



# Equity Investment Options

Mary Buonfiglio, CFA  
Deputy Director  
North Carolina Supplemental Retirement Plans

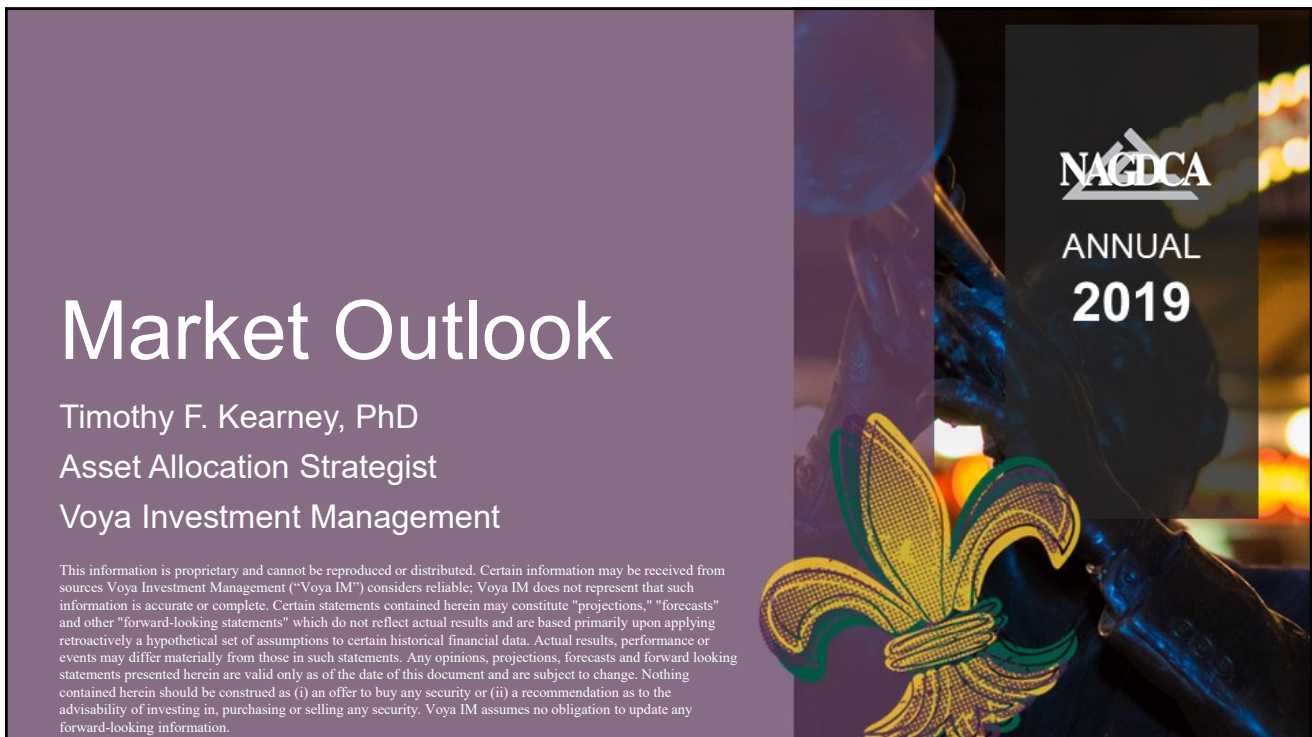
Timothy Kearney,  
Asset Allocation Strategist  
Voya Financial

Shaun Murphy, CFA  
Head of US Index Funds, LGIMA

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Managing Director, Wellington Mgt. Co.

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# Market Outlook

Timothy F. Kearney, PhD  
Asset Allocation Strategist  
Voya Investment Management

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## Historical Market Statistics, 1979-2018

	Return	Volatility	Skewness	Kurtosis
S&P 500	5.8%	16.3%	-48.3%	101.0%
Russell 1000 Growth	5.7%	18.7%	-44.4%	65.3%
Russell 1000 Value	6.5%	15.9%	-52.1%	135.7%
MSCI U.S. Minimum Volatility	5.5%	11.6%	-62.1%	158.9%
Russell 3000	6.3%	16.8%	-54.3%	115.5%
Russell Midcap	7.6%	18.3%	-52.0%	109.7%
Russell 2000	5.5%	16.2%	-45.6%	93.7%
MSCI EAFE	4.3%	19.2%	-28.3%	16.6%
MSCI World	5.4%	16.1%	-57.9%	95.6%
MSCI EM	8.4%	27.3%	-46.4%	60.5%
MSCI ACWI	5.8%	16.8%	-60.1%	100.8%

Source: Voya IM, Bloomberg.



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## Historical Market Correlations, 1979-2018

	S&P 500	Russell 1000 Growth	Russell 1000 Value	MSCI U.S. Minimum Volatility	Russell 3000	Russell Midcap	Russell 2000	MSCI EAFE	MSCI World	MSCI EM	MSCI ACWI	Bloomberg Commodity
S&P 500	1.00											
Russell 1000 Growth	0.96	1.00										
Russell 1000 Value	0.95	0.83	1.00									
MSCI U.S. Minimum Volatility	0.94	0.85	0.95	1.00								
Russell 3000	1.00	0.96	0.95	0.93	1.00							
Russell Midcap	0.95	0.92	0.92	0.90	0.97	1.00						
Russell 2000	0.83	0.83	0.80	0.77	0.88	0.92	1.00					
MSCI EAFE	0.67	0.64	0.65	0.63	0.68	0.66	0.60	1.00				
MSCI World	0.93	0.90	0.89	0.87	0.93	0.91	0.81	0.90	1.00			
MSCI EM	0.70	0.69	0.67	0.65	0.72	0.72	0.67	0.73	0.79	1.00		
MSCI ACWI	0.92	0.89	0.88	0.86	0.92	0.90	0.81	0.89	0.99	0.85	1.00	
Bloomberg Commodity	0.25	0.24	0.26	0.24	0.27	0.30	0.29	0.31	0.31	0.37	0.33	1.00



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Source: Voya IM, Bloomberg.

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# Investment Themes

## Summary of 2019 SAA Investment Themes

Late Cycle + Fed Tightening → Growth Uncertainty + Lower Visibility → Flexibility as Clarity Develops

