

January 28, 2021



# Investment Menu Review Part II

## Montana PERA DC Plans



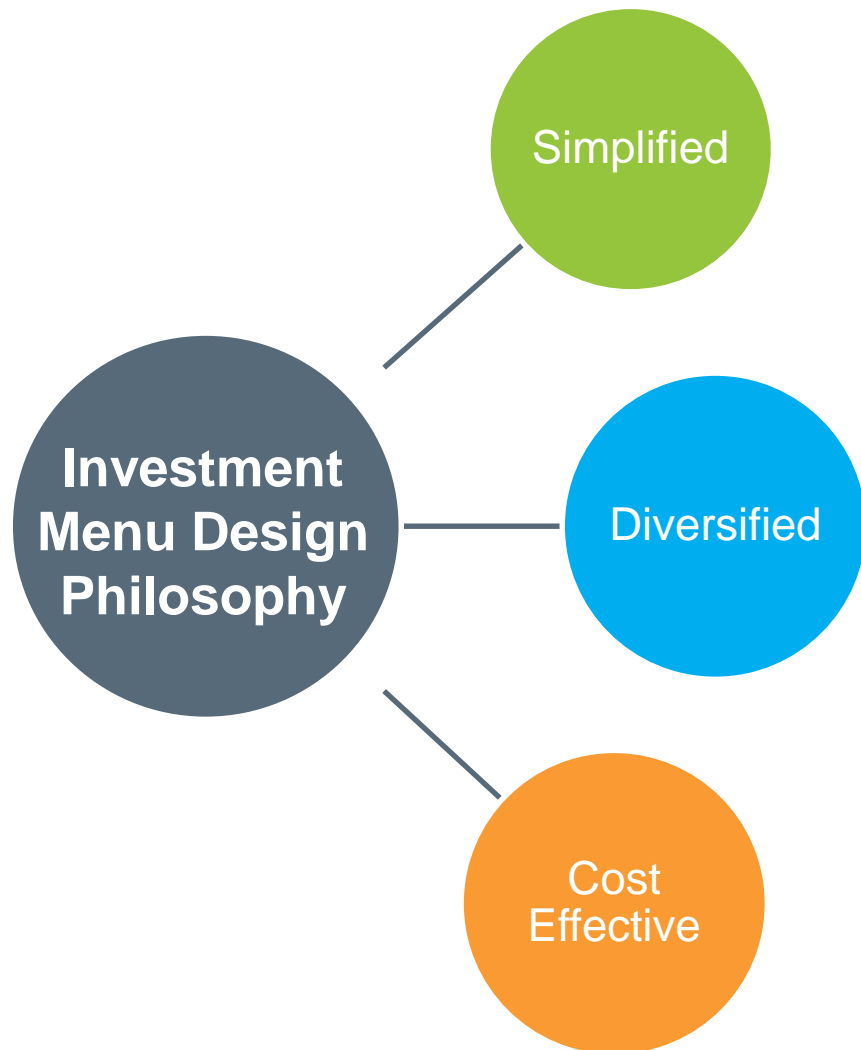
# Agenda

1. Investment Menu Design Recap
2. Potential Changes to Investment Menu
  - US Large Cap Equity Structure Review
  - US Small/Mid Cap Equity Structure Review
  - International Equity Structure Review
  - Fixed Income Structure Review
3. Appendix

# Background

- In October 2020, RVK provided the Employee Investment Advisory Council (EIAC) with investment menu design education and reviewed the MPERA DC and 457(b) Plans' investment menu utilization trends.
- Today's presentation covers:
  - ✓ Highlights from the investment menu design education discussion
  - ✓ Investment menu structures for the Committee's consideration
  - ✓ Supplemental analyses regarding potential fund changes

# Investment Menu Design Trends



- Too many choices can create “choice overload” which can lead to procrastination and poor decision making.
- Behavioral research studies have shown that participants may feel overwhelmed by too many investment choices, potentially hindering their ability or inclination to engage with the plan.<sup>1</sup>

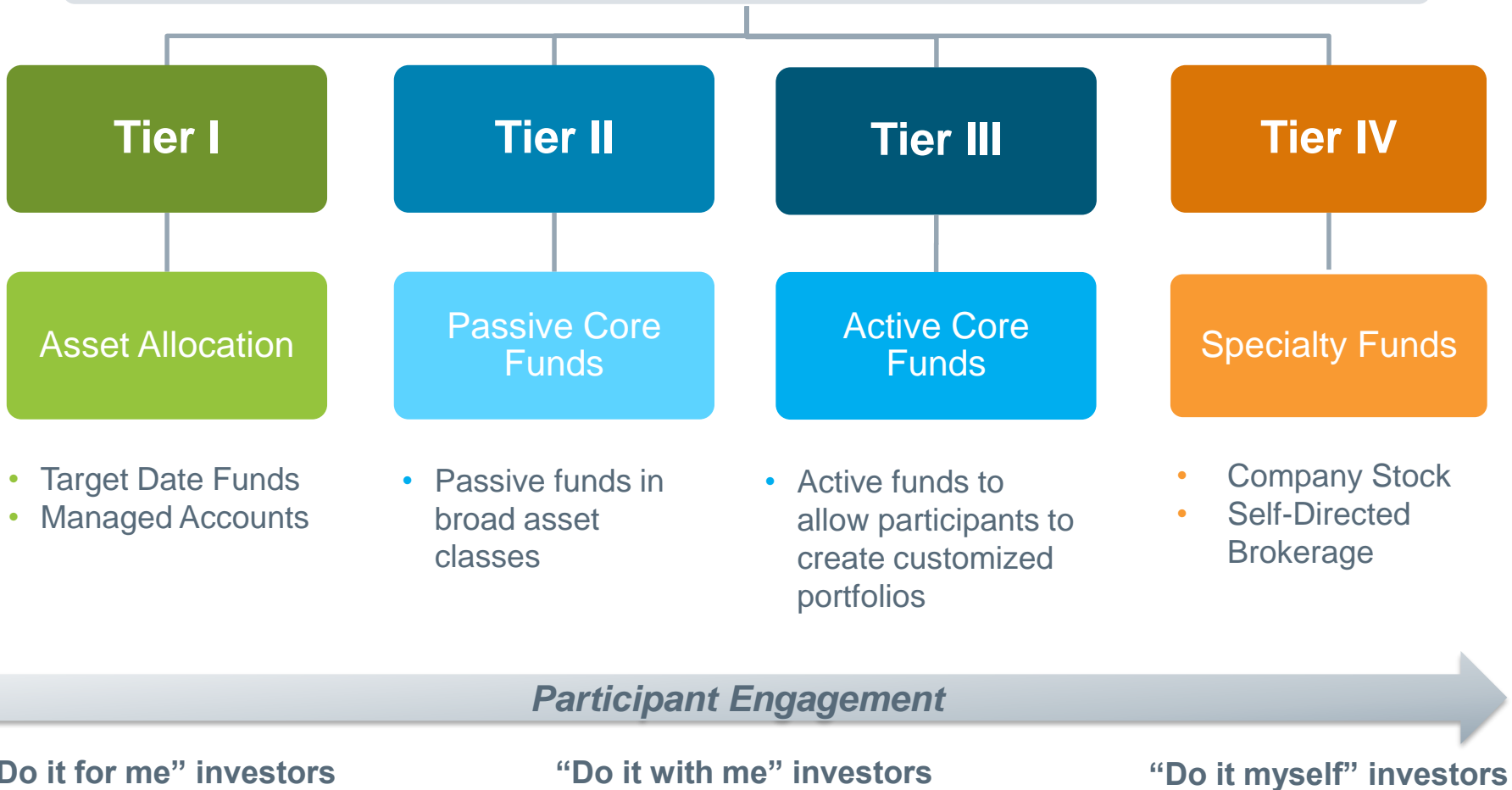
- Broad asset class exposures allow participants to focus more on asset allocation and less on sub-asset class structure or manager decisions.
- Mix of active and passive investment options.
- Additional diversifiers that provide exposure beyond equities and fixed income.

- Controlling investment fees plays an important factor in helping participants create successful outcomes.

<sup>1</sup>Schlomo Benartzi and Richard H. Thaler, “Naïve Diversification Strategies in Defined Contribution Saving Plans,” The American Economic Review: Vol. 91 No. 1, March 2001.

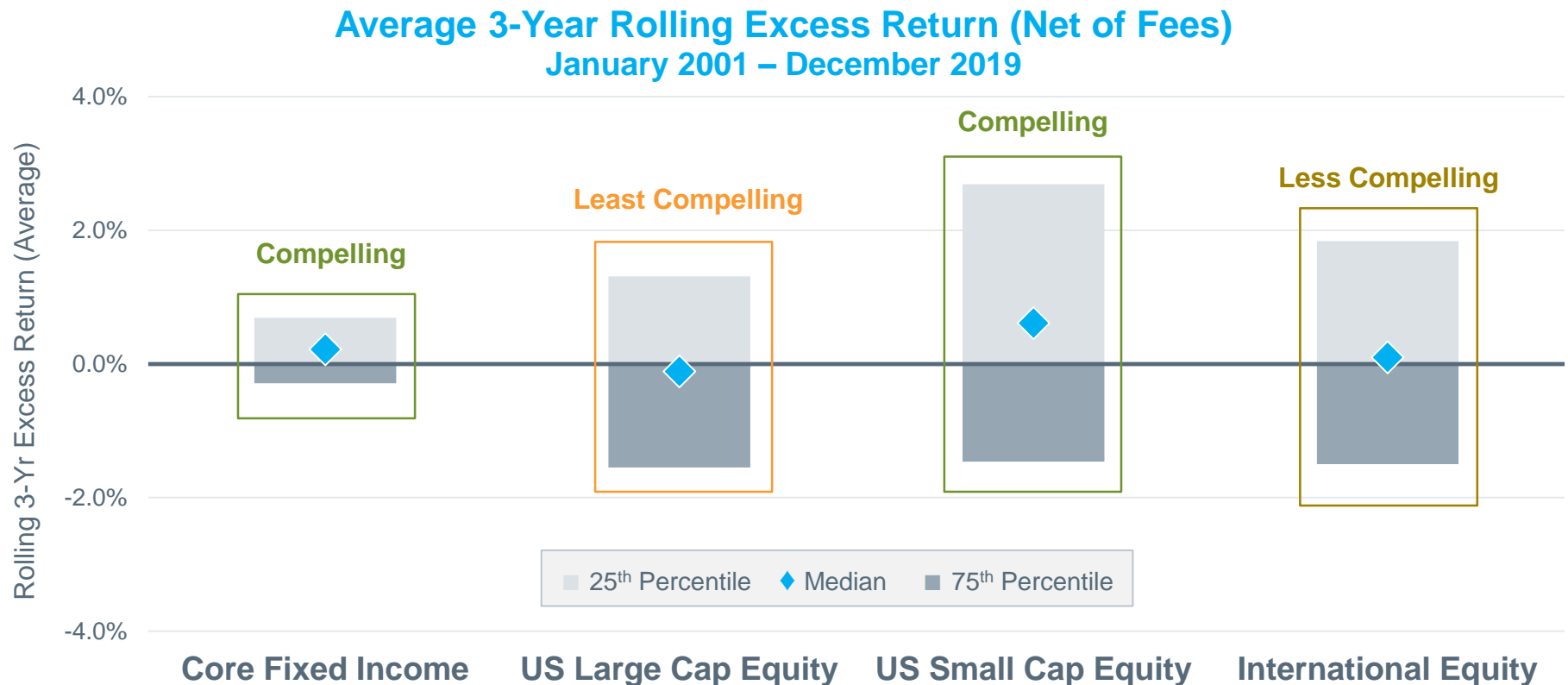
# Investment Menu Design Best Practices

With the goal of offering a solution for all investor types, RVK recommends structuring investment menus into different tiers.



# Active vs. Passive Management

- The active/passive decision depends substantially upon the asset class being considered and the historical efficacy of active management strategies.
- Active management should be implemented in markets where management fees can justify an acceptable level of potential excess return or reduced risk.

