This scenario examines the impact straightforward moves in economic		Portfolio 2
SP 500 Down 20%	-6%	-3%
Treasury rates up 200bp	-3%	-3%
SP 500 Down 10%	-3%	-1%
Treasury rates up 100bp	-3%	-1%
SP 500 Up 10%	+5%	+6%
SP 500 Up 20%	+7%	+7%

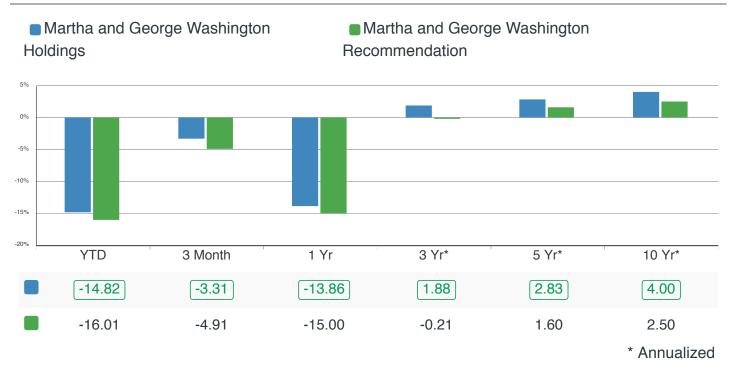
\* The dashed vertical line represents your risk tolerance.



#### Historical Returns - Portfolio



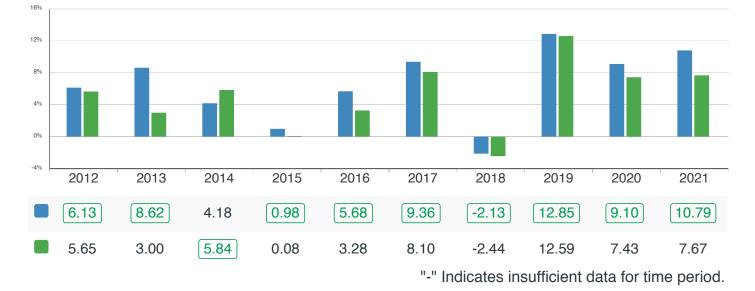
As Of Oct-13-2022



#### 10 Year Calendar Returns (%)



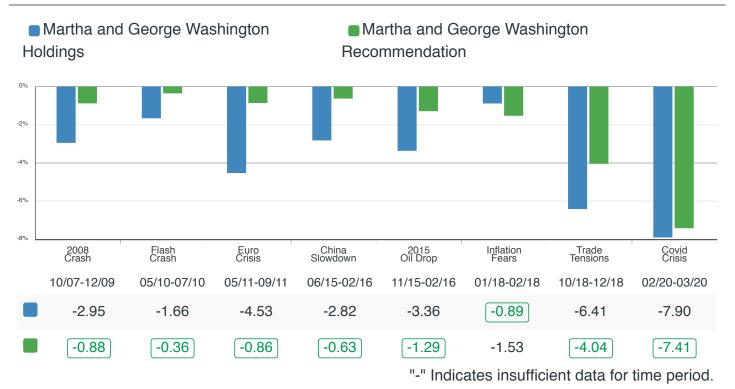






#### Historical Timeframe Performance

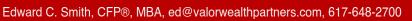
Historical Timeframe Performance (%)

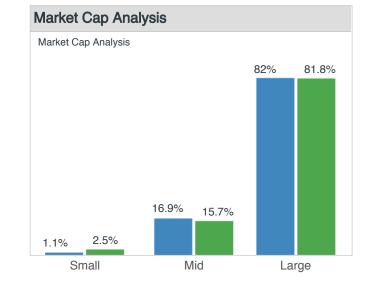




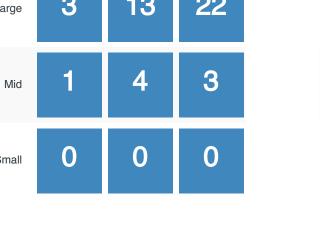
Martha and George Washington Holdings (\$1.45M)

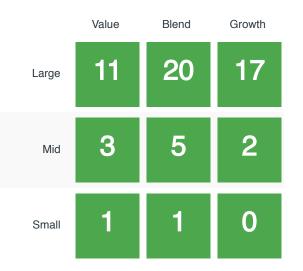
Martha and George Washington Recommendation (\$1.45M)

