

Building and Managing a Retirement Portfolio

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Designer of the *7Twelve*[®] Portfolio

Research Triangle (NC) AAI Chapter November 14, 2020

Based on research by Craig L. Israelsen, Ph.D.
Performance as of December 31, 2019

Key Concepts

Retirement Account Multiple (or RAM)

Key Concepts

Retirement Account Multiple (or RAM)

Initial Withdrawal Rate

Key Concepts

Retirement Account Multiple (or RAM)

Initial Withdrawal Rate

% of Income Replaced

The Mathematics of Income Replacement

RAM = Retirement Account Multiple



\$100,000 final salary OR \$100,000 annual expenses

\$1.2 million retirement account

RAM = 12x

The Mathematics of Income Replacement

RAM * % Withdrawal Rate



\$100,000 final salary

4% of account balance

\$1.2 million retirement account

RAM = 12x

The Mathematics of Income Replacement

$$\text{RAM} * \% \text{ Withdrawal Rate} = \% \text{ Income Replacement}$$



\$100,000 final salary

4% of account balance

48% income replacement

\$1.2 million retirement account

RAM = 12x

The Mathematics of Income Replacement

RAM * % Withdrawal Rate = % Income Replacement



12



4

=



48%

Various RAM and Withdrawal Rates

Retirement Account Multiple of Pre- Retirement Income (RAM)	Multiplied By	Initial Withdrawal Rate (%)	Equals	% of Pre-Retirement Income Being Replaced in First Year of Retirement
7x	*	3%	=	21%

Various RAM and Withdrawal Rates

Retirement Account Multiple of Pre-Retirement Income (RAM)	Multiplied By	Initial Withdrawal Rate (%)	Equals	% of Pre-Retirement Income Being Replaced in First Year of Retirement
7x	*	3%	=	21%
10x	*	4%	=	40%

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7x	*	3%	=	21%
10x	*	4%	=	40%
12x	*	4%	=	48%

Various RAM and Withdrawal Rates

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7x	*	3%	=	21%
10x	*	4%	=	40%
12x	*	4%	=	48%
15x	*	5%	=	75%

% Income Replacement in Retirement

Various Combinations of RAM and Withdrawal Rate						
Retirement Account Multiple of Final Salary (RAM)	Initial Withdrawal Rate (%) in Retirement					
	2%	3%	4%	5%	6%	7%
5x						
7x						
10x						
12x			48%			
15x						
20x						
25x						

% Income Replacement in Retirement

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7x			28%			
10x			40%			
12x			48%			
15x			60%			
20x			80%			
25x			100%			

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	2%	3%	4%	5%	6%	7%
5x \$500,000	10%	15%	20%	25%	30%	35%
7x \$700,000	14%	21%	28%	35%	42%	49%
10x \$1,000,000	20%	30%	40%	50%	60%	70%
12x \$1,200,000	24%	36%	48%	60%	72%	84%
15x \$1,500,000	30%	45%	60%	75%	90%	105%
20x \$2,000,000	40%	60%	80%	100%	120%	140%
25x \$2,500,000	50%	75%	100%	125%	150%	175%

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Other issues...

What kind of retirement portfolio are we building?

How long will our portfolio survive during retirement?

What about the RMD?

Conservative Retirement Model

25% Stock/75% Fixed Income Portfolio

15% Large Stock, 10% Small Stock, 55% Bonds, 20% Cash

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15% Large Stock, 10% Small Stock, 55% Bonds, 20% Cash

Moderate Retirement Model

65% Stock/35% Fixed Income Portfolio

40% Large Stock, 25% Small Stock, 25% Bonds, 10% Cash

Indexes Used in the Analysis

94 Year Review: 1926-2019 60 Rolling 35-Year Periods

- **Large-cap US equity** represented by the S&P 500 Index from 1926-2019
- **Small-cap US equity** represented by the Ibbotson Small Companies Index from 1926-1978 and the Russell 2000 Index from 1979-2019
- **U.S. Bonds** represented by SBBI US Intermediate Government Bonds from 1926-1975 and the Barclay's Capital Aggregate Bonds Index from 1976-2019
- **Cash** represented by 3-month Treasury Bills from 1926-2019

94-Year Analysis from 1926-2019

60 Rolling 35-Year Periods

(3% COLA assumed)

% Income Replacement in Retirement

Based on RAM (RAM = Retirement Account Multiple)

(Green shading indicates 60% or higher income replacement)

