# KENTUCKY RETIREMENT SYSTEMS
# INVESTMENT COMMITTEE MEETING
**Tuesday, November 12, 2019**
**1:00 p.m.**
**1270 Louisville Road**
**Frankfort, Kentucky 40601**
**AGENDA**

| | |
|---|---|
| 1:00 P.M. | Call to Order |
| 1:01 P.M. | Approval of Minutes*- August 27, 2019 |
| 1:02 P.M. | Swearing in of New Trustee – Alane Foley |
| 1:03 P.M. | Standard Reports |
| 1:05 P.M. | New Fund Recommendation* – Adams Street Partners – Rich Robben |
| 1:45 P.M. | New Fund Recommendation* – Barings European Real Estate II – Andy Kiehl |
| 2:30 P.M. | Review of proposed IPS changes - Wilshire |
| 3:15 P.M. | Adjourn |

** All times are approximations, one or more items on this agenda may be discussed in closed session.*

# MINUTES OF MEETING
# KENTUCKY RETIREMENT SYSTEMS
# QUARTERLY INVESTMENT COMMITTEE
# AUGUST 27, 2019, 9:00 A.M., E.T.
# 1270 LOUISVILLE ROAD, FRANKFORT, KENTUCKY

At the August 27, 2019 Quarterly Investment Committee Meeting, the following Committee members were present: Dave Harris (Chair), Kelly Downard, Sherry Kremer (arrived at 9:09 a.m.) Prewitt Lane, Keith Peercy and Jerry Powell (arrived at 9:56 a.m.). Trustee Betty Pendergrass and Investment Advisor Neil Ramsey were also present. Staff members present were David Eager, Mark Blackwell, Rebecca Adkins, Connie Davis, David Ziegler, Rich Robben, Anthony Chiu, Andy Kiehl, Joe Gilbert, Vicki Hale, Carol Johnson, Kristen Coffey, Jared Crawford, Ann Case, Phillip Cook, Shaun Case and Alane Foley. Larry Totten and Breanna Carroll were also present.

Mr. Harris called the meeting to order and Ms. Alane Foley called roll.

Mr. Harris introduced the agenda item *Approval of Minutes- July 25, 2019*. Mr. Lane moved and was seconded by Mr. Downard to approve the minutes as presented. The motion passed unanimously.

Mr. Harris introduced agenda item *Standard Reports.* All reports were provided for informational purposes only.

Mr. Harris introduced agenda item *New Fund Recommendation – JP Morgan*. Mr. Joe Gilbert introduced Mr. Jeff Fox and Mr. Tom Leventhorpe from JP Morgan Asset Management Inc. They provided an overview of Global Emerging Markets (GEM) Discovery Strategy. Mr. Lane moved and was seconded by Ms. Kremer to approve initial funding of $180 million (5%) with an option to go up to 7% of non-U.S. allocation into Global Emerging Markets (GEM) Discovery Strategy. The motion passed unanimously.

Mr. Harris introduced agenda item *New Fund Recommendation – Pzena*. Mr. Joe Gilbert introduced Mr. Rakesh Bordia from Pzena Investment Management, LLC. Mr. Bordia provided an overview of Emerging Markets Select Value Strategy. Ms. Kremer moved and was seconded by Mr. Lane to approve initial funding of $180 million (5%) with an option to go up to 7% of non-U.S. allocation into Emerging Markets Select Value Strategy. The motion passed unanimously.

Mr. Harris introduced agenda item *New Fund Recommendation – Next Century*. Mr. Joe Gilbert introduced Mr. Tom Press, Mr. Bob Scott and Mr. Peter Capouch with Next Century Growth Investors, LLC. They provided an overview of Micro Cap Growth Strategy. Mr.Harris moved and was seconded by Ms. Kremer to approve initial funding of $50-85 million (2.5%) with an option to go up to 3% of U.S. allocation into Micro Cap Growth Strategy. The motion passed unanimously.

Mr. Harris moved and was seconded by Mr. Downard to transition the remaining balance of the BlackRock ACWI-Ex US Index portfolio to the BlackRock World Ex-US Index Strategy. The motion passed unanimously.

Mr. Harris introduced agenda item *Strategic Partnership Update.* Mr. Andy Kiehl provided an update to the Committee. This was presented for informational purposes only.

Mr. Harris called for a short recess.

Mr. Harris called the meeting to order and introduced agenda item *New Fund Recommendation – CapitalSpring.* Mr. Anthony Chiu introduced Mr. Richard Fitzgerald from CaptialSpring. He provided an overview of CS Adjacent Fund. Mr. Powell moved and was seconded by Mr. Downard to approve an investment of $200 million in Separately Managed Account. The motion passed unanimously.

Mr. Harris introduced agenda item *Additional Deposit Recommendation – ArrowMark.* Mr. Andy Kiehl introduced Ms. Kaelyn Abrell and Mr. Greth Lester from ArrowMark. They provided an overview of KRS-ArrowMark Fund I. Mr. Powell moved and was seconded by Mr. Lane to

approve $300 million additional funding to KRS-ArrowMark Fund I. The motion passed unanimously.

Mr. Harris called for a short recess.

Mr. Harris called the meeting to order and introduced agenda item *BNY Mellon Custody Contract Renewal.* Ms. Kremer moved and was seconded by Mr. Powell to renew the agreement for custodial services as presented with BNY Mellon. The motion passed unanimously.
The Committee discussed creating a process to monitor contract expirations to ensure renewals are properly executed.

Mr. David Lindberg and Mr. Chris Tessman from Wilshire Associates gave an overview of *IPS Review and Proposed Changes.* This was provided for informational purposes only.

There being no further business, Mr. Downard moved and was seconded by Mr. Powell to adjourn the meeting at 1:00 p.m. The next meeting of the Investment Committee is scheduled for 1:00 p.m. November 12, 2019. Copies of all documents presented are incorporated as part of the minutes of the Investment Committee meeting held August 27, 2019.

# CERTIFICATION

I do certify that I was present at this meeting and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

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Recording Secretary

I, as Chair of the Investment Committee of the Board of Trustees of the Kentucky Retirement Systems, do certify that the Minutes of the meeting held on August 27, 2019 were approved by the Investment Committee on November 12, 2019.

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Committee Chair

I have reviewed the Minutes of the Investment Committee Meeting on August 27, 2019 for form, content, and legality.

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Office of Legal Services

| September 2019 | KRS MONTHLY PERFORMANCE UPDATE |
|---|---|

**What's going on in the marketplace?**

September was a reversal of August. Global equity markets rose as investors stopped to take a deep breath and reconsider the same concerns that have pushed and pulled markets for some time. Perhaps the slowdown in global growth will not be as severe as once thought. Trade tensions between the U.S. and China, and Brexit concerns seemed to abate somewhat. These matters, plus a more dovish Fed gave some comfort to equity investors. As such, bond markets came off somewhat as interest rates moved off the prior month's lows.

**U.S. Equities**

U.S. markets gained approximately 2.0% during the month per the Russell 3000. All market cap segments produced positive returns led by mid-caps, which earned just over 3.0%. Both small and large caps returned roughly 2.0%. In a shift, value significantly outpaced growth by 3.7% (R3000V 3.7%, R3000G 0.0%).

During the month, the KRS U.S. equity portfolio outperformed the Russell 3000 Index by 23 bps (2.0% vs 1.8%). The portfolio benefited both from solid stock selection and allocation effects. Outside of one, all strategies either performed in line or outperformed their respective indices. The portfolio being smaller in terms of market cap was also additive as mid and small caps outperformed there large cap counterparts (MC 3.1%, SC 2.1%, LC 1.9%).

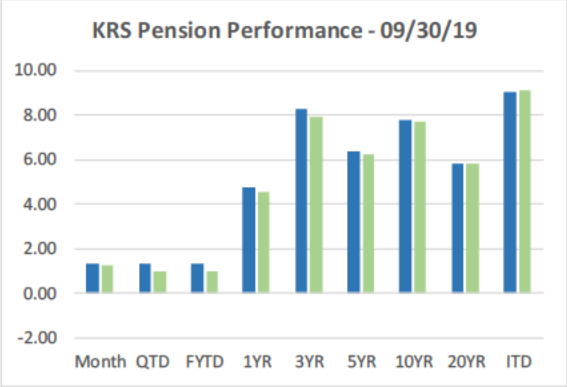
**Non-U.S. Equities**

Non-U.S. equities markets performed well during the period gaining 2.6% per the MSCI ACWI-Ex US Index. Both developed and emerging markets performed well; however, developed markets outperformed their emerging counterparts, 2.8% compared to 1.9%.

The KRS Non-U.S. equity portfolio gained 2.4% during the month, which trailed the index by 11 bps (2.6%). Relative underperformance was due to weaker stock selection from three of the active strategies, which were significantly offset by strong selection from the remaining mandate. Allocation decisions had little effect on the period's relative performance.

**Fixed Income**

The fixed income markets were mixed during the month. The leverage loan segment rose 0.5% and the corporate high yield market gained 0.4%. The intermediate and aggregate market segments fell -23 bps and -53 bps, respectively.




The KRS specialty credit allocation earned 0.3% versus a benchmark return 0.4%. In general, relative strategy performance was mixed, led by solid performance in the leveraged loan space. The KRS core fixed income portfolio fell -17 bps versus the Bloomberg Barclays Aggregate return of -0.5%. Relative performance was bolstered by the intermediate credit mandates, which held up better, failing just 23 bps.

**Alternative Assets**

The diversifying strategy group gained 2.1% during the month. Three of the four major portfolio segments provided positive returns. The Real Estate allocation led the way, earning nearly 4.2%. The Real Return and Opportunistic portfolios followed,

returning 1.7% and 0.9%, respectively. The Absolute Return portion of the portfolio lost -48 bps during the period, however; it did outperform its index return of -0.6%. The Private Equity portion of the portfolio provided a return of 1.6%.

**Cash**

The cash portfolio performed inline during the month (0.2% vs 0.2%). The cash allocation finished the period above target (3.8%) in part due to the continued transitioning of assets to the newly approved asset allocations. The overweight had a slightly adverse effect on the fund's relative performance as most asset classes outperformed cash during the period.

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**NOTES**:

1) Returns displayed are "net". For the purposes of this report, total fund return information is net of fees and expenses, with audited data beginning in July 2011. At the manager level returns are net of fees beginning with July 2011, and gross of fees for prior data.
2) Individual plan allocation and performance (pg.4).
3) Prior to January 1, 2014, the inception date for the Private Equity asset class was stated as 10/1/1990 for Pension Fund and 6/1/2001 for Insurance Fund. Prior to 07/01/02, the characteristics of the allocation, and the benchmark itself, were more closely aligned with Real Estate. As such, it is not appropriate to report this portion of the return stream within the Private Equity allocation, whose true inception date has been determined to be 07/01/02 based on funding the Systems' first private equity mandate. The portion of the original return streams that are no longer reported within the Private Equity allocation (Pension from 10/1/90 to 06/30/02; Insurance 06/01/01 to 06/30/02) are reported within the Fund Level performance figures.
4) Private Equity Composite (Pension)
   Inception (07/01/02) to 06/30/11
   60.00% S&P 1500 Composite Index
   40.00% Barclays US Corporate High Yield Index
   07/01/11 to 12/31/15
   100.00% Russell 3000 Index + 4% (Qtr Lag)
   **01/01/16 to Present**
   **100.00% Russell 3000 Index + 3% (Qtr Lag)**

   Private Equity Composite (Insurance)
   Inception (07/01/02) to 06/30/11
   80.00% S&P 1500 Composite Index
   20.00% Barclays US Corporate High Yield Index
   07/01/11 to 12/31/15
   100.00% Russell 3000 Index + 4% (Qtr Lag)
   **01/01/16 to Present**
   **100.00% Russell 3000 Index + 3% (Qtr Lag)**
5) The Private Equity & Real Return Benchmarks, from one month returns up until five year returns, is equal to the performance of the associated KRS allocations. Given there is not appropriate benchmark to use for short term performance evaluation, this will allow greater focus on longer term returns, which is more appropriate given the long term nature of these investments.

   <u>Pension Benchmark Composite 01/01/16 to 08/31/17</u>
   US Equity: Russell 3000 (25.6%)
   Non US Equity: MSCI AXCI Ex-US IMI (25.2%)
   Global Fixed Income: Barclays Universal Index (6.8%)
   Credit Fixed Income: Barclays US High Yield (7.2%)
   Real Estate: NCREIF ODCE (5.0%)
   Absolute Return: HFRI Diversified FOF (10.0%)
   Real Return: Allocation Specific (8.0%)
   Private Equity<5Yrs: Actual Performance
   Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
   Cash: Cit Grp 3-mos Treasury Bill (2.2%)

   <u>Insurance Benchmark Composite 01/01/16 to 08/31/17</u>
   US Equity: Russell 3000 (26.5%)
   Non US Equity: MSCI AXCI Ex-US IMI (26.5%)
   Global Fixed Income: Barclays Universal Index (6.0%)
   Credit Fixed Income: Barclays US High Yield (6.0%)
   Real Estate: NCREIF ODCE (5.0%)
   Absolute Return: HFRI Diversified FOF (10.0%)
   Real Return: Allocation Specific (8.0%)
   Private Equity<5Yrs: Actual Performance
   Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
   Cash: Cit Grp 3-mos Treasury Bill (2.0%)

   <u>Pension Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>
   US Equity: Russell 3000 (23.6%)
   Non US Equity: MSCI AXCI Ex-US IMI (23.2%)
   Global Fixed Income: Barclays Universal Index (9.0%)
   Credit Fixed Income: Barclays US High Yield (9.0%)
   Real Estate: NCREIF ODCE (5.0%)
   Absolute Return: HFRI Diversified FOF (10.0%)
   Real Return<5yrs: Actual Performance

   <u>Insurance Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>
   US Equity: Russell 3000 (24.5%)
   Non US Equity: MSCI AXCI Ex-US IMI (24.5%)
   Global Fixed Income: Barclays Universal Index (8.0%)
   Credit Fixed Income: Barclays US High Yield (8.0%)
   Real Estate: NCREIF ODCE (5.0%)
   Absolute Return: HFRI Diversified FOF (10.0%)
   Real Return<5yrs: Actual Performance

Real Return>5yrs: CPI+3% (8%)
Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
Cash: Cit Grp 3-mos Treasury Bill (2.2%)

**Pension Benchmark Composite 06/01/18 to Present**

**US Equity: Russell 3000 (17.0%)**
**Non US Equity: MSCI AXCI Ex-US IMI (21.0%)**
**Global Fixed Income: Barclays Universal Index (13.0%)**
**Credit Fixed Income: Barclays US High Yield (12.4%)**
**Real Estate: NCREIF ODCE (5.0%)**
**Absolute Return: HFRI Diversified FOF (10.0%)**
**Real Return<5yrs: Actual Performance**
**Real Return>5yrs: CPI+3% (10.0%)**
**Private Equity<5Yrs: Actual Performance**
**Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)**
**Cash: Cit Grp 3-mos Treasury Bill (2.2%)**

Real Return>5yrs: CPI+3% (8%)
Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
Cash: Cit Grp 3-mos Treasury Bill (2.0%)

**Insurance Benchmark Composite 06/01/18 to Present**

**US Equity: Russell 3000 (17.9%)**
**Non US Equity: MSCI AXCI Ex-US IMI (21.9%)**
**Global Fixed Income: Barclays Universal Index (13.0%)**
**Credit Fixed Income: Barclays US High Yield (11.0%)**
**Real Estate: NCREIF ODCE (5.0%)**
**Absolute Return: HFRI Diversified FOF (10.0%)**
**Real Return<5yrs: Actual Performance**
**Real Return>5yrs: CPI+3% (10.0%)**
**Private Equity<5Yrs: Actual Performance**
**Private Equity>5Yrs: Russell 3000 Index+3% (9.2%)**
**Cash: Cit Grp 3-mos Treasury Bill (2.0%)**

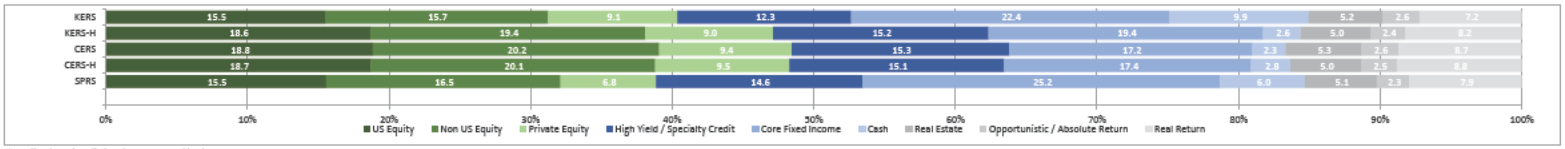
**Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

## KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 09/30/19

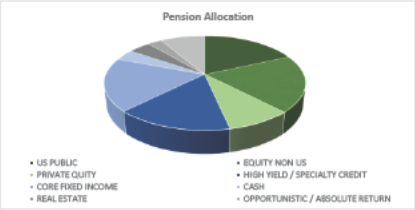
| Structure | Benchmark | Inception | Market Value | % of Total | Month | | QTD | | Fiscal YTD | | 1 Year | | 3 Years | | 5 Years | | 10 Years | | 20 Years | | ITD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark |
| TOTAL FUND | KY Ret. Blended Index | 4/1/1984 | 12,902,082,447.45 | 100.00 | 1.32 | 1.21 | 1.28 | 0.97 | 1.28 | 0.97 | 4.77 | 4.55 | 8.28 | 7.94 | 6.33 | 6.24 | 7.78 | 7.72 | 5.77 | 5.80 | 9.02 | 9.12 |
| GROWTH | | 7/1/2018 | 8,074,178,575.88 | 62.58 | 1.64 | | 1.23 | | 1.23 | | 3.82 | | | | | | | | | | 5.70 | |
| US PUBLIC | KY Domestic Equity Blend | 4/1/1984 | 2,355,442,991.25 | 18.26 | 1.99 | 1.76 | 1.27 | 1.16 | 1.27 | 1.16 | 2.79 | 2.92 | 12.25 | 12.83 | 9.85 | 10.44 | 12.49 | 13.11 | 6.55 | 6.95 | 11.21 | 11.27 |
| EQUITY NON US | KY Ret.Int'l Eq. Blended Index | 7/1/2000 | 2,511,768,193.56 | 19.47 | 2.44 | 2.55 | -1.16 | -1.72 | -1.16 | -1.72 | -0.73 | -1.84 | 7.56 | 6.26 | 4.36 | 3.10 | 5.01 | 4.82 | | | 3.04 | 3.23 |
| PRIVATE QUITY | Russell 3000 3%(Qtr Lag) | 7/1/2002 | 1,153,844,067.59 | 8.94 | 1.56 | 1.56 | 5.09 | 5.09 | 5.09 | 5.09 | 11.14 | 11.14 | 14.05 | 14.05 | 11.50 | 11.50 | 13.83 | 15.74 | | | 11.34 | 11.48 |
| HIGH YIELD / SPECIALTY CREDIT | High Yield Custom Benchmark | 7/1/2017 | 2,053,123,323.48 | 15.91 | 0.33 | 0.42 | 2.00 | 1.16 | 2.00 | 1.16 | 6.76 | 4.73 | | | | | | | | | 6.56 | 4.62 |
| FIXED INCOME / LIQUIDITY | | 7/1/2018 | 2,830,675,544.62 | 21.94 | -0.11 | | 1.25 | | 1.25 | | 6.97 | | | | | | | | | | 6.02 | |
| CORE FIXED INCOME | Bloomberg Barclays US Aggregate | 7/1/2013 | 2,341,871,106.26 | 18.15 | -0.17 | -0.53 | 1.37 | 2.27 | 1.37 | 2.27 | 7.92 | 10.30 | 2.64 | 2.92 | 3.44 | 3.38 | | | | | 3.39 | 3.43 |
| CASH | Citigroup Treasury Bill-3 Month | 1/1/1988 | 488,804,438.36 | 3.79 | 0.18 | 0.17 | 0.57 | 0.56 | 0.57 | 0.56 | 2.45 | 2.36 | 1.90 | 1.52 | 1.28 | 0.96 | 0.89 | 0.52 | 2.16 | 1.73 | 3.55 | 3.11 |
| DIVERSIFYING STRATEGIES | | 7/1/2018 | 1,997,544,567.81 | 15.48 | 2.09 | | 1.58 | | 1.58 | | 5.81 | | | | | | | | | | 5.39 | |
| REAL ESTATE | NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^ | 7/1/1984 | 547,646,427.20 | 4.24 | 4.17 | 0.77 | 4.08 | 0.77 | 4.08 | 0.77 | 10.17 | 5.46 | 10.64 | 6.61 | 9.82 | 8.76 | 10.78 | 8.87 | 7.77 | 7.35 | 6.26 | 6.43 |
| OPPORTUNISTIC / ABSOLUTE RI | HFRI Diversified | | 343,298,153.44 | 2.66 | -0.48 | -0.59 | -0.43 | -0.63 | -0.43 | -0.63 | -1.09 | 0.55 | 2.47 | 3.28 | 1.57 | 2.07 | | | | | 3.49 | 2.79 |
| REAL RETURN | Pension Real Return Custom Benchmark | 7/1/2011 | 1,106,599,987.17 | 8.58 | 1.71 | 1.71 | 0.67 | 0.67 | 0.67 | 0.67 | 5.05 | 5.05 | 3.94 | 3.94 | 2.72 | 2.72 | | | | | 3.83 | 2.82 |

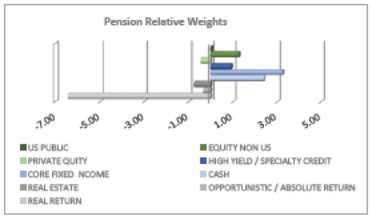
## KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 09/30/19

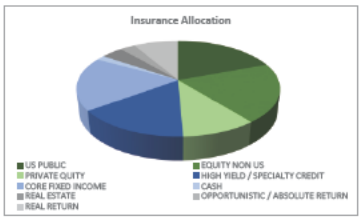
| Plan | Benchmark | Inception | Market Value | % of Total | Month | | 3 Months | | Fiscal YTD | | 1 Year | | 3 Years | | 5 Years | | 10 Years | | 20 Years | | ITD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KERS | KY Ret. KERS Plan Index | | 2,277,762,392.91 | 100.00 | 1.09 | 1.03 | 1.41 | 1.03 | 1.41 | 1.03 | 4.80 | 4.88 | 7.60 | 7.46 | 5.83 | 5.97 | 7.56 | 7.59 | 5.66 | 5.73 | 8.95 | 9.08 |
| KERS- H | KY Ret. KERS Haz Plan Index | | 692,431,655.61 | 100.00 | 1.33 | 1.24 | 1.25 | 0.99 | 1.25 | 0.99 | 4.60 | 4.53 | 8.30 | 8.13 | 6.35 | 6.16 | 7.79 | 7.70 | 5.77 | 5.79 | 9.02 | 9.11 |
| CERS | KY Ret. CERS Plan Index | | 7,215,246,566.99 | 100.00 | 1.38 | 1.24 | 1.23 | 0.99 | 1.23 | 0.99 | 4.69 | 4.53 | 8.38 | 8.14 | 6.41 | 6.16 | 7.81 | 7.70 | 5.78 | 5.79 | 9.03 | 9.11 |
| CERS- H | KY Ret. CERS Haz Plan Index | | 2,430,493,410.34 | 100.00 | 1.36 | 1.24 | 1.20 | 0.99 | 1.20 | 0.99 | 4.68 | 4.53 | 8.36 | 8.13 | 6.43 | 6.16 | 7.82 | 7.70 | 5.78 | 5.79 | 9.03 | 9.11 |
| SPRS | KY Ret. SPRS Plan Index | | 286,148,414.32 | 100.00 | 1.16 | 1.03 | 1.36 | 1.03 | 1.36 | 1.03 | 4.93 | 4.88 | 7.80 | 7.68 | 5.74 | 5.91 | 7.48 | 7.57 | 5.62 | 5.73 | 8.93 | 9.07 |

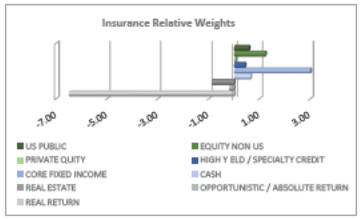



Note The above chart displays the average monthly a locat on.



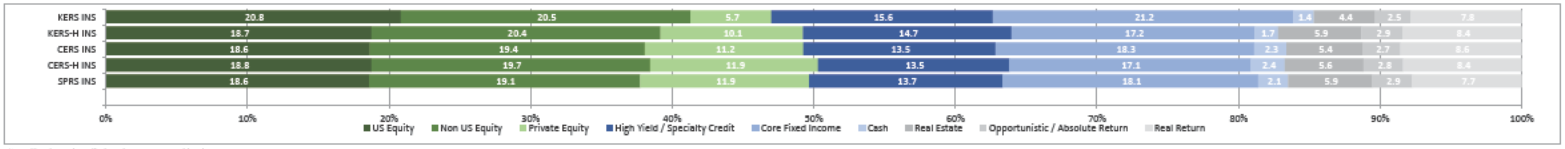




## KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 09/30/19

| Structure | Benchmark | Inception | Market Value | % of Total | Month | | QTD | | Fiscal YTD | | 1 Year | | 3 Years | | 5 Years | | 10 Years | | 20 Years | | ITD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark | KRS | Benchmark |
| TOTAL FUND | KY Ret. Blended Index | 4/1/1987 | 5,510,309,004.08 | 100.00 | 1.31 | 1.18 | 1.15 | 0.81 | 1.15 | 0.81 | 4.55 | 4.38 | 8.43 | 8.13 | 6.48 | 6.47 | 7.65 | 8.09 | 5.21 | 5.48 | 7.39 | 7.73 |
| GROWTH | Growth Custom Benchmark | 7/1/2018 | 3,569,233,010.30 | 64.77 | 1.61 | 2.52 | 1.01 | 0.99 | 1.01 | 0.99 | 3.56 | 4.26 | | | | | | | | | 5.38 | 6.36 |
| US PUBLIC | KY Domestic Equity Blend | 7/1/1992 | 1,064,379,511.88 | 19.32 | 1.98 | 1.76 | 1.25 | 1.16 | 1.25 | 1.16 | 2.79 | 2.92 | 12.26 | 12.83 | 10.10 | 10.44 | 12.52 | 13.03 | 6.75 | 6.64 | 9.63 | 9.54 |
| EQUITY NON US | KY Ret.Int'l Eq. Blended Index | 4/1/2000 | 1,101,050,679.85 | 19.98 | 2.40 | 2.55 | -1.19 | -1.72 | -1.19 | -1.72 | -0.90 | -1.84 | 7.45 | 6.26 | 4.23 | 3.10 | 4.72 | 4.68 | | | 3.02 | 2.43 |
| PRIVATE QUITY | Russell 3000 3%(Qtr Lag) | 7/1/2002 | 554,094,930.88 | 10.06 | 1.28 | 1.28 | 3.62 | 3.62 | 3.62 | 3.62 | 10.08 | 10.08 | 14.76 | 14.76 | 13.55 | 13.55 | 15.06 | 15.78 | | | 10.36 | 10.94 |
| HIGH YIELD / SPECIALTY CREDIT | Bloomberg Barclays US High Yield | 7/1/2017 | 849,707,887.69 | 15.42 | 0.34 | 0.42 | 1.97 | 1.16 | 1.97 | 1.16 | 6.69 | 4.73 | | | | | | | | | 6.25 | 4.62 |
| FIXED INCOME / LIQUIDITY | | 7/1/2018 | 1,090,529,515.04 | 19.79 | -0.11 | | 1.27 | | 1.27 | | 6.81 | | | | | | | | | | 5.91 | |
| CORE FIXED INCOME | Bloomberg Barclays US Aggregate | 7/1/2013 | 999,540,816.29 | 18.14 | -0.15 | -0.53 | 1.33 | 2.27 | 1.33 | 2.27 | 7.85 | 10.30 | 2.61 | 2.92 | 3.08 | 3.38 | | | | | 3.06 | 3.43 |
| CASH | Citigroup Treasury Bill-3 Month | 7/1/1992 | 90,988,698.75 | 1.65 | 0.17 | 0.17 | 0.57 | 0.56 | 0.57 | 0.56 | 2.39 | 2.36 | 1.66 | 1.52 | 1.11 | 0.96 | 0.69 | 0.52 | 1.92 | 1.73 | 2.63 | 2.50 |
| DIVERSIFYING STRATEGIES | | 7/1/2018 | 850,761,148.74 | 15.44 | 1.95 | | 1.60 | | 1.60 | | 5.92 | | | | | | | | | | 5.43 | |
| REAL ESTATE | NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^ | 5/1/2009 | 227,114,222.36 | 4.12 | 4.34 | 0.77 | 4.24 | 0.77 | 4.24 | 0.77 | 10.48 | 5.46 | 10.86 | 6.61 | 10.04 | 8.76 | | | | | 9.40 | 5.96 |
| OPPORTUNISTIC / ABSOLUTE RI | HFRI Diversified | | 154,495,835.65 | 2.81 | -0.45 | -0.59 | -0.41 | -0.63 | -0.41 | -0.63 | -1.04 | 0.55 | 2.49 | 3.28 | 1.60 | 2.07 | | | | | 3.44 | 2.79 |
| REAL RETURN | Pension Real Return Custom Benchmark | 7/1/2011 | 469,151,090.73 | 8.51 | 1.42 | 1.42 | 0.61 | 0.61 | 0.61 | 0.61 | 5.07 | 5.07 | 3.66 | 3.66 | 2.60 | 2.60 | | | | | 3.57 | 2.87 |

## KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 09/30/19

| Plan | Benchmark | Inception | Market Value | % of Total | Month | | 3 Months | | Fiscal YTD | | 1 Year | | 3 Years | | 5 Years | | 10 Years | | 20 Years | | ITD | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KERS INS | KY Ins. KERS Plan Index | | 950,161,451.29 | 100.00 | 1.18 | 1.17 | 0.88 | 0.84 | 0.88 | 0.84 | 3.65 | 4.42 | 7.70 | 8.18 | 5.91 | 6.25 | 7.31 | 7.98 | 5.04 | 5.42 | 7.28 | 7.69 |
| KERS - H INS | KY Ins. KERS Haz Plan Index | | 528,254,362.58 | 100.00 | 1.32 | 1.17 | 1.09 | 0.84 | 1.09 | 0.84 | 4.49 | 4.42 | 8.35 | 8.22 | 6.39 | 6.31 | 7.63 | 8.01 | 5.20 | 5.44 | 7.38 | 7.71 |
| CERS INS | KY Ins. CERS Plan Index | | 2,500,799,484.43 | 100.00 | 1.32 | 1.17 | 1.19 | 0.84 | 1.19 | 0.84 | 4.65 | 4.42 | 8.51 | 8.20 | 6.56 | 6.33 | 7.70 | 8.02 | 5.24 | 5.45 | 7.41 | 7.71 |
| CERS - H INS | KY Ins. CERS Haz Plan Index | | 1,331,073,613.08 | 100.00 | 1.34 | 1.17 | 1.19 | 0.84 | 1.19 | 0.84 | 4.70 | 4.42 | 8.58 | 8.20 | 6.62 | 6.33 | 7.73 | 8.02 | 5.25 | 5.45 | 7.42 | 7.71 |
| SPRS INS | KY Ins. SPRS Plan Index | | 200,020,097.45 | 100.00 | 1.33 | 1.17 | 1.23 | 0.84 | 1.23 | 0.84 | 4.66 | 4.42 | 8.58 | 8.19 | 6.59 | 6.34 | 7.72 | 8.03 | 5.25 | 5.45 | 7.41 | 7.71 |




Note The above chart displays the average monthly a locat on.

Wilshire

# WILSHIRE ASSOCIATES

## Wilshire Consulting

## Kentucky Retirement Systems Pension

Monthly Investment Summary

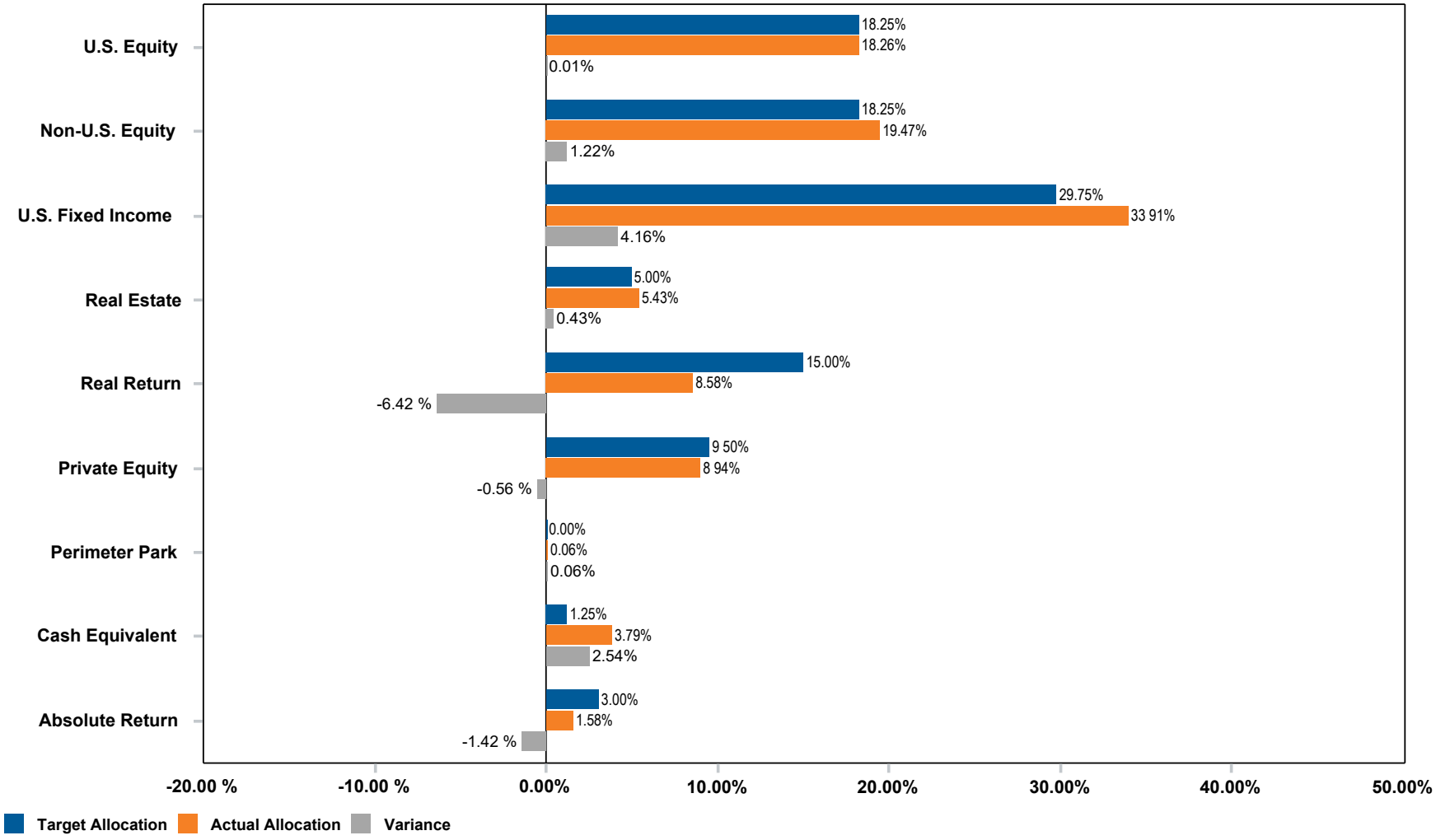
*September 30, 2019*

Wilshire Consulting

# Asset Allocation Compliance

## KRS Pension Plan

*Periods Ended As of September 30, 2019*

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KRS Pension Plan** | **12,902,082,442** | **100.00** | **1.32** | **1.28** | **10.49** | **1.28** | **4.78** | **8.28** | **6.33** | **9.02** | **4/1/1984** |
| KRS Allocation Index | | | 1.00 | 0.83 | 10.41 | 0.83 | 4.25 | 7.85 | 6.33 | 9.13 | |
| Value Added | | | 0.32 | 0.45 | 0.08 | 0.45 | 0.53 | 0.43 | 0.00 | -0.11 | |
| KRS IPS Index | | | 1.01 | 1.05 | 10.81 | 1.05 | 4.90 | | | | |
| Value Added | | | 0.31 | 0.23 | -0.32 | 0.23 | -0.12 | | | | |
| **KERS Pension Plan** | **2,277,762,393** | **17.65** | **1.08** | **1.40** | **9.34** | **1.40** | **4.77** | **7.60** | **5.84** | **8.96** | **4/1/1984** |
| KERS Allocation Index | | | 0.91 | 1.15 | 10.08 | 1.15 | 4.73 | 7.16 | 5.80 | 9.05 | |
| Value Added | | | 0.17 | 0.25 | -0.74 | 0.25 | 0.04 | 0.44 | 0.04 | -0.09 | |
| KERS IPS Index | | | 0.85 | 1.16 | 10.35 | 1.16 | 5.06 | | | | |
| Value Added | | | 0.23 | 0.24 | -1.01 | 0.24 | -0.29 | | | | |
| Assumed Rate 5.25% | | | 0.43 | 1.29 | 3.91 | 1.29 | 5.25 | | | | |
| Value Added | | | 0.65 | 0.11 | 5.43 | 0.11 | -0.48 | | | | |
| **KERS (H) Pension Plan** | **692,431,656** | **5.37** | **1.32** | **1.24** | **10.48** | **1.24** | **4.60** | **8.29** | **6.35** | **9.02** | **4/1/1984** |
| KERS (H) Allocation Index | | | 1.04 | 0.81 | 10.51 | 0.81 | 4.21 | 8.15 | 6.32 | 9.13 | |
| Value Added | | | 0.28 | 0.43 | -0.03 | 0.43 | 0.39 | 0.14 | 0.03 | -0.11 | |
| KERS (H) IPS Index | | | 1.05 | 1.04 | 10.91 | 1.04 | 4.88 | | | | |
| Value Added | | | 0.27 | 0.20 | -0.43 | 0.20 | -0.28 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.29 | 5.83 | -0.29 | -1.65 | | | | |
| **CERS Pension Plan** | **7,215,246,567** | **55.92** | **1.38** | **1.23** | **10.66** | **1.23** | **4.67** | **8.37** | **6.41** | **9.03** | **4/1/1984** |
| CERS Allocation Index | | | 1.04 | 0.79 | 10.50 | 0.79 | 4.18 | 8.16 | 6.33 | 9.13 | |
| Value Added | | | 0.34 | 0.44 | 0.16 | 0.44 | 0.49 | 0.21 | 0.08 | -0.10 | |
| CERS IPS Index | | | 1.05 | 1.02 | 10.90 | 1.02 | 4.86 | | | | |
| Value Added | | | 0.33 | 0.21 | -0.24 | 0.21 | -0.19 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.87 | -0.30 | 6.01 | -0.30 | -1.58 | | | | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS (H) Pension Plan** | **2,430,493,410** | **18.84** | **1.35** | **1.20** | **10.65** | **1.20** | **4.67** | **8.36** | **6.43** | **9.03** | **4/1/1984** |
| CERS (H) Allocation Index | | | 1.04 | 0.77 | 10.51 | 0.77 | 4.20 | 8.18 | 6.34 | 9.14 | |
| Value Added | | | 0.31 | 0.43 | 0.14 | 0.43 | 0.47 | 0.18 | 0.09 | -0.11 | |
| CERS (H) IPS Index | | | 1.04 | 0.99 | 10.92 | 0.99 | 4.87 | | | | |
| Value Added | | | 0.31 | 0.21 | -0.27 | 0.21 | -0.20 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.84 | -0.33 | 6.00 | -0.33 | -1.58 | | | | |
| **SPRS Pension Plan** | **286,148,414** | **2.22** | **1.15** | **1.35** | **9.87** | **1.35** | **4.90** | **7.80** | **5.74** | **8.93** | **4/1/1984** |
| SPRS Allocation Index | | | 1.09 | 1.38 | 10.09 | 1.38 | 4.89 | 7.92 | 6.21 | 9.12 | |
| Value Added | | | 0.06 | -0.03 | -0.22 | -0.03 | 0.01 | -0.12 | -0.47 | -0.19 | |
| SPRS IPS Index | | | 0.91 | 1.18 | 10.47 | 1.18 | 5.15 | | | | |
| Value Added | | | 0.24 | 0.17 | -0.60 | 0.17 | -0.25 | | | | |
| Assumed Rate 5.25% | | | 0.43 | 1.29 | 3.91 | 1.29 | 5.25 | | | | |
| Value Added | | | 0.72 | 0.06 | 5.96 | 0.06 | -0.35 | | | | |

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# Asset Allocation & Performance

## KERS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KERS Pension Plan** | **2,277,762,393** | **100.00** | **1.08** | **1.40** | **9.34** | **1.40** | **4.77** | **7.60** | **5.84** | **8.96** | **4/1/1984** |
| KERS Allocation Index | | | 0.91 | 1.15 | 10.08 | 1.15 | 4.73 | 7.16 | 5.80 | 9.05 | |
| Value Added | | | 0.17 | 0.25 | -0.74 | 0.25 | 0.04 | 0.44 | 0.04 | -0.09 | |
| KERS IPS Index | | | 0.85 | 1.16 | 10.35 | 1.16 | 5.06 | | | | |
| Value Added | | | 0.23 | 0.24 | -1.01 | 0.24 | -0.29 | | | | |
| Assumed Rate 5.25% | | | 0.43 | 1.29 | 3.91 | 1.29 | 5.25 | | | | |
| Value Added | | | 0.65 | 0.11 | 5.43 | 0.11 | -0.48 | | | | |
| **US Equity Composite** | **355,473,202** | **15.61** | **1.98** | **1.29** | **20.61** | **1.29** | **2.85** | **12.29** | **10.03** | **12.09** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.22 | 0.13 | 0.52 | 0.13 | -0.07 | -0.54 | -0.41 | -0.15 | |
| **Non-US Equity Composite** | **360,120,443** | **15.81** | **2.44** | **-1.16** | **13.49** | **-1.16** | **-0.69** | **7.58** | **4.13** | **5.53** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.11 | 0.56 | 2.10 | 0.56 | 1.15 | 1.32 | 1.03 | 0.61 | |
| **Fixed Income Composite** | **799,192,946** | **35.09** | **0.01** | **1.69** | **7.37** | **1.69** | **7.66** | **4.76** | **4.58** | **4.60** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.24 | 5.03 | 4.85 | |
| Value Added | | | 0.07 | -0.03 | -1.47 | -0.03 | 0.12 | 0.52 | -0.45 | -0.25 | |
| **Real Return Composite** | **166,245,911** | **7.30** | **1.43** | **0.20** | **9.88** | **0.20** | **4.66** | **4.04** | **2.60** | **3.19** | **7/1/2013** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.35 | |
| Value Added | | | 0.94 | -0.58 | 0.68 | -0.58 | -0.83 | 1.26 | 0.54 | 0.84 | |
| **Real Estate Composite** | **122,336,740** | **5.37** | **3.23** | **2.89** | **5.17** | **2.89** | **7.13** | **8.82** | **8.08** | **7.91** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.46 | 2.12 | 1.64 | 2.12 | 1.67 | 2.21 | -0.68 | -1.58 | |

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# Asset Allocation & Performance

## KERS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **37,372,787** | **1.64** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.58** | **2.67** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.53 | -0.05 | |
| **Private Equity Composite** | **197,002,975** | **8.65** | **1.29** | **6.80** | **5.76** | **6.80** | **11.17** | **14.05** | **10.78** | **12.44** | **7/1/2013** |
| KERS Short-Term PE Index | | | 1.29 | 6.80 | 5.76 | 6.80 | 11.17 | 14.05 | 10.78 | 12.44 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -6.00 | 1.93 | 1.74 | 1.93 | -1.08 | -3.39 | -2.72 | -3.44 | |
| **Cash Composite** | **238,137,484** | **10.45** | **0.19** | **0.59** | **1.94** | **0.59** | **2.54** | **1.92** | **1.29** | **1.10** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.02 | 0.03 | 0.13 | 0.03 | 0.16 | 0.38 | 0.33 | 0.32 | |
| **Other Assets** | **1,879,904** | **0.08** | | | | | | | | | |

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# Asset Allocation & Performance

## KERS (H) Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KERS (H) Pension Plan** | **692,431,656** | **100.00** | **1.32** | **1.24** | **10.48** | **1.24** | **4.60** | **8.29** | **6.35** | **9.02** | **4/1/1984** |
| KERS (H) Allocation Index | | | 1.04 | 0.81 | 10.51 | 0.81 | 4.21 | 8.15 | 6.32 | 9.13 | |
| Value Added | | | 0.28 | 0.43 | -0.03 | 0.43 | 0.39 | 0.14 | 0.03 | -0.11 | |
| KERS (H) IPS Index | | | 1.05 | 1.04 | 10.91 | 1.04 | 4.88 | | | | |
| Value Added | | | 0.27 | 0.20 | -0.43 | 0.20 | -0.28 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.29 | 5.83 | -0.29 | -1.65 | | | | |
| **US Equity Composite** | **129,415,347** | **18.69** | **1.99** | **1.28** | **20.60** | **1.28** | **2.84** | **12.28** | **9.78** | **11.44** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.12 | 0.51 | 0.12 | -0.08 | -0.55 | -0.66 | -0.80 | |
| **Non-US Equity Composite** | **135,401,879** | **19.55** | **2.44** | **-1.16** | **13.49** | **-1.16** | **-0.69** | **7.56** | **4.44** | **5.81** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.11 | 0.56 | 2.10 | 0.56 | 1.15 | 1.30 | 1.34 | 0.89 | |
| **Fixed Income Composite** | **243,511,751** | **35.17** | **0.06** | **1.70** | **7.91** | **1.70** | **7.58** | **4.52** | **4.39** | **4.48** | **7/1/2013** |
| Fixed Income Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.46 | 5.16 | 4.95 | |
| Value Added | | | 0.12 | -0.02 | -0.93 | -0.02 | 0.04 | 0.06 | -0.77 | -0.47 | |
| **Real Return Composite** | **57,951,966** | **8.37** | **1.72** | **0.69** | **9.62** | **0.69** | **5.11** | **3.97** | **2.76** | **3.46** | **7/1/2013** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.35 | |
| Value Added | | | 1.23 | -0.09 | 0.42 | -0.09 | -0.38 | 1.19 | 0.70 | 1.11 | |
| **Real Estate Composite** | **35,879,860** | **5.18** | **3.39** | **3.29** | **6.04** | **3.29** | **7.93** | **9.43** | **9.23** | **9.02** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.62 | 2.52 | 2.51 | 2.52 | 2.47 | 2.82 | 0.47 | -0.47 | |

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# Asset Allocation & Performance

## KERS (H) Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **9,750,779** | **1.41** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.57** | **2.71** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.54 | -0.01 | |
| **Private Equity Composite** | **60,191,460** | **8.69** | **1.62** | **5.02** | **6.74** | **5.02** | **11.30** | **15.63** | **12.47** | **13.77** | **7/1/2013** |
| KERS (H) Short-Term PE Index | | | 1.62 | 5.02 | 6.74 | 5.02 | 11.30 | 15.63 | 12.47 | 13.77 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.67 | 0.15 | 2.72 | 0.15 | -0.95 | -1.81 | -1.03 | -2.11 | |
| **Cash Composite** | **18,787,891** | **2.71** | **0.21** | **0.62** | **2.01** | **0.62** | **2.61** | **1.98** | **1.33** | **1.13** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.04 | 0.06 | 0.20 | 0.06 | 0.23 | 0.44 | 0.37 | 0.35 | |
| **Other Assets** | **1,540,723** | **0.22** | | | | | | | | | |

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# Asset Allocation & Performance

## CERS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS Pension Plan** | **7,215,246,567** | **100.00** | **1.38** | **1.23** | **10.66** | **1.23** | **4.67** | **8.37** | **6.41** | **9.03** | **4/1/1984** |
| CERS Allocation Index | | | 1.04 | 0.79 | 10.50 | 0.79 | 4.18 | 8.16 | 6.33 | 9.13 | |
| Value Added | | | 0.34 | 0.44 | 0.16 | 0.44 | 0.49 | 0.21 | 0.08 | -0.10 | |
| CERS IPS Index | | | 1.05 | 1.02 | 10.90 | 1.02 | 4.86 | | | | |
| Value Added | | | 0.33 | 0.21 | -0.24 | 0.21 | -0.19 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.87 | -0.30 | 6.01 | -0.30 | -1.58 | | | | |
| **US Equity Composite** | **1,368,919,853** | **18.97** | **1.99** | **1.26** | **20.58** | **1.26** | **2.82** | **12.23** | **9.81** | **11.43** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.10 | 0.49 | 0.10 | -0.10 | -0.60 | -0.63 | -0.81 | |
| **Non-US Equity Composite** | **1,475,498,883** | **20.45** | **2.44** | **-1.16** | **13.49** | **-1.16** | **-0.69** | **7.57** | **4.44** | **5.80** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.11 | 0.56 | 2.10 | 0.56 | 1.15 | 1.31 | 1.34 | 0.88 | |
| **Fixed Income Composite** | **2,406,110,948** | **33.35** | **0.07** | **1.73** | **7.95** | **1.73** | **7.68** | **4.54** | **4.41** | **4.51** | **7/1/2013** |
| Fixed Income Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.46 | 5.16 | 4.95 | |
| Value Added | | | 0.13 | 0.01 | -0.89 | 0.01 | 0.14 | 0.08 | -0.75 | -0.44 | |
| **Real Return Composite** | **641,011,116** | **8.88** | **1.72** | **0.70** | **9.61** | **0.70** | **5.12** | **3.95** | **2.75** | **3.32** | **7/1/2013** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.35 | |
| Value Added | | | 1.23 | -0.08 | 0.41 | -0.08 | -0.37 | 1.17 | 0.69 | 0.97 | |
| **Real Estate Composite** | **400,261,037** | **5.55** | **3.37** | **3.29** | **6.08** | **3.29** | **7.95** | **9.47** | **9.26** | **9.07** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.60 | 2.52 | 2.55 | 2.52 | 2.49 | 2.86 | 0.50 | -0.42 | |

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# Asset Allocation & Performance

## CERS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **116,298,891** | **1.61** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.58** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.53 | 0.00 | |
| **Private Equity Composite** | **654,986,610** | **9.08** | **1.62** | **4.78** | **6.66** | **4.78** | **11.09** | **15.76** | **12.74** | **13.96** | **7/1/2013** |
| CERS Short-Term PE Index | | | 1.62 | 4.78 | 6.66 | 4.78 | 11.09 | 15.76 | 12.74 | 13.96 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.67 | -0.09 | 2.64 | -0.09 | -1.16 | -1.68 | -0.76 | -1.92 | |
| **Cash Composite** | **150,476,770** | **2.09** | **0.22** | **0.65** | **2.12** | **0.65** | **2.73** | **2.06** | **1.37** | **1.17** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.05 | 0.09 | 0.31 | 0.09 | 0.35 | 0.52 | 0.41 | 0.39 | |
| **Other Assets** | **1,682,460** | **0.02** | | | | | | | | | |

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# Asset Allocation & Performance

## CERS (H) Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS (H) Pension Plan** | **2,430,493,410** | **100.00** | **1.35** | **1.20** | **10.65** | **1.20** | **4.67** | **8.36** | **6.43** | **9.03** | **4/1/1984** |
| CERS (H) Allocation Index | | | 1.04 | 0.77 | 10.51 | 0.77 | 4.20 | 8.18 | 6.34 | 9.14 | |
| Value Added | | | 0.31 | 0.43 | 0.14 | 0.43 | 0.47 | 0.18 | 0.09 | -0.11 | |
| CERS (H) IPS Index | | | 1.04 | 0.99 | 10.92 | 0.99 | 4.87 | | | | |
| Value Added | | | 0.31 | 0.21 | -0.27 | 0.21 | -0.20 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.84 | -0.33 | 6.00 | -0.33 | -1.58 | | | | |
| **US Equity Composite** | **456,909,033** | **18.80** | **1.99** | **1.26** | **20.58** | **1.26** | **2.82** | **12.24** | **9.83** | **11.45** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.10 | 0.49 | 0.10 | -0.10 | -0.59 | -0.61 | -0.79 | |
| **Non-US Equity Composite** | **493,177,928** | **20.29** | **2.44** | **-1.16** | **13.49** | **-1.16** | **-0.69** | **7.57** | **4.43** | **5.81** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.11 | 0.56 | 2.10 | 0.56 | 1.15 | 1.31 | 1.33 | 0.89 | |
| **Fixed Income Composite** | **810,919,947** | **33.36** | **0.07** | **1.73** | **7.94** | **1.73** | **7.68** | **4.49** | **4.38** | **4.48** | **7/1/2013** |
| Fixed Income Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.46 | 5.16 | 4.95 | |
| Value Added | | | 0.13 | 0.01 | -0.90 | 0.01 | 0.14 | 0.03 | -0.78 | -0.47 | |
| **Real Return Composite** | **218,414,288** | **8.99** | **1.72** | **0.68** | **9.67** | **0.68** | **5.12** | **3.98** | **2.78** | **3.41** | **7/1/2013** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.35 | |
| Value Added | | | 1.23 | -0.10 | 0.47 | -0.10 | -0.37 | 1.20 | 0.72 | 1.06 | |
| **Real Estate Composite** | **126,381,680** | **5.20** | **3.37** | **3.29** | **6.07** | **3.29** | **7.95** | **9.46** | **9.24** | **9.05** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.60 | 2.52 | 2.54 | 2.52 | 2.49 | 2.85 | 0.48 | -0.44 | |

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# Asset Allocation & Performance

## CERS (H) Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **36,839,305** | **1.52** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.58** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.53 | 0.00 | |
| **Private Equity Composite** | **223,158,867** | **9.18** | **1.56** | **4.53** | **6.81** | **4.53** | **11.29** | **16.05** | **13.19** | **14.39** | **7/1/2013** |
| CERS (H) Short-Term PE Index | | | 1.56 | 4.53 | 6.81 | 4.53 | 11.29 | 16.05 | 13.19 | 14.39 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.73 | -0.34 | 2.79 | -0.34 | -0.96 | -1.39 | -0.31 | -1.49 | |
| **Cash Composite** | **62,860,663** | **2.59** | **0.22** | **0.64** | **2.07** | **0.64** | **2.68** | **2.04** | **1.36** | **1.16** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.05 | 0.08 | 0.26 | 0.08 | 0.30 | 0.50 | 0.40 | 0.38 | |
| **Other Assets** | **1,831,701** | **0.08** | | | | | | | | | |

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# Asset Allocation & Performance

## SPRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **SPRS Pension Plan** | **286,148,414** | **100.00** | **1.15** | **1.35** | **9.87** | **1.35** | **4.90** | **7.80** | **5.74** | **8.93** | **4/1/1984** |
| SPRS Allocation Index | | | 1.09 | 1.38 | 10.09 | 1.38 | 4.89 | 7.92 | 6.21 | 9.12 | |
| Value Added | | | 0.06 | -0.03 | -0.22 | -0.03 | 0.01 | -0.12 | -0.47 | -0.19 | |
| SPRS IPS Index | | | 0.91 | 1.18 | 10.47 | 1.18 | 5.15 | | | | |
| Value Added | | | 0.24 | 0.17 | -0.60 | 0.17 | -0.25 | | | | |
| Assumed Rate 5.25% | | | 0.43 | 1.29 | 3.91 | 1.29 | 5.25 | | | | |
| Value Added | | | 0.72 | 0.06 | 5.96 | 0.06 | -0.35 | | | | |
| **US Equity Composite** | **44,725,559** | **15.63** | **1.99** | **1.26** | **20.59** | **1.26** | **2.81** | **12.27** | **9.47** | **11.24** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.10 | 0.50 | 0.10 | -0.11 | -0.56 | -0.97 | -1.00 | |
| **Non-US Equity Composite** | **47,569,052** | **16.62** | **2.44** | **-1.16** | **13.50** | **-1.16** | **-0.69** | **7.58** | **4.17** | **5.58** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.11 | 0.56 | 2.11 | 0.56 | 1.15 | 1.32 | 1.07 | 0.66 | |
| **Fixed Income Composite** | **114,762,444** | **40.11** | **0.00** | **1.69** | **7.74** | **1.69** | **7.70** | **4.36** | **4.31** | **4.43** | **7/1/2013** |
| Fixed Income Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.34 | 5.09 | 4.90 | |
| Value Added | | | 0.06 | -0.03 | -1.10 | -0.03 | 0.16 | 0.02 | -0.78 | -0.47 | |
| **Real Return Composite** | **22,976,708** | **8.03** | **1.67** | **0.60** | **9.28** | **0.60** | **4.89** | **3.76** | **2.57** | **3.25** | **7/1/2013** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.35 | |
| Value Added | | | 1.18 | -0.18 | 0.08 | -0.18 | -0.60 | 0.98 | 0.51 | 0.90 | |
| **Real Estate Composite** | **15,087,788** | **5.27** | **3.32** | **3.18** | **5.87** | **3.18** | **7.75** | **9.37** | **9.05** | **8.96** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.55 | 2.41 | 2.34 | 2.41 | 2.29 | 2.76 | 0.29 | -0.53 | |

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# Asset Allocation & Performance

## SPRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **3,932,103** | **1.37** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.57** | **2.68** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.54 | -0.04 | |
| **Private Equity Composite** | **18,504,157** | **6.47** | **2.13** | **7.13** | **7.54** | **7.13** | **12.52** | **15.03** | **11.33** | **12.89** | **7/1/2013** |
| SPRS Short-Term PE Index | | | 2.13 | 7.13 | 7.54 | 7.13 | 12.52 | 15.03 | 11.33 | 12.89 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.16 | 2.26 | 3.52 | 2.26 | 0.27 | -2.41 | -2.17 | -2.99 | |
| **Cash Composite** | **18,225,391** | **6.37** | **0.19** | **0.59** | **1.96** | **0.59** | **2.55** | **1.92** | **1.29** | **1.11** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.02 | 0.03 | 0.15 | 0.03 | 0.17 | 0.38 | 0.33 | 0.33 | |
| **Other Assets** | **365,213** | **0.13** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KRS Pension Plan** | **12,902,082,442** | **100.00** | **1.32** | **1.28** | **10.49** | **1.28** | **4.78** | **8.28** | **6.33** | **9.02** | **4/1/1984** |
| KRS Allocation Index | | | 1.00 | 0.83 | 10.41 | 0.83 | 4.25 | 7.85 | 6.33 | 9.13 | |
| Value Added | | | 0.32 | 0.45 | 0.08 | 0.45 | 0.53 | 0.43 | 0.00 | -0.11 | |
| KRS IPS Index | | | 1.01 | 1.05 | 10.81 | 1.05 | 4.90 | | | | |
| Value Added | | | 0.31 | 0.23 | -0.32 | 0.23 | -0.12 | | | | |
| **US Equity Composite** | **2,355,442,991** | **18.26** | **1.99** | **1.26** | **20.60** | **1.26** | **2.80** | **12.25** | **9.85** | **11.22** | **4/1/1984** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 11.08 | |
| Value Added | | | 0.23 | 0.10 | 0.51 | 0.10 | -0.12 | -0.58 | -0.59 | 0.14 | |
| **S&P 500 Index** | **1,262,163,454** | **9.78** | **1.87** | **1.69** | **20.59** | **1.69** | **4.44** | **13.51** | **10.87** | **7.51** | **7/1/2001** |
| S&P 500 | | | 1.87 | 1.70 | 20.55 | 1.70 | 4.25 | 13.39 | 10.84 | 7.11 | |
| Value Added | | | 0.00 | -0.01 | 0.04 | -0.01 | 0.19 | 0.12 | 0.03 | 0.40 | |
| **Scientific Beta** | **427,223,516** | **3.31** | **2.08** | **2.27** | **21.52** | **2.27** | **6.10** | **11.99** | | **11.87** | **7/1/2016** |
| S&P 500 | | | 1.87 | 1.70 | 20.55 | 1.70 | 4.25 | 13.39 | | 13.62 | |
| Value Added | | | 0.21 | 0.57 | 0.97 | 0.57 | 1.85 | -1.40 | | -1.75 | |
| **River Road FAV** | **164,931,412** | **1.28** | **2.43** | **1.05** | **22.73** | **1.05** | **7.10** | **13.25** | | **15.03** | **7/1/2016** |
| Russell 3000 Value Index | | | 3.67 | 1.23 | 17.47 | 1.23 | 3.10 | 9.24 | | 9.78 | |
| Value Added | | | -1.24 | -0.18 | 5.26 | -0.18 | 4.00 | 4.01 | | 5.25 | |
| **Westfield Capital** | **158,259,148** | **1.23** | **0.70** | **0.72** | **26.26** | **0.72** | **5.21** | **16.24** | **10.97** | **12.68** | **7/1/2011** |
| Russell 3000 Growth Index | | | -0.04 | 1.10 | 22.75 | 1.10 | 2.70 | 16.37 | 13.07 | 13.86 | |
| Value Added | | | 0.74 | -0.38 | 3.51 | -0.38 | 2.51 | -0.13 | -2.10 | -1.18 | |
| **Internal US Mid Cap** | **160,948,473** | **1.25** | **3.17** | **-0.02** | **18.12** | **-0.02** | **-2.04** | **9.99** | **9.16** | **8.91** | **8/1/2014** |
| S&P MidCap 400 Index | | | 3.06 | -0.09 | 17.87 | -0.09 | -2.49 | 9.38 | 8.88 | 8.65 | |
| Value Added | | | 0.11 | 0.07 | 0.25 | 0.07 | 0.45 | 0.61 | 0.28 | 0.26 | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **NTGI Structured** | **181,863,990** | **1.41** | **2.29** | **-1.42** | **15.49** | **-1.42** | **-5.76** | **9.82** | **9.38** | **9.76** | **10/1/1999** |
| Russell 2000 Index | | | 2.08 | -2.40 | 14.18 | -2.40 | -8.89 | 8.23 | 8.19 | 7.99 | |
| Value Added | | | 0.21 | 0.98 | 1.31 | 0.98 | 3.13 | 1.59 | 1.19 | 1.77 | |
| **Invesco** | **40,203** | **0.00** | | | | | | | | | |
| **Transition Account** | **12,795** | **0.00** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Non-US Equity Composite** | **2,511,768,194** | **19.47** | **2.44** | **-1.16** | **13.49** | **-1.16** | **-0.69** | **7.57** | **4.37** | **3.19** | **7/1/2000** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 3.23 | |
| Value Added | | | -0.11 | 0.56 | 2.10 | 0.56 | 1.15 | 1.31 | 1.27 | -0.04 | |
| **BlackRock ACWI Ex US** | **981,045,631** | **7.60** | **2.59** | **-1.79** | **11.78** | **-1.79** | **-1.00** | **6.61** | **3.18** | **6.42** | **7/1/2009** |
| MSCI AC World ex USA (Net) | | | 2.57 | -1.80 | 11.56 | -1.80 | -1.23 | 6.33 | 2.90 | 6.19 | |
| Value Added | | | 0.02 | 0.01 | 0.22 | 0.01 | 0.23 | 0.28 | 0.28 | 0.23 | |
| **American Century** | **353,734,413** | **2.74** | **0.86** | **0.62** | **20.96** | **0.62** | **2.21** | **10.47** | **5.60** | **4.67** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -1.69 | 2.34 | 9.57 | 2.34 | 4.05 | 4.19 | 2.54 | 2.80 | |
| **Franklin Templeton** | **256,545,583** | **1.99** | **1.29** | **0.88** | **21.39** | **0.88** | **0.06** | **11.27** | **7.94** | **6.10** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -1.26 | 2.60 | 10.00 | 2.60 | 1.90 | 4.99 | 4.88 | 4.23 | |
| **Lazard Asset Mgmt** | **453,356,512** | **3.51** | **2.42** | **-1.92** | **12.49** | **-1.92** | **0.47** | **7.02** | **4.60** | **3.30** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -0.13 | -0.20 | 1.10 | -0.20 | 2.31 | 0.74 | 1.54 | 1.43 | |
| **LSV Asset Mgmt** | **385,877,672** | **2.99** | **4.37** | **-1.65** | **8.46** | **-1.65** | **-3.73** | **6.48** | **3.19** | **1.82** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | 1.82 | 0.07 | -2.93 | 0.07 | -1.89 | 0.20 | 0.13 | -0.05 | |
| **NTGI Int'l Small Cap** | **76,963,971** | **0.60** | **2.54** | **-1.05** | **10.78** | **-1.05** | **-5.09** | **4.98** | **4.30** | **10.76** | **12/1/2008** |
| MSCI AC World ex USA Small Cap (Net) | | | 2.43 | -1.19 | 10.28 | -1.19 | -5.63 | 4.64 | 3.98 | 10.98 | |
| Value Added | | | 0.11 | 0.14 | 0.50 | 0.14 | 0.54 | 0.34 | 0.32 | -0.22 | |
| **Boston Company** | **722,107** | **0.01** | | | | | | | | | |
| **Pyramis Intl** | **2,093,233** | **0.02** | | | | | | | | | |
| **Non-US Equity Transition** | **1,429,071** | **0.01** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Fixed Income Composite** | **4,374,498,036** | **33.91** | **0.06** | **1.73** | **7.82** | **1.73** | **7.58** | **4.63** | **4.70** | **7.47** | **4/1/1984** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 7.31 | |
| Value Added | | | 0.12 | 0.01 | -1.02 | 0.01 | 0.04 | 0.19 | -0.45 | 0.16 | |
| Blmbg. Barc. Global Aggregate | | | -1.02 | 0.71 | 6.32 | 0.71 | 7.60 | 1.59 | 2.00 | | |
| Value Added | | | 1.08 | 1.02 | 1.50 | 1.02 | -0.02 | 3.04 | 2.70 | | |
| **Core Fixed Composite** | **2,341,871,101** | **18.15** | **-0.17** | **1.43** | **6.98** | **1.43** | **7.98** | | | **7.98** | **10/1/2018** |
| Blmbg. Barc. U.S. Aggregate | | | -0.53 | 2.27 | 8.52 | 2.27 | 10.30 | | | 10.30 | |
| Value Added | | | 0.36 | -0.84 | -1.54 | -0.84 | -2.32 | | | -2.32 | |
| **BNY IG Credit** | **104,227,673** | **0.81** | **-0.23** | **1.71** | **8.54** | **1.71** | **9.35** | | | **4.47** | **12/1/2017** |
| Blmbg. Barc. U.S. Intermediate Credit | | | -0.23 | 1.70 | 8.46 | 1.70 | 9.27 | | | 4.68 | |
| Value Added | | | 0.00 | 0.01 | 0.08 | 0.01 | 0.08 | | | -0.21 | |
| **Loomis Sayles Intmd** | **583,305,068** | **4.52** | **-0.23** | **1.37** | | **1.37** | | | | **5.46** | **2/1/2019** |
| Blmbg. Barc. U.S. Intermediate Aggregate | | | -0.23 | 1.38 | | 1.38 | | | | 5.29 | |
| Value Added | | | 0.00 | -0.01 | | -0.01 | | | | 0.17 | |
| **Lord Abbett** | **1,028,423,837** | **7.97** | **0.10** | **0.93** | **4.98** | **0.93** | **5.54** | | | **5.54** | **10/1/2018** |
| ICE BofAML 1-3 Year U.S. Corporate | | | 0.12 | 1.00 | 4.51 | 1.00 | 5.35 | | | 5.35 | |
| Value Added | | | -0.02 | -0.07 | 0.47 | -0.07 | 0.19 | | | 0.19 | |
| **NISA** | **625,914,524** | **4.85** | **-0.56** | **2.26** | **8.67** | **2.26** | **10.39** | **3.05** | **3.61** | **4.33** | **2/1/2009** |
| Blmbg. Barc. U.S. Aggregate | | | -0.53 | 2.27 | 8.52 | 2.27 | 10.30 | 2.92 | 3.38 | 4.14 | |
| Value Added | | | -0.03 | -0.01 | 0.15 | -0.01 | 0.09 | 0.13 | 0.23 | 0.19 | |
| **Opportunistic Fixed Composite** | **2,032,626,935** | **15.75** | **0.34** | **2.07** | **8.79** | **2.07** | **7.35** | | | **7.35** | **10/1/2018** |
| Policy Index | | | 0.42 | 1.16 | 9.09 | 1.16 | 4.73 | | | 4.73 | |
| Value Added | | | -0.08 | 0.91 | -0.30 | 0.91 | 2.62 | | | 2.62 | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Arrowmark** | **139,104,289** | **1.08** | **0.82** | **2.51** | **8.19** | **2.51** | **10.54** | | | **9.89** | **6/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.82 | |
| Value Added | | | 0.35 | 1.52 | 1.40 | 1.52 | 7.44 | | | 6.07 | |
| **BSP Coinvestment** | **11,495,821** | **0.09** | | | | | | | | | **10/1/2019** |
| S&P/LSTA Leverage Loan Index | | | | | | | | | | | |
| Value Added | | | | | | | | | | | |
| **BSP Private Credit** | **61,295,948** | **0.48** | **1.67** | **1.67** | **3.29** | **1.67** | **5.79** | | | **3.48** | **2/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.70 | |
| Value Added | | | 1.20 | 0.68 | -3.50 | 0.68 | 2.69 | | | -0.22 | |
| **Cerberus Capital Mgmt** | **93,159,808** | **0.72** | **1.04** | **2.62** | **7.20** | **2.62** | **10.15** | **8.95** | **8.72** | **8.57** | **9/1/2014** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | 4.53 | 3.98 | 3.79 | |
| Value Added | | | 0.57 | 1.63 | 0.41 | 1.63 | 7.05 | 4.42 | 4.74 | 4.78 | |
| **Columbia** | **360,549,944** | **2.79** | **0.54** | **2.22** | **14.22** | **2.22** | **8.85** | **6.15** | **5.89** | **7.08** | **11/1/2011** |
| Blmbg. Barc. U.S. Corp: High Yield | | | 0.36 | 1.33 | 11.41 | 1.33 | 6.36 | 6.07 | 5.37 | 6.78 | |
| Value Added | | | 0.18 | 0.89 | 2.81 | 0.89 | 2.49 | 0.08 | 0.52 | 0.30 | |
| **Manulife Asset Mgmt** | **472,827,632** | **3.66** | **-0.35** | **2.09** | **9.66** | **2.09** | **8.16** | **3.26** | **3.33** | **4.26** | **12/1/2011** |
| Policy Index | | | -0.43 | 2.12 | 8.80 | 2.12 | 10.07 | 3.23 | 2.33 | 2.11 | |
| Value Added | | | 0.08 | -0.03 | 0.86 | -0.03 | -1.91 | 0.03 | 1.00 | 2.15 | |
| **Marathon Bluegrass** | **356,299,792** | **2.76** | **0.06** | **2.21** | **6.17** | **2.21** | **6.35** | **6.24** | | **7.52** | **1/1/2016** |
| Blmbg. Barc. U.S. Corp: High Yield | | | 0.36 | 1.33 | 11.41 | 1.33 | 6.36 | 6.07 | | 8.83 | |
| Value Added | | | -0.30 | 0.88 | -5.24 | 0.88 | -0.01 | 0.17 | | -1.31 | |
| **Shenkman Capital** | **239,509,838** | **1.86** | **0.52** | **1.15** | **7.26** | **1.15** | **3.66** | **4.26** | **3.57** | **4.68** | **10/1/2010** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | 4.53 | 3.98 | 4.62 | |
| Value Added | | | 0.05 | 0.16 | 0.47 | 0.16 | 0.56 | -0.27 | -0.41 | 0.06 | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Waterfall** | **200,975,287** | **1.56** | **0.40** | **2.45** | **7.87** | **2.45** | **8.53** | **11.20** | **8.73** | **11.55** | **2/1/2010** |
| Policy Index | | | 0.28 | 1.02 | 7.64 | 1.02 | 4.77 | 5.01 | 4.13 | 5.21 | |
| Value Added | | | 0.12 | 1.43 | 0.23 | 1.43 | 3.76 | 6.19 | 4.60 | 6.34 | |
| **White Oak Yield Spectrum** | **97,368,516** | **0.75** | **1.64** | **1.64** | **4.15** | **1.64** | **5.37** | | | **4.38** | **3/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.77 | |
| Value Added | | | 1.17 | 0.65 | -2.64 | 0.65 | 2.27 | | | 0.61 | |
| **Loomis** | **40,061** | **0.00** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Real Return Composite** | **1,106,599,987** | **8.58** | **1.72** | **0.65** | **9.72** | **0.65** | **5.07** | **3.96** | **2.73** | **3.84** | **7/1/2011** |
| Real Return Index (P) | | | 0.49 | 0.78 | 9.20 | 0.78 | 5.49 | 2.78 | 2.06 | 2.88 | |
| Value Added | | | 1.23 | -0.13 | 0.52 | -0.13 | -0.42 | 1.18 | 0.67 | 0.96 | |
| **Internal TIPS** | **210,530,378** | **1.63** | **-0.41** | **0.29** | **4.24** | **0.29** | **4.35** | **1.52** | **1.98** | **4.74** | **5/1/2002** |
| Blmbg. Barc. U.S. TIPS 1-10 Year | | | -0.82 | 0.60 | 5.80 | 0.60 | 5.75 | 1.94 | 1.95 | 4.14 | |
| Value Added | | | 0.41 | -0.31 | -1.56 | -0.31 | -1.40 | -0.42 | 0.03 | 0.60 | |
| **PIMCO All Asset** | **343,782,355** | **2.66** | **2.28** | **0.27** | **8.51** | **0.27** | **4.92** | **5.40** | **3.38** | **4.71** | **12/1/2011** |
| Blmbg. Barc. U.S. TIPS 1-10 Year | | | -0.82 | 0.60 | 5.80 | 0.60 | 5.75 | 1.94 | 1.95 | 1.36 | |
| Value Added | | | 3.10 | -0.33 | 2.71 | -0.33 | -0.83 | 3.46 | 1.43 | 3.35 | |
| **Tortoise Capital** | **141,673,384** | **1.10** | **1.44** | **-6.14** | **10.48** | **-6.14** | **-7.44** | **-1.75** | **-6.48** | **9.43** | **8/1/2009** |
| Alerian MLP Index | | | 0.71 | -5.02 | 11.08 | -5.02 | -8.13 | -2.46 | -8.65 | 6.29 | |
| Value Added | | | 0.73 | -1.12 | -0.60 | -1.12 | 0.69 | 0.71 | 2.17 | 3.14 | |
| **Nuveen Real Asset** | **224,178,763** | **1.74** | **1.82** | **3.79** | **18.96** | **3.79** | **12.73** | **7.04** | | **6.37** | **2/1/2015** |
| Policy Index | | | 1.48 | 2.72 | 18.69 | 2.72 | 12.35 | 6.62 | | 6.00 | |
| Value Added | | | 0.34 | 1.07 | 0.27 | 1.07 | 0.38 | 0.42 | | 0.37 | |
| **Amerra AGRI Fund II** | **21,647,385** | **0.17** | **0.93** | **0.92** | **2.53** | **0.92** | **4.01** | **-0.37** | **3.95** | **3.78** | **12/1/2012** |
| **Amerra AGRI Holdings** | **44,217,010** | **0.34** | **2.07** | **2.07** | **1.83** | **2.07** | **1.30** | **-1.58** | | **-0.95** | **8/1/2015** |
| **BTG Pactual** | **23,572,456** | **0.18** | **0.53** | **0.53** | **4.17** | **0.53** | **9.35** | **1.04** | | **-6.84** | **12/1/2014** |
| **IFM Infrastructure** | **23,803,439** | **0.18** | **1.06** | **1.06** | | **1.06** | | | | **1.06** | **7/1/2019** |
| **Magnetar MTP EOF II** | **33,226,933** | **0.26** | **2.78** | **2.67** | **4.32** | **2.67** | **7.27** | **7.01** | | **3.63** | **8/1/2015** |
| **Oberland Capital** | **3,635,301** | **0.03** | **1.48** | **19.16** | **10.94** | **19.16** | **36.91** | | | **14.49** | **8/1/2018** |
| **Taurus Mine Finance** | **35,556,058** | **0.28** | **10.92** | **10.92** | **20.89** | **10.92** | **23.57** | **18.28** | | **16.42** | **4/1/2015** |
| **TPF II** | **776,526** | **0.01** | **-0.08** | **-0.08** | **14.26** | **-0.08** | **13.93** | **5.94** | **1.06** | **-2.08** | **10/1/2008** |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Real Estate Composite** | **699,947,105** | **5.43** | **3.35** | **3.22** | **5.94** | **3.22** | **7.84** | **9.26** | **9.00** | **6.14** | **7/1/1984** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | | |
| Value Added | | | 2.58 | 2.45 | 2.41 | 2.45 | 2.38 | 2.65 | 0.24 | | |
| **Baring** | **51,086,992** | **0.40** | **43.95** | **23.96** | **23.48** | **23.96** | | | | **23.48** | **1/1/2019** |
| **Divcowest IV** | **3,808,507** | **0.03** | **9.57** | **20.75** | **20.38** | **20.75** | **23.61** | **24.49** | **27.55** | **23.95** | **3/1/2014** |
| **Fundamental Partners III** | **40,066,147** | **0.31** | **4.77** | **5.08** | **10.13** | **5.08** | **13.81** | | | **8.46** | **5/1/2017** |
| **Greenfield Acq VI** | **1,905,919** | **0.01** | **-25.10** | **-25.10** | **-38.14** | **-25.10** | **-38.38** | **-17.92** | **-7.87** | **-2.28** | **12/1/2012** |
| **Greenfield Acq VII** | **18,903,450** | **0.15** | **10.33** | **10.33** | **15.83** | **10.33** | **16.35** | **14.75** | **13.83** | **13.13** | **7/1/2014** |
| **H/2 Credit Partner** | **83,735,494** | **0.65** | **-0.62** | **-0.15** | **-2.32** | **-0.15** | **-3.01** | **3.95** | **3.57** | **4.95** | **7/1/2011** |
| **Harrison Street** | **81,659,384** | **0.63** | **0.00** | **1.24** | **2.60** | **1.24** | **4.49** | **8.06** | **9.08** | **8.43** | **5/1/2012** |
| **Lubert Adler VII** | **28,719,606** | **0.22** | **0.22** | **0.22** | **9.96** | **0.22** | **10.21** | **9.14** | **2.00** | **0.64** | **7/1/2014** |
| **Lubert Adler VII B** | **26,970,962** | **0.21** | **3.53** | **3.53** | **11.93** | **3.53** | **12.34** | | | **4.80** | **7/1/2017** |
| **Mesa West IV** | **16,196,875** | **0.13** | **1.52** | **2.70** | **4.16** | **2.70** | **6.87** | | | **5.24** | **3/1/2017** |
| **Mesa West Core Lend** | **59,668,309** | **0.46** | **1.67** | **3.40** | **5.32** | **3.40** | **7.35** | **8.31** | **7.42** | **7.01** | **5/1/2013** |
| **Patron Capital** | **16,632,302** | **0.13** | **4.30** | **1.08** | **7.80** | **1.08** | **10.80** | **3.18** | | **2.90** | **8/1/2016** |
| **Prologis Targeted US** | **136,728,647** | **1.06** | **0.00** | **2.89** | **9.48** | **2.89** | **13.16** | **17.20** | **15.27** | **15.27** | **10/1/2014** |
| **Rubenstein PF II** | **18,022,367** | **0.14** | **2.05** | **5.88** | **8.48** | **5.88** | **12.72** | **13.10** | **10.42** | **13.84** | **7/1/2013** |
| **Stockbridge Sm/Mkts** | **89,198,631** | **0.69** | **1.35** | **1.35** | **5.40** | **1.35** | **9.08** | **8.55** | **9.48** | **9.10** | **5/1/2014** |
| **Walton St RE VI** | **13,586,368** | **0.11** | **-0.37** | **-0.37** | **-2.57** | **-0.37** | **-0.43** | **2.17** | **4.86** | **-16.06** | **5/1/2009** |
| **Walton St RE VII** | **13,057,144** | **0.10** | **-1.06** | **-1.00** | **-2.48** | **-1.00** | **-2.55** | **5.56** | **9.11** | **10.01** | **7/1/2013** |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **204,193,864** | **1.58** | **-0.48** | **-0.43** | **0.06** | **-0.43** | **-1.08** | **2.48** | **1.58** | **3.49** | **4/1/2010** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.81 | |
| Value Added | | | -0.07 | -1.86 | -4.35 | -1.86 | -2.23 | -1.04 | -0.53 | 0.68 | |
| **Blackstone Strat Opp** | **3,958,199** | **0.03** | **-0.79** | **-1.98** | **-6.58** | **-1.98** | **-6.26** | | | **-0.20** | **8/1/2017** |
| **Credit Suisse** | **415,818** | **0.00** | **0.00** | **0.67** | **3.99** | **0.67** | **6.05** | | | **6.71** | **6/1/2017** |
| **Gotham Neutral Strategies** | **12,908,852** | **0.10** | **-2.13** | **-0.01** | **-3.00** | **-0.01** | **-2.77** | | | **-2.53** | **4/1/2017** |
| **Governors Lane Onshore** | **16,247,946** | **0.13** | **-0.71** | **1.09** | **3.86** | **1.09** | **-1.65** | | | **0.40** | **4/1/2017** |
| **Liquidalts H20 Force** | **17,097,306** | **0.13** | **7.49** | **1.23** | **1.44** | **1.23** | **4.57** | **5.31** | | **5.73** | **8/1/2016** |
| **Luxor Capital** | **1,603,029** | **0.01** | **-0.02** | **-3.77** | **5.18** | **-3.77** | **15.15** | **20.72** | **4.57** | **3.90** | **4/1/2014** |
| **Myriad Opportunities** | **43,411,239** | **0.34** | **-2.20** | **-1.58** | **-5.59** | **-1.58** | **-7.69** | **1.34** | | **2.26** | **5/1/2016** |
| **PAAMCO** | **7,095** | **0.00** | **0.00** | **0.05** | **28.02** | **0.05** | **-56.65** | **-29.23** | **-19.55** | **-9.95** | **9/1/2011** |
| **Pine River** | **253,596** | **0.00** | **1.15** | **6.49** | **17.84** | **6.49** | **23.36** | **5.22** | **2.97** | **2.82** | **5/1/2014** |
| **PRISMA Capital** | **96,376,598** | **0.75** | **-0.48** | **-0.48** | **0.95** | **-0.48** | **-0.23** | **3.03** | **1.95** | **3.35** | **9/1/2011** |
| **SRS Partners US** | **8,349,395** | **0.06** | **-3.52** | **-0.77** | **4.14** | **-0.77** | **12.09** | | | **9.35** | **8/1/2017** |
| **Tricadia Select** | **3,564,792** | **0.03** | **0.00** | **1.05** | **2.21** | **1.05** | **-1.06** | | | **-11.55** | **9/1/2017** |

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# Asset Allocation & Performance

## KRS Pension Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Private Equity Composite** | **1,153,844,068** | **8.94** | **1.56** | **5.09** | **6.50** | **5.09** | **11.15** | **14.08** | **11.52** | **11.35** | **7/1/2002** |
| KRS Short-Term PE Index | | | 1.56 | 5.09 | 6.50 | 5.09 | 11.15 | 14.08 | 11.52 | 11.35 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 11.25 | |
| Value Added | | | -5.73 | 0.22 | 2.48 | 0.22 | -1.10 | -3.36 | -1.98 | 0.10 | |
| **Cash Composite** | **488,488,198** | **3.79** | **0.20** | **0.62** | **2.03** | **0.62** | **2.64** | **2.00** | **1.34** | **3.55** | **1/1/1988** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 3.17 | |
| Value Added | | | 0.03 | 0.06 | 0.22 | 0.06 | 0.26 | 0.46 | 0.38 | 0.38 | |
| **Perimeter Park** | **7,300,000** | **0.06** | | | | | | | | | |

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# Cash Flow Summary

## KRS Pension Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| **KRS Pension Plan** | **12,753,254,866** | **-18,037,411** | **-5,712,742** | **-7,035,684** | **179,613,412** | **12,902,082,442** |
| | | | | | | |
| **US Equity Composite** | **2,305,666,294** | **3,984,386** | **-140,872** | **-193,161** | **46,126,343** | **2,355,442,991** |
| S&P 500 Index | 1,242,816,552 | -3,887,292 | | -22,521 | 23,256,714 | 1,262,163,454 |
| Scientific Beta | 420,607,666 | -2,087,703 | | -23,927 | 8,727,481 | 427,223,516 |
| River Road FAV | 156,003,112 | 5,087,534 | -40,636 | -29,752 | 3,911,154 | 164,931,412 |
| Westfield Capital | 152,050,405 | 5,123,462 | -77,495 | -8,274 | 1,171,049 | 158,259,148 |
| Internal US Mid Cap | 156,036,847 | -5,629 | | -55,231 | 4,972,485 | 160,948,473 |
| NTGI Structured | 178,094,366 | -245,986 | -22,742 | -53,456 | 4,091,807 | 181,863,990 |
| Transition Account | 17,213 | | | | -4,417 | 12,795 |
| | | | | | | |
| **Non-US Equity Composite** | **2,457,406,832** | **-5,461,316** | **-712,914** | **649** | **60,534,943** | **2,511,768,194** |
| BlackRock ACWI Ex US | 958,866,613 | -2,585,939 | -43,963 | | 24,808,921 | 981,045,631 |
| American Century | 351,014,817 | -298,323 | -123,701 | -6,945 | 3,148,566 | 353,734,413 |
| Franklin Templeton | 253,562,579 | -297,109 | -91,961 | 19,569 | 3,352,505 | 256,545,583 |
| Lazard Asset Mgmt | 444,366,266 | -1,721,304 | -239,713 | -6,741 | 10,958,006 | 453,356,512 |
| LSV Asset Mgmt | 370,277,244 | -558,559 | -208,112 | -5,047 | 16,372,146 | 385,877,672 |
| NTGI Int'l Small Cap | 75,054,817 | | -5,464 | | 1,914,618 | 76,963,971 |
| Boston Company | 722,107 | | | | | 722,107 |
| Pyramis Intl | 2,093,226 | | | | 7 | 2,093,233 |
| Non-US Equity Transition | 1,449,165 | -81 | | -186 | -19,826 | 1,429,071 |
| | | | | | | |
| **Fixed Income Composite** | **4,328,392,538** | **43,642,555** | **-1,688,971** | **-813,956** | **4,965,869** | **4,374,498,036** |
| **Core Fixed Composite** | **2,348,647,489** | **-2,516,611** | **-241,841** | **-151,131** | **-3,866,805** | **2,341,871,101** |
| BNY IG Credit | 104,466,894 | | | | -239,222 | 104,227,673 |
| Loomis Sayles Intmd | 585,451,020 | -734,185 | -29,174 | -47,447 | -1,335,146 | 583,305,068 |
| Lord Abbett | 1,028,081,012 | -598,025 | -132,835 | -70,289 | 1,143,974 | 1,028,423,837 |
| NISA | 630,648,563 | -1,184,400 | -79,832 | -33,395 | -3,436,412 | 625,914,524 |
| **Opportunistic Fixed Composite** | **1,979,745,049** | **46,159,166** | **-1,447,130** | **-662,824** | **8,832,674** | **2,032,626,935** |
| Arrowmark | 119,726,480 | 18,363,342 | -189,567 | | 1,204,033 | 139,104,289 |
| BSP Coinvestment | | 11,495,821 | | | | 11,495,821 |
| BSP Private Credit | 53,790,842 | 6,600,660 | -140,473 | | 1,044,919 | 61,295,948 |

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# Cash Flow Summary

## KRS Pension Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| Cerberus Capital Mgmt | 78,322,267 | 14,000,000 | -185,777 | -147,801 | 1,171,119 | 93,159,808 |
| Columbia | 360,472,745 | -1,739,647 | -113,691 | -108,255 | 2,038,792 | 360,549,944 |
| Manulife Asset Mgmt | 475,901,595 | -1,369,998 | -108,014 | -36,940 | -1,559,011 | 472,827,632 |
| Marathon Bluegrass | 356,073,056 | | -288,145 | | 514,881 | 356,299,792 |
| Shenkman Capital | 238,519,792 | -251,350 | -100,046 | -6,672 | 1,348,113 | 239,509,838 |
| Waterfall | 200,169,339 | | -92,363 | -225 | 898,535 | 200,975,287 |
| White Oak Yield Spectrum | 96,728,869 | -939,602 | -229,054 | -362,932 | 2,171,235 | 97,368,516 |
| Loomis | 40,064 | -61 | | | 58 | 40,061 |
| **Real Return Composite** | **1,117,558,426** | **-29,662,859** | **-759,439** | **-515,847** | **19,979,707** | **1,106,599,987** |
| Internal TIPS | 236,420,432 | -25,003,973 | | -845 | -885,236 | 210,530,378 |
| PIMCO All Asset | 339,051,277 | -2,960,576 | | | 7,691,654 | 343,782,355 |
| Tortoise Capital | 139,695,936 | -5,468 | -88,714 | -17,301 | 2,088,931 | 141,673,384 |
| Nuveen Real Asset | 221,231,250 | -1,041,204 | -112,309 | -14,720 | 4,115,745 | 224,178,763 |
| Amerra AGRI Fund II | 21,448,854 | | -48,513 | -40,101 | 287,145 | 21,647,385 |
| Amerra AGRI Holdings | 43,318,218 | | -231,260 | -138,788 | 1,268,840 | 44,217,010 |
| BTG Pactual | 23,447,325 | | -103,981 | -9,147 | 238,258 | 23,572,456 |
| IFM Infrastructure | 23,554,114 | | -20,156 | 52,109 | 217,373 | 23,803,439 |
| Magnetar MTP EOF II | 32,328,764 | | -100,947 | -224,542 | 1,223,658 | 33,226,933 |
| Oberland Capital | 4,230,035 | -651,638 | -53,560 | -122,512 | 232,976 | 3,635,301 |
| Taurus Mine Finance | 32,055,071 | | | | 3,500,987 | 35,556,058 |
| TPF II | 777,151 | | | | -625 | 776,526 |
| **Real Estate Composite** | **681,673,069** | **-4,495,003** | **-1,380,781** | **-2,208,548** | **26,358,367** | **699,947,105** |
| Baring | 35,488,471 | | | | 15,598,521 | 51,086,992 |
| Divcowest IV | 3,475,947 | | -12,137 | -125,196 | 469,893 | 3,808,507 |
| Fundamental Partners III | 42,316,511 | -4,229,607 | -262,500 | -1,457,893 | 3,699,636 | 40,066,147 |
| Greenfield Acq VI | 2,544,455 | | 97,195 | | -735,731 | 1,905,919 |
| Greenfield Acq VII | 17,133,656 | | -480,873 | | 2,250,667 | 18,903,450 |
| H/2 Credit Partner | 84,261,804 | | | | -526,310 | 83,735,494 |
| Harrison Street | 81,659,384 | | | | | 81,659,384 |
| Lubert Adler VII | 28,657,223 | | -67,212 | -23,797 | 153,392 | 28,719,606 |

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# Cash Flow Summary

## KRS Pension Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| Lubert Adler VII B | 26,051,659 | | -49,906 | -484,510 | 1,453,720 | 26,970,962 |
| Mesa West IV | 16,215,617 | -265,414 | -121,500 | -14,094 | 382,266 | 16,196,875 |
| Mesa West Core Lend | 58,685,711 | | -118,991 | | 1,101,589 | 59,668,309 |
| Patron Capital | 15,946,441 | 18 | | -103,058 | 788,900 | 16,632,302 |
| Prologis Targeted US | 136,728,647 | | | | | 136,728,647 |
| Rubenstein PF II | 17,660,278 | | -53,184 | | 415,273 | 18,022,367 |
| Stockbridge Sm/Mkts | 88,013,351 | | -189,916 | | 1,375,196 | 89,198,631 |
| Walton St RE VI | 13,637,377 | | -36,186 | | -14,823 | 13,586,368 |
| Walton St RE VII | 13,196,537 | | -85,571 | | -53,821 | 13,057,144 |
| **Absolute Return Composite** | **205,172,518** | | **-20,905** | | **-957,748** | **204,193,864** |
| Blackstone Strat Opp | 3,989,831 | | | | -31,632 | 3,958,199 |
| Credit Suisse | 415,818 | | | | | 415,818 |
| Gotham Neutral Strategies | 13,189,688 | | -10,991 | | -269,845 | 12,908,852 |
| Governors Lane Onshore | 16,363,421 | | -40,722 | | -74,753 | 16,247,946 |
| Liquidalts H20 Force | 15,905,919 | | | | 1,191,387 | 17,097,306 |
| Luxor Capital | 1,603,362 | | | | -333 | 1,603,029 |
| Myriad Opportunities | 44,387,990 | | -36,029 | | -940,723 | 43,411,239 |
| PAAMCO | 7,095 | | | | | 7,095 |
| Pine River | 250,711 | | -104 | | 2,990 | 253,596 |
| PRISMA Capital | 96,840,006 | | | | -463,408 | 96,376,598 |
| SRS Partners US | 8,653,886 | | 66,941 | | -371,432 | 8,349,395 |
| Tricadia Select | 3,564,792 | | | | | 3,564,792 |
| **Private Equity Composite** | **1,174,836,796** | **-38,956,865** | **-1,008,860** | **-2,772,109** | **21,745,105** | **1,153,844,068** |
| **Cash Composite** | **475,248,393** | **12,911,690** | | **-532,712** | **860,825** | **488,488,198** |
| **Other Assets** | **7,300,000** | | | | | **7,300,000** |
| Perimeter Park | 7,300,000 | | | | | 7,300,000 |

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# WILSHIRE ASSOCIATES

## Wilshire Consulting

## Kentucky Retirement Systems Insurance

Monthly Investment Summary

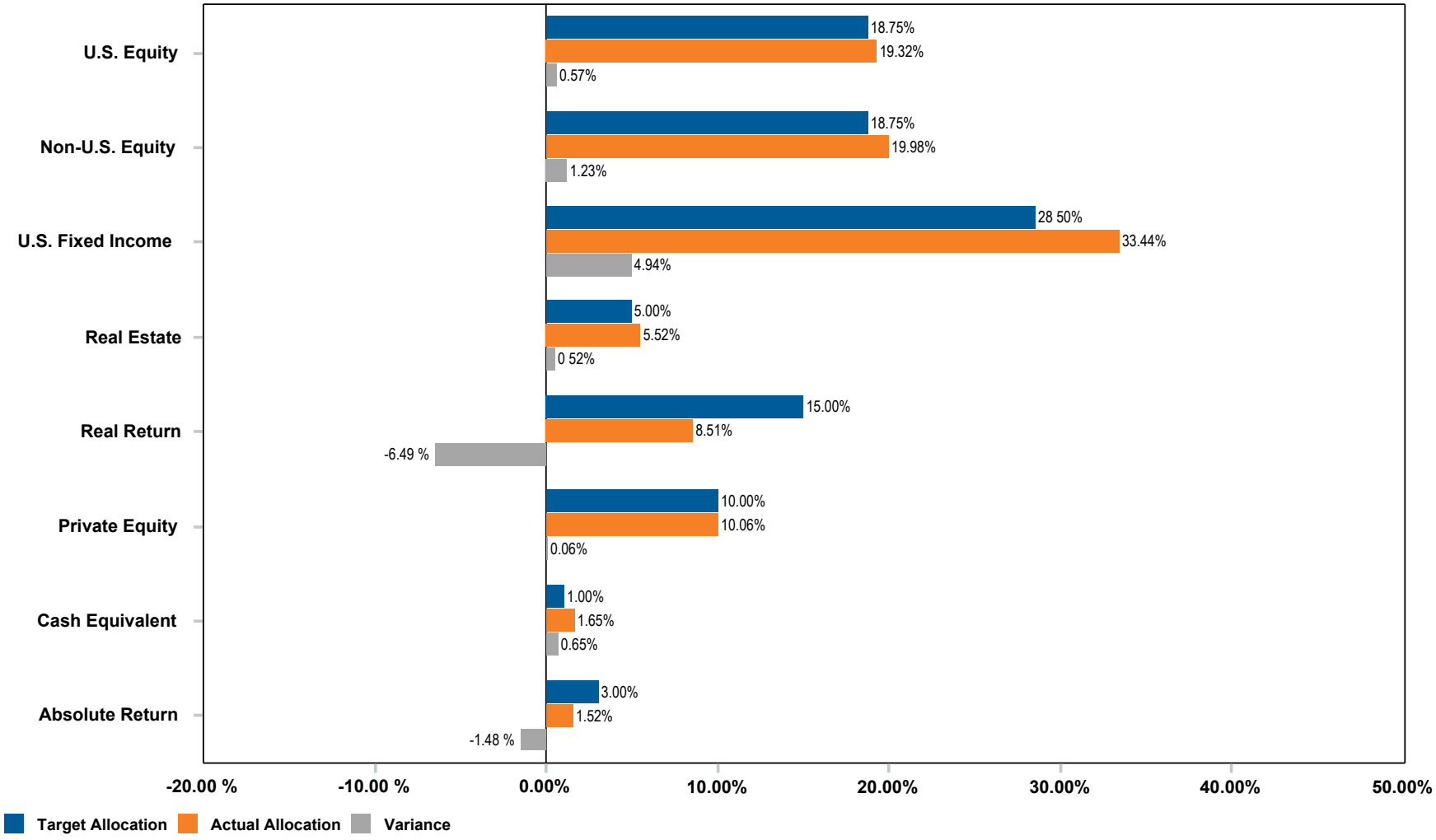
*September 30, 2019*

Wilshire Consulting

# Asset Allocation Compliance

## KRS Insurance Plan

*Periods Ended As of September 30, 2019*

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KRS Insurance Plan** | **5,510,308,995** | **100.00** | **1.31** | **1.15** | **10.46** | **1.15** | **4.55** | **8.42** | **6.48** | **7.39** | **4/1/1987** |
| KRS Allocation Index | | | 1.01 | 0.67 | 10.49 | 0.67 | 4.07 | 8.07 | 6.64 | 7.76 | |
| Value Added | | | 0.30 | 0.48 | -0.03 | 0.48 | 0.48 | 0.35 | -0.16 | -0.37 | |
| KRS IPS Index | | | 1.02 | 0.93 | 10.81 | 0.93 | 4.82 | | | | |
| Value Added | | | 0.29 | 0.22 | -0.35 | 0.22 | -0.27 | | | | |
| **KERS Insurance Plan** | **950,161,451** | **17.24** | **1.22** | **0.90** | **10.37** | **0.90** | **3.66** | **7.71** | **5.91** | **7.28** | **4/1/1987** |
| KERS Allocation Index | | | 1.00 | 0.49 | 10.52 | 0.49 | 3.52 | 7.72 | 6.30 | 7.71 | |
| Value Added | | | 0.22 | 0.41 | -0.15 | 0.41 | 0.14 | -0.01 | -0.39 | -0.43 | |
| KERS IPS Index | | | 0.95 | 0.82 | 10.35 | 0.82 | 4.39 | | | | |
| Value Added | | | 0.27 | 0.08 | 0.02 | 0.08 | -0.73 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.71 | -0.63 | 5.72 | -0.63 | -2.59 | | | | |
| **KERS (H) Insurance Plan** | **528,254,363** | **9.59** | **1.31** | **1.10** | **10.37** | **1.10** | **4.50** | **8.35** | **6.39** | **7.38** | **4/1/1987** |
| KERS (H) Allocation Index | | | 0.99 | 0.68 | 10.34 | 0.68 | 4.07 | 8.07 | 6.51 | 7.75 | |
| Value Added | | | 0.32 | 0.42 | 0.03 | 0.42 | 0.43 | 0.28 | -0.12 | -0.37 | |
| KERS (H) IPS Index | | | 1.00 | 0.90 | 10.73 | 0.90 | 4.74 | | | | |
| Value Added | | | 0.31 | 0.20 | -0.36 | 0.20 | -0.24 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.80 | -0.43 | 5.72 | -0.43 | -1.75 | | | | |
| **CERS Insurance Plan** | **2,500,799,484** | **45.38** | **1.31** | **1.18** | **10.39** | **1.18** | **4.64** | **8.51** | **6.55** | **7.40** | **4/1/1987** |
| CERS Allocation Index | | | 1.02 | 0.74 | 10.49 | 0.74 | 4.21 | 8.15 | 6.55 | 7.75 | |
| Value Added | | | 0.29 | 0.44 | -0.10 | 0.44 | 0.43 | 0.36 | 0.00 | -0.35 | |
| CERS IPS Index | | | 1.03 | 0.96 | 10.89 | 0.96 | 4.88 | | | | |
| Value Added | | | 0.28 | 0.22 | -0.50 | 0.22 | -0.24 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.80 | -0.35 | 5.74 | -0.35 | -1.61 | | | | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS (H) Insurance Plan** | **1,331,073,613** | **24.16** | **1.32** | **1.17** | **10.41** | **1.17** | **4.67** | **8.57** | **6.62** | **7.41** | **4/1/1987** |
| CERS (H) Allocation Index | | | 1.01 | 0.72 | 10.48 | 0.72 | 4.20 | 8.15 | 6.55 | 7.75 | |
| Value Added | | | 0.31 | 0.45 | -0.07 | 0.45 | 0.47 | 0.42 | 0.07 | -0.34 | |
| CERS (H) IPS Index | | | 1.02 | 0.94 | 10.87 | 0.94 | 4.87 | | | | |
| Value Added | | | 0.30 | 0.23 | -0.46 | 0.23 | -0.20 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.36 | 5.76 | -0.36 | -1.58 | | | | |
| **SPRS Insurance Plan** | **200,020,097** | **3.63** | **1.32** | **1.22** | **10.42** | **1.22** | **4.65** | **8.57** | **6.59** | **7.41** | **4/1/1987** |
| SPRS Allocation Index | | | 1.01 | 0.73 | 10.45 | 0.73 | 4.17 | 8.12 | 6.54 | 7.75 | |
| Value Added | | | 0.31 | 0.49 | -0.03 | 0.49 | 0.48 | 0.45 | 0.05 | -0.34 | |
| SPRS IPS Index | | | 1.02 | 0.95 | 10.84 | 0.95 | 4.84 | | | | |
| Value Added | | | 0.30 | 0.27 | -0.42 | 0.27 | -0.19 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.31 | 5.77 | -0.31 | -1.60 | | | | |

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# Asset Allocation & Performance

## KERS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KERS Insurance Plan** | **950,161,451** | **100.00** | **1.22** | **0.90** | **10.37** | **0.90** | **3.66** | **7.71** | **5.91** | **7.28** | **4/1/1987** |
| KERS Allocation Index | | | 1.00 | 0.49 | 10.52 | 0.49 | 3.52 | 7.72 | 6.30 | 7.71 | |
| Value Added | | | 0.22 | 0.41 | -0.15 | 0.41 | 0.14 | -0.01 | -0.39 | -0.43 | |
| KERS IPS Index | | | 0.95 | 0.82 | 10.35 | 0.82 | 4.39 | | | | |
| Value Added | | | 0.27 | 0.08 | 0.02 | 0.08 | -0.73 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.71 | -0.63 | 5.72 | -0.63 | -2.59 | | | | |
| **US Equity Composite** | **205,745,061** | **21.65** | **1.99** | **1.24** | **20.51** | **1.24** | **2.68** | **12.17** | **10.05** | **11.64** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.08 | 0.42 | 0.08 | -0.24 | -0.66 | -0.39 | -0.60 | |
| **Non-US Equity Composite** | **196,805,394** | **20.71** | **2.40** | **-1.19** | **13.28** | **-1.19** | **-0.87** | **7.47** | **4.17** | **5.54** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.15 | 0.53 | 1.89 | 0.53 | 0.97 | 1.21 | 1.07 | 0.62 | |
| **Fixed Income Composite** | **359,163,308** | **37.80** | **0.07** | **1.65** | **7.62** | **1.65** | **7.37** | **4.51** | **4.34** | **4.36** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 4.94 | |
| Value Added | | | 0.13 | -0.07 | -1.22 | -0.07 | -0.17 | 0.07 | -0.81 | -0.58 | |
| **Real Return Composite** | **75,813,339** | **7.98** | **1.18** | **0.32** | **8.86** | **0.32** | **4.74** | **3.52** | **2.48** | **3.07** | **7/1/2013** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.47 | |
| Value Added | | | 0.68 | -0.64 | -0.04 | -0.64 | -1.16 | 0.68 | 0.25 | 0.60 | |
| **Real Estate Composite** | **42,914,735** | **4.52** | **3.40** | **3.33** | **6.12** | **3.33** | **8.04** | **9.38** | **9.14** | **8.79** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.63 | 2.56 | 2.59 | 2.56 | 2.58 | 2.77 | 0.38 | -0.70 | |

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# Asset Allocation & Performance

## KERS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **13,191,432** | **1.39** | **-0.45** | **-0.42** | **0.08** | **-0.42** | **-1.04** | **2.49** | **1.61** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.04 | -1.85 | -4.33 | -1.85 | -2.19 | -1.03 | -0.50 | 0.00 | |
| **Private Equity Composite** | **51,827,601** | **5.45** | **0.59** | **2.50** | **1.75** | **2.50** | **5.61** | **11.79** | **9.87** | **12.13** | **7/1/2013** |
| KERS Short-Term PE Index | | | 0.59 | 2.50 | 1.75 | 2.50 | 5.61 | 11.79 | 9.87 | 12.13 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -6.70 | -2.37 | -2.27 | -2.37 | -6.64 | -5.65 | -3.63 | -3.75 | |
| **Cash Composite** | **4,700,581** | **0.49** | **0.25** | **0.68** | **2.02** | **0.68** | **2.64** | **1.87** | **1.23** | **1.03** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.08 | 0.12 | 0.21 | 0.12 | 0.26 | 0.33 | 0.27 | 0.25 | |

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# Asset Allocation & Performance

## KERS (H) Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KERS (H) Insurance Plan** | **528,254,363** | **100.00** | **1.31** | **1.10** | **10.37** | **1.10** | **4.50** | **8.35** | **6.39** | **7.38** | **4/1/1987** |
| KERS (H) Allocation Index | | | 0.99 | 0.68 | 10.34 | 0.68 | 4.07 | 8.07 | 6.51 | 7.75 | |
| Value Added | | | 0.32 | 0.42 | 0.03 | 0.42 | 0.43 | 0.28 | -0.12 | -0.37 | |
| KERS (H) IPS Index | | | 1.00 | 0.90 | 10.73 | 0.90 | 4.74 | | | | |
| Value Added | | | 0.31 | 0.20 | -0.36 | 0.20 | -0.24 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.80 | -0.43 | 5.72 | -0.43 | -1.75 | | | | |
| **US Equity Composite** | **99,740,495** | **18.88** | **1.99** | **1.24** | **20.51** | **1.24** | **2.67** | **12.17** | **9.95** | **11.57** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.08 | 0.42 | 0.08 | -0.25 | -0.66 | -0.49 | -0.67 | |
| **Non-US Equity Composite** | **109,149,338** | **20.66** | **2.40** | **-1.18** | **13.29** | **-1.18** | **-0.87** | **7.46** | **4.24** | **5.64** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.15 | 0.54 | 1.90 | 0.54 | 0.97 | 1.20 | 1.14 | 0.72 | |
| **Fixed Income Composite** | **174,555,620** | **33.04** | **0.08** | **1.71** | **7.72** | **1.71** | **7.73** | **4.54** | **4.37** | **4.38** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 4.94 | |
| Value Added | | | 0.14 | -0.01 | -1.12 | -0.01 | 0.19 | 0.10 | -0.78 | -0.56 | |
| **Real Return Composite** | **45,263,212** | **8.57** | **1.35** | **0.54** | **8.85** | **0.54** | **4.96** | **3.61** | **2.52** | **3.08** | **7/1/2013** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.47 | |
| Value Added | | | 0.85 | -0.42 | -0.05 | -0.42 | -0.94 | 0.77 | 0.29 | 0.61 | |
| **Real Estate Composite** | **32,306,460** | **6.12** | **3.39** | **3.35** | **6.11** | **3.35** | **8.00** | **9.65** | **9.31** | **8.95** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.62 | 2.58 | 2.58 | 2.58 | 2.54 | 3.04 | 0.55 | -0.54 | |

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# Asset Allocation & Performance

## KERS (H) Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **8,759,385** | **1.66** | **-0.45** | **-0.42** | **0.08** | **-0.42** | **-1.04** | **2.49** | **1.61** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.04 | -1.85 | -4.33 | -1.85 | -2.19 | -1.03 | -0.50 | 0.00 | |
| **Private Equity Composite** | **51,556,975** | **9.76** | **1.11** | **3.34** | **5.50** | **3.34** | **9.32** | **14.25** | **13.09** | **14.52** | **7/1/2013** |
| KERS (H) Short-Term PE Index | | | 1.11 | 3.34 | 5.50 | 3.34 | 9.32 | 14.25 | 13.09 | 14.52 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -6.18 | -1.53 | 1.48 | -1.53 | -2.93 | -3.19 | -0.41 | -1.36 | |
| **Cash Composite** | **6,922,877** | **1.31** | **0.28** | **0.75** | **2.20** | **0.75** | **2.84** | **1.99** | **1.30** | **1.09** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.11 | 0.19 | 0.39 | 0.19 | 0.46 | 0.45 | 0.34 | 0.31 | |

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# Asset Allocation & Performance

## CERS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS Insurance Plan** | **2,500,799,484** | **100.00** | **1.31** | **1.18** | **10.39** | **1.18** | **4.64** | **8.51** | **6.55** | **7.40** | **4/1/1987** |
| CERS Allocation Index | | | 1.02 | 0.74 | 10.49 | 0.74 | 4.21 | 8.15 | 6.55 | 7.75 | |
| Value Added | | | 0.29 | 0.44 | -0.10 | 0.44 | 0.43 | 0.36 | 0.00 | -0.35 | |
| CERS IPS Index | | | 1.03 | 0.96 | 10.89 | 0.96 | 4.88 | | | | |
| Value Added | | | 0.28 | 0.22 | -0.50 | 0.22 | -0.24 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.80 | -0.35 | 5.74 | -0.35 | -1.61 | | | | |
| **US Equity Composite** | **470,001,975** | **18.79** | **1.98** | **1.25** | **20.52** | **1.25** | **2.68** | **12.20** | **10.07** | **11.65** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.22 | 0.09 | 0.43 | 0.09 | -0.24 | -0.63 | -0.37 | -0.59 | |
| **Non-US Equity Composite** | **491,434,228** | **19.65** | **2.40** | **-1.19** | **13.28** | **-1.19** | **-0.87** | **7.46** | **4.25** | **5.65** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.15 | 0.53 | 1.89 | 0.53 | 0.97 | 1.20 | 1.15 | 0.73 | |
| **Fixed Income Composite** | **822,532,381** | **32.89** | **0.06** | **1.69** | **7.68** | **1.69** | **7.70** | **4.54** | **4.37** | **4.40** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 4.94 | |
| Value Added | | | 0.12 | -0.03 | -1.16 | -0.03 | 0.16 | 0.10 | -0.78 | -0.54 | |
| **Real Return Composite** | **218,523,217** | **8.74** | **1.44** | **0.62** | **9.06** | **0.62** | **5.12** | **3.74** | **2.62** | **3.16** | **7/1/2013** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.47 | |
| Value Added | | | 0.94 | -0.34 | 0.16 | -0.34 | -0.78 | 0.90 | 0.39 | 0.69 | |
| **Real Estate Composite** | **139,992,281** | **5.60** | **3.38** | **3.34** | **6.09** | **3.34** | **7.98** | **9.65** | **9.32** | **8.96** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.61 | 2.57 | 2.56 | 2.57 | 2.52 | 3.04 | 0.56 | -0.53 | |