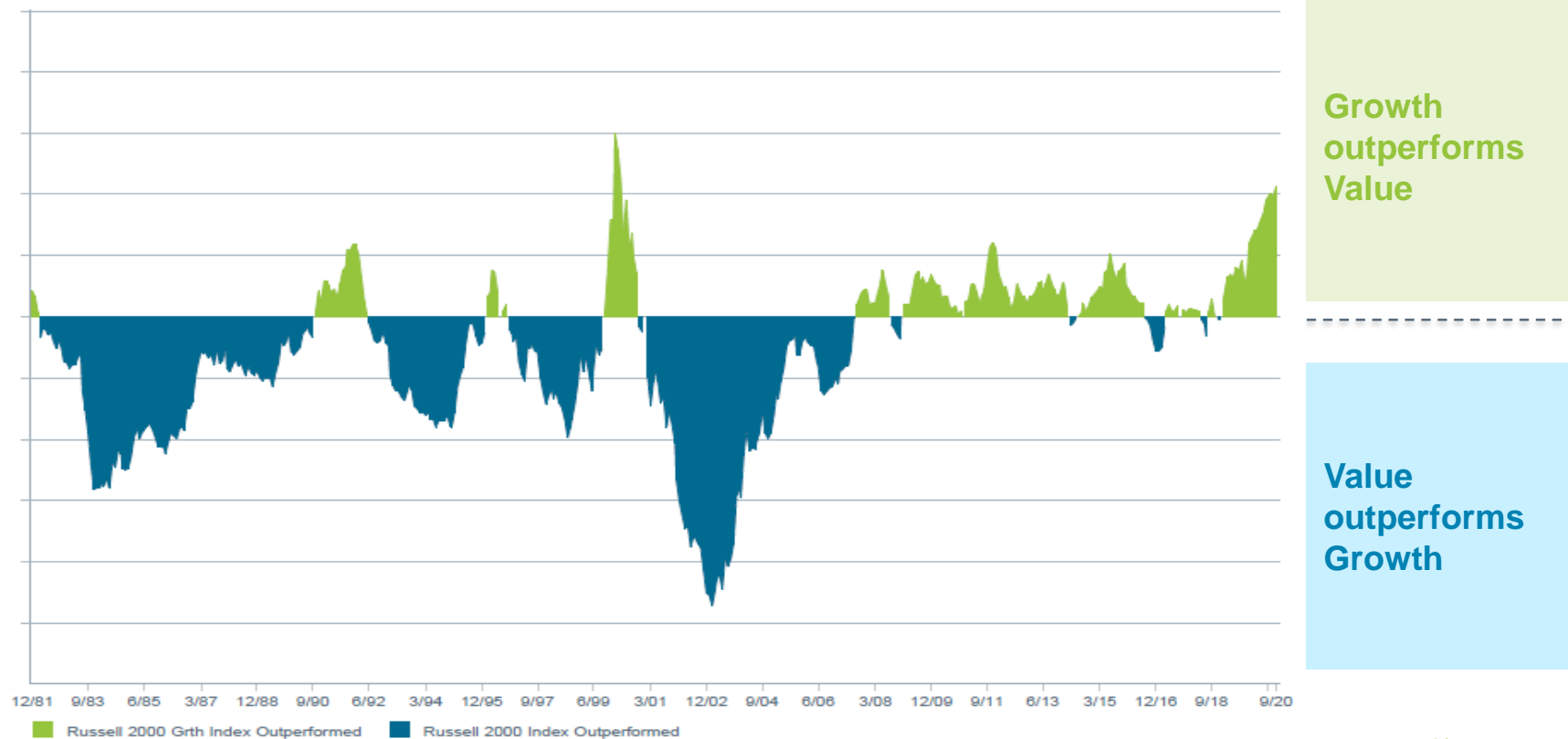


Excess return is calculated versus universe-specific benchmark. January 2001 represents the start of the first 3-year period. Performance shown represents rolling 3-year performance at each quartile, and does not correspond to the long-term experience of any specific manager. Peer group constituents and managers' rankings change over time.

# Why Investment Style Matters

- Investment styles (i.e. value and growth) exhibit cyclical periods of performance.
- There are investment managers that focus on growth, value or both areas of the market (core). There are also investment managers that are considered “core” but tend to tilt towards value or growth.
- Investing in an equity mutual fund with both value and growth styles can be helpful in adapting to changing market conditions and avoiding unintended style biases. However, sometimes selecting a mutual fund with a certain style bias is the most optimal solution.

**Rolling 1-Year Excess Returns**  
From December 13, 1981 To September 30, 2020



# 457 Investment Menu

	Tier I	Tier II	Tier III
	Target Date Funds	Passively Managed Options	Actively Managed Options
	T Rowe Price*		
Global Equity			American Funds Nper;R6 (RNPGX)
US Large Cap Equity	✓	Vanguard Instl Indx;Inst (VINIX)	Vanguard Equity Inc;Adm (VEIRX) Parnassus:Core Eqty;Inst (PRILX) Fidelity Contrafund K6 (FLCNX)
US Mid Cap Equity	✓	Vanguard Md-Cp I;Adm (VIMAX)	MFS Mid Cap Value;R6 (MVCKX) Jns Hndsn:Enterprise;N (JDMNX)
US Small Cap Equity	✓	Vanguard S-C Id;Inst (VSCIX) Vanguard SC G Id;Ins (VSGIX)	Neuberger Genesis;R6 (NRGSX)
Broad International Equity	✓	Vanguard Tot I S;Adm (VTIAX)	Dodge & Cox Intl Stock (DODFX) Artisan:Internatl;Inv (ARTIX)
Emerging Markets Equity	✓		Invsc Oppen Dev Mkt;Y (ODVYX)
Core Plus Fixed Income	✓		PGIM Tot Rtn Bond;R6 (PTRQX)
Core Fixed Income		Vanguard Tot Bd;Adm (VBTLX)	
High Yield	✓		Neuberger Hi Inc B;Inst (NHILX)
Real Return / TIPS	✓		
Balanced	Vanguard Bal Idx;Inst (VBAIX)		
Stable Value			State of Montana Stable Value (SA)

\*T Rowe Price Retirement is offered in five-year vintages from the 2005 fund to the 2060 fund, in addition to an Income fund for those at or in retirement.



# DC Investment Menu

	Tier I	Tier II	Tier III
	Target Date Funds	Passively Managed Options	Actively Managed Options
	T Rowe Price*		
Global Equity			American Funds Nper;R6 (RNPGX)
US Large Cap Equity	✓	BlackRock Eq Idx F L (CF)	Vanguard Equity Inc;Adm (VEIRX) JPMorgan:US Eq;R6 (JUEMX) Alger:Capital Apprec;Z (ACAZX)
US Mid Cap Equity	✓	Vanguard Md-Cp I;Adm (VIMAX)	MFS Mid Cap Value;R6 (MVCKX) Jns Hndsn:Enterprise;N (JDMNX)
US Small Cap Equity	✓	Vanguard S-C Id;Inst (VSCIIX) Vanguard SC G Id;Ins (VSGIX)	BlackRock Advantage SCC (BDSKX)
Broad International Equity	✓	Vanguard Tot I S;Adm (VTIAX)	Oakmark Internatl;Inv (OAKIX)
Emerging Markets Equity	✓		Invsc Oppen Dev Mkt;Y (ODVYX)
Core Plus Fixed Income	✓		PGIM Tot Rtn Bond;R6 (PTRQX)
Core Fixed Income		Vanguard Tot Bd;Adm (VBTLX)	
High Yield	✓		Neuberger Hi Inc B;Inst (NHILX)
Real Return / TIPS	✓		
Balanced	Vanguard Bal Idx;Inst (VBAIX)		
Stable Value			State of Montana Stable Value (SA)

\*T Rowe Price Retirement is offered in five-year vintages from the 2005 fund to the 2060 fund, in addition to an Income fund for those at or in retirement.

# Participant Investment Fund Utilization Findings

- On average, participants who invest in funds that fall within Tiers II and III, **hold an average of three funds.**
- Very few participants (<3%) allocate to both US large cap and small cap funds
- Less than 10% of participants allocate to both US large cap value and growth funds – most select a single style
- Few participants (<5%) allocate to both US mid cap value and growth funds – most select a single style
- Balanced fund utilization is more common in the DC plan than the 457 plan – driving a more conservative equity allocation for younger participants than the target date fund investors

# Investment Menu Structure Framework

RVK believes that the MPERA should strive to offer an investment menu with:

✓ Multiple tiers for different types of investors

- Tier I - “Do it for me”
- Tier II - “Do it with me”
- Tier III - “Do it myself”

→ “Do it with me” → The Core Investment Menu

- ✓ Investment options designed to create asset allocation strategies
- ✓ Broad coverage of the US and international equity, and bond markets
- ✓ Active and passively managed investment options
- ✓ Simple and easy to use / understand investment options
- ✓ Cost efficient and reasonably priced investment options

In addition, RVK looked to reduce differences between the 457 and DC plans.

# Key Differences between the 457 and DC Plans

Tier II	Tier III	Observations
<b>Passively Managed Options</b>	<b>Actively Managed Options</b>	
BlackRock Eq Idx F L (CF) Vanguard Instl Indx;Inst (VINIX)	JPMorgan:US Eq;R6 (JUEMX) Parnassus:Core Eqty;Inst (PRILX) Fidelity Contrafund K6 (FLCNX) Alger:Capital Apprec;Z (ACAZX)	<ul style="list-style-type: none"> <li>• Same S&amp;P 500 strategy but different managers</li> <li>• Different large cap core and growth strategies and managers</li> </ul>
	Neuberger Genesis;R6 (NRGSX) BlackRock Advantage SCC (BDSKX)	<ul style="list-style-type: none"> <li>• Neuberger is a Small/Mid cap strategy, which overlaps with the mid cap options</li> <li>• BlackRock is a Small cap strategy</li> </ul>
	Oakmark Internatl;Inv (OAKIX) Dodge & Cox Intl Stock (DODFX) Artisan:Internatl;Inv (ARTIX)	<ul style="list-style-type: none"> <li>• Oakmark focuses primarily in developed markets (limited emerging markets)</li> <li>• Dodge &amp; Cox and Artisan are broad international equity strategies with value and growth tilts</li> </ul>

## **RVK recommends aligning the investment menus of the DC and 457 plans.**

### Same Investment Menu Considerations

1. Common to offer the same investment menu across different DC plan types
2. Leverage economies of scale, greater ability to reduce investment management fees over time
3. Asset allocation is the biggest driver of returns; offering a sufficient number of funds to build a diversified strategy is most important
4. Fewer funds to maintain fiduciary oversight
5. Potential to reduce participant confusion and streamline decision making

### Different Investment Menu Considerations

1. Potential for removal of more popular funds

# Investment Management Fees

- There is an opportunity to achieve better pricing by moving to and consolidating the passively managed funds with BlackRock, resulting in an estimated annual savings of \$21,100.
- BlackRock is a highly rated passive investment manager by RVK.
- BlackRock has proposed using their Collective Trust Funds (similar to the current BlackRock Equity Index Fund) that participate in securities lending.
- The proposed funds are gross-of-fee funds, meaning that the recordkeeper would be responsible for accruing the investment management fee in the NAV and providing a custom fund fact sheet. Empower charges a \$2,875 fee per fund/year. The analysis below incorporates this additional fee.