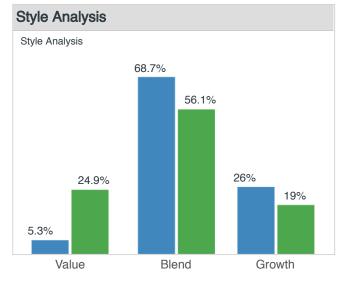














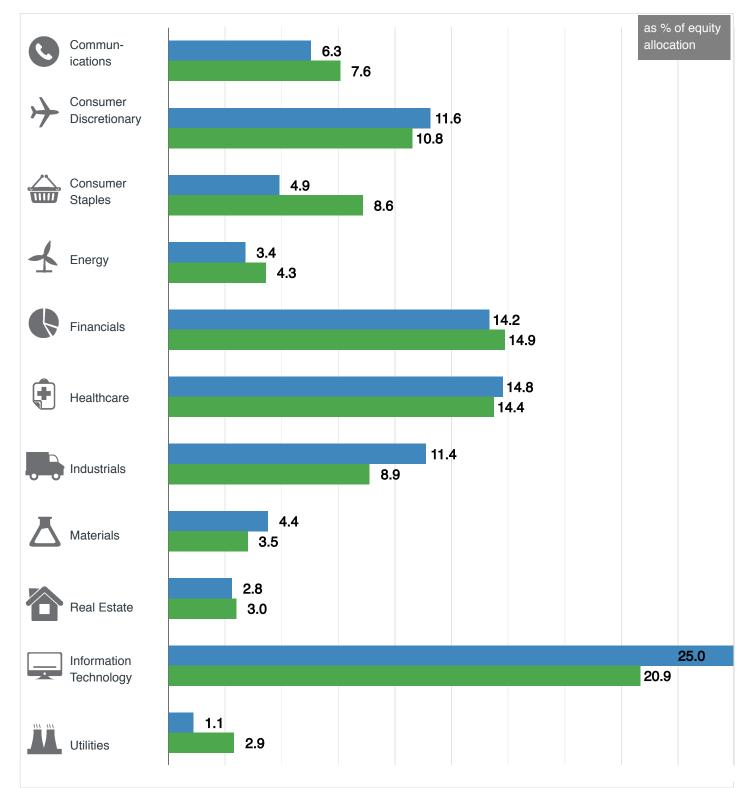
Equity Style Analysis



### Equity Sector Analysis

#### Martha and George Washington Holdings (\$1.45M) 🔵

Martha and George Washington Recommendation (\$1.45M) ●

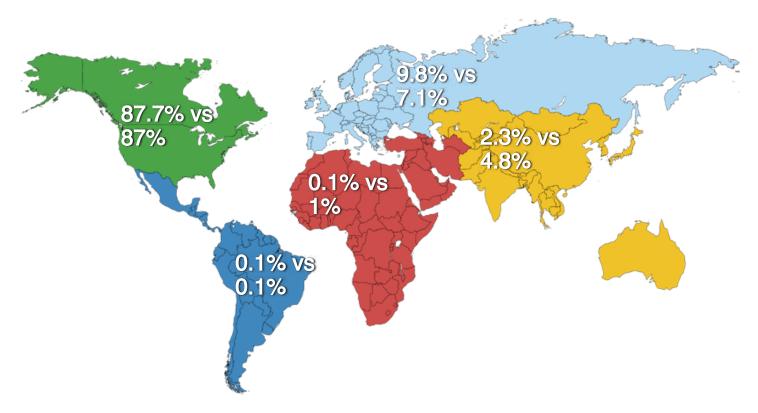


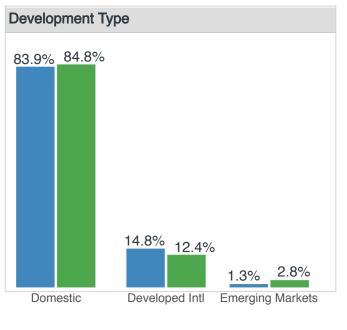


# Equity Geographic Analysis

P1: Martha and George Washington Holdings (\$1.45M)

P2: Martha and George Washington Recommendation (\$1.45M)





Portfolio 1 
Portfolio 2

Holdings By Region	Portfolio 1	Portfolio 2
North America	87.7%	87%
Latin America	0.1%	0.1%
Europe	9.8%	7.1%
Asia Pacific	2.3%	4.8%
Middle East + Africa	0.1%	1%

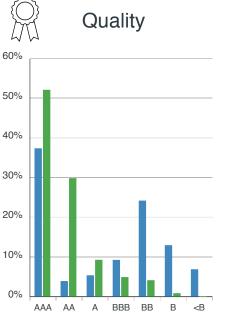


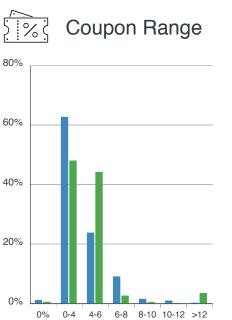
## Fixed Income Style Analysis

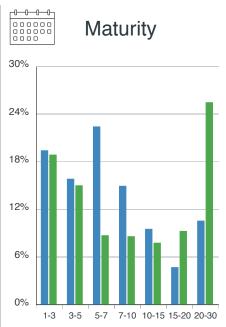
P1: Martha and George Washington Holdings

P2: Martha and George Washington Recommendation

# Style Breakdown







FI Statistics	Portfolio 1	Portfolio 2
Average Yield	1.04%	3.07%
Average Duration	1.14	5.4
Average Maturity	1.44	5.52
Average Weighted Coupon	0.91	2.59
Average Credit Rating	N/A	BBB-