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# Asset Allocation & Performance

## CERS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **37,447,077** | **1.50** | **-0.45** | **-0.42** | **0.08** | **-0.42** | **-1.04** | **2.49** | **1.61** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.04 | -1.85 | -4.33 | -1.85 | -2.19 | -1.03 | -0.50 | 0.00 | |
| **Private Equity Composite** | **273,231,643** | **10.93** | **1.43** | **3.93** | **6.96** | **3.93** | **10.80** | **15.02** | **13.92** | **15.02** | **7/1/2013** |
| CERS Short-Term PE Index | | | 1.43 | 3.93 | 6.96 | 3.93 | 10.80 | 15.02 | 13.92 | 15.02 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.86 | -0.94 | 2.94 | -0.94 | -1.45 | -2.42 | 0.42 | -0.86 | |
| **Cash Composite** | **47,636,682** | **1.90** | **0.26** | **0.71** | **2.10** | **0.71** | **2.73** | **1.93** | **1.27** | **1.06** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.09 | 0.15 | 0.29 | 0.15 | 0.35 | 0.39 | 0.31 | 0.28 | |

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# Asset Allocation & Performance

## CERS (H) Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **CERS (H) Insurance Plan** | **1,331,073,613** | **100.00** | **1.32** | **1.17** | **10.41** | **1.17** | **4.67** | **8.57** | **6.62** | **7.41** | **4/1/1987** |
| CERS (H) Allocation Index | | | 1.01 | 0.72 | 10.48 | 0.72 | 4.20 | 8.15 | 6.55 | 7.75 | |
| Value Added | | | 0.31 | 0.45 | -0.07 | 0.45 | 0.47 | 0.42 | 0.07 | -0.34 | |
| CERS (H) IPS Index | | | 1.02 | 0.94 | 10.87 | 0.94 | 4.87 | | | | |
| Value Added | | | 0.30 | 0.23 | -0.46 | 0.23 | -0.20 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.36 | 5.76 | -0.36 | -1.58 | | | | |
| **US Equity Composite** | **251,364,833** | **18.88** | **1.98** | **1.24** | **20.51** | **1.24** | **2.68** | **12.19** | **10.08** | **11.66** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.22 | 0.08 | 0.42 | 0.08 | -0.24 | -0.64 | -0.36 | -0.58 | |
| **Non-US Equity Composite** | **264,847,630** | **19.90** | **2.40** | **-1.19** | **13.28** | **-1.19** | **-0.88** | **7.46** | **4.27** | **5.66** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.15 | 0.53 | 1.89 | 0.53 | 0.96 | 1.20 | 1.17 | 0.74 | |
| **Fixed Income Composite** | **420,878,586** | **31.62** | **0.07** | **1.71** | **7.69** | **1.71** | **7.75** | **4.55** | **4.37** | **4.39** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 4.94 | |
| Value Added | | | 0.13 | -0.01 | -1.15 | -0.01 | 0.21 | 0.11 | -0.78 | -0.55 | |
| **Real Return Composite** | **113,747,515** | **8.55** | **1.47** | **0.66** | **9.04** | **0.66** | **5.15** | **3.73** | **2.61** | **3.16** | **7/1/2013** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.47 | |
| Value Added | | | 0.97 | -0.30 | 0.14 | -0.30 | -0.75 | 0.89 | 0.38 | 0.69 | |
| **Real Estate Composite** | **76,830,107** | **5.77** | **3.38** | **3.34** | **6.09** | **3.34** | **7.98** | **9.65** | **9.31** | **8.95** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.61 | 2.57 | 2.56 | 2.57 | 2.52 | 3.04 | 0.55 | -0.54 | |

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# Asset Allocation & Performance

## CERS (H) Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **20,980,363** | **1.58** | **-0.45** | **-0.42** | **0.08** | **-0.42** | **-1.04** | **2.49** | **1.61** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.04 | -1.85 | -4.33 | -1.85 | -2.19 | -1.03 | -0.50 | 0.00 | |
| **Private Equity Composite** | **154,109,745** | **11.58** | **1.33** | **3.73** | **6.82** | **3.73** | **10.66** | **15.02** | **14.07** | **15.15** | **7/1/2013** |
| CERS (H) Short-Term PE Index | | | 1.33 | 3.73 | 6.82 | 3.73 | 10.66 | 15.02 | 14.07 | 15.15 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.96 | -1.14 | 2.80 | -1.14 | -1.59 | -2.42 | 0.57 | -0.73 | |
| **Cash Composite** | **28,314,833** | **2.13** | **0.25** | **0.71** | **2.14** | **0.71** | **2.77** | **1.94** | **1.27** | **1.07** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.08 | 0.15 | 0.33 | 0.15 | 0.39 | 0.40 | 0.31 | 0.29 | |

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# Asset Allocation & Performance

## SPRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **SPRS Insurance Plan** | **200,020,097** | **100.00** | **1.32** | **1.22** | **10.42** | **1.22** | **4.65** | **8.57** | **6.59** | **7.41** | **4/1/1987** |
| SPRS Allocation Index | | | 1.01 | 0.73 | 10.45 | 0.73 | 4.17 | 8.12 | 6.54 | 7.75 | |
| Value Added | | | 0.31 | 0.49 | -0.03 | 0.49 | 0.48 | 0.45 | 0.05 | -0.34 | |
| SPRS IPS Index | | | 1.02 | 0.95 | 10.84 | 0.95 | 4.84 | | | | |
| Value Added | | | 0.30 | 0.27 | -0.42 | 0.27 | -0.19 | | | | |
| Assumed Rate 6.25% | | | 0.51 | 1.53 | 4.65 | 1.53 | 6.25 | | | | |
| Value Added | | | 0.81 | -0.31 | 5.77 | -0.31 | -1.60 | | | | |
| **US Equity Composite** | **37,527,149** | **18.76** | **1.99** | **1.24** | **20.51** | **1.24** | **2.68** | **12.18** | **10.07** | **11.65** | **7/1/2013** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 12.24 | |
| Value Added | | | 0.23 | 0.08 | 0.42 | 0.08 | -0.24 | -0.65 | -0.37 | -0.59 | |
| **Non-US Equity Composite** | **38,814,093** | **19.41** | **2.40** | **-1.21** | **13.25** | **-1.21** | **-0.89** | **7.46** | **4.29** | **5.67** | **7/1/2013** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 4.92 | |
| Value Added | | | -0.15 | 0.51 | 1.86 | 0.51 | 0.95 | 1.20 | 1.19 | 0.75 | |
| **Fixed Income Composite** | **65,705,107** | **32.85** | **0.07** | **1.70** | **7.66** | **1.70** | **7.72** | **4.58** | **4.41** | **4.43** | **7/1/2013** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 4.94 | |
| Value Added | | | 0.13 | -0.02 | -1.18 | -0.02 | 0.18 | 0.14 | -0.74 | -0.51 | |
| **Real Return Composite** | **15,803,809** | **7.90** | **1.52** | **0.73** | **8.97** | **0.73** | **5.20** | **3.70** | **2.59** | **3.14** | **7/1/2013** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.47 | |
| Value Added | | | 1.02 | -0.23 | 0.07 | -0.23 | -0.70 | 0.86 | 0.36 | 0.67 | |
| **Real Estate Composite** | **12,317,100** | **6.16** | **3.39** | **3.34** | **6.09** | **3.34** | **7.98** | **9.65** | **9.30** | **8.94** | **7/1/2013** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | 9.49 | |
| Value Added | | | 2.62 | 2.57 | 2.56 | 2.57 | 2.52 | 3.04 | 0.54 | -0.55 | |

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# Asset Allocation & Performance

## SPRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **3,284,818** | **1.64** | **-0.45** | **-0.42** | **0.08** | **-0.42** | **-1.04** | **2.49** | **1.61** | **2.72** | **7/1/2013** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.72 | |
| Value Added | | | -0.04 | -1.85 | -4.33 | -1.85 | -2.19 | -1.03 | -0.50 | 0.00 | |
| **Private Equity Composite** | **23,368,966** | **11.68** | **1.30** | **3.86** | **6.54** | **3.86** | **10.39** | **14.65** | **13.15** | **14.47** | **7/1/2013** |
| SPRS Short-Term PE Index | | | 1.30 | 3.86 | 6.54 | 3.86 | 10.39 | 14.65 | 13.15 | 14.47 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 15.88 | |
| Value Added | | | -5.99 | -1.01 | 2.52 | -1.01 | -1.86 | -2.79 | -0.35 | -1.41 | |
| **Cash Composite** | **3,199,056** | **1.60** | **0.25** | **0.70** | **2.17** | **0.70** | **2.82** | **1.94** | **1.27** | **1.07** | **7/1/2013** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 0.78 | |
| Value Added | | | 0.08 | 0.14 | 0.36 | 0.14 | 0.44 | 0.40 | 0.31 | 0.29 | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **KRS Insurance Plan** | **5,510,308,995** | **100.00** | **1.31** | **1.15** | **10.46** | **1.15** | **4.55** | **8.42** | **6.48** | **7.39** | **4/1/1987** |
| KRS Allocation Index | | | 1.01 | 0.67 | 10.49 | 0.67 | 4.07 | 8.07 | 6.64 | 7.76 | |
| Value Added | | | 0.30 | 0.48 | -0.03 | 0.48 | 0.48 | 0.35 | -0.16 | -0.37 | |
| KRS IPS Index | | | 1.02 | 0.93 | 10.81 | 0.93 | 4.82 | | | | |
| Value Added | | | 0.29 | 0.22 | -0.35 | 0.22 | -0.27 | | | | |
| **US Equity Composite** | **1,064,379,512** | **19.32** | **1.98** | **1.25** | **20.52** | **1.25** | **2.79** | **12.25** | **10.09** | **9.62** | **7/1/1992** |
| Russell 3000 Index | | | 1.76 | 1.16 | 20.09 | 1.16 | 2.92 | 12.83 | 10.44 | 9.81 | |
| Value Added | | | 0.22 | 0.09 | 0.43 | 0.09 | -0.13 | -0.58 | -0.35 | -0.19 | |
| **S&P 500 Index** | **581,114,913** | **10.55** | **1.84** | **1.66** | **20.54** | **1.66** | **4.41** | **13.56** | **10.91** | **7.56** | **7/1/2001** |
| S&P 500 | | | 1.87 | 1.70 | 20.55 | 1.70 | 4.25 | 13.39 | 10.84 | 7.11 | |
| Value Added | | | -0.03 | -0.04 | -0.01 | -0.04 | 0.16 | 0.17 | 0.07 | 0.45 | |
| **Scientific Beta** | **188,211,160** | **3.42** | **2.08** | **2.27** | **21.49** | **2.27** | **6.06** | **12.02** | | **11.41** | **7/1/2016** |
| S&P 500 | | | 1.87 | 1.70 | 20.55 | 1.70 | 4.25 | 13.39 | | 13.62 | |
| Value Added | | | 0.21 | 0.57 | 0.94 | 0.57 | 1.81 | -1.37 | | -2.21 | |
| **River Road FAV** | **74,477,663** | **1.35** | **2.42** | **1.05** | **22.75** | **1.05** | **7.33** | **13.24** | | **15.02** | **7/1/2016** |
| Russell 3000 Value Index | | | 3.67 | 1.23 | 17.47 | 1.23 | 3.10 | 9.24 | | 9.78 | |
| Value Added | | | -1.25 | -0.18 | 5.28 | -0.18 | 4.23 | 4.00 | | 5.24 | |
| **Westfield Capital** | **70,594,808** | **1.28** | **0.69** | **0.71** | **26.20** | **0.71** | **5.15** | **16.26** | **10.97** | **12.77** | **7/1/2011** |
| Russell 3000 Growth Index | | | -0.04 | 1.10 | 22.75 | 1.10 | 2.70 | 16.37 | 13.07 | 13.86 | |
| Value Added | | | 0.73 | -0.39 | 3.45 | -0.39 | 2.45 | -0.11 | -2.10 | -1.09 | |
| **Internal US Mid Cap** | **69,915,553** | **1.27** | **3.25** | **0.10** | **18.20** | **0.10** | **-1.88** | **10.05** | **9.31** | **9.07** | **8/1/2014** |
| S&P MidCap 400 Index | | | 3.06 | -0.09 | 17.87 | -0.09 | -2.49 | 9.38 | 8.88 | 8.65 | |
| Value Added | | | 0.19 | 0.19 | 0.33 | 0.19 | 0.61 | 0.67 | 0.43 | 0.42 | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **NTGI Structured** | **80,052,739** | **1.45** | **2.42** | **-1.51** | **15.01** | **-1.51** | **-6.10** | **9.47** | **9.04** | **10.31** | **7/1/2011** |
| Russell 2000 Index | | | 2.08 | -2.40 | 14.18 | -2.40 | -8.89 | 8.23 | 8.19 | 9.19 | |
| Value Added | | | 0.34 | 0.89 | 0.83 | 0.89 | 2.79 | 1.24 | 0.85 | 1.12 | |
| **Transition Account** | **12,677** | **0.00** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Non-US Equity Composite** | **1,101,050,680** | **19.98** | **2.40** | **-1.19** | **13.27** | **-1.19** | **-0.87** | **7.47** | **4.23** | **2.26** | **4/1/2000** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.26 | 3.10 | 2.43 | |
| Value Added | | | -0.15 | 0.53 | 1.88 | 0.53 | 0.97 | 1.21 | 1.13 | -0.17 | |
| **BlackRock ACWI Ex US** | **444,285,501** | **8.06** | **2.55** | **-1.81** | **11.53** | **-1.81** | **-1.25** | **6.37** | **3.12** | **6.71** | **6/1/2012** |
| MSCI AC World ex USA (Net) | | | 2.57 | -1.80 | 11.56 | -1.80 | -1.23 | 6.33 | 2.90 | 6.63 | |
| Value Added | | | -0.02 | -0.01 | -0.03 | -0.01 | -0.02 | 0.04 | 0.22 | 0.08 | |
| **American Century** | **154,447,184** | **2.80** | **0.87** | **0.64** | **20.93** | **0.64** | **2.17** | **10.45** | **5.54** | **4.61** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -1.68 | 2.36 | 9.54 | 2.36 | 4.01 | 4.17 | 2.48 | 2.74 | |
| **Franklin Templeton** | **110,458,066** | **2.00** | **1.23** | **0.83** | **21.65** | **0.83** | **0.17** | **11.20** | **7.80** | **6.00** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -1.32 | 2.55 | 10.26 | 2.55 | 2.01 | 4.92 | 4.74 | 4.13 | |
| **Lazard Asset Mgmt** | **193,533,833** | **3.51** | **2.38** | **-1.91** | **12.49** | **-1.91** | **0.47** | **6.92** | **4.50** | **3.20** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | -0.17 | -0.19 | 1.10 | -0.19 | 2.31 | 0.64 | 1.44 | 1.33 | |
| **LSV Asset Mgmt** | **162,575,866** | **2.95** | **4.34** | **-1.73** | **7.83** | **-1.73** | **-4.13** | **6.38** | **2.92** | **1.55** | **7/1/2014** |
| Policy Index | | | 2.55 | -1.72 | 11.39 | -1.72 | -1.84 | 6.28 | 3.06 | 1.87 | |
| Value Added | | | 1.79 | -0.01 | -3.56 | -0.01 | -2.29 | 0.10 | -0.14 | -0.32 | |
| **Blackrock ACWI Ex-US Small Cap** | **34,405,327** | **0.62** | **2.45** | **-1.14** | **10.32** | **-1.14** | **-5.65** | **4.71** | **4.10** | **6.33** | **7/1/2013** |
| MSCI AC World ex USA Small Cap (Net) | | | 2.43 | -1.19 | 10.28 | -1.19 | -5.63 | 4.64 | 3.98 | 5.87 | |
| Value Added | | | 0.02 | 0.05 | 0.04 | 0.05 | -0.02 | 0.07 | 0.12 | 0.46 | |
| **Boston Company** | **130,381** | **0.00** | | | | | | | | | |
| **Pyramis Intl** | **739,156** | **0.01** | | | | | | | | | |
| **Non-US Equity Transition** | **475,365** | **0.01** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Fixed Income Composite** | **1,842,834,995** | **33.44** | **0.07** | **1.69** | **7.69** | **1.69** | **7.44** | **4.45** | **4.32** | **6.34** | **7/1/1992** |
| Policy Index | | | -0.06 | 1.72 | 8.84 | 1.72 | 7.54 | 4.44 | 5.15 | 6.34 | |
| Value Added | | | 0.13 | -0.03 | -1.15 | -0.03 | -0.10 | 0.01 | -0.83 | 0.00 | |
| Blmbg. Barc. Global Aggregate | | | -1.02 | 0.71 | 6.32 | 0.71 | 7.60 | 1.59 | 2.00 | 5.04 | |
| Value Added | | | 1.09 | 0.98 | 1.37 | 0.98 | -0.16 | 2.86 | 2.32 | 1.30 | |
| **Core Fixed Composite** | **999,540,807** | **18.14** | **-0.15** | **1.40** | **7.01** | **1.40** | **8.01** | | | **8.01** | **10/1/2018** |
| Blmbg. Barc. U.S. Aggregate | | | -0.53 | 2.27 | 8.52 | 2.27 | 10.30 | | | 10.30 | |
| Value Added | | | 0.38 | -0.87 | -1.51 | -0.87 | -2.29 | | | -2.29 | |
| **BNY IG Credit** | **47,161,240** | **0.86** | **-0.23** | **1.71** | **8.54** | **1.71** | **9.35** | | | **4.47** | **12/1/2017** |
| Blmbg. Barc. U.S. Intermediate Credit | | | -0.23 | 1.70 | 8.46 | 1.70 | 9.27 | | | 4.68 | |
| Value Added | | | 0.00 | 0.01 | 0.08 | 0.01 | 0.08 | | | -0.21 | |
| **Loomis Sayles Intmd** | **212,110,738** | **3.85** | **-0.22** | **1.37** | | **1.37** | | | | **5.46** | **2/1/2019** |
| Blmbg. Barc. U.S. Intermediate Aggregate | | | -0.23 | 1.38 | | 1.38 | | | | 5.29 | |
| Value Added | | | 0.01 | -0.01 | | -0.01 | | | | 0.17 | |
| **Lord Abbett** | **492,380,274** | **8.94** | **0.10** | **0.93** | **5.02** | **0.93** | **5.58** | | | **5.58** | **10/1/2018** |
| ICE BofAML 1-3 Year U.S. Corporate | | | 0.12 | 1.00 | 4.51 | 1.00 | 5.35 | | | 5.35 | |
| Value Added | | | -0.02 | -0.07 | 0.51 | -0.07 | 0.23 | | | 0.23 | |
| **NISA** | **247,888,556** | **4.50** | **-0.56** | **2.26** | **8.67** | **2.26** | **10.38** | **3.00** | **3.56** | **3.54** | **7/1/2011** |
| Blmbg. Barc. U.S. Aggregate | | | -0.53 | 2.27 | 8.52 | 2.27 | 10.30 | 2.92 | 3.38 | 3.40 | |
| Value Added | | | -0.03 | -0.01 | 0.15 | -0.01 | 0.08 | 0.08 | 0.18 | 0.14 | |
| **Opportunistic Fixed Composite** | **843,294,188** | **15.30** | **0.34** | **2.02** | **8.33** | **2.02** | **7.26** | | | **7.26** | **10/1/2018** |
| Policy Index | | | 0.42 | 1.16 | 9.09 | 1.16 | 4.73 | | | 4.73 | |
| Value Added | | | -0.08 | 0.86 | -0.76 | 0.86 | 2.53 | | | 2.53 | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Arrowmark** | **70,832,760** | **1.29** | **0.82** | **2.51** | **8.19** | **2.51** | **10.54** | | | **9.89** | **6/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.82 | |
| Value Added | | | 0.35 | 1.52 | 1.40 | 1.52 | 7.44 | | | 6.07 | |
| **BSP Coinvestment** | **6,001,623** | **0.11** | | | | | | | | | **10/1/2019** |
| S&P/LSTA Leverage Loan Index | | | | | | | | | | | |
| Value Added | | | | | | | | | | | |
| **BSP Private Credit** | **30,647,975** | **0.56** | **1.67** | **1.67** | **3.29** | **1.67** | **5.79** | | | **3.48** | **2/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.70 | |
| Value Added | | | 1.20 | 0.68 | -3.50 | 0.68 | 2.69 | | | -0.22 | |
| **Cerberus Capital Mgmt** | **39,925,631** | **0.72** | **1.04** | **2.62** | **7.20** | **2.62** | **10.15** | **8.95** | **8.72** | **8.57** | **9/1/2014** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | 4.53 | 3.98 | 3.79 | |
| Value Added | | | 0.57 | 1.63 | 0.41 | 1.63 | 7.05 | 4.42 | 4.74 | 4.78 | |
| **Columbia** | **92,237,566** | **1.67** | **0.55** | **2.20** | **14.25** | **2.20** | **8.94** | **6.14** | **6.01** | **7.10** | **11/1/2011** |
| Blmbg. Barc. U.S. Corp: High Yield | | | 0.36 | 1.33 | 11.41 | 1.33 | 6.36 | 6.07 | 5.37 | 6.78 | |
| Value Added | | | 0.19 | 0.87 | 2.84 | 0.87 | 2.58 | 0.07 | 0.64 | 0.32 | |
| **Manulife Asset Mgmt** | **199,205,377** | **3.62** | **-0.35** | **2.07** | **9.51** | **2.07** | **8.12** | **3.27** | **3.28** | **4.25** | **12/1/2011** |
| Policy Index | | | -0.43 | 2.12 | 8.80 | 2.12 | 10.07 | 3.23 | 2.33 | 2.11 | |
| Value Added | | | 0.08 | -0.05 | 0.71 | -0.05 | -1.95 | 0.04 | 0.95 | 2.14 | |
| **Marathon Bluegrass** | **140,588,541** | **2.55** | **0.05** | **2.20** | **6.11** | **2.20** | **6.20** | **6.16** | | **7.56** | **1/1/2016** |
| Blmbg. Barc. U.S. Corp: High Yield | | | 0.36 | 1.33 | 11.41 | 1.33 | 6.36 | 6.07 | | 8.83 | |
| Value Added | | | -0.31 | 0.87 | -5.30 | 0.87 | -0.16 | 0.09 | | -1.27 | |
| **Shenkman Capital** | **118,616,266** | **2.15** | **0.53** | **1.07** | **7.10** | **1.07** | **3.80** | **4.28** | **3.60** | **4.08** | **7/1/2011** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | 4.53 | 3.98 | 4.32 | |
| Value Added | | | 0.06 | 0.08 | 0.31 | 0.08 | 0.70 | -0.25 | -0.38 | -0.24 | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Waterfall** | **96,515,508** | **1.75** | **0.21** | **2.44** | **8.63** | **2.44** | **9.54** | **10.70** | **8.11** | **10.09** | **7/1/2011** |
| Policy Index | | | 0.28 | 1.02 | 7.64 | 1.02 | 4.77 | 5.01 | 4.13 | 4.61 | |
| Value Added | | | -0.07 | 1.42 | 0.99 | 1.42 | 4.77 | 5.69 | 3.98 | 5.48 | |
| **White Oak Yield Spectrum** | **48,684,257** | **0.88** | **1.64** | **1.64** | **4.15** | **1.64** | **5.37** | | | **4.38** | **3/1/2018** |
| S&P/LSTA Leverage Loan Index | | | 0.47 | 0.99 | 6.79 | 0.99 | 3.10 | | | 3.77 | |
| Value Added | | | 1.17 | 0.65 | -2.64 | 0.65 | 2.27 | | | 0.61 | |
| **Loomis** | **38,684** | **0.00** | | | | | | | | | |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Real Return Composite** | **469,151,091** | **8.51** | **1.40** | **0.57** | **8.98** | **0.57** | **5.03** | **3.66** | **2.59** | **3.57** | **7/1/2011** |
| Real Return Index (I) | | | 0.50 | 0.96 | 8.90 | 0.96 | 5.90 | 2.84 | 2.23 | 2.96 | |
| Value Added | | | 0.90 | -0.39 | 0.08 | -0.39 | -0.87 | 0.82 | 0.36 | 0.61 | |
| **Internal TIPS** | **111,817,167** | **2.03** | **-0.34** | **0.32** | **4.25** | **0.32** | **4.22** | **1.50** | **1.91** | **4.16** | **10/1/2003** |
| Blmbg. Barc. U.S. TIPS 1-10 Year | | | -0.82 | 0.60 | 5.80 | 0.60 | 5.75 | 1.94 | 1.95 | 3.49 | |
| Value Added | | | 0.48 | -0.28 | -1.55 | -0.28 | -1.53 | -0.44 | -0.04 | 0.67 | |
| **PIMCO All Asset** | **138,931,885** | **2.52** | **1.40** | **-0.59** | **7.57** | **-0.59** | **4.02** | **5.05** | **3.16** | **4.56** | **12/1/2011** |
| Blmbg. Barc. U.S. TIPS 1-10 Year | | | -0.82 | 0.60 | 5.80 | 0.60 | 5.75 | 1.94 | 1.95 | 1.36 | |
| Value Added | | | 2.22 | -1.19 | 1.77 | -1.19 | -1.73 | 3.11 | 1.21 | 3.20 | |
| **Tortoise Capital** | **44,948,861** | **0.82** | **1.44** | **-6.16** | **10.44** | **-6.16** | **-7.46** | **-1.79** | **-6.51** | **9.56** | **8/1/2009** |
| Alerian MLP Index | | | 0.71 | -5.02 | 11.08 | -5.02 | -8.13 | -2.46 | -8.65 | 6.29 | |
| Value Added | | | 0.73 | -1.14 | -0.64 | -1.14 | 0.67 | 0.67 | 2.14 | 3.27 | |
| **Nuveen Real Asset** | **91,744,460** | **1.66** | **1.80** | **3.85** | **19.00** | **3.85** | **12.82** | **7.07** | | **6.40** | **2/1/2015** |
| Policy Index | | | 1.48 | 2.72 | 18.69 | 2.72 | 12.35 | 6.62 | | 6.00 | |
| Value Added | | | 0.32 | 1.13 | 0.31 | 1.13 | 0.47 | 0.45 | | 0.40 | |
| **Amerra AGRI Fund II** | **8,730,419** | **0.16** | **0.93** | **0.92** | **2.53** | **0.92** | **4.01** | **-0.37** | **3.75** | **3.63** | **12/1/2012** |
| **Amerra AGRI Holdings** | **23,809,160** | **0.43** | **2.07** | **2.07** | **1.82** | **2.07** | **1.29** | **-1.59** | | **-0.95** | **8/1/2015** |
| **BTG Pactual** | **10,590,524** | **0.19** | **0.53** | **0.53** | **4.17** | **0.53** | **9.35** | **1.04** | | **-6.84** | **12/1/2014** |
| **IFM Infrastructure** | **10,094,620** | **0.18** | **0.00** | **0.00** | | **0.00** | | | | **0.00** | **7/1/2019** |
| **Magnetar MTP EOF II** | **11,075,644** | **0.20** | **2.78** | **2.67** | **4.32** | **2.67** | **7.27** | **7.01** | | **3.63** | **8/1/2015** |
| **Oberland Capital** | **1,633,252** | **0.03** | **21.31** | **21.31** | **12.94** | **21.31** | **39.38** | | | **16.26** | **8/1/2018** |
| **Taurus Mine Finance** | **15,688,816** | **0.28** | **10.92** | **10.92** | **20.89** | **10.92** | **23.57** | **18.28** | | **16.42** | **4/1/2015** |
| **TPF II** | **86,283** | **0.00** | **-0.08** | **-0.08** | **14.26** | **-0.08** | **13.93** | **5.94** | **1.06** | **-2.08** | **10/1/2008** |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Real Estate Composite** | **304,360,682** | **5.52** | **3.38** | **3.34** | **6.12** | **3.34** | **8.06** | **9.42** | **9.17** | **8.99** | **5/1/2009** |
| NCREIF ODCE NOF 1 Quarter Lag | | | 0.77 | 0.77 | 3.53 | 0.77 | 5.46 | 6.61 | 8.76 | | |
| Value Added | | | 2.61 | 2.57 | 2.59 | 2.57 | 2.60 | 2.81 | 0.41 | | |
| **Baring** | **21,894,423** | **0.40** | **43.95** | **23.96** | **23.48** | **23.96** | | | | **23.48** | **1/1/2019** |
| **Divcowest IV** | **1,684,537** | **0.03** | **9.57** | **20.75** | **20.38** | **20.75** | **23.61** | **24.49** | **27.55** | **23.94** | **3/1/2014** |
| **Fundamental Partners III** | **17,171,208** | **0.31** | **4.77** | **5.08** | **10.13** | **5.08** | **13.81** | | | **8.46** | **5/1/2017** |
| **Greenfield Acq VI** | **837,715** | **0.02** | **-25.10** | **-25.10** | **-38.14** | **-25.10** | **-38.38** | **-17.92** | **-7.87** | **-2.28** | **12/1/2012** |
| **Greenfield Acq VII** | **8,295,760** | **0.15** | **10.33** | **10.33** | **15.83** | **10.33** | **16.35** | **14.75** | **13.83** | **13.13** | **7/1/2014** |
| **H/2 Credit Partner** | **32,563,803** | **0.59** | **-0.62** | **-0.15** | **-2.32** | **-0.15** | **-3.01** | **3.95** | **3.54** | **4.92** | **7/1/2011** |
| **Harrison Street** | **37,500,638** | **0.68** | **0.00** | **1.41** | **2.73** | **1.41** | **4.56** | **8.26** | **8.86** | **8.02** | **5/1/2012** |
| **Lubert Adler VII** | **12,603,567** | **0.23** | **0.22** | **0.22** | **9.96** | **0.22** | **10.21** | **9.14** | **2.00** | **0.64** | **7/1/2014** |
| **Lubert Adler VII B** | **11,558,984** | **0.21** | **3.53** | **3.53** | **11.98** | **3.53** | **12.40** | | | **4.83** | **7/1/2017** |
| **Mesa West IV** | **6,298,786** | **0.11** | **1.52** | **2.70** | **4.16** | **2.70** | **6.87** | | | **5.24** | **3/1/2017** |
| **Mesa West Core Lend** | **38,383,871** | **0.70** | **1.63** | **3.31** | **5.18** | **3.31** | **7.15** | **7.94** | **7.11** | **6.75** | **5/1/2013** |
| **Patron Capital** | **6,468,319** | **0.12** | **4.30** | **1.08** | **7.80** | **1.08** | **10.81** | **3.62** | | **2.75** | **8/1/2016** |
| **Prologis Targeted US** | **52,928,040** | **0.96** | **0.00** | **2.94** | **9.54** | **2.94** | **13.22** | **17.58** | **15.24** | **15.24** | **10/1/2014** |
| **Rubenstein PF II** | **7,971,431** | **0.14** | **2.05** | **5.88** | **8.48** | **5.88** | **12.72** | **13.10** | **10.42** | **13.84** | **7/1/2013** |
| **Stockbridge Sm/Mkts** | **40,950,956** | **0.74** | **1.35** | **1.35** | **5.40** | **1.35** | **9.06** | **8.48** | **9.44** | **9.07** | **5/1/2014** |
| **Walton St RE VI** | **1,509,597** | **0.03** | **-0.37** | **-0.37** | **-2.57** | **-0.37** | **-0.43** | **2.17** | **4.86** | **-16.06** | **5/1/2009** |
| **Walton St RE VII** | **5,739,047** | **0.10** | **-1.06** | **-1.00** | **-2.48** | **-1.00** | **-2.55** | **5.56** | **9.11** | **10.01** | **7/1/2013** |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Absolute Return Composite** | **83,663,076** | **1.52** | **-0.45** | **-0.42** | **0.09** | **-0.42** | **-1.04** | **2.50** | **1.61** | **3.44** | **4/1/2010** |
| HFRI FOF Div 1 Month Lag | | | -0.41 | 1.43 | 4.41 | 1.43 | 1.15 | 3.52 | 2.11 | 2.81 | |
| Value Added | | | -0.04 | -1.85 | -4.32 | -1.85 | -2.19 | -1.02 | -0.50 | 0.63 | |
| **Blackstone Strat Opp** | **1,559,988** | **0.03** | **-0.79** | **-1.98** | **-6.59** | **-1.98** | **-6.27** | | | **0.82** | **8/1/2017** |
| **Credit Suisse** | **172,709** | **0.00** | **0.00** | **0.67** | **3.99** | **0.67** | **6.05** | | | **6.47** | **5/1/2017** |
| **Gotham Neutral Strategies** | **5,361,666** | **0.10** | **-2.13** | **-0.01** | **-3.00** | **-0.01** | **-2.77** | | | **-2.53** | **4/1/2017** |
| **Governors Lane Onshore** | **6,748,553** | **0.12** | **-0.71** | **1.09** | **3.86** | **1.09** | **-1.65** | | | **0.40** | **4/1/2017** |
| **Liquidalts H20 Force** | **7,182,911** | **0.13** | **7.49** | **1.23** | **1.44** | **1.23** | **4.57** | **5.31** | | **5.75** | **8/1/2016** |
| **Luxor Capital** | **534,343** | **0.01** | **-0.02** | **-3.77** | **5.18** | **-3.77** | **15.14** | **20.72** | **4.57** | **3.90** | **4/1/2014** |
| **Myriad Opportunities** | **17,287,482** | **0.31** | **-2.20** | **-1.58** | **-5.59** | **-1.58** | **-7.70** | **1.39** | | **2.26** | **5/1/2016** |
| **PAAMCO** | **1,910** | **0.00** | **0.00** | **0.05** | **28.02** | **0.05** | **-56.65** | **-28.83** | **-19.28** | **-9.76** | **9/1/2011** |
| **Pine River** | **84,532** | **0.00** | **1.15** | **6.49** | **17.84** | **6.49** | **23.36** | **5.22** | **2.97** | **2.82** | **5/1/2014** |
| **PRISMA Capital** | **40,033,400** | **0.73** | **-0.48** | **-0.48** | **0.95** | **-0.48** | **-0.23** | **3.03** | **1.96** | **3.37** | **9/1/2011** |
| **SRS Partners US** | **3,290,637** | **0.06** | **-3.52** | **-0.77** | **4.14** | **-0.77** | **12.09** | | | **9.35** | **8/1/2017** |
| **Tricadia Select** | **1,404,944** | **0.03** | **0.00** | **1.05** | **2.21** | **1.05** | **-1.06** | | | **-11.55** | **9/1/2017** |

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# Asset Allocation & Performance

## KRS Insurance Plan

*Periods Ended September 30, 2019*

| | Allocation | | Performance (%) net of fees | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Market Value $ | % | 1 Month | QTD | YTD | FYTD | 1 Year | 3 Years | 5 Years | Since Inception | Inception Date |
| **Private Equity Composite** | **554,094,931** | **10.06** | **1.28** | **3.61** | **6.24** | **3.61** | **10.10** | **14.81** | **13.59** | **10.38** | **7/1/2002** |
| KRS Short-Term PE Index | | | 1.28 | 3.61 | 6.24 | 3.61 | 10.10 | 14.81 | 13.59 | 10.38 | |
| Value Added | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| Russell 3000 +3% 1 Quarter Lag | | | 7.29 | 4.87 | 4.02 | 4.87 | 12.25 | 17.44 | 13.50 | 11.25 | |
| Value Added | | | -6.01 | -1.26 | 2.22 | -1.26 | -2.15 | -2.63 | 0.09 | -0.87 | |
| **Cash Composite** | **90,774,029** | **1.65** | **0.26** | **0.70** | **2.09** | **0.70** | **2.70** | **1.91** | **1.26** | **2.66** | **7/1/1992** |
| 90 Day US Treasury Bill | | | 0.18 | 0.56 | 1.81 | 0.56 | 2.38 | 1.54 | 0.96 | 2.54 | |
| Value Added | | | 0.09 | 0.14 | 0.28 | 0.14 | 0.32 | 0.37 | 0.30 | 0.12 | |

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# Cash Flow Summary

## KRS Insurance Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| **KRS Insurance Plan** | **5,437,490,392** | **2,158,601** | **-2,448,239** | **-3,616,684** | **76,724,926** | **5,510,308,995** |
| | | | | | | |
| **US Equity Composite** | **1,026,770,331** | **17,147,664** | **-48,039** | **-92,185** | **20,601,741** | **1,064,379,512** |
| S&P 500 Index | 557,384,100 | 13,308,262 | | -7,630 | 10,430,183 | 581,114,913 |
| Scientific Beta | 185,296,486 | -917,119 | | -7,164 | 3,838,957 | 188,211,160 |
| River Road FAV | 70,325,220 | 2,427,010 | -20,718 | -12,960 | 1,759,110 | 74,477,663 |
| Westfield Capital | 67,675,649 | 2,443,962 | -40,386 | -4,563 | 520,145 | 70,594,808 |
| Internal US Mid Cap | 67,783,858 | -5,644 | | -40,502 | 2,177,841 | 69,915,553 |
| NTGI Structured | 78,290,392 | -108,807 | 13,065 | -19,366 | 1,877,454 | 80,052,739 |
| Transition Account | 14,626 | | | | -1,949 | 12,677 |
| | | | | | | |
| **Non-US Equity Composite** | **1,076,632,006** | **-1,409,722** | **-340,214** | **-6,734** | **26,175,343** | **1,101,050,680** |
| BlackRock ACWI Ex US | 433,231,034 | | -20,203 | | 11,074,670 | 444,285,501 |
| American Century | 153,273,384 | -149,041 | -54,010 | -8,264 | 1,385,115 | 154,447,184 |
| Franklin Templeton | 109,202,019 | -93,136 | -49,925 | 8,798 | 1,390,309 | 110,458,066 |
| Lazard Asset Mgmt | 189,728,858 | -703,020 | -114,562 | -2,354 | 4,624,911 | 193,533,833 |
| LSV Asset Mgmt | 156,263,889 | -464,491 | -98,100 | -4,915 | 6,879,483 | 162,575,866 |
| Blackrock ACWI Ex-US Small Cap | 33,581,091 | | -3,413 | | 827,649 | 34,405,327 |
| Boston Company | 130,389 | | | | -8 | 130,381 |
| Pyramis Intl | 739,154 | | | | 2 | 739,156 |
| Non-US Equity Transition | 482,187 | -34 | | | -6,788 | 475,365 |
| | | | | | | |
| **Fixed Income Composite** | **1,819,366,362** | **22,302,721** | **-752,992** | **-357,438** | **2,276,342** | **1,842,834,995** |
| **Core Fixed Composite** | **1,001,839,799** | **-714,652** | **-102,534** | **-60,769** | **-1,421,036** | **999,540,807** |
| BNY IG Credit | 47,269,484 | | | | -108,244 | 47,161,240 |
| Loomis Sayles Intmd | 212,879,347 | -267,391 | -10,609 | -18,518 | -472,091 | 212,110,738 |
| Lord Abbett | 491,955,008 | -12,656 | -58,848 | -30,386 | 527,155 | 492,380,274 |
| NISA | 249,735,960 | -434,606 | -33,078 | -11,865 | -1,367,856 | 247,888,556 |

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# Cash Flow Summary

## KRS Insurance Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| **Opportunistic Fixed Composite** | **817,526,562** | **23,017,373** | **-650,457** | **-296,669** | **3,697,379** | **843,294,188** |
| Arrowmark | 60,965,461 | 9,350,727 | -96,528 | | 613,100 | 70,832,760 |
| BSP Coinvestment | | 6,001,623 | | | | 6,001,623 |
| BSP Private Credit | 26,895,420 | 3,300,330 | -70,236 | | 522,461 | 30,647,975 |
| Cerberus Capital Mgmt | 33,566,685 | 6,000,000 | -79,619 | -63,343 | 501,908 | 39,925,631 |
| Columbia | 92,224,801 | -459,253 | -34,982 | -30,362 | 537,362 | 92,237,566 |
| Manulife Asset Mgmt | 200,521,635 | -585,830 | -50,939 | -17,605 | -661,883 | 199,205,377 |
| Marathon Bluegrass | 140,519,602 | | -109,724 | | 178,663 | 140,588,541 |
| Shenkman Capital | 118,112,110 | -120,355 | -49,547 | -3,890 | 677,948 | 118,616,266 |
| Waterfall | 96,317,728 | | -44,356 | -2 | 242,137 | 96,515,508 |
| White Oak Yield Spectrum | 48,364,433 | -469,801 | -114,526 | -181,466 | 1,085,617 | 48,684,257 |
| Loomis | 38,688 | -68 | | | 64 | 38,684 |
| | | | | | | |
| **Real Return Composite** | **471,719,108** | **-9,132,795** | **-331,424** | **-332,926** | **7,229,127** | **469,151,091** |
| Internal TIPS | 119,405,967 | -7,201,995 | | -341 | -386,465 | 111,817,167 |
| PIMCO All Asset | 138,210,161 | -1,206,843 | | | 1,928,567 | 138,931,885 |
| Tortoise Capital | 44,321,031 | -1,495 | -28,146 | -4,329 | 661,800 | 44,948,861 |
| Nuveen Real Asset | 90,552,284 | -429,698 | -36,693 | -3,930 | 1,662,497 | 91,744,460 |
| Amerra AGRI Fund II | 8,650,351 | | -19,565 | -16,173 | 115,806 | 8,730,419 |
| Amerra AGRI Holdings | 23,325,195 | | -124,525 | -74,732 | 683,222 | 23,809,160 |
| BTG Pactual | 10,534,305 | | -46,716 | -4,110 | 107,044 | 10,590,524 |
| IFM Infrastructure | 10,094,620 | | | | | 10,094,620 |
| Magnetar MTP EOF II | 10,776,254 | | -33,649 | -74,847 | 407,886 | 11,075,644 |
| Oberland Capital | 1,618,553 | -292,765 | -42,130 | -154,463 | 504,057 | 1,633,252 |
| Taurus Mine Finance | 14,144,033 | | | | 1,544,783 | 15,688,816 |
| TPF II | 86,352 | | | | -69 | 86,283 |
| | | | | | | |
| **Real Estate Composite** | **296,267,455** | **-1,915,898** | **-610,752** | **-943,836** | **11,563,714** | **304,360,682** |
| Baring | 15,209,345 | | | | 6,685,079 | 21,894,423 |
| Divcowest IV | 1,537,441 | | -5,368 | -55,375 | 207,839 | 1,684,537 |
| Fundamental Partners III | 18,135,650 | -1,812,689 | -112,500 | -624,810 | 1,585,557 | 17,171,208 |
| Greenfield Acq VI | 1,118,373 | | 42,720 | | -323,378 | 837,715 |

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# Cash Flow Summary

## KRS Insurance Plan

*One Month Ending September 30, 2019*

| | Begin Value | Net Cash Flow | Fees | Expenses | Capital Apprec./ Deprec. | End Value |
|---|---|---|---|---|---|---|
| Greenfield Acq VII | 7,519,088 | | -211,031 | | 987,703 | 8,295,760 |
| H/2 Credit Partner | 32,768,479 | | | | -204,676 | 32,563,803 |
| Harrison Street | 37,500,638 | | | | | 37,500,638 |
| Lubert Adler VII | 12,576,190 | | -29,496 | -10,444 | 67,316 | 12,603,567 |
| Lubert Adler VII B | 11,164,997 | | -21,388 | -207,647 | 623,023 | 11,558,984 |
| Mesa West IV | 6,306,074 | -103,216 | -47,250 | -5,481 | 148,659 | 6,298,786 |
| Mesa West Core Lend | 37,767,901 | | -74,093 | | 690,063 | 38,383,871 |
| Patron Capital | 6,201,588 | 7 | | -40,079 | 306,803 | 6,468,319 |
| Prologis Targeted US | 52,928,040 | | | | | 52,928,040 |
| Rubenstein PF II | 7,811,276 | | -23,524 | | 183,679 | 7,971,431 |
| Stockbridge Sm/Mkts | 40,406,796 | | -87,190 | | 631,350 | 40,950,956 |
| Walton St RE VI | 1,515,265 | | -4,021 | | -1,647 | 1,509,597 |
| Walton St RE VII | 5,800,314 | | -37,611 | | -23,656 | 5,739,047 |
| **Absolute Return Composite** | **84,039,972** | | **-9,485** | | **-367,411** | **83,663,076** |
| Blackstone Strat Opp | 1,572,455 | | | | -12,467 | 1,559,988 |
| Credit Suisse | 172,709 | | | | | 172,709 |
| Gotham Neutral Strategies | 5,478,311 | | -4,565 | | -112,080 | 5,361,666 |
| Governors Lane Onshore | 6,796,515 | | -16,914 | | -31,049 | 6,748,553 |
| Liquidalts H20 Force | 6,682,386 | | | | 500,525 | 7,182,911 |
| Luxor Capital | 534,454 | | | | -111 | 534,343 |
| Myriad Opportunities | 17,676,184 | | -14,354 | | -374,349 | 17,287,482 |
| PAAMCO | 1,910 | | | | | 1,910 |
| Pine River | 83,570 | | -35 | | 997 | 84,532 |
| PRISMA Capital | 40,225,891 | | | | -192,491 | 40,033,400 |
| SRS Partners US | 3,410,642 | | 26,383 | | -146,388 | 3,290,637 |
| Tricadia Select | 1,404,944 | | | | | 1,404,944 |
| **Private Equity Composite** | **559,334,580** | **-12,299,150** | **-355,333** | **-1,631,215** | **9,046,048** | **554,094,931** |
| **Cash Composite** | **103,360,577** | **-12,534,219** | | **-252,351** | **200,022** | **90,774,029** |

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Kentucky Retirement Systems

# Domestic and Global Commissions Report

Quarter Ending: September 30, 2019

**Kentucky Retirement Systems**
**Domestic Equity - Common Stock Commissions**
**Quarter Ended September 30, 2019**

| Broker/Account | Shares Traded | Commission | Value of Trade | Per Share | % Cost of Trade |
|---|---|---|---|---|---|
| B RILEY AND CO LLC, NEW YORK | 1,480 | 59 | 68,405 | 0.0400 | 0 0865% |
| BARCLAYS | 200,630 | 4,324 | 6,032,301 | 0.0216 | 0 0717% |
| BERNSTEIN SANFORD C & CO, NEW YORK | 412,828 | 10,492 | 12,635,367 | 0.0254 | 0 0830% |
| BMO CAPITAL MARKETS CORP, NEW YORK | 15,600 | 624 | 456,215 | 0.0400 | 0.1368% |
| BTIG LLC, NEW YORK | 103,297 | 3,099 | 5,751,083 | 0.0300 | 0 0539% |
| CANTOR FITZGERALD & CO INC, NEW YORK | 378,360 | 11,351 | 10,529,666 | 0.0300 | 0.1078% |
| CITIGROUP | 112,191 | 1,918 | 9,445,861 | 0.0171 | 0 0203% |
| CREDIT SUISSE | 251,435 | 3,273 | 12,678,836 | 0.0130 | 0 0258% |
| GOLDMAN SACHS | 7,766 | 311 | 1,448,655 | 0.0400 | 0 0214% |
| GUGGENHEIM CAPITAL MARKETS LLC, NEW YORK | 1,615 | 65 | 100,236 | 0.0400 | 0 0644% |
| INSTINET CORP | 502,559 | 10,440 | 17,159,391 | 0.0208 | 0 0608% |
| INVESTMENT TECH GROUP INC, NEW YORK | 158,057 | 3,612 | 5,088,652 | 0.0229 | 0 0710% |
| ISI GROUP | 75,504 | 1,023 | 3,296,947 | 0.0136 | 0 0310% |
| ITG INC, NEW YORK | 55,837 | 558 | 1,443,993 | 0.0100 | 0 0387% |
| J.P MORGAN SECURITIES INC, NEW YORK | 190,921 | 2,437 | 4,965,818 | 0.0128 | 0 0491% |
| JMP SECURITIES, SAN FRANCISCO | 35,280 | 1,411 | 1,568,089 | 0.0400 | 0 0900% |
| JONESTRADING INST SVCS LLC, NEW YORK | 43,852 | 1,114 | 1,791,489 | 0.0254 | 0 0622% |
| KEEFE BRUYETTE + WOODS INC, NEW YORK | 19,080 | 763 | 612,148 | 0.0400 | 0.1247% |
| KEYBANC CAPITAL MARKETS INC, NEW YORK | 87,572 | 3,503 | 2,381,543 | 0.0400 | 0.1471% |
| KNIGHT EQUITY MARKETS LP, NEW YORK | 92,973 | 2,789 | 5,337,965 | 0.0300 | 0 0523% |
| LEERINK SWANN AND COMPANY, NEW YORK | 4,360 | 174 | 448,441 | 0.0400 | 0 0389% |
| LIQUIDNET INC, NEW YORK | 141,222 | 3,091 | 5,183,467 | 0.0219 | 0 0596% |
| LUMINEX TRADING AND ANALYTICS, BOSTON | 39,297 | 1,061 | 2,595,749 | 0.0270 | 0 0409% |
| MACQUARIE SECURITIES | 1,123 | 45 | 48,168 | 0.0400 | 0 0933% |
| MERRILL LYNCH | 85,627 | 1,156 | 4,160,979 | 0.0135 | 0 0278% |
| MKM PARTNERS LLC, GREENWICH | 10,760 | 430 | 310,777 | 0.0400 | 0.1385% |
| O NEIL WILLIAM CO INC BCC CLRG, NEW YORK | 12,183 | 487 | 1,254,795 | 0.0400 | 0 0388% |
| OPPENHEIMER & CO INC, NEW YORK | 20,390 | 816 | 898,177 | 0.0400 | 0 0908% |
| PIPER JAFFRAY & CO., JERSEY CITY | 9,486 | 379 | 723,092 | 0.0400 | 0 0525% |
| RAYMOND JAMES & ASSOC INC, ST PETERSBURG | 96,840 | 2,762 | 6,742,409 | 0.0285 | 0 0410% |
| RBC CAPITAL MARKETS | 115,394 | 1,941 | 2,415,761 | 0.0168 | 0 0803% |
| SCOTIA CAPITAL (USA) INC, NEW YORK | 62,988 | 472 | 1,208,891 | 0.0075 | 0 0391% |
| STEPHENS INC, LITTLE ROCK | 7,375 | 295 | 801,121 | 0.0400 | 0 0368% |
| STIFEL NICOLAUS | 17,150 | 686 | 723,891 | 0.0400 | 0 0948% |
| SUNTRUST CAPITAL MARKETS INC, NEW YORK | 13,220 | 529 | 2,766,370 | 0.0400 | 0 0191% |
| UBS | 2,744,222 | 18,706 | 218,335,794 | 0.0068 | 0 0086% |
| WEEDEN and CO | 403,283 | 12,082 | 18,783,491 | 0.0300 | 0 0643% |
| WELLS FARGO SECURITIES, LLC, NEW YORK | 33,100 | 1,324 | 2,056,031 | 0.0400 | 0 0644% |
| WILLIAM BLAIR & CO, CHICAGO | 20,940 | 838 | 612,598 | 0.0400 | 0.1367% |
| WOLFE TRAHAN SECURITIES, NEW YORK | 19,370 | 775 | 579,637 | 0.0400 | 0.1337% |
| TOTAL DOMESTIC | 6,605,167 | 111,218 | 373,442,299 | 0.0168 | 0 0298% |

| Broker/Account | Shares Traded | Commission | Value of Trade | Per Share | % Cost of Trade |
|---|---|---|---|---|---|
| NTGI STRUCTURED | 55,837 | 558 | 1,443,993 | 0.0100 | 0 0387% |
| RIVER ROAD FAV | 1,959,169 | 50,840 | 68,540,967 | 0.0259 | 0 0742% |
| S&P 500 INDEX | 2,587,553 | 17,531 | 217,122,606 | 0.0068 | 0 0081% |
| TORTOISE CAP | 881,023 | 7,718 | 18,919,617 | 0.0088 | 0 0408% |
| WESTFIELD CAPITAL | 1,121,585 | 34,571 | 67,415,116 | 0.0308 | 0 0513% |
| TOTAL DOMESTIC | 6,605,167 | 111,218 | 373,442,299 | 0.0168 | 0 0298% |