Current Funds	Current Exp. Ratio	Passive BlackRock Funds	Participants	Market Value	Exp. Ratio
BlackRock Equity Index Fund (CIT)	0.02%	BlackRock Equity Index Fund (CIT)	2,562	18%	\$50.8 M 5%
Vanguard Instl Indx;Inst (VINIX)	0.04%				
Vanguard Md-Cp I;Adm (VIMAX)	0.05%	BlackRock Extended Equity Market Fund	3,481	24%	\$50.6 M 5%
Vanguard SC G Id;Ins (VSGIX)	0.06%				
Vanguard S-C Id;Inst (VSCIX)	0.04%				
Vanguard Tot I S;Adm (VTIAX)	0.11%	BlackRock MSCI ACWI ex-US IMI Fund	321	2%	\$3.6 M 0%
Vanguard Tot Bd;Adm (VBTLX)	0.05%	BlackRock US Debt Index Fund	229	2%	\$3.7 M 0%
<b>Potential Fee Savings</b>					<b>\$21,107</b>

\*BlackRock considered the broader relationship with Montana State in pricing the funds. Expense ratio includes additional unitization costs. Unitized costs are spread across the 4 funds on an asset-weighted basis. \$2,875 includes the cost of a custom fact sheet.

# Investment Management Fees

- There are several funds where a lower fee share class or vehicle may be available.
- Some share class changes may not provide total fee savings given the current revenue sharing reimbursement. However:
  - Participants who leave the funds before the quarterly reimbursement is paid do not receive the full fee reduction
  - Participants who invest in the fund right before the quarterly reimbursement will receive a reimbursement
  - Understanding there is a fee reimbursement may be confusing to participants

Investment Option	Current Option			Available Lower Share Class				Difference		Estimated Annual Fee Savings	
	Total Expense Ratio	Rev. Sharing	Invest Manager Fee	Lower Share Class	Total Expense Ratio	Rev. Sharing	Invest Manager Fee	Total Expense Ratio	Invest Manager Fee	Invest Manager Fee Savings (\$)	Fee Savings / Participant (\$)
Alger:Capital Apprec;Z (ACAZX)*	0.87%	0.00%	0.87%	CIT	0.65%	0.00%	0.65%	0.22%	0.22%	57,240	92.92
PGIM Tot Rtn Bond;R6 (PTRQX)	0.39%	0.00%	0.39%	Core Plus CIT	0.27%	0.00%	0.27%	0.12%	0.12%	17,460	8.96
Fidelity Contrafund K6 (FLCNX)	0.45%	0.00%	0.45%	Class 1 CIT	0.43%	0.00%	0.43%	0.02%	0.02%	12,000	4.65
Neuberger Hi Inc B;Inst (NHILX)	0.70%	0.10%	0.60%	NRHIX	0.60%	0.00%	0.60%	0.10%	0.00%	-	-
Oakmark Internatl;Inv (OAKIX)	1.04%	0.25%	0.79%	CIT	0.75%	0.00%	0.75%	0.29%	-0.04%	(1,851)	(6.25)
Invsc Oppen Dev Mkt;Y (ODVYX)	1.00%	0.25%	0.75%	ODVIX	0.83%	0.00%	0.83%	0.17%	-0.08%	(2,726)	(7.68)
Artisan:Internatl;Inv (ARTIX)	1.19%	0.35%	0.84%	APHIX	0.97%	0.00%	0.97%	0.22%	-0.13%	(3,010)	(7.68)
<b>Total:</b>										<b>82,816</b>	<b>11.93</b>

\*If large cap growth assets were consolidated to a minimum of \$50 million, this would result in a fee reduction from 0.87% to 0.55%.

# Investment Menu Options

## Current Structure – 26 “Core” Options

A: Active management  
P: Passive management  
**Red:** Negative or Style Bias (e.g. growth, value)  
**Green:** Positive or Style Neutral/Blend  
**Orange:** Neutral

Type	Fund Name	Plan	Duplicate Exposure	Asset Allocation "Building Block"	Style Bias	Broad Asset Class Coverage	Management Style	Simple / Easier to Understand	Cost Efficient / Reasonable
<b>Global Equity</b>	American Funds Nper;R6 (RNPGX)	Both	Y	Y/N	Global	Y	A	Y	Y
<b>U.S. Equity</b>	Vanguard Equity Inc;Adm (VEIRX)	Both	N	Y	Value	N*	A	Y	Y
	JPMorgan:US Eq;R6 (JUEMX)	DC	Y	Y	Core	Y	A	Y	Y
	Parnassus:Core Eqy;Inst (PRILX)	457	Y	Y	Core	Y	A	Y	Y
	BlackRock Eq Idx F L (CF)	DC	Y	Y	Core	Y	P	Y	Y
	Vanguard Instl Indx;Inst (VINIX)	457	Y	Y	Core	Y	P	Y	Y
	Alger:Capital Apprec;Z (ACAZX)	DC	Y	Y	Growth	N*	A	Y	N
	Fidelity Contrafund K6 (FLCNX)	457	Y	Y	Growth	N*	A	Y	Y
	Vanguard Md-Cp I;Adm (VIMAX)	Both	N	Y	Core	Y	P	Y	Y
	MFS Mid Cap Value;R6 (MVCKX)	Both	N	Y	Value	N*	A	Y	Y
	Jns Hdsn:Enterprise;N (JDMNX)	Both	N	Y	Growth	N*	A	Y	Y
	Neuberger Genesis;R6 (NRGSX)	457	Y	Y	Core	Y	A	Y	Y
	Vanguard S-C Id;Inst (VSCIX)	Both	N	Y	Core	Y	P	Y	Y
	Vanguard SC G Id;Ins (VSGIX)	Both	Y	N	Growth	N	P	Y	Y
	BlackRock Adv SCC (BDSKX)	DC	N	Y	Core	Y	A	Y	Y
	<b>Non-U.S. Equity</b>	Dodge & Cox Intl Stock (DODFX)	457	N	Y	Value	N*	A	Y
Vanguard Tot I S;Adm (VTIAX)	Both	N	Y	Core	Y	P	Y	Y	
Oakmark Internat;Inv (OAKIX)	DC	Y/N	N	Core	N*	A	Y/N	N	
Artisan:Internat;Inv (ARTIX)	457	N	Y	Growth	Y	A	Y	N	
Invsc Oppen Dev Mkt;Y (ODVYX)	Both	Y	N	Core	N	A	Y/N	Y	
<b>Fixed Income</b>	Vanguard Tot Bd;Adm (VBTLX)	Both	N	Y	Core	Y	P	Y	Y
PGIM Tot Rtn Bond; R6 (PTRQX)	Both	N	Y	Core	Y	A	Y	Y	
Neuberger Hi Inc B;Inst (NHILX)	Both	N	N	Core	Y	A	N	Y	
<b>Balanced</b>	Vanguard Bal Idx;Inst (VBAIX)	Both	Y	N	Core	N	P	Y	Y
T Rowe Price Ret Bal Trust F (CF)	Both	Y	N	Core	N	A	Y	Y	
<b>Capital Preservation</b>	State of Montana Stable Value (SA)	Both	N	Y	Core	Y	A	Y	Y

\* When the value and growth funds are combined, it creates broad asset class coverage.

# Summary of Potential Changes

## Active Options

Type	Fund Name	RVK Research Rating	MPERA Review Status	Potential Action	Replace / Map assets to:
U.S. Equity	Fidelity Contrafund K6 (FLCNX)	Neutral		Remove	Alger Capital Appreciation (CIT)
	Alger:Capital Apprec;Z (ACAZX)	Neutral		Lower Fee	Alger Capital Appreciation (CIT)
	JPMorgan:US Eq;R6 (JUEMX)	Neutral		Remove	BlackRock Equity Index (CIT)
	Parnassus:Core Eq;Inst (PRILX)	Positive		Remove	BlackRock Equity Index (CIT)
	Neuberger Genesis;R6 (NRGSX)	Neutral		Remove	BlackRock Small Cap (BDSKX)
International Equity	Artisan:International;Inv (ARTIX)	Positive		Lower Fee	Artisan:International;Inst (APHIX)
	Oakmark Internatl;Inv (OAKIX)	Neutral	Review	Remove	Dodge & Cox Intl Stock (DODFX) / Artisan:International;Inst (APHIX)
	Invsc Oppen Dev Mkt;Y (ODVYX)	Negative	Probation	Remove	Dodge & Cox Intl Stock (DODFX) / Artisan:International;Inst (APHIX)
Fixed Income	PGIM Tot Rtn Bond;R6 (PTRQX)	Positive		Lower Fee	PGIM Tot Rtn Bond (CIT)
	Neuberger Hi Inc B;Inst (NHILX)	On Watch	Review	Remove	PGIM Tot Rtn Bond (CIT)

**Red:** Remove as an investment option  
**Blue:** Adjust Structure of current options



# Summary of Potential Changes

## Passive Options

Type	Fund Name	Potential Action	Replace / Map assets to:
U.S. Equity	Vanguard Instl Indx;Inst (VINIX)	Lower Fee	BlackRock Equity Index CIT
	Vanguard Md-Cp I;Adm (VIMAX)	Remove	BlackRock Extended Equity Market Index CIT
	Vanguard S-C Id;Inst (VSCIX)	Remove	BlackRock Extended Equity Market Index CIT
	Vanguard SC G Id;Ins (VSGIX)	Remove	BlackRock Extended Equity Market Index CIT
International Equity	Vanguard Tot I S;Adm (VTIAX)	Lower Fee	BlackRock MSCI ACW ex US IM Index CIT
Fixed Income	Vanguard Tot Bd;Adm (VBTLX)	Lower Fee	BlackRock US Debt Index CIT
Balanced	Vanguard Bal Idx;Inst (VBAIX)	Remove	T Rowe Price Retirement Target Date Funds (CIT)

- Vanguard and BlackRock are both positively rated managers by RVK. None of the strategies are under review by MPERA.

**Red:** Remove as an investment option  
**Blue:** Adjust Structure of current options

# Potential Investment Menu – DC & 457 Plan

	Tier I	Tier II	Tier III
	Target Date Funds	Passively Managed Options	Actively Managed Options
	T Rowe Price*		
Global Equity			American Funds Nper;R6 (RNPGX)
US Large Cap Equity	✓	BlackRock Equity Index CIT	Vanguard Equity Inc;Adm (VEIRX) Alger:Capital Apprec;Z (ACAZX)
US Mid Cap Equity	✓	BlackRock Extended Market Index CIT	MFS Mid Cap Value;R6 (MVCKX) Jns Hndsn:Enterprise;N (JDMNX)
US Small Cap Equity	✓		BlackRock Advantage SCC (BDSKX)
Broad International Equity	✓	BlackRock MSCI ACW ex US IM Index CIT	Dodge & Cox Intl Stock (DODFX) Artisan:Internatl;Inv (ARTIX)
Emerging Markets Equity	✓		
Core Plus Fixed Income	✓		PGIM Tot Rtn Bond;R6 (PTRQX)
Core Fixed Income		BlackRock US Debt Index CIT	
High Yield	✓		
Real Return / TIPS	✓		
Stable Value			State of Montana Stable Value (SA)

\*T Rowe Price Retirement is offered in five-year vintages from the 2005 fund to the 2060 fund, in addition to an Income fund for those at or in retirement.

# Investment Menu Alternative

A: Active management  
P: Passive management  
**Red:** Negative or Style Bias (e.g. growth, value)  
**Green:** Positive or Style Neutral/Blend  
**Orange:** Neutral

## Potential Investment Menu

Type	Fund Name	Plan	Asset Allocation "Building Block"	Style Bias	Broad Asset Class Coverage	Management Style	Simple / Easier to Understand	Cost Efficient / Reasonable
Global Equity	American Funds Nper;R6 (RNPGX)	Both	Y/N	Core	Y	A	Y	Y
U.S. Equity	BlackRock Equity Index (CIT)	Both	Y	Core	Y	P	Y	Y
	Alger:Capital Apprec (CIT)	Both	Y	Growth	N*	A	Y	Y
	Vanguard Equity Inc;Adm (VEIRX)	Both	Y	Value	N*	A	Y	Y
	Jns Hndsn:Enterprise;N (JDMNX)	Both	Y	Growth	N*	A	Y	Y
	MFS Mid Cap Value;R6 (MVCKX)	Both	Y	Value	N*	A	Y	Y
	BlackRock Extended Equity Market (CIT)	Both	Y	Core	Y	P	Y	Y
	BlackRock Small Cap (BDSKX)	Both	Y	Core	Y	A	Y	Y
Non-U.S. Equity	BlackRock MSCI ACWI ex-US IMI (CIT)	Both	Y	Core	Y	P	Y	Y
	Artisan:Internatl:Inst (APHIX)	Both	Y	Growth	N*	A	Y	Y
	Dodge & Cox Intl Stock (DODFX)	Both	Y	Value	N*	A	Y	Y
Fixed Income	BlackRock US Debt Index (CIT)	Both	Y	Core	Y	P	Y	Y
	PGIM Tot Rtn Bond;CI 1 (CIT)	Both	Y	Core	Y	A	Y	Y
Balanced	T Rowe Price Ret Bal Trust F (CF)	Both	N	Core	Y	A	Y	Y
Capital Preservation	State of Montana Stable Value (SA)	Both	Y	Core	Y	A	Y	Y

\* When the value and growth funds are combined, it creates broad asset class coverage.