5x RAM	10%	15%	20%	25%	30%	35%
7x RAM	14%	21%	28%	35%	42%	49%
10x RAM	20%	30%	40%	50%	60%	70%
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Required Withdrawal Rate

(based on RAM)

Required % Withdrawal Rate	2%	3%	4%	5%	6%	7%
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(based on RAM)

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Historical Success Rate

% of Time Portfolio Lasted at Least 35 years between 1926-2019

25/75 Portfolio	100%	100%	93%	62%	38%	27%
65/35 Portfolio	100%	100%	98%	92%	88%	73%

94-Year Analysis from 1926-2019

60 Rolling 35-Year Periods

(3% COLA assumed)

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Required % Withdrawal Rate					6%	7%
% of Time Portfolio Lasted at Least 35 years between 1926-2019						
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65/35 Portfolio	100%	100%	98%	92%	88%	73%

Don't take more than risk than is needed.

There is no reason to keep up with "the market" if you don't need to.

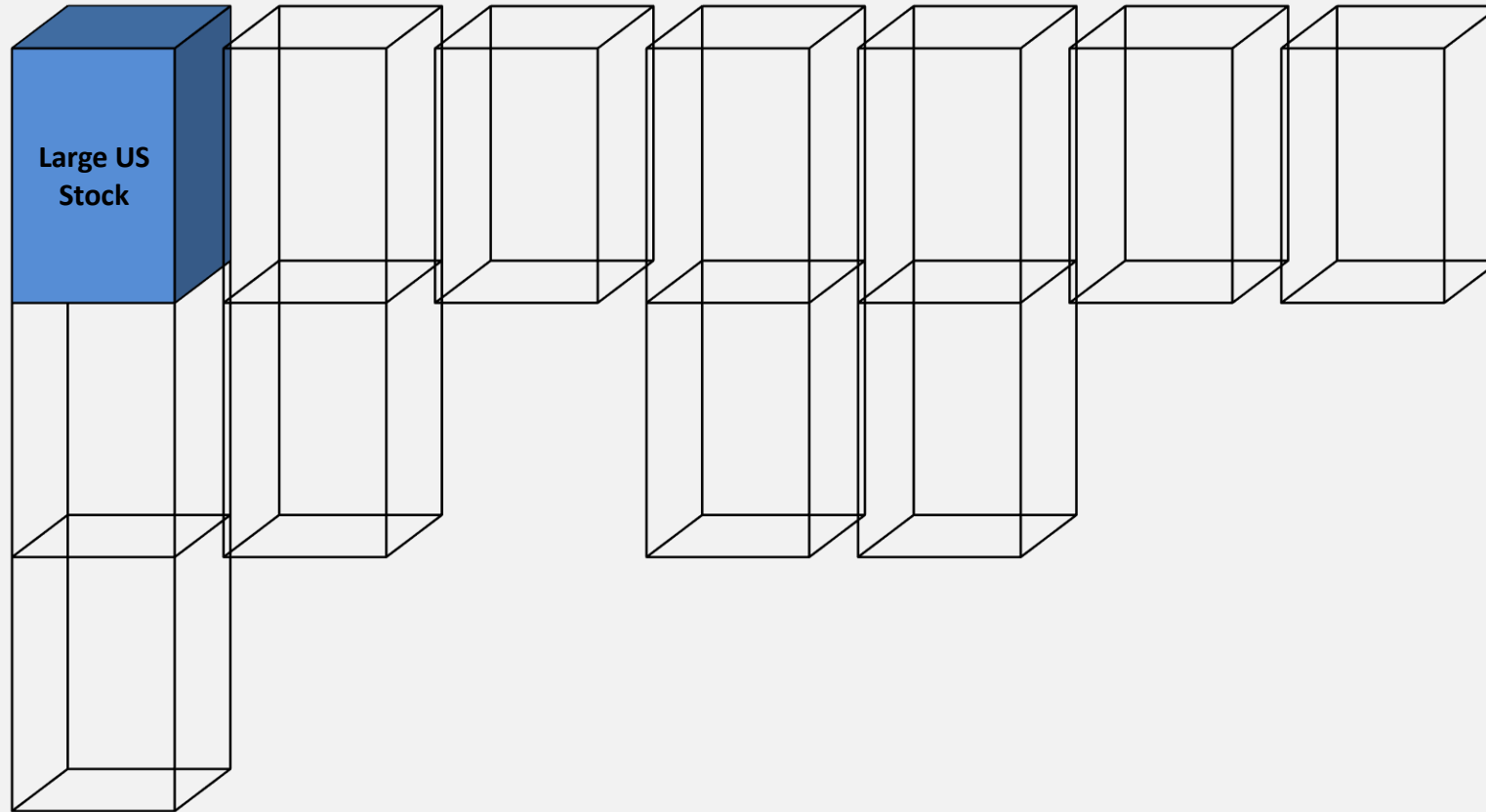
Don't let ego determine your asset allocation.