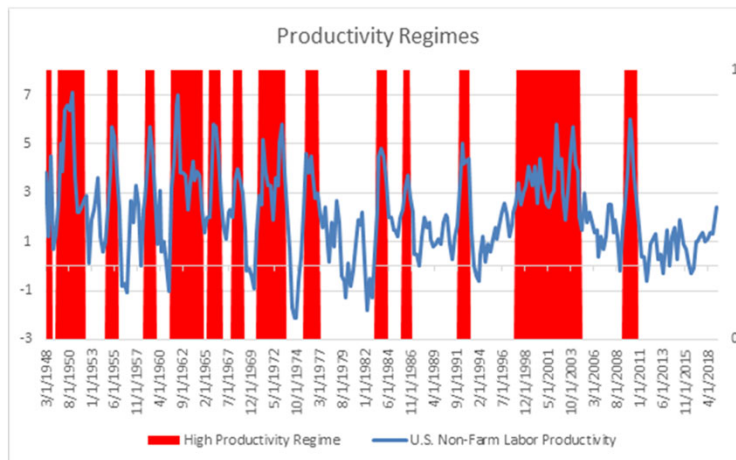
<p><b>Low Return World:</b> Low or below average returns for most major asset classes.</p>	<p>Most of the strength of asset class returns has been extracted with strong post-GFC returns. Sustaining the past three years of robust profit growth as a percent of GDP is likely to be more challenging as late cycle pressures associated with higher financing and wage costs.</p>
<p><b>Less Visibility on Monetary Policy and Growth:</b> Global ex US Economic slowdown persists with the US joining. US growth slows but remains above trend.</p>	<p>The Fed is trying to engineer a slowdown to trend growth from above trend. However, they do not have a good historical track record at doing so. Global earnings slowdown undermines the view on relative value in equity market multiples. US is slowing from a blistering pace, China is stimulating its economy but in a mild and controlled way and the ECB is withdrawing QE in spite of downside risks to growth. Equity markets may touch top and bottom of a wide trading range.</p>
<p><b>Credit Market Cycle Slowly Turning:</b> Monetary policy rates are rising led by the US. Higher financing costs and interest expense exposes weaker corporate balance sheets.</p>	<p>Higher rates associated with tighter monetary policy are increasing corporate financing costs. However, the lag between credit cycle turning and a recession is long and varied; it can span years with several resets. Significant growth in IG debt outstanding and in covenant-lite issuance in the leverage loan market are potential areas of longer-term weakness.</p>
<p><b>Rate Cycle Peaking:</b> US Monetary Policy has tightened over the past three years.</p>	<p>The Yield curve is flattening across all measures and real fed funds rates are now positive for the first time in the past decade. Probability of U.S. recession models are also rising from very low levels for the first time since 2015.</p>



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# Productivity is the Key



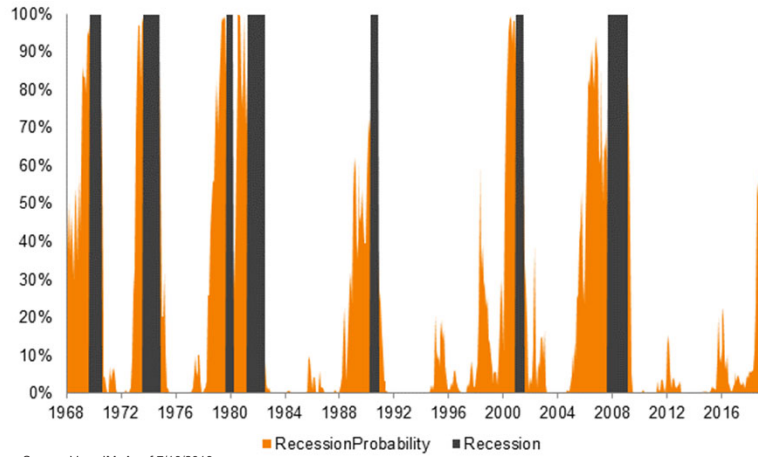
Source: Voya IM. As of 5/20/2019



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## Probability of Recession Worries



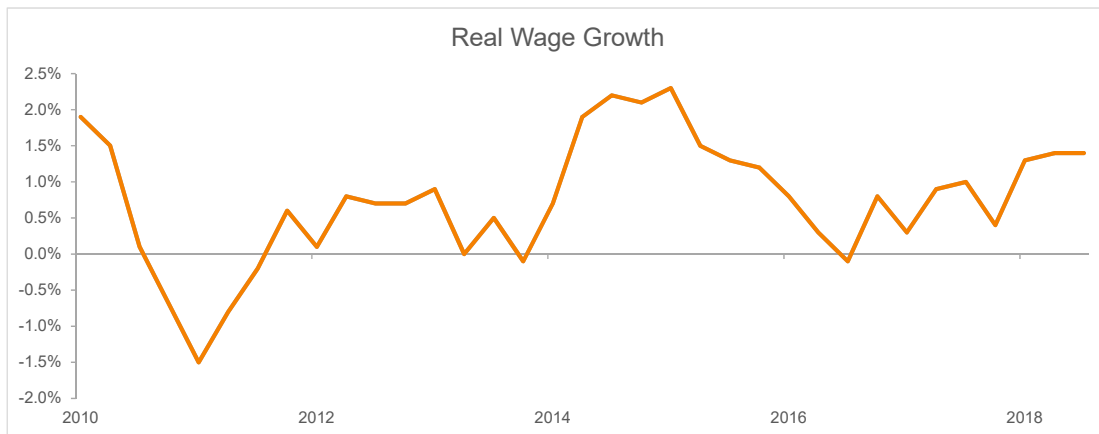
Source: Voya IM. As of 7/10/2019



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## The Wage Phillips Curve Works

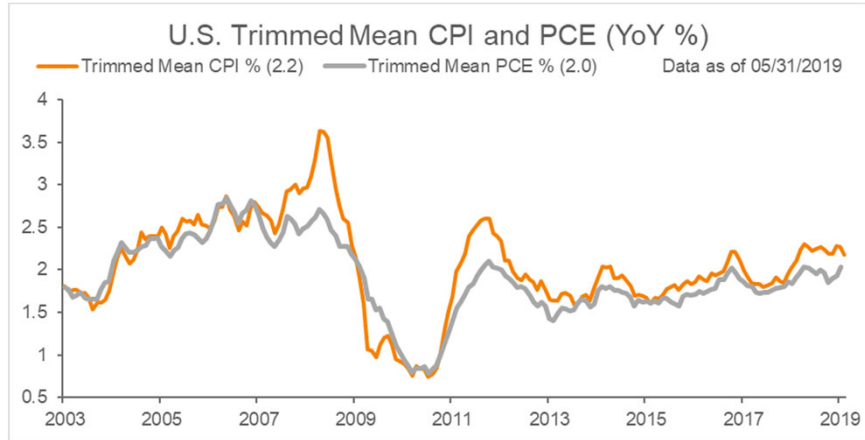


Source: Voya IM, Bloomberg. As of 6/30/2019

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# CPI Inflation Quiescent

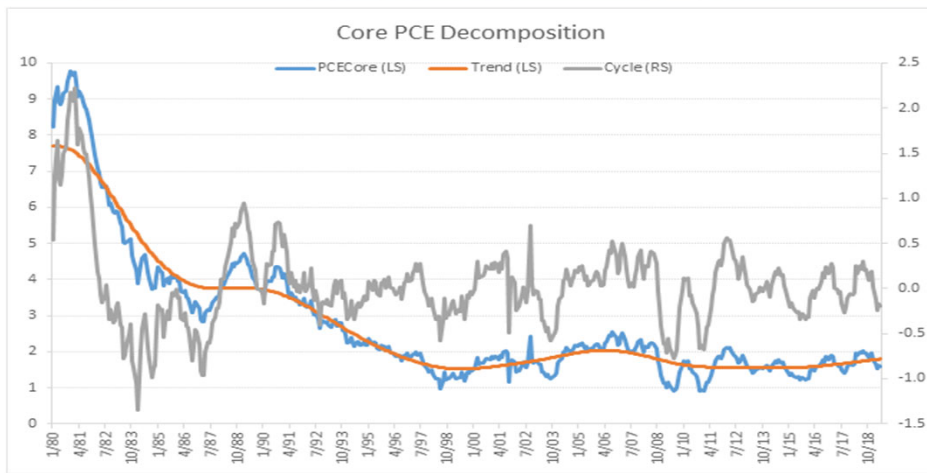


Source: Bloomberg, Voya IM. As of 5/31/2019

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# PCE Deflator Shows Fed Difficulties

