

NORTH CAROLINA  
DEPARTMENT OF STATE TREASURER



*Dale R. Folwell, CPA*  
STATE TREASURER OF NORTH CAROLINA  
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INVESTMENT MANAGEMENT DIVISION

# Inflation Portfolio Review

February 19, 2020



## Role in the Portfolio

### Inflation Protection

- Provide some degree of protection against the risks associated with inflation

### Attractive Absolute Returns

- Provide an attractive return over the long-term by making investments that provide a nominal total return that rises with inflation

### Competitive Relative Returns

- Achieve or exceed the return on the performance benchmark over a long period of time, within reasonable risk parameters

### Diversification

- Enhance the diversification of the Fund's total investment portfolio relative to public equity and nominal fixed income

### Liquidity

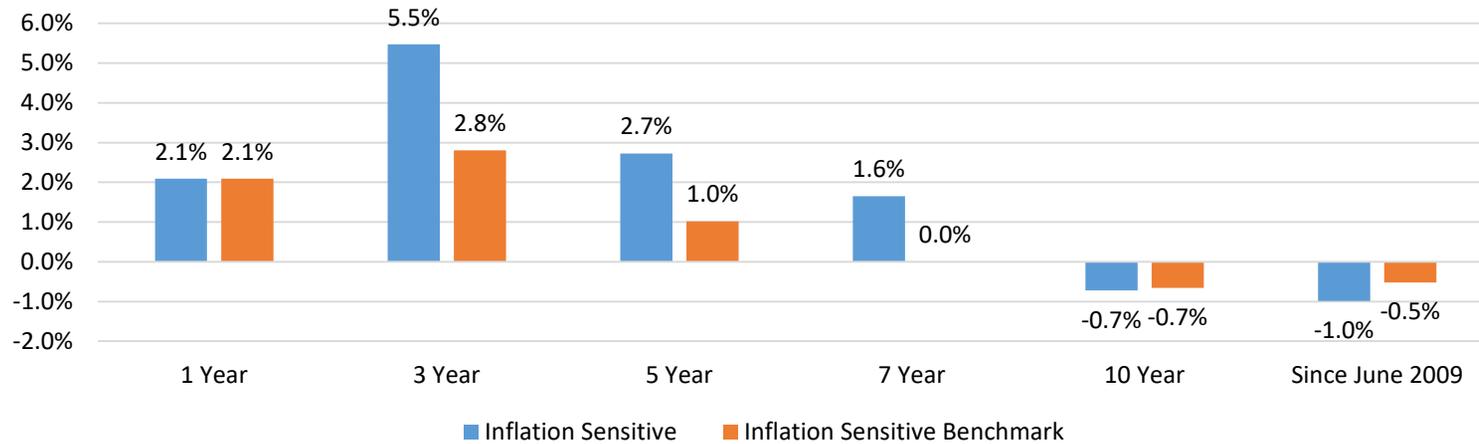
- Provide a source of liquidity to the Fund when other Portfolios are experiencing lower returns due to unanticipated inflation



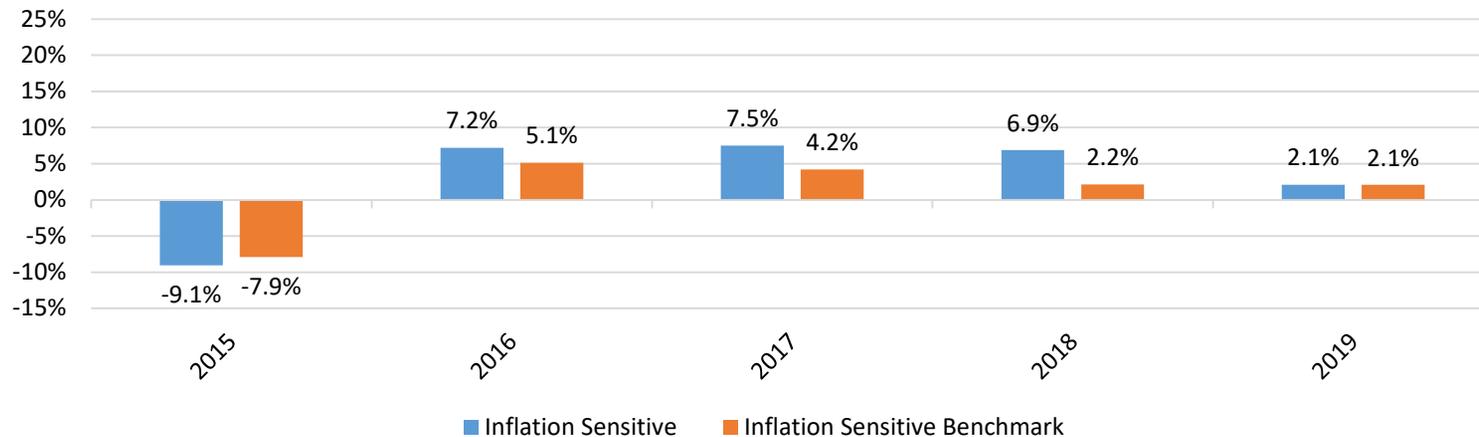
# Portfolio Performance

## As of December 31, 2019

### Annualized Performance



### Calendar Year Performance



**Notes:**

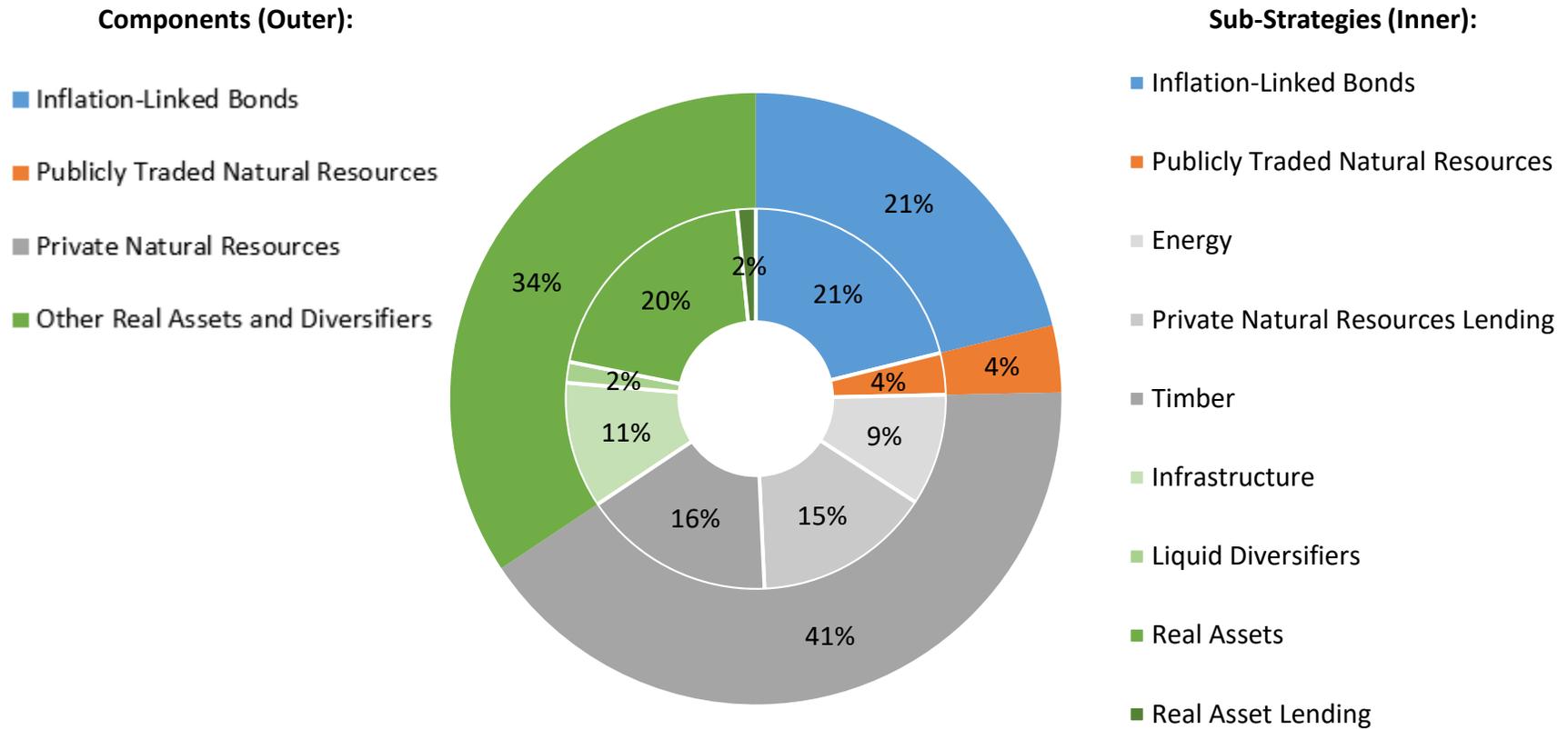
Periods greater than one year are annualized