# Large Cap Equity



# Active Large Cap Equity

Montana PERA currently offers five active US large cap equity funds across the DC and 457 Plans:

Fund	Strategy	Plan	Performance	Fee Percentile Rank	Research Rating
Vanguard Equity Inc;Adm (VEIRX)	Large Cap Value	Both	Positive	6	Positive
JPMorgan:US Eq;R6 (JUEMX)	Large Cap Core	DC	Positive	16	Neutral
Parnassus:Core Eqty;Inst (PRILX)	Large Cap Core	457(b)	Positive	40	Positive
Alger:Capital Apprec;Z (ACAZX)	Large Cap Growth	DC	Positive	13*	Neutral
Fidelity Contrafund K6 (FLCNX)	Large Cap Growth	457(b)	Negative	10	Neutral

**Potential for Enhancement:** The DC & 457(b) Plans offer active large cap core funds, which overlap with the large cap value and growth funds. Passive large cap core (S&P 500 Index) has generally been more successful at delivering consistent performance than active large cap core funds over time. Should the Committee want to maintain an active large cap core option, we would recommend consolidating down to one manager – Parnassus Core Equity.

An alternative approach would be to remove the large cap value and growth funds and offer a passive and active large cap core option.

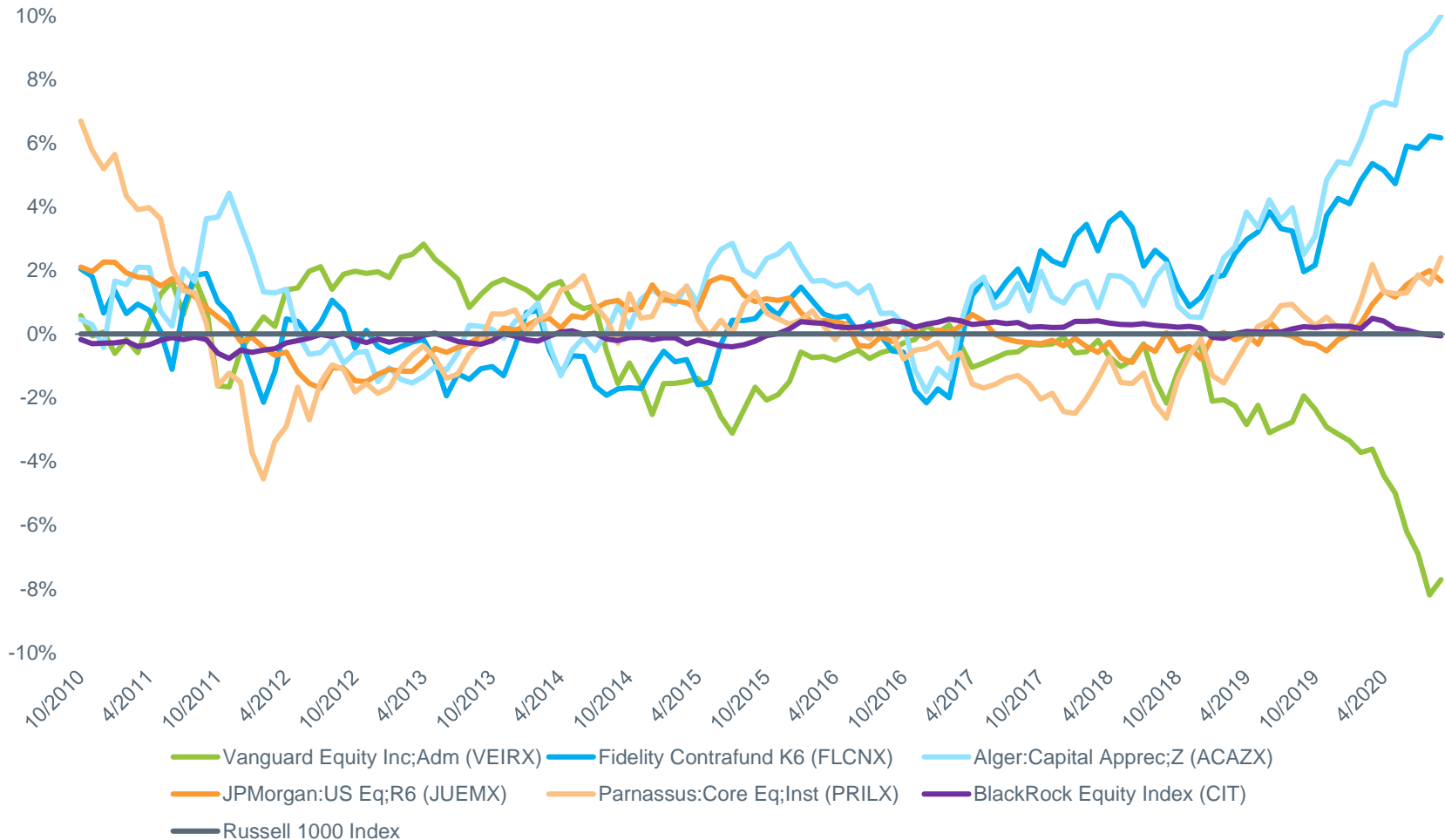
Performance is based off of 3 & 5 year outperformance of the benchmark.

\* Lowest available share class available to Montana PERA.

# Large Cap Excess Returns

Vanguard Equity Income and Alger Capital Appreciation move opposite of each other.

**3 Year Excess Rolling Return (%)**  
Russell 1000 Index

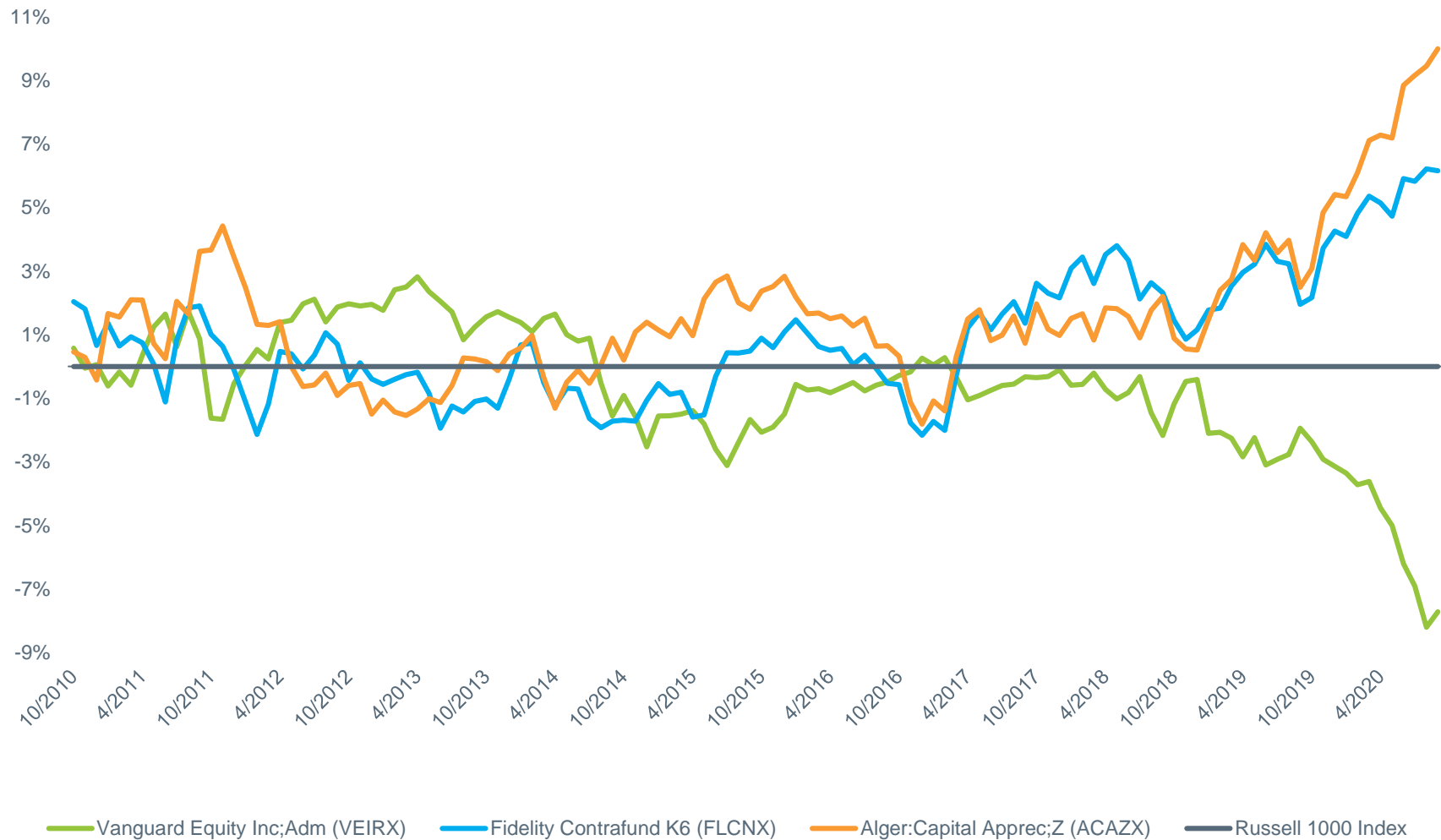


Returns calculated net of fees ended 9/30/2020.

# Large Cap Excess Returns

Core managers would offered more consistent excess returns over time.