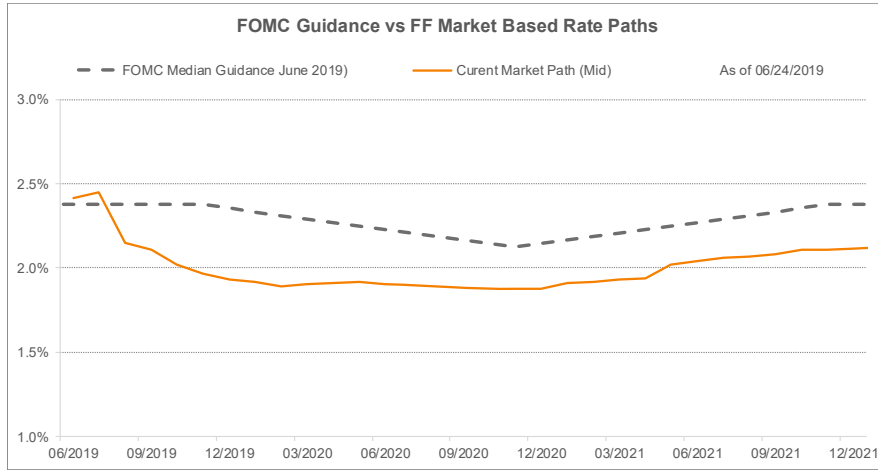


Source: Voya IM. As of 6/30/2019

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# Whither the Fed?



Source: Voya IM. As of 6/24/2019

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# Modest Outlook

Medium Term Forecast	
GDP Growth	2.0%
Inflation (CPI-U)	2.2%
CPI ex Food and Energy	2.3%
Fed Funds Rate	3.0%
Ten-Year Treasury Yield	3.4%
S&P 500 Earnings Growth	5.5%
Savings Rate	8.1%

Source: Voya IM. As of 6/30/2019

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## Expected Returns, Volatilities

Equity Index	Expected Returns					
	Geometric Mean Return (%)	Arithmetic Mean Return (%)	Volatility (%)	Skewness	Kurtosis	Sharpe Ratio
S&P 500	4.6	5.8	16.3	-0.48	1.0	0.18
Russell 1000 Growth	4.0	5.7	18.7	-0.44	0.7	0.15
Russell 1000 Value	5.4	6.5	15.9	-0.52	1.4	0.23
MSCI U.S. Minimum Volatility	4.9	5.5	11.6	-0.62	1.6	0.22
Russell 3000	5.0	6.3	16.8	-0.54	1.2	0.20
Russell Midcap	6.0	7.6	18.3	-0.52	1.1	0.25
Russell 2000	5.9	8.4	22.8	-0.55	1.2	0.24
MSCI EAFE	2.5	4.3	19.2	-0.28	0.2	0.08
MSCI World	4.2	5.4	16.1	-0.57	0.9	0.16
MSCI EM	4.7	8.4	27.3	-0.46	0.6	0.20
MSCI ACWI	4.4	5.8	16.9	-0.60	1.0	0.17
Bloomberg Commodity	2.6	3.8	15.6	-0.41	1.5	0.06

Source: Voya IM. As of 6/30/2019

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# Equity Investment Options

Shaun Murphy, CFA, LGIMA

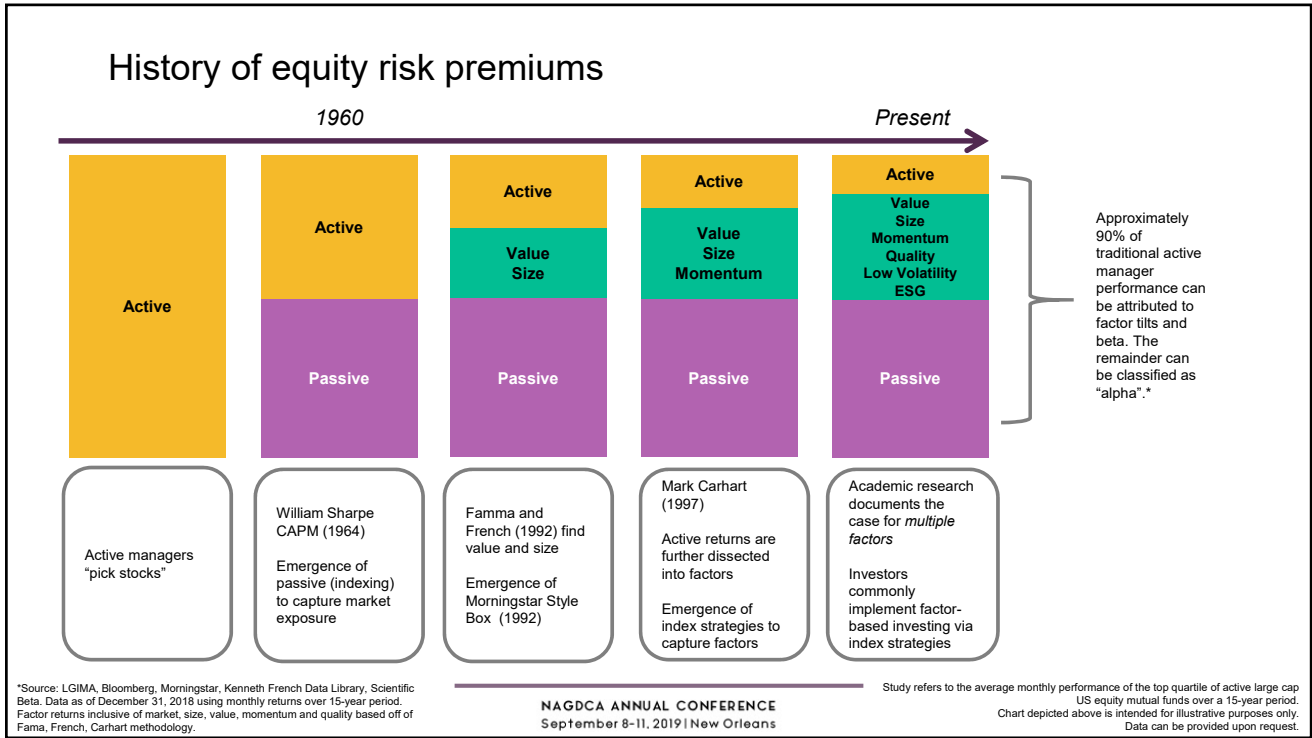
Case for Active vs. Passive & Investment Structures