See slide 25 for details on the composition of the Inflation Sensitive Benchmark

# Current Portfolio Allocation

## As of December 31, 2019

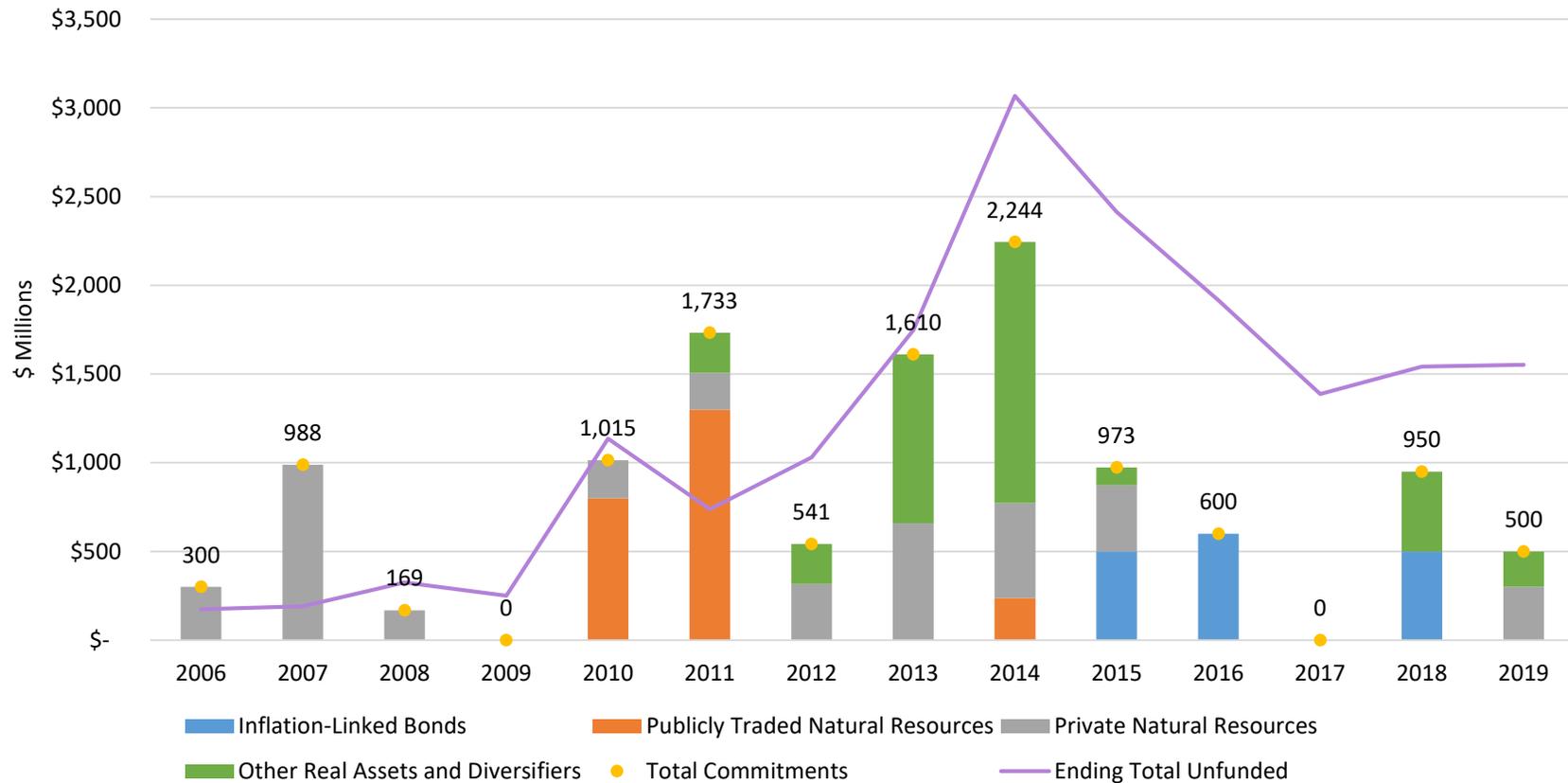
### Allocation by Component and Sub-Strategy