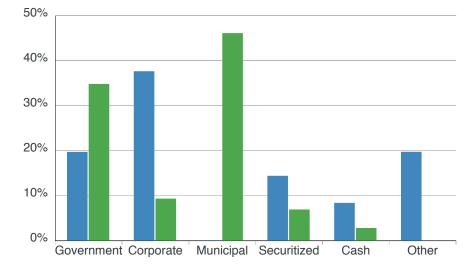
# Portfolio 1



### Fixed Income Sector Analysis

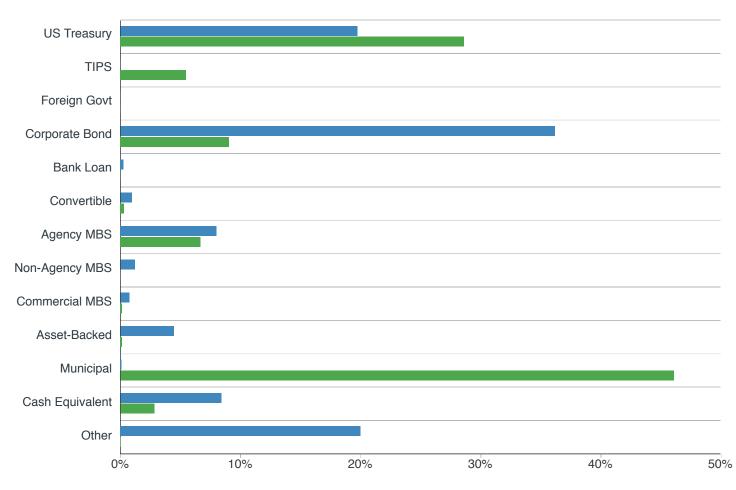
P1: Martha and George Washington Holdings

P2: Martha and George Washington Recommendation



# Sector Breakdown

# **Sector Detail**





# Expense Summary

Portfolio 1: Martha and George Washington Holdings (\$1.45M)		•	Portfolio 2: Martha and George Washington Recommendation (\$1.45M)		
	%	\$	%	\$	
Exp. Ratio	0.29%	\$4,155	0.07%	\$1,060	
AUM Fee	0.35%	\$5,141	0.33%	\$4,858	
Total Fees	0.64%	\$9,295	0.41%	\$5,918	
Po	ortfolio 1 (\$1.45M*)		Portfolio 2 (\$1.45M*)		

\*For comparison purposes, both portfolios are depicted as having the same total value.



# Expense Summary Detail

# Martha and George Washington Holdings (\$1.45M)

Symbol	Name / Category	Expense Ratio	Cost	Category Fee Range
<b>FDVAX</b>	Fidelity Advisor Diversified International Fund Class A Fund - Foreign Large Blend	1.16	\$1,086	0.19 1.60
MHOAX	MFS Global High Yield Fund Class A Fund - High Yield Bond	1.06	\$1,023	0.00
FMAGX	Fidelity Magellan Fund Fund - Large Growth	0.68	\$632	0.22
AGTHX	American Funds The Growth Fund of America Class A Fund - Large Growth	0.61	\$564	0.22 0.61 1.45
PTTRX	PIMCO Total Return Fund Institutional Class Fund - Intermediate-Term Bond	0.47	\$451	0.00 0.47 1.43
MY:TSP	TSP G Fund Fixed Income - Treasuries	0.04	\$269	0.04 0.04 0.04
MY:TSP	TSP C Fund Fund - US Index	0.04	\$106	0.00 0.04 1.65
MY:TSP	TSP I Fund Fund - Foreign Large Blend	0.05	\$13	0.19 0.05 1.60
MY:TSP	TSP S Fund Fund - Large Value	0.06	\$6	0.19 0.06 1.37
MY:TSP	TSP F Fund Fund - Intermediate-Term Bond	0.05	\$4	0.00 0.05 1.43

# Martha and George Washington Recommendation (\$1.45M)

Symbol	Name / Category	Expense Ratio	Cost	Category Fee Range
MUB	iShares National Muni Bond ETF Fund - Municipal Bond	0.07	\$157	0.00 0.07 1.64
EFV	iShares MSCI EAFE Value ETF Fund - Foreign Large Value	0.36	\$97	0.00 0.36 2.00
GOVT	iShares U.S. Treasury Bond ETF Fund - Intermediate Government	0.09	\$90	0.00 0.09 1.61
EFG	iShares MSCI EAFE Growth ETF Fund - Foreign Large Blend	0.36	\$88	0.19 0.36 1.60
• MY:TSP.	TSP F Fund Fund - Intermediate-Term Bond	0.05	\$75	0.00 0.05 1.43
FALN	iShares Fallen Angels USD Bond ETF Fund - High Yield Bond	0.25	\$61	0.00 0.25 1.95
EEMV	iShares MSCI Emerging Markets Min Vol Factor ETF Fund - Diversified Emerging Mkts	0.25	\$55	0.00 0.25 2.14



