# Hypothetical Portfolio Analysis

# **Portfolio Analytics Center**

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## **Disclaimer and Important Disclosures**

The returns for the Hypothetical Portfolio shown in this report are based on asset class returns and not reflective of any specific product. The asset class returns are constructed using index data and do not include any of the fees or expenses that would have been incurred when investing in a specific product. Refer to the Data Disclosure page at the end of this document for information regarding the indexes used to construct each asset class. Investors cannot directly invest in an index and the actual returns of a specific product may have been more or less than the index returns used in this report. The index returns used in this report assume dividend and capital gain reinvestment. The returns shown in this report should not be considered a guarantee of future performance nor a guarantee of achieving overall financial objectives.

All investments involve risk, including the loss of principal and cannot be guaranteed against loss by a bank, custodian, nor any other financial institution. Asset allocation models may not be suitable for all investors.

International markets and Emerging markets involve additional risks, including, but not limited to, currency fluctuation, political instability, foreign taxes, and different methods of accounting and financial reporting. Real estate securities funds are subject to changes in economic conditions, credit risk and interest rate fluctuations. Fixed income securities are subject to interest rate risk because the prices of fixed income securities tend to move in the opposite direction of interest rates.

#### Data Disclosure:

The returns for the Hypothetical Portfolio shown in this report are calculated by holding allocation percentages to selected asset classes constant and rebalancing back to target asset class weights at the beginning of each calendar year. Asset class returns used in this report are represented by index data and do not reflect the impact of transaction costs or taxes that may be incurred in an actual investment. The buying and selling of securities for the purpose of rebalancing may have adverse tax consequences.

Dollar returns show how the chosen hypothetical investment amount entered on the input page would have grown during the given time period. Distributions on the Performance History Report are assumed to be made on 12/31 of each year; each annual distribution is adjusted upward by that year's annual inflation rate (CPI) over the desired range of dates selected for the report.

The information provided in this report is not advice and does not take into account your personal circumstances. Before making any investment decision or acting on any investment recommendation, you should consider all relevant personal circumstances and options.

#### Definitions:

Standard Deviation - The standard deviation is often used by investors to measure the risk of a stock or a stock portfolio. The basic idea is that the standard deviation measures volatility: the more a stock's/portfolio returns vary from the stock's average return, the more volatile the stock/portfolio.

The S&P 500 Index is an index run by Standard & Poor's that is designed to represent the 500 largest U.S. stocks.

The MSCI EAFE® Index (Morgan Stanley Capital International Europe, Australasia and Far East Index) is composed of more than 1,000 companies representing the stock markets of Europe, Australia, New Zealand, and the Far East and is an unmanaged index. EAFE represents non-U.S. large stocks.

Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

#### Sources:

Center for Research in Security Prices (CRSP), Dimensional Returns, Morningstar Inc., Dec 2021.

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# **Hypothetical Scenario Inputs**

Scenario Name	Hypothetical Scenario Outputs
Beginning Amount	\$ 1,000,000
Annual Withdrawal	4% / \$ 40,000
Fee Adjustment	0%
Date Range	1973 - 1982
Hypothetical Portfolio Name	CWA Balanced Growth
Hypothetical Portfolio Weights (%)	U.S. Short Investment Grade Bonds: 20 Global Short Bonds: 20 U.S. Total Stock Market: 15 U.S. Large Value Stocks: 10 International Large Value Stocks: 6 Emerging Markets Total Stock Market: 4 Real Estate: 4 International Total Stock Market: 8 International Small Value Stocks: 6 U.S. Small Value Stocks: 7