3 Year Excess Rolling Return (%)  
Russell 1000 Index

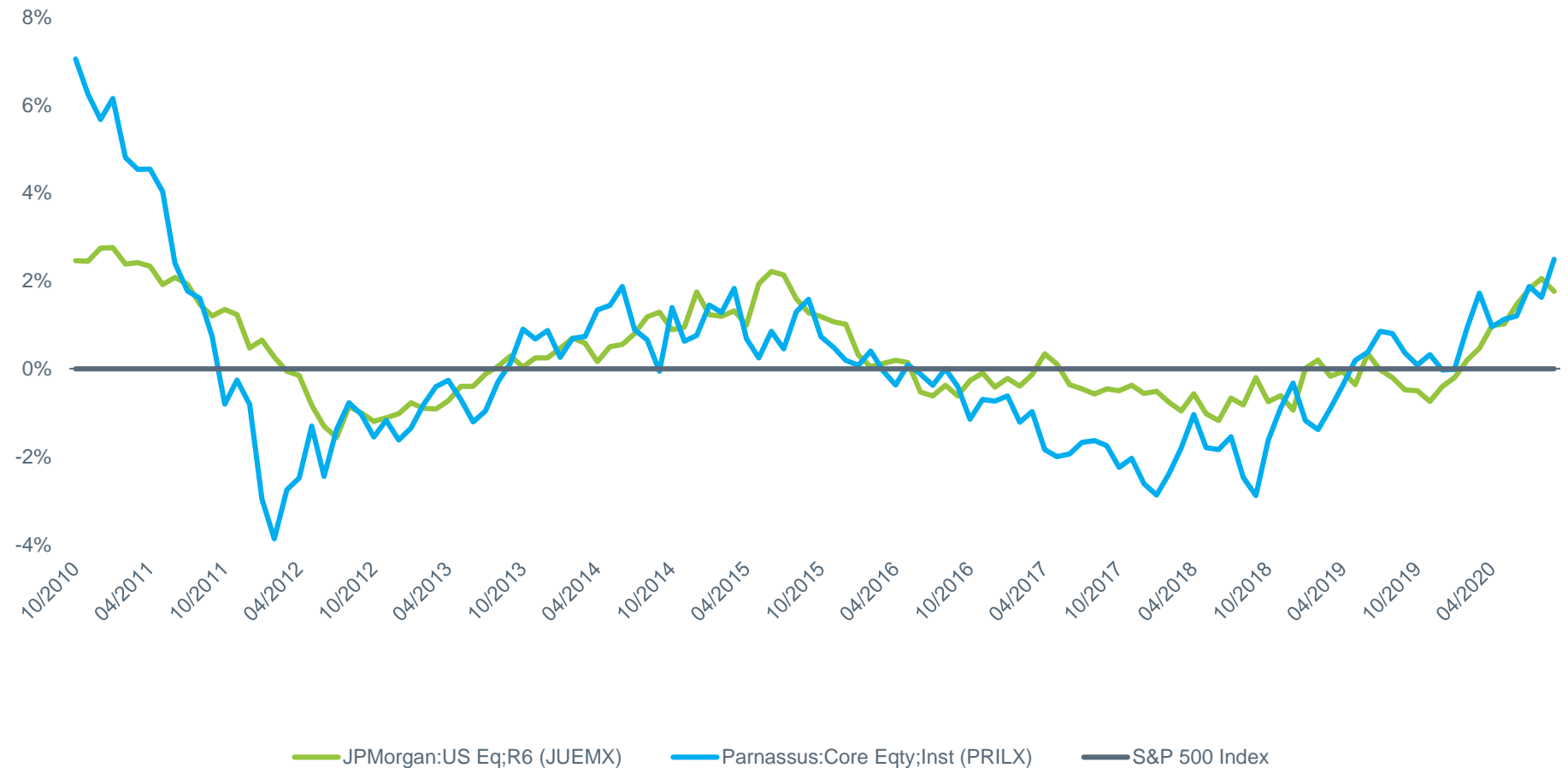


Returns calculated net of fees ended 9/30/2020.

# Large Cap Excess Returns

Large cap core equity is a difficult space for active managers to outperform.

3 Year Excess Rolling Return (%)  
S&P 500 Index



Returns calculated net of fees ended 9/30/2020.



# Active US Large Cap Equity Fees

**Fees:** All funds are currently competitively priced for US Large Cap strategies.

Investment Strategy	Expense Ratio (%)	Median Fund Expense Ratio (%)
Vanguard Equity Inc;Adm (VEIRX)	0.18	0.68
JPMorgan:US Eq;R6 (JUEMX)	0.44	0.68
Parnassus:Core Eqty;Inst (PRILX)	0.63	0.68
Alger:Capital Apprec;Z (ACAZX)	0.55*	0.75
Fidelity Contrafund K6 (FLCNX)	0.43**	0.75

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

\* If large cap assets were consolidated to a minimum of \$50 million, this would result in a fee reduction for Alger Capital Appreciation strategy from 0.85% to 0.55%. Median Fund Fees are reflective of the applicable investment strategy peer groups.

\*\* Lowest available share class available to Montana PERA.

# US Active Large Cap Equity

## Alger: Capital Appreciation

**Investment Strategy:** Alger's Capital Appreciation strategy utilizes the firm-wide aggressive-growth approach. The strategy has improved under lead manager Patrick Kelly, who joined in 2004. Through a fundamental bottom-up approach, Kelly and the team look for companies primed to grow in one of two stages; high unit volume growth and positive life cycle change. Kelly picks analyst recommended stocks that he believes have the most potential upside relative to price targets and will deviate significantly from the index. Over the years the fund has held fewer names and seen a great allocation to large-caps as they see smaller firms struggle to keep up with well resourced larger firms. The allocation to the top 10 holdings is currently about 50%. Historically high analyst turnover. Strategy has done better than others at the firm, largely due to the strength of the lead PM, Patrick Kelly. The firm has built out more dedicated resources for Patrick Kelly.

Product Snapshot	
<b>Style:</b>	US Large Cap Growth
<b>Benchmark:</b>	Russell 1000 Growth Index
<b>Fee:</b>	0.55% on assets*
<b>Active Share:</b>	52.39

### Comments:

- **RVK Rating: Neutral**
- Alger has a done good job of building out a dedicated team around Patrick Kelly, Portfolio Manager for the Capital Appreciation strategy. He's the best PM they have at the firm.
- Funds may experience fluctuations due to growth cycles.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Alger:Capital Apprec;Z (ACAZX) - 401(a)	13.71	29.52	43.44	22.37	19.80	17.39	17.24	33.62	-0.66	31.69	0.66	6.56
Russell 1000 Grth Index	13.22	24.33	37.53	21.67	20.10	17.39	17.25	36.39	-1.51	30.21	7.08	5.67
Difference	0.49	5.19	5.91	0.70	-0.30	0.00	-0.01	-2.77	0.85	1.48	-6.42	0.89
IM U.S. Large Cap Growth Equity (MF) Median	11.51	22.78	34.55	20.65	18.51	15.95	15.83	33.38	-0.87	29.46	2.18	6.01
Rank	19	18	19	25	23	19	19	48	48	28	69	42

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

\* Lowest available share class available to Montana PERA.

# US Active Large Cap Equity

## Fidelity Contrafund

### Investment Strategy

The strategy seeks companies capable of delivering sustained, above-average earnings growth and positive earnings surprises driven by new product cycles, turnaround situations, transformative acquisitions or a change in industry supply/demand dynamics. The strategy has flexible style, which allows the portfolio manager to take an opportunistic approach in managing the strategy, considering industry trends when selecting stocks for the portfolio, with the ability to invest up to 25% of the strategy's assets in foreign stocks. The team consists of one PM, on the strategy since 1990, supported by a large group of analysts within the global research department.

### Product Snapshot

<b>Style:</b>	US Large Cap Growth
<b>Benchmark:</b>	S&P 500 Index
<b>Fee:</b>	0.45% on assets
<b>Active Share:</b>	43.50

### Comments

- **RVK Rating: Neutral**
- While the strategy benchmarks itself against the S&P 500 Index, it behaves like a Russell 100 Growth Index where it struggles against the benchmark and its peers.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Fidelity Contrafund K6 (FLCNX) - 457(b)</b>	<b>11.70</b>	<b>21.39</b>	<b>34.29</b>	<b>18.53</b>	<b>17.77</b>	<b>15.53</b>	<b>15.53</b>	<b>31.00</b>	<b>-2.15</b>	<b>32.48</b>	<b>3.36</b>	<b>6.46</b>
Russell 1000 Grth Index	13.22	24.33	37.53	21.67	20.10	17.39	17.25	36.39	-1.51	30.21	7.08	5.67
Difference	-1.52	-2.94	-3.24	-3.14	-2.33	-1.86	-1.72	-5.39	-0.64	2.27	-3.72	0.79
S&P 500 Index (Cap Wtd)	8.93	5.57	15.15	12.28	14.15	12.68	13.74	31.49	-4.38	21.83	11.96	1.38
Difference	2.77	15.82	19.14	6.25	3.62	2.85	1.79	-0.49	2.23	10.65	-8.60	5.08
IM U.S. Large Cap Growth Equity (MF) Median	11.51	22.78	34.55	20.65	18.51	15.95	15.83	33.38	-0.87	29.46	2.18	6.01
Rank	47	61	52	71	63	60	58	75	66	22	37	44

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# US Active Large Cap Equity

## Vanguard: Equity Income

**Investment Strategy:** Strategy combines sub-advisor teams from Vanguard's own quantitative equity group and Wellington Management, who manages two thirds of the total portfolio. Wellington's team looks to invest in dividend payers when they are out of favor and generally holds 60-70 names. Vanguard looks at factors like valuation and earnings stability and spreads its portion across 100-plus names. Performance ranks well among large cap value peer group, but struggles more against its stated benchmark

(FTSE High Dividend Yield Index). The fund has below average risk relative to its peer group and is extremely cheap. Inexpensive exposure to high quality management at Wellington. The strategy is prone to lag when interest rates spike.

Product Snapshot	
<b>Style:</b>	US Large Cap Value
<b>Benchmark:</b>	FTSE High Dividend Yield Index
<b>Fee:</b>	0.18% on assets
<b>Active Share:</b>	56.75

### Comments:

- **RVK Rating: Positive**
- Performance over trailing periods and peer rankings have been strong over longer time periods
- Funds may experience fluctuations due to value cycles.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Vanguard Equity Inc;Adm (VEIRX)</b>	<b>5.15</b>	<b>-8.85</b>	<b>-2.77</b>	4.66	9.45	8.72	11.39	25.35	<b>-5.65</b>	18.49	14.82	0.86
Russell 1000 Val Index	5.59	<b>-11.58</b>	<b>-5.03</b>	2.63	7.66	7.35	9.95	26.54	<b>-8.27</b>	13.66	17.34	<b>-3.83</b>
Difference	<b>-0.44</b>	2.73	2.26	2.03	1.79	1.37	1.44	<b>-1.19</b>	2.62	4.83	<b>-2.52</b>	4.69
FTSE Hi Div Yld Index	3.59	<b>-11.33</b>	<b>-5.52</b>	3.31	8.74	8.44	11.08	24.24	<b>-5.85</b>	16.51	16.96	0.39
Difference	1.56	2.48	2.75	1.35	0.71	0.28	0.31	1.11	0.20	1.98	<b>-2.14</b>	0.47
IM U.S. Large Cap Value Equity (MF) Median	4.82	<b>-11.18</b>	<b>-4.55</b>	2.63	7.15	6.82	9.13	26.07	<b>-9.08</b>	16.29	13.82	<b>-3.54</b>
Rank	45	24	35	19	10	7	5	62	14	23	38	4
IM Equity Income (MF) Median	5.43	<b>-8.15</b>	<b>-2.15</b>	3.96	8.02	7.25	9.29	25.28	<b>-7.25</b>	16.15	14.07	<b>-3.07</b>
Rank	56	58	54	43	33	28	8	50	34	26	42	8

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# US Active Large Cap Equity

## JPMorgan: US Equity

### Investment Strategy

This strategy looks to identify companies with undervalued, sustainable earnings growth using a proprietary dividend discount model incorporating their long-term earnings and cash flow growth rate estimates over an 8 year time horizon. 75% of the portfolio draws on the research and management of the two managers, Scott Davis and Susan Bao. The remaining 25% is directly managed by the analysts. Sector weightings track the index fairly tightly as positions are generally less than 2% off from index weightings, which caps potential for outperformance. The team views stock selection as successful in most major sectors, which has been a drag on performance as stock selection has been negative in certain sectors (i.e. healthcare and financials) in recent years.

### Product Snapshot

<b>Style:</b>	US Large Cap Core
<b>Benchmark:</b>	S&P 500 Index
<b>Fee:</b>	0.44% on assets
<b>Active Share:</b>	69.09

### Comments

- **RVK Rating: Neutral**
- RVK previously had their 130/30 LCC version rated positive, but the lead PM recently retired.
- Ranks well over long-term and stands out among other diversified LCC funds.
- Multi-sleeve approach reduces differentiation from its benchmark and potential to outperform.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
JPMorgan:US Eq;R6 (JUEMX) - 401(a)	9.65	11.42	23.08	14.04	14.96	13.28	14.25	32.28	-5.86	21.71	10.91	0.90
S&P 500 Index (Cap Wtd)	8.93	5.57	15.15	12.28	14.15	12.68	13.74	31.49	-4.38	21.83	11.96	1.38
Difference	0.72	5.85	7.93	1.76	0.81	0.60	0.51	0.79	-1.48	-0.12	-1.05	-0.48
IM U.S. Large Cap Core Equity (MF) Median	8.45	3.96	12.90	10.43	12.43	11.05	12.24	29.68	-5.61	21.17	10.07	0.26
Rank	23	8	5	11	9	8	6	20	55	41	40	41

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# US Active Large Cap Equity

## Parnassus: Core Equity

### Investment Strategy

The goal of the strategy is to provide clients with attractive, long term, risk adjusted returns by investing in businesses with sustainable competitive advantage. Using fundamental research, qualitative analysis, and proprietary framework, ESG is incorporated throughout the entire investment process. Environmental factors, in addition to social and governance, are incorporated throughout the entire investment process by analyzing energy and water use, product life cycle, carbon footprint, and waste stream, with ESG factors reviewed annually. In September, 2019, Parnassus adopted a firm-wide policy of avoiding investments in fossil fuel companies.