	SUB	iShares Short-Term National Muni Bond ETF Fund - Municipal Bond	0.07	\$54	0.00 0.07	1.64
	MY:TSP	TSP G Fund Fixed Income - Treasuries	0.04	\$52	0.04	0.04
•	IUSB	iShares Core Total USD Bond Market ETF Fund - Multisector Bond	0.05	\$51	0.00 0.05	2.93
•	TLT	iShares 20 Year Treasury Bond ETF Fund - Long Government	0.15	\$50	0.03 0.15	1.53
•	COMT	iShares GSCI Commodity Dynamic Roll Strategy ETF Fund - Commodities	0.48	\$47	0.33 0.48	1.97
•	TIP	iShares TIPS Bond ETF Fund - Inflation-Protected Bond	0.19	\$43	0.00 0.19	1.37
	MY:TSP	TSP C Fund Fund - US Index	0.04	\$40	0.00 0.04	1.65
	IVV	iShares Core SP 500 ETF Fund - Large Blend	0.03	\$38	-0.13 0.03	1.55
	MY:TSP	TSP S Fund Fund - Large Value	0.06	\$30	0.19 0.06	1.37
	MY:TSP	TSP I Fund Fund - Foreign Large Blend	0.05	\$27	0.19 0.05	1.60
	EMB	iShares J.P. Morgan USD Emerging Markets Bond ETF Fund - World Bond	0.39	\$20	0.05	1.57
	ICVT	iShares Convertible Bond ETF Fund - Convertible Securities	0.20	\$19	0.00	1.77
	TLH	iShares 10-20 Year Treasury Bond ETF Fund - Long Government	0.15	\$11	0.03 0.15	1.53
	MBB	iShares MBS ETF Fund - Intermediate-Term Bond	0.04	\$10	0.00 0.04	1.43
	LQD	iShares iBoxx Investment Grade Corporate Bond ETF Fund - Corporate Bond	0.14	\$7	0.00 0.14	1.44
	STIP	iShares 0-5 Year TIPS Bond ETF Fund - Inflation-Protected Bond	0.05	\$6	0.00 0.05	1.37
	IJR	iShares Core SP Small-Cap ETF Fund - Small Blend	0.06	\$5	0.02 0.06	1.79
	HDV	iShares Core High Dividend ETF Fund - Large Value	0.08	\$4	0.19 0.08	1.37
	ESGU	iShares ESG Aware MSCI USA ETF Fund - Large Blend	-0.09	\$-75	-0.13 -0.09	1.55
			-			

The following positions do not charge any fees: FX:USD



#### Client Acknowledgement

I understand that this report is only a guide to building an overall financial solution, and recognize that there are other factors to consider when making portfolio decisions. The purpose of this report is to establish a clear understanding between the client(s) and the advisor as to the investment guidelines and goals for the investor's assets. Please review the underlying assumptions carefully. Past performance is no guarantee of future results and principal values fluctuate with changing market conditions.

The information presented in this report is for illustrative purposes only and does not constitute investment advice. The results presented here are hypothetical and may not reflect the actual growth of investments. Unless specified otherwise, the data presented excludes commissions, sales charges or fees which, if included, would have had a negative effect on the annual returns. Investing in securities involves risk of loss that clients should be prepared to bear. It should be assumed that investments listed in this report are not FDIC insured.

Investors should consider an investment's objective, risks, charges, and expenses carefully before investing. In the case of ETFs (Exchange Traded Funds) and mutual funds, the associated prospectus contains this and other important information which should be considered before investing. The advisor will assist the client(s) in making investment decisions based in individual needs, objectives, and risk tolerance. The client(s) is/are responsible for providing valid information on their financial status, risk tolerance, goals, and must notify the advisor of any changes.

I hereby affirm that I have reviewed the information presented in this report. I acknowledge that the information accurately reflects my investment objectives and goals. On a timely basis, I will inform the advisor(s), in writing, of any material changes in our financial situation and/or my investment objectives, which might affect the investment of my assets.

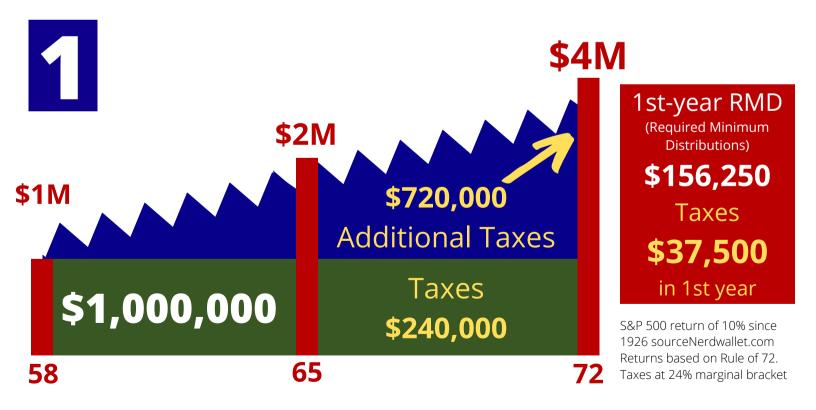
Client Signature	Date	Client signature	Date
Wealth Advisor Signature	Date	Wealth Advisor Signature	Date