# Portfolio History

## As of December 31, 2019

**Historical New Commitments by Component and Total Unfunded**

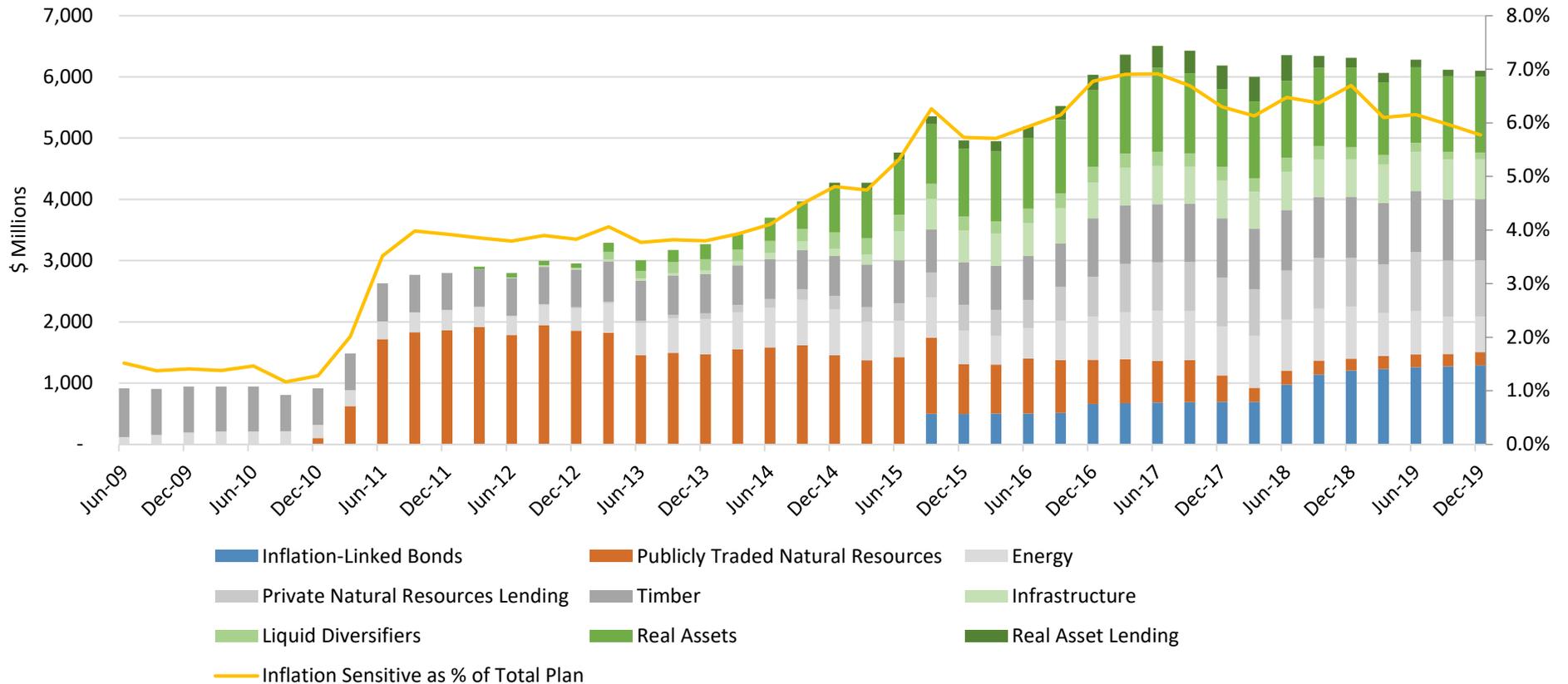


Note: Unfunded values are as of each respective calendar year end

# Portfolio History

## As of December 31, 2019

**Historical Allocation by Sub-Strategy**

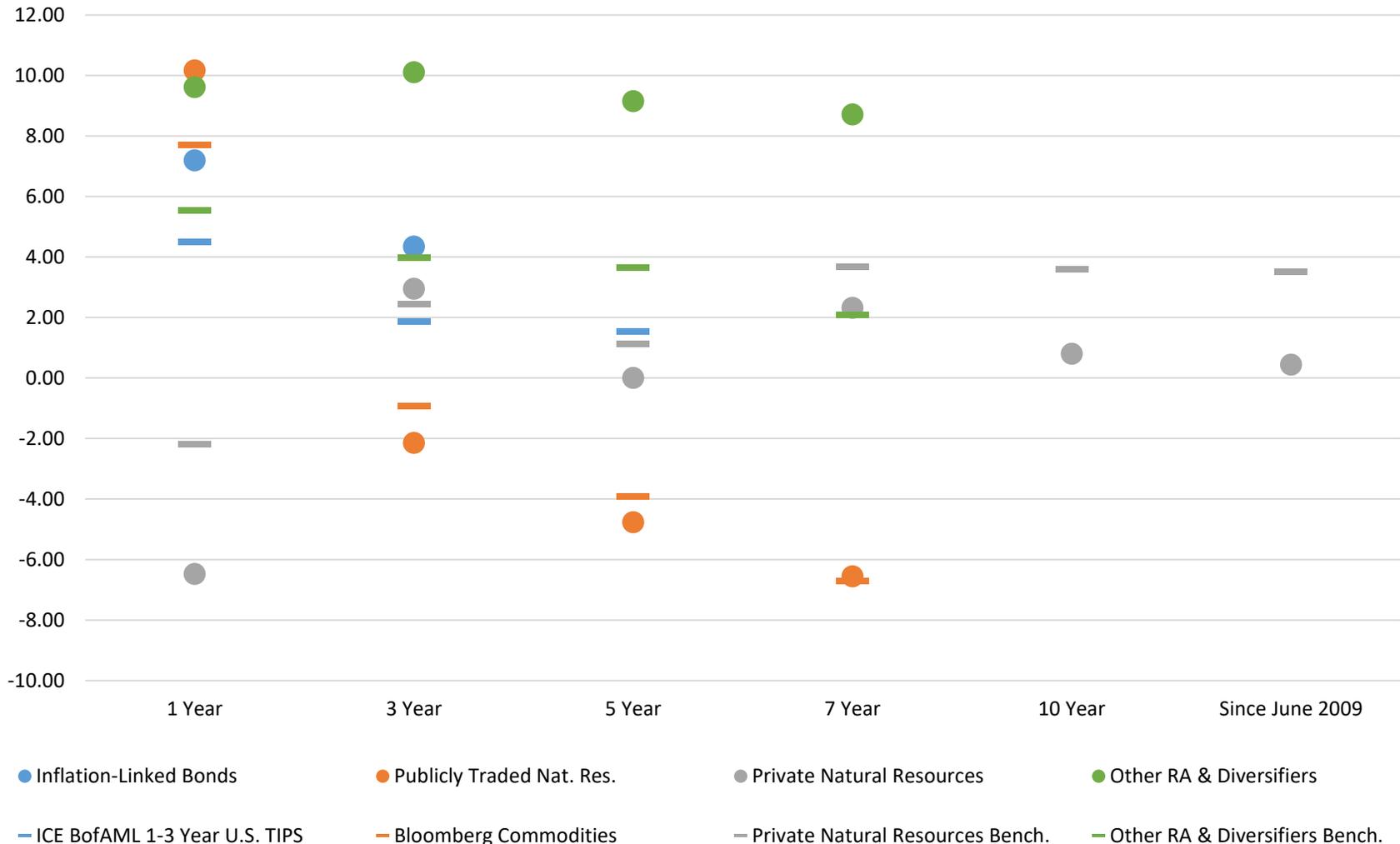


- Inflation Sensitive Portfolio diversification has expanded substantially
- 25 managers and 48 funds / co-investments

# Portfolio Performance

## As of December 31, 2019

### Performance by Component



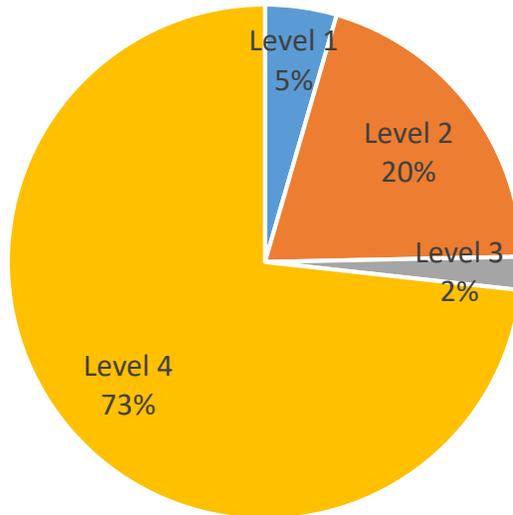
Notes:  
 Periods greater than one year are annualized  
 See slide 25 for details on the composition of the Inflation Sensitive Benchmark