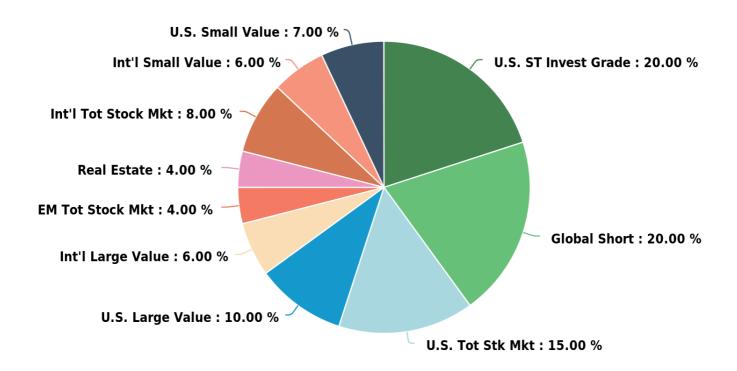
# **Comparison Details**

Comparison Type	Benchmark
Comparison Name	CPI
Comparison Weights (%)	U.S. Short Investment Grade Bonds: 20 Global Short Bonds: 20 U.S. Total Stock Market: 15 U.S. Large Value Stocks: 10 International Large Value Stocks: 6 Emerging Markets Total Stock Market: 4 Real Estate: 4 International Total Stock Market: 8 International Small Value Stocks: 6 U.S. Small Value Stocks: 7

## **Hypothetical Portfolio Composition**

The pie charts in this section reflect the composition of the Hypothetical Portfolio(s) used in this scenario. These are for illustrative purposes only and not intended to represent any particular investment(s). Refer to the Data Disclosure page at the end of this document for information regarding asset class constructions.

## **CWA Balanced Growth**



Fixed Income vs Equity

Domestic vs International



# **Skittles Chart**

The table below displays the annual returns for the Hypothetical Portfolio used in this scenario as well as each of the asset classes comprising the Hypothetical Portfolio. The table also displays the annual returns for the Comparison. The annual returns are stacked in order of increasing return for the selected date range used in the scenario. Past performance is not a guarantee of future results. All investment involve risk, including the loss of principal. For illustrative purposes only.

1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
CPI	CPI	EM Tot Stock Mkt	U.S. Small Value	Int'l Small Value	Int'l Small Value	EM Tot Stock Mkt	EM Tot Stock Mkt	U.S. ST Invest Grade	Global Short
8.71%	12.34%	61.21%	60.58%	74.08%	65.53%	50.59%	60.14%	15.69%	29.10%
U.S. ST Invest Grade 5.81%	U.S. ST Invest Grade	U.S. Small Value	Real Estate	U.S. Small Value	Int'l Large Value	Real Estate	Int'l Small Value	U.S. Small Value	U.S. Small Value
	8.37%	58.44%	47.59%	23.25%	33.93%	35.86%	35.46%	14.85%	28.52%
Global Short	Global Short	U.S. Large Value	U.S. Large Value	Real Estate	Int'l Tot Stock Mkt	U.S. Small Value	U.S. Tot Stk Mkt	Global Short	Real Estate
4.61%	5.69%	55.81%	44.02%	22.42%	31.42%	35.38%	32.50%	9.45%	21.60%
U.S. Large Value	CWA Balanced Growth	Int'l Small Value	U.S. Tot Stk Mkt	Int'l Large Value	EM Tot Stock Mkt	U.S. Tot Stk Mkt	U.S. Small Value	CPI	U.S. Tot Stk Mkt
-4.33%	-11.84%	49.86%	26.76%	20.47%	22.64%	24.12%	25.39%	8.92%	20.74%
CWA Balanced Growth -6.98%	U.S. Small Value	U.S. Tot Stk Mkt	CWA Balanced Growth	Int'l Tot Stock Mkt	U.S. Small Value	U.S. Large Value	U.S. Large Value	Real Estate	U.S. Large Value
	-19.02%	38.75%	19.94%	16.14%	22.16%	20.55%	24.41%	6.00%	20.04%
Int'l Tot Stock Mkt	Int'l Tot Stock Mkt	Int'l Large Value	Global Short	CWA Balanced Growth	CWA Balanced Growth	CWA Balanced Growth	Real Estate	CWA Balanced Growth 5.23%	U.S. ST Invest Grade
-11.39%	-19.56%	34.85%	12.87%	10.18%	14.55%	15.42%	24.37%		17.33%
Int'l Large Value	Int'l Large Value	Int'l Tot Stock Mkt	Int'l Small Value	CPI	Real Estate	CPI	Int'l Tot Stock Mkt	Int'l Large Value	CWA Balanced Growth
-11.39%	-19.56%	31.02%	11.46%	6.70%	10.34%	13.29%	23.47%	4.41%	15.89%
Int'l Small Value	Real Estate	CWA Balanced Growth	U.S. ST Invest Grade	U.S. ST Invest Grade	CPI	U.S. ST Invest Grade	CWA Balanced Growth	Int'l Small Value	CPI
-13.68%	-21.40%	29.44%	7.29%	4.12%	9.02%	9.74%	20.57%	2.50%	3.83%
Real Estate	U.S. Large Value	Real Estate	CPI	EM Tot Stock Mkt	U.S. Tot Stk Mkt	Int'l Tot Stock Mkt	Int'l Large Value	U.S. Large Value	Int'l Large Value
-15.52%	-23.02%	19.30%	4.86%	2.18%	7.49%	9.42%	20.38%	1.26%	0.32%
U.S. Tot Stk Mkt	U.S. Tot Stk Mkt	U.S. ST Invest Grade	Int'l Large Value	Global Short	U.S. ST Invest Grade 5.11%	Int'l Large Value	CPI	Int'l Tot Stock Mkt	Int'l Tot Stock Mkt
-18.06%	-27.04%	8.01%	4.83%	1.41%		5.71%	12.52%	-3.86%	-1.30%
EM Tot Stock Mkt	Int'l Small Value	Global Short	EM Tot Stock Mkt	U.S. Large Value	U.S. Large Value	Global Short	U.S. ST Invest Grade	U.S. Tot Stk Mkt	Int'l Small Value
-24.44%	-28.61%	7.83%	4.68%	1.34%	3.57%	4.09%	10.44%	-4.42%	-2.36%
U.S. Small Value	EM Tot Stock Mkt	CPI	Int'l Tot Stock Mkt	U.S. Tot Stk Mkt	Global Short	Int'l Small Value	Global Short	EM Tot Stock Mkt	EM Tot Stock Mkt
-27.25%	-41.43%	6.94%	2.33%	-4.26%	3.49%	-0.78%	3.91%	-16.19%	-28.68%