# **ROTH CONVERSIONS**

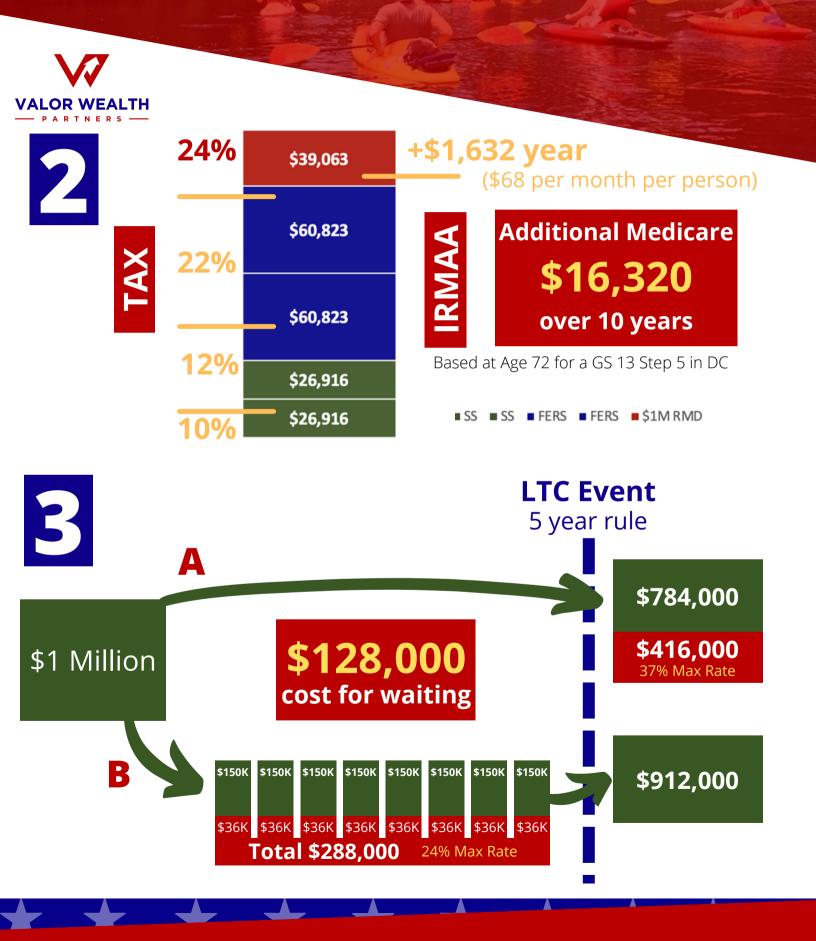


# **3 Levers to Maximize a ROTH**

- Time
- Tax Rate
- Rate of Return



# **ROTH CONVERSIONS**





# Historical Returns - Holdings

#### Annualized Returns for Martha and George Washington Holdings (\$1.45M)

		Expense						10	Sinc	e Inceptio	n
Symbol	Name	Ratio	Yield	YTD	1 Year	3 Years	5 Years	Years	Ann. Return	Volatility	Drawdown
FDVAX	Fidelity Advisor Diversified International Fund Class A	1.16	1.38	-32.8%	-30.2%	-0.5%	0.1%	4.9%	5.7% Dec-18-1998	18.3%	-60.0%
MHOAX	MFS Global High Yield Fund Class A	1.06	5.82	-16.5%	-15.8%	-2.9%	-0.3%	2.5%	4.9% <b>Jul-10-1998</b>	8.3%	-40.4%
FMAGX	Fidelity Magellan Fund	0.68	0.00	-30.5%	-23.4%	6.6%	8.1%	11.6%	15.7% <b>May-31-1963</b>	24.9%	-65.1%
AGTHX	American Funds The Growth Fund of America Class A	0.61	0.11	-31.7%	-28.4%	7.5%	8.0%	11.8%	9.5% Oct-30-1964	20.1%	-73.5%
PTTRX	PIMCO Total Return Fund Institutional Class	0.47	3.38	-17.1%	-17.0%	-3.6%	-0.7%	0.9%	6.3% May-15-1987	4.8%	-17.8%
MY:TSP- S	TSP S Fund	0.06	3.52	-28.2%	-26.9%	5.0%	5.3%	9.7%	8.3% <b>Apr-30-2001</b>	19.5%	-62.0%
MY:TSP-I	TSP I Fund	0.05	2.40	-26.0%	-23.3%	-1.2%	-0.3%	4.1%	3.8% <b>Apr-30-2001</b>	19.5%	-59.4%
MY:TSP- F	TSP F Fund	0.05	3.26	-15.2%	-14.8%	-3.4%	-0.3%	1.0%	5.3% Dec-31-1988	5.8%	-17.1%
MY:TSP- G	TSP G Fund	0.04	0.00	1.7%	2.0%	1.5%	2.0%	2.0%	4.5% Dec-31-1988	0.7%	-0.0%
MY:TSP- C	TSP C Fund	0.04	1.42	-22.3%	-13.3%	8.7%	9.6%	11.9%	10.2% Jan-24-1989	18.0%	-54.6%
Total				-14.8%	-13.9%	1.9%	2.8%	4.0%	3.9%	5.4%	-15.7%

#### Annualized Returns for Martha and George Washington Recommendation (\$1.45M)

		Expense						10	Sinc	e Inceptio	n
Symbol	Name	Ratio	Yield	YTD	1 Year	3 Years	5 Years	Years	Ann. Return	Volatility	Drawdown
COMT	iShares GSCI Commodity Dynamic Roll Strategy ETF	0.48	1.72	24.6%	21.5%	13.8%	9.1%		1.4% Oct-15-2014	19.3%	-50.0%
EMB	iShares J.P. Morgan USD Emerging Markets Bond ETF	0.39	7.40	-27.0%	-26.7%	-8.3%	-3.7%	-0.1%	3.0% Dec-17-2007	12.1%	-32.0%
EFV	iShares MSCI EAFE Value ETF	0.36	3.78	-21.5%	-21.4%	-3.3%	-3.2%	2.1%	2.0% Aug-01-2005	21.2%	-62.4%
EFG	iShares MSCI EAFE Growth ETF	0.36	1.28	-33.5%	-30.8%	-2.1%	-0.2%	4.3%	3.9% Aug-01-2005	19.3%	-56.7%