**Kentucky Retirement Systems**
**Global Equity - Common Stock Commissions**
**Quarter Ended September 30, 2019**

| Broker/Account | Shares Traded | Commission | Value of Trade | Per Share | % Cost of Trade |
|---|---|---|---|---|---|
| BARCLAYS | 302,366 | 5,505 | 8,509,689 | 0.0182 | 0 0647% |
| BERENBERG GOSSLER & CIE, HAMBURG | 9,080 | 8,767 | 7,314,569 | 0.9655 | 0.1199% |
| BERNSTEIN SANFORD C & CO, NEW YORK | 10,150 | 51 | 1,974,168 | 0.0050 | 0 0026% |
| BNP PARIBUS | 183,864 | 1,506 | 2,730,069 | 0.0082 | 0 0551% |
| BOFA SECURITIES, INC, NEW YORK | 3,100 | 133 | 332,701 | 0.0429 | 0 0400% |
| CANTOR FITZGERALD & CO INC, NEW YORK | 12,700 | 381 | 789,575 | 0.0300 | 0 0483% |
| CHINA INTL CAP CORP HK SECS, HONG KONG | 115,000 | 664 | 947,090 | 0.0058 | 0 0701% |
| CITIGROUP | 3,577,801 | 20,938 | 25,600,941 | 0.0059 | 0 0818% |
| CREDIT LYONNAIS SECS, SINGAPORE | 16,600 | 162 | 323,221 | 0.0097 | 0 0500% |
| CREDIT SUISSE | 2,214,253 | 19,592 | 29,338,149 | 0.0088 | 0 0668% |
| DAIWA SECURITIES | 84,900 | 891 | 1,781,762 | 0.0105 | 0 0500% |
| DEUTSCHE BANK AG, LONDON | 27,500,000 | 23,109 | 645,695 | 0.0008 | 3 5790% |
| DEUTSCHE SEC ASIA LTD, HONG KONG | 700,000 | 172 | 171,516 | 0.0002 | 0.1002% |
| EXANE, PARIS (EXANFRPP) | 80,389 | 2,514 | 4,233,035 | 0.0313 | 0 0594% |
| GOLDMAN SACHS | 444,505 | 18,467 | 15,526,400 | 0.0415 | 0.1189% |
| HSBC | 55,902 | 126 | 420,515 | 0.0023 | 0 0300% |
| INSTINET CORP | 53,000 | 206 | 685,024 | 0.0039 | 0 0301% |
| INVESTEC SECURITIES (331), LONDON | 15,000 | 1,049 | 703,708 | 0.0699 | 0.1490% |
| INVESTMENT TECHNOLOGY GROUP LTD,DUBLIN | 1,023,171 | 7,940 | 10,291,628 | 0.0078 | 0 0771% |
| ITG AUSTRALIA LTD, MELBOURNE | 107,700 | 975 | 1,841,720 | 0.0090 | 0 0529% |
| JEFFERIES & CO INC, NEW YORK | 136,209 | 1,039 | 3,759,712 | 0.0076 | 0 0276% |
| JEFFERIES & CO LTD, LONDON | 241,966 | 1,883 | 1,961,286 | 0.0078 | 0 0960% |
| JP MORGAN SECURITIES | 898,058 | 17,770 | 29,768,210 | 0.0198 | 0 0597% |
| JPMORGAN SECURITIES INC, NEW YORK | 38,830 | 3,087 | 3,083,576 | 0.0795 | 0.1001% |
| KEPLER EQUITIES, PARIS | 46,135 | 2,060 | 2,872,631 | 0.0447 | 0 0717% |
| KNIGHT EQUITY MARKETS LP, NEW YORK | 800 | 4 | 107,813 | 0.0050 | 0 0037% |
| LIQUIDNET CANADA INC, TORONTO | 1,400 | 16 | 71,522 | 0.0113 | 0 0221% |
| LIQUIDNET EUROPE LIMITED, LONDON | 1,948 | 44 | 87,487 | 0.0224 | 0 0500% |
| LIQUIDNET INC, NEW YORK | 5,944 | 69 | 655,272 | 0.0116 | 0 0106% |
| MACQUARIE SECURITIES | 612,510 | 8,420 | 8,813,171 | 0.0137 | 0 0955% |
| MAINFIRST BANK AG,FRANKFURT AM MAIN | 24,133 | 4,154 | 3,457,286 | 0.1721 | 0.1201% |
| MERRILL LYNCH | 1,901,968 | 29,046 | 39,553,496 | 0.0153 | 0 0734% |
| MITSUBISHI SECURITIES | 2,900 | 45 | 89,155 | 0.0154 | 0 0500% |
| MIZUHO SECURITIES USA INC. NEW YORK | 9,100 | 211 | 211,664 | 0.0232 | 0 0999% |
| MORGAN STANLEY | 1,648,821 | 26,808 | 32,280,972 | 0.0163 | 0 0830% |
| NOMURA SECURITIES | 13,200 | 205 | 410,447 | 0.0156 | 0 0500% |
| NUMIS SECURITIES LTD, LONDON | 160,000 | 6,653 | 4,442,241 | 0.0416 | 0.1498% |
| ODDO ET CIE, PARIS | 52,607 | 408 | 818,600 | 0.0078 | 0 0498% |
| PAREL, PARIS | 10,876 | 114 | 227,293 | 0.0105 | 0 0500% |
| RBC CAPITAL MARKETS | 770,611 | 6,135 | 9,935,430 | 0.0080 | 0 0618% |
| REDBURN PARTNERS LLP, LONDON | 44,473 | 1,288 | 1,295,630 | 0.0290 | 0 0994% |
| S G WARBURG, SEOUL | 69,190 | 1,011 | 2,016,494 | 0.0146 | 0 0501% |
| SANFORD C BERNSTEIN & CO INC, LONDON | 149,176 | 4,087 | 9,172,844 | 0.0274 | 0 0446% |
| SG SEC (LONDON) LTD, LONDON | 98,890 | 7,571 | 7,122,376 | 0.0766 | 0.1063% |
| SMBC SECURITIES, INC NEW YORK | 33,500 | 288 | 576,550 | 0.0086 | 0 0500% |
| SOCIETE GENERALE LONDON BRANCH, LONDON | 503,844 | 6,563 | 10,958,583 | 0.0130 | 0 0599% |
| SOCIETE GENERALE, PARIS | 24,288 | 2,491 | 2,165,795 | 0.1026 | 0.1150% |
| UBS | 3,206,530 | 7,604 | 15,896,830 | 0.0024 | 0 0478% |
| TOTAL GLOBAL | 47,217,388 | 252,221 | 305,973,541 | 0.0053 | 0 0824% |

| Broker/Account | Shares Traded | Commission | Value of Trade | Per Share | % Cost of Trade |
|---|---|---|---|---|---|
| AMERICAN CENTURY | 4,590,076 | 111,939 | 139,466,889 | 0.0244 | 0 0803% |
| FRANKIN TEMPLETON | 5,763,200 | 79,291 | 82,149,029 | 0.0138 | 0 0965% |
| LAZARD ASSET MGMT | 1,794,163 | 18,765 | 49,695,982 | 0.0105 | 0 0378% |
| LSV ASSET MANAGEMENT | 6,140,488 | 11,112 | 23,606,049 | 0.0018 | 0 0471% |
| LSV ASSET MGMT | 1,429,400 | 4,452 | 9,368,790 | 0.0031 | 0 0475% |
| MANULIFE ASSET MGMT | 27,500,061 | 26,662 | 1,686,802 | 0.0010 | 1 5806% |
| TOTAL GLOBAL | 47,217,388 | 252,221 | 305,973,541 | 0.0053 | 0 0824% |