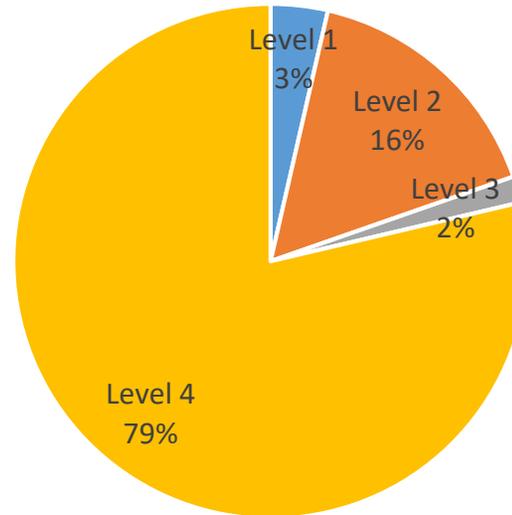
# Portfolio Liquidity

As of December 31, 2019

**Market Value**



**Market Value + Unfunded**



Note: Level 1 Liquidity = T+3; Level 2 = T+3 to 12 Months; Level 3 = 12 to 24 Months; Level 4 = Greater than 24 Months



# Portfolio Performance

## As of December 31, 2019

### Inflation Sensitive Portfolio Correlation

	Total Pension Plan	Public Equity	Private Equity	Non-Core Real Estate	Opportunistic Fixed Income	Investment Grade Fixed Income	Core Real Estate	Multi-Strategy
<b>3-Year Correlation</b>	(0.04)	(0.08)	0.57	0.22	0.72	(0.40)	(0.25)	0.03
<b>5-Year Correlation</b>	0.25	0.19	0.26	0.11	0.82	(0.25)	(0.24)	0.25

Note: Correlation data is based on quarterly return data

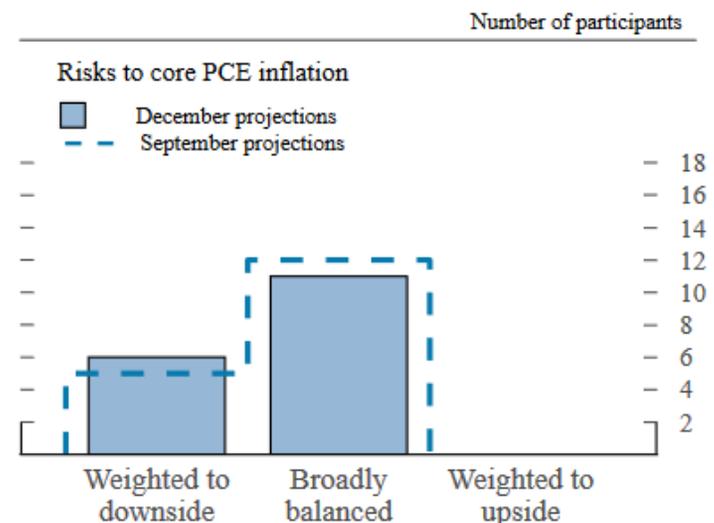
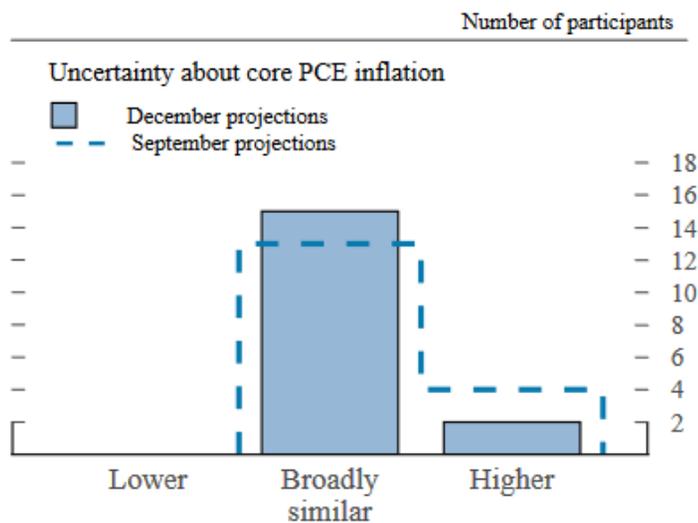
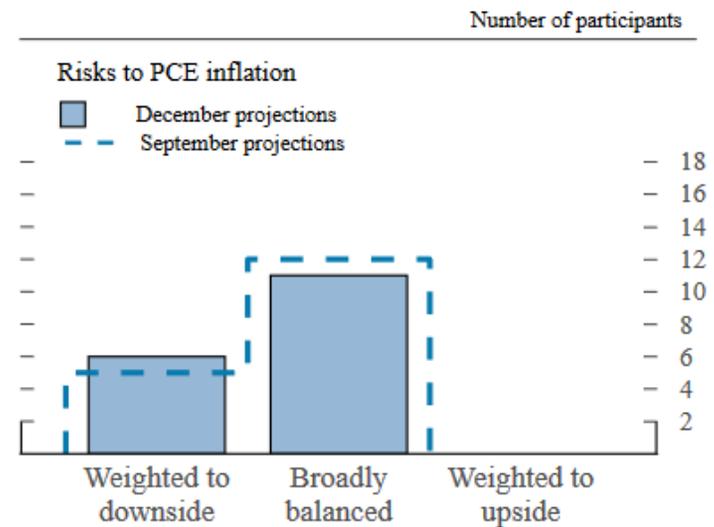
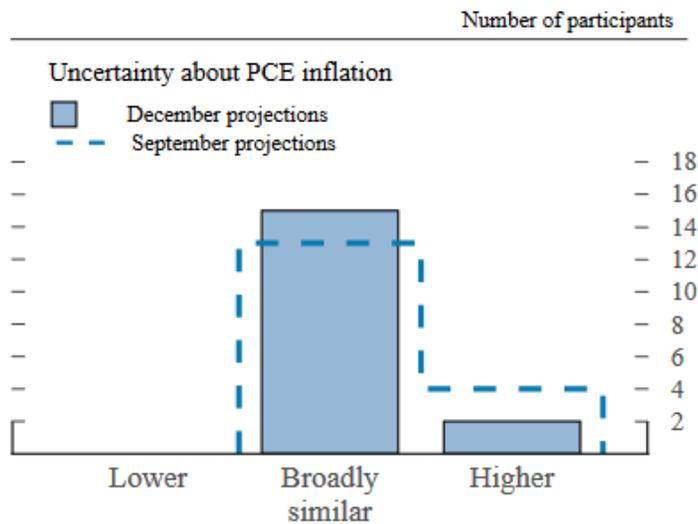


## Recent Accomplishments

	Accomplishments	Better Economics	Better Governance	Customized Exposure	Diligence Resources
1	Fee Savings	✓			
2	Enhanced Fund of One Relationships	✓	✓	✓	✓
3	Cross Asset Class Collaboration	✓	✓	✓	✓
4	Increased Efficiency of the Timber Portfolio		✓		✓