Ave Ann Return	Std. Deviation	Highest Historical Performance	Lowest Historical Performance
U.S. Small Value	EM Tot Stock Mkt	Int'l Small Value	U.S. ST Invest Grade
18.92%	38.06%	74.08%	4.12%
Int'l Small Value	Int'l Small Value	EM Tot Stock Mkt	CPI
14.84%	34.85%	61.21%	3.83%
Real Estate	U.S. Small Value	U.S. Small Value	Global Short
13.15%	28.30%	60.58%	1.41%
U.S. Large Value	U.S. Large Value	U.S. Large Value	CWA Balanced Growth
12.20%	23.51%	55.81%	-11.84%
CWA Balanced Growth	U.S. Tot Stk Mkt	Real Estate	Int'l Tot Stock Mkt
10.55%	22.37%	47.59%	-19.56%
U.S. ST Invest Grade	Real Estate	U.S. Tot Stk Mkt	Int'l Large Value
9.12%	21.24%	38.75%	-19.56%
CPI	Int'l Large Value	Int'l Large Value	Real Estate
8.67%	17.97%	34.85%	-21.40%
Int'l Large Value	Int'l Tot Stock Mkt	Int'l Tot Stock Mkt	U.S. Large Value
8.04%	17.58%	31.42%	-23.02%
Global Short	CWA Balanced Growth	CWA Balanced Growth	U.S. Tot Stk Mkt
8.00%	12.68%	29.44%	-27.04%
U.S. Tot Stk Mkt	Global Short	Global Short	U.S. Small Value
7.46%	8.05%	29.10%	-27.25%
Int'l Tot Stock Mkt	U.S. ST Invest Grade	U.S. ST Invest Grade	Int'l Small Value
6.46%	4.34%	17.33%	-28.61%
EM Tot Stock Mkt	CPI	CPI	EM Tot Stock Mkt
3.04%	3.24%	13.29%	-41.43%

# **Data Disclosure**

The table below lists the indexes used to create return history back to 1972 for each asset class contained in this report. It also shows the annualized historical return and standard deviation for each asset class since 1972. Past performance is not a guarantee of future results. All investment involve risk, including the loss of principal. For illustrative purposes only.