### Product Snapshot

<b>Style:</b>	US Large Cap Core
<b>Benchmark:</b>	S&P 500 Index
<b>Fee:</b>	0.63% on assets
<b>Active Share:</b>	74.21

### Comments

- **RVK Rating: Positive**
- Parnassus Responsible Investment Framework was established when the firm was founded in 1984 and is applied to firm-wide. The firm practices active company engagement and proxy voting, often disagreeing with management's recommendation on ESG-focused shareholder resolutions. The investment team is made up of two PMs, supported by 14 research analysts and a dedicated ESG Research Team. The moderately concentrated portfolio holds around 40 companies and targets downside protection.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Parnassus:Core Eqty;Inst (PRILX) - 457(b)</b>	<b>11.46</b>	<b>9.31</b>	<b>16.21</b>	<b>14.77</b>	<b>14.17</b>	<b>12.80</b>	<b>13.87</b>	<b>30.96</b>	<b>0.05</b>	<b>16.81</b>	<b>10.61</b>	<b>-0.34</b>
S&P 500 Index (Cap Wtd)	8.93	5.57	15.15	12.28	14.15	12.68	13.74	31.49	-4.38	21.83	11.96	1.38
Difference	2.53	3.74	1.06	2.49	0.02	0.12	0.13	-0.53	4.43	-5.02	-1.35	-1.72
IM U.S. Large Cap Core Equity (MF) Median	8.45	3.96	12.90	10.43	12.43	11.05	12.24	29.68	-5.61	21.17	10.07	0.26
Rank	5	13	28	5	17	12	12	39	3	91	44	60

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# Small / Mid Cap Equity



# Active SMID Cap Equity Equity

Montana PERA currently offers four active US small and mid cap equity funds across the DC and 457 Plans:

Fund	Strategy	Plan	Performance	Fees Below Median	Research Rating
MFS Mid Cap Value;R6 (MVCKX)	Mid Cap Value	Both	Positive	21	Positive
Jns Hndsn:Enterprise;N (JDMNX)	Mid Cap Growth	Both	Neutral	12	Positive
Neuberger Genesis;R6 (NRGSX)	SMID Cap Core/Growth	457(b)	Positive	14	Neutral
BlackRock:Adv SC Cr;K (BDSKX)	Small Cap Core	DC	Positive	13	Positive

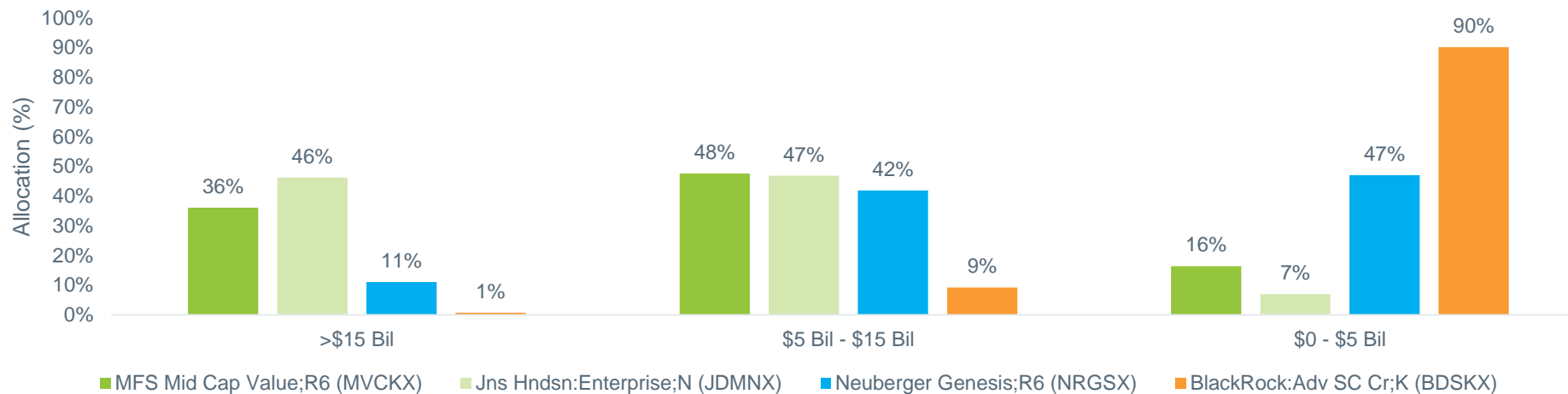
**Potential for Enhancement:** The 457(b) Plan provides overlapping mid cap and SMID cap exposure. By offering the recently added BlackRock Small Cap Core fund instead of the Neuberger Genesis fund, it would reduce this overlap and streamline the investment options.



# Small/Mid Cap Considerations

**Market Capitalization:** Neuberger Genesis market distribution is larger than BlackRock.

**Distribution of Market Capitalization**



**Fees:** All fund expense ratios are below median.

Investment Strategy	Expense Ratio	Median Fund Fee
MFS Mid Cap Value;R6 (MVCKX)	0.68	0.84
Jns Hndsn:Enterprise;N (JDMNX)	0.66	0.86
Neuberger Genesis;R6 (NRGSX)	0.75	0.91
BlackRock Sm Advantage (BDSKX)	0.45	0.73

# Active US Mid Cap Equity

## MFS Mid Cap Value

### Investment Strategy

The MFS Mid Cap Value team believes that the primary driver of stock performance over longer periods of time is valuation. The strategy focuses on the long-term (3-5 year horizon) and leverages the company's bottom-up global research platform to identify undervalued, high quality companies that have sustainable and durable franchises, generate significant free cash flow, maintain strong balance sheets, and have strong management teams. They hope to provide superior long-term risk adjusted returns utilizing their value approach, which is flexible, but places strong emphasis on cash flow and returns-based methodologies.

### Product Snapshot

<b>Style:</b>	US Mid Cap Value Equity
<b>Benchmark:</b>	Russell Mid Cap Value Index
<b>Fee:</b>	0.68%
<b>Active Share:</b>	74.36

### Comments

- **RVK Rating: Positive**
- One of the largest analyst teams supporting a mid cap value strategy with experienced portfolio managers that worked together throughout a market cycle.
- This strategy is skewed towards quality stocks, but has no pronounced secondary style biases which makes it appropriate for clients looking for broad value exposure.
- The performance of this strategy has been strong in down markets and also has been decent in up markets, although it can lag during speculative or low quality driven markets.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>MFS Mid Cap Value;R6 (MVCKX)</b>	5.36	<b>-12.70</b>	<b>-6.52</b>	2.02	6.60	6.71	10.00	31.08	<b>-11.31</b>	13.84	15.86	<b>-2.14</b>
Russell Mid Cap Val Index	6.40	<b>-12.84</b>	<b>-7.30</b>	0.82	6.38	6.63	9.71	27.06	<b>-12.29</b>	13.34	20.00	<b>-4.78</b>
Difference	<b>-1.04</b>	0.14	0.78	1.20	0.22	0.08	0.29	4.02	0.98	0.50	<b>-4.14</b>	2.64
IM U.S. Mid Cap Value Equity (MF) Median	4.49	<b>-16.40</b>	<b>-11.40</b>	<b>-1.72</b>	4.36	4.01	7.61	24.92	<b>-13.98</b>	13.21	17.03	<b>-4.76</b>
Rank	34	12	12	3	10	10	6	8	17	44	64	8

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# Active US Mid Cap Equity

## Janus Enterprise

### Investment Strategy

The investment team targets companies that have sustainable growth and high returns on invested capital with proven management teams. Janus seeks to diversify their growth investments between predictable growth and classic growth companies to moderate volatility. Predictable growth companies are the largest positions in the portfolio, helping to manage idiosyncratic risk and have a target investment time horizon of 5 years. Classic growth stocks are multi-year growth companies, with less predictability on a quarterly basis, and a time horizon of three years. Ideal companies are deploying capital at rates of return exceeding cost of capital.

### Product Snapshot

<b>Style:</b>	US Mid Cap Growth Equity
<b>Benchmark:</b>	Russell Mid Cap Growth Index
<b>Fee:</b>	0.66%
<b>Active Share:</b>	89.21

### Comments

- **RVK Rating: Positive**
- One of the largest analyst teams supporting a mid cap growth strategy with experienced portfolio managers that worked together throughout a market cycle.
- This strategy balances exposure across different types of growth stocks and has delivered strong excess returns generation across different type of market environments.
- Strategy has been closed to new investors since 2017.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Jns Hndsn:Enterprise;N (JDMNX)	7.15	0.33	6.30	12.45	14.96	13.36	14.30	35.40	-0.81	26.65	12.18	3.57
Russell Mid Cap Grth Index	9.37	13.92	23.23	16.23	15.53	13.25	14.55	35.47	-4.75	25.27	7.33	-0.20
Difference	-2.22	-13.59	-16.93	-3.78	-0.57	0.11	-0.25	-0.07	3.94	1.38	4.85	3.77
IM U.S. Mid Cap Growth Equity (MF) Median	9.71	16.58	24.97	16.18	14.69	12.64	13.80	34.41	-5.01	24.81	4.80	0.53
Rank	81	89	89	78	44	32	35	39	17	34	6	18

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# Active US SMID Cap Equity

## Neuberger Genesis

**Investment Strategy:** Portfolio management team has worked together through multiple market cycles. Process emphasizes downside protection and has benefited from allowing winners to run beyond the standard definition of a small cap company. Strategy has an inappropriate asset level (over \$14B) for a pure small cap portfolio and should be considered a SMID portfolio at this point.

### Product Snapshot

<b>Style:</b>	US Small/Mid Cap Growth Equity
<b>Benchmark:</b>	Russell 2000 Growth Index
<b>Fee:</b>	0.75%
<b>Active Share:</b>	92.43

### Comments

- **RVK Rating: Neutral**
- One of the largest analyst teams supporting a SMID cap growth strategy with experienced portfolio managers that worked together throughout a market cycle.
- This strategy balances exposure across different types of growth stocks and has delivered strong excess returns generation across different type of market environments.
- Strategy has been closed to new investors since 2017.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Neuberger Genesis;R6 (NRGSX) - 457(b)</b>	<b>5.01</b>	<b>3.68</b>	<b>9.93</b>	<b>10.01</b>	<b>12.20</b>	<b>9.58</b>	<b>12.08</b>	<b>29.76</b>	<b>-6.42</b>	<b>15.88</b>	<b>18.44</b>	<b>0.47</b>
Russell 2500 Index	5.88	-5.82	2.22	4.45	8.97	7.70	10.81	27.77	-10.00	16.81	17.59	-2.90
Difference	-0.87	9.50	7.71	5.56	3.23	1.88	1.27	1.99	3.58	-0.93	0.85	3.37
Russell 2500 Grth Index	9.37	11.58	23.37	13.36	14.19	11.69	14.06	32.65	-7.47	24.46	9.73	-0.19
Difference	-4.36	-7.90	-13.44	-3.35	-1.99	-2.11	-1.98	-2.89	1.05	-8.58	8.71	0.66
IM U.S. SMID Cap Core Equity (MF) Median	4.75	-9.89	-3.66	0.94	6.64	5.75	8.82	25.72	-12.20	15.40	17.92	-3.85
Rank	41	7	9	1	1	2	4	9	4	41	44	2

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# Active US Small Equity

## BlackRock Advantage Small Cap

**Investment Strategy:** The strategy is grounded in the belief that consistent and differentiated alpha can potentially be produced through systematically balancing forecasted return, risk, and cost in a disciplined investment process. The strategy believes to be successful, constant innovation is required, achieved by researching new investment insights. In addition, risks must be well understood and adequately compensated, and transaction costs should be explicitly considered in all investment decisions.