# Current Inflation Environment

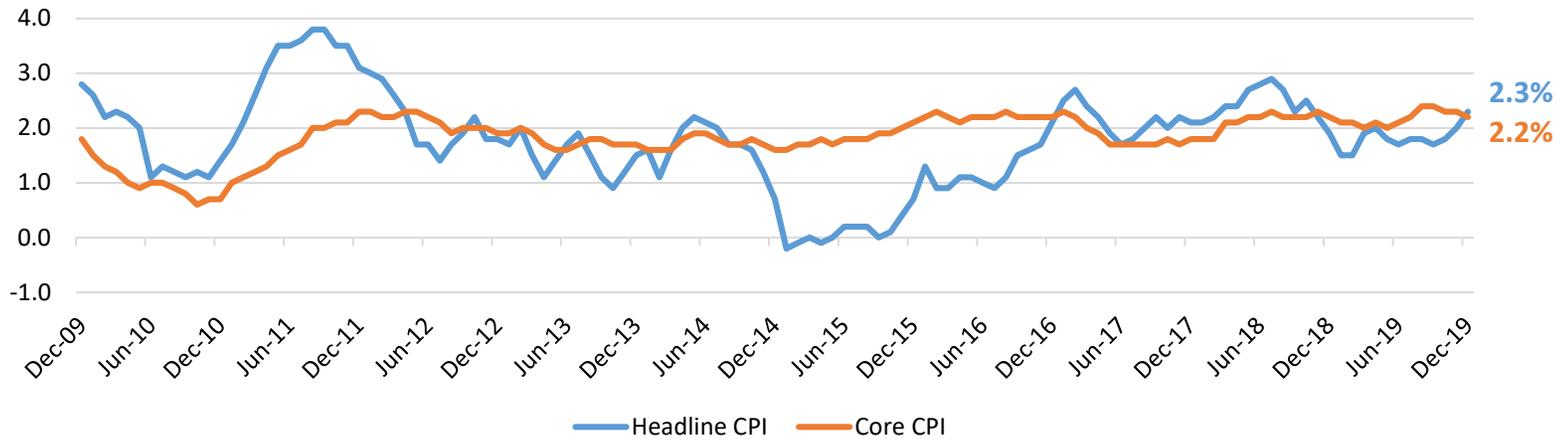
## FOMC is Becoming Less Worried About Inflation



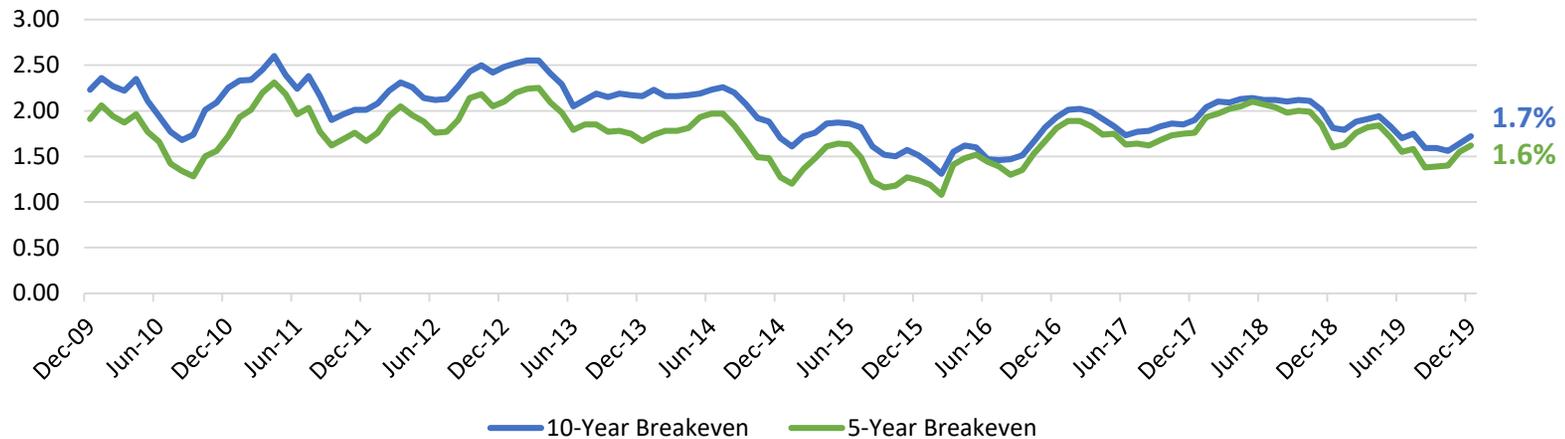


# Current Inflation Environment

### CPI Year over Year Change



### Inflation Breakeven Rates





# Risks to the Current Inflationary Outlook

## Downward Pressure

- Technological advancement
- Innovation in the Global Supply Chain (i.e., E-commerce, operational efficiency)
- US Shale Revolution and US Energy Independence
- Economic impact from the Coronavirus

## Uncertain

- Geopolitical unrest is less inflationary than prior occurrences
- US election

## Upward Pressure

- Federal Reserve and Central Banks remain accommodative
- Central Bank
- US Housing Demand
- Low unemployment and labor shortages in certain sectors
- Unresolved US/China Trade War



## Strategic Considerations for 2020

- 1) Rationalize current manager lineup; focus on high conviction opportunities
- 2) Maintain vintage and strategy diversification
- 3) Explore adding strategies that are linked to inflation where there are currently gaps in the portfolio



## Strategies of Interest for 2020

### Health Care

- Dental
- Vision
- Primary Care
- Veterinarian
- Drug Royalties
- Real Estate for Medical Practices

### Technology & Data Infrastructure

- Cell Towers
- Data Centers
- Music Royalties

### Other Diversifiers with Links to Inflation

- Traditional Infrastructure
- Transportation (i.e., leasing assets)
- Real Asset Focused Secondaries
- Agriculture