Building a Modern Retirement Portfolio

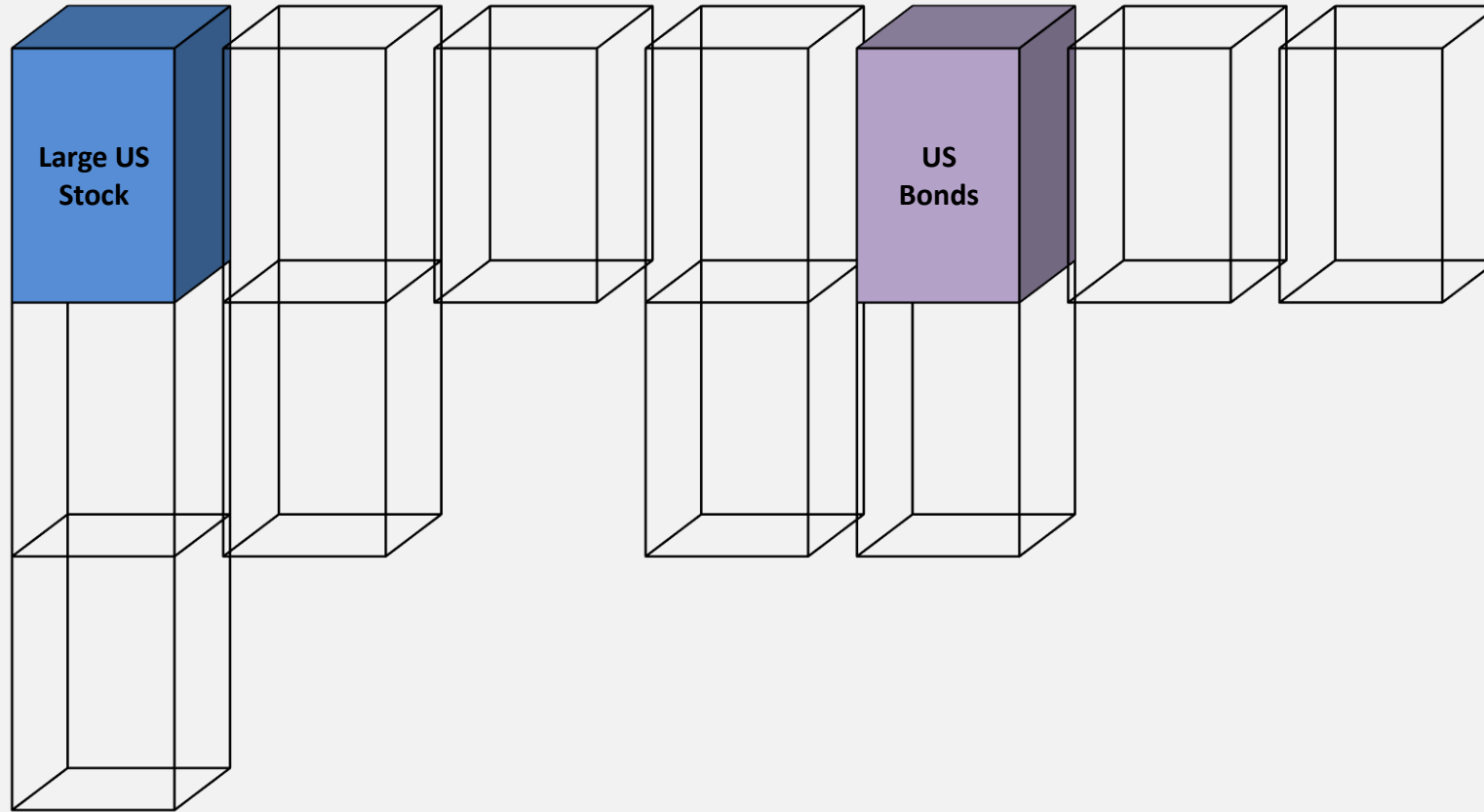
Building an investment portfolio is like making **salsa**...we add different ingredients together.