#### Annualized Returns for Martha and George Washington Recommendation (\$1.45M)

		Expense						10	Sinc	e Inceptio	n
Symbol	Name	Ratio	Yield	YTD	1 Year	3 Years	5 Years	Years	Ann. Return	Volatility	Drawdown
EEMV	iShares MSCI Emerging Markets Min Vol Factor ETF	0.25	2.60	-19.7%	-19.4%	-2.4%	-1.1%	1.1%	2.7% Oct-18-2011	14.1%	-30.2%
FALN	iShares Fallen Angels USD Bond ETF	0.25	7.29	-18.3%	-17.3%	0.8%	2.1%		4.5% Jun-1 <b>4-2016</b>	12.8%	-29.2%
ICVT	iShares Convertible Bond ETF	0.20	3.91	-21.4%	-26.1%	10.7%	9.0%		8.6% Jun-02-2015	16.5%	-33.1%
TIP	iShares TIPS Bond ETF	0.19	9.60	-14.4%	-13.2%	0.4%	1.5%	0.7%	3.3% Dec-05-2003	6.1%	-15.2%
TLH	iShares 10-20 Year Treasury Bond ETF	0.15	3.54	-27.3%	-26.6%	-8.5%	-2.9%	-0.4%	3.0% <b>Jan-05-2007</b>	9.3%	-35.1%
TLT	iShares 20 Year Treasury Bond ETF	0.15	3.47	-32.2%	-30.6%	-9.5%	-2.7%	0.1%	4.3% Jul-26-2002	13.3%	-39.9%
LQD	iShares iBoxx Investment Grade Corporate Bond ETF	0.14	5.44	-22.5%	-22.4%	-4.9%	-0.8%	1.2%	4.1% Jul-26-2002	8.5%	-23.9%
GOVT	iShares U.S. Treasury Bond ETF	0.09	1.43	-14.9%	-14.1%	-3.5%	-0.6%	0.2%	0.5% <b>Feb-24-2012</b>	4.2%	-17.9%
HDV	iShares Core High Dividend ETF	0.08	3.83	-2.1%	4.6%	5.1%	6.1%	8.6%	9.5% <b>Mar-29-2011</b>	14.5%	-33.4%
SUB	iShares Short-Term National Muni Bond ETF	0.07	2.31	-3.8%	-3.9%	-0.3%	0.5%	0.6%	1.2% Nov-05-2008	3.8%	-7.2%
MUB	iShares National Muni Bond ETF	0.07	3.43	-10.7%	-10.1%	-1.6%	0.5%	1.5%	3.0% Sep-07-2007	7.0%	-12.4%
IJR	iShares Core SP Small-Cap ETF	0.06	1.40	-19.4%	-16.4%	7.5%	5.7%	10.8%	9.4% <b>May-26-2000</b>	22.6%	-57.3%
MY:TSP- S	TSP S Fund	0.06	3.52	-28.2%	-26.9%	5.0%	5.3%	9.7%	8.3% <b>Apr-30-2001</b>	19.5%	-62.0%
MY:TSP-I	TSP I Fund	0.05	2.40	-26.0%	-23.3%	-1.2%	-0.3%	4.1%	3.8% <b>Apr-30-2001</b>	19.5%	-59.4%
IUSB	iShares Core Total USD Bond Market ETF	0.05	4.33	-15.6%	-15.5%	-3.4%	-0.5%		0.9% Jun-10-2014	4.8%	-16.7%
MY:TSP- F	TSP F Fund	0.05	3.26	-15.2%	-14.8%	-3.4%	-0.3%	1.0%	5.3% Dec-31-1988	5.8%	-17.1%
STIP	iShares 0-5 Year TIPS Bond ETF	0.05	10.94	-4.8%	-3.9%	2.2%	2.2%	1.1%	1.5% <b>Dec-03-2010</b>	2.3%	-6.7%
MBB	iShares MBS ETF	0.04	2.53	-15.4%	-15.8%	-4.4%	-1.5%	0.1%	2.1% <b>Mar-13-2007</b>	3.4%	-16.8%
MY:TSP- G	TSP G Fund	0.04	0.00	1.7%	2.0%	1.5%	2.0%	2.0%	4.5% <b>Dec-31-1988</b>	0.7%	-0.0%



#### Annualized Returns for Martha and George Washington Recommendation (\$1.45M)

	Expense							10	Since Inception		
Symbol	Name	Ratio	Yield	YTD	1 Year	3 Years	5 Years	Years	Ann. Return	Volatility	Drawdown
MY:TSP- C	TSP C Fund	0.04	1.42	-22.3%	-13.3%	8.7%	9.6%	11.9%	10.2% <b>Jan-24-1989</b>	18.0%	-54.6%
IVV	iShares Core SP 500 ETF	0.03	1.56	-22.1%	-14.6%	9.0%	9.4%	12.0%	6.3% <b>May-19-2000</b>	17.9%	-54.6%
ESGU	iShares ESG Aware MSCI USA ETF	-0.09	0.00	-24.5%	-18.3%	8.7%	9.2%		10.8% Dec-01-2016	18.9%	-31.5%
Total				-16.0%	-15.0%	-0.2%	1.6%	2.5%	2.5%	6.5%	-16.5%

The values here are calculated from each investment's reported data and price history. Past performance is not indicative of future results. Investing always involves risk and you may incur a profit or loss. No investment strategy can guarantee success. Please refer to the disclosure page for more information on these calculations.