### Housing

- RMBS
- Residential Whole Loans
- Single Family Rentals

### Energy

- Private debt across multiple sectors
- Midstream
- Renewables
- Upstream



## Team Overview

Ronald Funderburk, CFA

Director

11 years with IMD

15 Years Industry Experience

Ty Powers, CFA

Portfolio Manager

3 years with IMD

24 Years Industry Experience

Renee Guerin, CFA

Portfolio Manager

3 years with IMD

9 Years Industry Experience

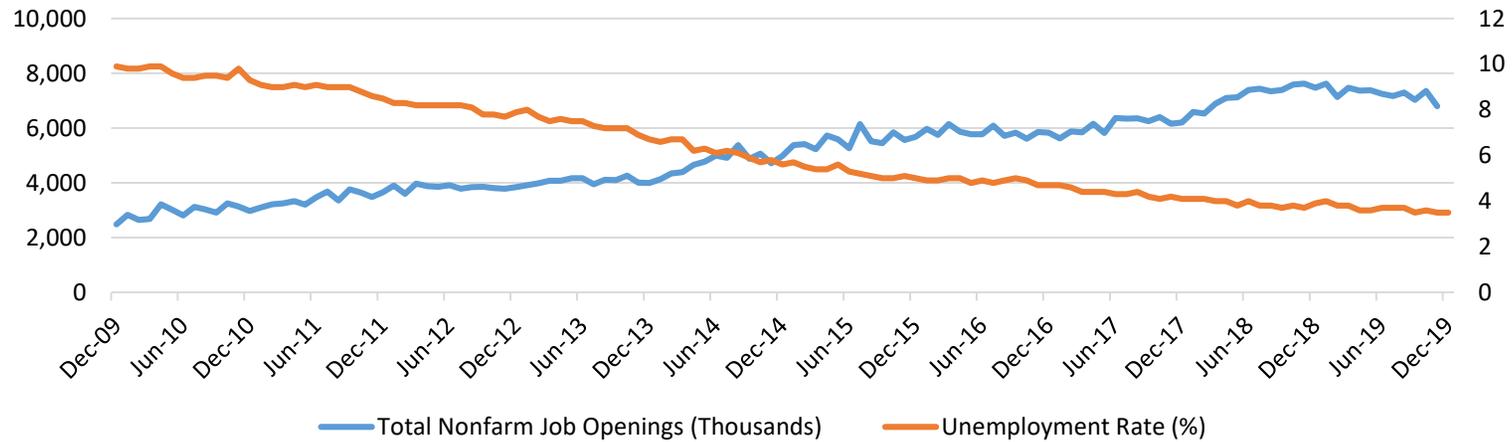


## Appendix

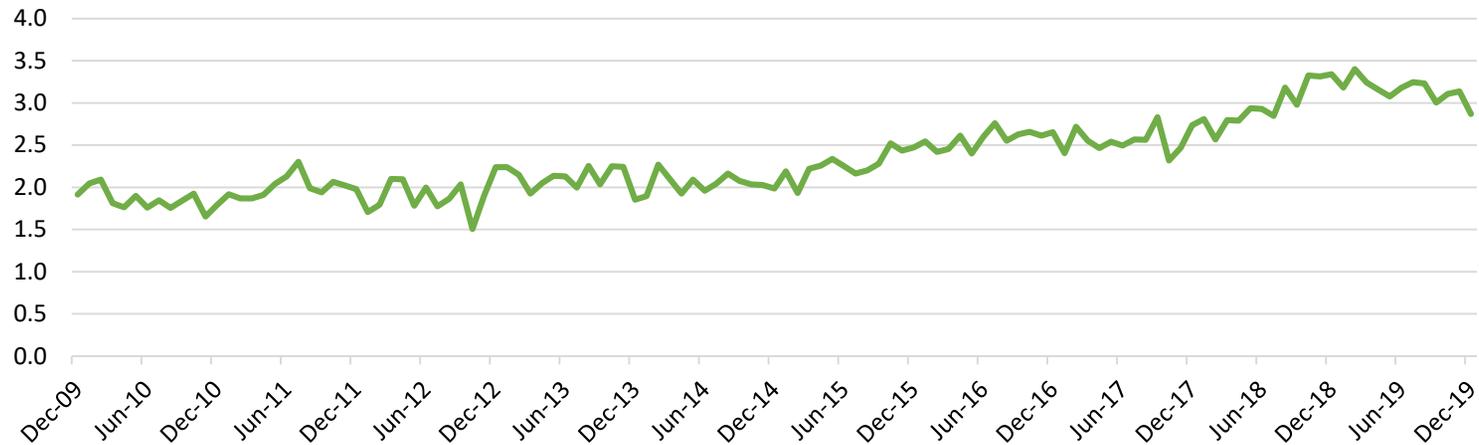


# Current Inflation Environment

## Vacancies vs. Unemployment



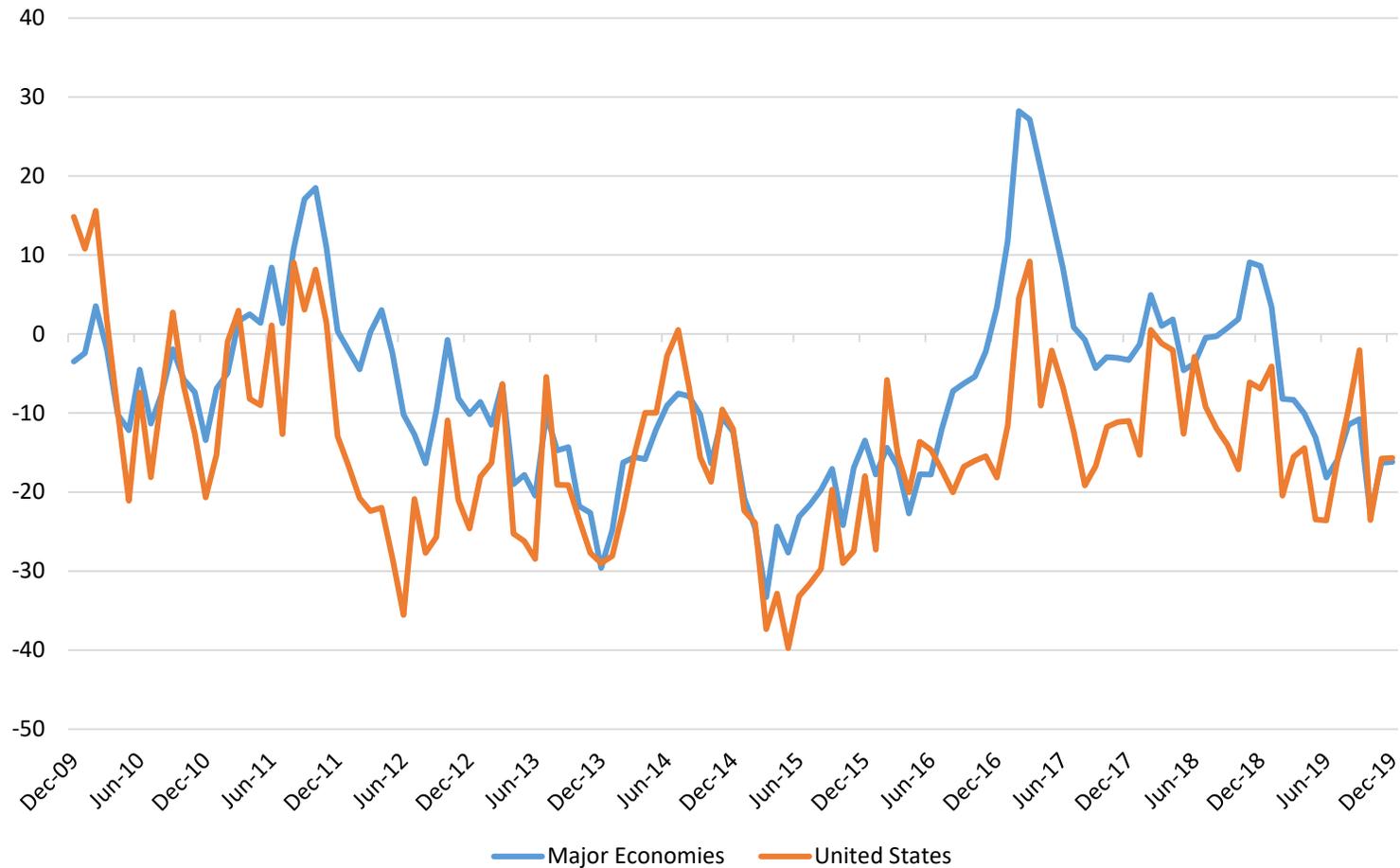
## Average Hourly Earnings – Year over Year Change