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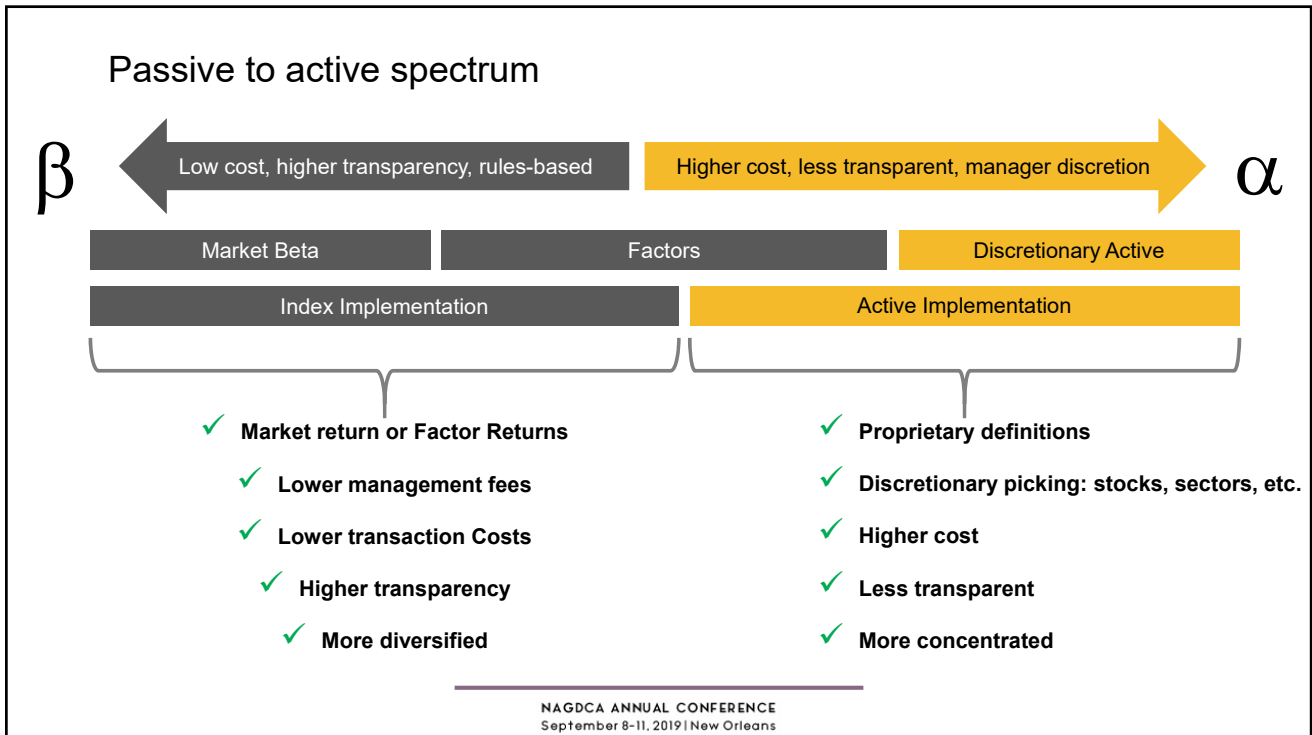
For more additional information regarding LGIMA, please see the Disclosure Section at the end of this presentation.