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#### Survey

The survey below was taken on September 19, 2022.

Risk Capacity	63

Risk capacity is your ability to take risk based on your timeline, goals, and level of wealth.

Capacity is a measure of risk-taking ability. All else being equal, someone with more time, greater savings, stable sources of income, and reasonable goals will have an increased ability to take risk.

Which of these options best describes your number-one investment goal?	Maintenance
Approximately how many years do you expect to continue to invest your assets in the stock market?	Sixteen plus
How secure is your current and future income?	Very secure
How able are you to handle financial emergencies without drawing from your long-term investments?	Able
How long do you plan on drawing from your investment accounts?	15 to 24 years
How would you describe your investment knowledge?	Limited
How often will you be contributing to this account?	Seldom

#### **Risk Tolerance**

Risk tolerance is your comfort with the volatility that accompanies taking financial risk.

The relationship between risk and reward is strong. Risk tolerance measures how much variability you are able to endure in the short-term for a chance at higher longer-term returns.

What amount are you looking to invest from the start?	\$1000000
How much of your {{ initialInvestment }} are you willing to risk over the next 12 months?	15% / 100%
Which of these potential investment outcomes would you be most comfortable with?	11%



#### **Risk Composure**

Risk composure is your psychological comfort with risk taking.

Those with high risk composure remain calm in volatile markets while those with lower levels of composure may be more easily rattled. Risk Composure is an important part of measuring risk behavior because short-term emotions can impede long-term decision making if left unexamined.

I am easily stressed out.	Somewhat true
I rarely worry.	Very true
I remain calm under pressure.	Very true
I am not easily disturbed by events.	True
I do not worry about things that are out of my control.	Somewhat true
I am easily bothered.	Somewhat true
I am relaxed most of the time.	True
I keep my emotions under control.	True



#### **Risk Profile**

Your total risk score includes your capacity, composure, and tolerance with taking risk.



Capacity Your ability to take risk based on your timeline, goals, and level of wealth.

Risk capacity is your ability to take risk based on your timeline, goals, and level of wealth.



Tolerance Your comfort with the volatility that accompanies taking financial risk.

Risk tolerance is your comfort with the volatility that accompanies taking financial risk.



Composure Your psychological comfort with risk taking.

Risk composure is your psychological comfort with risk taking.



#### Important:

The projections generated by HiddenLevers regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Assumptions on rates of return and standard deviation used in this analysis are based on historical return data for each security and asset class. Past performance is no guarantee of future results. Results may vary with each use and over time. You cannot invest directly in a benchmark or index. Index results do not reflect fees, expenses, or sales charges incurred when making investments. This report is based on data gathered as of the previous day's market close. The previous day refers to the day before the date printed on the cover page. Different calculations use different sets of data, explained below in their relevant sections.

For individual fixed income instruments (bond CUSIPS, preferred shares, CDs, etc.) that do not have a consistent price history due to infrequent trading, HiddenLevers uses historical data from related indices to backfill the nonexistent price data. For symbols recognized as a US Treasury, the Barclays 3-7 Year Treasury Bond Index is used. For municipal bonds, the Barclays Capital Municipal Bond Index is used. For preferred equities, iShares S&P U.S. Preferred Stock data is used. For other fixed income instruments, the Barclays US Aggregate Index is used. These backfills affect calculations on the Risk Statistics, Hypothetical Drawdown Comparison, Hypothetical Performance History, and Historical Returns sections. Your advisor may change these backfills if they deem it appropriate.

#### Methodology Used to Generate this Report:

#### **Definitions:**

**Beta** - Beta measures the relationship between an investment and a major market index (the S&P 500 is used in this report). A beta of 1.0 means that a 1% rise in the S&P 500 could lead to a 1% rise in the investment, while a beta of -0.5 means that a 1% rise in the S&P 500 could lead to a 0.5% drop in the investment. The beta for an investment is determined by using regression analysis to measure the relationship between the returns of the investment and the returns of the S&P 500. HiddenLevers uses 10 years of data to measure the beta for an investment. When the most recent full market cycle exceeds 10 years of data, HiddenLevers uses all data for the most recent full market cycle to measure the beta of an investment. For investments with less than 10 years of history, all available historical data is used.

**Category Fee Range** - The range is determined by taking the average fee of all funds in a category, and then determining the standard deviation of fees from that average. The low end of the fee range is set to be two standard deviations below the average, and the high end of the fee range is set to be two standard deviations above the average.

**Cross Correlations** - HiddenLevers measures the correlation between every pair of investments in the portfolio. The correlation results can vary between 1 and -1, where a correlation of 1 means that two investments move together perfectly over time, and a correlation of -1 means that two investments move in opposite directions over time.