Asset Classes	Index Data	Start Date	Annualized Return	Standard Deviation
Cash & Cash Alternatives	ICE BofA US 3M Trsy Bill TR USD	Jan-78	4.77%	3.86%
	IA SBBI US 30 Day TBill TR USD	Jan-72		
U.S. Short Government Bonds	ICE BofA 1-3Y US Trsy&Agcy TR USD	Oct-82	5.73%	4.56%
	ICE BofA 1-3Y US Trsy TR USD	Jan-78		
	IA SBBI US 1 Yr Trsy Const Mat TR USD	Jan-72		
U.S. Short Investment Grade	ICE BofA 1-3Y US Corp&Govt TR USD	Jun-86	5.80%	4.08%
Bonds	IA SBBI US 1 Yr Trsy Const Mat TR USD	Jan-72		
U.S. Intermediate Government	BBgBarc US Govt Interm TR USD	Jan-73	6.35%	5.40%
Bonds	IA SBBI US IT Govt TR USD	Jan-72		
U.S. Intermediate Investment	BBgBarc US Agg Bond TR USD	Jan-76	6.93%	6.60%
Grade Bonds	BBgBarc US Govt/Credit TR USD	Jan-73		
	IA SBBI US IT Govt TR USD	Jan-72		
U.S. Long Government Bonds	BBgBarc US Government Long TR USD	Jan-73	8.12%	11.82%
	IA SBBI US LT Govt TR USD	Jan-72		
U.S. Long Investment Grade	BBgBarc US Long Credit TR USD	Jan-73	8.41%	10.58%
Bonds	IA SBBI US LT Corp TR USD	Jan-72		
Global Short Bonds	FTSE WGBI 1-5 Yr Hdg USD	Jan-85	5.82%	5.00%
	IA SBBI US IT Govt TR USD	Jan-72		
Global Intermediate Bonds	FTSE WGBI Hdg USD	Jan-85	6.78%	5.55%
	IA SBBI US IT Govt TR USD	Jan-72		
U.S. Intermediate Municipal Bonds	S&P Interm National AMT Free Muni TR USD	Sep-07	6.11%	7.74%
	BBgBarc Municipal TR USD	Jan-80		
	IA SBBI US IT Govt TR USD	Jan-72		
U.S. High-Yield Bonds	BBgBarc US Corporate High Yield TR USD	Jul-83	8.60%	14.01%
	IA Barclays US HY Corporate Bonds	Jan-72		

U.S. Inflation-Protected Bonds	BBgBarc US Treasury US TIPS TR USD BBgBarc US Govt Interm TR USD IA SBBI US IT Govt TR USD	Mar-97 Jan-73 Jan-72	7.07%	5.95%
U.S. Total Stock Market	Russell 3000 TR USD CRSP Deciles 1-10 (DFA)	Jan-79 Jan-72	11.12%	17.40%
U.S. Large Neutral Stocks	Russell 1000 TR USD S&P 500 TR USD	Jan-79 Jan-72	11.17%	17.31%
U.S. Large Value Stocks	Russell 1000 Value TR USD Fama/French US Large Value Research Index	Jan-79 Jan-72	11.88%	17.03%
U.S. Large Growth Stocks	Russell 1000 Growth TR USD Fama/French US Large Growth Research Index	Jan-79 Jan-72	10.73%	20.35%
U.S. Small Neutral Stocks	Russell 2000 TR USD CRSP Deciles 6-10 (DFA)	Jan-79 Jan-72	11.13%	21.46%
U.S. Small Value Stocks	Russell 2000 Value TR USD Fama/French US Small Value Research Index	Jan-79 Jan-72	12.88%	20.61%
U.S. Small Growth Stocks	Russell 2000 Growth TR USD Fama/French US Small Growth Research Index	Jan-79 Jan-72	9.05%	24.44%
Real Estate	DJ US Select REIT TR USD FTSE Nareit All Equity REITs TR USD	Jan-87 Jan-72	11.09%	18.75%
Global Total Stock Market	MSCI ACWI IMI NR USD  MSCI World NR USD	Jun-94 Jan-72	9.16%	17.69%
Global Total Developed Stock Market	MSCI World IMI NR USD  MSCI World NR USD	Jun-94 Jan-72	9.33%	17.48%
International Total Stock Market	MSCI World Ex USA IMI NR USD  MSCI World ex USA NR USD	Jun-94 Jan-72	8.88%	20.91%
International Large Neutral Stocks	MSCI World ex USA NR USD	Jan-72	8.84%	20.50%