Kentucky Retirement Systems

# Internal Asset Holdings Report

Quarter Ending: September 30, 2019


| | |
|---|---|
| Pension – Internal US Mid Cap | pg.2 |
| Pension – Internal Equity | pg.3 |
| Pension – Internal S&P500 Index | pg.13 |
| Pension – Internal US TIPS | pg.25 |
| Insurance – Internal US Mid Cap | pg.26 |
| Insurance – Internal Equity | pg.27 |
| Insurance – Internal S&P500 Index | pg.37 |
| Insurance – Internal US TIPS | pg.49 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **138,925,308.44** | | **160,948,473.04** | **100.00** | | **22,023,164.60** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **866,113.39** | | **866,113.39** | **0.54** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **866,113.39** | **866,113.39** | **866,113.39** | **866,113.39** | **0.54** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 851,862.590 | 1.00 | 1.00 | 851,862.59 | 851,862 59 | 851,862.59 | 851,862.59 | 0.53 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 287.61 | 287 61 | 287.61 | 287.61 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 69,194.07 | 69,194 07 | 69,194.07 | 69,194.07 | 0.04 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -2,463.95 | -2,463 95 | -2,463.95 | -2,463.95 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -52,766.93 | -52,766 93 | -52,766.93 | -52,766.93 | -0.03 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **138,059,195.05** | | **160,082,359.65** | **99.46** | | **22,023,164.60** |
| **U.S. DOLLAR** | | | | | | **138,059,195.05** | **138,059,195.05** | **160,082,359.65** | **160,082,359.65** | **99.46** | **22,023,164.60** | **22,023,164.60** |
| | 464287507 | ISHARES CORE S&P MIDCAP ETF | 828,455.000 | 193.23 | 193.23 | 138,059,195.05 | 138,059,195 05 | 160,082,359.65 | 160,082,359.65 | 99.46 | 22,023,164.60 | 22,023,164.60 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **370,996,815.44** | | **427,223,516.29** | **100.00** | | **56,226,700.85** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **944,367.29** | | **944,367.29** | **0.22** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **944,367.29** | **944,367.29** | **944,367.29** | **944,367.29** | **0.22** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 401,797.540 | 1.00 | 1.00 | 401,797.54 | 401,797 54 | 401,797.54 | 401,797.54 | 0.09 | 0.00 | 0.00 |
| | | DIVIDENDS RECEIVABLE | 0.000 | 1.00 | 1.00 | 534,070.79 | 534,070.79 | 534,070.79 | 534,070.79 | 0.13 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 1,642.72 | 1,642.72 | 1,642.72 | 1,642.72 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 30,783.28 | 30,783 28 | 30,783.28 | 30,783.28 | 0.01 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -1,208.40 | -1,208.40 | -1,208.40 | -1,208.40 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -22,718.64 | -22,718 64 | -22,718.64 | -22,718.64 | -0.01 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **370,052,448.15** | | **426,279,149.00** | **99.78** | | **56,226,700.85** |
| **U.S. DOLLAR** | | | | | | **370,052,448.15** | **370,052,448.15** | **426,279,149.00** | **426,279,149.00** | **99.78** | **56,226,700.85** | **56,226,700.85** |
| | 001055102 | AFLAC NC | 23,070.000 | 52.32 | 52.32 | 968,933.24 | 968,933 24 | 1,207,022.40 | 1,207,022.40 | 0.28 | 238,089.16 | 238,089.16 |
| | 00206R102 | AT&T NC | 41,601.000 | 37.84 | 37.84 | 1,465,658.01 | 1,465,658 01 | 1,574,181.84 | 1,574,181.84 | 0.37 | 108,523.83 | 108,523.83 |
| | 002824100 | ABBOTT LABORATORIES | 14,586.000 | 83.67 | 83.67 | 775,572.47 | 775,572.47 | 1,220,410.62 | 1,220,410.62 | 0.29 | 444,838.15 | 444,838.15 |
| | 00507V109 | ACTIVISION BLIZZARD NC | 23,716.000 | 52.92 | 52.92 | 1,118,102.68 | 1,118,102 68 | 1,255,050.72 | 1,255,050.72 | 0.29 | 136,948.04 | 136,948.04 |
| | 00724F101 | ADOBE INC | 4,898.000 | 276.25 | 276.25 | 901,442.17 | 901,442.17 | 1,353,072.50 | 1,353,072.50 | 0.32 | 451,630.33 | 451,630.33 |
| | 00751Y106 | ADVANCE AUTO PARTS INC | 8,086.000 | 165.40 | 165.40 | 1,220,637.48 | 1,220,637.48 | 1,337,424.40 | 1,337,424.40 | 0.31 | 116,786.92 | 116,786.92 |
| | 007903107 | ADVANCED MICRO DEVICES INC | 18,145.000 | 28.99 | 28.99 | 346,827.83 | 346,827 83 | 526,023.55 | 526,023.55 | 0.12 | 179,195.72 | 179,195.72 |
| | 00846U101 | AG LENT TECHNOLOG ES INC | 17,056.000 | 76.63 | 76.63 | 1,101,626.38 | 1,101,626 38 | 1,307,001.28 | 1,307,001.28 | 0.31 | 205,374.90 | 205,374.90 |
| | 009158106 | AIR PRODUCTS & CHEMICALS NC | 6,388.000 | 221.86 | 221.86 | 1,085,848.26 | 1,085,848 26 | 1,417,241.68 | 1,417,241.68 | 0.33 | 331,393.42 | 331,393.42 |
| | 00971T101 | AKAMAI TECHNOLOG ES INC | 16,639.000 | 91.38 | 91.38 | 1,132,079.78 | 1,132,079.78 | 1,520,471.82 | 1,520,471.82 | 0.36 | 388,392.04 | 388,392.04 |
| | 012653101 | ALBEMARLE CORP | 8,301.000 | 69.52 | 69.52 | 669,438.02 | 669,438 02 | 577,085.52 | 577,085.52 | 0.14 | -92,352.50 | -92,352.50 |
| | 015271109 | ALEXANDRIA REAL ESTATE EQUIT E | 7,103.000 | 154.04 | 154.04 | 931,829.50 | 931,829 50 | 1,094,146.12 | 1,094,146.12 | 0.26 | 162,316.62 | 162,316.62 |
| | 015351109 | ALEXION PHARMACEUTICALS INC | 5,621.000 | 97.94 | 97.94 | 645,346.14 | 645,346.14 | 550,520.74 | 550,520.74 | 0.13 | -94,825.40 | -94,825.40 |
| | 017175100 | ALLEGHANY CORP | 1,591.000 | 797.76 | 797.76 | 938,461.76 | 938,461.76 | 1,269,236.16 | 1,269,236.16 | 0.30 | 330,774.40 | 330,774.40 |
| | 018802108 | ALLIANT ENERGY CORP | 25,716.000 | 53.93 | 53.93 | 1,064,949.93 | 1,064,949 93 | 1,386,863.88 | 1,386,863.88 | 0.32 | 321,913.95 | 321,913.95 |
| | 020002101 | ALLSTATE CORP/THE | 8,286.000 | 108.68 | 108.68 | 675,482.37 | 675,482 37 | 900,522.48 | 900,522.48 | 0.21 | 225,040.11 | 225,040.11 |
| | 02005N100 | ALLY F NANCIAL INC | 31,750.000 | 33.16 | 33.16 | 770,725.97 | 770,725 97 | 1,052,830.00 | 1,052,830.00 | 0.25 | 282,104.03 | 282,104.03 |
| | 02079K305 | ALPHABET NC-CL A | 744.000 | 1,221.14 | 1,221.14 | 805,799.39 | 805,799 39 | 908,528.16 | 908,528.16 | 0.21 | 102,728.77 | 102,728.77 |
| | 023135106 | AMAZON.COM NC | 288.000 | 1,735.91 | 1,735.91 | 387,549.70 | 387,549.70 | 499,942.08 | 499,942.08 | 0.12 | 112,392.38 | 112,392.38 |
| | 023608102 | AMEREN CORP | 38,430.000 | 80.05 | 80.05 | 2,311,437.51 | 2,311,437 51 | 3,076,321.50 | 3,076,321.50 | 0.72 | 764,883.99 | 764,883.99 |
| | 025537101 | AMERICAN ELECTRIC POWER CO INC | 26,313.000 | 93.69 | 93.69 | 2,111,288.90 | 2,111,288 90 | 2,465,264.97 | 2,465,264.97 | 0.58 | 353,976.07 | 353,976.07 |
| | 025816109 | AMERICAN EXPRESS CO | 6,434.000 | 118.28 | 118.28 | 539,905.26 | 539,905 26 | 761,013.52 | 761,013.52 | 0.18 | 221,108.26 | 221,108.26 |
| | 026874784 | AMERICAN INTERNATIONAL GROUP I | 16,278.000 | 55.70 | 55.70 | 844,736.11 | 844,736.11 | 906,684.60 | 906,684.60 | 0.21 | 61,948.49 | 61,948.49 |
| | 030420103 | AMERICAN WATER WORKS CO INC | 11,039.000 | 124.23 | 124.23 | 951,534.53 | 951,534 53 | 1,371,374.97 | 1,371,374.97 | 0.32 | 419,840.44 | 419,840.44 |
| | 031100100 | AMETEK INC | 8,647.000 | 91.82 | 91.82 | 535,168.73 | 535,168.73 | 793,967.54 | 793,967.54 | 0.19 | 258,798.81 | 258,798.81 |
| | 032095101 | AMPHENOL CORP | 8,646.000 | 96.50 | 96.50 | 608,394.23 | 608,394 23 | 834,339.00 | 834,339.00 | 0.20 | 225,944.77 | 225,944.77 |
| | 032654105 | ANALOG DEVICES INC | 13,178.000 | 111.73 | 111.73 | 1,487,739.53 | 1,487,739 53 | 1,472,377.94 | 1,472,377.94 | 0.34 | -15,361.59 | -15,361.59 |
| | 035710409 | ANNALY CAPITAL MANAGEMENT INC | 170,281.000 | 8.80 | 8.80 | 1,825,178.78 | 1,825,178.78 | 1,498,472.80 | 1,498,472.80 | 0.35 | -326,705.98 | -326,705.98 |
| | 03662Q105 | ANSYS NC | 7,580.000 | 221.36 | 221.36 | 1,039,411.50 | 1,039,411 50 | 1,677,908.80 | 1,677,908.80 | 0.39 | 638,497.30 | 638,497.30 |
| | 036752103 | ANTHEM NC | 5,325.000 | 240.10 | 240.10 | 1,096,839.42 | 1,096,839.42 | 1,278,532.50 | 1,278,532.50 | 0.30 | 181,693.08 | 181,693.08 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 037411105 | APACHE CORP | 42,181.000 | 25.60 | 25.60 | 1,643,612.95 | 1,643,612 95 | 1,079,833.60 | 1,079,833.60 | 0.25 | -563,779.35 | -563,779.35 |
| 037833100 | APPLE NC | 3,596.000 | 223.97 | 223.97 | 721,202.25 | 721,202 25 | 805,396.12 | 805,396.12 | 0.19 | 84,193.87 | 84,193.87 |
| 038222105 | APPLIED MATERIALS INC | 15,197.000 | 49.90 | 49.90 | 678,556.69 | 678,556 69 | 758,330.30 | 758,330.30 | 0.18 | 79,773.61 | 79,773.61 |
| 039483102 | ARCHER-DAN ELS-M DLAND CO | 26,526.000 | 41.07 | 41.07 | 1,175,662.47 | 1,175,662.47 | 1,089,422.82 | 1,089,422.82 | 0.26 | -86,239.65 | -86,239.65 |
| 03965L100 | ARCONIC INC | 30,630.000 | 26.00 | 26.00 | 651,917.60 | 651,917 60 | 796,380.00 | 796,380.00 | 0.19 | 144,462.40 | 144,462.40 |
| 040413106 | ARISTA NETWORKS INC | 1,671.000 | 238.92 | 238.92 | 434,367.43 | 434,367.43 | 399,235.32 | 399,235.32 | 0.09 | -35,132.11 | -35,132.11 |
| 049560105 | ATMOS ENERGY CORP | 15,046.000 | 113.89 | 113.89 | 1,573,631.05 | 1,573,631 05 | 1,713,588.94 | 1,713,588.94 | 0.40 | 139,957.89 | 139,957.89 |
| 052769106 | AUTODESK INC | 5,291.000 | 147.70 | 147.70 | 627,064.02 | 627,064 02 | 781,480.70 | 781,480.70 | 0.18 | 154,416.68 | 154,416.68 |
| 053015103 | AUTOMATIC DATA PROCESSING NC | 2,240.000 | 161.42 | 161.42 | 365,279.26 | 365,279 26 | 361,580.80 | 361,580.80 | 0.08 | -3,698.46 | -3,698.46 |
| 053332102 | AUTOZONE NC | 1,185.000 | 1,084.62 | 1,084.62 | 1,078,083.41 | 1,078,083.41 | 1,285,274.70 | 1,285,274.70 | 0.30 | 207,191.29 | 207,191.29 |
| 053484101 | AVALONBAY COMMUNITIES NC | 4,026.000 | 215.33 | 215.33 | 732,998.84 | 732,998 84 | 866,918.58 | 866,918.58 | 0.20 | 133,919.74 | 133,919.74 |
| 054937107 | BB&T CORP | 13,862.000 | 53.37 | 53.37 | 634,583.70 | 634,583.70 | 739,814.94 | 739,814.94 | 0.17 | 105,231.24 | 105,231.24 |
| 058498106 | BALL CORP | 14,037.000 | 72.81 | 72.81 | 701,583.04 | 701,583 04 | 1,022,033.97 | 1,022,033.97 | 0.24 | 320,450.93 | 320,450.93 |
| 060505104 | BANK OF AMERICA CORP | 71,477.000 | 29.17 | 29.17 | 1,796,414.64 | 1,796,414 64 | 2,084,984.09 | 2,084,984.09 | 0.49 | 288,569.45 | 288,569.45 |
| 064058100 | BANK OF NEW YORK MELLON CORP/T | 8,408.000 | 45.21 | 45.21 | 410,189.65 | 410,189 65 | 380,125.68 | 380,125.68 | 0.09 | -30,063.97 | -30,063.97 |
| 071813109 | BAXTER INTERNATIONAL NC | 14,116.000 | 87.47 | 87.47 | 800,593.64 | 800,593 64 | 1,234,726.52 | 1,234,726.52 | 0.29 | 434,132.88 | 434,132.88 |
| 084670702 | BERKSHIRE HATHAWAY INC | 5,701.000 | 208.02 | 208.02 | 1,017,763.10 | 1,017,763.10 | 1,185,922.02 | 1,185,922.02 | 0.28 | 168,158.92 | 168,158.92 |
| 086516101 | BEST BUY CO NC | 16,773.000 | 68.99 | 68.99 | 724,171.18 | 724,171.18 | 1,157,169.27 | 1,157,169.27 | 0.27 | 432,998.09 | 432,998.09 |
| 099724106 | BORGWARNER NC | 17,321.000 | 36.68 | 36.68 | 685,430.10 | 685,430.10 | 635,334.28 | 635,334.28 | 0.15 | -50,095.82 | -50,095.82 |
| 101121101 | BOSTON PROPERT ES NC | 2,775.000 | 129.66 | 129.66 | 355,927.33 | 355,927 33 | 359,806.50 | 359,806.50 | 0.08 | 3,879.17 | 3,879.17 |
| 101137107 | BOSTON SCIENT FIC CORP | 18,732.000 | 40.69 | 40.69 | 566,042.33 | 566,042 33 | 762,205.08 | 762,205.08 | 0.18 | 196,162.75 | 196,162.75 |
| 110122108 | BRISTOL-MYERS SQUIBB CO | 11,824.000 | 50.71 | 50.71 | 535,267.75 | 535,267.75 | 599,595.04 | 599,595.04 | 0.14 | 64,327.29 | 64,327.29 |
| 11133T103 | BROADRIDGE FINANCIAL SOLUTIONS | 7,085.000 | 124.43 | 124.43 | 624,039.80 | 624,039 80 | 881,586.55 | 881,586.55 | 0.21 | 257,546.75 | 257,546.75 |
| 11135F101 | BROADCOM NC | 7,368.000 | 276.07 | 276.07 | 2,107,455.04 | 2,107,455 04 | 2,034,083.76 | 2,034,083.76 | 0.48 | -73,371.28 | -73,371.28 |
| 115637209 | BROWN-FORMAN CORP | 18,587.000 | 62.78 | 62.78 | 847,784.48 | 847,784.48 | 1,166,891.86 | 1,166,891.86 | 0.27 | 319,107.38 | 319,107.38 |
| 122017106 | BURL NGTON STORES NC | 1,851.000 | 199.82 | 199.82 | 313,629.37 | 313,629 37 | 369,866.82 | 369,866.82 | 0.09 | 56,237.45 | 56,237.45 |
| 124857202 | CBS CORP | 6,324.000 | 40.37 | 40.37 | 306,130.93 | 306,130 93 | 255,299.88 | 255,299.88 | 0.06 | -50,831.05 | -50,831.05 |
| 12504L109 | CBRE GROUP NC | 13,781.000 | 53.01 | 53.01 | 624,492.55 | 624,492 55 | 730,530.81 | 730,530.81 | 0.17 | 106,038.26 | 106,038.26 |
| 12514G108 | CDW CORP/DE | 9,818.000 | 123.24 | 123.24 | 828,985.48 | 828,985.48 | 1,209,970.32 | 1,209,970.32 | 0.28 | 380,984.84 | 380,984.84 |
| 12541W209 | CH ROBINSON WORLDWIDE INC | 5,826.000 | 84.78 | 84.78 | 451,136.69 | 451,136 69 | 493,928.28 | 493,928.28 | 0.12 | 42,791.59 | 42,791.59 |
| 12572Q105 | CME GROUP INC | 15,336.000 | 211.34 | 211.34 | 1,993,059.21 | 1,993,059 21 | 3,241,110.24 | 3,241,110.24 | 0.76 | 1,248,051.03 | 1,248,051.03 |
| 125896100 | CMS ENERGY CORP | 43,954.000 | 63.95 | 63.95 | 2,122,023.07 | 2,122,023 07 | 2,810,858.30 | 2,810,858.30 | 0.66 | 688,835.23 | 688,835.23 |
| 126408103 | CSX CORP | 5,154.000 | 69.27 | 69.27 | 270,059.61 | 270,059 61 | 357,017.58 | 357,017.58 | 0.08 | 86,957.97 | 86,957.97 |
| 127097103 | CABOT O L & GAS CORP | 31,157.000 | 17.57 | 17.57 | 745,959.42 | 745,959.42 | 547,428.49 | 547,428.49 | 0.13 | -198,530.93 | -198,530.93 |
| 127387108 | CADENCE DESIGN SYSTEMS INC | 20,996.000 | 66.08 | 66.08 | 900,844.44 | 900,844.44 | 1,387,415.68 | 1,387,415.68 | 0.32 | 486,571.24 | 486,571.24 |
| 14040H105 | CAPITAL ONE F NANCIAL CORP | 4,076.000 | 90.98 | 90.98 | 339,843.48 | 339,843.48 | 370,834.48 | 370,834.48 | 0.09 | 30,991.00 | 30,991.00 |
| 143658300 | CARNIVAL CORP | 18,391.000 | 43.71 | 43.71 | 1,020,828.38 | 1,020,828 38 | 803,870.61 | 803,870.61 | 0.19 | -216,957.77 | -216,957.77 |
| 150870103 | CELANESE CORP | 4,845.000 | 122.29 | 122.29 | 431,984.74 | 431,984.74 | 592,495.05 | 592,495.05 | 0.14 | 160,510.31 | 160,510.31 |
| 15135B101 | CENTENE CORP | 6,863.000 | 43.26 | 43.26 | 341,117.62 | 341,117 62 | 296,893.38 | 296,893.38 | 0.07 | -44,224.24 | -44,224.24 |
| 15189T107 | CENTERPOINT ENERGY INC | 58,056.000 | 30.18 | 30.18 | 1,590,911.19 | 1,590,911.19 | 1,752,130.08 | 1,752,130.08 | 0.41 | 161,218.89 | 161,218.89 |
| 156700106 | CENTURYLINK NC | 25,546.000 | 12.48 | 12.48 | 385,000.83 | 385,000 83 | 318,814.08 | 318,814.08 | 0.07 | -66,186.75 | -66,186.75 |
| 156782104 | CERNER CORP | 5,200.000 | 68.17 | 68.17 | 312,846.95 | 312,846 95 | 354,484.00 | 354,484.00 | 0.08 | 41,637.05 | 41,637.05 |
| 16119P108 | CHARTER COMMUNICATIONS NC | 3,128.000 | 412.12 | 412.12 | 1,219,876.21 | 1,219,876 21 | 1,289,111.36 | 1,289,111.36 | 0.30 | 69,235.15 | 69,235.15 |
| 166764100 | CHEVRON CORP | 11,220.000 | 118.60 | 118.60 | 1,344,754.34 | 1,344,754 34 | 1,330,692.00 | 1,330,692.00 | 0.31 | -14,062.34 | -14,062.34 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 169656105 | CH POTLE MEXICAN GRILL INC | 1,744.000 | 840.47 | 840.47 | 780,531.79 | 780,531.79 | 1,465,779.68 | 1,465,779.68 | 0.34 | 685,247.89 | 685,247.89 |
| 171340102 | CHURCH & DWIGHT CO INC | 12,538.000 | 75.24 | 75.24 | 740,929.01 | 740,929 01 | 943,359.12 | 943,359.12 | 0.22 | 202,430.11 | 202,430.11 |
| 172062101 | CINCINNATI FINANCIAL CORP | 14,097.000 | 116.67 | 116.67 | 1,076,529.71 | 1,076,529.71 | 1,644,696.99 | 1,644,696.99 | 0.38 | 568,167.28 | 568,167.28 |
| 17275R102 | CISCO SYSTEMS NC | 21,214.000 | 49.41 | 49.41 | 845,338.17 | 845,338.17 | 1,048,183.74 | 1,048,183.74 | 0.25 | 202,845.57 | 202,845.57 |
| 172908105 | CINTAS CORP | 4,864.000 | 268.10 | 268.10 | 738,879.23 | 738,879 23 | 1,304,038.40 | 1,304,038.40 | 0.31 | 565,159.17 | 565,159.17 |
| 172967424 | CITIGROUP NC | 5,647.000 | 69.08 | 69.08 | 347,852.63 | 347,852 63 | 390,094.76 | 390,094.76 | 0.09 | 42,242.13 | 42,242.13 |
| 174610105 | CITIZENS FINANCIAL GROUP INC | 19,178.000 | 35.37 | 35.37 | 647,744.56 | 647,744 56 | 678,325.86 | 678,325.86 | 0.16 | 30,581.30 | 30,581.30 |
| 177376100 | CITRIX SYSTEMS INC | 6,605.000 | 96.52 | 96.52 | 579,433.19 | 579,433.19 | 637,514.60 | 637,514.60 | 0.15 | 58,081.41 | 58,081.41 |
| 189054109 | CLOROX CO/THE | 8,402.000 | 151.87 | 151.87 | 1,174,200.66 | 1,174,200 66 | 1,276,011.74 | 1,276,011.74 | 0.30 | 101,811.08 | 101,811.08 |
| 191216100 | COCA-COLA CO/THE | 21,169.000 | 54.44 | 54.44 | 1,000,784.45 | 1,000,784.45 | 1,152,440.36 | 1,152,440.36 | 0.27 | 151,655.91 | 151,655.91 |
| 192446102 | COGNIZANT TECHNOLOGY SOLUTIONS | 19,420.000 | 60.27 | 60.27 | 1,485,298.80 | 1,485,298 80 | 1,170,346.30 | 1,170,346.30 | 0.27 | -314,952.50 | -314,952.50 |
| 194162103 | COLGATE-PALMOLIVE CO | 11,150.000 | 73.51 | 73.51 | 760,435.91 | 760,435 91 | 819,636.50 | 819,636.50 | 0.19 | 59,200.59 | 59,200.59 |
| 20030N101 | COMCAST CORP | 41,650.000 | 45.08 | 45.08 | 1,557,629.75 | 1,557,629.75 | 1,877,582.00 | 1,877,582.00 | 0.44 | 319,952.25 | 319,952.25 |
| 200340107 | COMERICA NC | 7,055.000 | 65.99 | 65.99 | 448,127.69 | 448,127 69 | 465,559.45 | 465,559.45 | 0.11 | 17,431.76 | 17,431.76 |
| 205887102 | CONAGRA BRANDS INC | 41,044.000 | 30.68 | 30.68 | 1,176,014.78 | 1,176,014.78 | 1,259,229.92 | 1,259,229.92 | 0.29 | 83,215.14 | 83,215.14 |
| 20605P101 | CONCHO RESOURCES INC | 10,365.000 | 67.90 | 67.90 | 1,294,880.41 | 1,294,880.41 | 703,783.50 | 703,783.50 | 0.16 | -591,096.91 | -591,096.91 |
| 20825C104 | CONOCOPHILLIPS | 14,926.000 | 56.98 | 56.98 | 958,759.24 | 958,759 24 | 850,483.48 | 850,483.48 | 0.20 | -108,275.76 | -108,275.76 |
| 209115104 | CONSOLIDATED EDISON INC | 20,974.000 | 94.47 | 94.47 | 1,681,746.65 | 1,681,746 65 | 1,981,413.78 | 1,981,413.78 | 0.46 | 299,667.13 | 299,667.13 |
| 21036P108 | CONSTELLATION BRANDS NC | 4,331.000 | 207.28 | 207.28 | 784,308.44 | 784,308.44 | 897,729.68 | 897,729.68 | 0.21 | 113,421.24 | 113,421.24 |
| 216648402 | COOPER COS INC/THE | 6,267.000 | 297.00 | 297.00 | 1,391,974.99 | 1,391,974 99 | 1,861,299.00 | 1,861,299.00 | 0.44 | 469,324.01 | 469,324.01 |
| 217204106 | COPART INC | 6,305.000 | 80.33 | 80.33 | 336,916.34 | 336,916 34 | 506,480.65 | 506,480.65 | 0.12 | 169,564.31 | 169,564.31 |
| 219350105 | CORNING NC | 30,984.000 | 28.52 | 28.52 | 887,442.38 | 887,442 38 | 883,663.68 | 883,663.68 | 0.21 | -3,778.70 | -3,778.70 |
| 22160K105 | COSTCO WHOLESALE CORP | 5,029.000 | 288.11 | 288.11 | 1,083,506.49 | 1,083,506.49 | 1,448,905.19 | 1,448,905.19 | 0.34 | 365,398.70 | 365,398.70 |
| 22160N109 | COSTAR GROUP INC | 4,060.000 | 593.20 | 593.20 | 1,985,055.43 | 1,985,055.43 | 2,408,392.00 | 2,408,392.00 | 0.56 | 423,336.57 | 423,336.57 |
| 22304C100 | COVETRUS NC | 0.400 | 11.89 | 11.89 | 17.65 | 17 65 | 4.76 | 4.76 | 0.00 | -12.89 | -12.89 |
| 231021106 | CUMMINS INC | 7,770.000 | 162.67 | 162.67 | 1,221,306.06 | 1,221,306 06 | 1,263,945.90 | 1,263,945.90 | 0.30 | 42,639.84 | 42,639.84 |
| 23331A109 | DR HORTON NC | 37,096.000 | 52.71 | 52.71 | 1,469,524.93 | 1,469,524 93 | 1,955,330.16 | 1,955,330.16 | 0.46 | 485,805.23 | 485,805.23 |
| 233331107 | DTE ENERGY CO | 13,935.000 | 132.96 | 132.96 | 1,482,889.98 | 1,482,889 98 | 1,852,797.60 | 1,852,797.60 | 0.43 | 369,907.62 | 369,907.62 |
| 23355L106 | DXC TECHNOLOGY CO | 22,545.000 | 29.50 | 29.50 | 1,387,258.51 | 1,387,258 51 | 665,077.50 | 665,077.50 | 0.16 | -722,181.01 | -722,181.01 |
| 235851102 | DANAHER CORP | 8,738.000 | 144.43 | 144.43 | 793,263.25 | 793,263 25 | 1,262,029.34 | 1,262,029.34 | 0.30 | 468,766.09 | 468,766.09 |
| 237194105 | DARDEN RESTAURANTS NC | 13,190.000 | 118.22 | 118.22 | 1,083,192.94 | 1,083,192 94 | 1,559,321.80 | 1,559,321.80 | 0.36 | 476,128.86 | 476,128.86 |
| 247361702 | DELTA A R L NES INC | 23,517.000 | 57.60 | 57.60 | 1,125,357.20 | 1,125,357 20 | 1,354,579.20 | 1,354,579.20 | 0.32 | 229,222.00 | 229,222.00 |
| 24906P109 | DENTSPLY SIRONA NC | 18,610.000 | 53.31 | 53.31 | 894,101.28 | 894,101 28 | 992,099.10 | 992,099.10 | 0.23 | 97,997.82 | 97,997.82 |
| 25179M103 | DEVON ENERGY CORP | 27,108.000 | 24.06 | 24.06 | 778,018.58 | 778,018 58 | 652,218.48 | 652,218.48 | 0.15 | -125,800.10 | -125,800.10 |
| 254687106 | WALT DISNEY CO/THE | 13,469.000 | 130.32 | 130.32 | 1,373,579.92 | 1,373,579 92 | 1,755,280.08 | 1,755,280.08 | 0.41 | 381,700.16 | 381,700.16 |
| 256677105 | DOLLAR GENERAL CORP | 6,546.000 | 158.94 | 158.94 | 731,312.48 | 731,312.48 | 1,040,421.24 | 1,040,421.24 | 0.24 | 309,108.76 | 309,108.76 |
| 256746108 | DOLLAR TREE INC | 6,569.000 | 114.16 | 114.16 | 596,406.00 | 596,406 00 | 749,917.04 | 749,917.04 | 0.18 | 153,511.04 | 153,511.04 |
| 25746U109 | DOM NION ENERGY INC | 47,748.000 | 81.04 | 81.04 | 3,658,719.15 | 3,658,719.15 | 3,869,497.92 | 3,869,497.92 | 0.91 | 210,778.77 | 210,778.77 |
| 25754A201 | DOM NO'S PIZZA NC | 1,066.000 | 244.59 | 244.59 | 294,963.37 | 294,963 37 | 260,732.94 | 260,732.94 | 0.06 | -34,230.43 | -34,230.43 |
| 260003108 | DOVER CORP | 13,515.000 | 99.56 | 99.56 | 1,015,276.43 | 1,015,276.43 | 1,345,553.40 | 1,345,553.40 | 0.31 | 330,276.97 | 330,276.97 |
| 264411505 | DUKE REALTY CORP | 36,484.000 | 33.97 | 33.97 | 993,399.40 | 993,399.40 | 1,239,361.48 | 1,239,361.48 | 0.29 | 245,962.08 | 245,962.08 |
| 26441C204 | DUKE ENERGY CORP | 47,952.000 | 95.86 | 95.86 | 4,193,457.83 | 4,193,457 83 | 4,596,678.72 | 4,596,678.72 | 1.08 | 403,220.89 | 403,220.89 |
| 26614N102 | DUPONT DE NEMOURS NC | 6,893.000 | 71.31 | 71.31 | 541,432.41 | 541,432.41 | 491,539.83 | 491,539.83 | 0.12 | -49,892.58 | -49,892.58 |
| 26875P101 | EOG RESOURCES INC | 8,902.000 | 74.22 | 74.22 | 874,835.04 | 874,835 04 | 660,706.44 | 660,706.44 | 0.15 | -214,128.60 | -214,128.60 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 277432100 | EASTMAN CHEMICAL CO | 12,599.000 | 73.83 | 73.83 | 1,070,565.45 | 1,070,565.45 | 930,184.17 | 930,184.17 | 0.22 | -140,381.28 | -140,381.28 |
| 278642103 | EBAY INC | 38,258.000 | 38.98 | 38.98 | 1,507,120.35 | 1,507,120 35 | 1,491,296.84 | 1,491,296.84 | 0.35 | -15,823.51 | -15,823.51 |
| 278865100 | ECOLAB NC | 4,352.000 | 198.04 | 198.04 | 615,806.83 | 615,806 83 | 861,870.08 | 861,870.08 | 0.20 | 246,063.25 | 246,063.25 |
| 281020107 | EDISON INTERNATIONAL | 22,174.000 | 75.42 | 75.42 | 1,522,594.05 | 1,522,594 05 | 1,672,363.08 | 1,672,363.08 | 0.39 | 149,769.03 | 149,769.03 |
| 28176E108 | EDWARDS LIFESCIENCES CORP | 3,693.000 | 219.91 | 219.91 | 513,768.41 | 513,768.41 | 812,127.63 | 812,127.63 | 0.19 | 298,359.22 | 298,359.22 |
| 28414H103 | ELANCO ANIMAL HEALTH INC | 20,091.000 | 26.59 | 26.59 | 685,267.85 | 685,267 85 | 534,219.69 | 534,219.69 | 0.13 | -151,048.16 | -151,048.16 |
| 285512109 | ELECTRONIC ARTS NC | 15,431.000 | 97.82 | 97.82 | 1,525,704.63 | 1,525,704 63 | 1,509,460.42 | 1,509,460.42 | 0.35 | -16,244.21 | -16,244.21 |
| 291011104 | EMERSON ELECTRIC CO | 10,462.000 | 66.86 | 66.86 | 678,177.49 | 678,177.49 | 699,489.32 | 699,489.32 | 0.16 | 21,311.83 | 21,311.83 |
| 29364G103 | ENTERGY CORP | 30,775.000 | 117.36 | 117.36 | 2,713,647.20 | 2,713,647 20 | 3,611,754.00 | 3,611,754.00 | 0.85 | 898,106.80 | 898,106.80 |
| 29476L107 | EQUITY RESIDENTIAL | 10,537.000 | 86.26 | 86.26 | 717,659.19 | 717,659.19 | 908,921.62 | 908,921.62 | 0.21 | 191,262.43 | 191,262.43 |
| 297178105 | ESSEX PROPERTY TRUST INC | 6,742.000 | 326.65 | 326.65 | 1,661,050.04 | 1,661,050 04 | 2,202,274.30 | 2,202,274.30 | 0.52 | 541,224.26 | 541,224.26 |
| 30034W106 | EVERGY INC | 35,924.000 | 66.56 | 66.56 | 2,025,870.10 | 2,025,870.10 | 2,391,101.44 | 2,391,101.44 | 0.56 | 365,231.34 | 365,231.34 |
| 30040W108 | EVERSOURCE ENERGY | 16,296.000 | 85.47 | 85.47 | 1,015,142.03 | 1,015,142 03 | 1,392,819.12 | 1,392,819.12 | 0.33 | 377,677.09 | 377,677.09 |
| 30161N101 | EXELON CORP | 43,888.000 | 48.31 | 48.31 | 1,808,491.08 | 1,808,491 08 | 2,120,229.28 | 2,120,229.28 | 0.50 | 311,738.20 | 311,738.20 |
| 30212P303 | EXPEDIA GROUP INC | 3,806.000 | 134.41 | 134.41 | 471,632.59 | 471,632 59 | 511,564.46 | 511,564.46 | 0.12 | 39,931.87 | 39,931.87 |
| 302130109 | EXPEDITORS INTERNATIONAL OF WA | 8,233.000 | 74.29 | 74.29 | 468,165.09 | 468,165 09 | 611,629.57 | 611,629.57 | 0.14 | 143,464.48 | 143,464.48 |
| 30231G102 | EXXON MOBIL CORP | 13,536.000 | 70.61 | 70.61 | 1,148,120.71 | 1,148,120.71 | 955,776.96 | 955,776.96 | 0.22 | -192,343.75 | -192,343.75 |
| 30303M102 | FACEBOOK NC | 2,264.000 | 178.08 | 178.08 | 428,980.23 | 428,980 23 | 403,173.12 | 403,173.12 | 0.09 | -25,807.11 | -25,807.11 |
| 303075105 | FACTSET RESEARCH SYSTEMS NC | 2,816.000 | 242.97 | 242.97 | 796,124.88 | 796,124 88 | 684,203.52 | 684,203.52 | 0.16 | -111,921.36 | -111,921.36 |
| 311900104 | FASTENAL CO | 23,366.000 | 32.67 | 32.67 | 652,277.77 | 652,277.77 | 763,367.22 | 763,367.22 | 0.18 | 111,089.45 | 111,089.45 |
| 313747206 | FEDERAL REALTY INVESTMENT TRUS | 4,134.000 | 136.14 | 136.14 | 528,404.99 | 528,404 99 | 562,802.76 | 562,802.76 | 0.13 | 34,397.77 | 34,397.77 |
| 31428X106 | FEDEX CORP | 2,233.000 | 145.57 | 145.57 | 423,434.29 | 423,434 29 | 325,057.81 | 325,057.81 | 0.08 | -98,376.48 | -98,376.48 |
| 315616102 | F5 NETWORKS NC | 9,341.000 | 140.42 | 140.42 | 1,415,293.72 | 1,415,293.72 | 1,311,663.22 | 1,311,663.22 | 0.31 | -103,630.50 | -103,630.50 |
| 31620M106 | F DELITY NATIONAL INFORMATION | 11,160.000 | 132.76 | 132.76 | 931,484.52 | 931,484 52 | 1,481,601.60 | 1,481,601.60 | 0.35 | 550,117.08 | 550,117.08 |
| 31620R303 | F DELITY NATIONAL F NANCIAL IN | 25,752.000 | 44.41 | 44.41 | 892,247.11 | 892,247.11 | 1,143,646.32 | 1,143,646.32 | 0.27 | 251,399.21 | 251,399.21 |
| 316773100 | F FTH THIRD BANCORP | 51,031.000 | 27.38 | 27.38 | 1,314,389.37 | 1,314,389 37 | 1,397,228.78 | 1,397,228.78 | 0.33 | 82,839.41 | 82,839.41 |
| 337738108 | FISERV INC | 10,664.000 | 103.59 | 103.59 | 723,060.82 | 723,060 82 | 1,104,683.76 | 1,104,683.76 | 0.26 | 381,622.94 | 381,622.94 |
| 337932107 | F RSTENERGY CORP | 63,231.000 | 48.23 | 48.23 | 2,308,388.88 | 2,308,388 88 | 3,049,631.13 | 3,049,631.13 | 0.71 | 741,242.25 | 741,242.25 |
| 345370860 | FORD MOTOR CO | 82,806.000 | 9.16 | 9.16 | 853,486.85 | 853,486 85 | 758,502.96 | 758,502.96 | 0.18 | -94,983.89 | -94,983.89 |
| 34959E109 | FORTINET INC | 8,485.000 | 76.76 | 76.76 | 650,740.95 | 650,740 95 | 651,308.60 | 651,308.60 | 0.15 | 567.65 | 567.65 |
| 34959J108 | FORTIVE CORP | 14,629.000 | 68.56 | 68.56 | 1,074,329.16 | 1,074,329.16 | 1,002,964.24 | 1,002,964.24 | 0.23 | -71,364.92 | -71,364.92 |
| 34964C106 | FORTUNE BRANDS HOME & SECURITY | 7,161.000 | 54.70 | 54.70 | 374,133.26 | 374,133 26 | 391,706.70 | 391,706.70 | 0.09 | 17,573.44 | 17,573.44 |
| 354613101 | FRANKLIN RESOURCES INC | 17,985.000 | 28.86 | 28.86 | 599,082.56 | 599,082 56 | 519,047.10 | 519,047.10 | 0.12 | -80,035.46 | -80,035.46 |
| 35671D857 | FREEPORT-MCMORAN INC | 57,473.000 | 9.57 | 9.57 | 775,086.85 | 775,086 85 | 550,016.61 | 550,016.61 | 0.13 | -225,070.24 | -225,070.24 |
| 363576109 | ARTHUR J GALLAGHER & CO | 11,740.000 | 89.57 | 89.57 | 682,385.64 | 682,385 64 | 1,051,551.80 | 1,051,551.80 | 0.25 | 369,166.16 | 369,166.16 |
| 366651107 | GARTNER NC | 5,632.000 | 142.99 | 142.99 | 891,242.60 | 891,242 60 | 805,319.68 | 805,319.68 | 0.19 | -85,922.92 | -85,922.92 |
| 37045V100 | GENERAL MOTORS CO | 23,691.000 | 37.48 | 37.48 | 922,696.26 | 922,696 26 | 887,938.68 | 887,938.68 | 0.21 | -34,757.58 | -34,757.58 |
| 372460105 | GENUINE PARTS CO | 10,898.000 | 99.59 | 99.59 | 1,055,456.26 | 1,055,456 26 | 1,085,331.82 | 1,085,331.82 | 0.25 | 29,875.56 | 29,875.56 |
| 375558103 | G LEAD SC ENCES NC | 9,577.000 | 63.38 | 63.38 | 643,234.42 | 643,234.42 | 606,990.26 | 606,990.26 | 0.14 | -36,244.16 | -36,244.16 |
| 37940X102 | GLOBAL PAYMENTS INC | 9,168.713 | 159.00 | 159.00 | 802,996.31 | 802,996 31 | 1,457,825.37 | 1,457,825.37 | 0.34 | 654,829.06 | 654,829.06 |
| 37959E102 | GLOBE LIFE INC | 9,734.000 | 95.76 | 95.76 | 777,658.35 | 777,658 35 | 932,127.84 | 932,127.84 | 0.22 | 154,469.49 | 154,469.49 |
| 380237107 | GODADDY NC | 8,435.000 | 65.98 | 65.98 | 582,896.46 | 582,896.46 | 556,541.30 | 556,541.30 | 0.13 | -26,355.16 | -26,355.16 |
| 38141G104 | GOLDMAN SACHS GROUP INC/THE | 1,909.000 | 207.23 | 207.23 | 373,019.77 | 373,019.77 | 395,602.07 | 395,602.07 | 0.09 | 22,582.30 | 22,582.30 |
| 384802104 | WW GRA NGER INC | 2,332.000 | 297.15 | 297.15 | 581,576.84 | 581,576 84 | 692,953.80 | 692,953.80 | 0.16 | 111,376.96 | 111,376.96 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40412C101 | HCA HEALTHCARE INC | 4,892.000 | 120.42 | 120.42 | 619,403.93 | 619,403 93 | 589,094.64 | 589,094.64 | 0.14 | -30,309.29 | -30,309.29 |
| 40414L109 | HEALTHPEAK PROPERT ES INC | 34,206.000 | 35.63 | 35.63 | 1,035,269.03 | 1,035,269 03 | 1,218,759.78 | 1,218,759.78 | 0.29 | 183,490.75 | 183,490.75 |
| 416515104 | HARTFORD FINANCIAL SERVICES GR | 33,396.000 | 60.61 | 60.61 | 1,660,624.53 | 1,660,624 53 | 2,024,131.56 | 2,024,131.56 | 0.47 | 363,507.03 | 363,507.03 |
| 418056107 | HASBRO NC | 12,066.000 | 118.69 | 118.69 | 1,043,952.70 | 1,043,952.70 | 1,432,113.54 | 1,432,113.54 | 0.34 | 388,160.84 | 388,160.84 |
| 427866108 | HERSHEY CO/THE | 10,283.000 | 154.99 | 154.99 | 1,160,748.81 | 1,160,748 81 | 1,593,762.17 | 1,593,762.17 | 0.37 | 433,013.36 | 433,013.36 |
| 42809H107 | HESS CORP | 24,511.000 | 60.48 | 60.48 | 1,413,311.66 | 1,413,311 66 | 1,482,425.28 | 1,482,425.28 | 0.35 | 69,113.62 | 69,113.62 |
| 42824C109 | HEWLETT PACKARD ENTERPRISE CO | 54,262.000 | 15.17 | 15.17 | 814,136.11 | 814,136.11 | 823,154.54 | 823,154.54 | 0.19 | 9,018.43 | 9,018.43 |
| 436106108 | HOLLYFRONTIER CORP | 7,379.000 | 53.64 | 53.64 | 332,373.77 | 332,373.77 | 395,809.56 | 395,809.56 | 0.09 | 63,435.79 | 63,435.79 |
| 436440101 | HOLOGIC INC | 28,188.000 | 50.49 | 50.49 | 1,204,758.30 | 1,204,758 30 | 1,423,212.12 | 1,423,212.12 | 0.33 | 218,453.82 | 218,453.82 |
| 437076102 | HOME DEPOT NC/THE | 5,582.000 | 232.02 | 232.02 | 1,025,433.97 | 1,025,433 97 | 1,295,135.64 | 1,295,135.64 | 0.30 | 269,701.67 | 269,701.67 |
| 438516106 | HONEYWELL INTERNATIONAL INC | 4,819.000 | 169.20 | 169.20 | 628,393.33 | 628,393 33 | 815,374.80 | 815,374.80 | 0.19 | 186,981.47 | 186,981.47 |
| 440452100 | HORMEL FOODS CORP | 32,212.000 | 43.73 | 43.73 | 1,244,791.68 | 1,244,791 68 | 1,408,630.76 | 1,408,630.76 | 0.33 | 163,839.08 | 163,839.08 |
| 44107P104 | HOST HOTELS & RESORTS NC | 37,574.000 | 17.29 | 17.29 | 705,163.56 | 705,163 56 | 649,654.46 | 649,654.46 | 0.15 | -55,509.10 | -55,509.10 |
| 444859102 | HUMANA INC | 1,435.000 | 255.67 | 255.67 | 358,830.15 | 358,830.15 | 366,886.45 | 366,886.45 | 0.09 | 8,056.30 | 8,056.30 |
| 445658107 | JB HUNT TRANSPORT SERVICES INC | 7,864.000 | 110.65 | 110.65 | 814,134.05 | 814,134 05 | 870,151.60 | 870,151.60 | 0.20 | 56,017.55 | 56,017.55 |
| 446413106 | HUNTINGTON INGALLS INDUSTR ES | 3,203.000 | 211.79 | 211.79 | 666,922.76 | 666,922.76 | 678,363.37 | 678,363.37 | 0.16 | 11,440.61 | 11,440.61 |
| 44919P508 | IAC/ NTERACTIVECORP | 8,418.000 | 217.97 | 217.97 | 1,428,046.21 | 1,428,046 21 | 1,834,871.46 | 1,834,871.46 | 0.43 | 406,825.25 | 406,825.25 |
| 45167R104 | IDEX CORP | 3,809.000 | 163.88 | 163.88 | 644,053.53 | 644,053 53 | 624,218.92 | 624,218.92 | 0.15 | -19,834.61 | -19,834.61 |
| 45168D104 | IDEXX LABORATORIES INC | 4,962.000 | 271.93 | 271.93 | 819,655.65 | 819,655 65 | 1,349,316.66 | 1,349,316.66 | 0.32 | 529,661.01 | 529,661.01 |
| 452308109 | ILLINOIS TOOL WORKS INC | 4,856.000 | 156.49 | 156.49 | 660,218.07 | 660,218 07 | 759,915.44 | 759,915.44 | 0.18 | 99,697.37 | 99,697.37 |
| 458140100 | INTEL CORP | 15,056.000 | 51.53 | 51.53 | 664,500.54 | 664,500 54 | 775,835.68 | 775,835.68 | 0.18 | 111,335.14 | 111,335.14 |
| 45866F104 | INTERCONT NENTAL EXCHANGE NC | 22,736.000 | 92.27 | 92.27 | 1,632,001.29 | 1,632,001 29 | 2,097,850.72 | 2,097,850.72 | 0.49 | 465,849.43 | 465,849.43 |
| 459200101 | INTERNATIONAL BUS NESS MACH NE | 7,112.000 | 145.42 | 145.42 | 1,009,836.61 | 1,009,836 61 | 1,034,227.04 | 1,034,227.04 | 0.24 | 24,390.43 | 24,390.43 |
| 459506101 | INTERNATIONAL FLAVORS & FRAGRA | 6,528.000 | 122.69 | 122.69 | 902,168.55 | 902,168 55 | 800,920.32 | 800,920.32 | 0.19 | -101,248.23 | -101,248.23 |
| 460146103 | INTERNATIONAL PAPER CO | 12,551.000 | 41.82 | 41.82 | 539,730.65 | 539,730 65 | 524,882.82 | 524,882.82 | 0.12 | -14,847.83 | -14,847.83 |
| 461202103 | INTUIT NC | 2,931.000 | 265.94 | 265.94 | 475,410.63 | 475,410 63 | 779,470.14 | 779,470.14 | 0.18 | 304,059.51 | 304,059.51 |
| 46266C105 | IQVIA HOLDINGS INC | 10,448.000 | 149.38 | 149.38 | 1,277,012.61 | 1,277,012 61 | 1,560,722.24 | 1,560,722.24 | 0.37 | 283,709.63 | 283,709.63 |
| 46625H100 | JPMORGAN CHASE & CO | 13,967.000 | 117.69 | 117.69 | 1,275,579.18 | 1,275,579.18 | 1,643,776.23 | 1,643,776.23 | 0.38 | 368,197.05 | 368,197.05 |
| 469814107 | JACOBS ENGINEER NG GROUP INC | 17,599.000 | 91.50 | 91.50 | 1,473,486.83 | 1,473,486 83 | 1,610,308.50 | 1,610,308.50 | 0.38 | 136,821.67 | 136,821.67 |
| 478160104 | JOHNSON & JOHNSON | 5,923.000 | 129.38 | 129.38 | 805,028.45 | 805,028.45 | 766,317.74 | 766,317.74 | 0.18 | -38,710.71 | -38,710.71 |
| 48203R104 | JUNIPER NETWORKS INC | 37,046.000 | 24.75 | 24.75 | 932,437.67 | 932,437 67 | 916,888.50 | 916,888.50 | 0.21 | -15,549.17 | -15,549.17 |
| 482480100 | KLA CORP | 8,739.000 | 159.45 | 159.45 | 906,775.81 | 906,775 81 | 1,393,433.55 | 1,393,433.55 | 0.33 | 486,657.74 | 486,657.74 |
| 485170302 | KANSAS CITY SOUTHERN | 11,756.000 | 133.01 | 133.01 | 1,199,378.13 | 1,199,378.13 | 1,563,665.56 | 1,563,665.56 | 0.37 | 364,287.43 | 364,287.43 |
| 487836108 | KELLOGG CO | 6,028.000 | 64.35 | 64.35 | 397,928.14 | 397,928.14 | 387,901.80 | 387,901.80 | 0.09 | -10,026.34 | -10,026.34 |
| 493267108 | KEYCORP | 18,456.000 | 17.84 | 17.84 | 319,835.10 | 319,835.10 | 329,255.04 | 329,255.04 | 0.08 | 9,419.94 | 9,419.94 |
| 49338L103 | KEYSIGHT TECHNOLOGIES NC | 9,767.000 | 97.25 | 97.25 | 852,925.74 | 852,925.74 | 949,840.75 | 949,840.75 | 0.22 | 96,915.01 | 96,915.01 |
| 494368103 | KIMBERLY-CLARK CORP | 7,651.000 | 142.05 | 142.05 | 970,171.52 | 970,171 52 | 1,086,824.55 | 1,086,824.55 | 0.25 | 116,653.03 | 116,653.03 |
| 49456B101 | KINDER MORGAN NC/DE | 72,381.000 | 20.61 | 20.61 | 1,417,228.98 | 1,417,228 98 | 1,491,772.41 | 1,491,772.41 | 0.35 | 74,543.43 | 74,543.43 |
| 500255104 | KOHL'S CORP | 19,131.000 | 49.66 | 49.66 | 1,152,426.72 | 1,152,426.72 | 950,045.46 | 950,045.46 | 0.22 | -202,381.26 | -202,381.26 |
| 500754106 | KRAFT HEINZ CO/THE | 23,918.000 | 27.93 | 27.93 | 1,170,203.19 | 1,170,203.19 | 668,149.33 | 668,149.33 | 0.16 | -502,053.86 | -502,053.86 |
| 501044101 | KROGER CO/THE | 29,020.000 | 25.78 | 25.78 | 823,477.83 | 823,477 83 | 748,135.60 | 748,135.60 | 0.18 | -75,342.23 | -75,342.23 |
| 501889208 | LKQ CORP | 27,759.000 | 31.45 | 31.45 | 818,087.20 | 818,087 20 | 873,020.55 | 873,020.55 | 0.20 | 54,933.35 | 54,933.35 |
| 502431109 | L3HARRIS TECHNOLOGIES NC | 19,410.000 | 208.64 | 208.64 | 2,660,110.54 | 2,660,110 54 | 4,049,702.40 | 4,049,702.40 | 0.95 | 1,389,591.86 | 1,389,591.86 |
| 50540R409 | LABORATORY CORP OF AMERICA HOL | 10,188.000 | 168.00 | 168.00 | 1,490,115.11 | 1,490,115.11 | 1,711,584.00 | 1,711,584.00 | 0.40 | 221,468.89 | 221,468.89 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 512807108 | LAM RESEARCH CORP | 2,391.000 | 231.11 | 231.11 | 442,303.68 | 442,303 68 | 552,584.01 | 552,584.01 | 0.13 | 110,280.33 | 110,280.33 |
| 518439104 | ESTEE LAUDER COS NC/THE | 9,589.000 | 198.95 | 198.95 | 1,096,566.01 | 1,096,566 01 | 1,907,731.55 | 1,907,731.55 | 0.45 | 811,165.54 | 811,165.54 |
| 521865204 | LEAR CORP | 5,178.000 | 117.90 | 117.90 | 785,000.59 | 785,000 59 | 610,486.20 | 610,486.20 | 0.14 | -174,514.39 | -174,514.39 |
| 526057104 | LENNAR CORP | 27,107.000 | 55.85 | 55.85 | 1,309,724.06 | 1,309,724 06 | 1,513,925.95 | 1,513,925.95 | 0.35 | 204,201.89 | 204,201.89 |
| 532457108 | ELI L LLY & CO | 6,593.000 | 111.83 | 111.83 | 643,963.87 | 643,963 87 | 737,295.19 | 737,295.19 | 0.17 | 93,331.32 | 93,331.32 |
| 534187109 | LINCOLN NATIONAL CORP | 10,674.000 | 60.32 | 60.32 | 632,573.87 | 632,573 87 | 643,855.68 | 643,855.68 | 0.15 | 11,281.81 | 11,281.81 |
| 540424108 | LOEWS CORP | 18,527.000 | 51.48 | 51.48 | 827,561.75 | 827,561.75 | 953,769.96 | 953,769.96 | 0.22 | 126,208.21 | 126,208.21 |
| 548661107 | LOWE'S COS NC | 5,995.000 | 109.96 | 109.96 | 563,184.13 | 563,184.13 | 659,210.20 | 659,210.20 | 0.15 | 96,026.07 | 96,026.07 |
| 550021109 | LULULEMON ATHLETICA INC | 5,708.000 | 192.53 | 192.53 | 745,502.00 | 745,502 00 | 1,098,961.24 | 1,098,961.24 | 0.26 | 353,459.24 | 353,459.24 |
| 55261F104 | M&T BANK CORP | 4,960.000 | 157.97 | 157.97 | 723,893.87 | 723,893 87 | 783,531.20 | 783,531.20 | 0.18 | 59,637.33 | 59,637.33 |
| 552953101 | MGM RESORTS NTERNATIONAL | 43,771.000 | 27.72 | 27.72 | 1,207,047.53 | 1,207,047 53 | 1,213,332.12 | 1,213,332.12 | 0.28 | 6,284.59 | 6,284.59 |
| 55354G100 | MSCI INC | 5,640.000 | 217.75 | 217.75 | 821,113.48 | 821,113.48 | 1,228,110.00 | 1,228,110.00 | 0.29 | 406,996.52 | 406,996.52 |
| 55616P104 | MACY'S INC | 32,632.000 | 15.54 | 15.54 | 1,040,462.54 | 1,040,462 54 | 507,101.28 | 507,101.28 | 0.12 | -533,361.26 | -533,361.26 |
| 565849106 | MARATHON OIL CORP | 97,893.000 | 12.27 | 12.27 | 1,700,125.57 | 1,700,125 57 | 1,201,147.11 | 1,201,147.11 | 0.28 | -498,978.46 | -498,978.46 |
| 570535104 | MARKEL CORP | 1,019.000 | 1,181.90 | 1,181.90 | 1,025,600.12 | 1,025,600.12 | 1,204,356.10 | 1,204,356.10 | 0.28 | 178,755.98 | 178,755.98 |
| 571748102 | MARSH & MCLENNAN COS INC | 8,242.000 | 100.05 | 100.05 | 628,005.59 | 628,005 59 | 824,612.10 | 824,612.10 | 0.19 | 196,606.51 | 196,606.51 |
| 574599106 | MASCO CORP | 9,258.000 | 41.68 | 41.68 | 302,798.13 | 302,798.13 | 385,873.44 | 385,873.44 | 0.09 | 83,075.31 | 83,075.31 |
| 57636Q104 | MASTERCARD INC | 2,975.000 | 271.57 | 271.57 | 473,365.97 | 473,365 97 | 807,920.75 | 807,920.75 | 0.19 | 334,554.78 | 334,554.78 |
| 57772K101 | MAX M INTEGRATED PRODUCTS INC | 15,619.000 | 57.91 | 57.91 | 782,018.63 | 782,018 63 | 904,496.29 | 904,496.29 | 0.21 | 122,477.66 | 122,477.66 |
| 579780206 | MCCORMICK & CO INC/MD | 6,502.000 | 156.30 | 156.30 | 790,436.77 | 790,436.77 | 1,016,262.60 | 1,016,262.60 | 0.24 | 225,825.83 | 225,825.83 |
| 580135101 | MCDONALD'S CORP | 8,860.000 | 214.71 | 214.71 | 1,446,869.62 | 1,446,869 62 | 1,902,330.60 | 1,902,330.60 | 0.45 | 455,460.98 | 455,460.98 |
| 58933Y105 | MERCK & CO INC | 9,917.000 | 84.18 | 84.18 | 652,158.08 | 652,158 08 | 834,813.06 | 834,813.06 | 0.20 | 182,654.98 | 182,654.98 |
| 59156R108 | METL FE NC | 7,540.000 | 47.16 | 47.16 | 333,463.30 | 333,463 30 | 355,586.40 | 355,586.40 | 0.08 | 22,123.10 | 22,123.10 |
| 592688105 | METTLER-TOLEDO INTERNATIONAL I | 1,390.000 | 704.40 | 704.40 | 963,674.85 | 963,674 85 | 979,116.00 | 979,116.00 | 0.23 | 15,441.15 | 15,441.15 |
| 594918104 | MICROSOFT CORP | 6,166.000 | 139.03 | 139.03 | 494,304.75 | 494,304.75 | 857,258.98 | 857,258.98 | 0.20 | 362,954.23 | 362,954.23 |
| 595017104 | MICROCHIP TECHNOLOGY INC | 8,605.000 | 92.91 | 92.91 | 756,301.19 | 756,301.19 | 799,490.55 | 799,490.55 | 0.19 | 43,189.36 | 43,189.36 |
| 595112103 | MICRON TECHNOLOGY INC | 20,300.000 | 42.85 | 42.85 | 651,012.48 | 651,012.48 | 869,855.00 | 869,855.00 | 0.20 | 218,842.52 | 218,842.52 |
| 59522J103 | MID-AMERICA APARTMENT COMMUNIT | 9,091.000 | 130.01 | 130.01 | 971,628.41 | 971,628.41 | 1,181,920.91 | 1,181,920.91 | 0.28 | 210,292.50 | 210,292.50 |
| 608190104 | MOHAWK INDUSTR ES NC | 5,984.000 | 124.07 | 124.07 | 1,053,864.07 | 1,053,864 07 | 742,434.88 | 742,434.88 | 0.17 | -311,429.19 | -311,429.19 |
| 60871R209 | MOLSON COORS BREW NG CO | 10,370.000 | 57.50 | 57.50 | 880,456.07 | 880,456 07 | 596,275.00 | 596,275.00 | 0.14 | -284,181.07 | -284,181.07 |
| 609207105 | MONDELEZ NTERNATIONAL INC | 23,205.000 | 55.32 | 55.32 | 1,043,684.24 | 1,043,684 24 | 1,283,700.60 | 1,283,700.60 | 0.30 | 240,016.36 | 240,016.36 |
| 617446448 | MORGAN STANLEY | 9,829.000 | 42.67 | 42.67 | 413,555.97 | 413,555 97 | 419,403.43 | 419,403.43 | 0.10 | 5,847.46 | 5,847.46 |
| 61945C103 | MOSAIC CO/THE | 18,526.000 | 20.50 | 20.50 | 546,901.96 | 546,901 96 | 379,783.00 | 379,783.00 | 0.09 | -167,118.96 | -167,118.96 |
| 620076307 | MOTOROLA SOLUTIONS NC | 7,866.000 | 170.41 | 170.41 | 683,359.60 | 683,359 60 | 1,340,445.06 | 1,340,445.06 | 0.31 | 657,085.46 | 657,085.46 |
| 62944T105 | NVR INC | 227.000 | 3,717.35 | 3,717.35 | 662,270.06 | 662,270 06 | 843,838.45 | 843,838.45 | 0.20 | 181,568.39 | 181,568.39 |
| 631103108 | NASDAQ NC | 7,510.000 | 99.35 | 99.35 | 560,689.34 | 560,689 34 | 746,118.50 | 746,118.50 | 0.17 | 185,429.16 | 185,429.16 |
| 637071101 | NATIONAL OILWELL VARCO NC | 42,555.000 | 21.20 | 21.20 | 1,305,049.43 | 1,305,049.43 | 902,166.00 | 902,166.00 | 0.21 | -402,883.43 | -402,883.43 |
| 64110D104 | NETAPP INC | 7,330.000 | 52.51 | 52.51 | 294,581.95 | 294,581 95 | 384,898.30 | 384,898.30 | 0.09 | 90,316.35 | 90,316.35 |
| 651639106 | NEWMONT GOLDCORP CORP | 27,486.000 | 37.92 | 37.92 | 1,053,461.26 | 1,053,461 26 | 1,042,269.12 | 1,042,269.12 | 0.24 | -11,192.14 | -11,192.14 |
| 65339F101 | NEXTERA ENERGY NC | 7,927.000 | 232.99 | 232.99 | 1,224,425.92 | 1,224,425 92 | 1,846,911.73 | 1,846,911.73 | 0.43 | 622,485.81 | 622,485.81 |
| 654106103 | NIKE INC | 28,239.000 | 93.92 | 93.92 | 2,215,803.99 | 2,215,803 99 | 2,652,206.88 | 2,652,206.88 | 0.62 | 436,402.89 | 436,402.89 |
| 65473P105 | NISOURCE INC | 58,382.000 | 29.92 | 29.92 | 1,511,706.31 | 1,511,706 31 | 1,746,789.44 | 1,746,789.44 | 0.41 | 235,083.13 | 235,083.13 |
| 655044105 | NOBLE ENERGY NC | 58,765.000 | 22.46 | 22.46 | 1,636,282.36 | 1,636,282 36 | 1,319,861.90 | 1,319,861.90 | 0.31 | -316,420.46 | -316,420.46 |
| 655844108 | NORFOLK SOUTHERN CORP | 5,864.000 | 179.66 | 179.66 | 858,004.58 | 858,004 58 | 1,053,526.24 | 1,053,526.24 | 0.25 | 195,521.66 | 195,521.66 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 670346105 | NUCOR CORP | 13,525.000 | 50.91 | 50.91 | 766,743.76 | 766,743.76 | 688,557.75 | 688,557.75 | 0.16 | -78,186.01 | -78,186.01 |
| 67103H107 | O'REILLY AUTOMOTIVE INC | 1,218.000 | 398.51 | 398.51 | 414,833.02 | 414,833 02 | 485,385.18 | 485,385.18 | 0.11 | 70,552.16 | 70,552.16 |
| 674599105 | OCCIDENTAL PETROLEUM CORP | 31,746.000 | 44.47 | 44.47 | 2,184,076.71 | 2,184,076.71 | 1,411,744.62 | 1,411,744.62 | 0.33 | -772,332.09 | -772,332.09 |
| 679295105 | OKTA NC | 4,999.000 | 98.46 | 98.46 | 607,480.48 | 607,480.48 | 492,201.54 | 492,201.54 | 0.12 | -115,278.94 | -115,278.94 |
| 693475105 | PNC F NANCIAL SERVICES GROUP I | 8,499.000 | 140.16 | 140.16 | 998,377.28 | 998,377 28 | 1,191,219.84 | 1,191,219.84 | 0.28 | 192,842.56 | 192,842.56 |
| 693506107 | PPG INDUSTR ES INC | 12,760.000 | 118.51 | 118.51 | 1,455,108.91 | 1,455,108 91 | 1,512,187.60 | 1,512,187.60 | 0.35 | 57,078.69 | 57,078.69 |
| 69351T106 | PPL CORP | 57,078.000 | 31.49 | 31.49 | 1,783,903.41 | 1,783,903.41 | 1,797,386.22 | 1,797,386.22 | 0.42 | 13,482.81 | 13,482.81 |
| 693656100 | PVH CORP | 9,089.000 | 88.23 | 88.23 | 977,499.24 | 977,499 24 | 801,922.47 | 801,922.47 | 0.19 | -175,576.77 | -175,576.77 |
| 695156109 | PACKAG NG CORP OF AMERICA | 3,548.000 | 106.10 | 106.10 | 383,096.42 | 383,096.42 | 376,442.80 | 376,442.80 | 0.09 | -6,653.62 | -6,653.62 |
| 704326107 | PAYCHEX INC | 9,096.000 | 82.77 | 82.77 | 594,168.07 | 594,168 07 | 752,875.92 | 752,875.92 | 0.18 | 158,707.85 | 158,707.85 |
| 70432V102 | PAYCOM SOFTWARE NC | 2,857.000 | 209.49 | 209.49 | 634,094.29 | 634,094 29 | 598,512.93 | 598,512.93 | 0.14 | -35,581.36 | -35,581.36 |
| 713448108 | PEPSICO INC | 6,902.000 | 137.10 | 137.10 | 821,729.01 | 821,729 01 | 946,264.20 | 946,264.20 | 0.22 | 124,535.19 | 124,535.19 |
| 717081103 | PFIZER NC | 27,351.000 | 35.93 | 35.93 | 1,067,656.31 | 1,067,656 31 | 982,721.43 | 982,721.43 | 0.23 | -84,934.88 | -84,934.88 |
| 718546104 | PHILLIPS 66 | 17,585.000 | 102.40 | 102.40 | 1,750,630.05 | 1,750,630 05 | 1,800,704.00 | 1,800,704.00 | 0.42 | 50,073.95 | 50,073.95 |
| 723484101 | PINNACLE WEST CAPITAL CORP | 17,569.000 | 97.07 | 97.07 | 1,459,246.26 | 1,459,246 26 | 1,705,422.83 | 1,705,422.83 | 0.40 | 246,176.57 | 246,176.57 |
| 74251V102 | PRINCIPAL F NANCIAL GROUP INC | 6,373.000 | 57.14 | 57.14 | 317,000.23 | 317,000 23 | 364,153.22 | 364,153.22 | 0.09 | 47,152.99 | 47,152.99 |
| 742718109 | PROCTER & GAMBLE CO/THE | 7,989.000 | 124.38 | 124.38 | 688,585.08 | 688,585 08 | 993,671.82 | 993,671.82 | 0.23 | 305,086.74 | 305,086.74 |
| 74340W103 | PROLOGIS NC | 15,568.000 | 85.22 | 85.22 | 953,697.01 | 953,697 01 | 1,326,704.96 | 1,326,704.96 | 0.31 | 373,007.95 | 373,007.95 |
| 744320102 | PRUDENTIAL FINANCIAL INC | 7,597.000 | 89.95 | 89.95 | 730,095.24 | 730,095 24 | 683,350.15 | 683,350.15 | 0.16 | -46,745.09 | -46,745.09 |
| 744573106 | PUBLIC SERVICE ENTERPRISE GROU | 24,013.000 | 62.08 | 62.08 | 1,239,056.46 | 1,239,056.46 | 1,490,727.04 | 1,490,727.04 | 0.35 | 251,670.58 | 251,670.58 |
| 74460D109 | PUBLIC STORAGE | 6,580.000 | 245.27 | 245.27 | 1,553,605.12 | 1,553,605.12 | 1,613,876.60 | 1,613,876.60 | 0.38 | 60,271.48 | 60,271.48 |
| 74736K101 | QORVO NC | 15,363.000 | 74.14 | 74.14 | 1,040,248.26 | 1,040,248 26 | 1,139,012.82 | 1,139,012.82 | 0.27 | 98,764.56 | 98,764.56 |
| 747525103 | QUALCOMM NC | 15,474.000 | 76.28 | 76.28 | 1,169,463.02 | 1,169,463 02 | 1,180,356.72 | 1,180,356.72 | 0.28 | 10,893.70 | 10,893.70 |
| 74834L100 | QUEST DIAGNOSTICS NC | 11,422.000 | 107.03 | 107.03 | 1,010,526.05 | 1,010,526 05 | 1,222,496.66 | 1,222,496.66 | 0.29 | 211,970.61 | 211,970.61 |
| 754730109 | RAYMOND JAMES FINANCIAL INC | 3,812.000 | 82.46 | 82.46 | 299,947.47 | 299,947.47 | 314,337.52 | 314,337.52 | 0.07 | 14,390.05 | 14,390.05 |
| 755111507 | RAYTHEON CO | 5,892.000 | 196.19 | 196.19 | 993,439.56 | 993,439 56 | 1,155,951.48 | 1,155,951.48 | 0.27 | 162,511.92 | 162,511.92 |
| 756109104 | REALTY NCOME CORP | 17,313.000 | 76.68 | 76.68 | 1,162,223.66 | 1,162,223 66 | 1,327,560.84 | 1,327,560.84 | 0.31 | 165,337.18 | 165,337.18 |
| 758849103 | REGENCY CENTERS CORP | 19,472.000 | 69.49 | 69.49 | 1,246,663.92 | 1,246,663 92 | 1,353,109.28 | 1,353,109.28 | 0.32 | 106,445.36 | 106,445.36 |
| 7591EP100 | REGIONS F NANCIAL CORP | 97,207.000 | 15.82 | 15.82 | 1,297,045.55 | 1,297,045 55 | 1,537,814.74 | 1,537,814.74 | 0.36 | 240,769.19 | 240,769.19 |
| 760759100 | REPUBLIC SERVICES INC | 17,298.000 | 86.55 | 86.55 | 1,074,613.15 | 1,074,613.15 | 1,497,141.90 | 1,497,141.90 | 0.35 | 422,528.75 | 422,528.75 |
| 761152107 | RESMED INC | 2,719.000 | 135.11 | 135.11 | 205,346.44 | 205,346.44 | 367,364.09 | 367,364.09 | 0.09 | 162,017.65 | 162,017.65 |
| 773903109 | ROCKWELL AUTOMATION INC | 2,132.000 | 164.80 | 164.80 | 310,440.65 | 310,440 65 | 351,353.60 | 351,353.60 | 0.08 | 40,912.95 | 40,912.95 |
| 776696106 | ROPER TECHNOLOG ES NC | 3,527.000 | 356.60 | 356.60 | 800,621.13 | 800,621.13 | 1,257,728.20 | 1,257,728.20 | 0.29 | 457,107.07 | 457,107.07 |
| 778296103 | ROSS STORES NC | 7,678.000 | 109.85 | 109.85 | 643,982.97 | 643,982 97 | 843,428.30 | 843,428.30 | 0.20 | 199,445.33 | 199,445.33 |
| 78409V104 | S&P GLOBAL INC | 4,416.000 | 244.98 | 244.98 | 761,306.73 | 761,306.73 | 1,081,831.68 | 1,081,831.68 | 0.25 | 320,524.95 | 320,524.95 |
| 78440X101 | SL GREEN REALTY CORP | 8,757.000 | 81.75 | 81.75 | 908,912.18 | 908,912.18 | 715,884.75 | 715,884.75 | 0.17 | -193,027.43 | -193,027.43 |
| 78467J100 | SS&C TECHNOLOG ES HOLDINGS NC | 5,306.000 | 51.57 | 51.57 | 300,840.65 | 300,840 65 | 273,630.42 | 273,630.42 | 0.06 | -27,210.23 | -27,210.23 |
| 79466L302 | SALESFORCE.COM INC | 4,535.000 | 148.44 | 148.44 | 618,006.32 | 618,006 32 | 673,175.40 | 673,175.40 | 0.16 | 55,169.08 | 55,169.08 |
| 806407102 | HENRY SCHEIN NC | 12,682.000 | 63.50 | 63.50 | 782,945.51 | 782,945 51 | 805,307.00 | 805,307.00 | 0.19 | 22,361.49 | 22,361.49 |
| 816851109 | SEMPRA ENERGY | 12,533.000 | 147.61 | 147.61 | 1,439,484.59 | 1,439,484 59 | 1,849,996.13 | 1,849,996.13 | 0.43 | 410,511.54 | 410,511.54 |
| 81762P102 | SERVICENOW INC | 3,545.000 | 253.85 | 253.85 | 479,457.99 | 479,457 99 | 899,898.25 | 899,898.25 | 0.21 | 420,440.26 | 420,440.26 |
| 82968B103 | SIRIUS XM HOLD NGS NC | 73,814.000 | 6.25 | 6.25 | 354,261.10 | 354,261.10 | 461,706.57 | 461,706.57 | 0.11 | 107,445.47 | 107,445.47 |
| 83088M102 | SKYWORKS SOLUTIONS INC | 20,546.000 | 79.25 | 79.25 | 1,624,566.11 | 1,624,566.11 | 1,628,270.50 | 1,628,270.50 | 0.38 | 3,704.39 | 3,704.39 |
| 832696405 | JM SMUCKER CO/THE | 13,539.000 | 110.02 | 110.02 | 1,703,124.84 | 1,703,124 84 | 1,489,560.78 | 1,489,560.78 | 0.35 | -213,564.06 | -213,564.06 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 833034101 | SNAP-ON NC | 7,100.000 | 156.54 | 156.54 | 1,149,285.02 | 1,149,285 02 | 1,111,434.00 | 1,111,434.00 | 0.26 | -37,851.02 | -37,851.02 |
| 842587107 | SOUTHERN CO/THE | 62,138.000 | 61.77 | 61.77 | 3,108,285.01 | 3,108,285 01 | 3,838,264.26 | 3,838,264.26 | 0.90 | 729,979.25 | 729,979.25 |
| 844741108 | SOUTHWEST A RLINES CO | 11,714.000 | 54.01 | 54.01 | 600,143.36 | 600,143 36 | 632,673.14 | 632,673.14 | 0.15 | 32,529.78 | 32,529.78 |
| 848637104 | SPLUNK INC | 6,754.000 | 117.86 | 117.86 | 832,286.64 | 832,286 64 | 796,026.44 | 796,026.44 | 0.19 | -36,260.20 | -36,260.20 |
| 854502101 | STANLEY BLACK & DECKER INC | 3,932.000 | 144.41 | 144.41 | 488,166.30 | 488,166 30 | 567,820.12 | 567,820.12 | 0.13 | 79,653.82 | 79,653.82 |
| 855244109 | STARBUCKS CORP | 9,003.000 | 88.42 | 88.42 | 552,796.06 | 552,796 06 | 796,045.26 | 796,045.26 | 0.19 | 243,249.20 | 243,249.20 |
| 857477103 | STATE STREET CORP | 9,293.000 | 59.19 | 59.19 | 677,406.77 | 677,406.77 | 550,052.67 | 550,052.67 | 0.13 | -127,354.10 | -127,354.10 |
| 863667101 | STRYKER CORP | 4,014.000 | 216.30 | 216.30 | 562,682.82 | 562,682 82 | 868,228.20 | 868,228.20 | 0.20 | 305,545.38 | 305,545.38 |
| 866674104 | SUN COMMUNITIES INC | 6,741.000 | 148.45 | 148.45 | 853,746.98 | 853,746 98 | 1,000,701.45 | 1,000,701.45 | 0.23 | 146,954.47 | 146,954.47 |
| 867914103 | SUNTRUST BANKS INC | 14,835.000 | 68.80 | 68.80 | 852,699.16 | 852,699.16 | 1,020,648.00 | 1,020,648.00 | 0.24 | 167,948.84 | 167,948.84 |
| 871503108 | SYMANTEC CORP | 39,996.000 | 23.63 | 23.63 | 848,391.15 | 848,391.15 | 945,105.48 | 945,105.48 | 0.22 | 96,714.33 | 96,714.33 |
| 871607107 | SYNOPSYS INC | 12,098.000 | 137.25 | 137.25 | 906,780.39 | 906,780 39 | 1,660,450.50 | 1,660,450.50 | 0.39 | 753,670.11 | 753,670.11 |
| 871829107 | SYSCO CORP | 21,322.000 | 79.40 | 79.40 | 1,336,728.61 | 1,336,728 61 | 1,692,966.80 | 1,692,966.80 | 0.40 | 356,238.19 | 356,238.19 |
| 872540109 | TJX COS NC/THE | 36,572.000 | 55.74 | 55.74 | 1,735,567.67 | 1,735,567 67 | 2,038,523.28 | 2,038,523.28 | 0.48 | 302,955.61 | 302,955.61 |
| 872590104 | T-MOBILE US NC | 22,880.000 | 78.77 | 78.77 | 1,299,890.68 | 1,299,890 68 | 1,802,257.60 | 1,802,257.60 | 0.42 | 502,366.92 | 502,366.92 |
| 876030107 | TAPESTRY INC | 34,923.000 | 26.05 | 26.05 | 1,380,458.77 | 1,380,458.77 | 909,744.15 | 909,744.15 | 0.21 | -470,714.62 | -470,714.62 |
| 87612E106 | TARGET CORP | 24,381.000 | 106.91 | 106.91 | 1,759,795.78 | 1,759,795.78 | 2,606,572.71 | 2,606,572.71 | 0.61 | 846,776.93 | 846,776.93 |
| 87612G101 | TARGA RESOURCES CORP | 19,574.000 | 40.17 | 40.17 | 858,367.52 | 858,367 52 | 786,287.58 | 786,287.58 | 0.18 | -72,079.94 | -72,079.94 |
| 882508104 | TEXAS INSTRUMENTS NC | 10,283.000 | 129.24 | 129.24 | 950,037.45 | 950,037.45 | 1,328,974.92 | 1,328,974.92 | 0.31 | 378,937.47 | 378,937.47 |
| 883203101 | TEXTRON INC | 20,051.000 | 48.96 | 48.96 | 1,044,278.29 | 1,044,278 29 | 981,696.96 | 981,696.96 | 0.23 | -62,581.33 | -62,581.33 |
| 883556102 | THERMO FISHER SCIENT FIC NC | 4,147.000 | 291.27 | 291.27 | 822,629.88 | 822,629 88 | 1,207,896.69 | 1,207,896.69 | 0.28 | 385,266.81 | 385,266.81 |