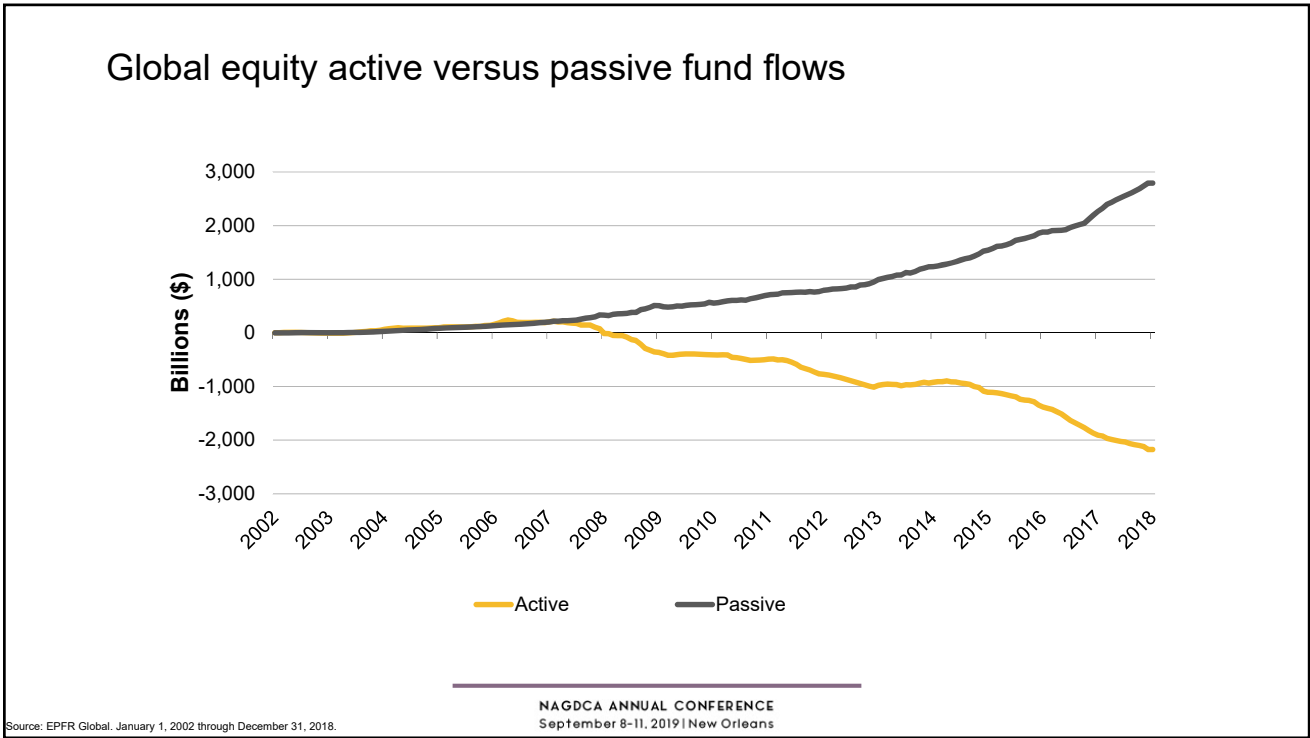
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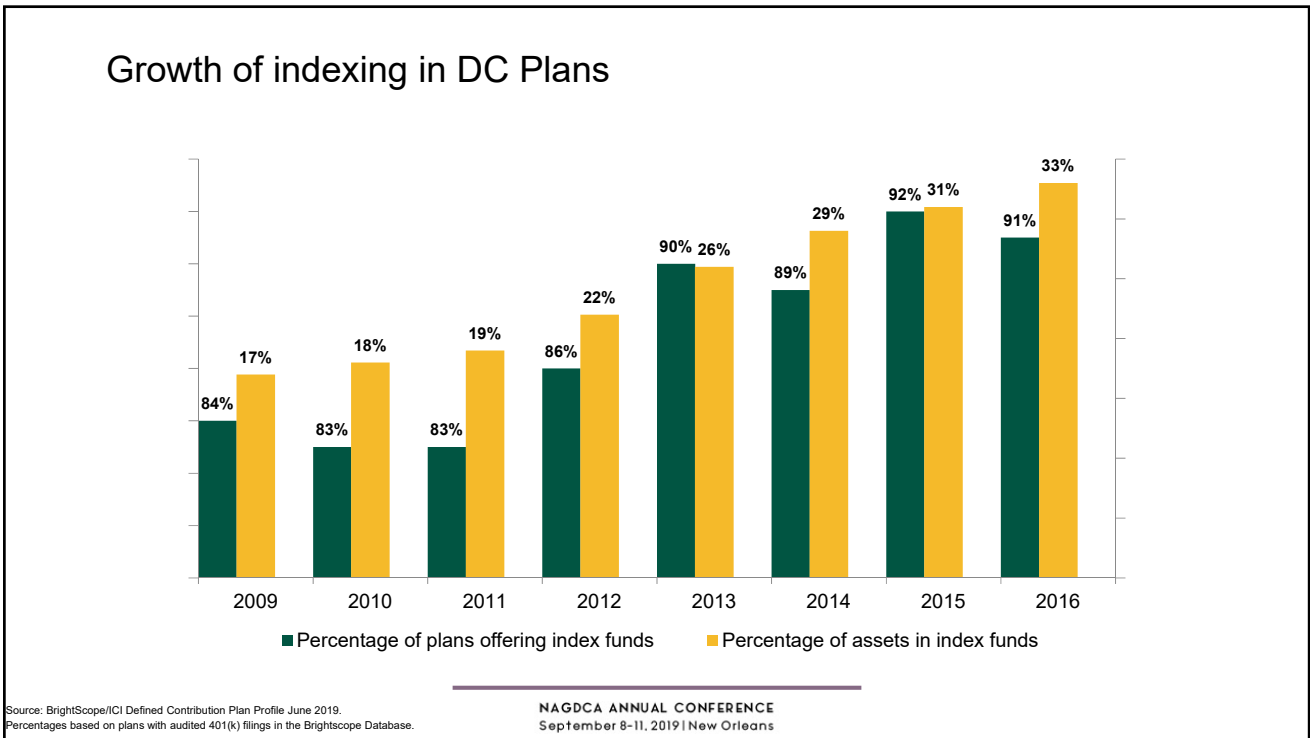
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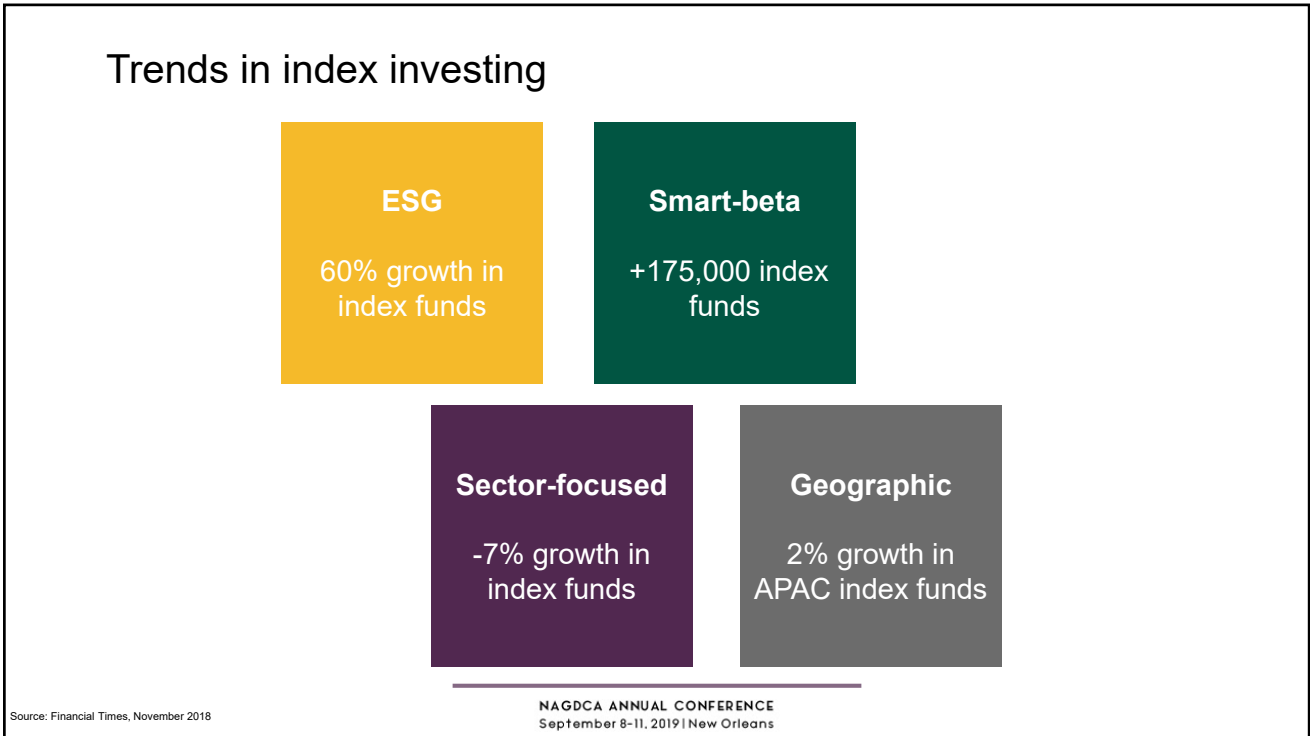
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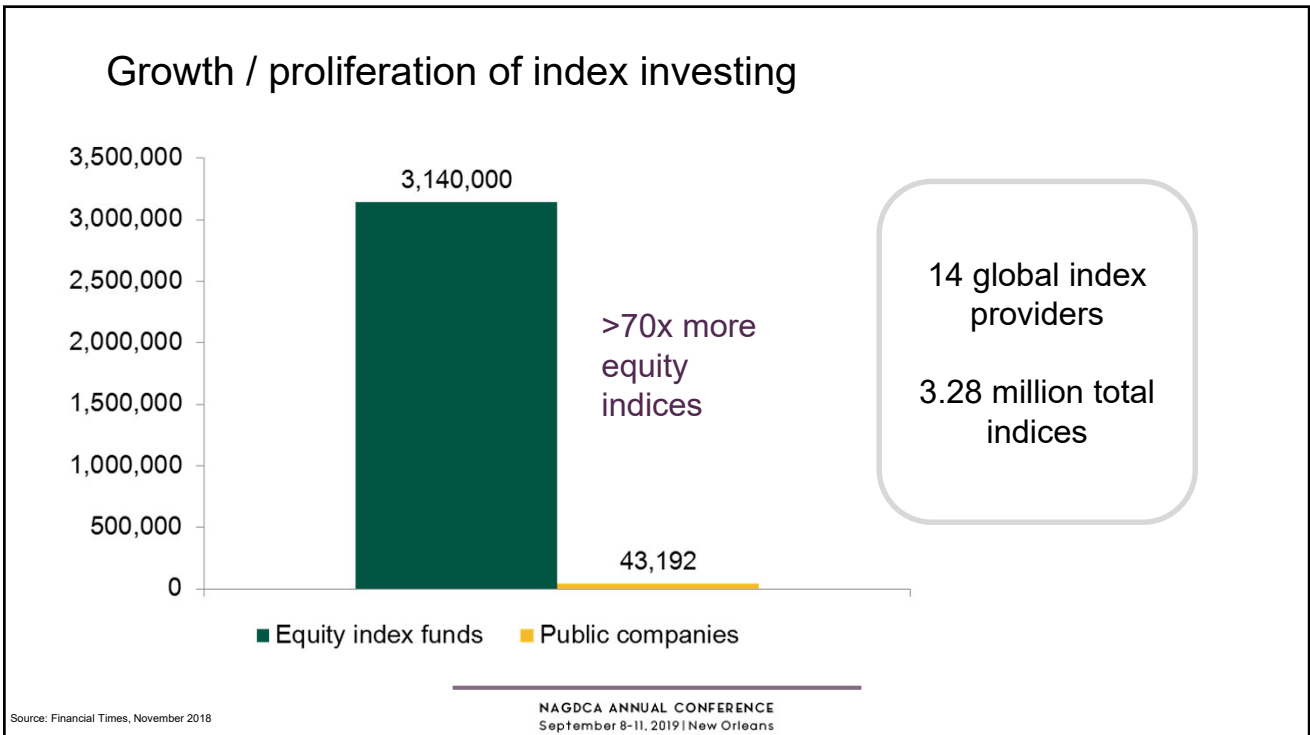
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### Design matters – Russell 2000 vs. S&P 600