**Expected Return** - This is the 5-year total return of the portfolio based on the stress test scenarios selected for the report. The system takes the weighted average of the economic scenarios to calculate a one-year return, which is then compounded annually to determine the five-year return.

**Expense Ratio** - The expense ratio is a weighted average of the most recently disclosed net expense ratio for securities in the portfolio.

Lever - HiddenLevers tracks different levers (economic indicators) like CPI, US GDP Growth, and oil prices, and uses movements in these levers to define economic scenarios.

**Lever Impact** - The lever impacts section describes the impact of different economic levers on the portfolio as a whole. An S&P lever impact of 1.0, for example, means that a 1% rise in the S&P 500 is projected to lead to a 1% rise in the portfolio. HiddenLevers similarly measures the impact of a range of economic levers on the portfolio.

**Maximum Drawdown (MDD)** - this is measured as the largest percentage drop in a position during the timeframe of measurement. This is a historical MDD and not the maximum possible drawdown.

**Potential Downside** - Potential Downside is calculated by taking the account value and multiplying by the most potential downside seen in the portfolio through stress tests listed in the stress test section.

**Scenario** - A scenario is a representation of a major macro-economic or geopolitical event which has the potential to impact investment returns. HiddenLevers models scenarios as a set of up-or-down movements in any of the economic indicators (levers) in the system.

Scenario Impacts - Using HiddenLevers' stress testing model, an upside and downside impact are projected for the portfolio in each scenario. Most scenarios are modeled with multiple potential outcomes, with both positive, neutral, and negative outcomes considered. The best and worst projections are derived from running the different scenario outcomes against the portfolio in HiddenLevers model. The scenario-based stress testing model is discussed in detail in the Method section below.

**Scenario Progress** - Scenario Progress provides a measurement of how much of a scenario has already played out in the marketplace . For example, a scenario might call for an S&P decline of 40% from a level of 3000. If the S&P were to decline 20% to 2400, then the model would indicate that this scenario is 50% complete, with only 20% additional downside remaining. Taking this approach enables the scenario model to account for daily changes in the economic environment.

**Sharpe Ratio** - The Sharpe Ratio is the a measure for calculating risk-adjusted return, and this ratio has become the industry standard for such calculations. It was developed by Nobel laureate William F. Sharpe. The Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. HiddenLevers calculates the Sharpe ratio by subtracting (12M) T-bill rates from the portfolio's annualized total return, and then dividing by the portfolio's volatility (annualized standard deviation).

**Sortino Ratio** - The Sortino Ratio subtracts the risk-free rate of return form the portfolio's return, and then divides that by the downside deviation.

**Stress Test Risk/Reward** - The Stress Test Risk/Reward compares the portfolio's potential downside risk against the 5 year expected return of the portfolio. **Downside Risk**: This is the maximum downside calculated across all of the scenarios included in the report. **5 Year Expected Return**: HiddenLevers first calculates the expected return for the portfolio by calculating the one-year weighted average expected return across all included scenarios. The one-year expected return is then compounded to obtain a 5 year return estimate. Historically, major downside events occur roughly twice a decade, making 5 years an appropriate timeframe for comparison of long term returns and downside scenario risk.

**Total Return** - Calculation of returns of all securities inside of portfolio over the timeframe selected for proposal. The calculation assumes the same portfolio for entire timeframe rebalanced weekly. Actual Distribution Yield and expense ratios assessed for each security are included in this calculation.

**Volatility** - HiddenLevers measures volatility as the annualized standard deviation of an investment or portfolio, expressed in percentage terms. The standard deviation is calculated using weekly data points, and is then annualized by multiplying by the square-root of 52 (number of periods in one year).

Yield - The weighted average of the current SEC yield or Trailing Twelve Month (TTM) yield if SEC is unavailable (data updated monthly) for securities in the portfolio.

#### Method:

This report describes one or more potential scenarios, and shows the HiddenLevers model-based performance for the portfolio in each scenario. The steps below are performed to generate the projections:

Scenario -> Levers -> Assets (Stocks etc) -> Portfolio Return

A scenario pushes levers up or down, which in turn push assets up or down, which in turn impact a portfolio's modeled return in the scenario. As defined above, a scenario is modeled as a set of movements in the levers. Regression analysis is used to determine the historical (dating to 8/31/2008) relationship between each lever and each asset in the portfolio. The model is then run 2500 times for each scenario/portfolio combination. In each iteration, the model projects the returns for each asset using the historical regression coefficients for each lever, and using the scenario assumptions on how each lever will change. The model varies the regression coefficients for each iteration using a normal distribution around their mean



(similar to a Monte Carlo model's varying of expected returns across iterations), and aggregates the results of the 2500 iterations to find a mean portfolio return with a 95% confidence interval. The confidence interval is displayed on the report as "margin of error" for each scenario.

#### Limitations and Assumptions:

Each scenario discussed in this report is defined by the economic assumptions listed in the Outcome section of each scenario page. HiddenLevers does not guarantee that any particular scenario will occur as modeled in this report. HiddenLevers uses historical analysis in the creation of this report, and past performance is not a guarantee of future results. Investors should consider this report as being for illustrative purposes only and as only a single factor in making their investment decision.

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