| 88579Y101 | 3M CO | 2,182.000 | 164.40 | 164.40 | 405,205.93 | 405,205 93 | 358,720.80 | 358,720.80 | 0.08 | -46,485.13 | -46,485.13 |
| 886547108 | T FFANY & CO | 11,980.000 | 92.63 | 92.63 | 1,005,514.48 | 1,005,514.48 | 1,109,707.40 | 1,109,707.40 | 0.26 | 104,192.92 | 104,192.92 |
| 892356106 | TRACTOR SUPPLY CO | 8,617.000 | 90.44 | 90.44 | 709,255.68 | 709,255 68 | 779,321.48 | 779,321.48 | 0.18 | 70,065.80 | 70,065.80 |
| 89417E109 | TRAVELERS COS NC/THE | 8,098.000 | 148.69 | 148.69 | 1,049,388.88 | 1,049,388 88 | 1,204,091.62 | 1,204,091.62 | 0.28 | 154,702.74 | 154,702.74 |
| 90138F102 | TWILIO INC | 7,902.000 | 109.96 | 109.96 | 1,087,506.43 | 1,087,506.43 | 868,903.92 | 868,903.92 | 0.20 | -218,602.51 | -218,602.51 |
| 902494103 | TYSON FOODS INC | 19,418.000 | 86.14 | 86.14 | 1,284,619.42 | 1,284,619.42 | 1,672,666.52 | 1,672,666.52 | 0.39 | 388,047.10 | 388,047.10 |
| 902653104 | UDR INC | 20,214.000 | 48.48 | 48.48 | 815,093.29 | 815,093 29 | 979,974.72 | 979,974.72 | 0.23 | 164,881.43 | 164,881.43 |
| 902973304 | US BANCORP | 22,549.000 | 55.34 | 55.34 | 1,101,014.24 | 1,101,014 24 | 1,247,861.66 | 1,247,861.66 | 0.29 | 146,847.42 | 146,847.42 |
| 90384S303 | ULTA BEAUTY INC | 4,945.000 | 250.65 | 250.65 | 1,295,541.83 | 1,295,541 83 | 1,239,464.25 | 1,239,464.25 | 0.29 | -56,077.58 | -56,077.58 |
| 907818108 | UNION PACIFIC CORP | 5,159.000 | 161.98 | 161.98 | 664,707.00 | 664,707 00 | 835,654.82 | 835,654.82 | 0.20 | 170,947.82 | 170,947.82 |
| 913017109 | UNITED TECHNOLOG ES CORP | 8,264.000 | 136.52 | 136.52 | 948,293.47 | 948,293.47 | 1,128,201.28 | 1,128,201.28 | 0.26 | 179,907.81 | 179,907.81 |
| 91324P102 | UNITEDHEALTH GROUP NC | 1,602.000 | 217.32 | 217.32 | 302,442.43 | 302,442.43 | 348,146.64 | 348,146.64 | 0.08 | 45,704.21 | 45,704.21 |
| 913903100 | UNIVERSAL HEALTH SERVICES INC | 11,932.000 | 148.75 | 148.75 | 1,536,249.79 | 1,536,249.79 | 1,774,885.00 | 1,774,885.00 | 0.42 | 238,635.21 | 238,635.21 |
| 91529Y106 | UNUM GROUP | 24,326.000 | 29.72 | 29.72 | 881,738.38 | 881,738 38 | 722,968.72 | 722,968.72 | 0.17 | -158,769.66 | -158,769.66 |
| 918204108 | VF CORP | 17,372.000 | 88.99 | 88.99 | 1,340,833.36 | 1,340,833 36 | 1,545,934.28 | 1,545,934.28 | 0.36 | 205,100.92 | 205,100.92 |
| 91913Y100 | VALERO ENERGY CORP | 10,973.000 | 85.24 | 85.24 | 813,082.18 | 813,082.18 | 935,338.52 | 935,338.52 | 0.22 | 122,256.34 | 122,256.34 |
| 92220P105 | VARIAN MEDICAL SYSTEMS INC | 5,393.000 | 119.09 | 119.09 | 517,370.43 | 517,370.43 | 642,252.37 | 642,252.37 | 0.15 | 124,881.94 | 124,881.94 |
| 922475108 | VEEVA SYSTEMS NC | 4,224.000 | 152.69 | 152.69 | 431,684.00 | 431,684 00 | 644,962.56 | 644,962.56 | 0.15 | 213,278.56 | 213,278.56 |
| 92276F100 | VENTAS INC | 10,214.000 | 73.03 | 73.03 | 651,088.68 | 651,088 68 | 745,928.42 | 745,928.42 | 0.17 | 94,839.74 | 94,839.74 |
| 92343E102 | VERISIGN INC | 7,731.000 | 188.63 | 188.63 | 1,127,461.88 | 1,127,461 88 | 1,458,298.53 | 1,458,298.53 | 0.34 | 330,836.65 | 330,836.65 |
| 92343V104 | VERIZON COMMUNICATIONS INC | 23,904.000 | 60.36 | 60.36 | 1,319,050.93 | 1,319,050 93 | 1,442,845.44 | 1,442,845.44 | 0.34 | 123,794.51 | 123,794.51 |
| 92345Y106 | VERISK ANALYTICS INC | 8,390.000 | 158.14 | 158.14 | 822,999.31 | 822,999 31 | 1,326,794.60 | 1,326,794.60 | 0.31 | 503,795.29 | 503,795.29 |
| 92553P201 | VIACOM INC | 49,274.000 | 24.03 | 24.03 | 1,422,840.96 | 1,422,840 96 | 1,184,054.22 | 1,184,054.22 | 0.28 | -238,786.74 | -238,786.74 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92826C839 | VISA INC | 4,875.000 | 172.01 | 172.01 | 545,099.11 | 545,099.11 | 838,548.75 | 838,548.75 | 0.20 | 293,449.64 | 293,449.64 |
| 928563402 | VMWARE INC | 3,304.000 | 150.06 | 150.06 | 573,835.75 | 573,835.75 | 495,798.24 | 495,798.24 | 0.12 | -78,037.51 | -78,037.51 |
| 929042109 | VORNADO REALTY TRUST | 5,021.000 | 63.67 | 63.67 | 319,927.07 | 319,927 07 | 319,687.07 | 319,687.07 | 0.07 | -240.00 | -240.00 |
| 92936U109 | WP CAREY INC | 15,383.000 | 89.50 | 89.50 | 1,246,882.91 | 1,246,882 91 | 1,376,778.50 | 1,376,778.50 | 0.32 | 129,895.59 | 129,895.59 |
| 92939U106 | WEC ENERGY GROUP NC | 28,324.000 | 95.10 | 95.10 | 1,880,094.88 | 1,880,094 88 | 2,693,612.40 | 2,693,612.40 | 0.63 | 813,517.52 | 813,517.52 |
| 931142103 | WALMART INC | 24,079.000 | 118.68 | 118.68 | 2,041,889.75 | 2,041,889.75 | 2,857,695.72 | 2,857,695.72 | 0.67 | 815,805.97 | 815,805.97 |
| 931427108 | WALGREENS BOOTS ALLIANCE NC | 10,686.000 | 55.31 | 55.31 | 756,137.59 | 756,137 59 | 591,042.66 | 591,042.66 | 0.14 | -165,094.93 | -165,094.93 |
| 94106L109 | WASTE MANAGEMENT INC | 7,415.000 | 115.00 | 115.00 | 578,872.10 | 578,872.10 | 852,725.00 | 852,725.00 | 0.20 | 273,852.90 | 273,852.90 |
| 941848103 | WATERS CORP | 1,550.000 | 223.23 | 223.23 | 272,931.48 | 272,931.48 | 346,006.50 | 346,006.50 | 0.08 | 73,075.02 | 73,075.02 |
| 94946T106 | WELLCARE HEALTH PLANS NC | 4,051.000 | 259.17 | 259.17 | 1,005,651.05 | 1,005,651 05 | 1,049,897.67 | 1,049,897.67 | 0.25 | 44,246.62 | 44,246.62 |
| 949746101 | WELLS FARGO & CO | 20,159.000 | 50.44 | 50.44 | 933,817.29 | 933,817 29 | 1,016,819.96 | 1,016,819.96 | 0.24 | 83,002.67 | 83,002.67 |
| 95040Q104 | WELLTOWER INC | 15,462.000 | 90.65 | 90.65 | 1,096,903.06 | 1,096,903 06 | 1,401,630.30 | 1,401,630.30 | 0.33 | 304,727.24 | 304,727.24 |
| 958102105 | WESTERN DIGITAL CORP | 19,142.000 | 59.64 | 59.64 | 855,882.85 | 855,882 85 | 1,141,628.88 | 1,141,628.88 | 0.27 | 285,746.03 | 285,746.03 |
| 959802109 | WESTERN UNION CO/THE | 18,012.000 | 23.17 | 23.17 | 351,476.44 | 351,476.44 | 417,338.04 | 417,338.04 | 0.10 | 65,861.60 | 65,861.60 |
| 96145D105 | WESTROCK CO | 15,172.000 | 36.45 | 36.45 | 702,804.55 | 702,804 55 | 553,019.40 | 553,019.40 | 0.13 | -149,785.15 | -149,785.15 |
| 963320106 | WH RLPOOL CORP | 5,970.000 | 158.36 | 158.36 | 891,399.70 | 891,399.70 | 945,409.20 | 945,409.20 | 0.22 | 54,009.50 | 54,009.50 |
| 969457100 | W LLIAMS COS NC/THE | 13,694.000 | 24.06 | 24.06 | 378,518.59 | 378,518 59 | 329,477.64 | 329,477.64 | 0.08 | -49,040.95 | -49,040.95 |
| 983134107 | WYNN RESORTS LTD | 7,088.000 | 108.72 | 108.72 | 846,720.91 | 846,720 91 | 770,607.36 | 770,607.36 | 0.18 | -76,113.55 | -76,113.55 |
| 98389B100 | XCEL ENERGY INC | 32,056.000 | 64.89 | 64.89 | 1,496,645.70 | 1,496,645.70 | 2,080,113.84 | 2,080,113.84 | 0.49 | 583,468.14 | 583,468.14 |
| 983919101 | XILINX INC | 6,784.000 | 95.90 | 95.90 | 572,747.48 | 572,747.48 | 650,585.60 | 650,585.60 | 0.15 | 77,838.12 | 77,838.12 |
| 98419M100 | XYLEM NC/NY | 16,259.000 | 79.62 | 79.62 | 926,011.28 | 926,011 28 | 1,294,541.58 | 1,294,541.58 | 0.30 | 368,530.30 | 368,530.30 |
| 988498101 | YUM! BRANDS INC | 9,351.000 | 113.43 | 113.43 | 693,129.95 | 693,129 95 | 1,060,683.93 | 1,060,683.93 | 0.25 | 367,553.98 | 367,553.98 |
| 98956P102 | Z MMER BIOMET HOLDINGS INC | 3,096.000 | 137.27 | 137.27 | 362,263.35 | 362,263 35 | 424,987.92 | 424,987.92 | 0.10 | 62,724.57 | 62,724.57 |
| 989701107 | ZIONS BANCORP NA | 13,096.000 | 44.52 | 44.52 | 629,183.73 | 629,183.73 | 583,033.92 | 583,033.92 | 0.14 | -46,149.81 | -46,149.81 |
| 98978V103 | ZOETIS INC | 7,302.000 | 124.59 | 124.59 | 462,560.25 | 462,560 25 | 909,756.18 | 909,756.18 | 0.21 | 447,195.93 | 447,195.93 |
| FHB903208 | MARRIOTT NTERNATIONAL | 84,973.000 | 0.00 | 0.00 | 0.00 | 0 00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| G0177J108 | ALLERGAN PLC | 3,026.000 | 168.29 | 168.29 | 570,787.60 | 570,787 60 | 509,245.54 | 509,245.54 | 0.12 | -61,542.06 | -61,542.06 |
| G02602103 | AMDOCS LTD | 15,450.000 | 66.11 | 66.11 | 901,419.59 | 901,419 59 | 1,021,399.50 | 1,021,399.50 | 0.24 | 119,979.91 | 119,979.91 |
| G0408V102 | AON PLC | 4,224.000 | 193.57 | 193.57 | 554,604.53 | 554,604 53 | 817,639.68 | 817,639.68 | 0.19 | 263,035.15 | 263,035.15 |
| G0450A105 | ARCH CAPITAL GROUP LTD | 49,033.000 | 41.98 | 41.98 | 1,271,133.64 | 1,271,133 64 | 2,058,405.34 | 2,058,405.34 | 0.48 | 787,271.70 | 787,271.70 |
| G1151C101 | ACCENTURE PLC | 4,294.000 | 192.35 | 192.35 | 648,085.93 | 648,085 93 | 825,950.90 | 825,950.90 | 0.19 | 177,864.97 | 177,864.97 |
| G16962105 | BUNGE LTD | 21,915.000 | 56.62 | 56.62 | 1,343,186.19 | 1,343,186.19 | 1,240,827.30 | 1,240,827.30 | 0.29 | -102,358.89 | -102,358.89 |
| G29183103 | EATON CORP PLC | 12,654.000 | 83.15 | 83.15 | 935,437.60 | 935,437 60 | 1,052,180.10 | 1,052,180.10 | 0.25 | 116,742.50 | 116,742.50 |
| G3223R108 | EVEREST RE GROUP LTD | 4,613.000 | 266.09 | 266.09 | 950,361.00 | 950,361 00 | 1,227,473.17 | 1,227,473.17 | 0.29 | 277,112.17 | 277,112.17 |
| G47567105 | IHS MARKIT LTD | 26,228.000 | 66.88 | 66.88 | 1,239,529.16 | 1,239,529.16 | 1,754,128.64 | 1,754,128.64 | 0.41 | 514,599.48 | 514,599.48 |
| G47791101 | INGERSOLL-RAND PLC | 9,888.000 | 123.21 | 123.21 | 848,295.49 | 848,295.49 | 1,218,300.48 | 1,218,300.48 | 0.29 | 370,004.99 | 370,004.99 |
| G51502105 | JOHNSON CONTROLS INTERNATIONAL | 22,705.000 | 43.89 | 43.89 | 827,063.06 | 827,063 06 | 996,522.45 | 996,522.45 | 0.23 | 169,459.39 | 169,459.39 |
| G5494J103 | LINDE PLC | 11,097.000 | 193.72 | 193.72 | 2,212,092.63 | 2,212,092 63 | 2,149,710.84 | 2,149,710.84 | 0.50 | -62,381.79 | -62,381.79 |
| G5876H105 | MARVELL TECHNOLOGY GROUP LTD | 48,419.000 | 24.97 | 24.97 | 907,682.43 | 907,682.43 | 1,209,022.43 | 1,209,022.43 | 0.28 | 301,340.00 | 301,340.00 |
| G5960L103 | MEDTRONIC PLC | 8,396.000 | 108.62 | 108.62 | 715,556.21 | 715,556 21 | 911,973.52 | 911,973.52 | 0.21 | 196,417.31 | 196,417.31 |
| G6518L108 | NIELSEN HOLD NGS PLC | 18,156.000 | 21.25 | 21.25 | 659,833.82 | 659,833 82 | 385,815.00 | 385,815.00 | 0.09 | -274,018.82 | -274,018.82 |
| G66721104 | NORWEGIAN CRUISE LINE HOLD NGS | 13,356.000 | 51.77 | 51.77 | 681,131.56 | 681,131 56 | 691,440.12 | 691,440.12 | 0.16 | 10,308.56 | 10,308.56 |
| G7945M107 | SEAGATE TECHNOLOGY PLC | 11,778.000 | 53.79 | 53.79 | 561,360.63 | 561,360 63 | 633,538.62 | 633,538.62 | 0.15 | 72,177.99 | 72,177.99 |
| G8473T100 | STERIS PLC | 8,293.000 | 144.49 | 144.49 | 1,211,727.55 | 1,211,727 55 | 1,198,255.57 | 1,198,255.57 | 0.28 | -13,471.98 | -13,471.98 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G96629103 | W LLIS TOWERS WATSON PLC | 6,415.000 | 192.97 | 192.97 | 891,219.40 | 891,219.40 | 1,237,902.55 | 1,237,902.55 | 0.29 | 346,683.15 | 346,683.15 |
| | G97822103 | PERRIGO CO PLC | 17,722.000 | 55.89 | 55.89 | 1,096,921.23 | 1,096,921 23 | 990,482.58 | 990,482.58 | 0.23 | -106,438.65 | -106,438.65 |
| | H1467J104 | CHUBB LTD | 9,306.000 | 161.44 | 161.44 | 1,292,843.29 | 1,292,843 29 | 1,502,360.64 | 1,502,360.64 | 0.35 | 209,517.35 | 209,517.35 |
| | H84989104 | TE CONNECTIVITY LTD | 8,976.000 | 93.18 | 93.18 | 712,138.19 | 712,138.19 | 836,383.68 | 836,383.68 | 0.20 | 124,245.49 | 124,245.49 |
| | M22465104 | CHECK POINT SOFTWARE TECHNOLOG | 17,866.000 | 109.50 | 109.50 | 1,765,948.38 | 1,765,948 38 | 1,956,327.00 | 1,956,327.00 | 0.46 | 190,378.62 | 190,378.62 |
| | N59465109 | MYLAN NV | 16,094.000 | 19.78 | 19.78 | 305,562.29 | 305,562 29 | 318,339.32 | 318,339.32 | 0.07 | 12,777.03 | 12,777.03 |
| | V7780T103 | ROYAL CARIBBEAN CRUISES LTD | 6,891.000 | 108.33 | 108.33 | 698,168.50 | 698,168 50 | 746,502.03 | 746,502.03 | 0.17 | 48,333.53 | 48,333.53 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **714,118,299.87** | | **1,262,163,454.** | **100.00** | | **548,045,154...** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **1,989,606.13** | | **1,989,606.13** | **0.16** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **1,989,606.13** | **1,989,606.13** | **1,989,606.13** | **1,989,606.13** | **0.16** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 871,117.860 | 1.00 | 1.00 | 871,117.86 | 871,117 86 | 871,117.86 | 871,117.86 | 0.07 | 0.00 | 0.00 |
| | | CASH | 0.000 | 1.00 | 1.00 | 1,910.75 | 1,910.75 | 1,910.75 | 1,910.75 | 0.00 | 0.00 | 0.00 |
| | | DIVIDENDS RECEIVABLE | 0.000 | 1.00 | 1.00 | 1,106,499.94 | 1,106,499 94 | 1,106,499.94 | 1,106,499.94 | 0.09 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 2,386.80 | 2,386 80 | 2,386.80 | 2,386.80 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 30,211.42 | 30,211.42 | 30,211.42 | 30,211.42 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -1,354.28 | -1,354 28 | -1,354.28 | -1,354.28 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -21,166.36 | -21,166 36 | -21,166.36 | -21,166.36 | 0.00 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **712,128,693.74** | | **1,260,173,848.** | **99.84** | | **548,045,154...** |
| **U.S. DOLLAR** | | | | | | **712,128,693.74** | **712,128,693.74** | **1,260,173,848.** | **1,260,173,848.** | **99.84** | **548,045,154.32** | **548,045,154...** |
| | 001055102 | AFLAC NC | 37,938.000 | 52.32 | 52.32 | 892,634.41 | 892,634.41 | 1,984,916.16 | 1,984,916.16 | 0.16 | 1,092,281.75 | 1,092,281.75 |
| | 00130H105 | AES CORP/VA | 34,017.000 | 16.34 | 16.34 | 508,233.15 | 508,233.15 | 555,837.78 | 555,837.78 | 0.04 | 47,604.63 | 47,604.63 |
| | 00206R102 | AT&T NC | 374,422.000 | 37.84 | 37.84 | 9,752,704.15 | 9,752,704.15 | 14,168,128.48 | 14,168,128.48 | 1.12 | 4,415,424.33 | 4,415,424.33 |
| | 002824100 | ABBOTT LABORATORIES | 90,564.000 | 83.67 | 83.67 | 3,194,843.10 | 3,194,843.10 | 7,577,489.88 | 7,577,489.88 | 0.60 | 4,382,646.78 | 4,382,646.78 |
| | 00287Y109 | ABBV E INC | 75,760.000 | 75.72 | 75.72 | 2,801,054.32 | 2,801,054 32 | 5,736,547.20 | 5,736,547.20 | 0.45 | 2,935,492.88 | 2,935,492.88 |
| | 003654100 | ABIOMED INC | 2,325.000 | 177.89 | 177.89 | 923,453.02 | 923,453 02 | 413,594.25 | 413,594.25 | 0.03 | -509,858.77 | -509,858.77 |
| | 00507V109 | ACTIVISION BLIZZARD NC | 39,304.000 | 52.92 | 52.92 | 1,610,554.75 | 1,610,554.75 | 2,079,967.68 | 2,079,967.68 | 0.16 | 469,412.93 | 469,412.93 |
| | 00724F101 | ADOBE INC | 24,875.000 | 276.25 | 276.25 | 2,114,299.51 | 2,114,299 51 | 6,871,718.75 | 6,871,718.75 | 0.54 | 4,757,419.24 | 4,757,419.24 |
| | 00751Y106 | ADVANCE AUTO PARTS INC | 3,658.000 | 165.40 | 165.40 | 603,788.94 | 603,788 94 | 605,033.20 | 605,033.20 | 0.05 | 1,244.26 | 1,244.26 |
| | 007903107 | ADVANCED MICRO DEVICES INC | 55,625.000 | 28.99 | 28.99 | 1,093,509.10 | 1,093,509.10 | 1,612,568.75 | 1,612,568.75 | 0.13 | 519,059.65 | 519,059.65 |
| | 008252108 | AFFILIATED MANAGERS GROUP NC | 2,595.000 | 83.35 | 83.35 | 456,366.35 | 456,366 35 | 216,293.25 | 216,293.25 | 0.02 | -240,073.10 | -240,073.10 |
| | 00846U101 | AG LENT TECHNOLOG ES INC | 15,858.000 | 76.63 | 76.63 | 497,326.81 | 497,326 81 | 1,215,198.54 | 1,215,198.54 | 0.10 | 717,871.73 | 717,871.73 |
| | 009158106 | AIR PRODUCTS & CHEMICALS NC | 11,291.000 | 221.86 | 221.86 | 1,266,798.62 | 1,266,798 62 | 2,505,021.26 | 2,505,021.26 | 0.20 | 1,238,222.64 | 1,238,222.64 |
| | 00971T101 | AKAMAI TECHNOLOG ES INC | 8,454.000 | 91.38 | 91.38 | 380,703.65 | 380,703 65 | 772,526.52 | 772,526.52 | 0.06 | 391,822.87 | 391,822.87 |
| | 011659109 | ALASKA A R GROUP INC | 6,317.000 | 64.91 | 64.91 | 381,630.28 | 381,630 28 | 410,036.47 | 410,036.47 | 0.03 | 28,406.19 | 28,406.19 |
| | 012653101 | ALBEMARLE CORP | 5,431.000 | 69.52 | 69.52 | 437,677.63 | 437,677 63 | 377,563.12 | 377,563.12 | 0.03 | -60,114.51 | -60,114.51 |
| | 015271109 | ALEXANDRIA REAL ESTATE EQUIT E | 5,812.000 | 154.04 | 154.04 | 692,882.17 | 692,882.17 | 895,280.48 | 895,280.48 | 0.07 | 202,398.31 | 202,398.31 |
| | 015351109 | ALEXION PHARMACEUTICALS INC | 11,490.000 | 97.94 | 97.94 | 1,389,724.78 | 1,389,724.78 | 1,125,330.60 | 1,125,330.60 | 0.09 | -264,394.18 | -264,394.18 |
| | 016255101 | ALIGN TECHNOLOGY NC | 3,724.000 | 180.92 | 180.92 | 1,266,066.60 | 1,266,066 60 | 673,746.08 | 673,746.08 | 0.05 | -592,320.52 | -592,320.52 |
| | 018581108 | ALLIANCE DATA SYSTEMS CORP | 2,099.000 | 128.13 | 128.13 | 509,148.62 | 509,148 62 | 268,944.87 | 268,944.87 | 0.02 | -240,203.75 | -240,203.75 |
| | 018802108 | ALLIANT ENERGY CORP | 12,171.000 | 53.93 | 53.93 | 490,948.99 | 490,948 99 | 656,382.03 | 656,382.03 | 0.05 | 165,433.04 | 165,433.04 |
| | 020002101 | ALLSTATE CORP/THE | 16,868.000 | 108.68 | 108.68 | 637,866.41 | 637,866.41 | 1,833,214.24 | 1,833,214.24 | 0.15 | 1,195,347.83 | 1,195,347.83 |
| | 02079K107 | ALPHABET NC-CL C | 15,485.000 | 1,219.00 | 1,219.00 | 8,821,170.17 | 8,821,170.17 | 18,876,215.00 | 18,876,215.00 | 1.50 | 10,055,044.83 | 10,055,044.83 |
| | 02079K305 | ALPHABET NC-CL A | 15,349.000 | 1,221.14 | 1,221.14 | 8,170,762.20 | 8,170,762 20 | 18,743,277.86 | 18,743,277.86 | 1.49 | 10,572,515.66 | 10,572,515.66 |
| | 02209S103 | ALTRIA GROUP INC | 95,724.000 | 40.90 | 40.90 | 3,421,113.65 | 3,421,113 65 | 3,915,111.60 | 3,915,111.60 | 0.31 | 493,997.95 | 493,997.95 |
| | 023135106 | AMAZON.COM NC | 21,291.000 | 1,735.91 | 1,735.91 | 13,874,879.99 | 13,874,879 99 | 36,959,259.81 | 36,959,259.81 | 2.93 | 23,084,379.82 | 23,084,379.82 |
| | 023608102 | AMEREN CORP | 12,595.000 | 80.05 | 80.05 | 595,697.47 | 595,697.47 | 1,008,229.75 | 1,008,229.75 | 0.08 | 412,532.28 | 412,532.28 |
| | 02376R102 | AMERICAN AIRLINES GROUP INC | 20,307.000 | 26.97 | 26.97 | 991,122.20 | 991,122 20 | 547,679.79 | 547,679.79 | 0.04 | -443,442.41 | -443,442.41 |
| | 025537101 | AMERICAN ELECTRIC POWER CO INC | 25,303.000 | 93.69 | 93.69 | 1,293,903.49 | 1,293,903.49 | 2,370,638.07 | 2,370,638.07 | 0.19 | 1,076,734.58 | 1,076,734.58 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 025816109 | AMERICAN EXPRESS CO | 34,861.000 | 118.28 | 118.28 | 1,755,511.93 | 1,755,511 93 | 4,123,359.08 | 4,123,359.08 | 0.33 | 2,367,847.15 | 2,367,847.15 |
| 026874784 | AMERICAN INTERNATIONAL GROUP I | 44,575.000 | 55.70 | 55.70 | 5,195,224.31 | 5,195,224 31 | 2,482,827.50 | 2,482,827.50 | 0.20 | -2,712,396.81 | -2,712,396.81 |
| 03027X100 | AMERICAN TOWER CORP | 22,684.000 | 221.13 | 221.13 | 2,223,501.16 | 2,223,501.16 | 5,016,112.92 | 5,016,112.92 | 0.40 | 2,792,611.76 | 2,792,611.76 |
| 030420103 | AMERICAN WATER WORKS CO INC | 9,257.000 | 124.23 | 124.23 | 707,811.62 | 707,811 62 | 1,149,997.11 | 1,149,997.11 | 0.09 | 442,185.49 | 442,185.49 |
| 03073E105 | AMERISOURCEBERGEN CORP | 7,793.000 | 82.33 | 82.33 | 507,265.07 | 507,265 07 | 641,597.69 | 641,597.69 | 0.05 | 134,332.62 | 134,332.62 |
| 03076C106 | AMERIPRISE FINANCIAL INC | 6,706.000 | 147.10 | 147.10 | 430,134.07 | 430,134 07 | 986,452.60 | 986,452.60 | 0.08 | 556,318.53 | 556,318.53 |
| 031100100 | AMETEK INC | 11,701.000 | 91.82 | 91.82 | 635,830.46 | 635,830.46 | 1,074,385.82 | 1,074,385.82 | 0.09 | 438,555.36 | 438,555.36 |
| 031162100 | AMGEN INC | 30,730.000 | 193.51 | 193.51 | 2,663,537.57 | 2,663,537 57 | 5,946,562.30 | 5,946,562.30 | 0.47 | 3,283,024.73 | 3,283,024.73 |
| 032095101 | AMPHENOL CORP | 15,242.000 | 96.50 | 96.50 | 652,565.03 | 652,565 03 | 1,470,853.00 | 1,470,853.00 | 0.12 | 818,287.97 | 818,287.97 |
| 032654105 | ANALOG DEVICES INC | 18,929.000 | 111.73 | 111.73 | 1,276,891.14 | 1,276,891.14 | 2,114,937.17 | 2,114,937.17 | 0.17 | 838,046.03 | 838,046.03 |
| 03662Q105 | ANSYS NC | 4,309.000 | 221.36 | 221.36 | 582,813.95 | 582,813 95 | 953,840.24 | 953,840.24 | 0.08 | 371,026.29 | 371,026.29 |
| 036752103 | ANTHEM NC | 13,108.000 | 240.10 | 240.10 | 1,423,438.43 | 1,423,438.43 | 3,147,230.80 | 3,147,230.80 | 0.25 | 1,723,792.37 | 1,723,792.37 |
| 037411105 | APACHE CORP | 19,265.000 | 25.60 | 25.60 | 711,844.50 | 711,844 50 | 493,184.00 | 493,184.00 | 0.04 | -218,660.50 | -218,660.50 |
| 03748R754 | APARTMENT INVESTMENT & MANAGEM | 7,629.000 | 52.14 | 52.14 | 265,320.34 | 265,320 34 | 397,776.06 | 397,776.06 | 0.03 | 132,455.72 | 132,455.72 |
| 037833100 | APPLE NC | 217,676.000 | 223.97 | 223.97 | 13,931,452.54 | 13,931,452 54 | 48,752,893.72 | 48,752,893.72 | 3.86 | 34,821,441.18 | 34,821,441.18 |
| 038222105 | APPLIED MATERIALS INC | 47,335.000 | 49.90 | 49.90 | 881,637.31 | 881,637 31 | 2,362,016.50 | 2,362,016.50 | 0.19 | 1,480,379.19 | 1,480,379.19 |
| 039483102 | ARCHER-DAN ELS-M DLAND CO | 28,540.000 | 41.07 | 41.07 | 913,628.54 | 913,628 54 | 1,172,137.80 | 1,172,137.80 | 0.09 | 258,509.26 | 258,509.26 |
| 03965L100 | ARCONIC INC | 19,849.000 | 26.00 | 26.00 | 580,276.64 | 580,276 64 | 516,074.00 | 516,074.00 | 0.04 | -64,202.64 | -64,202.64 |
| 040413106 | ARISTA NETWORKS INC | 2,788.000 | 238.92 | 238.92 | 741,946.00 | 741,946 00 | 666,108.96 | 666,108.96 | 0.05 | -75,837.04 | -75,837.04 |
| 04621X108 | ASSURANT INC | 3,132.000 | 125.82 | 125.82 | 198,709.30 | 198,709 30 | 394,068.24 | 394,068.24 | 0.03 | 195,358.94 | 195,358.94 |
| 049560105 | ATMOS ENERGY CORP | 6,057.000 | 113.89 | 113.89 | 620,139.60 | 620,139 60 | 689,831.73 | 689,831.73 | 0.05 | 69,692.13 | 69,692.13 |
| 052769106 | AUTODESK INC | 11,252.000 | 147.70 | 147.70 | 775,850.11 | 775,850.11 | 1,661,920.40 | 1,661,920.40 | 0.13 | 886,070.29 | 886,070.29 |
| 053015103 | AUTOMATIC DATA PROCESSING NC | 22,236.000 | 161.42 | 161.42 | 1,480,973.60 | 1,480,973 60 | 3,589,335.12 | 3,589,335.12 | 0.28 | 2,108,361.52 | 2,108,361.52 |
| 053332102 | AUTOZONE NC | 1,257.000 | 1,084.62 | 1,084.62 | 654,843.29 | 654,843 29 | 1,363,367.34 | 1,363,367.34 | 0.11 | 708,524.05 | 708,524.05 |
| 053484101 | AVALONBAY COMMUNITIES NC | 7,156.000 | 215.33 | 215.33 | 1,085,671.75 | 1,085,671.75 | 1,540,901.48 | 1,540,901.48 | 0.12 | 455,229.73 | 455,229.73 |
| 053611109 | AVERY DENNISON CORP | 4,314.000 | 113.57 | 113.57 | 235,674.65 | 235,674 65 | 489,940.98 | 489,940.98 | 0.04 | 254,266.33 | 254,266.33 |
| 054937107 | BB&T CORP | 39,259.000 | 53.37 | 53.37 | 1,337,907.68 | 1,337,907 68 | 2,095,252.83 | 2,095,252.83 | 0.17 | 757,345.15 | 757,345.15 |
| 05722G100 | BAKER HUGHES CO | 26,460.000 | 23.20 | 23.20 | 952,680.39 | 952,680 39 | 613,872.00 | 613,872.00 | 0.05 | -338,808.39 | -338,808.39 |
| 058498106 | BALL CORP | 17,012.000 | 72.81 | 72.81 | 562,972.14 | 562,972.14 | 1,238,643.72 | 1,238,643.72 | 0.10 | 675,671.58 | 675,671.58 |
| 060505104 | BANK OF AMERICA CORP | 429,275.000 | 29.17 | 29.17 | 8,385,999.64 | 8,385,999 64 | 12,521,951.75 | 12,521,951.75 | 0.99 | 4,135,952.11 | 4,135,952.11 |
| 064058100 | BANK OF NEW YORK MELLON CORP/T | 43,956.000 | 45.21 | 45.21 | 1,536,929.50 | 1,536,929 50 | 1,987,250.76 | 1,987,250.76 | 0.16 | 450,321.26 | 450,321.26 |
| 071813109 | BAXTER INTERNATIONAL NC | 26,162.000 | 87.47 | 87.47 | 1,005,406.68 | 1,005,406 68 | 2,288,390.14 | 2,288,390.14 | 0.18 | 1,282,983.46 | 1,282,983.46 |
| 075887109 | BECTON DICK NSON AND CO | 13,833.000 | 252.96 | 252.96 | 2,067,465.82 | 2,067,465 82 | 3,499,195.68 | 3,499,195.68 | 0.28 | 1,431,729.86 | 1,431,729.86 |
| 084670702 | BERKSHIRE HATHAWAY INC | 100,477.000 | 208.02 | 208.02 | 12,803,592.18 | 12,803,592.18 | 20,901,225.54 | 20,901,225.54 | 1.66 | 8,097,633.36 | 8,097,633.36 |
| 086516101 | BEST BUY CO NC | 11,885.000 | 68.99 | 68.99 | 442,746.33 | 442,746 33 | 819,946.15 | 819,946.15 | 0.06 | 377,199.82 | 377,199.82 |
| 09062X103 | BIOGEN NC | 9,451.000 | 232.82 | 232.82 | 1,306,827.46 | 1,306,827.46 | 2,200,381.82 | 2,200,381.82 | 0.17 | 893,554.36 | 893,554.36 |
| 09247X101 | BLACKROCK INC | 6,020.000 | 445.64 | 445.64 | 1,733,837.13 | 1,733,837.13 | 2,682,752.80 | 2,682,752.80 | 0.21 | 948,915.67 | 948,915.67 |
| 093671105 | H&R BLOCK INC | 10,285.000 | 23.62 | 23.62 | 220,936.21 | 220,936 21 | 242,931.70 | 242,931.70 | 0.02 | 21,995.49 | 21,995.49 |
| 097023105 | BOE NG CO/THE | 27,392.000 | 380.47 | 380.47 | 3,496,512.13 | 3,496,512.13 | 10,421,834.24 | 10,421,834.24 | 0.83 | 6,925,322.11 | 6,925,322.11 |
| 09857L108 | BOOKING HOLDINGS INC | 2,178.000 | 1,962.61 | 1,962.61 | 1,531,159.13 | 1,531,159.13 | 4,274,564.58 | 4,274,564.58 | 0.34 | 2,743,405.45 | 2,743,405.45 |
| 099724106 | BORGWARNER NC | 10,582.000 | 36.68 | 36.68 | 367,000.16 | 367,000.16 | 388,147.76 | 388,147.76 | 0.03 | 21,147.60 | 21,147.60 |
| 101121101 | BOSTON PROPERT ES NC | 7,366.000 | 129.66 | 129.66 | 875,386.57 | 875,386 57 | 955,075.56 | 955,075.56 | 0.08 | 79,688.99 | 79,688.99 |
| 101137107 | BOSTON SCIENT FIC CORP | 71,378.000 | 40.69 | 40.69 | 1,387,845.52 | 1,387,845 52 | 2,904,370.82 | 2,904,370.82 | 0.23 | 1,516,525.30 | 1,516,525.30 |
| 110122108 | BRISTOL-MYERS SQUIBB CO | 83,819.000 | 50.71 | 50.71 | 3,311,940.04 | 3,311,940 04 | 4,250,461.49 | 4,250,461.49 | 0.34 | 938,521.45 | 938,521.45 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11133T103 | BROADRIDGE FINANCIAL SOLUTIONS | 5,856.000 | 124.43 | 124.43 | 678,007.13 | 678,007.13 | 728,662.08 | 728,662.08 | 0.06 | 50,654.95 | 50,654.95 |
| 11135F101 | BROADCOM NC | 20,398.000 | 276.07 | 276.07 | 2,949,290.83 | 2,949,290 83 | 5,631,275.86 | 5,631,275.86 | 0.45 | 2,681,985.03 | 2,681,985.03 |
| 115637209 | BROWN-FORMAN CORP | 9,327.000 | 62.78 | 62.78 | 329,684.92 | 329,684 92 | 585,549.06 | 585,549.06 | 0.05 | 255,864.14 | 255,864.14 |
| 124857202 | CBS CORP | 16,768.000 | 40.37 | 40.37 | 531,842.81 | 531,842 81 | 676,924.16 | 676,924.16 | 0.05 | 145,081.35 | 145,081.35 |
| 12503M108 | CBOE GLOBAL MARKETS INC | 5,723.000 | 114.91 | 114.91 | 532,000.82 | 532,000 82 | 657,629.93 | 657,629.93 | 0.05 | 125,629.11 | 125,629.11 |
| 12504L109 | CBRE GROUP NC | 17,234.000 | 53.01 | 53.01 | 563,432.18 | 563,432.18 | 913,574.34 | 913,574.34 | 0.07 | 350,142.16 | 350,142.16 |
| 12514G108 | CDW CORP/DE | 7,415.000 | 123.24 | 123.24 | 897,715.51 | 897,715 51 | 913,824.60 | 913,824.60 | 0.07 | 16,109.09 | 16,109.09 |
| 125269100 | CF NDUSTRIES HOLD NGS INC | 11,187.000 | 49.20 | 49.20 | 395,743.94 | 395,743 94 | 550,400.40 | 550,400.40 | 0.04 | 154,656.46 | 154,656.46 |
| 12541W209 | CH ROBINSON WORLDWIDE INC | 6,937.000 | 84.78 | 84.78 | 408,449.11 | 408,449.11 | 588,118.86 | 588,118.86 | 0.05 | 179,669.75 | 179,669.75 |
| 125523100 | CIGNA CORP | 19,349.000 | 151.79 | 151.79 | 2,248,123.10 | 2,248,123.10 | 2,936,984.71 | 2,936,984.71 | 0.23 | 688,861.61 | 688,861.61 |
| 12572Q105 | CME GROUP INC | 18,349.000 | 211.34 | 211.34 | 1,733,061.87 | 1,733,061 87 | 3,877,877.66 | 3,877,877.66 | 0.31 | 2,144,815.79 | 2,144,815.79 |
| 125896100 | CMS ENERGY CORP | 14,542.000 | 63.95 | 63.95 | 509,189.26 | 509,189 26 | 929,960.90 | 929,960.90 | 0.07 | 420,771.64 | 420,771.64 |
| 126408103 | CSX CORP | 40,900.000 | 69.27 | 69.27 | 1,044,871.85 | 1,044,871 85 | 2,833,143.00 | 2,833,143.00 | 0.22 | 1,788,271.15 | 1,788,271.15 |
| 126650100 | CVS HEALTH CORP | 66,640.000 | 63.07 | 63.07 | 3,878,034.32 | 3,878,034 32 | 4,202,984.80 | 4,202,984.80 | 0.33 | 324,950.48 | 324,950.48 |
| 127097103 | CABOT O L & GAS CORP | 21,439.000 | 17.57 | 17.57 | 383,997.10 | 383,997.10 | 376,683.23 | 376,683.23 | 0.03 | -7,313.87 | -7,313.87 |
| 127387108 | CADENCE DESIGN SYSTEMS INC | 14,355.000 | 66.08 | 66.08 | 683,628.86 | 683,628 86 | 948,578.40 | 948,578.40 | 0.08 | 264,949.54 | 264,949.54 |
| 134429109 | CAMPBELL SOUP CO | 8,642.000 | 46.92 | 46.92 | 368,304.59 | 368,304 59 | 405,482.64 | 405,482.64 | 0.03 | 37,178.05 | 37,178.05 |
| 14040H105 | CAPITAL ONE F NANCIAL CORP | 24,101.000 | 90.98 | 90.98 | 1,410,979.13 | 1,410,979.13 | 2,192,708.98 | 2,192,708.98 | 0.17 | 781,729.85 | 781,729.85 |
| 14149Y108 | CARD NAL HEALTH INC | 15,277.000 | 47.19 | 47.19 | 717,026.05 | 717,026 05 | 720,921.63 | 720,921.63 | 0.06 | 3,895.58 | 3,895.58 |
| 143130102 | CARMAX INC | 8,485.000 | 88.00 | 88.00 | 265,186.14 | 265,186.14 | 746,680.00 | 746,680.00 | 0.06 | 481,493.86 | 481,493.86 |
| 143658300 | CARNIVAL CORP | 20,517.000 | 43.71 | 43.71 | 911,588.41 | 911,588.41 | 896,798.07 | 896,798.07 | 0.07 | -14,790.34 | -14,790.34 |
| 149123101 | CATERPILLAR INC | 28,828.000 | 126.31 | 126.31 | 1,945,671.87 | 1,945,671 87 | 3,641,264.68 | 3,641,264.68 | 0.29 | 1,695,592.81 | 1,695,592.81 |
| 150870103 | CELANESE CORP | 6,341.000 | 122.29 | 122.29 | 648,106.65 | 648,106 65 | 775,440.89 | 775,440.89 | 0.06 | 127,334.24 | 127,334.24 |
| 151020104 | CELGENE CORP | 36,317.000 | 99.30 | 99.30 | 2,272,337.93 | 2,272,337 93 | 3,606,278.10 | 3,606,278.10 | 0.29 | 1,333,940.17 | 1,333,940.17 |
| 15135B101 | CENTENE CORP | 21,194.000 | 43.26 | 43.26 | 832,247.06 | 832,247 06 | 916,852.44 | 916,852.44 | 0.07 | 84,605.38 | 84,605.38 |
| 15189T107 | CENTERPOINT ENERGY INC | 25,735.000 | 30.18 | 30.18 | 537,787.77 | 537,787.77 | 776,682.30 | 776,682.30 | 0.06 | 238,894.53 | 238,894.53 |
| 156700106 | CENTURYLINK NC | 50,303.000 | 12.48 | 12.48 | 1,231,102.75 | 1,231,102.75 | 627,781.44 | 627,781.44 | 0.05 | -603,321.31 | -603,321.31 |
| 156782104 | CERNER CORP | 16,315.000 | 68.17 | 68.17 | 683,349.21 | 683,349 21 | 1,112,193.55 | 1,112,193.55 | 0.09 | 428,844.34 | 428,844.34 |
| 16119P108 | CHARTER COMMUNICATIONS NC | 8,285.000 | 412.12 | 412.12 | 2,347,529.41 | 2,347,529.41 | 3,414,414.20 | 3,414,414.20 | 0.27 | 1,066,884.79 | 1,066,884.79 |
| 166764100 | CHEVRON CORP | 97,278.000 | 118.60 | 118.60 | 6,243,630.64 | 6,243,630 64 | 11,537,170.80 | 11,537,170.80 | 0.91 | 5,293,540.16 | 5,293,540.16 |
| 169656105 | CH POTLE MEXICAN GRILL INC | 1,307.000 | 840.47 | 840.47 | 447,902.61 | 447,902 61 | 1,098,494.29 | 1,098,494.29 | 0.09 | 650,591.68 | 650,591.68 |
| 171340102 | CHURCH & DWIGHT CO INC | 12,662.000 | 75.24 | 75.24 | 581,713.44 | 581,713.44 | 952,688.88 | 952,688.88 | 0.08 | 370,975.44 | 370,975.44 |
| 171798101 | CIMAREX ENERGY CO | 5,199.000 | 47.94 | 47.94 | 578,824.35 | 578,824 35 | 249,240.06 | 249,240.06 | 0.02 | -329,584.29 | -329,584.29 |
| 172062101 | CINCINNATI FINANCIAL CORP | 7,784.000 | 116.67 | 116.67 | 402,406.16 | 402,406.16 | 908,159.28 | 908,159.28 | 0.07 | 505,753.12 | 505,753.12 |
| 17275R102 | CISCO SYSTEMS NC | 217,535.000 | 49.41 | 49.41 | 4,235,028.34 | 4,235,028 34 | 10,748,404.35 | 10,748,404.35 | 0.85 | 6,513,376.01 | 6,513,376.01 |
| 172908105 | CINTAS CORP | 4,254.000 | 268.10 | 268.10 | 402,316.19 | 402,316.19 | 1,140,497.40 | 1,140,497.40 | 0.09 | 738,181.21 | 738,181.21 |
| 172967424 | CITIGROUP NC | 115,758.000 | 69.08 | 69.08 | 7,364,714.03 | 7,364,714 03 | 7,996,562.64 | 7,996,562.64 | 0.63 | 631,848.61 | 631,848.61 |
| 174610105 | CITIZENS FINANCIAL GROUP INC | 22,909.000 | 35.37 | 35.37 | 531,620.21 | 531,620 21 | 810,291.33 | 810,291.33 | 0.06 | 278,671.12 | 278,671.12 |
| 177376100 | CITRIX SYSTEMS INC | 6,305.000 | 96.52 | 96.52 | 299,011.00 | 299,011 00 | 608,558.60 | 608,558.60 | 0.05 | 309,547.60 | 309,547.60 |
| 189054109 | CLOROX CO/THE | 6,443.000 | 151.87 | 151.87 | 580,377.35 | 580,377 35 | 978,498.41 | 978,498.41 | 0.08 | 398,121.06 | 398,121.06 |
| 191216100 | COCA-COLA CO/THE | 197,199.000 | 54.44 | 54.44 | 5,564,099.22 | 5,564,099 22 | 10,735,513.56 | 10,735,513.56 | 0.85 | 5,171,414.34 | 5,171,414.34 |
| 192446102 | COGNIZANT TECHNOLOGY SOLUTIONS | 28,300.000 | 60.27 | 60.27 | 1,174,356.93 | 1,174,356 93 | 1,705,499.50 | 1,705,499.50 | 0.14 | 531,142.57 | 531,142.57 |
| 194162103 | COLGATE-PALMOLIVE CO | 43,966.000 | 73.51 | 73.51 | 1,578,398.84 | 1,578,398 84 | 3,231,940.66 | 3,231,940.66 | 0.26 | 1,653,541.82 | 1,653,541.82 |
| 20030N101 | COMCAST CORP | 232,408.000 | 45.08 | 45.08 | 4,771,354.07 | 4,771,354 07 | 10,476,952.64 | 10,476,952.64 | 0.83 | 5,705,598.57 | 5,705,598.57 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200340107 | COMERICA NC | 7,653.000 | 65.99 | 65.99 | 301,751.67 | 301,751 67 | 505,021.47 | 505,021.47 | 0.04 | 203,269.80 | 203,269.80 |
| 205887102 | CONAGRA BRANDS INC | 24,934.000 | 30.68 | 30.68 | 620,662.52 | 620,662 52 | 764,975.12 | 764,975.12 | 0.06 | 144,312.60 | 144,312.60 |
| 20605P101 | CONCHO RESOURCES INC | 10,304.000 | 67.90 | 67.90 | 1,104,094.73 | 1,104,094.73 | 699,641.60 | 699,641.60 | 0.06 | -404,453.13 | -404,453.13 |
| 20825C104 | CONOCOPHILLIPS | 56,885.000 | 56.98 | 56.98 | 2,341,470.84 | 2,341,470 84 | 3,241,307.30 | 3,241,307.30 | 0.26 | 899,836.46 | 899,836.46 |
| 209115104 | CONSOLIDATED EDISON INC | 17,020.000 | 94.47 | 94.47 | 971,250.18 | 971,250.18 | 1,607,879.40 | 1,607,879.40 | 0.13 | 636,629.22 | 636,629.22 |
| 21036P108 | CONSTELLATION BRANDS NC | 8,570.000 | 207.28 | 207.28 | 779,009.77 | 779,009.77 | 1,776,389.60 | 1,776,389.60 | 0.14 | 997,379.83 | 997,379.83 |
| 216648402 | COOPER COS INC/THE | 2,540.000 | 297.00 | 297.00 | 504,568.35 | 504,568 35 | 754,380.00 | 754,380.00 | 0.06 | 249,811.65 | 249,811.65 |
| 217204106 | COPART INC | 10,331.000 | 80.33 | 80.33 | 574,521.97 | 574,521 97 | 829,889.23 | 829,889.23 | 0.07 | 255,367.26 | 255,367.26 |
| 219350105 | CORNING NC | 40,013.000 | 28.52 | 28.52 | 708,828.88 | 708,828 88 | 1,141,170.76 | 1,141,170.76 | 0.09 | 432,341.88 | 432,341.88 |
| 22052L104 | CORTEVA INC | 38,374.000 | 28.00 | 28.00 | 819,931.31 | 819,931 31 | 1,074,472.00 | 1,074,472.00 | 0.09 | 254,540.69 | 254,540.69 |
| 22160K105 | COSTCO WHOLESALE CORP | 22,535.000 | 288.11 | 288.11 | 2,346,115.70 | 2,346,115.70 | 6,492,558.85 | 6,492,558.85 | 0.51 | 4,146,443.15 | 4,146,443.15 |
| 222070203 | COTY INC | 15,072.000 | 10.51 | 10.51 | 255,161.29 | 255,161 29 | 158,406.72 | 158,406.72 | 0.01 | -96,754.57 | -96,754.57 |
| 22304C100 | COVETRUS NC | 0.400 | 11.89 | 11.89 | 16.08 | 16 08 | 4.76 | 4.76 | 0.00 | -11.32 | -11.32 |
| 22822V101 | CROWN CASTLE NTERNATIONAL COR | 21,304.000 | 139.01 | 139.01 | 1,729,855.22 | 1,729,855 22 | 2,961,469.04 | 2,961,469.04 | 0.23 | 1,231,613.82 | 1,231,613.82 |
| 231021106 | CUMMINS INC | 8,085.000 | 162.67 | 162.67 | 662,690.68 | 662,690 68 | 1,315,186.95 | 1,315,186.95 | 0.10 | 652,496.27 | 652,496.27 |
| 23331A109 | DR HORTON NC | 17,245.000 | 52.71 | 52.71 | 570,006.59 | 570,006 59 | 908,983.95 | 908,983.95 | 0.07 | 338,977.36 | 338,977.36 |
| 233331107 | DTE ENERGY CO | 9,393.000 | 132.96 | 132.96 | 652,277.93 | 652,277 93 | 1,248,893.28 | 1,248,893.28 | 0.10 | 596,615.35 | 596,615.35 |
| 23355L106 | DXC TECHNOLOGY CO | 13,423.000 | 29.50 | 29.50 | 607,470.62 | 607,470 62 | 395,978.50 | 395,978.50 | 0.03 | -211,492.12 | -211,492.12 |
| 235851102 | DANAHER CORP | 32,716.000 | 144.43 | 144.43 | 1,902,855.49 | 1,902,855.49 | 4,725,171.88 | 4,725,171.88 | 0.37 | 2,822,316.39 | 2,822,316.39 |
| 237194105 | DARDEN RESTAURANTS NC | 6,293.000 | 118.22 | 118.22 | 380,568.98 | 380,568 98 | 743,958.46 | 743,958.46 | 0.06 | 363,389.48 | 363,389.48 |
| 23918K108 | DAVITA INC | 4,962.000 | 57.07 | 57.07 | 266,978.80 | 266,978 80 | 283,181.34 | 283,181.34 | 0.02 | 16,202.54 | 16,202.54 |
| 244199105 | DEERE & CO | 16,135.000 | 168.68 | 168.68 | 1,150,188.57 | 1,150,188 57 | 2,721,651.80 | 2,721,651.80 | 0.22 | 1,571,463.23 | 1,571,463.23 |
| 247361702 | DELTA A R L NES INC | 29,652.000 | 57.60 | 57.60 | 997,659.04 | 997,659 04 | 1,707,955.20 | 1,707,955.20 | 0.14 | 710,296.16 | 710,296.16 |
| 24906P109 | DENTSPLY SIRONA NC | 11,487.000 | 53.31 | 53.31 | 585,312.94 | 585,312 94 | 612,371.97 | 612,371.97 | 0.05 | 27,059.03 | 27,059.03 |
| 25179M103 | DEVON ENERGY CORP | 20,712.000 | 24.06 | 24.06 | 596,582.15 | 596,582.15 | 498,330.72 | 498,330.72 | 0.04 | -98,251.43 | -98,251.43 |
| 25278X109 | DIAMONDBACK ENERGY NC | 8,355.000 | 89.91 | 89.91 | 762,318.08 | 762,318 08 | 751,198.05 | 751,198.05 | 0.06 | -11,120.03 | -11,120.03 |
| 253868103 | DIGITAL REALTY TRUST INC | 10,676.000 | 129.81 | 129.81 | 1,139,782.85 | 1,139,782 85 | 1,385,851.56 | 1,385,851.56 | 0.11 | 246,068.71 | 246,068.71 |
| 254687106 | WALT DISNEY CO/THE | 92,306.000 | 130.32 | 130.32 | 5,587,625.65 | 5,587,625 65 | 12,029,317.92 | 12,029,317.92 | 0.95 | 6,441,692.27 | 6,441,692.27 |
| 254709108 | DISCOVER FINANCIAL SERVICES | 16,307.000 | 81.09 | 81.09 | 509,179.78 | 509,179.78 | 1,322,334.63 | 1,322,334.63 | 0.10 | 813,154.85 | 813,154.85 |
| 25470F104 | DISCOVERY NC | 8,098.000 | 26.63 | 26.63 | 203,093.22 | 203,093 22 | 215,649.74 | 215,649.74 | 0.02 | 12,556.52 | 12,556.52 |
| 25470F302 | DISCOVERY NC | 17,779.000 | 24.62 | 24.62 | 449,176.72 | 449,176.72 | 437,718.98 | 437,718.98 | 0.03 | -11,457.74 | -11,457.74 |
| 25470M109 | DISH NETWORK CORP | 12,328.000 | 34.07 | 34.07 | 700,680.83 | 700,680 83 | 420,014.96 | 420,014.96 | 0.03 | -280,665.87 | -280,665.87 |
| 256677105 | DOLLAR GENERAL CORP | 13,173.000 | 158.94 | 158.94 | 926,166.80 | 926,166 80 | 2,093,716.62 | 2,093,716.62 | 0.17 | 1,167,549.82 | 1,167,549.82 |
| 256746108 | DOLLAR TREE INC | 12,125.000 | 114.16 | 114.16 | 778,532.73 | 778,532.73 | 1,384,190.00 | 1,384,190.00 | 0.11 | 605,657.27 | 605,657.27 |
| 25746U109 | DOM NION ENERGY INC | 42,116.000 | 81.04 | 81.04 | 2,229,859.27 | 2,229,859 27 | 3,413,080.64 | 3,413,080.64 | 0.27 | 1,183,221.37 | 1,183,221.37 |
| 260003108 | DOVER CORP | 7,452.000 | 99.56 | 99.56 | 307,013.10 | 307,013.10 | 741,921.12 | 741,921.12 | 0.06 | 434,908.02 | 434,908.02 |
| 264411505 | DUKE REALTY CORP | 18,521.000 | 33.97 | 33.97 | 555,348.67 | 555,348 67 | 629,158.37 | 629,158.37 | 0.05 | 73,809.70 | 73,809.70 |
| 26441C204 | DUKE ENERGY CORP | 37,335.000 | 95.86 | 95.86 | 2,382,676.61 | 2,382,676 61 | 3,578,933.10 | 3,578,933.10 | 0.28 | 1,196,256.49 | 1,196,256.49 |
| 26614N102 | DUPONT DE NEMOURS NC | 38,083.000 | 71.31 | 71.31 | 2,121,876.11 | 2,121,876.11 | 2,715,698.73 | 2,715,698.73 | 0.22 | 593,822.62 | 593,822.62 |
| 26875P101 | EOG RESOURCES INC | 29,738.000 | 74.22 | 74.22 | 1,743,030.41 | 1,743,030.41 | 2,207,154.36 | 2,207,154.36 | 0.17 | 464,123.95 | 464,123.95 |
| 269246401 | E*TRADE F NANCIAL CORP | 12,288.000 | 43.69 | 43.69 | 646,330.36 | 646,330 36 | 536,862.72 | 536,862.72 | 0.04 | -109,467.64 | -109,467.64 |
| 277432100 | EASTMAN CHEMICAL CO | 7,020.000 | 73.83 | 73.83 | 412,580.37 | 412,580 37 | 518,286.60 | 518,286.60 | 0.04 | 105,706.23 | 105,706.23 |
| 278642103 | EBAY INC | 40,401.000 | 38.98 | 38.98 | 778,445.99 | 778,445 99 | 1,574,830.98 | 1,574,830.98 | 0.12 | 796,384.99 | 796,384.99 |
| 278865100 | ECOLAB NC | 12,828.000 | 198.04 | 198.04 | 1,176,602.05 | 1,176,602 05 | 2,540,457.12 | 2,540,457.12 | 0.20 | 1,363,855.07 | 1,363,855.07 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 281020107 | EDISON INTERNATIONAL | 18,349.000 | 75.42 | 75.42 | 732,003.76 | 732,003.76 | 1,383,881.58 | 1,383,881.58 | 0.11 | 651,877.82 | 651,877.82 |
| 28176E108 | EDWARDS LIFESCIENCES CORP | 10,657.000 | 219.91 | 219.91 | 700,241.82 | 700,241 82 | 2,343,580.87 | 2,343,580.87 | 0.19 | 1,643,339.05 | 1,643,339.05 |
| 285512109 | ELECTRONIC ARTS NC | 15,101.000 | 97.82 | 97.82 | 809,572.46 | 809,572.46 | 1,477,179.82 | 1,477,179.82 | 0.12 | 667,607.36 | 667,607.36 |
| 291011104 | EMERSON ELECTRIC CO | 31,519.000 | 66.86 | 66.86 | 988,410.96 | 988,410 96 | 2,107,360.34 | 2,107,360.34 | 0.17 | 1,118,949.38 | 1,118,949.38 |
| 29364G103 | ENTERGY CORP | 10,188.000 | 117.36 | 117.36 | 694,250.93 | 694,250 93 | 1,195,663.68 | 1,195,663.68 | 0.09 | 501,412.75 | 501,412.75 |
| 294429105 | EQU FAX NC | 6,194.000 | 140.67 | 140.67 | 434,149.28 | 434,149 28 | 871,309.98 | 871,309.98 | 0.07 | 437,160.70 | 437,160.70 |
| 29444U700 | EQU NIX INC | 4,346.000 | 576.80 | 576.80 | 1,410,876.85 | 1,410,876 85 | 2,506,772.80 | 2,506,772.80 | 0.20 | 1,095,895.95 | 1,095,895.95 |
| 29476L107 | EQUITY RESIDENTIAL | 17,863.000 | 86.26 | 86.26 | 962,448.05 | 962,448 05 | 1,540,862.38 | 1,540,862.38 | 0.12 | 578,414.33 | 578,414.33 |
| 297178105 | ESSEX PROPERTY TRUST INC | 3,368.000 | 326.65 | 326.65 | 706,505.84 | 706,505 84 | 1,100,157.20 | 1,100,157.20 | 0.09 | 393,651.36 | 393,651.36 |
| 30034W106 | EVERGY INC | 12,066.000 | 66.56 | 66.56 | 646,359.84 | 646,359 84 | 803,112.96 | 803,112.96 | 0.06 | 156,753.12 | 156,753.12 |
| 30040W108 | EVERSOURCE ENERGY | 16,582.000 | 85.47 | 85.47 | 760,337.87 | 760,337 87 | 1,417,263.54 | 1,417,263.54 | 0.11 | 656,925.67 | 656,925.67 |
| 30161N101 | EXELON CORP | 49,786.000 | 48.31 | 48.31 | 1,855,977.47 | 1,855,977.47 | 2,405,161.66 | 2,405,161.66 | 0.19 | 549,184.19 | 549,184.19 |
| 30212P303 | EXPEDIA GROUP INC | 7,166.000 | 134.41 | 134.41 | 644,165.75 | 644,165.75 | 963,182.06 | 963,182.06 | 0.08 | 319,016.31 | 319,016.31 |
| 302130109 | EXPEDITORS INTERNATIONAL OF WA | 8,748.000 | 74.29 | 74.29 | 369,064.68 | 369,064 68 | 649,888.92 | 649,888.92 | 0.05 | 280,824.24 | 280,824.24 |
| 30225T102 | EXTRA SPACE STORAGE INC | 6,585.000 | 116.82 | 116.82 | 590,960.82 | 590,960 82 | 769,259.70 | 769,259.70 | 0.06 | 178,298.88 | 178,298.88 |
| 30231G102 | EXXON MOBIL CORP | 216,809.000 | 70.61 | 70.61 | 11,902,612.93 | 11,902,612 93 | 15,308,883.49 | 15,308,883.49 | 1.21 | 3,406,270.56 | 3,406,270.56 |
| 302445101 | FLIR SYSTEMS NC | 6,949.000 | 52.59 | 52.59 | 242,380.02 | 242,380 02 | 365,447.91 | 365,447.91 | 0.03 | 123,067.89 | 123,067.89 |
| 302491303 | FMC CORP | 6,684.000 | 87.68 | 87.68 | 293,369.37 | 293,369 37 | 586,053.12 | 586,053.12 | 0.05 | 292,683.75 | 292,683.75 |
| 30303M102 | FACEBOOK NC | 123,273.000 | 178.08 | 178.08 | 11,727,979.42 | 11,727,979.42 | 21,952,455.84 | 21,952,455.84 | 1.74 | 10,224,476.42 | 10,224,476.42 |
| 311900104 | FASTENAL CO | 29,383.000 | 32.67 | 32.67 | 542,199.66 | 542,199 66 | 959,942.61 | 959,942.61 | 0.08 | 417,742.95 | 417,742.95 |
| 313747206 | FEDERAL REALTY INVESTMENT TRUS | 3,572.000 | 136.14 | 136.14 | 520,639.04 | 520,639 04 | 486,292.08 | 486,292.08 | 0.04 | -34,346.96 | -34,346.96 |
| 31428X106 | FEDEX CORP | 12,298.000 | 145.57 | 145.57 | 1,278,397.01 | 1,278,397 01 | 1,790,219.86 | 1,790,219.86 | 0.14 | 511,822.85 | 511,822.85 |
| 315616102 | F5 NETWORKS NC | 3,081.000 | 140.42 | 140.42 | 345,603.38 | 345,603 38 | 432,634.02 | 432,634.02 | 0.03 | 87,030.64 | 87,030.64 |
| 31620M106 | F DELITY NATIONAL INFORMATION | 31,434.000 | 132.76 | 132.76 | 2,976,743.04 | 2,976,743 04 | 4,173,177.84 | 4,173,177.84 | 0.33 | 1,196,434.80 | 1,196,434.80 |
| 316773100 | F FTH THIRD BANCORP | 37,431.000 | 27.38 | 27.38 | 716,643.93 | 716,643 93 | 1,024,860.78 | 1,024,860.78 | 0.08 | 308,216.85 | 308,216.85 |
| 33616C100 | F RST REPUBLIC BANK/CA | 8,620.000 | 96.70 | 96.70 | 884,183.69 | 884,183 69 | 833,554.00 | 833,554.00 | 0.07 | -50,629.69 | -50,629.69 |
| 337738108 | FISERV INC | 29,249.000 | 103.59 | 103.59 | 1,679,931.83 | 1,679,931 83 | 3,029,903.91 | 3,029,903.91 | 0.24 | 1,349,972.08 | 1,349,972.08 |
| 337932107 | F RSTENERGY CORP | 27,670.000 | 48.23 | 48.23 | 1,072,728.63 | 1,072,728 63 | 1,334,524.10 | 1,334,524.10 | 0.11 | 261,795.47 | 261,795.47 |
| 339041105 | FLEETCOR TECHNOLOGIES INC | 4,436.000 | 286.78 | 286.78 | 1,008,611.37 | 1,008,611 37 | 1,272,156.08 | 1,272,156.08 | 0.10 | 263,544.71 | 263,544.71 |
| 34354P105 | FLOWSERVE CORP | 6,721.000 | 46.71 | 46.71 | 342,914.61 | 342,914 61 | 313,937.91 | 313,937.91 | 0.02 | -28,976.70 | -28,976.70 |
| 345370860 | FORD MOTOR CO | 200,815.000 | 9.16 | 9.16 | 1,802,092.48 | 1,802,092.48 | 1,839,465.40 | 1,839,465.40 | 0.15 | 37,372.92 | 37,372.92 |
| 34959E109 | FORTINET INC | 7,272.000 | 76.76 | 76.76 | 546,196.63 | 546,196 63 | 558,198.72 | 558,198.72 | 0.04 | 12,002.09 | 12,002.09 |
| 34959J108 | FORTIVE CORP | 15,130.000 | 68.56 | 68.56 | 531,120.13 | 531,120.13 | 1,037,312.80 | 1,037,312.80 | 0.08 | 506,192.67 | 506,192.67 |
| 34964C106 | FORTUNE BRANDS HOME & SECURITY | 7,168.000 | 54.70 | 54.70 | 444,014.15 | 444,014.15 | 392,089.60 | 392,089.60 | 0.03 | -51,924.55 | -51,924.55 |
| 354613101 | FRANKLIN RESOURCES INC | 14,453.000 | 28.86 | 28.86 | 459,105.71 | 459,105.71 | 417,113.58 | 417,113.58 | 0.03 | -41,992.13 | -41,992.13 |
| 35671D857 | FREEPORT-MCMORAN INC | 74,346.000 | 9.57 | 9.57 | 1,353,979.13 | 1,353,979.13 | 711,491.22 | 711,491.22 | 0.06 | -642,487.91 | -642,487.91 |
| 363576109 | ARTHUR J GALLAGHER & CO | 9,535.000 | 89.57 | 89.57 | 518,810.24 | 518,810 24 | 854,049.95 | 854,049.95 | 0.07 | 335,239.71 | 335,239.71 |
| 364760108 | GAP INC/THE | 10,976.000 | 17.36 | 17.36 | 242,481.26 | 242,481 26 | 190,543.36 | 190,543.36 | 0.02 | -51,937.90 | -51,937.90 |
| 366651107 | GARTNER NC | 4,619.000 | 142.99 | 142.99 | 582,020.13 | 582,020.13 | 660,470.81 | 660,470.81 | 0.05 | 78,450.68 | 78,450.68 |
| 369550108 | GENERAL DYNAMICS CORP | 11,989.000 | 182.73 | 182.73 | 1,060,948.71 | 1,060,948.71 | 2,190,749.97 | 2,190,749.97 | 0.17 | 1,129,801.26 | 1,129,801.26 |
| 369604103 | GENERAL ELECTRIC CO | 447,189.000 | 8.94 | 8.94 | 7,580,182.51 | 7,580,182 51 | 3,997,869.66 | 3,997,869.66 | 0.32 | -3,582,312.85 | -3,582,312.85 |
| 370334104 | GENERAL MILLS INC | 30,924.000 | 55.12 | 55.12 | 1,295,873.19 | 1,295,873.19 | 1,704,530.88 | 1,704,530.88 | 0.14 | 408,657.69 | 408,657.69 |
| 37045V100 | GENERAL MOTORS CO | 64,380.000 | 37.48 | 37.48 | 2,254,016.01 | 2,254,016 01 | 2,412,962.40 | 2,412,962.40 | 0.19 | 158,946.39 | 158,946.39 |
| 372460105 | GENUINE PARTS CO | 7,485.000 | 99.59 | 99.59 | 426,849.64 | 426,849 64 | 745,431.15 | 745,431.15 | 0.06 | 318,581.51 | 318,581.51 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 375558103 | G LEAD SC ENCES NC | 64,895.000 | 63.38 | 63.38 | 2,953,172.42 | 2,953,172.42 | 4,113,045.10 | 4,113,045.10 | 0.33 | 1,159,872.68 | 1,159,872.68 |
| 37940X102 | GLOBAL PAYMENTS INC | 15,374.629 | 159.00 | 159.00 | 1,223,305.59 | 1,223,305 59 | 2,444,566.01 | 2,444,566.01 | 0.19 | 1,221,260.42 | 1,221,260.42 |
| 37959E102 | GLOBE LIFE INC | 5,143.000 | 95.76 | 95.76 | 200,990.52 | 200,990 52 | 492,493.68 | 492,493.68 | 0.04 | 291,503.16 | 291,503.16 |
| 38141G104 | GOLDMAN SACHS GROUP INC/THE | 16,582.000 | 207.23 | 207.23 | 2,082,085.64 | 2,082,085 64 | 3,436,287.86 | 3,436,287.86 | 0.27 | 1,354,202.22 | 1,354,202.22 |
| 384802104 | WW GRA NGER INC | 2,265.000 | 297.15 | 297.15 | 408,351.34 | 408,351 34 | 673,044.75 | 673,044.75 | 0.05 | 264,693.41 | 264,693.41 |
| 40412C101 | HCA HEALTHCARE INC | 13,629.000 | 120.42 | 120.42 | 1,105,173.30 | 1,105,173 30 | 1,641,204.18 | 1,641,204.18 | 0.13 | 536,030.88 | 536,030.88 |
| 40414L109 | HEALTHPEAK PROPERT ES INC | 25,165.000 | 35.63 | 35.63 | 805,328.55 | 805,328 55 | 896,628.95 | 896,628.95 | 0.07 | 91,300.40 | 91,300.40 |
| 40434L105 | HP INC | 75,936.000 | 18.92 | 18.92 | 703,788.23 | 703,788 23 | 1,436,709.12 | 1,436,709.12 | 0.11 | 732,920.89 | 732,920.89 |
| 406216101 | HALL BURTON CO | 44,884.000 | 18.85 | 18.85 | 1,170,079.71 | 1,170,079.71 | 846,063.40 | 846,063.40 | 0.07 | -324,016.31 | -324,016.31 |
| 410345102 | HANESBRANDS INC | 18,526.000 | 15.32 | 15.32 | 551,807.78 | 551,807.78 | 283,818.32 | 283,818.32 | 0.02 | -267,989.46 | -267,989.46 |
| 412822108 | HARLEY-DAVIDSON NC | 8,031.000 | 35.97 | 35.97 | 226,219.20 | 226,219 20 | 288,875.07 | 288,875.07 | 0.02 | 62,655.87 | 62,655.87 |
| 416515104 | HARTFORD FINANCIAL SERVICES GR | 18,528.000 | 60.61 | 60.61 | 890,795.90 | 890,795 90 | 1,122,982.08 | 1,122,982.08 | 0.09 | 232,186.18 | 232,186.18 |
| 418056107 | HASBRO NC | 6,014.000 | 118.69 | 118.69 | 386,034.56 | 386,034 56 | 713,801.66 | 713,801.66 | 0.06 | 327,767.10 | 327,767.10 |
| 423452101 | HELMERICH & PAYNE INC | 5,608.000 | 40.07 | 40.07 | 238,158.48 | 238,158.48 | 224,712.56 | 224,712.56 | 0.02 | -13,445.92 | -13,445.92 |
| 426281101 | JACK HENRY & ASSOCIATES NC | 3,946.000 | 145.97 | 145.97 | 543,458.49 | 543,458.49 | 575,997.62 | 575,997.62 | 0.05 | 32,539.13 | 32,539.13 |
| 427866108 | HERSHEY CO/THE | 7,633.000 | 154.99 | 154.99 | 632,867.28 | 632,867 28 | 1,183,038.67 | 1,183,038.67 | 0.09 | 550,171.39 | 550,171.39 |
| 42809H107 | HESS CORP | 13,262.000 | 60.48 | 60.48 | 823,910.65 | 823,910 65 | 802,085.76 | 802,085.76 | 0.06 | -21,824.89 | -21,824.89 |
| 42824C109 | HEWLETT PACKARD ENTERPRISE CO | 66,901.000 | 15.17 | 15.17 | 419,024.01 | 419,024 01 | 1,014,888.17 | 1,014,888.17 | 0.08 | 595,864.16 | 595,864.16 |
| 43300A203 | HILTON WORLDWIDE HOLDINGS NC | 14,699.000 | 93.11 | 93.11 | 1,087,091.57 | 1,087,091 57 | 1,368,623.89 | 1,368,623.89 | 0.11 | 281,532.32 | 281,532.32 |
| 436106108 | HOLLYFRONTIER CORP | 7,759.000 | 53.64 | 53.64 | 531,781.88 | 531,781 88 | 416,192.76 | 416,192.76 | 0.03 | -115,589.12 | -115,589.12 |
| 436440101 | HOLOGIC INC | 13,697.000 | 50.49 | 50.49 | 538,437.20 | 538,437 20 | 691,561.53 | 691,561.53 | 0.05 | 153,124.33 | 153,124.33 |
| 437076102 | HOME DEPOT NC/THE | 56,117.000 | 232.02 | 232.02 | 4,450,031.07 | 4,450,031 07 | 13,020,266.34 | 13,020,266.34 | 1.03 | 8,570,235.27 | 8,570,235.27 |
| 438516106 | HONEYWELL INTERNATIONAL INC | 36,869.000 | 169.20 | 169.20 | 2,745,351.01 | 2,745,351 01 | 6,238,234.80 | 6,238,234.80 | 0.49 | 3,492,883.79 | 3,492,883.79 |
| 440452100 | HORMEL FOODS CORP | 14,228.000 | 43.73 | 43.73 | 410,508.65 | 410,508 65 | 622,190.44 | 622,190.44 | 0.05 | 211,681.79 | 211,681.79 |
| 44107P104 | HOST HOTELS & RESORTS NC | 37,401.000 | 17.29 | 17.29 | 659,551.57 | 659,551 57 | 646,663.29 | 646,663.29 | 0.05 | -12,888.28 | -12,888.28 |
| 444859102 | HUMANA INC | 6,922.000 | 255.67 | 255.67 | 776,271.07 | 776,271 07 | 1,769,747.74 | 1,769,747.74 | 0.14 | 993,476.67 | 993,476.67 |
| 445658107 | JB HUNT TRANSPORT SERVICES INC | 4,377.000 | 110.65 | 110.65 | 366,428.34 | 366,428 34 | 484,315.05 | 484,315.05 | 0.04 | 117,886.71 | 117,886.71 |
| 446150104 | HUNTINGTON BANCSHARES INC/OH | 53,181.000 | 14.27 | 14.27 | 882,547.35 | 882,547 35 | 758,892.87 | 758,892.87 | 0.06 | -123,654.48 | -123,654.48 |
| 446413106 | HUNTINGTON INGALLS INDUSTR ES | 2,118.000 | 211.79 | 211.79 | 541,846.75 | 541,846.75 | 448,571.22 | 448,571.22 | 0.04 | -93,275.53 | -93,275.53 |
| 44980X109 | IPG PHOTONICS CORP | 1,826.000 | 135.60 | 135.60 | 421,265.44 | 421,265.44 | 247,605.60 | 247,605.60 | 0.02 | -173,659.84 | -173,659.84 |
| 45167R104 | IDEX CORP | 3,887.000 | 163.88 | 163.88 | 629,058.54 | 629,058 54 | 637,001.56 | 637,001.56 | 0.05 | 7,943.02 | 7,943.02 |
| 45168D104 | IDEXX LABORATORIES INC | 4,411.000 | 271.93 | 271.93 | 749,760.08 | 749,760 08 | 1,199,483.23 | 1,199,483.23 | 0.10 | 449,723.15 | 449,723.15 |
| 452308109 | ILLINOIS TOOL WORKS INC | 15,084.000 | 156.49 | 156.49 | 1,019,397.99 | 1,019,397 99 | 2,360,495.16 | 2,360,495.16 | 0.19 | 1,341,097.17 | 1,341,097.17 |
| 452327109 | ILLUMINA INC | 7,533.000 | 304.22 | 304.22 | 1,515,966.46 | 1,515,966.46 | 2,291,689.26 | 2,291,689.26 | 0.18 | 775,722.80 | 775,722.80 |
| 45337C102 | INCYTE CORP | 9,147.000 | 74.23 | 74.23 | 1,221,687.81 | 1,221,687 81 | 678,981.81 | 678,981.81 | 0.05 | -542,706.00 | -542,706.00 |
| 458140100 | INTEL CORP | 227,000.000 | 51.53 | 51.53 | 5,059,571.10 | 5,059,571.10 | 11,697,310.00 | 11,697,310.00 | 0.93 | 6,637,738.90 | 6,637,738.90 |
| 45866F104 | INTERCONT NENTAL EXCHANGE NC | 28,717.000 | 92.27 | 92.27 | 1,258,852.36 | 1,258,852 36 | 2,649,717.59 | 2,649,717.59 | 0.21 | 1,390,865.23 | 1,390,865.23 |
| 459200101 | INTERNATIONAL BUS NESS MACH NE | 45,394.000 | 145.42 | 145.42 | 4,410,964.29 | 4,410,964 29 | 6,601,195.48 | 6,601,195.48 | 0.52 | 2,190,231.19 | 2,190,231.19 |
| 459506101 | INTERNATIONAL FLAVORS & FRAGRA | 5,471.000 | 122.69 | 122.69 | 477,109.43 | 477,109.43 | 671,236.99 | 671,236.99 | 0.05 | 194,127.56 | 194,127.56 |
| 460146103 | INTERNATIONAL PAPER CO | 20,130.000 | 41.82 | 41.82 | 642,114.80 | 642,114 80 | 841,836.60 | 841,836.60 | 0.07 | 199,721.80 | 199,721.80 |
| 460690100 | INTERPUBLIC GROUP OF COS INC/T | 19,842.000 | 21.56 | 21.56 | 367,137.89 | 367,137 89 | 427,793.52 | 427,793.52 | 0.03 | 60,655.63 | 60,655.63 |
| 461202103 | INTUIT NC | 13,327.000 | 265.94 | 265.94 | 1,431,616.03 | 1,431,616 03 | 3,544,182.38 | 3,544,182.38 | 0.28 | 2,112,566.35 | 2,112,566.35 |
| 46120E602 | INTUITIVE SURGICAL NC | 5,906.000 | 539.93 | 539.93 | 1,299,425.69 | 1,299,425 69 | 3,188,826.58 | 3,188,826.58 | 0.25 | 1,889,400.89 | 1,889,400.89 |
| 46266C105 | IQVIA HOLDINGS INC | 9,335.000 | 149.38 | 149.38 | 1,060,955.53 | 1,060,955 53 | 1,394,462.30 | 1,394,462.30 | 0.11 | 333,506.77 | 333,506.77 |