	Russell 2000	S&P 600
10-year correlation	<b>99%</b>	
Weighting	Market Cap	Market Cap
Construction	Rules based	Committee governed
Market cap range	\$180 million to \$4.3 billion	\$350 million to \$1.6 billion
Annual turnover	12-16%	12-16%
Rebalancing frequency	Annual	No annual/semi annual rebalance Quarterly share updates
Notable eligibility requirements	<b>IPOs:</b> Eligible initial public offerings (IPOs) are added to Russell indexes at the end of each calendar quarter	<b>IPOs:</b> Initial public offerings should be seasoned for six to 12 months before being considered for addition to an index.  <b>Financial Viability:</b> The sum of the most recent four consecutive quarters' as-reported earnings should be positive as should the most recent quarter.

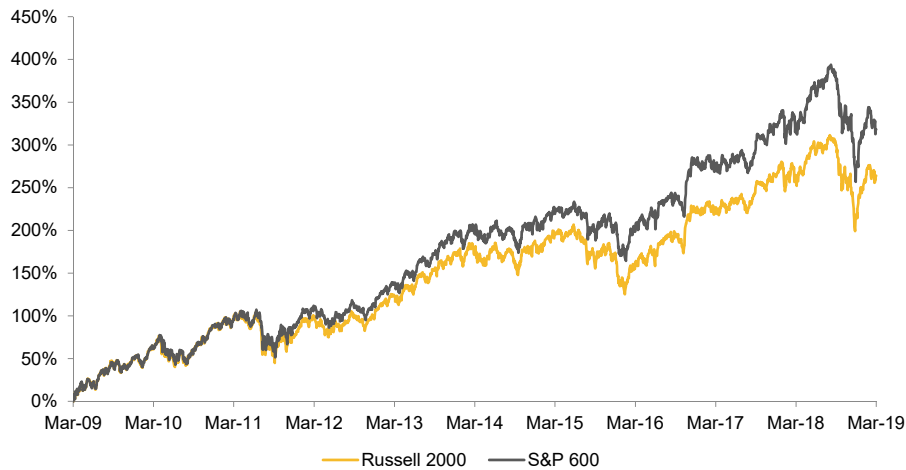
Source: LGIMA, Bloomberg  
As of March 31, 2019.

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### Design matters – Russell 2000 vs. S&P 600

10-year historical comparison: 3/31/2009 – 3/31/2019



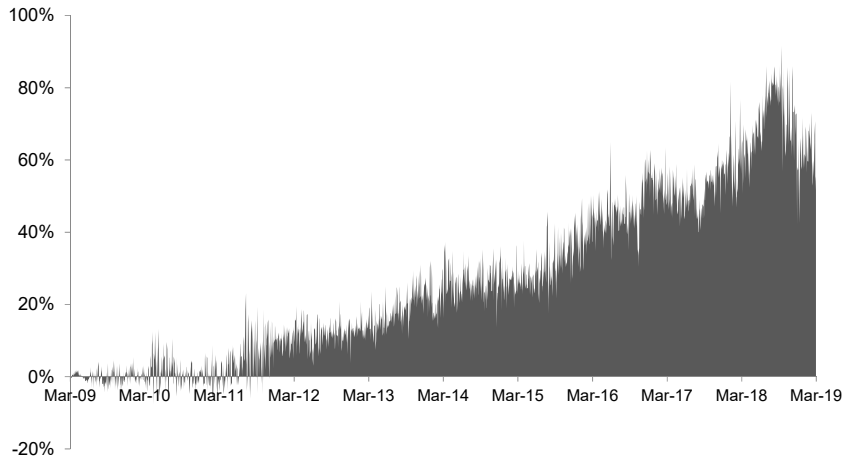
Source: LGIMA, Bloomberg

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## Design matters – Russell 2000 vs. S&P 500

10-year historical comparison: 3/31/2009 – 3/31/2019



**54% excess return for S&P 500**

Based on \$1 billion small cap allocation, that's \$540 million loss by not having small cap exposure

Source: LGIMA, Bloomberg.

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## Fund structures available to DC plan sponsors vary significantly

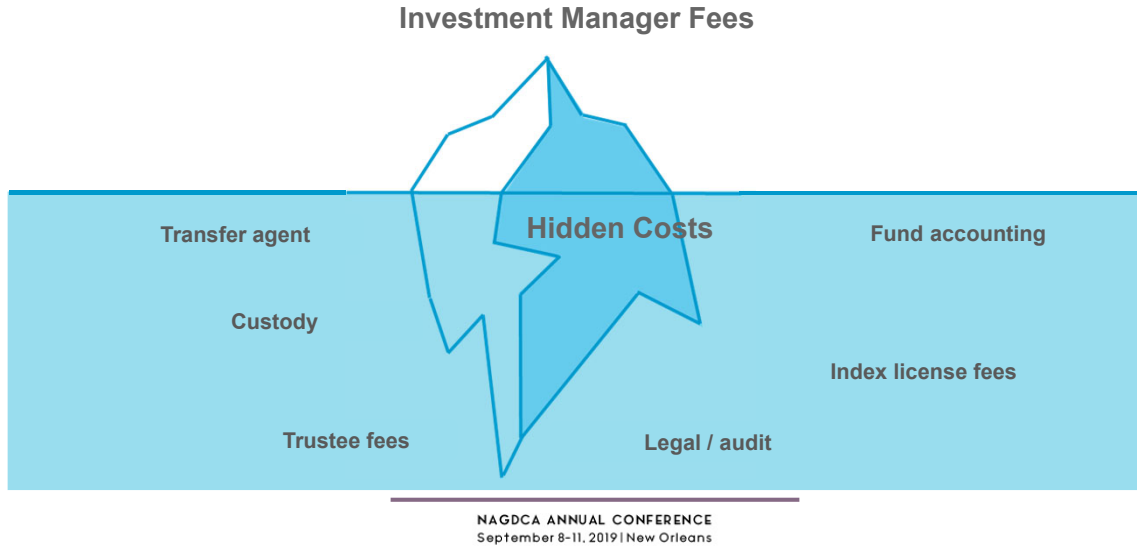
	MF	ETF	SMA	CIT
<b>Governance</b>	Board of Directors	Board of Directors	Plan sponsor	Trustees
<b>Qualification of Investors</b>	All investor types	All investor types	Qualified pension investors only	Qualified pension investors only
<b>Taxability</b>	Taxable	Taxable	Tax-exempt	Tax-exempt
<b>Fee Disclosures</b>	TER	TER	N/A	No TER provided
<b>Securities Lending</b>	Yes	Yes	Flexible	Flexible
<b>Reporting</b>	Public performance available	Public performance available	Available through record keeper, trustee; some CITs covered by Morningstar	Available through record keeper, trustee; some CITs covered by Morningstar