### Product Snapshot

<b>Style:</b>	US Small Cap Core
<b>Benchmark:</b>	Russell 2000 Index
<b>Fee:</b>	0.45% on assets
<b>Active Share:</b>	54.24

### Comments

- **RVK Rating: Positive**
- Added to the DC Plan in Q4 2020.
- The BlackRock Advantage Small Cap team is larger than peers, comprised of 23 portfolio managers, averaging 14 years of experience, and 25 research analysts.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>BlackRock:Adv SC Cr;K (BDSKX)</b>	4.36	<b>-8.70</b>	1.44	3.93	8.43	8.14	N/A	32.26	<b>-8.80</b>	10.82	24.01	<b>-2.25</b>
Russell 2000 Index	4.93	<b>-8.69</b>	0.39	1.77	8.00	6.42	9.85	25.53	<b>-11.01</b>	14.65	21.31	<b>-4.41</b>
Difference	<b>-0.57</b>	<b>-0.01</b>	1.05	2.16	0.43	1.72	N/A	6.73	2.21	<b>-3.83</b>	2.70	2.16
IM U.S. Small Cap Equity (MF) Median	4.34	<b>-12.50</b>	<b>-5.20</b>	<b>-0.53</b>	6.23	5.29	8.82	24.05	<b>-12.05</b>	12.98	20.50	<b>-4.26</b>
Rank	50	39	35	29	29	23	N/A	12	28	66	32	28

Returns calculated net of fees ended 9/30/2020. Prospectus expense ratio shown.

# International Equity



# Active International Equity

Montana PERA currently offers four active international funds across the DC and 457 Plans:

Fund	Strategy	Plan	Performance	Fees Below Median	Research Rating
Dodge & Cox Intl Stock (DODFX)	International Value	457(b)	Positive	14	Positive
Oakmark Internatl;Inv (OAKIX)	Developed Markets Value	DC	Negative	29*	Neutral
Artisan:Internatl;Inv (ARTIX)	International Growth	457(b)	Negative	65*	Positive
Invsc Oppen Dev Mkt;Y (ODVYX)	Emerging Markets	Both	Positive	11*	Negative

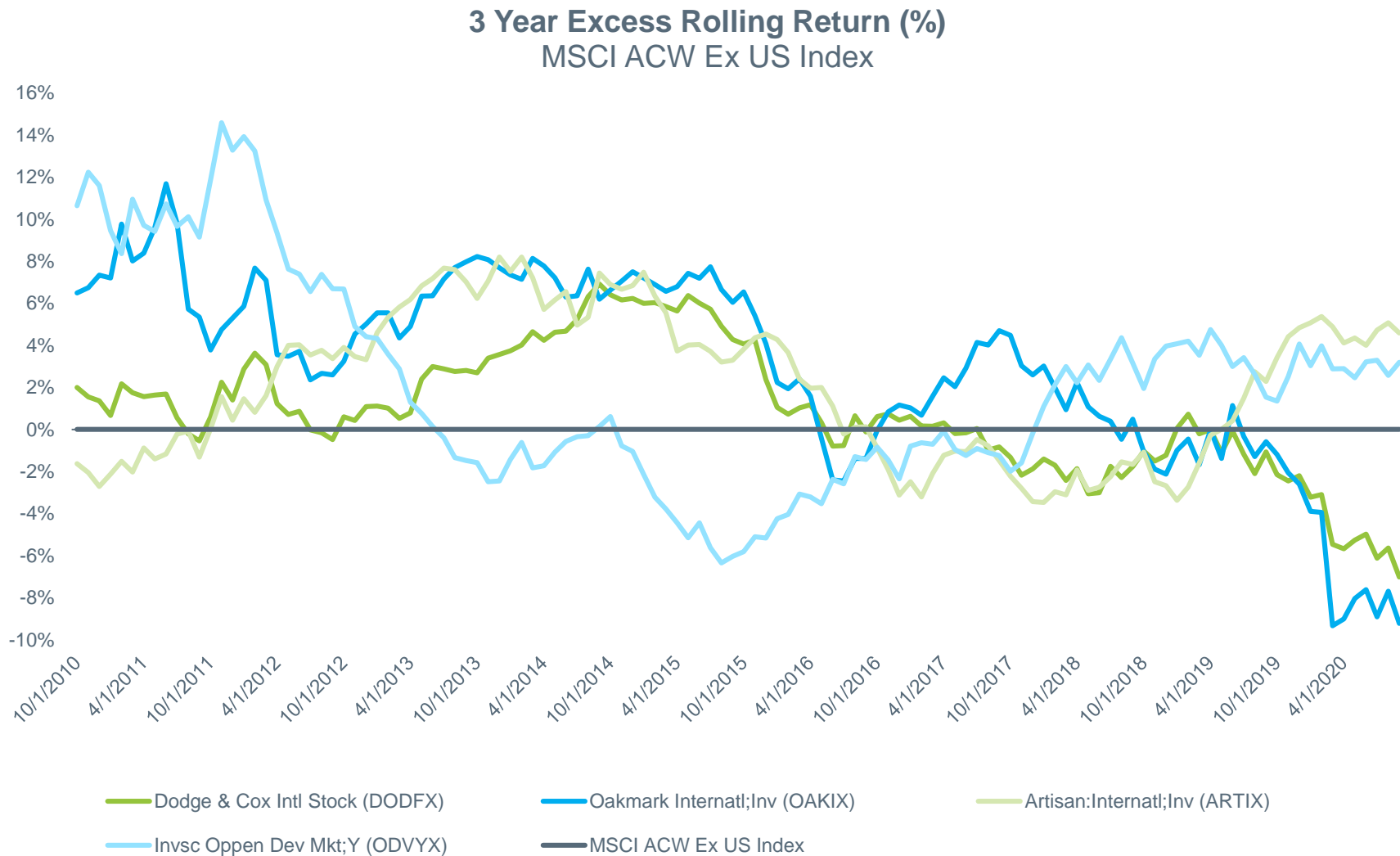
## Potential for Enhancement:

- The DC & 457(b) Plans offer different international equity options. In general, its best practice to offer a broad international fund rather than developed markets and emerging markets options.
- A broad international approach could help improve consistency of returns across various market cycles, translating into an improved risk/return profile over time. In addition, more consistent returns could reduce behavioral biases resulting from reactions to developed vs. emerging markets cycles.

\* Lowest available share class available to Montana PERA.

# International Excess Returns

Core funds would offer more consistent excess returns over time.



Returns calculated net of fees ended 9/30/2020.



# Active International Equity Fees

**Fees:** Artisan and Oakmark are currently above the median expense ratio though lower fee share classes are available.

Investment Strategy	Expense Ratio (%)	Median Fund Expense Ratio (%)
Dodge & Cox Intl Stock (DODFX)	0.63	0.85
Oakmark Internatl;Inv (OAKIX)	0.75*	0.86
Artisan:Internatl;Inv (ARTIX)	0.97*	0.90
Invsc Oppen Dev Mkt;Y (ODVYX)	0.83*	1.11

\* Lowest available share class available to Montana PERA.

# Active International Equity

## Dodge & Cox International Equity

### Investment Strategy

The strategy utilizes a bottom-up, fundamental, team approach. Potential ideas come from a variety of sources such as meeting with company management, attending conferences and screens. Analysts build various models for each candidate, developing a range of outcomes. Onsite meetings with management are a critical component of the investment process. In addition to speaking with management, analysts speak with customers, competitors, suppliers, and attend industry conferences to get a 360 degree view of the company. The most attractive companies are purchased into the portfolio.

### Product Snapshot

<b>Style:</b>	ACWI Ex US Value
<b>Benchmark:</b>	MSCI EAFE Index
<b>Fee:</b>	0.63% on assets
<b>Active Share:</b>	87.13

### Comments

- **RVK Rating: Positive**
- Large investment team of experienced professionals that have spent almost their entire career at Dodge & Cox, very stable.
- The strategy and employee-owned firm has a lengthy history.
- Long-term performance has been good but the extended growth rally has been challenging for value managers, Dodge & Cox International Equity has fared better than many of its peers in the space.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Dodge &amp; Cox Intl Stock (DODFX) - 457(b)</b>	<b>0.39</b>	<b>-18.12</b>	<b>-9.43</b>	<b>-5.85</b>	2.21	0.81	3.13	22.78	<b>-17.98</b>	23.94	8.26	<b>-11.35</b>
MSCI ACW Ex US Val Index (USD) (Net)	2.28	<b>-17.60</b>	<b>-10.84</b>	<b>-5.09</b>	2.14	<b>-0.27</b>	1.50	15.72	<b>-13.97</b>	22.66	8.92	<b>-10.06</b>
Difference	<b>-1.89</b>	<b>-0.52</b>	1.41	<b>-0.76</b>	0.07	1.08	1.63	7.06	<b>-4.01</b>	1.28	<b>-0.66</b>	<b>-1.29</b>
MSCI EAFE Index (USD) (Net)	4.80	<b>-7.09</b>	0.49	0.62	5.26	3.01	4.62	22.01	<b>-13.79</b>	25.03	1.00	<b>-0.81</b>
Difference	<b>-4.41</b>	<b>-11.03</b>	<b>-9.92</b>	<b>-6.47</b>	<b>-3.05</b>	<b>-2.20</b>	<b>-1.49</b>	0.77	<b>-4.19</b>	<b>-1.09</b>	7.26	<b>-10.54</b>
IM ACWI Ex US Value (MF) Median	3.74	<b>-13.93</b>	<b>-5.71</b>	<b>-3.93</b>	2.03	<b>-0.58</b>	1.75	17.89	<b>-16.03</b>	22.88	2.79	<b>-7.13</b>
Rank	97	87	78	75	48	28	28	3	78	30	24	69

Returns calculated net of fees ended 9/30/2020.

# Active International Equity

## Artisan International

### Investment Strategy

This is a fundamental growth strategy with a valuation discipline. The team consists of three portfolio managers and 11 analysts but Mark Yockey has been the Lead PM since inception. The investment team invests in companies within its long-term themes such as air travel, but will also unearth ideas during the due diligence process. Ultimately, they are looking for companies with sustainable growth characteristics at attractive valuations that do not fully reflect their long-term potential. Their portfolio consists of high quality companies that have a sustainable competitive advantage, superior business model and management team. Decision making is driven by Mark Yockey.

### Product Snapshot

<b>Style:</b>	Intl Growth Equity
<b>Benchmark:</b>	MSCI EAFE Index
<b>Fee:</b>	0.97% on assets*
<b>Active Share:</b>	82.20

### Comments

- **RVK Rating: Positive**
- The strategy benchmark's itself against MSCI EAFE Index though the strategy behaves like an international growth index. Performance has struggled against the MSCI ACW ex US Growth Index as well as its peers.
- The fund expense ratio of 0.97% is greater than the median fee.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Artisan:Internat;Inv (ARTIX) - 457(b)</b>	<b>7.46</b>	<b>-1.20</b>	<b>6.52</b>	<b>5.75</b>	<b>7.54</b>	<b>4.68</b>	<b>7.10</b>	<b>29.20</b>	<b>-10.86</b>	<b>31.02</b>	<b>-9.66</b>	<b>-3.85</b>
MSCI ACW Ex US Grth Index (USD) (Net)	10.16	7.27	17.54	7.33	10.16	6.50	6.38	27.34	-14.43	32.01	0.12	-1.25
Difference	-2.70	-8.47	-11.02	-1.58	-2.62	-1.82	0.72	1.86	3.57	-0.99	-9.78	-2.60
MSCI EAFE Index (USD) (Net)	4.80	-7.09	0.49	0.62	5.26	3.01	4.62	22.01	-13.79	25.03	1.00	-0.81
Difference	2.66	5.89	6.03	5.13	2.28	1.67	2.48	7.19	2.93	5.99	-10.66	-3.04
IM ACWI Ex US Growth (MF) Median	10.58	8.21	17.75	7.59	9.68	6.41	6.59	27.84	-14.32	32.37	-0.80	0.27
Rank	93	99	100	68	88	92	35	35	14	66	100	100

Returns calculated net of fees ended 9/30/2020.