BNY MELLON

# Asset Detail

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Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 46284V101 | IRON MOUNTAIN INC | 14,712.000 | 32.39 | 32.39 | 476,780.33 | 476,780 33 | 476,521.68 | 476,521.68 | 0.04 | -258.65 | -258.65 |
| 46625H100 | JPMORGAN CHASE & CO | 163,844.000 | 117.69 | 117.69 | 7,566,182.33 | 7,566,182 33 | 19,282,800.36 | 19,282,800.36 | 1.53 | 11,716,618.03 | 11,716,618.03 |
| 469814107 | JACOBS ENGINEER NG GROUP INC | 6,943.000 | 91.50 | 91.50 | 379,617.75 | 379,617.75 | 635,284.50 | 635,284.50 | 0.05 | 255,666.75 | 255,666.75 |
| 47233W109 | JEFFERIES FINANCIAL GROUP INC | 12,913.000 | 18.40 | 18.40 | 316,220.77 | 316,220.77 | 237,599.20 | 237,599.20 | 0.02 | -78,621.57 | -78,621.57 |
| 478160104 | JOHNSON & JOHNSON | 135,235.000 | 129.38 | 129.38 | 10,051,565.96 | 10,051,565 96 | 17,496,704.30 | 17,496,704.30 | 1.39 | 7,445,138.34 | 7,445,138.34 |
| 48203R104 | JUNIPER NETWORKS INC | 17,720.000 | 24.75 | 24.75 | 376,333.26 | 376,333 26 | 438,570.00 | 438,570.00 | 0.03 | 62,236.74 | 62,236.74 |
| 482480100 | KLA CORP | 8,161.000 | 159.45 | 159.45 | 585,739.29 | 585,739 29 | 1,301,271.45 | 1,301,271.45 | 0.10 | 715,532.16 | 715,532.16 |
| 485170302 | KANSAS CITY SOUTHERN | 5,154.000 | 133.01 | 133.01 | 538,879.63 | 538,879 63 | 685,533.54 | 685,533.54 | 0.05 | 146,653.91 | 146,653.91 |
| 487836108 | KELLOGG CO | 12,742.000 | 64.35 | 64.35 | 699,837.88 | 699,837 88 | 819,947.70 | 819,947.70 | 0.06 | 120,109.82 | 120,109.82 |
| 493267108 | KEYCORP | 51,409.000 | 17.84 | 17.84 | 618,697.32 | 618,697 32 | 917,136.56 | 917,136.56 | 0.07 | 298,439.24 | 298,439.24 |
| 49338L103 | KEYSIGHT TECHNOLOGIES NC | 9,612.000 | 97.25 | 97.25 | 602,571.94 | 602,571 94 | 934,767.00 | 934,767.00 | 0.07 | 332,195.06 | 332,195.06 |
| 494368103 | KIMBERLY-CLARK CORP | 17,637.000 | 142.05 | 142.05 | 1,225,353.62 | 1,225,353 62 | 2,505,335.85 | 2,505,335.85 | 0.20 | 1,279,982.23 | 1,279,982.23 |
| 49446R109 | KIMCO REALTY CORP | 21,629.000 | 20.88 | 20.88 | 717,877.37 | 717,877 37 | 451,613.52 | 451,613.52 | 0.04 | -266,263.85 | -266,263.85 |
| 49456B101 | KINDER MORGAN NC/DE | 99,761.000 | 20.61 | 20.61 | 2,825,502.47 | 2,825,502.47 | 2,056,074.21 | 2,056,074.21 | 0.16 | -769,428.26 | -769,428.26 |
| 500255104 | KOHL'S CORP | 8,154.000 | 49.66 | 49.66 | 426,713.48 | 426,713.48 | 404,927.64 | 404,927.64 | 0.03 | -21,785.84 | -21,785.84 |
| 500754106 | KRAFT HEINZ CO/THE | 31,882.000 | 27.93 | 27.93 | 1,915,786.14 | 1,915,786.14 | 890,623.67 | 890,623.67 | 0.07 | -1,025,162.47 | -1,025,162.47 |
| 501044101 | KROGER CO/THE | 40,932.000 | 25.78 | 25.78 | 836,676.17 | 836,676.17 | 1,055,226.96 | 1,055,226.96 | 0.08 | 218,550.79 | 218,550.79 |
| 501797104 | L BRANDS INC | 11,897.000 | 19.59 | 19.59 | 532,769.69 | 532,769 69 | 233,062.23 | 233,062.23 | 0.02 | -299,707.46 | -299,707.46 |
| 501889208 | LKQ CORP | 15,793.000 | 31.45 | 31.45 | 503,110.07 | 503,110 07 | 496,689.85 | 496,689.85 | 0.04 | -6,420.22 | -6,420.22 |
| 50540R409 | LABORATORY CORP OF AMERICA HOL | 5,006.000 | 168.00 | 168.00 | 474,967.40 | 474,967.40 | 841,008.00 | 841,008.00 | 0.07 | 366,040.60 | 366,040.60 |
| 512807108 | LAM RESEARCH CORP | 7,406.000 | 231.11 | 231.11 | 544,334.94 | 544,334 94 | 1,711,600.66 | 1,711,600.66 | 0.14 | 1,167,265.72 | 1,167,265.72 |
| 513272104 | LAMB WESTON HOLDINGS INC | 7,465.000 | 72.72 | 72.72 | 543,395.90 | 543,395 90 | 542,854.80 | 542,854.80 | 0.04 | -541.10 | -541.10 |
| 518439104 | ESTEE LAUDER COS NC/THE | 11,336.000 | 198.95 | 198.95 | 943,671.96 | 943,671 96 | 2,255,297.20 | 2,255,297.20 | 0.18 | 1,311,625.24 | 1,311,625.24 |
| 524660107 | LEGGETT & PLATT INC | 6,737.000 | 40.94 | 40.94 | 176,672.93 | 176,672 93 | 275,812.78 | 275,812.78 | 0.02 | 99,139.85 | 99,139.85 |
| 525327102 | LEIDOS HOLDINGS INC | 6,927.000 | 85.88 | 85.88 | 575,011.23 | 575,011 23 | 594,890.76 | 594,890.76 | 0.05 | 19,879.53 | 19,879.53 |
| 526057104 | LENNAR CORP | 14,573.000 | 55.85 | 55.85 | 723,198.60 | 723,198 60 | 813,902.05 | 813,902.05 | 0.06 | 90,703.45 | 90,703.45 |
| 532457108 | ELI L LLY & CO | 43,534.000 | 111.83 | 111.83 | 2,634,591.74 | 2,634,591.74 | 4,868,407.22 | 4,868,407.22 | 0.39 | 2,233,815.48 | 2,233,815.48 |
| 534187109 | LINCOLN NATIONAL CORP | 10,258.000 | 60.32 | 60.32 | 604,416.47 | 604,416.47 | 618,762.56 | 618,762.56 | 0.05 | 14,346.09 | 14,346.09 |
| 539830109 | LOCKHEED MARTIN CORP | 12,734.000 | 390.06 | 390.06 | 2,106,955.19 | 2,106,955.19 | 4,967,024.04 | 4,967,024.04 | 0.39 | 2,860,068.85 | 2,860,068.85 |
| 540424108 | LOEWS CORP | 13,325.000 | 51.48 | 51.48 | 549,301.30 | 549,301 30 | 685,971.00 | 685,971.00 | 0.05 | 136,669.70 | 136,669.70 |
| 548661107 | LOWE'S COS NC | 39,548.000 | 109.96 | 109.96 | 1,843,853.12 | 1,843,853.12 | 4,348,698.08 | 4,348,698.08 | 0.34 | 2,504,844.96 | 2,504,844.96 |
| 55261F104 | M&T BANK CORP | 6,849.000 | 157.97 | 157.97 | 745,602.57 | 745,602 57 | 1,081,936.53 | 1,081,936.53 | 0.09 | 336,333.96 | 336,333.96 |
| 552953101 | MGM RESORTS NTERNATIONAL | 26,719.000 | 27.72 | 27.72 | 841,324.07 | 841,324 07 | 740,650.68 | 740,650.68 | 0.06 | -100,673.39 | -100,673.39 |
| 55354G100 | MSCI INC | 4,340.000 | 217.75 | 217.75 | 736,555.39 | 736,555 39 | 945,035.00 | 945,035.00 | 0.07 | 208,479.61 | 208,479.61 |
| 554382101 | MACERICH CO/THE | 5,646.000 | 31.59 | 31.59 | 367,802.45 | 367,802.45 | 178,357.14 | 178,357.14 | 0.01 | -189,445.31 | -189,445.31 |
| 55616P104 | MACY'S INC | 15,829.000 | 15.54 | 15.54 | 435,796.15 | 435,796.15 | 245,982.66 | 245,982.66 | 0.02 | -189,813.49 | -189,813.49 |
| 565849106 | MARATHON OIL CORP | 41,200.000 | 12.27 | 12.27 | 804,659.11 | 804,659.11 | 505,524.00 | 505,524.00 | 0.04 | -299,135.11 | -299,135.11 |
| 56585A102 | MARATHON PETROLEUM CORP | 33,733.000 | 60.75 | 60.75 | 1,099,462.51 | 1,099,462 51 | 2,049,279.75 | 2,049,279.75 | 0.16 | 949,817.24 | 949,817.24 |
| 57060D108 | MARKETAXESS HOLD NGS INC | 1,935.000 | 327.50 | 327.50 | 654,619.29 | 654,619 29 | 633,712.50 | 633,712.50 | 0.05 | -20,906.79 | -20,906.79 |
| 571748102 | MARSH & MCLENNAN COS INC | 25,944.000 | 100.05 | 100.05 | 1,233,188.92 | 1,233,188 92 | 2,595,697.20 | 2,595,697.20 | 0.21 | 1,362,508.28 | 1,362,508.28 |
| 571903202 | MARRIOTT NTERNATIONAL INC/MD | 14,008.000 | 124.37 | 124.37 | 903,168.95 | 903,168 95 | 1,742,174.96 | 1,742,174.96 | 0.14 | 839,006.01 | 839,006.01 |
| 573284106 | MART N MAR ETTA MATERIALS NC | 3,200.000 | 274.10 | 274.10 | 485,718.98 | 485,718 98 | 877,120.00 | 877,120.00 | 0.07 | 391,401.02 | 391,401.02 |
| 574599106 | MASCO CORP | 14,832.000 | 41.68 | 41.68 | 272,365.87 | 272,365 87 | 618,197.76 | 618,197.76 | 0.05 | 345,831.89 | 345,831.89 |
| 57636Q104 | MASTERCARD INC | 45,747.000 | 271.57 | 271.57 | 3,750,868.74 | 3,750,868.74 | 12,423,512.79 | 12,423,512.79 | 0.98 | 8,672,644.05 | 8,672,644.05 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 57772K101 | MAX M INTEGRATED PRODUCTS INC | 13,900.000 | 57.91 | 57.91 | 690,389.24 | 690,389 24 | 804,949.00 | 804,949.00 | 0.06 | 114,559.76 | 114,559.76 |
| 579780206 | MCCORMICK & CO INC/MD | 6,305.000 | 156.30 | 156.30 | 426,052.89 | 426,052 89 | 985,471.50 | 985,471.50 | 0.08 | 559,418.61 | 559,418.61 |
| 580135101 | MCDONALD'S CORP | 38,915.000 | 214.71 | 214.71 | 2,938,682.32 | 2,938,682 32 | 8,355,439.65 | 8,355,439.65 | 0.66 | 5,416,757.33 | 5,416,757.33 |
| 58155Q103 | MCKESSON CORP | 9,475.000 | 136.66 | 136.66 | 968,263.19 | 968,263.19 | 1,294,853.50 | 1,294,853.50 | 0.10 | 326,590.31 | 326,590.31 |
| 58933Y105 | MERCK & CO INC | 131,198.000 | 84.18 | 84.18 | 5,193,055.36 | 5,193,055 36 | 11,044,247.64 | 11,044,247.64 | 0.88 | 5,851,192.28 | 5,851,192.28 |
| 59156R108 | METL FE NC | 40,787.000 | 47.16 | 47.16 | 1,527,473.20 | 1,527,473 20 | 1,923,514.92 | 1,923,514.92 | 0.15 | 396,041.72 | 396,041.72 |
| 592688105 | METTLER-TOLEDO INTERNATIONAL I | 1,261.000 | 704.40 | 704.40 | 565,395.28 | 565,395 28 | 888,248.40 | 888,248.40 | 0.07 | 322,853.12 | 322,853.12 |
| 594918104 | MICROSOFT CORP | 391,251.000 | 139.03 | 139.03 | 17,580,268.57 | 17,580,268 57 | 54,395,626.53 | 54,395,626.53 | 4.31 | 36,815,357.96 | 36,815,357.96 |
| 595017104 | MICROCHIP TECHNOLOGY INC | 12,198.000 | 92.91 | 92.91 | 621,876.08 | 621,876 08 | 1,133,316.18 | 1,133,316.18 | 0.09 | 511,440.10 | 511,440.10 |
| 595112103 | MICRON TECHNOLOGY INC | 56,561.000 | 42.85 | 42.85 | 1,059,126.98 | 1,059,126 98 | 2,423,638.85 | 2,423,638.85 | 0.19 | 1,364,511.87 | 1,364,511.87 |
| 59522J103 | MID-AMERICA APARTMENT COMMUNIT | 5,844.000 | 130.01 | 130.01 | 545,509.64 | 545,509 64 | 759,778.44 | 759,778.44 | 0.06 | 214,268.80 | 214,268.80 |
| 608190104 | MOHAWK INDUSTR ES NC | 3,069.000 | 124.07 | 124.07 | 469,987.08 | 469,987 08 | 380,770.83 | 380,770.83 | 0.03 | -89,216.25 | -89,216.25 |
| 60871R209 | MOLSON COORS BREW NG CO | 9,626.000 | 57.50 | 57.50 | 607,929.76 | 607,929.76 | 553,495.00 | 553,495.00 | 0.04 | -54,434.76 | -54,434.76 |
| 609207105 | MONDELEZ NTERNATIONAL INC | 73,898.000 | 55.32 | 55.32 | 2,234,682.48 | 2,234,682.48 | 4,088,037.36 | 4,088,037.36 | 0.32 | 1,853,354.88 | 1,853,354.88 |
| 61174X109 | MONSTER BEVERAGE CORP | 19,824.000 | 58.06 | 58.06 | 788,933.47 | 788,933.47 | 1,150,981.44 | 1,150,981.44 | 0.09 | 362,047.97 | 362,047.97 |
| 615369105 | MOODY'S CORP | 8,338.000 | 204.83 | 204.83 | 679,398.26 | 679,398 26 | 1,707,872.54 | 1,707,872.54 | 0.14 | 1,028,474.28 | 1,028,474.28 |
| 617446448 | MORGAN STANLEY | 64,365.000 | 42.67 | 42.67 | 1,799,396.63 | 1,799,396 63 | 2,746,454.55 | 2,746,454.55 | 0.22 | 947,057.92 | 947,057.92 |
| 61945C103 | MOSAIC CO/THE | 18,191.000 | 20.50 | 20.50 | 758,862.50 | 758,862 50 | 372,915.50 | 372,915.50 | 0.03 | -385,947.00 | -385,947.00 |
| 620076307 | MOTOROLA SOLUTIONS NC | 8,483.000 | 170.41 | 170.41 | 570,435.03 | 570,435 03 | 1,445,588.03 | 1,445,588.03 | 0.11 | 875,153.00 | 875,153.00 |
| 629377508 | NRG ENERGY NC | 12,964.000 | 39.60 | 39.60 | 297,584.10 | 297,584.10 | 513,374.40 | 513,374.40 | 0.04 | 215,790.30 | 215,790.30 |
| 631103108 | NASDAQ NC | 5,907.000 | 99.35 | 99.35 | 313,954.83 | 313,954 83 | 586,860.45 | 586,860.45 | 0.05 | 272,905.62 | 272,905.62 |
| 637071101 | NATIONAL OILWELL VARCO NC | 19,774.000 | 21.20 | 21.20 | 728,110.37 | 728,110 37 | 419,208.80 | 419,208.80 | 0.03 | -308,901.57 | -308,901.57 |
| 640268108 | NEKTAR THERAPEUTICS | 8,981.000 | 18.21 | 18.21 | 790,393.03 | 790,393 03 | 163,588.92 | 163,588.92 | 0.01 | -626,804.11 | -626,804.11 |
| 64110D104 | NETAPP INC | 12,191.000 | 52.51 | 52.51 | 541,435.84 | 541,435 84 | 640,149.41 | 640,149.41 | 0.05 | 98,713.57 | 98,713.57 |
| 64110L106 | NETFLIX INC | 22,435.000 | 267.62 | 267.62 | 2,327,289.26 | 2,327,289 26 | 6,004,054.70 | 6,004,054.70 | 0.48 | 3,676,765.44 | 3,676,765.44 |
| 651229106 | NEWELL BRANDS NC | 19,526.000 | 18.72 | 18.72 | 612,431.56 | 612,431 56 | 365,526.72 | 365,526.72 | 0.03 | -246,904.84 | -246,904.84 |
| 651639106 | NEWMONT GOLDCORP CORP | 42,013.000 | 37.92 | 37.92 | 1,317,394.00 | 1,317,394 00 | 1,593,132.96 | 1,593,132.96 | 0.13 | 275,738.96 | 275,738.96 |
| 65249B109 | NEWS CORP | 19,761.000 | 13.92 | 13.92 | 232,732.80 | 232,732 80 | 275,073.12 | 275,073.12 | 0.02 | 42,340.32 | 42,340.32 |
| 65249B208 | NEWS CORP | 6,240.000 | 14.29 | 14.29 | 87,569.34 | 87,569 34 | 89,200.80 | 89,200.80 | 0.01 | 1,631.46 | 1,631.46 |
| 65339F101 | NEXTERA ENERGY NC | 25,044.000 | 232.99 | 232.99 | 2,224,907.57 | 2,224,907 57 | 5,835,001.56 | 5,835,001.56 | 0.46 | 3,610,093.99 | 3,610,093.99 |
| 654106103 | NIKE INC | 64,148.000 | 93.92 | 93.92 | 2,068,613.56 | 2,068,613 56 | 6,024,780.16 | 6,024,780.16 | 0.48 | 3,956,166.60 | 3,956,166.60 |
| 65473P105 | NISOURCE INC | 19,131.000 | 29.92 | 29.92 | 329,882.51 | 329,882 51 | 572,399.52 | 572,399.52 | 0.05 | 242,517.01 | 242,517.01 |
| 655044105 | NOBLE ENERGY NC | 24,506.000 | 22.46 | 22.46 | 795,242.36 | 795,242 36 | 550,404.76 | 550,404.76 | 0.04 | -244,837.60 | -244,837.60 |
| 655664100 | NORDSTROM NC | 5,477.000 | 33.67 | 33.67 | 247,915.19 | 247,915.19 | 184,410.59 | 184,410.59 | 0.01 | -63,504.60 | -63,504.60 |
| 655844108 | NORFOLK SOUTHERN CORP | 13,497.000 | 179.66 | 179.66 | 912,981.02 | 912,981 02 | 2,424,871.02 | 2,424,871.02 | 0.19 | 1,511,890.00 | 1,511,890.00 |
| 665859104 | NORTHERN TRUST CORP | 11,011.000 | 93.32 | 93.32 | 742,525.20 | 742,525 20 | 1,027,546.52 | 1,027,546.52 | 0.08 | 285,021.32 | 285,021.32 |
| 666807102 | NORTHROP GRUMMAN CORP | 8,063.000 | 374.79 | 374.79 | 1,026,950.93 | 1,026,950 93 | 3,021,931.77 | 3,021,931.77 | 0.24 | 1,994,980.84 | 1,994,980.84 |
| 670346105 | NUCOR CORP | 15,534.000 | 50.91 | 50.91 | 684,487.05 | 684,487 05 | 790,835.94 | 790,835.94 | 0.06 | 106,348.89 | 106,348.89 |
| 67066G104 | NVIDIA CORP | 31,206.000 | 174.07 | 174.07 | 1,632,735.94 | 1,632,735 94 | 5,432,028.42 | 5,432,028.42 | 0.43 | 3,799,292.48 | 3,799,292.48 |
| 67103H107 | O'REILLY AUTOMOTIVE INC | 3,921.000 | 398.51 | 398.51 | 547,150.23 | 547,150 23 | 1,562,557.71 | 1,562,557.71 | 0.12 | 1,015,407.48 | 1,015,407.48 |
| 674599105 | OCCIDENTAL PETROLEUM CORP | 45,835.000 | 44.47 | 44.47 | 2,093,916.97 | 2,093,916 97 | 2,038,282.45 | 2,038,282.45 | 0.16 | -55,634.52 | -55,634.52 |
| 681919106 | OMNICOM GROUP NC | 11,146.000 | 78.30 | 78.30 | 549,619.29 | 549,619 29 | 872,731.80 | 872,731.80 | 0.07 | 323,112.51 | 323,112.51 |
| 682680103 | ONEOK INC | 21,161.000 | 73.69 | 73.69 | 881,219.60 | 881,219 60 | 1,559,354.09 | 1,559,354.09 | 0.12 | 678,134.49 | 678,134.49 |
| 68389X105 | ORACLE CORP | 112,816.000 | 55.03 | 55.03 | 2,992,397.43 | 2,992,397.43 | 6,208,264.48 | 6,208,264.48 | 0.49 | 3,215,867.05 | 3,215,867.05 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 693475105 | PNC F NANCIAL SERVICES GROUP I | 22,816.000 | 140.16 | 140.16 | 2,629,075.34 | 2,629,075 34 | 3,197,890.56 | 3,197,890.56 | 0.25 | 568,815.22 | 568,815.22 |
| 693506107 | PPG INDUSTR ES INC | 12,108.000 | 118.51 | 118.51 | 736,080.71 | 736,080.71 | 1,434,919.08 | 1,434,919.08 | 0.11 | 698,838.37 | 698,838.37 |
| 69351T106 | PPL CORP | 37,009.000 | 31.49 | 31.49 | 1,100,615.70 | 1,100,615.70 | 1,165,413.41 | 1,165,413.41 | 0.09 | 64,797.71 | 64,797.71 |
| 693656100 | PVH CORP | 3,799.000 | 88.23 | 88.23 | 407,755.67 | 407,755 67 | 335,185.77 | 335,185.77 | 0.03 | -72,569.90 | -72,569.90 |
| 693718108 | PACCAR INC | 17,749.000 | 70.01 | 70.01 | 526,836.72 | 526,836.72 | 1,242,607.49 | 1,242,607.49 | 0.10 | 715,770.77 | 715,770.77 |
| 695156109 | PACKAG NG CORP OF AMERICA | 4,851.000 | 106.10 | 106.10 | 552,297.02 | 552,297 02 | 514,691.10 | 514,691.10 | 0.04 | -37,605.92 | -37,605.92 |
| 701094104 | PARKER-HANNIF N CORP | 6,582.000 | 180.61 | 180.61 | 529,311.53 | 529,311 53 | 1,188,775.02 | 1,188,775.02 | 0.09 | 659,463.49 | 659,463.49 |
| 704326107 | PAYCHEX INC | 16,388.000 | 82.77 | 82.77 | 743,953.84 | 743,953 84 | 1,356,434.76 | 1,356,434.76 | 0.11 | 612,480.92 | 612,480.92 |
| 70450Y103 | PAYPAL HOLDINGS NC | 60,295.000 | 103.59 | 103.59 | 2,431,874.72 | 2,431,874.72 | 6,245,959.05 | 6,245,959.05 | 0.49 | 3,814,084.33 | 3,814,084.33 |
| 712704105 | PEOPLE'S UNITED FINANCIAL INC | 20,433.000 | 15.63 | 15.63 | 332,406.34 | 332,406 34 | 319,469.96 | 319,469.96 | 0.03 | -12,936.38 | -12,936.38 |
| 713448108 | PEPSICO INC | 71,644.000 | 137.10 | 137.10 | 4,594,728.36 | 4,594,728 36 | 9,822,392.40 | 9,822,392.40 | 0.78 | 5,227,664.04 | 5,227,664.04 |
| 714046109 | PERKINELMER INC | 5,692.000 | 85.17 | 85.17 | 259,103.24 | 259,103 24 | 484,787.64 | 484,787.64 | 0.04 | 225,684.40 | 225,684.40 |
| 717081103 | PFIZER NC | 283,420.000 | 35.93 | 35.93 | 6,458,282.12 | 6,458,282.12 | 10,183,280.60 | 10,183,280.60 | 0.81 | 3,724,998.48 | 3,724,998.48 |
| 718172109 | PHILIP MORRIS INTERNATIONAL IN | 79,724.000 | 75.93 | 75.93 | 3,946,792.44 | 3,946,792.44 | 6,053,443.32 | 6,053,443.32 | 0.48 | 2,106,650.88 | 2,106,650.88 |
| 718546104 | PHILLIPS 66 | 22,984.000 | 102.40 | 102.40 | 1,261,672.88 | 1,261,672 88 | 2,353,561.60 | 2,353,561.60 | 0.19 | 1,091,888.72 | 1,091,888.72 |
| 723484101 | PINNACLE WEST CAPITAL CORP | 5,755.000 | 97.07 | 97.07 | 336,876.92 | 336,876 92 | 558,637.85 | 558,637.85 | 0.04 | 221,760.93 | 221,760.93 |
| 723787107 | PIONEER NATURAL RESOURCES CO | 8,565.000 | 125.77 | 125.77 | 984,080.47 | 984,080.47 | 1,077,220.05 | 1,077,220.05 | 0.09 | 93,139.58 | 93,139.58 |
| 74144T108 | T ROWE PRICE GROUP NC | 12,071.000 | 114.25 | 114.25 | 850,684.67 | 850,684 67 | 1,379,111.75 | 1,379,111.75 | 0.11 | 528,427.08 | 528,427.08 |
| 74251V102 | PRINCIPAL F NANCIAL GROUP INC | 13,286.000 | 57.14 | 57.14 | 511,272.48 | 511,272.48 | 759,162.04 | 759,162.04 | 0.06 | 247,889.56 | 247,889.56 |
| 742718109 | PROCTER & GAMBLE CO/THE | 128,239.000 | 124.38 | 124.38 | 7,247,608.29 | 7,247,608 29 | 15,950,366.82 | 15,950,366.82 | 1.26 | 8,702,758.53 | 8,702,758.53 |
| 743315103 | PROGRESSIVE CORP/THE | 29,958.000 | 77.25 | 77.25 | 897,609.82 | 897,609 82 | 2,314,255.50 | 2,314,255.50 | 0.18 | 1,416,645.68 | 1,416,645.68 |
| 74340W103 | PROLOGIS NC | 32,340.000 | 85.22 | 85.22 | 1,449,716.33 | 1,449,716 33 | 2,756,014.80 | 2,756,014.80 | 0.22 | 1,306,298.47 | 1,306,298.47 |
| 744320102 | PRUDENTIAL FINANCIAL INC | 20,599.000 | 89.95 | 89.95 | 1,396,563.78 | 1,396,563.78 | 1,852,880.05 | 1,852,880.05 | 0.15 | 456,316.27 | 456,316.27 |
| 744573106 | PUBLIC SERVICE ENTERPRISE GROU | 25,910.000 | 62.08 | 62.08 | 773,996.00 | 773,996 00 | 1,608,492.80 | 1,608,492.80 | 0.13 | 834,496.80 | 834,496.80 |
| 74460D109 | PUBLIC STORAGE | 7,694.000 | 245.27 | 245.27 | 1,315,049.22 | 1,315,049 22 | 1,887,107.38 | 1,887,107.38 | 0.15 | 572,058.16 | 572,058.16 |
| 745867101 | PULTEGROUP NC | 13,208.000 | 36.55 | 36.55 | 425,060.12 | 425,060.12 | 482,752.40 | 482,752.40 | 0.04 | 57,692.28 | 57,692.28 |
| 74736K101 | QORVO NC | 6,035.000 | 74.14 | 74.14 | 439,494.20 | 439,494 20 | 447,434.90 | 447,434.90 | 0.04 | 7,940.70 | 7,940.70 |
| 747525103 | QUALCOMM NC | 62,292.000 | 76.28 | 76.28 | 2,927,617.20 | 2,927,617 20 | 4,751,633.76 | 4,751,633.76 | 0.38 | 1,824,016.56 | 1,824,016.56 |
| 74762E102 | QUANTA SERVICES INC | 7,286.000 | 37.80 | 37.80 | 176,446.84 | 176,446 84 | 275,410.80 | 275,410.80 | 0.02 | 98,963.96 | 98,963.96 |
| 74834L100 | QUEST DIAGNOSTICS NC | 6,901.000 | 107.03 | 107.03 | 469,018.28 | 469,018 28 | 738,614.03 | 738,614.03 | 0.06 | 269,595.75 | 269,595.75 |
| 751212101 | RALPH LAUREN CORP | 2,656.000 | 95.47 | 95.47 | 324,111.46 | 324,111.46 | 253,568.32 | 253,568.32 | 0.02 | -70,543.14 | -70,543.14 |
| 754730109 | RAYMOND JAMES FINANCIAL INC | 6,332.000 | 82.46 | 82.46 | 501,412.17 | 501,412.17 | 522,136.72 | 522,136.72 | 0.04 | 20,724.55 | 20,724.55 |
| 755111507 | RAYTHEON CO | 14,270.000 | 196.19 | 196.19 | 1,228,999.22 | 1,228,999 22 | 2,799,631.30 | 2,799,631.30 | 0.22 | 1,570,632.08 | 1,570,632.08 |
| 756109104 | REALTY NCOME CORP | 16,307.000 | 76.68 | 76.68 | 903,972.74 | 903,972.74 | 1,250,420.76 | 1,250,420.76 | 0.10 | 346,448.02 | 346,448.02 |
| 758849103 | REGENCY CENTERS CORP | 8,586.000 | 69.49 | 69.49 | 572,378.42 | 572,378.42 | 596,641.14 | 596,641.14 | 0.05 | 24,262.72 | 24,262.72 |
| 75886F107 | REGENERON PHARMACEUTICALS NC | 4,095.000 | 277.40 | 277.40 | 1,327,725.26 | 1,327,725 26 | 1,135,953.00 | 1,135,953.00 | 0.09 | -191,772.26 | -191,772.26 |
| 7591EP100 | REGIONS F NANCIAL CORP | 51,127.000 | 15.82 | 15.82 | 551,876.73 | 551,876.73 | 808,829.14 | 808,829.14 | 0.06 | 256,952.41 | 256,952.41 |
| 760759100 | REPUBLIC SERVICES INC | 10,848.000 | 86.55 | 86.55 | 504,980.63 | 504,980 63 | 938,894.40 | 938,894.40 | 0.07 | 433,913.77 | 433,913.77 |
| 761152107 | RESMED INC | 7,362.000 | 135.11 | 135.11 | 805,806.64 | 805,806 64 | 994,679.82 | 994,679.82 | 0.08 | 188,873.18 | 188,873.18 |
| 770323103 | ROBERT HALF INTERNATIONAL NC | 6,024.000 | 55.66 | 55.66 | 217,701.01 | 217,701 01 | 335,295.84 | 335,295.84 | 0.03 | 117,594.83 | 117,594.83 |
| 773903109 | ROCKWELL AUTOMATION INC | 5,996.000 | 164.80 | 164.80 | 574,226.87 | 574,226 87 | 988,140.80 | 988,140.80 | 0.08 | 413,913.93 | 413,913.93 |
| 776696106 | ROPER TECHNOLOG ES NC | 5,329.000 | 356.60 | 356.60 | 742,671.90 | 742,671 90 | 1,900,321.40 | 1,900,321.40 | 0.15 | 1,157,649.50 | 1,157,649.50 |
| 778296103 | ROSS STORES NC | 18,688.000 | 109.85 | 109.85 | 670,984.45 | 670,984.45 | 2,052,876.80 | 2,052,876.80 | 0.16 | 1,381,892.35 | 1,381,892.35 |
| 78409V104 | S&P GLOBAL INC | 12,621.000 | 244.98 | 244.98 | 1,061,559.60 | 1,061,559 60 | 3,091,892.58 | 3,091,892.58 | 0.24 | 2,030,332.98 | 2,030,332.98 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 78410G104 | SBA COMMUNICATIONS CORP | 5,796.000 | 241.15 | 241.15 | 950,652.22 | 950,652 22 | 1,397,705.40 | 1,397,705.40 | 0.11 | 447,053.18 | 447,053.18 |
| 78440X101 | SL GREEN REALTY CORP | 4,223.000 | 81.75 | 81.75 | 501,850.84 | 501,850 84 | 345,230.25 | 345,230.25 | 0.03 | -156,620.59 | -156,620.59 |
| 78486Q101 | SVB FINANCIAL GROUP | 2,641.000 | 208.95 | 208.95 | 797,554.50 | 797,554 50 | 551,836.95 | 551,836.95 | 0.04 | -245,717.55 | -245,717.55 |
| 79466L302 | SALESFORCE.COM INC | 44,939.000 | 148.44 | 148.44 | 3,881,563.55 | 3,881,563 55 | 6,670,745.16 | 6,670,745.16 | 0.53 | 2,789,181.61 | 2,789,181.61 |
| 806407102 | HENRY SCHEIN NC | 7,597.000 | 63.50 | 63.50 | 440,436.13 | 440,436.13 | 482,409.50 | 482,409.50 | 0.04 | 41,973.37 | 41,973.37 |
| 806857108 | SCHLUMBERGER LTD | 70,867.000 | 34.17 | 34.17 | 3,404,014.32 | 3,404,014 32 | 2,421,525.39 | 2,421,525.39 | 0.19 | -982,488.93 | -982,488.93 |
| 808513105 | CHARLES SCHWAB CORP/THE | 59,614.000 | 41.83 | 41.83 | 1,575,145.27 | 1,575,145 27 | 2,493,653.62 | 2,493,653.62 | 0.20 | 918,508.35 | 918,508.35 |
| 81211K100 | SEALED AIR CORP | 7,918.000 | 41.51 | 41.51 | 226,370.29 | 226,370 29 | 328,676.18 | 328,676.18 | 0.03 | 102,305.89 | 102,305.89 |
| 816851109 | SEMPRA ENERGY | 14,068.000 | 147.61 | 147.61 | 1,123,219.89 | 1,123,219 89 | 2,076,577.48 | 2,076,577.48 | 0.16 | 953,357.59 | 953,357.59 |
| 824348106 | SHERWIN-W LLIAMS CO/THE | 4,207.000 | 549.87 | 549.87 | 865,354.58 | 865,354 58 | 2,313,303.09 | 2,313,303.09 | 0.18 | 1,447,948.51 | 1,447,948.51 |
| 828806109 | SIMON PROPERTY GROUP INC | 15,783.000 | 155.65 | 155.65 | 1,757,199.57 | 1,757,199 57 | 2,456,623.95 | 2,456,623.95 | 0.19 | 699,424.38 | 699,424.38 |
| 83088M102 | SKYWORKS SOLUTIONS INC | 8,798.000 | 79.25 | 79.25 | 752,563.95 | 752,563 95 | 697,241.50 | 697,241.50 | 0.06 | -55,322.45 | -55,322.45 |
| 831865209 | AO SMITH CORP | 7,089.000 | 47.71 | 47.71 | 401,804.95 | 401,804 95 | 338,216.19 | 338,216.19 | 0.03 | -63,588.76 | -63,588.76 |
| 832696405 | JM SMUCKER CO/THE | 5,844.000 | 110.02 | 110.02 | 513,616.18 | 513,616.18 | 642,956.88 | 642,956.88 | 0.05 | 129,340.70 | 129,340.70 |
| 833034101 | SNAP-ON NC | 2,829.000 | 156.54 | 156.54 | 246,955.98 | 246,955 98 | 442,851.66 | 442,851.66 | 0.04 | 195,895.68 | 195,895.68 |
| 842587107 | SOUTHERN CO/THE | 53,559.000 | 61.77 | 61.77 | 2,096,263.26 | 2,096,263 26 | 3,308,339.43 | 3,308,339.43 | 0.26 | 1,212,076.17 | 1,212,076.17 |
| 844741108 | SOUTHWEST A RLINES CO | 24,789.000 | 54.01 | 54.01 | 540,018.84 | 540,018 84 | 1,338,853.89 | 1,338,853.89 | 0.11 | 798,835.05 | 798,835.05 |
| 84790A105 | SPECTRUM BRANDS HOLDINGS INC | 322.825 | 52.72 | 52.72 | 16,141.25 | 16,141 25 | 17,019.33 | 17,019.33 | 0.00 | 878.08 | 878.08 |
| 854502101 | STANLEY BLACK & DECKER INC | 7,776.000 | 144.41 | 144.41 | 574,031.75 | 574,031.75 | 1,122,932.16 | 1,122,932.16 | 0.09 | 548,900.41 | 548,900.41 |
| 855244109 | STARBUCKS CORP | 61,336.000 | 88.42 | 88.42 | 2,389,615.37 | 2,389,615 37 | 5,423,329.12 | 5,423,329.12 | 0.43 | 3,033,713.75 | 3,033,713.75 |
| 857477103 | STATE STREET CORP | 19,092.000 | 59.19 | 59.19 | 1,015,436.12 | 1,015,436.12 | 1,130,055.48 | 1,130,055.48 | 0.09 | 114,619.36 | 114,619.36 |
| 863667101 | STRYKER CORP | 16,442.000 | 216.30 | 216.30 | 1,752,738.01 | 1,752,738 01 | 3,556,404.60 | 3,556,404.60 | 0.28 | 1,803,666.59 | 1,803,666.59 |
| 867914103 | SUNTRUST BANKS INC | 22,748.000 | 68.80 | 68.80 | 819,578.11 | 819,578.11 | 1,565,062.40 | 1,565,062.40 | 0.12 | 745,484.29 | 745,484.29 |
| 871503108 | SYMANTEC CORP | 29,135.000 | 23.63 | 23.63 | 603,985.45 | 603,985.45 | 688,460.05 | 688,460.05 | 0.05 | 84,474.60 | 84,474.60 |
| 871607107 | SYNOPSYS INC | 7,701.000 | 137.25 | 137.25 | 638,413.22 | 638,413 22 | 1,056,962.25 | 1,056,962.25 | 0.08 | 418,549.03 | 418,549.03 |
| 87165B103 | SYNCHRONY FINANCIAL | 31,276.000 | 34.09 | 34.09 | 986,262.45 | 986,262.45 | 1,066,198.84 | 1,066,198.84 | 0.08 | 79,936.39 | 79,936.39 |
| 871829107 | SYSCO CORP | 26,296.000 | 79.40 | 79.40 | 1,126,033.51 | 1,126,033 51 | 2,087,902.40 | 2,087,902.40 | 0.17 | 961,868.89 | 961,868.89 |
| 872540109 | TJX COS NC/THE | 61,948.000 | 55.74 | 55.74 | 1,561,817.60 | 1,561,817 60 | 3,452,981.52 | 3,452,981.52 | 0.27 | 1,891,163.92 | 1,891,163.92 |
| 872590104 | T-MOBILE US NC | 16,200.000 | 78.77 | 78.77 | 1,314,844.94 | 1,314,844 94 | 1,276,074.00 | 1,276,074.00 | 0.10 | -38,770.94 | -38,770.94 |
| 874054109 | TAKE-TWO INTERACTIVE SOFTWARE | 5,799.000 | 125.34 | 125.34 | 621,494.62 | 621,494 62 | 726,846.66 | 726,846.66 | 0.06 | 105,352.04 | 105,352.04 |
| 876030107 | TAPESTRY INC | 14,699.000 | 26.05 | 26.05 | 698,933.79 | 698,933.79 | 382,908.95 | 382,908.95 | 0.03 | -316,024.84 | -316,024.84 |
| 87612E106 | TARGET CORP | 26,181.000 | 106.91 | 106.91 | 1,731,093.12 | 1,731,093.12 | 2,799,010.71 | 2,799,010.71 | 0.22 | 1,067,917.59 | 1,067,917.59 |
| 879369106 | TELEFLEX INC | 2,369.000 | 339.75 | 339.75 | 727,356.07 | 727,356 07 | 804,867.75 | 804,867.75 | 0.06 | 77,511.68 | 77,511.68 |
| 882508104 | TEXAS INSTRUMENTS NC | 47,840.000 | 129.24 | 129.24 | 2,265,415.17 | 2,265,415.17 | 6,182,841.60 | 6,182,841.60 | 0.49 | 3,917,426.43 | 3,917,426.43 |
| 883203101 | TEXTRON INC | 11,792.000 | 48.96 | 48.96 | 358,095.79 | 358,095.79 | 577,336.32 | 577,336.32 | 0.05 | 219,240.53 | 219,240.53 |
| 883556102 | THERMO FISHER SCIENT FIC NC | 20,521.000 | 291.27 | 291.27 | 2,502,882.51 | 2,502,882 51 | 5,977,151.67 | 5,977,151.67 | 0.47 | 3,474,269.16 | 3,474,269.16 |
| 88579Y101 | 3M CO | 29,478.000 | 164.40 | 164.40 | 2,709,048.46 | 2,709,048.46 | 4,846,183.20 | 4,846,183.20 | 0.38 | 2,137,134.74 | 2,137,134.74 |
| 886547108 | T FFANY & CO | 5,571.000 | 92.63 | 92.63 | 411,908.47 | 411,908.47 | 516,041.73 | 516,041.73 | 0.04 | 104,133.26 | 104,133.26 |
| 892356106 | TRACTOR SUPPLY CO | 6,111.000 | 90.44 | 90.44 | 492,188.41 | 492,188.41 | 552,678.84 | 552,678.84 | 0.04 | 60,490.43 | 60,490.43 |
| 893641100 | TRANSDIGM GROUP NC | 2,544.000 | 520.67 | 520.67 | 766,750.04 | 766,750 04 | 1,324,584.48 | 1,324,584.48 | 0.10 | 557,834.44 | 557,834.44 |
| 89417E109 | TRAVELERS COS NC/THE | 13,343.000 | 148.69 | 148.69 | 944,615.33 | 944,615 33 | 1,983,970.67 | 1,983,970.67 | 0.16 | 1,039,355.34 | 1,039,355.34 |
| 896945201 | TRIPADVISOR INC | 5,380.000 | 38.68 | 38.68 | 251,503.74 | 251,503.74 | 208,098.40 | 208,098.40 | 0.02 | -43,405.34 | -43,405.34 |
| 90184L102 | TWITTER INC | 39,611.000 | 41.20 | 41.20 | 1,647,254.06 | 1,647,254 06 | 1,631,973.20 | 1,631,973.20 | 0.13 | -15,280.86 | -15,280.86 |
| 902494103 | TYSON FOODS INC | 15,100.000 | 86.14 | 86.14 | 577,659.89 | 577,659 89 | 1,300,714.00 | 1,300,714.00 | 0.10 | 723,054.11 | 723,054.11 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 902653104 | UDR INC | 15,006.000 | 48.48 | 48.48 | 595,220.74 | 595,220.74 | 727,490.88 | 727,490.88 | 0.06 | 132,270.14 | 132,270.14 |
| 902973304 | US BANCORP | 73,481.000 | 55.34 | 55.34 | 2,528,003.66 | 2,528,003 66 | 4,066,438.54 | 4,066,438.54 | 0.32 | 1,538,434.88 | 1,538,434.88 |
| 90384S303 | ULTA BEAUTY INC | 3,016.000 | 250.65 | 250.65 | 687,021.72 | 687,021.72 | 755,960.40 | 755,960.40 | 0.06 | 68,938.68 | 68,938.68 |
| 904311107 | UNDER ARMOUR INC | 9,641.000 | 19.94 | 19.94 | 273,839.18 | 273,839.18 | 192,241.54 | 192,241.54 | 0.02 | -81,597.64 | -81,597.64 |
| 904311206 | UNDER ARMOUR INC | 9,959.000 | 18.13 | 18.13 | 272,041.87 | 272,041 87 | 180,556.67 | 180,556.67 | 0.01 | -91,485.20 | -91,485.20 |
| 907818108 | UNION PACIFIC CORP | 36,101.000 | 161.98 | 161.98 | 1,981,549.80 | 1,981,549 80 | 5,847,639.98 | 5,847,639.98 | 0.46 | 3,866,090.18 | 3,866,090.18 |
| 910047109 | UNITED A RLINES HOLDINGS INC | 11,322.000 | 88.41 | 88.41 | 708,228.79 | 708,228.79 | 1,000,978.02 | 1,000,978.02 | 0.08 | 292,749.23 | 292,749.23 |
| 911312106 | UNITED PARCEL SERVICE INC | 35,784.000 | 119.82 | 119.82 | 2,945,086.87 | 2,945,086 87 | 4,287,638.88 | 4,287,638.88 | 0.34 | 1,342,552.01 | 1,342,552.01 |
| 911363109 | UNITED RENTALS INC | 3,954.000 | 124.64 | 124.64 | 417,082.72 | 417,082.72 | 492,826.56 | 492,826.56 | 0.04 | 75,743.84 | 75,743.84 |
| 913017109 | UNITED TECHNOLOG ES CORP | 41,564.000 | 136.52 | 136.52 | 2,864,501.77 | 2,864,501.77 | 5,674,317.28 | 5,674,317.28 | 0.45 | 2,809,815.51 | 2,809,815.51 |
| 91324P102 | UNITEDHEALTH GROUP NC | 48,561.000 | 217.32 | 217.32 | 4,415,627.55 | 4,415,627 55 | 10,553,276.52 | 10,553,276.52 | 0.84 | 6,137,648.97 | 6,137,648.97 |
| 913903100 | UNIVERSAL HEALTH SERVICES INC | 4,162.000 | 148.75 | 148.75 | 489,051.09 | 489,051 09 | 619,097.50 | 619,097.50 | 0.05 | 130,046.41 | 130,046.41 |
| 91529Y106 | UNUM GROUP | 10,691.000 | 29.72 | 29.72 | 288,975.11 | 288,975.11 | 317,736.52 | 317,736.52 | 0.03 | 28,761.41 | 28,761.41 |
| 918204108 | VF CORP | 16,731.000 | 88.99 | 88.99 | 952,169.13 | 952,169.13 | 1,488,891.69 | 1,488,891.69 | 0.12 | 536,722.56 | 536,722.56 |
| 91913Y100 | VALERO ENERGY CORP | 21,235.000 | 85.24 | 85.24 | 803,352.73 | 803,352.73 | 1,810,071.40 | 1,810,071.40 | 0.14 | 1,006,718.67 | 1,006,718.67 |
| 92220P105 | VARIAN MEDICAL SYSTEMS INC | 4,666.000 | 119.09 | 119.09 | 330,266.66 | 330,266 66 | 555,673.94 | 555,673.94 | 0.04 | 225,407.28 | 225,407.28 |
| 92276F100 | VENTAS INC | 19,092.000 | 73.03 | 73.03 | 1,045,953.58 | 1,045,953 58 | 1,394,288.76 | 1,394,288.76 | 0.11 | 348,335.18 | 348,335.18 |
| 92343E102 | VERISIGN INC | 5,338.000 | 188.63 | 188.63 | 486,061.97 | 486,061 97 | 1,006,906.94 | 1,006,906.94 | 0.08 | 520,844.97 | 520,844.97 |
| 92343V104 | VERIZON COMMUNICATIONS INC | 211,935.000 | 60.36 | 60.36 | 8,522,299.63 | 8,522,299 63 | 12,792,396.60 | 12,792,396.60 | 1.01 | 4,270,096.97 | 4,270,096.97 |
| 92345Y106 | VERISK ANALYTICS INC | 8,378.000 | 158.14 | 158.14 | 746,807.20 | 746,807 20 | 1,324,896.92 | 1,324,896.92 | 0.10 | 578,089.72 | 578,089.72 |
| 92532F100 | VERTEX PHARMACEUTICALS INC | 13,171.000 | 169.42 | 169.42 | 1,353,943.82 | 1,353,943 82 | 2,231,430.82 | 2,231,430.82 | 0.18 | 877,487.00 | 877,487.00 |
| 92553P201 | VIACOM INC | 18,138.000 | 24.03 | 24.03 | 802,173.74 | 802,173.74 | 435,856.14 | 435,856.14 | 0.03 | -366,317.60 | -366,317.60 |
| 92826C839 | VISA INC | 88,493.000 | 172.01 | 172.01 | 5,107,749.55 | 5,107,749 55 | 15,221,680.93 | 15,221,680.93 | 1.21 | 10,113,931.38 | 10,113,931.38 |
| 929042109 | VORNADO REALTY TRUST | 8,115.000 | 63.67 | 63.67 | 535,500.42 | 535,500.42 | 516,682.05 | 516,682.05 | 0.04 | -18,818.37 | -18,818.37 |
| 929160109 | VULCAN MATERIALS CO | 6,779.000 | 151.24 | 151.24 | 482,792.43 | 482,792.43 | 1,025,255.96 | 1,025,255.96 | 0.08 | 542,463.53 | 542,463.53 |
| 92939U106 | WEC ENERGY GROUP NC | 16,163.000 | 95.10 | 95.10 | 718,645.20 | 718,645 20 | 1,537,101.30 | 1,537,101.30 | 0.12 | 818,456.10 | 818,456.10 |
| 929740108 | WABTEC CORP | 9,332.000 | 71.86 | 71.86 | 667,852.27 | 667,852 27 | 670,597.52 | 670,597.52 | 0.05 | 2,745.25 | 2,745.25 |
| 931142103 | WALMART INC | 72,873.000 | 118.68 | 118.68 | 4,739,584.09 | 4,739,584 09 | 8,648,567.64 | 8,648,567.64 | 0.69 | 3,908,983.55 | 3,908,983.55 |
| 931427108 | WALGREENS BOOTS ALLIANCE NC | 38,874.000 | 55.31 | 55.31 | 2,127,971.81 | 2,127,971 81 | 2,150,120.94 | 2,150,120.94 | 0.17 | 22,149.13 | 22,149.13 |
| 94106L109 | WASTE MANAGEMENT INC | 19,999.000 | 115.00 | 115.00 | 959,352.63 | 959,352 63 | 2,299,885.00 | 2,299,885.00 | 0.18 | 1,340,532.37 | 1,340,532.37 |
| 941848103 | WATERS CORP | 3,421.000 | 223.23 | 223.23 | 360,051.61 | 360,051 61 | 763,669.83 | 763,669.83 | 0.06 | 403,618.22 | 403,618.22 |
| 94946T106 | WELLCARE HEALTH PLANS NC | 2,578.000 | 259.17 | 259.17 | 770,357.39 | 770,357 39 | 668,140.26 | 668,140.26 | 0.05 | -102,217.13 | -102,217.13 |
| 949746101 | WELLS FARGO & CO | 205,456.000 | 50.44 | 50.44 | 7,537,556.32 | 7,537,556 32 | 10,363,200.64 | 10,363,200.64 | 0.82 | 2,825,644.32 | 2,825,644.32 |
| 95040Q104 | WELLTOWER INC | 20,766.000 | 90.65 | 90.65 | 1,346,711.99 | 1,346,711 99 | 1,882,437.90 | 1,882,437.90 | 0.15 | 535,725.91 | 535,725.91 |
| 958102105 | WESTERN DIGITAL CORP | 15,168.000 | 59.64 | 59.64 | 686,121.51 | 686,121 51 | 904,619.52 | 904,619.52 | 0.07 | 218,498.01 | 218,498.01 |
| 959802109 | WESTERN UNION CO/THE | 21,721.000 | 23.17 | 23.17 | 331,603.00 | 331,603 00 | 503,275.57 | 503,275.57 | 0.04 | 171,672.57 | 171,672.57 |
| 96145D105 | WESTROCK CO | 13,187.000 | 36.45 | 36.45 | 539,686.65 | 539,686 65 | 480,666.15 | 480,666.15 | 0.04 | -59,020.50 | -59,020.50 |
| 962166104 | WEYERHAEUSER CO | 38,171.000 | 27.70 | 27.70 | 1,006,523.70 | 1,006,523.70 | 1,057,336.70 | 1,057,336.70 | 0.08 | 50,813.00 | 50,813.00 |
| 963320106 | WH RLPOOL CORP | 3,255.000 | 158.36 | 158.36 | 283,642.71 | 283,642.71 | 515,461.80 | 515,461.80 | 0.04 | 231,819.09 | 231,819.09 |
| 969457100 | W LLIAMS COS NC/THE | 62,106.000 | 24.06 | 24.06 | 1,670,237.92 | 1,670,237 92 | 1,494,270.36 | 1,494,270.36 | 0.12 | -175,967.56 | -175,967.56 |
| 983134107 | WYNN RESORTS LTD | 4,963.000 | 108.72 | 108.72 | 548,561.96 | 548,561 96 | 539,577.36 | 539,577.36 | 0.04 | -8,984.60 | -8,984.60 |
| 98389B100 | XCEL ENERGY INC | 26,870.000 | 64.89 | 64.89 | 832,725.43 | 832,725.43 | 1,743,594.30 | 1,743,594.30 | 0.14 | 910,868.87 | 910,868.87 |
| 983919101 | XILINX INC | 12,944.000 | 95.90 | 95.90 | 676,685.17 | 676,685.17 | 1,241,329.60 | 1,241,329.60 | 0.10 | 564,644.43 | 564,644.43 |
| 98419M100 | XYLEM NC/NY | 9,225.000 | 79.62 | 79.62 | 347,467.08 | 347,467 08 | 734,494.50 | 734,494.50 | 0.06 | 387,027.42 | 387,027.42 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98421M106 | XEROX HOLDINGS CORP | 9,751.000 | 29.91 | 29.91 | 240,939.25 | 240,939 25 | 291,652.41 | 291,652.41 | 0.02 | 50,713.16 | 50,713.16 |
| 988498101 | YUM! BRANDS INC | 15,592.000 | 113.43 | 113.43 | 751,833.19 | 751,833.19 | 1,768,600.56 | 1,768,600.56 | 0.14 | 1,016,767.37 | 1,016,767.37 |
| 98956P102 | Z MMER BIOMET HOLDINGS INC | 10,521.000 | 137.27 | 137.27 | 999,367.37 | 999,367 37 | 1,444,217.67 | 1,444,217.67 | 0.11 | 444,850.30 | 444,850.30 |
| 989701107 | ZIONS BANCORP NA | 9,068.000 | 44.52 | 44.52 | 241,852.84 | 241,852 84 | 403,707.36 | 403,707.36 | 0.03 | 161,854.52 | 161,854.52 |
| 98978V103 | ZOETIS INC | 24,471.000 | 124.59 | 124.59 | 1,156,288.64 | 1,156,288 64 | 3,048,841.89 | 3,048,841.89 | 0.24 | 1,892,553.25 | 1,892,553.25 |
| G0176J109 | ALLEGION PLC | 4,785.000 | 103.65 | 103.65 | 226,924.38 | 226,924 38 | 495,965.25 | 495,965.25 | 0.04 | 269,040.87 | 269,040.87 |
| G0177J108 | ALLERGAN PLC | 16,809.000 | 168.29 | 168.29 | 3,513,089.78 | 3,513,089.78 | 2,828,786.61 | 2,828,786.61 | 0.22 | -684,303.17 | -684,303.17 |
| G0250X107 | AMCOR PLC | 83,242.000 | 9.75 | 9.75 | 911,694.85 | 911,694 85 | 811,609.50 | 811,609.50 | 0.06 | -100,085.35 | -100,085.35 |
| G0408V102 | AON PLC | 12,085.000 | 193.57 | 193.57 | 968,514.25 | 968,514 25 | 2,339,293.45 | 2,339,293.45 | 0.19 | 1,370,779.20 | 1,370,779.20 |
| G1151C101 | ACCENTURE PLC | 32,648.000 | 192.35 | 192.35 | 2,942,735.10 | 2,942,735.10 | 6,279,842.80 | 6,279,842.80 | 0.50 | 3,337,107.70 | 3,337,107.70 |
| G1890L107 | CAPRI HOLDINGS LTD | 7,767.000 | 33.16 | 33.16 | 498,735.37 | 498,735 37 | 257,553.72 | 257,553.72 | 0.02 | -241,181.65 | -241,181.65 |
| G29183103 | EATON CORP PLC | 21,521.000 | 83.15 | 83.15 | 1,212,237.95 | 1,212,237 95 | 1,789,471.15 | 1,789,471.15 | 0.14 | 577,233.20 | 577,233.20 |
| G3223R108 | EVEREST RE GROUP LTD | 2,088.000 | 266.09 | 266.09 | 528,367.64 | 528,367 64 | 555,595.92 | 555,595.92 | 0.04 | 27,228.28 | 27,228.28 |
| G47567105 | IHS MARKIT LTD | 20,553.000 | 66.88 | 66.88 | 1,053,742.16 | 1,053,742.16 | 1,374,584.64 | 1,374,584.64 | 0.11 | 320,842.48 | 320,842.48 |
| G47791101 | INGERSOLL-RAND PLC | 12,379.000 | 123.21 | 123.21 | 671,976.21 | 671,976 21 | 1,525,216.59 | 1,525,216.59 | 0.12 | 853,240.38 | 853,240.38 |
| G491BT108 | INVESCO LTD | 19,740.000 | 16.94 | 16.94 | 421,527.83 | 421,527 83 | 334,395.60 | 334,395.60 | 0.03 | -87,132.23 | -87,132.23 |
| G51502105 | JOHNSON CONTROLS INTERNATIONAL | 40,773.000 | 43.89 | 43.89 | 1,552,998.06 | 1,552,998 06 | 1,789,526.97 | 1,789,526.97 | 0.14 | 236,528.91 | 236,528.91 |
| G5494J103 | LINDE PLC | 27,701.000 | 193.72 | 193.72 | 3,253,450.65 | 3,253,450 65 | 5,366,237.72 | 5,366,237.72 | 0.43 | 2,112,787.07 | 2,112,787.07 |
| G5960L103 | MEDTRONIC PLC | 68,749.000 | 108.62 | 108.62 | 5,437,003.25 | 5,437,003 25 | 7,467,516.38 | 7,467,516.38 | 0.59 | 2,030,513.13 | 2,030,513.13 |
| G6095L109 | APTIV PLC | 13,128.000 | 87.42 | 87.42 | 605,984.11 | 605,984.11 | 1,147,649.76 | 1,147,649.76 | 0.09 | 541,665.65 | 541,665.65 |
| G6518L108 | NIELSEN HOLD NGS PLC | 18,225.000 | 21.25 | 21.25 | 675,953.18 | 675,953.18 | 387,281.25 | 387,281.25 | 0.03 | -288,671.93 | -288,671.93 |
| G66721104 | NORWEGIAN CRUISE LINE HOLD NGS | 11,048.000 | 51.77 | 51.77 | 584,726.58 | 584,726 58 | 571,954.96 | 571,954.96 | 0.05 | -12,771.62 | -12,771.62 |
| G7945M107 | SEAGATE TECHNOLOGY PLC | 12,132.000 | 53.79 | 53.79 | 367,785.22 | 367,785 22 | 652,580.28 | 652,580.28 | 0.05 | 284,795.06 | 284,795.06 |
| G7S00T104 | PENTA R PLC | 8,611.000 | 37.80 | 37.80 | 252,484.48 | 252,484.48 | 325,495.80 | 325,495.80 | 0.03 | 73,011.32 | 73,011.32 |
| G87110105 | TECHNIPFMC PLC | 21,506.000 | 24.14 | 24.14 | 698,590.48 | 698,590.48 | 519,154.84 | 519,154.84 | 0.04 | -179,435.64 | -179,435.64 |
| G96629103 | W LLIS TOWERS WATSON PLC | 6,610.000 | 192.97 | 192.97 | 823,752.86 | 823,752 86 | 1,275,531.70 | 1,275,531.70 | 0.10 | 451,778.84 | 451,778.84 |
| G97822103 | PERRIGO CO PLC | 6,972.000 | 55.89 | 55.89 | 908,090.54 | 908,090 54 | 389,665.08 | 389,665.08 | 0.03 | -518,425.46 | -518,425.46 |
| H1467J104 | CHUBB LTD | 23,353.000 | 161.44 | 161.44 | 2,261,206.12 | 2,261,206.12 | 3,770,108.32 | 3,770,108.32 | 0.30 | 1,508,902.20 | 1,508,902.20 |
| H2906T109 | GARM N LTD | 7,403.000 | 84.69 | 84.69 | 417,502.39 | 417,502 39 | 626,960.07 | 626,960.07 | 0.05 | 209,457.68 | 209,457.68 |
| H84989104 | TE CONNECTIVITY LTD | 17,214.000 | 93.18 | 93.18 | 842,233.12 | 842,233.12 | 1,604,000.52 | 1,604,000.52 | 0.13 | 761,767.40 | 761,767.40 |
| N53745100 | LYONDELLBASELL INDUSTR ES NV | 13,227.000 | 89.47 | 89.47 | 846,373.14 | 846,373.14 | 1,183,419.69 | 1,183,419.69 | 0.09 | 337,046.55 | 337,046.55 |
| N59465109 | MYLAN NV | 26,434.000 | 19.78 | 19.78 | 1,266,066.13 | 1,266,066.13 | 522,864.52 | 522,864.52 | 0.04 | -743,201.61 | -743,201.61 |
| V7780T103 | ROYAL CARIBBEAN CRUISES LTD | 8,805.000 | 108.33 | 108.33 | 753,247.55 | 753,247 55 | 953,845.65 | 953,845.65 | 0.08 | 200,598.10 | 200,598.10 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **211,913,946.12** | | **210,530,377.97** | **100.00** | | **-1,383,568.15** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **298,457.94** | | **298,457.94** | **0.14** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **298,457.94** | **298,457.94** | **298,457.94** | **298,457.94** | **0.14** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 142,068.620 | 1.00 | 1.00 | 142,068.62 | 142,068 62 | 142,068.62 | 142,068.62 | 0.07 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 151,600.10 | 151,600.10 | 151,600.10 | 151,600.10 | 0.07 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 5,634.35 | 5,634 35 | 5,634.35 | 5,634.35 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -845.13 | -845.13 | -845.13 | -845.13 | 0.00 | 0.00 | 0.00 |
| **FIXED INCOME SECURITIES** | | | | | | | **211,615,488.18** | | **210,231,920.03** | **99.86** | | **-1,383,568.15** |
| **U.S. DOLLAR** | | | | | | **211,615,488.18** | **211,615,488.18** | **210,231,920.03** | **210,231,920.03** | **99.86** | **-1,383,568.15** | **-1,383,568.15** |
| | 912828B25 | US TREAS-CPI INFLAT 0 625% 01/15/2024 DD 01/15.. | 22,650,524.000 | 101.51 | 101.51 | 22,762,853.55 | 22,762,853 55 | 22,992,320.86 | 22,992,320.86 | 10.92 | 229,467.31 | 229,467.31 |
| | 912828H45 | US TREAS-CPI INFLAT 0 250% 01/15/2025 DD 01/15.. | 14,622,930.000 | 100.20 | 100.20 | 14,662,358.80 | 14,662,358 80 | 14,652,283.92 | 14,652,283.92 | 6.96 | -10,074.88 | -10,074.88 |
| | 912828MF4 | US TREAS-CPI INFLAT 1 375% 01/15/2020 DD 01/15.. | 9,194,677.500 | 99.70 | 99.70 | 9,674,472.22 | 9,674,472 22 | 9,166,662.42 | 9,166,662.42 | 4.35 | -507,809.80 | -507,809.80 |
| | 912828TE0 | US TREAS-CPI INFLAT 0.125% 07/15/2022 DD 07/15.. | 62,475,840.000 | 99.53 | 99.53 | 62,699,093.11 | 62,699,093.11 | 62,183,485.56 | 62,183,485.56 | 29.54 | -515,607.55 | -515,607.55 |
| | 912828UH1 | US TREAS-CPI INFLAT 0.125% 01/15/2023 DD 01/15.. | 33,066,827.500 | 99.13 | 99.13 | 32,885,300.83 | 32,885,300 83 | 32,778,528.74 | 32,778,528.74 | 15.57 | -106,772.09 | -106,772.09 |
| | 912828VM9 | US TREAS-CPI INFLAT 0 375% 07/15/2023 DD 07/15.. | 68,075,670.000 | 100.56 | 100.56 | 68,931,409.67 | 68,931,409 67 | 68,458,638.53 | 68,458,638.53 | 32.52 | -472,771.14 | -472,771.14 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **59,566,445.91** | | **69,915,552.83** | **100.00** | | **10,349,106.92** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **379,418.57** | | **379,418.57** | **0.54** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **379,418.57** | **379,418.57** | **379,418.57** | **379,418.57** | **0.54** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 371,832.620 | 1.00 | 1.00 | 371,832.62 | 371,832 62 | 371,832.62 | 371,832.62 | 0.53 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 129.12 | 129.12 | 129.12 | 129.12 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 47,959.08 | 47,959 08 | 47,959.08 | 47,959.08 | 0.07 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -1,315.90 | -1,315 90 | -1,315.90 | -1,315.90 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -39,186.35 | -39,186 35 | -39,186.35 | -39,186.35 | -0.06 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **59,187,027.34** | | **69,536,134.26** | **99.46** | | **10,349,106.92** |
| **U.S. DOLLAR** | | | | | | **59,187,027.34** | **59,187,027.34** | **69,536,134.26** | **69,536,134.26** | **99.46** | **10,349,106.92** | **10,349,106.92** |
| | 464287507 | ISHARES CORE S&P MIDCAP ETF | 359,862.000 | 193.23 | 193.23 | 59,187,027.34 | 59,187,027 34 | 69,536,134.26 | 69,536,134.26 | 99.46 | 10,349,106.92 | 10,349,106.92 |