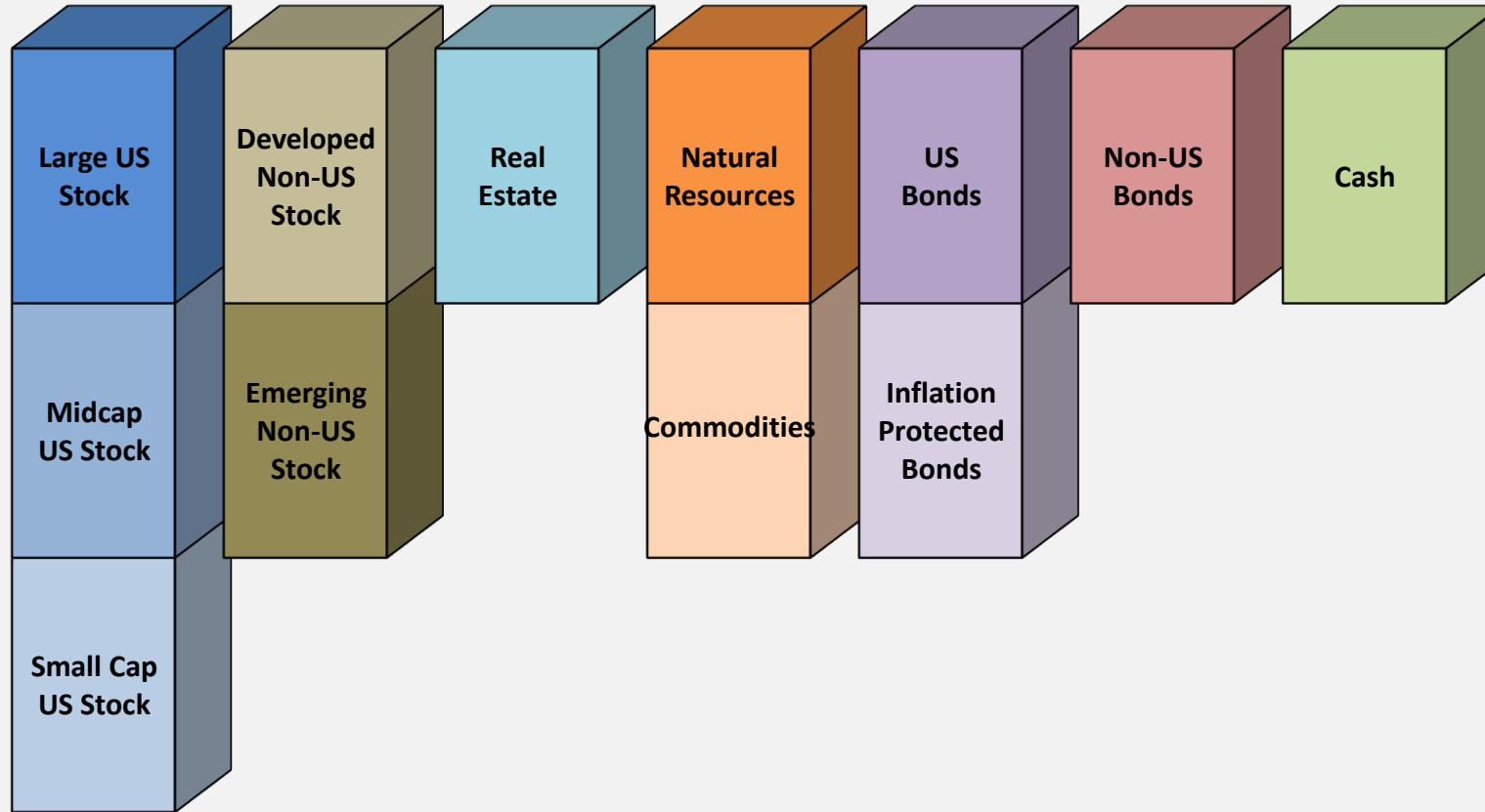
Minimal Diversification



Two-Asset Portfolio

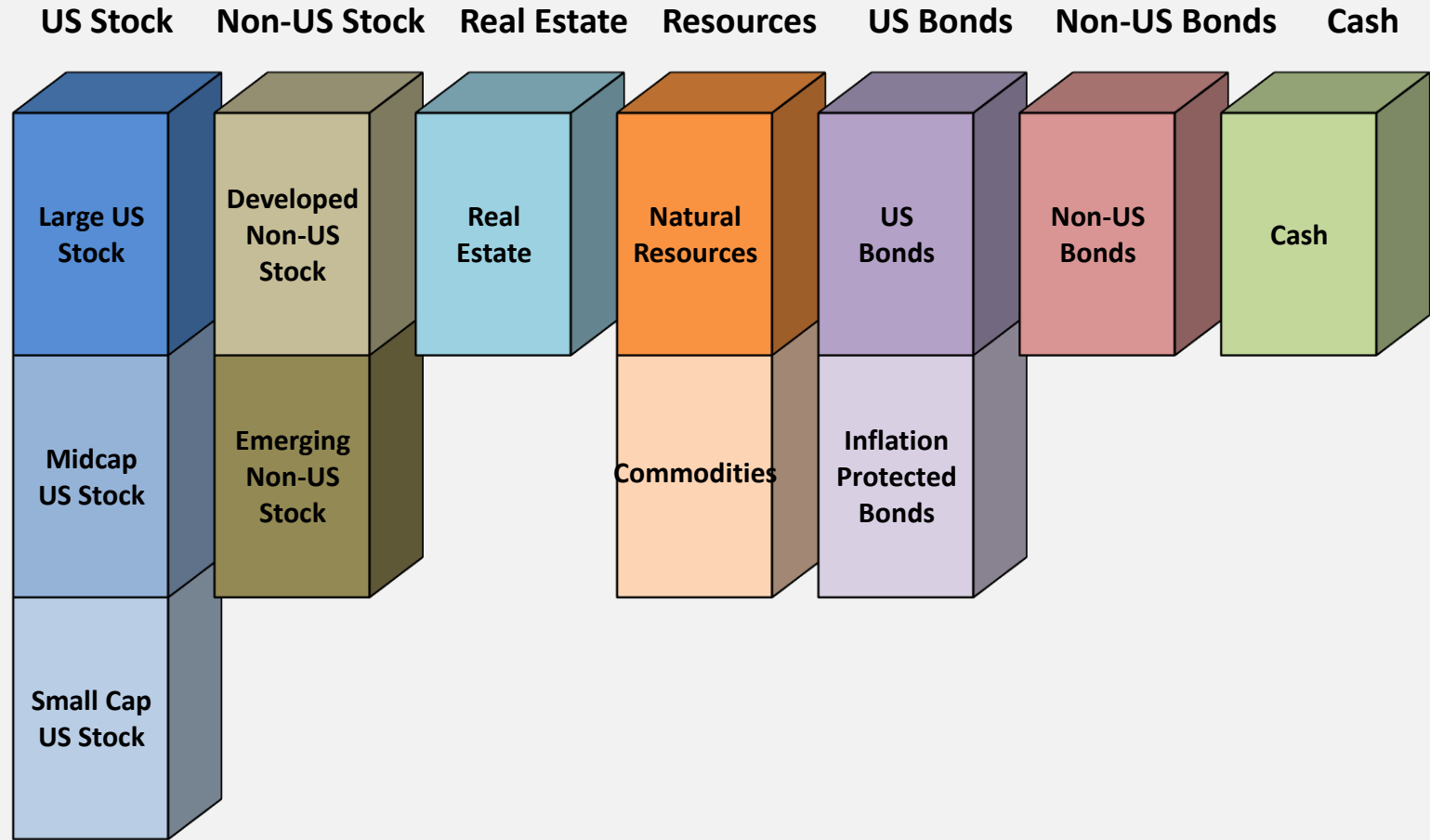


12-Asset Portfolio



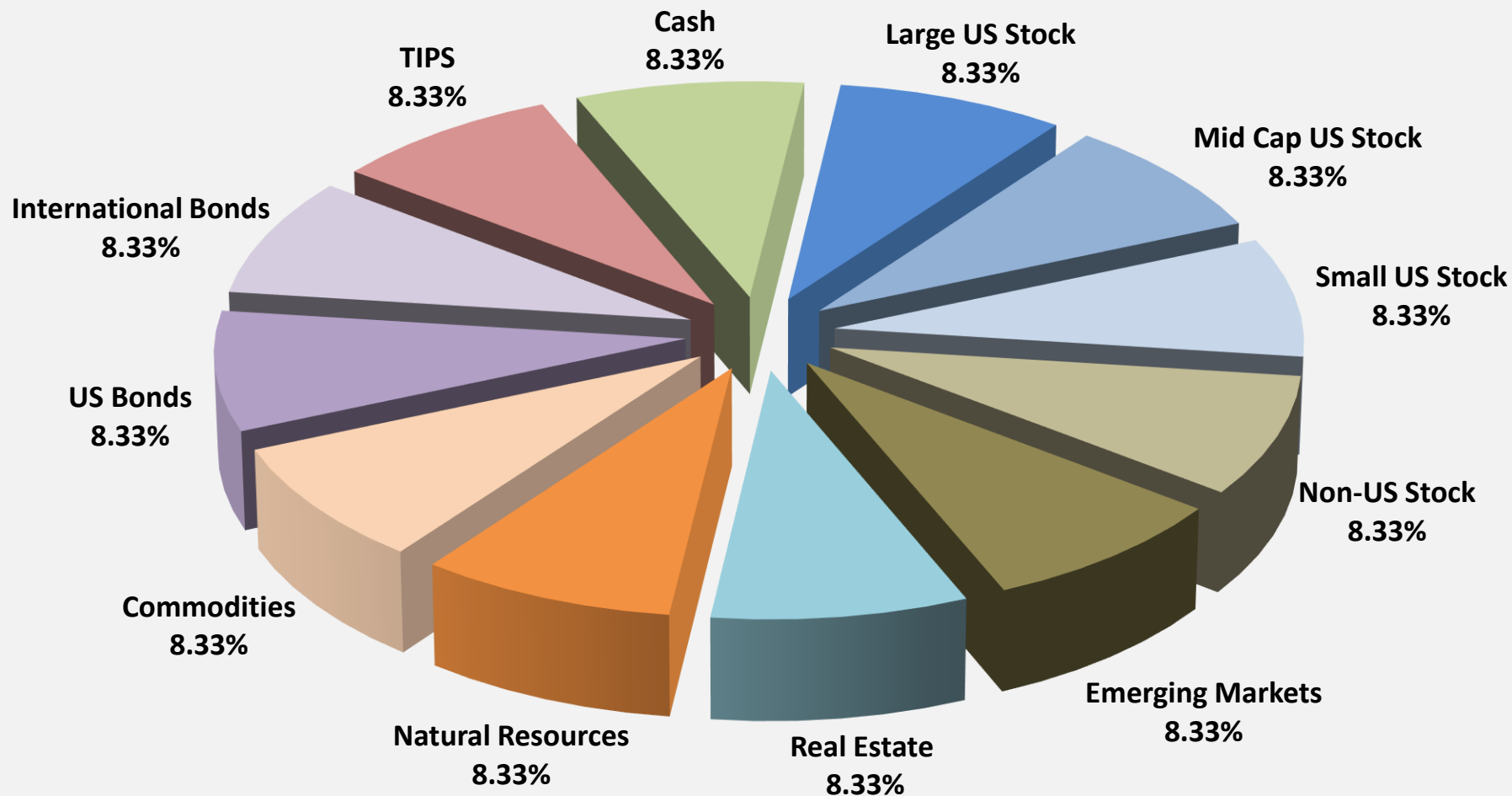
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7 Core Asset Classes **Twelve** Actual Holdings



7Twelve®

Equally-weighted exposure to 12 asset classes



Low-Cost *7Twelve*[®] Models

12-Asset Class <i>7Twelve</i>[®] Portfolio (annual rebalancing)	<i>12 Actively Managed Mutual Funds</i> (<i>Active 7Twelve</i>)	<i>12 ETFs from various fund families</i> (<i>Passive 7Twelve</i>)	<i>12 Vanguard Mutual Funds</i>	<i>12 Vanguard ETFs</i>	<i>12 Fidelity Mutual funds</i>	<i>12 ETFs available at Schwab</i>
Portfolio Aggregate Annual Expense Ratio in 2020	0.68	0.17	0.15	0.09	0.28	0.11

Low-Cost *7Twelve*[®] Models

12-Asset Class <i>7Twelve</i> [®] Portfolio (annual rebalancing)	12 Actively Managed Mutual Funds <i>(Active 7Twelve)</i>	12 ETFs from various fund families <i>(Passive 7Twelve)</i>	12 Vanguard Mutual Funds	12 Vanguard ETFs	12 Fidelity Mutual funds	12 ETFs available at Schwab
Portfolio Aggregate Annual Expense Ratio in 2020	0.68	0.17	0.15	0.09	0.28	0.11
20-Year Average Annualized Return (2000-2019)	7.50	6.82	7.18	7.26	7.45	6.90

Key points

Worry less, live more.

Stay appropriately diversified in retirement.

Don't make investing a competitive sport.



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7Twelve[®] Portfolio

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