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## Current index fund management fee structure



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# Less Choice, More Diversification for your Core Menu

Jed Petty, CFA – Wellington Management Company, LLP

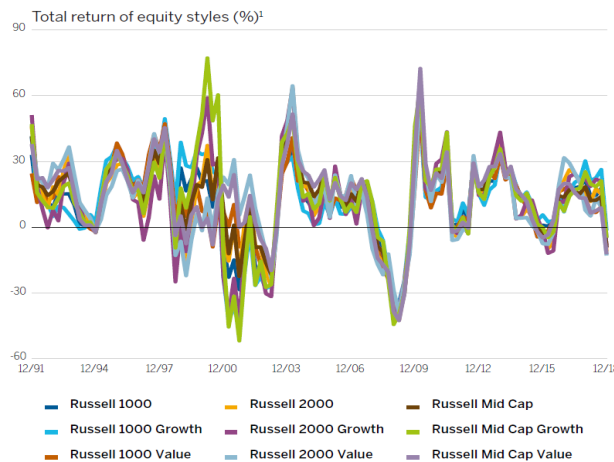
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## Growth vs Value – Do you need all those equity choices?

- Median number of investment options in public DC plans: **26.5<sup>2</sup>**
- Average number of equity options in a standard 401(k) plan lineup: **13<sup>3</sup>**



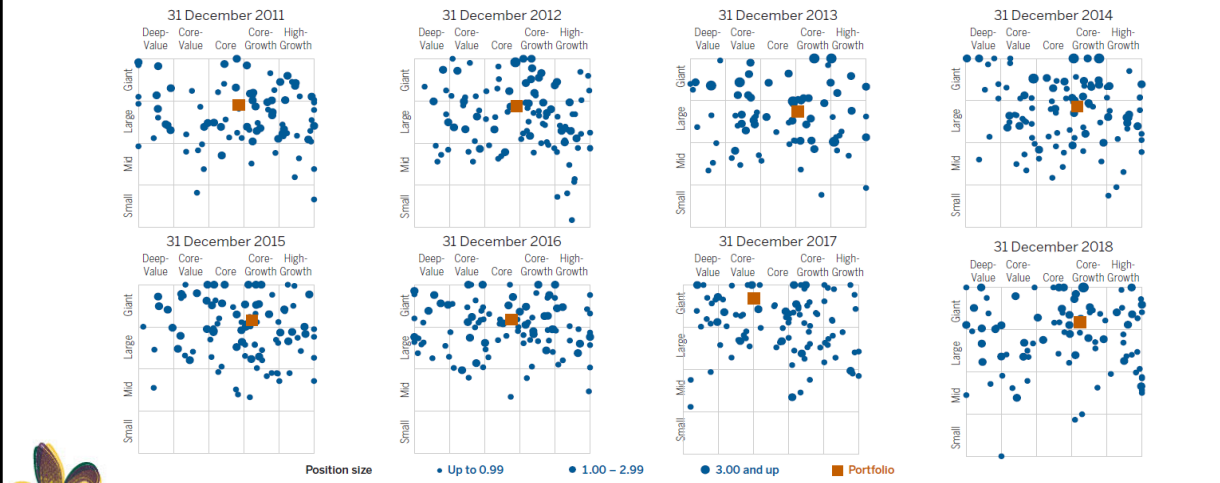
<sup>2</sup>NAGDCA: 2018 Perspectives in Practice Survey Report  
<sup>3</sup>Brightscope/ICI Defined Contribution Plan Profile: A Close Look at 401(k) Plans, 2016

<sup>1</sup>One-year returns rolling quarterly, eInvestment. Rolling 12-month return, 3-month step. For illustrative purposes only. PAST RESULTS ARE NOT NECESSARILY INDICATIVE OF FUTURE RESULTS AND AN INVESTMENT CAN LOSE VALUE. As of 31 December 2018. Chart data: 31 January 1991 – 31 December 2018.



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## Single Manager Consolidation Example – Int'l Equity

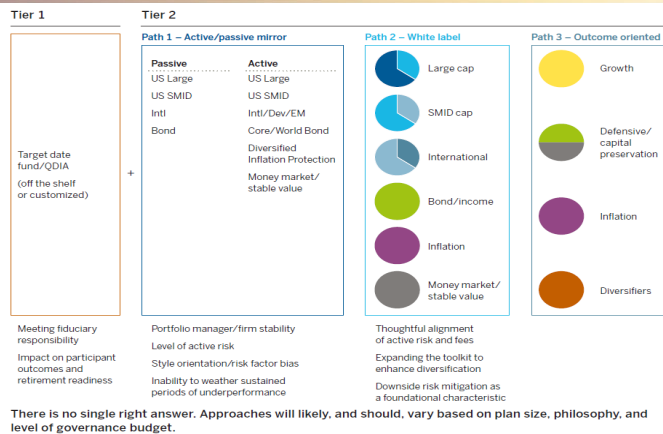


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Source: Morningstar | The data shown is limited by Morningstar style methodology and does not cover all ADRs. | The blue dots represent the style and size of individual positions, while the orange square reflects the aggregate style and size profile of the portfolio. | The data shown is of a representative account, is for informational purposes only, is subject to change, and is not indicative of future portfolio characteristics or returns. This is purely illustrative of a 'sample' international equity strategy and was chosen to display annual changes in the style spectrum of an actively managed strategy. This does not serve as advice, advertisement, or recommendation of any specific strategy.

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## Consolidation Examples



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For illustrative purposes only

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## Real Life Example: Objective-based menu

### 5 Pools (DB+DC Assets)

- Global Equity (GE)
- Spread FI (SFI)
- Inv. Grade FI (IGFI)
- Private RE (PRE)
- Inf. Protection (IP)

### DC Core Menu

- **Growth Option**  
➤ (GE + SFI)
- **Income Option**  
➤ (IGFI + SFI + PRE)
- **Inflation Protection**  
➤ (IP + PRE)



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## Appendix

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The indices referenced herein are broad-based securities market indices and used for illustrative purposes only. Broad-based securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly into an index.

Russell 1000 Index: The Index is a stock market index that tracks the highest-ranking 1,000 stocks in the Russell 3000 Index, which represent about 90% of the total market capitalization of that index.

Russell 2000 Index: The Index is a small-cap stock market index of the bottom 2,000 stocks in the Russell 3000 Index.

Russell Midcap Index: The Index measures performance of the 800 smallest companies (31% of total capitalization) in the Russell 1000 Index.

MSCI All Country World: The Index is a free float-adjusted market capitalization weighted index that captures large and mid cap representation across Developed and Emerging Markets countries.

MSCI EAFE: The Index is a free float-adjusted market capitalization Index that captures large and mid cap representation across Developed Markets countries around the world, excluding the US and Canada.

S&P 500: The Index is a capitalization-weighted Index of 500 stocks. The Index is designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

MSCI Emerging Markets: The Index is a free float-adjusted market capitalization index that captures large and mid cap representation across Emerging Markets countries.