# Current Inflation Environment

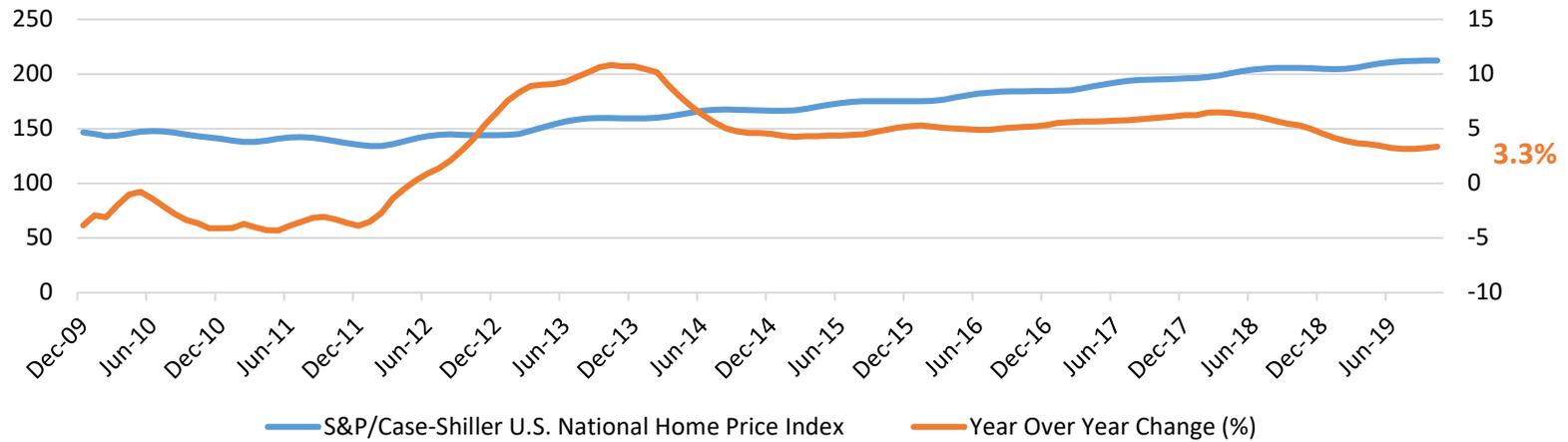
## Inflation Surprise Index





# Housing Market Review

## Home Price Appreciation



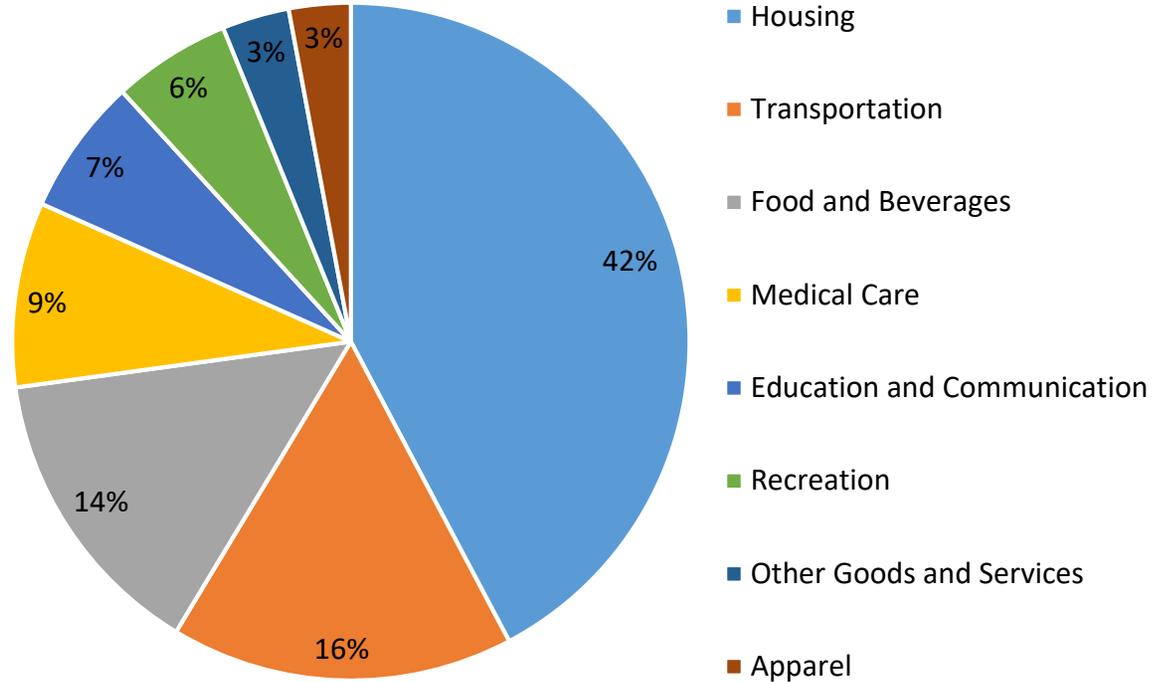
## Housing Affordability Index





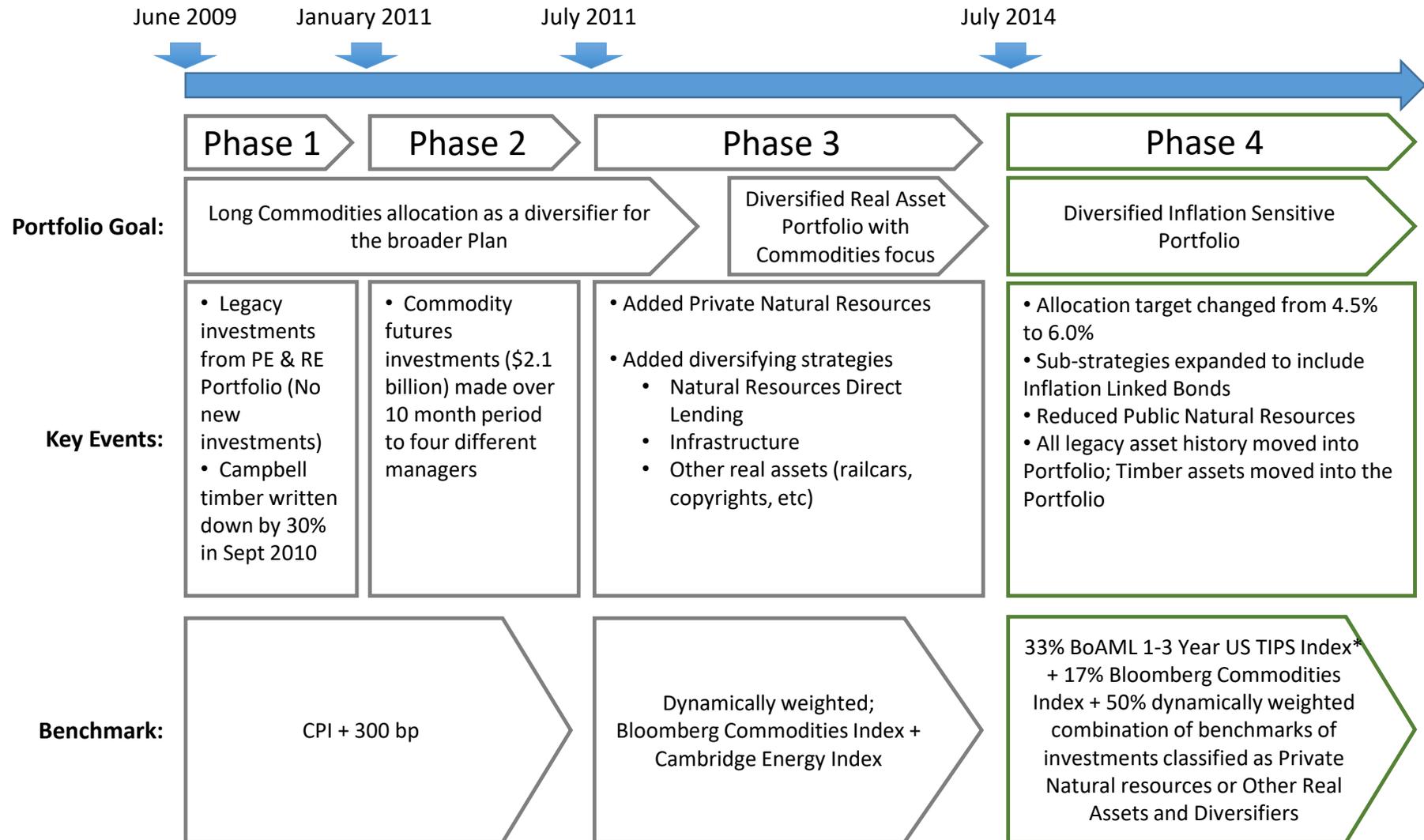
# CPI Composition

All Urban Consumers (CPI-U) U.S. Average





# Portfolio History



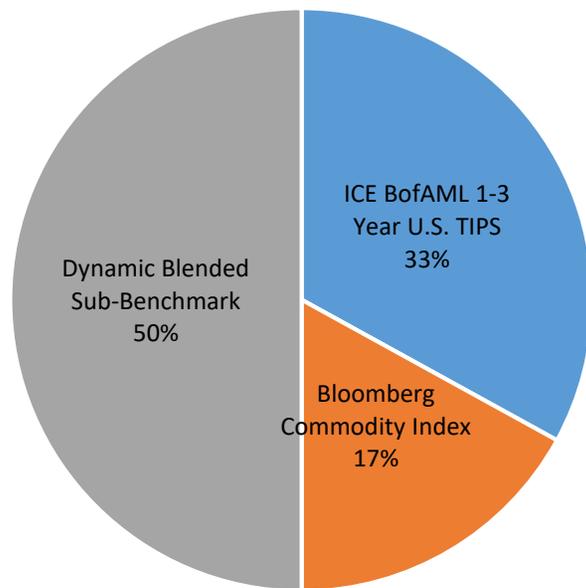
\*Source: BofA Merrill Lynch, used with permission; see disclaimer on page 23



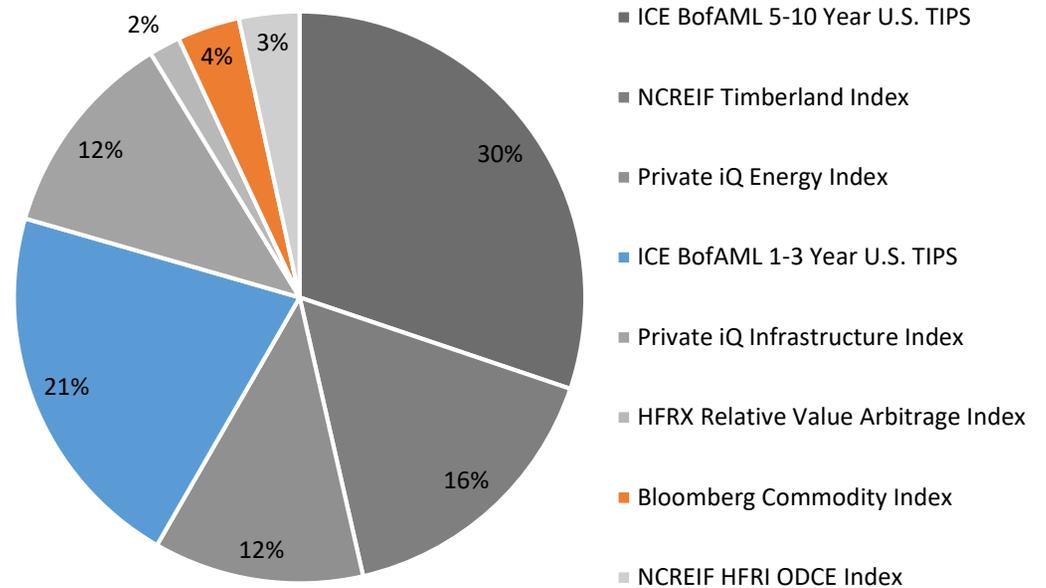
# Inflation Sensitive Benchmark Composition

## As of December 31, 2019

**Long-Term Target Benchmark**



**Current Benchmark Composition**



Note: See slide 25 for details on the composition of the Inflation Sensitive Benchmark



# Inflation Portfolio IRR by Vintage Year

## As of December 31, 2019

Vintage Year	Inflation-Linked Bonds	Publicly Traded Natural Resources	Private Natural Resources	Other Real Assets and Diversifiers	All
1993	-	-	9.38	-	<u>9.38</u>
2006	-	-	0.48	-	<u>0.48</u>
2007	-	-	-8.19	-	<u>-8.19</u>
2008	-	-	-5.89	-	<u>-5.89</u>
2010	-	-7.45	-28.71	-	<u>-9.52</u>
2011	-	-10.33	-0.68	4.67	<u>-6.40</u>
2012	-	-	6.71	8.04	<u>7.32</u>
2013	-	-	5.16	7.49	<u>6.91</u>
2014	-	-3.98	11.22	11.40	<u>9.47</u>
2015	1.26	-	8.31	11.55	<u>5.66</u>
2016	4.47	-	-	-	<u>4.47</u>
2017	-	-	7.96	-	<u>7.96</u>
2018	-	-	-	38.18	<u>38.18</u>
2019	-	-	-1.00	-	<u>-1.00</u>
All	<u>3.82</u>	<u>-8.51</u>	<u>1.70</u>	<u>8.91</u>	<u>1.32</u>



## Notes:

All data presented are based on currently available information at time of publication and may be revised subsequently.

The Inflation Sensitive Benchmark is the dynamically weighted combination of the ICE Bank of America Merrill Lynch 1-3 Years U.S. Inflation-Linked Treasury Index (Inflation-Linked Bonds)\*, the Bloomberg Commodities Index (Public Natural Resources), and a combination of the benchmarks of investments classified within Private Natural Resources or Other Real Assets and Diversifiers.

The Private Natural Resources Benchmark is the dynamically weighted combination of the benchmarks of investments classified within Private Natural Resources.

The Other Real Assets and Diversifiers Benchmark is the dynamically weighted combination of the benchmarks of investments classified within Other Real Assets and Diversifiers.

The Inflation Sensitive asset class (G.S. 147-69.2(b)(9a)) was created by the General Assembly in June 2009. It included some investments that were previously authorized under other provisions of G.S. 147-69.2.

\*Source: BofA Merrill Lynch, used with permission. See disclaimer on next page.



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