# Active International Equity

## Harris Associates: International Equity (Subadvisor to Oakmark)

### Investment Strategy

This EAFE strategy engages in bottom-up, fundamental research in order to identify value stocks. Their philosophy has three key tenets: buy businesses at a significant discount to intrinsic value, that will grow per share value and have management teams that think/act as owners. Idea generation comes from screens, opportunistic events and local networks (95% internal). Ideas are vetted through fundamental analysis such as speaking with management, company on-sites, reviewing public material, annual reports, proxy-voting records, and trade publications. Research is then used for modeling that ultimately drives stock selection weights, biggest discount to intrinsic value receives largest weight.

### Product Snapshot

<b>Style:</b>	EAFE Value Equity
<b>Benchmark:</b>	MSCI World Ex US
<b>Fee:</b>	0.75% on assets*
<b>Active Share:</b>	94.85
<b>Status:</b>	Review

### Comments

- **RVK Rating: Neutral**
- Majority of assets for this strategy reside in a retail mutual fund, approximately \$31 billion.
- Fund has had some turnover. Most recently, Robert Taylor retired from the industry in 2016 after approximately 21 years on the strategy.
- The fund expense ratio of 0.96% is greater than the median fee.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
Oakmark Internatl;Inv (OAKIX) - 401(a)	3.64	-20.20	-11.37	-8.07	2.25	0.16	4.10	24.21	-23.43	29.75	7.91	-3.83
MSCI Wrl'd Ex US Index (USD) (Net)	4.92	-7.13	0.16	0.62	5.32	2.90	4.37	22.49	-14.09	24.21	2.75	-3.04
Difference	-1.28	-13.07	-11.53	-8.69	-3.07	-2.74	-0.27	1.72	-9.34	5.54	5.16	-0.79
IM EAFE Core (MF) Median	5.76	-5.64	2.12	0.62	4.95	2.95	4.48	21.87	-14.94	25.24	-0.10	-0.61
Rank	88	100	100	100	98	100	66	31	100	3	2	92

Returns calculated net of fees ended 9/30/2020.

\* Lowest available share class available to Montana PERA.

# Active International Equity

## Invesco: Emerging Markets Equity (OFI)

### Investment Strategy

The team's growth-oriented philosophy: long-term outperformance can be achieved in emerging markets by focusing on exceptional companies that are innovative. Screens help the team to narrow the universe (e.g. expanding margins). Themes, such as healthy living, narrow as well. Their focus list ultimately includes companies with durable competitive advantages, high barriers to entry, strong balance sheets and high earnings growth potential. Fundamental research focuses on company financial statements, management structure, operations and product development. Ultimately, what goes into the portfolio is decided by the portfolio manager and will hinge upon price.

### Product Snapshot

<b>Style:</b>	Emerging Markets Growth
<b>Benchmark:</b>	MSCI Emerging Markets
<b>Fee:</b>	0.83% on assets*
<b>Active Share:</b>	74.31
<b>Status:</b>	Probation

### Comments

- **RVK Rating: Negative**
- This is one of the lowest priced emerging markets mutual funds available.
- This is the largest active emerging markets fund in existence.
- The vast majority of assets are also in the retail mutual fund (approximately \$41 out of \$48 billion)
- There is key-man risk with Justin Leverenz, portfolio manager.

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Invesco Dev Mkt;Y (ODVYX)</b>	<b>8.27</b>	<b>-1.23</b>	<b>10.44</b>	<b>4.35</b>	<b>10.38</b>	<b>4.21</b>	<b>4.29</b>	<b>24.31</b>	<b>-11.95</b>	<b>35.10</b>	<b>7.17</b>	<b>-13.84</b>
MSCI Emg Mkts Index (USD) (Net)	9.56	-1.16	10.54	2.42	8.97	3.74	2.51	18.44	-14.58	37.28	11.19	-14.92
Difference	-1.29	-0.07	-0.10	1.93	1.41	0.47	1.78	5.87	2.63	-2.18	-4.02	1.08
IM Emerging Markets Equity (MF) Median	9.39	-1.07	10.12	2.02	8.12	3.69	2.42	20.06	-16.39	35.37	8.35	-13.66
Rank	65	52	48	26	28	39	23	26	12	53	56	53

Returns calculated net of fees ended 9/30/2020.

\* Lowest available share class available to Montana PERA.

# Fixed Income



# Fixed Income

## PGIM (Prudential): Total Return Bond

### Investment Strategy

It is an actively managed core plus strategy designed to return 150 basis points of excess return over a market cycle. The strategy has provided strong returns over the past five years. The strategy is one of the most highly diversified core plus products influenced by a quantitative research team and sector specialists. Portfolio managers allocate risk budgets to sector specialist teams who do the bottom-up security selection. Team will opportunistically allocate to plus sectors in small or substantive amounts. The strategy will also seek alpha from yield curve positioning and currency management, though to a lesser extent than security selection and sector rotation.

### Comments

- **RVK Rating: Positive**
- The strategy recently announced the plan for Steve Kellner, Head of IG Corporates, to retire in April 2022.
- One of the most sophisticated teams and largest research teams allowing for extremely detailed analysis and security selection.
- Portfolios will be highly diversified meaning a very large number of securities in the portfolio at sometimes very small allocations (0.01% of the portfolio or less, on occasion).
- There should be no particular credit environment where the strategy should be expected to underperform as the team is allowed to move into any type of core or plus sector.

### Product Snapshot

<b>Style:</b>	Core Plus Fixed Income
<b>Benchmark:</b>	BB US Aggregate Index
<b>Fee:</b>	0.27% on assets*

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>PGIM Tot Rtn Bond;R6 (PTRQX)</b>	<b>1.78</b>	<b>5.59</b>	<b>5.97</b>	<b>5.65</b>	<b>5.30</b>	<b>5.04</b>	<b>5.05</b>	<b>11.14</b>	<b>-0.63</b>	<b>6.71</b>	<b>4.83</b>	<b>0.09</b>
Bloomberg US Agg Bond Index	0.62	6.79	6.98	5.24	4.18	3.97	3.64	8.72	0.01	3.54	2.65	0.55
Difference	1.16	-1.20	-1.01	0.41	1.12	1.07	1.41	2.42	-0.64	3.17	2.18	-0.46
IM U.S. Broad Market Core+ Fixed Income (MF) Median	1.64	6.34	6.82	5.02	4.61	4.12	4.05	9.32	-0.94	4.49	4.19	-0.26
Rank	38	71	71	22	14	7	8	12	38	2	31	35

Returns calculated net of fees ended 9/30/2020.

\* Lowest available share class available to Montana PERA.

# Fixed Income

## Neuberger Berman: High Income Bond

### Investment Strategy

Like most high yield strategies, the NB High Income Bond strategy seeks to outperform by doing strong credit analysis and bottom-up security selection. However the strategy seeks to continually monitor purchased credits to identify deteriorating aspects of the company and credit to avoid increased risks and market movement ahead of the crowd, essentially selling early before information on credits is widely known.

Additionally, each analyst is expected to be disciplined in their research and recommendations as bonus compensation is tied to analyst ideas and entry and exit points.

### Comments

- **RVK Rating: On Watch**
- Strong credit team with high level of analyst accountability, focused on credits that continue to perform and not degrade.
- The loss of two PMs in one year is a consideration to watch, but the strength of the analyst support team is a strong reassurance.

### Product Snapshot

<b>Style:</b>	US High Yield
<b>Benchmark:</b>	ICE BofAML US High Yield Constrained Index
<b>Fee:</b>	0.60% on assets*
<b>Status:</b>	<b>Review</b>

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2019	2018	2017	2016	2015
<b>Neuberger Hi Inc B;Inst (NHILX)</b>	<b>4.92</b>	<b>-0.07</b>	<b>2.30</b>	<b>3.57</b>	<b>5.63</b>	<b>4.27</b>	<b>5.42</b>	<b>13.90</b>	<b>-2.35</b>	<b>5.48</b>	<b>14.16</b>	<b>-4.77</b>
ICE BofAML US Hi Yld Master II Cnst Index	4.70	-0.38	2.22	3.81	6.60	5.17	6.27	14.41	-2.27	7.48	17.49	-4.61
Difference	0.22	0.31	0.08	-0.24	-0.97	-0.90	-0.85	-0.51	-0.08	-2.00	-3.33	-0.16
IM U.S. High Yield Bonds (MF) Median	4.50	-0.64	1.89	3.08	5.31	4.08	5.37	13.51	-2.91	6.65	13.49	-3.85
Rank	26	36	40	29	35	42	46	43	33	80	41	67

Returns calculated net of fees ended 9/30/2020.

\* Lowest available share class available to Montana PERA.



# Appendix



# Mapping of Investment Options

## Funds Under Consideration for Removal or Change

Type	Fund Name	Expense Ratio	Participants		Assets	
Global Equity	American Funds NPer;R6 (RNPGX)	0.42%	2,522	17.4%	\$49.7 M	5.1%
	JPMorgan:US Eq;R6 (JUEMX)	0.44%	323	2.2%	\$8.0 M	0.8%
U.S. Equity	Vanguard Instl Indx;Inst (VINIX)	0.04%	2,259	15.6%	\$42.9 M	4.4%
	Alger:Capital Apprec;Z (ACAZX)	0.87%	616	4.2%	\$26.0 M	2.7%
	Fidelity Contrafund K6 (FLCNX)	0.45%	2,580	17.8%	\$60.0 M	6.1%
	Panassus:Core Eqty;Inst (PRILX)	0.63%	832	0.9%	\$8.7 M	5.7%
	Neuberger Genesis;R6 (NRGSX)	0.75%	1,569	10.8%	\$17.2 M	1.8%
	Vanguard Md-Cp I;Adm (VIMAX)	0.05%	443	3.1%	\$4.1 M	0.4%
	Vanguard S-C Id;Inst (VSCIX)	0.04%	1,083	7.5%	\$16.6 M	1.7%
	Vanguard SC G Id;Ins (VSGIX)	0.06%	1,955	13.5%	\$29.9 M	3.1%
	Artisan:Internatl;Inv (ARTIX)	1.19%	392	2.7%	\$2.3 M	0.2%
Non-U.S. Equity	Oakmark Internatl;Inv (OAKIX)	1.00%	296	2.0%	\$4.6 M	0.5%
	Invsc Oppen Dev Mkt;Y (ODVYX)	1.00%	355	2.4%	\$3.4 M	0.3%
	Vanguard Tot Bd;Adm (VBTLX)	0.05%	229	1.6%	\$3.7 M	0.4%
Fixed Income	PGIM Tot Rtn Bond;R6 (PTRQX)	0.39%	1,949	13.4%	\$14.6 M	1.5%
	Neuberger Hi Inc B;Inst (NHILX)	0.70%	751	5.2%	\$4.5 M	0.5%
Balanced	Vanguard Bal Idx;Inst (VBAIX)	0.06%	3,315	22.9%	\$141.7M	14.5%
	T Rowe Price Ret Bal Trust F (CF)	0.43%	155	1.1%	\$1.3 M	0.1%

Data shown is as of 12/31/2020.

QDIA is the Qualified Default Investment Alternative, or the T Rowe Price Retirement Funds. Assets would be mapped to the age appropriate fund.

PORTLAND

BOISE

CHICAGO

NEW YORK

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