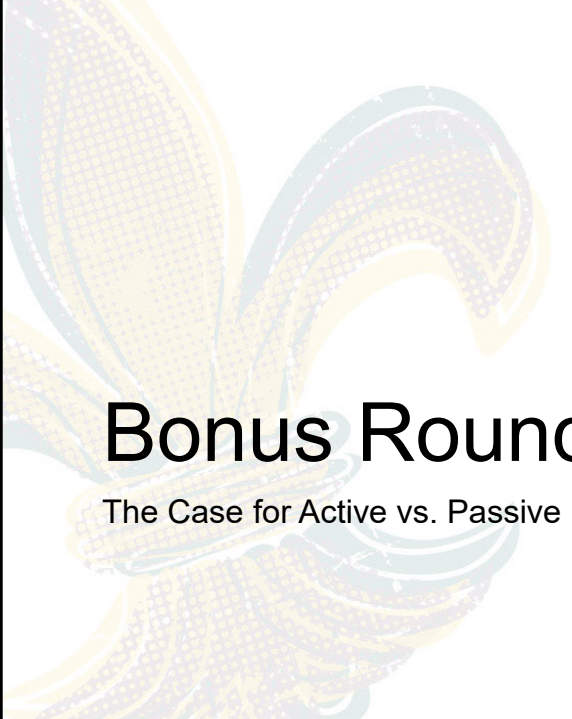
Bloomberg Barclays US Aggregate Bond: The Index measures the performance of the U.S. investment grade bond market.

The information presented represents examples of Wellington's potential investment process. No assurance or guarantee is made that any examples can or will be achieved. Actual experience may not reflect all of these examples. All investments are subject to risk of loss.



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# Bonus Round


The Case for Active vs. Passive

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## Active v. Passive in DC Lineups

- Two Potential Options for Plan Sponsors
  - Offer both active and passive in most/all asset classes
    - “Delegate” the choice to the participants
  - Decide which asset classes should be active and which passive
    - Help participants who may be confused about active and passive investing



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## The Error of Plans that are all/mostly Passive

- In our view, they miss out on providing their participants a unique opportunity
  - Many plans have the scale to get active fees unavailable elsewhere
  - DC plans are long-term and active management does better the longer the time horizon
  - With consultant or in-house expertise, there is a better chance of picking winning managers
  - DC plans are tax-deferred – not hurt by potential greater trading
  - Modest alpha and the power of compounding can be significant
  - **Caveat: Plan's Investment Committee must be patient**
    - IC decisions can destroy more capital than participant decisions



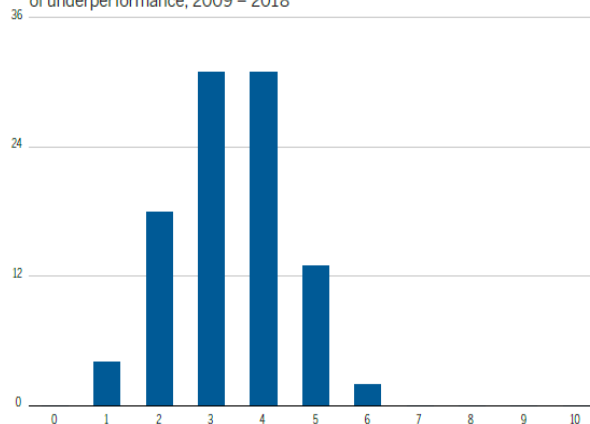
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## US Equity – Outperformance is not always linear

- 78% underperformed the benchmark in 3 or more calendar years
- 15% underperformed in 5 or more years
- Median strategy produced excess returns averaging 4.12% per year

Distribution of top-decile US Equity strategies by total calendar years of underperformance, 2009 – 2018



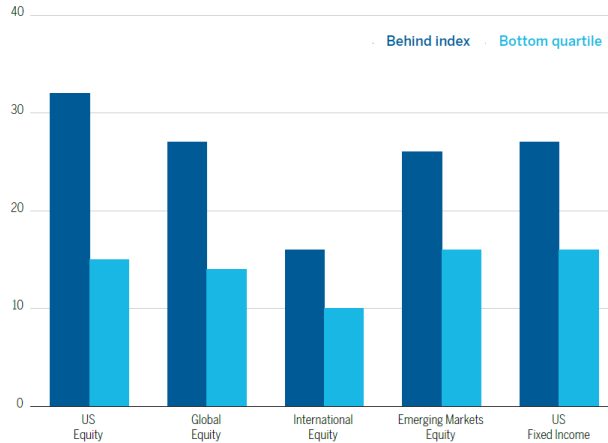
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Source: eVestment top-decile US Large Cap Equity strategies | Benchmark used: S&P 500 | Ten years ended 31 December 2018  
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## Even top performing managers have periods of underperformance

Percent of rolling 1 year observations behind index and bottom quartile, top decile managers<sup>1</sup> over ten years ended 31 December 2018 (%)



Source: eInvestment | <sup>1</sup>Benchmarks used: S&P 500 for US Equity, MSCI ACWI for Global Equity, MSCI EAFE for International Equity, MSCI EM for Emerging Markets Equity, and Bloomberg Barclays US Aggregate for US Fixed Income. Managers universes correspond to managers identifying with above benchmarks.  
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## Active funds' success rates (%) by category SPIVA: S&P Dow Jones Indices

- Active success rates are extremely low across asset classes and regions.

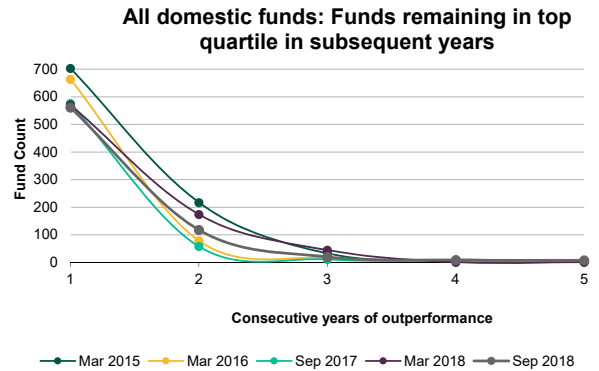
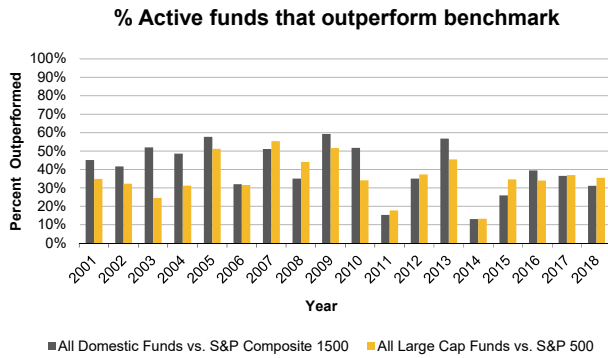
Category	10-Year (%)
All U.S. Large-Cap Funds	10.85
All U.S. Mid-Cap Funds	7.32
All U.S. Small-Cap Funds	6.64
International Funds	23.25
Emerging Markets Funds	13.75

Source: S&P Dow Jones Indices LLC. Data as of June 30, 2018. Returns shown are annualized. Fees and costs are included in numbers.

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## US active performance versus index benchmark



Source: SPIVA Year End 2018, Persistence Scorecards 2015-2018

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## Questions?

- Mary Buonfiglio, NC Supplemental Plans
- Timothy Kearney, Voya Financial
- Shaun Murphy, LGIMA
- Jed Petty, Wellington Management Company, LLP



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