International Large Value Stocks	MSCI World Ex USA Value NR USD  MSCI World ex USA NR USD	Jan-75 Jan-72	9.68%	21.18%
International Large Growth Stocks	MSCI World Ex USA Growth NR USD  MSCI World ex USA NR USD	Jan-75 Jan-72	8.10%	20.70%
International Small Neutral Stocks	MSCI World Ex USA Small Cap NR USD  DFA International Small Cap Index	Jan-01 Jan-72	13.06%	27.06%
International Small Value Stocks	MSCI World Ex USA Small Value NR USD DFA International Small Cap Value Index DFA International Small Cap Index	Jun-94 Jul-81 Jan-72	13.49%	27.87%
International Small Growth Stocks	MSCI World Ex USA Small Growth NR USD S&P Developed Ex US Small Growth TR USD DFA International Small Cap Index	Jun-94 Jul-89 Jan-72	11.75%	28.59%
Emerging Markets Total Stock Market	MSCI EM IMI NR USD  MSCI EM GR USD  MSCI Pacific Ex Japan NR USD	Jan-01 Jan-88 Jan-72	9.99%	32.99%
Commodities	Bloomberg Commodity TR USD S&P GSCI TR USD	Jan-91 Jan-72	7.50%	21.17%
Other Assets	S&P 500 PR	Jan-72	7.99%	16.72%
Alternative Lending	Credit Suisse Leveraged Loan USD  IA Barclays US HY Corporate Bonds	Feb-92 Jan-72	7.31%	12.27%
Diversified Alternatives	Credit Suisse Liquid Alternative TR USD  Credit Suisse Multi-Strategy USD  50% S&P 500; 50% USTREAS T-Bill Cnst Mat Rate 1 Yr	Jan-98 May-94 Jan-72	8.20%	8.25%
Emerging Markets Large Value Stocks	MSCI EM IMI Value NR USD  MSCI EM Value GR USD  MSCI Pacific Ex Japan NR USD	Jan-01 Jan-97 Jan-72	9.51%	31.32%
Managed Futures	SG Trend Index BBgBarc US Govt/Credit TR USD IA SBBI US IT Govt TR USD	Jan-00 Jan-73 Jan-72	7.22%	8.74%

Market Neutral	CISDM Equity Market Neutral USD  IA SBBI US Large Stock TR USD Ext	Feb-90 Jan-72	8.62%	11.34%
Reinsurance	SwissRe Global Cat Bond TR USD  IA Barclays US HY Corporate Bonds	Feb-02 Jan-72	8.21%	10.31%
U.S. Long Inflation-Protected Bonds	FTSE US Inflation-Linked Secs 20+ Yr IA SBBI US LT Govt Infl Adj TR USD	Jun-98 Jan-72	5.56%	13.00%
U.S. Long Municipal Bonds	ICE BofA 10+Y US Muni TR USD  BBgBarc Municipal 20 Yr 17-22 TR USD  CISDM Equity Market Neutral USD	Jan-97 Jan-80 Jan-72	6.66%	9.99%
U.S. Short Inflation-Protected Bonds	BBgBarc US Treasury US TIPS 1-5 Yr USD ICE BofA 1-5 US Infln-Lnkd Trsy TR USD IA SBBI US IT Govt Infl Adj TR USD	Jan-05 Jan-02 Jan-72	3.48%	6.66%
U.S. Short Municipal Bonds	ICE BofA 1-3Y US Muni TR USD BBgBarc US Govt/Credit 1-3 Yr TR USD IA SBBI US 1 Yr Trsy Const Mat TR USD	Apr-89 Jan-76 Jan-72	5.29%	4.23%