BNY MELLON

# Asset Detail

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As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **163,271,750.77** | | **188,211,159.60** | **100.00** | | **24,939,408.83** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **423,330.75** | | **423,330.75** | **0.22** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **423,330.75** | **423,330.75** | **423,330.75** | **423,330.75** | **0.22** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 184,845.720 | 1.00 | 1.00 | 184,845.72 | 184,845.72 | 184,845.72 | 184,845.72 | 0.10 | 0.00 | 0.00 |
| | | DIVIDENDS RECEIVABLE | 0.000 | 1.00 | 1.00 | 235,272.11 | 235,272.11 | 235,272.11 | 235,272.11 | 0.13 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 735.20 | 735 20 | 735.20 | 735.20 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 9,641.98 | 9,641 98 | 9,641.98 | 9,641.98 | 0.01 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -436.34 | -436 34 | -436.34 | -436.34 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -6,727.92 | -6,727 92 | -6,727.92 | -6,727.92 | 0.00 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **162,848,420.02** | | **187,787,828.85** | **99.78** | | **24,939,408.83** |
| **U.S. DOLLAR** | | | | | | **162,848,420.02** | **162,848,420.02** | **187,787,828.85** | **187,787,828.85** | **99.78** | **24,939,408.83** | **24,939,408.83** |
| | 001055102 | AFLAC NC | 10,163.000 | 52.32 | 52.32 | 427,668.80 | 427,668 80 | 531,728.16 | 531,728.16 | 0.28 | 104,059.36 | 104,059.36 |
| | 00206R102 | AT&T NC | 18,326.000 | 37.84 | 37.84 | 644,156.30 | 644,156 30 | 693,455.84 | 693,455.84 | 0.37 | 49,299.54 | 49,299.54 |
| | 002824100 | ABBOTT LABORATORIES | 6,426.000 | 83.67 | 83.67 | 340,272.76 | 340,272.76 | 537,663.42 | 537,663.42 | 0.29 | 197,390.66 | 197,390.66 |
| | 00507V109 | ACTIVISION BLIZZARD NC | 10,448.000 | 52.92 | 52.92 | 492,576.18 | 492,576.18 | 552,908.16 | 552,908.16 | 0.29 | 60,331.98 | 60,331.98 |
| | 00724F101 | ADOBE INC | 2,158.000 | 276.25 | 276.25 | 392,451.87 | 392,451 87 | 596,147.50 | 596,147.50 | 0.32 | 203,695.63 | 203,695.63 |
| | 00751Y106 | ADVANCE AUTO PARTS INC | 3,562.000 | 165.40 | 165.40 | 538,126.75 | 538,126.75 | 589,154.80 | 589,154.80 | 0.31 | 51,028.05 | 51,028.05 |
| | 007903107 | ADVANCED MICRO DEVICES INC | 7,993.000 | 28.99 | 28.99 | 152,619.60 | 152,619 60 | 231,717.07 | 231,717.07 | 0.12 | 79,097.47 | 79,097.47 |
| | 00846U101 | AG LENT TECHNOLOG ES INC | 7,514.000 | 76.63 | 76.63 | 483,323.21 | 483,323 21 | 575,797.82 | 575,797.82 | 0.31 | 92,474.61 | 92,474.61 |
| | 009158106 | AIR PRODUCTS & CHEMICALS NC | 2,814.000 | 221.86 | 221.86 | 477,506.04 | 477,506 04 | 624,314.04 | 624,314.04 | 0.33 | 146,808.00 | 146,808.00 |
| | 00971T101 | AKAMAI TECHNOLOG ES INC | 7,330.000 | 91.38 | 91.38 | 497,924.36 | 497,924 36 | 669,815.40 | 669,815.40 | 0.36 | 171,891.04 | 171,891.04 |
| | 012653101 | ALBEMARLE CORP | 3,657.000 | 69.52 | 69.52 | 295,180.08 | 295,180 08 | 254,234.64 | 254,234.64 | 0.14 | -40,945.44 | -40,945.44 |
| | 015271109 | ALEXANDRIA REAL ESTATE EQUIT E | 3,129.000 | 154.04 | 154.04 | 410,099.07 | 410,099 07 | 481,991.16 | 481,991.16 | 0.26 | 71,892.09 | 71,892.09 |
| | 015351109 | ALEXION PHARMACEUTICALS INC | 2,476.000 | 97.94 | 97.94 | 284,203.74 | 284,203.74 | 242,499.44 | 242,499.44 | 0.13 | -41,704.30 | -41,704.30 |
| | 017175100 | ALLEGHANY CORP | 701.000 | 797.76 | 797.76 | 413,461.24 | 413,461 24 | 559,229.76 | 559,229.76 | 0.30 | 145,768.52 | 145,768.52 |
| | 018802108 | ALLIANT ENERGY CORP | 11,329.000 | 53.93 | 53.93 | 469,065.25 | 469,065 25 | 610,972.97 | 610,972.97 | 0.32 | 141,907.72 | 141,907.72 |
| | 020002101 | ALLSTATE CORP/THE | 3,650.000 | 108.68 | 108.68 | 295,840.91 | 295,840 91 | 396,682.00 | 396,682.00 | 0.21 | 100,841.09 | 100,841.09 |
| | 02005N100 | ALLY F NANCIAL INC | 13,987.000 | 33.16 | 33.16 | 338,393.92 | 338,393 92 | 463,808.92 | 463,808.92 | 0.25 | 125,415.00 | 125,415.00 |
| | 02079K305 | ALPHABET NC-CL A | 328.000 | 1,221.14 | 1,221.14 | 355,244.89 | 355,244 89 | 400,533.92 | 400,533.92 | 0.21 | 45,289.03 | 45,289.03 |
| | 023135106 | AMAZON.COM NC | 127.000 | 1,735.91 | 1,735.91 | 169,020.04 | 169,020 04 | 220,460.57 | 220,460.57 | 0.12 | 51,440.53 | 51,440.53 |
| | 023608102 | AMEREN CORP | 16,929.000 | 80.05 | 80.05 | 1,016,751.41 | 1,016,751.41 | 1,355,166.45 | 1,355,166.45 | 0.72 | 338,415.04 | 338,415.04 |
| | 025537101 | AMERICAN ELECTRIC POWER CO INC | 11,592.000 | 93.69 | 93.69 | 929,655.17 | 929,655.17 | 1,086,054.48 | 1,086,054.48 | 0.58 | 156,399.31 | 156,399.31 |
| | 025816109 | AMERICAN EXPRESS CO | 2,834.000 | 118.28 | 118.28 | 239,576.91 | 239,576 91 | 335,205.52 | 335,205.52 | 0.18 | 95,628.61 | 95,628.61 |
| | 026874784 | AMERICAN INTERNATIONAL GROUP I | 7,171.000 | 55.70 | 55.70 | 373,123.21 | 373,123 21 | 399,424.70 | 399,424.70 | 0.21 | 26,301.49 | 26,301.49 |
| | 030420103 | AMERICAN WATER WORKS CO INC | 4,863.000 | 124.23 | 124.23 | 418,634.04 | 418,634 04 | 604,130.49 | 604,130.49 | 0.32 | 185,496.45 | 185,496.45 |
| | 031100100 | AMETEK INC | 3,809.000 | 91.82 | 91.82 | 233,518.85 | 233,518 85 | 349,742.38 | 349,742.38 | 0.19 | 116,223.53 | 116,223.53 |
| | 032095101 | AMPHENOL CORP | 3,809.000 | 96.50 | 96.50 | 266,004.15 | 266,004.15 | 367,568.50 | 367,568.50 | 0.20 | 101,564.35 | 101,564.35 |
| | 032654105 | ANALOG DEVICES INC | 5,805.000 | 111.73 | 111.73 | 655,359.54 | 655,359 54 | 648,592.65 | 648,592.65 | 0.34 | -6,766.89 | -6,766.89 |
| | 035710409 | ANNALY CAPITAL MANAGEMENT INC | 75,013.000 | 8.80 | 8.80 | 798,440.39 | 798,440 39 | 660,114.40 | 660,114.40 | 0.35 | -138,325.99 | -138,325.99 |
| | 03662Q105 | ANSYS NC | 3,339.000 | 221.36 | 221.36 | 454,306.35 | 454,306 35 | 739,121.04 | 739,121.04 | 0.39 | 284,814.69 | 284,814.69 |
| | 036752103 | ANTHEM NC | 2,346.000 | 240.10 | 240.10 | 477,403.91 | 477,403 91 | 563,274.60 | 563,274.60 | 0.30 | 85,870.69 | 85,870.69 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 037411105 | APACHE CORP | 18,582.000 | 25.60 | 25.60 | 724,536.49 | 724,536.49 | 475,699.20 | 475,699.20 | 0.25 | -248,837.29 | -248,837.29 |
| 037833100 | APPLE NC | 1,584.000 | 223.97 | 223.97 | 317,681.97 | 317,681 97 | 354,768.48 | 354,768.48 | 0.19 | 37,086.51 | 37,086.51 |
| 038222105 | APPLIED MATERIALS INC | 6,695.000 | 49.90 | 49.90 | 298,936.44 | 298,936.44 | 334,080.50 | 334,080.50 | 0.18 | 35,144.06 | 35,144.06 |
| 039483102 | ARCHER-DAN ELS-M DLAND CO | 11,685.000 | 41.07 | 41.07 | 517,834.95 | 517,834 95 | 479,902.95 | 479,902.95 | 0.25 | -37,932.00 | -37,932.00 |
| 03965L100 | ARCONIC INC | 13,493.000 | 26.00 | 26.00 | 288,097.35 | 288,097 35 | 350,818.00 | 350,818.00 | 0.19 | 62,720.65 | 62,720.65 |
| 040413106 | ARISTA NETWORKS INC | 736.000 | 238.92 | 238.92 | 191,319.23 | 191,319 23 | 175,845.12 | 175,845.12 | 0.09 | -15,474.11 | -15,474.11 |
| 049560105 | ATMOS ENERGY CORP | 6,628.000 | 113.89 | 113.89 | 693,209.26 | 693,209 26 | 754,862.92 | 754,862.92 | 0.40 | 61,653.66 | 61,653.66 |
| 052769106 | AUTODESK INC | 2,331.000 | 147.70 | 147.70 | 274,367.59 | 274,367 59 | 344,288.70 | 344,288.70 | 0.18 | 69,921.11 | 69,921.11 |
| 053015103 | AUTOMATIC DATA PROCESSING NC | 987.000 | 161.42 | 161.42 | 160,951.18 | 160,951.18 | 159,321.54 | 159,321.54 | 0.08 | -1,629.64 | -1,629.64 |
| 053332102 | AUTOZONE NC | 522.000 | 1,084.62 | 1,084.62 | 474,935.18 | 474,935.18 | 566,171.64 | 566,171.64 | 0.30 | 91,236.46 | 91,236.46 |
| 053484101 | AVALONBAY COMMUNITIES NC | 1,774.000 | 215.33 | 215.33 | 323,594.49 | 323,594.49 | 381,995.42 | 381,995.42 | 0.20 | 58,400.93 | 58,400.93 |
| 054937107 | BB&T CORP | 6,107.000 | 53.37 | 53.37 | 278,054.44 | 278,054.44 | 325,930.59 | 325,930.59 | 0.17 | 47,876.15 | 47,876.15 |
| 058498106 | BALL CORP | 6,184.000 | 72.81 | 72.81 | 308,969.06 | 308,969 06 | 450,257.04 | 450,257.04 | 0.24 | 141,287.98 | 141,287.98 |
| 060505104 | BANK OF AMERICA CORP | 31,487.000 | 29.17 | 29.17 | 787,159.83 | 787,159 83 | 918,475.79 | 918,475.79 | 0.49 | 131,315.96 | 131,315.96 |
| 064058100 | BANK OF NEW YORK MELLON CORP/T | 3,704.000 | 45.21 | 45.21 | 180,291.09 | 180,291 09 | 167,457.84 | 167,457.84 | 0.09 | -12,833.25 | -12,833.25 |
| 071813109 | BAXTER INTERNATIONAL NC | 6,218.000 | 87.47 | 87.47 | 351,601.69 | 351,601 69 | 543,888.46 | 543,888.46 | 0.29 | 192,286.77 | 192,286.77 |
| 084670702 | BERKSHIRE HATHAWAY INC | 2,511.000 | 208.02 | 208.02 | 447,257.80 | 447,257 80 | 522,338.22 | 522,338.22 | 0.28 | 75,080.42 | 75,080.42 |
| 086516101 | BEST BUY CO NC | 7,389.000 | 68.99 | 68.99 | 318,741.07 | 318,741 07 | 509,767.11 | 509,767.11 | 0.27 | 191,026.04 | 191,026.04 |
| 099724106 | BORGWARNER NC | 7,630.000 | 36.68 | 36.68 | 301,165.79 | 301,165.79 | 279,868.40 | 279,868.40 | 0.15 | -21,297.39 | -21,297.39 |
| 101121101 | BOSTON PROPERT ES NC | 1,222.000 | 129.66 | 129.66 | 156,736.29 | 156,736 29 | 158,444.52 | 158,444.52 | 0.08 | 1,708.23 | 1,708.23 |
| 101137107 | BOSTON SCIENT FIC CORP | 8,252.000 | 40.69 | 40.69 | 248,183.14 | 248,183.14 | 335,773.88 | 335,773.88 | 0.18 | 87,590.74 | 87,590.74 |
| 110122108 | BRISTOL-MYERS SQUIBB CO | 5,209.000 | 50.71 | 50.71 | 235,809.35 | 235,809 35 | 264,148.39 | 264,148.39 | 0.14 | 28,339.04 | 28,339.04 |
| 11133T103 | BROADRIDGE FINANCIAL SOLUTIONS | 3,121.000 | 124.43 | 124.43 | 272,710.32 | 272,710 32 | 388,346.03 | 388,346.03 | 0.21 | 115,635.71 | 115,635.71 |
| 11135F101 | BROADCOM NC | 3,246.000 | 276.07 | 276.07 | 928,447.21 | 928,447 21 | 896,123.22 | 896,123.22 | 0.48 | -32,323.99 | -32,323.99 |
| 115637209 | BROWN-FORMAN CORP | 8,188.000 | 62.78 | 62.78 | 371,361.93 | 371,361 93 | 514,042.64 | 514,042.64 | 0.27 | 142,680.71 | 142,680.71 |
| 122017106 | BURL NGTON STORES NC | 815.000 | 199.82 | 199.82 | 138,091.81 | 138,091 81 | 162,853.30 | 162,853.30 | 0.09 | 24,761.49 | 24,761.49 |
| 124857202 | CBS CORP | 2,786.000 | 40.37 | 40.37 | 134,864.13 | 134,864.13 | 112,470.82 | 112,470.82 | 0.06 | -22,393.31 | -22,393.31 |
| 12504L109 | CBRE GROUP NC | 6,071.000 | 53.01 | 53.01 | 273,600.57 | 273,600 57 | 321,823.71 | 321,823.71 | 0.17 | 48,223.14 | 48,223.14 |
| 12514G108 | CDW CORP/DE | 4,325.000 | 123.24 | 123.24 | 364,746.64 | 364,746 64 | 533,013.00 | 533,013.00 | 0.28 | 168,266.36 | 168,266.36 |
| 12541W209 | CH ROBINSON WORLDWIDE INC | 2,566.000 | 84.78 | 84.78 | 197,762.55 | 197,762 55 | 217,545.48 | 217,545.48 | 0.12 | 19,782.93 | 19,782.93 |
| 12572Q105 | CME GROUP INC | 6,756.000 | 211.34 | 211.34 | 866,034.47 | 866,034.47 | 1,427,813.04 | 1,427,813.04 | 0.76 | 561,778.57 | 561,778.57 |
| 125896100 | CMS ENERGY CORP | 19,363.000 | 63.95 | 63.95 | 934,002.00 | 934,002 00 | 1,238,263.85 | 1,238,263.85 | 0.66 | 304,261.85 | 304,261.85 |
| 126408103 | CSX CORP | 2,270.000 | 69.27 | 69.27 | 118,294.38 | 118,294 38 | 157,242.90 | 157,242.90 | 0.08 | 38,948.52 | 38,948.52 |
| 127097103 | CABOT O L & GAS CORP | 13,725.000 | 17.57 | 17.57 | 329,227.12 | 329,227.12 | 241,148.25 | 241,148.25 | 0.13 | -88,078.87 | -88,078.87 |
| 127387108 | CADENCE DESIGN SYSTEMS INC | 9,249.000 | 66.08 | 66.08 | 397,016.69 | 397,016 69 | 611,173.92 | 611,173.92 | 0.32 | 214,157.23 | 214,157.23 |
| 14040H105 | CAPITAL ONE F NANCIAL CORP | 1,796.000 | 90.98 | 90.98 | 149,776.16 | 149,776.16 | 163,400.08 | 163,400.08 | 0.09 | 13,623.92 | 13,623.92 |
| 143658300 | CARNIVAL CORP | 8,102.000 | 43.71 | 43.71 | 452,324.15 | 452,324.15 | 354,138.42 | 354,138.42 | 0.19 | -98,185.73 | -98,185.73 |
| 150870103 | CELANESE CORP | 2,134.000 | 122.29 | 122.29 | 189,382.68 | 189,382 68 | 260,966.86 | 260,966.86 | 0.14 | 71,584.18 | 71,584.18 |
| 15135B101 | CENTENE CORP | 3,023.000 | 43.26 | 43.26 | 149,053.58 | 149,053 58 | 130,774.98 | 130,774.98 | 0.07 | -18,278.60 | -18,278.60 |
| 15189T107 | CENTERPOINT ENERGY INC | 25,575.000 | 30.18 | 30.18 | 699,057.64 | 699,057 64 | 771,853.50 | 771,853.50 | 0.41 | 72,795.86 | 72,795.86 |
| 156700106 | CENTURYLINK NC | 11,254.000 | 12.48 | 12.48 | 169,596.82 | 169,596 82 | 140,449.92 | 140,449.92 | 0.07 | -29,146.90 | -29,146.90 |
| 156782104 | CERNER CORP | 2,291.000 | 68.17 | 68.17 | 137,706.62 | 137,706 62 | 156,177.47 | 156,177.47 | 0.08 | 18,470.85 | 18,470.85 |
| 16119P108 | CHARTER COMMUNICATIONS NC | 1,378.000 | 412.12 | 412.12 | 537,400.71 | 537,400.71 | 567,901.36 | 567,901.36 | 0.30 | 30,500.65 | 30,500.65 |
| 166764100 | CHEVRON CORP | 4,943.000 | 118.60 | 118.60 | 593,081.77 | 593,081.77 | 586,239.80 | 586,239.80 | 0.31 | -6,841.97 | -6,841.97 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 169656105 | CH POTLE MEXICAN GRILL INC | 768.000 | 840.47 | 840.47 | 343,706.63 | 343,706 63 | 645,480.96 | 645,480.96 | 0.34 | 301,774.33 | 301,774.33 |
| 171340102 | CHURCH & DWIGHT CO INC | 5,523.000 | 75.24 | 75.24 | 326,131.59 | 326,131 59 | 415,550.52 | 415,550.52 | 0.22 | 89,418.93 | 89,418.93 |
| 172062101 | CINCINNATI FINANCIAL CORP | 6,210.000 | 116.67 | 116.67 | 474,129.92 | 474,129 92 | 724,520.70 | 724,520.70 | 0.38 | 250,390.78 | 250,390.78 |
| 17275R102 | CISCO SYSTEMS NC | 9,345.000 | 49.41 | 49.41 | 373,436.38 | 373,436 38 | 461,736.45 | 461,736.45 | 0.25 | 88,300.07 | 88,300.07 |
| 172908105 | CINTAS CORP | 2,143.000 | 268.10 | 268.10 | 323,559.74 | 323,559.74 | 574,538.30 | 574,538.30 | 0.31 | 250,978.56 | 250,978.56 |
| 172967424 | CITIGROUP NC | 2,487.000 | 69.08 | 69.08 | 153,190.60 | 153,190 60 | 171,801.96 | 171,801.96 | 0.09 | 18,611.36 | 18,611.36 |
| 174610105 | CITIZENS FINANCIAL GROUP INC | 8,448.000 | 35.37 | 35.37 | 284,999.50 | 284,999 50 | 298,805.76 | 298,805.76 | 0.16 | 13,806.26 | 13,806.26 |
| 177376100 | CITRIX SYSTEMS INC | 2,910.000 | 96.52 | 96.52 | 259,870.12 | 259,870.12 | 280,873.20 | 280,873.20 | 0.15 | 21,003.08 | 21,003.08 |
| 189054109 | CLOROX CO/THE | 3,701.000 | 151.87 | 151.87 | 517,307.14 | 517,307.14 | 562,070.87 | 562,070.87 | 0.30 | 44,763.73 | 44,763.73 |
| 191216100 | COCA-COLA CO/THE | 9,325.000 | 54.44 | 54.44 | 440,884.12 | 440,884.12 | 507,653.00 | 507,653.00 | 0.27 | 66,768.88 | 66,768.88 |
| 192446102 | COGNIZANT TECHNOLOGY SOLUTIONS | 8,555.000 | 60.27 | 60.27 | 654,332.00 | 654,332 00 | 515,567.08 | 515,567.08 | 0.27 | -138,764.92 | -138,764.92 |
| 194162103 | COLGATE-PALMOLIVE CO | 4,912.000 | 73.51 | 73.51 | 335,307.02 | 335,307 02 | 361,081.12 | 361,081.12 | 0.19 | 25,774.10 | 25,774.10 |
| 20030N101 | COMCAST CORP | 18,348.000 | 45.08 | 45.08 | 689,185.63 | 689,185 63 | 827,127.84 | 827,127.84 | 0.44 | 137,942.21 | 137,942.21 |
| 200340107 | COMERICA NC | 3,108.000 | 65.99 | 65.99 | 193,824.87 | 193,824 87 | 205,096.92 | 205,096.92 | 0.11 | 11,272.05 | 11,272.05 |
| 205887102 | CONAGRA BRANDS INC | 18,081.000 | 30.68 | 30.68 | 518,820.48 | 518,820.48 | 554,725.08 | 554,725.08 | 0.29 | 35,904.60 | 35,904.60 |
| 20605P101 | CONCHO RESOURCES INC | 4,566.000 | 67.90 | 67.90 | 569,637.90 | 569,637 90 | 310,031.40 | 310,031.40 | 0.16 | -259,606.50 | -259,606.50 |
| 20825C104 | CONOCOPHILLIPS | 6,575.000 | 56.98 | 56.98 | 423,014.26 | 423,014 26 | 374,643.50 | 374,643.50 | 0.20 | -48,370.76 | -48,370.76 |
| 209115104 | CONSOLIDATED EDISON INC | 9,240.000 | 94.47 | 94.47 | 740,187.49 | 740,187.49 | 872,902.80 | 872,902.80 | 0.46 | 132,715.31 | 132,715.31 |
| 21036P108 | CONSTELLATION BRANDS NC | 1,908.000 | 207.28 | 207.28 | 342,694.86 | 342,694 86 | 395,490.24 | 395,490.24 | 0.21 | 52,795.38 | 52,795.38 |
| 216648402 | COOPER COS INC/THE | 2,761.000 | 297.00 | 297.00 | 612,418.33 | 612,418 33 | 820,017.00 | 820,017.00 | 0.44 | 207,598.67 | 207,598.67 |
| 217204106 | COPART INC | 2,778.000 | 80.33 | 80.33 | 148,476.21 | 148,476 21 | 223,156.74 | 223,156.74 | 0.12 | 74,680.53 | 74,680.53 |
| 219350105 | CORNING NC | 13,649.000 | 28.52 | 28.52 | 389,614.51 | 389,614 51 | 389,269.48 | 389,269.48 | 0.21 | -345.03 | -345.03 |
| 22160K105 | COSTCO WHOLESALE CORP | 2,216.000 | 288.11 | 288.11 | 476,823.59 | 476,823 59 | 638,451.76 | 638,451.76 | 0.34 | 161,628.17 | 161,628.17 |
| 22160N109 | COSTAR GROUP INC | 1,788.000 | 593.20 | 593.20 | 874,171.76 | 874,171.76 | 1,060,641.60 | 1,060,641.60 | 0.56 | 186,469.84 | 186,469.84 |
| 22304C100 | COVETRUS NC | 0.400 | 11.89 | 11.89 | 17.69 | 17 69 | 4.76 | 4.76 | 0.00 | -12.93 | -12.93 |
| 231021106 | CUMMINS INC | 3,423.000 | 162.67 | 162.67 | 538,112.52 | 538,112 52 | 556,819.41 | 556,819.41 | 0.30 | 18,706.89 | 18,706.89 |
| 23331A109 | DR HORTON NC | 16,342.000 | 52.71 | 52.71 | 649,015.91 | 649,015 91 | 861,386.82 | 861,386.82 | 0.46 | 212,370.91 | 212,370.91 |
| 233331107 | DTE ENERGY CO | 6,139.000 | 132.96 | 132.96 | 652,621.24 | 652,621 24 | 816,241.44 | 816,241.44 | 0.43 | 163,620.20 | 163,620.20 |
| 23355L106 | DXC TECHNOLOGY CO | 9,932.000 | 29.50 | 29.50 | 611,463.29 | 611,463 29 | 292,994.00 | 292,994.00 | 0.16 | -318,469.29 | -318,469.29 |
| 235851102 | DANAHER CORP | 3,849.000 | 144.43 | 144.43 | 347,915.81 | 347,915 81 | 555,911.07 | 555,911.07 | 0.30 | 207,995.26 | 207,995.26 |
| 237194105 | DARDEN RESTAURANTS NC | 5,810.000 | 118.22 | 118.22 | 478,444.36 | 478,444 36 | 686,858.20 | 686,858.20 | 0.36 | 208,413.84 | 208,413.84 |
| 247361702 | DELTA A R L NES INC | 10,360.000 | 57.60 | 57.60 | 495,967.33 | 495,967 33 | 596,736.00 | 596,736.00 | 0.32 | 100,768.67 | 100,768.67 |
| 24906P109 | DENTSPLY SIRONA NC | 8,198.000 | 53.31 | 53.31 | 395,025.74 | 395,025.74 | 437,035.38 | 437,035.38 | 0.23 | 42,009.64 | 42,009.64 |
| 25179M103 | DEVON ENERGY CORP | 11,942.000 | 24.06 | 24.06 | 342,743.76 | 342,743.76 | 287,324.52 | 287,324.52 | 0.15 | -55,419.24 | -55,419.24 |
| 254687106 | WALT DISNEY CO/THE | 5,934.000 | 130.32 | 130.32 | 609,144.90 | 609,144 90 | 773,318.88 | 773,318.88 | 0.41 | 164,173.98 | 164,173.98 |
| 256677105 | DOLLAR GENERAL CORP | 2,884.000 | 158.94 | 158.94 | 322,113.88 | 322,113 88 | 458,382.96 | 458,382.96 | 0.24 | 136,269.08 | 136,269.08 |
| 256746108 | DOLLAR TREE INC | 2,894.000 | 114.16 | 114.16 | 261,387.62 | 261,387 62 | 330,379.04 | 330,379.04 | 0.18 | 68,991.42 | 68,991.42 |
| 25746U109 | DOM NION ENERGY INC | 21,034.000 | 81.04 | 81.04 | 1,611,742.87 | 1,611,742 87 | 1,704,595.36 | 1,704,595.36 | 0.91 | 92,852.49 | 92,852.49 |
| 25754A201 | DOM NO'S PIZZA NC | 470.000 | 244.59 | 244.59 | 130,049.52 | 130,049 52 | 114,957.30 | 114,957.30 | 0.06 | -15,092.22 | -15,092.22 |
| 260003108 | DOVER CORP | 5,954.000 | 99.56 | 99.56 | 446,653.39 | 446,653 39 | 592,780.24 | 592,780.24 | 0.31 | 146,126.85 | 146,126.85 |
| 264411505 | DUKE REALTY CORP | 16,072.000 | 33.97 | 33.97 | 437,289.32 | 437,289 32 | 545,965.84 | 545,965.84 | 0.29 | 108,676.52 | 108,676.52 |
| 26441C204 | DUKE ENERGY CORP | 21,124.000 | 95.86 | 95.86 | 1,846,794.76 | 1,846,794.76 | 2,024,946.64 | 2,024,946.64 | 1.08 | 178,151.88 | 178,151.88 |
| 26614N102 | DUPONT DE NEMOURS NC | 3,036.000 | 71.31 | 71.31 | 238,499.18 | 238,499.18 | 216,497.16 | 216,497.16 | 0.12 | -22,002.02 | -22,002.02 |
| 26875P101 | EOG RESOURCES INC | 3,922.000 | 74.22 | 74.22 | 384,822.03 | 384,822 03 | 291,090.84 | 291,090.84 | 0.15 | -93,731.19 | -93,731.19 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 277432100 | EASTMAN CHEMICAL CO | 5,550.000 | 73.83 | 73.83 | 470,398.40 | 470,398.40 | 409,756.50 | 409,756.50 | 0.22 | -60,641.90 | -60,641.90 |
| 278642103 | EBAY INC | 16,854.000 | 38.98 | 38.98 | 663,939.73 | 663,939.73 | 656,968.92 | 656,968.92 | 0.35 | -6,970.81 | -6,970.81 |
| 278865100 | ECOLAB NC | 1,917.000 | 198.04 | 198.04 | 270,955.87 | 270,955 87 | 379,642.68 | 379,642.68 | 0.20 | 108,686.81 | 108,686.81 |
| 281020107 | EDISON INTERNATIONAL | 9,768.000 | 75.42 | 75.42 | 673,455.52 | 673,455 52 | 736,702.56 | 736,702.56 | 0.39 | 63,247.04 | 63,247.04 |
| 28176E108 | EDWARDS LIFESCIENCES CORP | 1,627.000 | 219.91 | 219.91 | 225,475.91 | 225,475 91 | 357,793.57 | 357,793.57 | 0.19 | 132,317.66 | 132,317.66 |
| 28414H103 | ELANCO ANIMAL HEALTH INC | 8,851.000 | 26.59 | 26.59 | 301,891.68 | 301,891 68 | 235,348.09 | 235,348.09 | 0.13 | -66,543.59 | -66,543.59 |
| 285512109 | ELECTRONIC ARTS NC | 6,798.000 | 97.82 | 97.82 | 672,136.61 | 672,136 61 | 664,980.36 | 664,980.36 | 0.35 | -7,156.25 | -7,156.25 |
| 291011104 | EMERSON ELECTRIC CO | 4,609.000 | 66.86 | 66.86 | 299,007.61 | 299,007 61 | 308,157.74 | 308,157.74 | 0.16 | 9,150.13 | 9,150.13 |
| 29364G103 | ENTERGY CORP | 13,557.000 | 117.36 | 117.36 | 1,195,020.44 | 1,195,020.44 | 1,591,049.52 | 1,591,049.52 | 0.85 | 396,029.08 | 396,029.08 |
| 29476L107 | EQUITY RESIDENTIAL | 4,642.000 | 86.26 | 86.26 | 316,622.03 | 316,622 03 | 400,418.92 | 400,418.92 | 0.21 | 83,796.89 | 83,796.89 |
| 297178105 | ESSEX PROPERTY TRUST INC | 2,970.000 | 326.65 | 326.65 | 731,917.17 | 731,917.17 | 970,150.50 | 970,150.50 | 0.52 | 238,233.33 | 238,233.33 |
| 30034W106 | EVERGY INC | 15,826.000 | 66.56 | 66.56 | 891,725.90 | 891,725 90 | 1,053,378.56 | 1,053,378.56 | 0.56 | 161,652.66 | 161,652.66 |
| 30040W108 | EVERSOURCE ENERGY | 7,179.000 | 85.47 | 85.47 | 446,817.32 | 446,817 32 | 613,589.13 | 613,589.13 | 0.33 | 166,771.81 | 166,771.81 |
| 30161N101 | EXELON CORP | 19,334.000 | 48.31 | 48.31 | 801,058.82 | 801,058 82 | 934,025.54 | 934,025.54 | 0.50 | 132,966.72 | 132,966.72 |
| 30212P303 | EXPEDIA GROUP INC | 1,677.000 | 134.41 | 134.41 | 208,242.00 | 208,242 00 | 225,405.57 | 225,405.57 | 0.12 | 17,163.57 | 17,163.57 |
| 302130109 | EXPEDITORS INTERNATIONAL OF WA | 3,627.000 | 74.29 | 74.29 | 206,399.68 | 206,399 68 | 269,449.83 | 269,449.83 | 0.14 | 63,050.15 | 63,050.15 |
| 30231G102 | EXXON MOBIL CORP | 5,963.000 | 70.61 | 70.61 | 507,042.30 | 507,042 30 | 421,047.43 | 421,047.43 | 0.22 | -85,994.87 | -85,994.87 |
| 30303M102 | FACEBOOK NC | 998.000 | 178.08 | 178.08 | 189,099.94 | 189,099 94 | 177,723.84 | 177,723.84 | 0.09 | -11,376.10 | -11,376.10 |
| 303075105 | FACTSET RESEARCH SYSTEMS NC | 1,241.000 | 242.97 | 242.97 | 350,849.07 | 350,849 07 | 301,525.77 | 301,525.77 | 0.16 | -49,323.30 | -49,323.30 |
| 311900104 | FASTENAL CO | 10,293.000 | 32.67 | 32.67 | 287,722.35 | 287,722 35 | 336,272.31 | 336,272.31 | 0.18 | 48,549.96 | 48,549.96 |
| 313747206 | FEDERAL REALTY INVESTMENT TRUS | 1,821.000 | 136.14 | 136.14 | 232,758.95 | 232,758 95 | 247,910.94 | 247,910.94 | 0.13 | 15,151.99 | 15,151.99 |
| 31428X106 | FEDEX CORP | 984.000 | 145.57 | 145.57 | 185,699.93 | 185,699 93 | 143,240.88 | 143,240.88 | 0.08 | -42,459.05 | -42,459.05 |
| 315616102 | F5 NETWORKS NC | 4,115.000 | 140.42 | 140.42 | 622,323.10 | 622,323.10 | 577,828.30 | 577,828.30 | 0.31 | -44,494.80 | -44,494.80 |
| 31620M106 | F DELITY NATIONAL INFORMATION | 4,915.000 | 132.76 | 132.76 | 407,430.45 | 407,430.45 | 652,515.40 | 652,515.40 | 0.35 | 245,084.95 | 245,084.95 |
| 31620R303 | F DELITY NATIONAL F NANCIAL IN | 11,344.000 | 44.41 | 44.41 | 391,038.93 | 391,038 93 | 503,787.04 | 503,787.04 | 0.27 | 112,748.11 | 112,748.11 |
| 316773100 | F FTH THIRD BANCORP | 22,481.000 | 27.38 | 27.38 | 576,916.80 | 576,916 80 | 615,529.78 | 615,529.78 | 0.33 | 38,612.98 | 38,612.98 |
| 337738108 | FISERV INC | 4,698.000 | 103.59 | 103.59 | 316,965.83 | 316,965 83 | 486,665.82 | 486,665.82 | 0.26 | 169,699.99 | 169,699.99 |
| 337932107 | F RSTENERGY CORP | 27,855.000 | 48.23 | 48.23 | 1,016,541.86 | 1,016,541 86 | 1,343,446.65 | 1,343,446.65 | 0.71 | 326,904.79 | 326,904.79 |
| 345370860 | FORD MOTOR CO | 36,478.000 | 9.16 | 9.16 | 376,082.21 | 376,082 21 | 334,138.48 | 334,138.48 | 0.18 | -41,943.73 | -41,943.73 |
| 34959E109 | FORTINET INC | 3,738.000 | 76.76 | 76.76 | 286,678.81 | 286,678 81 | 286,928.88 | 286,928.88 | 0.15 | 250.07 | 250.07 |
| 34959J108 | FORTIVE CORP | 6,445.000 | 68.56 | 68.56 | 472,640.32 | 472,640 32 | 441,869.20 | 441,869.20 | 0.23 | -30,771.12 | -30,771.12 |
| 34964C106 | FORTUNE BRANDS HOME & SECURITY | 3,154.000 | 54.70 | 54.70 | 164,887.33 | 164,887 33 | 172,523.80 | 172,523.80 | 0.09 | 7,636.47 | 7,636.47 |
| 354613101 | FRANKLIN RESOURCES INC | 7,923.000 | 28.86 | 28.86 | 263,950.48 | 263,950.48 | 228,657.78 | 228,657.78 | 0.12 | -35,292.70 | -35,292.70 |
| 35671D857 | FREEPORT-MCMORAN INC | 25,318.000 | 9.57 | 9.57 | 340,558.04 | 340,558 04 | 242,293.26 | 242,293.26 | 0.13 | -98,264.78 | -98,264.78 |
| 363576109 | ARTHUR J GALLAGHER & CO | 5,172.000 | 89.57 | 89.57 | 298,130.09 | 298,130 09 | 463,256.04 | 463,256.04 | 0.25 | 165,125.95 | 165,125.95 |
| 366651107 | GARTNER NC | 2,481.000 | 142.99 | 142.99 | 392,608.82 | 392,608 82 | 354,758.19 | 354,758.19 | 0.19 | -37,850.63 | -37,850.63 |
| 37045V100 | GENERAL MOTORS CO | 10,436.000 | 37.48 | 37.48 | 406,604.12 | 406,604.12 | 391,141.28 | 391,141.28 | 0.21 | -15,462.84 | -15,462.84 |
| 372460105 | GENUINE PARTS CO | 4,801.000 | 99.59 | 99.59 | 466,553.60 | 466,553 60 | 478,131.59 | 478,131.59 | 0.25 | 11,577.99 | 11,577.99 |
| 375558103 | G LEAD SC ENCES NC | 4,219.000 | 63.38 | 63.38 | 283,367.03 | 283,367 03 | 267,400.22 | 267,400.22 | 0.14 | -15,966.81 | -15,966.81 |
| 37940X102 | GLOBAL PAYMENTS INC | 4,039.158 | 159.00 | 159.00 | 349,213.34 | 349,213 34 | 642,226.12 | 642,226.12 | 0.34 | 293,012.78 | 293,012.78 |
| 37959E102 | GLOBE LIFE INC | 4,288.000 | 95.76 | 95.76 | 341,834.95 | 341,834 95 | 410,618.88 | 410,618.88 | 0.22 | 68,783.93 | 68,783.93 |
| 380237107 | GODADDY NC | 3,716.000 | 65.98 | 65.98 | 256,792.32 | 256,792 32 | 245,181.68 | 245,181.68 | 0.13 | -11,610.64 | -11,610.64 |
| 38141G104 | GOLDMAN SACHS GROUP INC/THE | 841.000 | 207.23 | 207.23 | 165,819.50 | 165,819 50 | 174,280.43 | 174,280.43 | 0.09 | 8,460.93 | 8,460.93 |
| 384802104 | WW GRA NGER INC | 1,027.000 | 297.15 | 297.15 | 255,353.86 | 255,353 86 | 305,173.05 | 305,173.05 | 0.16 | 49,819.19 | 49,819.19 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40412C101 | HCA HEALTHCARE INC | 2,155.000 | 120.42 | 120.42 | 272,766.01 | 272,766 01 | 259,505.10 | 259,505.10 | 0.14 | -13,260.91 | -13,260.91 |
| 40414L109 | HEALTHPEAK PROPERT ES INC | 15,069.000 | 35.63 | 35.63 | 456,308.86 | 456,308 86 | 536,908.47 | 536,908.47 | 0.29 | 80,599.61 | 80,599.61 |
| 416515104 | HARTFORD FINANCIAL SERVICES GR | 14,712.000 | 60.61 | 60.61 | 731,114.48 | 731,114.48 | 891,694.32 | 891,694.32 | 0.47 | 160,579.84 | 160,579.84 |
| 418056107 | HASBRO NC | 5,315.000 | 118.69 | 118.69 | 460,927.11 | 460,927.11 | 630,837.35 | 630,837.35 | 0.34 | 169,910.24 | 169,910.24 |
| 427866108 | HERSHEY CO/THE | 4,530.000 | 154.99 | 154.99 | 511,908.51 | 511,908 51 | 702,104.70 | 702,104.70 | 0.37 | 190,196.19 | 190,196.19 |
| 42809H107 | HESS CORP | 10,798.000 | 60.48 | 60.48 | 620,811.33 | 620,811 33 | 653,063.04 | 653,063.04 | 0.35 | 32,251.71 | 32,251.71 |
| 42824C109 | HEWLETT PACKARD ENTERPRISE CO | 23,904.000 | 15.17 | 15.17 | 358,597.51 | 358,597 51 | 362,623.68 | 362,623.68 | 0.19 | 4,026.17 | 4,026.17 |
| 436106108 | HOLLYFRONTIER CORP | 3,250.000 | 53.64 | 53.64 | 146,390.40 | 146,390.40 | 174,330.00 | 174,330.00 | 0.09 | 27,939.60 | 27,939.60 |
| 436440101 | HOLOGIC INC | 12,417.000 | 50.49 | 50.49 | 537,552.11 | 537,552.11 | 626,934.33 | 626,934.33 | 0.33 | 89,382.22 | 89,382.22 |
| 437076102 | HOME DEPOT NC/THE | 2,459.000 | 232.02 | 232.02 | 451,987.81 | 451,987 81 | 570,537.18 | 570,537.18 | 0.30 | 118,549.37 | 118,549.37 |
| 438516106 | HONEYWELL INTERNATIONAL INC | 2,123.000 | 169.20 | 169.20 | 278,467.34 | 278,467 34 | 359,211.60 | 359,211.60 | 0.19 | 80,744.26 | 80,744.26 |
| 440452100 | HORMEL FOODS CORP | 14,190.000 | 43.73 | 43.73 | 546,758.88 | 546,758 88 | 620,528.70 | 620,528.70 | 0.33 | 73,769.82 | 73,769.82 |
| 44107P104 | HOST HOTELS & RESORTS NC | 16,552.000 | 17.29 | 17.29 | 308,795.35 | 308,795 35 | 286,184.08 | 286,184.08 | 0.15 | -22,611.27 | -22,611.27 |
| 444859102 | HUMANA INC | 632.000 | 255.67 | 255.67 | 156,147.33 | 156,147 33 | 161,583.44 | 161,583.44 | 0.09 | 5,436.11 | 5,436.11 |
| 445658107 | JB HUNT TRANSPORT SERVICES INC | 3,464.000 | 110.65 | 110.65 | 357,772.19 | 357,772.19 | 383,291.60 | 383,291.60 | 0.20 | 25,519.41 | 25,519.41 |
| 446413106 | HUNTINGTON INGALLS INDUSTR ES | 1,411.000 | 211.79 | 211.79 | 292,574.17 | 292,574.17 | 298,835.69 | 298,835.69 | 0.16 | 6,261.52 | 6,261.52 |
| 44919P508 | IAC/ NTERACTIVECORP | 3,708.000 | 217.97 | 217.97 | 628,461.03 | 628,461 03 | 808,232.76 | 808,232.76 | 0.43 | 179,771.73 | 179,771.73 |
| 45167R104 | IDEX CORP | 1,678.000 | 163.88 | 163.88 | 283,728.49 | 283,728.49 | 274,990.64 | 274,990.64 | 0.15 | -8,737.85 | -8,737.85 |
| 45168D104 | IDEXX LABORATORIES INC | 2,186.000 | 271.93 | 271.93 | 361,762.71 | 361,762.71 | 594,438.98 | 594,438.98 | 0.32 | 232,676.27 | 232,676.27 |
| 452308109 | ILLINOIS TOOL WORKS INC | 2,139.000 | 156.49 | 156.49 | 287,440.57 | 287,440 57 | 334,732.11 | 334,732.11 | 0.18 | 47,291.54 | 47,291.54 |
| 458140100 | INTEL CORP | 6,633.000 | 51.53 | 51.53 | 294,985.48 | 294,985.48 | 341,798.49 | 341,798.49 | 0.18 | 46,813.01 | 46,813.01 |
| 45866F104 | INTERCONT NENTAL EXCHANGE NC | 10,016.000 | 92.27 | 92.27 | 715,895.12 | 715,895.12 | 924,176.32 | 924,176.32 | 0.49 | 208,281.20 | 208,281.20 |
| 459200101 | INTERNATIONAL BUS NESS MACH NE | 3,133.000 | 145.42 | 145.42 | 447,618.50 | 447,618 50 | 455,600.86 | 455,600.86 | 0.24 | 7,982.36 | 7,982.36 |
| 459506101 | INTERNATIONAL FLAVORS & FRAGRA | 2,876.000 | 122.69 | 122.69 | 397,074.52 | 397,074 52 | 352,856.44 | 352,856.44 | 0.19 | -44,218.08 | -44,218.08 |
| 460146103 | INTERNATIONAL PAPER CO | 5,529.000 | 41.82 | 41.82 | 237,763.59 | 237,763 59 | 231,222.78 | 231,222.78 | 0.12 | -6,540.81 | -6,540.81 |
| 461202103 | INTUIT NC | 1,291.000 | 265.94 | 265.94 | 208,312.64 | 208,312 64 | 343,328.54 | 343,328.54 | 0.18 | 135,015.90 | 135,015.90 |
| 46266C105 | IQVIA HOLDINGS INC | 4,603.000 | 149.38 | 149.38 | 561,500.91 | 561,500 91 | 687,596.14 | 687,596.14 | 0.37 | 126,095.23 | 126,095.23 |
| 46625H100 | JPMORGAN CHASE & CO | 6,153.000 | 117.69 | 117.69 | 559,111.11 | 559,111.11 | 724,146.57 | 724,146.57 | 0.38 | 165,035.46 | 165,035.46 |
| 469814107 | JACOBS ENGINEER NG GROUP INC | 7,753.000 | 91.50 | 91.50 | 649,124.58 | 649,124 58 | 709,399.50 | 709,399.50 | 0.38 | 60,274.92 | 60,274.92 |
| 478160104 | JOHNSON & JOHNSON | 2,609.000 | 129.38 | 129.38 | 355,211.68 | 355,211 68 | 337,552.42 | 337,552.42 | 0.18 | -17,659.26 | -17,659.26 |
| 48203R104 | JUNIPER NETWORKS INC | 16,320.000 | 24.75 | 24.75 | 417,631.78 | 417,631.78 | 403,920.00 | 403,920.00 | 0.21 | -13,711.78 | -13,711.78 |
| 482480100 | KLA CORP | 3,850.000 | 159.45 | 159.45 | 399,435.88 | 399,435 88 | 613,882.50 | 613,882.50 | 0.33 | 214,446.62 | 214,446.62 |
| 485170302 | KANSAS CITY SOUTHERN | 5,179.000 | 133.01 | 133.01 | 525,658.41 | 525,658.41 | 688,858.79 | 688,858.79 | 0.37 | 163,200.38 | 163,200.38 |
| 487836108 | KELLOGG CO | 2,655.000 | 64.35 | 64.35 | 175,900.90 | 175,900 90 | 170,849.25 | 170,849.25 | 0.09 | -5,051.65 | -5,051.65 |
| 493267108 | KEYCORP | 8,130.000 | 17.84 | 17.84 | 140,889.65 | 140,889 65 | 145,039.20 | 145,039.20 | 0.08 | 4,149.55 | 4,149.55 |
| 49338L103 | KEYSIGHT TECHNOLOGIES NC | 4,303.000 | 97.25 | 97.25 | 375,769.37 | 375,769 37 | 418,466.75 | 418,466.75 | 0.22 | 42,697.38 | 42,697.38 |
| 494368103 | KIMBERLY-CLARK CORP | 3,371.000 | 142.05 | 142.05 | 427,790.67 | 427,790 67 | 478,850.55 | 478,850.55 | 0.25 | 51,059.88 | 51,059.88 |
| 49456B101 | KINDER MORGAN NC/DE | 31,886.000 | 20.61 | 20.61 | 624,320.84 | 624,320 84 | 657,170.46 | 657,170.46 | 0.35 | 32,849.62 | 32,849.62 |
| 500255104 | KOHL'S CORP | 8,428.000 | 49.66 | 49.66 | 507,595.28 | 507,595 28 | 418,534.48 | 418,534.48 | 0.22 | -89,060.80 | -89,060.80 |
| 500754106 | KRAFT HEINZ CO/THE | 10,537.000 | 27.93 | 27.93 | 518,038.45 | 518,038.45 | 294,351.10 | 294,351.10 | 0.16 | -223,687.35 | -223,687.35 |
| 501044101 | KROGER CO/THE | 12,784.000 | 25.78 | 25.78 | 364,512.04 | 364,512 04 | 329,571.52 | 329,571.52 | 0.18 | -34,940.52 | -34,940.52 |
| 501889208 | LKQ CORP | 12,229.000 | 31.45 | 31.45 | 359,851.03 | 359,851 03 | 384,602.05 | 384,602.05 | 0.20 | 24,751.02 | 24,751.02 |
| 502431109 | L3HARRIS TECHNOLOGIES NC | 8,550.000 | 208.64 | 208.64 | 1,166,491.30 | 1,166,491 30 | 1,783,872.00 | 1,783,872.00 | 0.95 | 617,380.70 | 617,380.70 |
| 50540R409 | LABORATORY CORP OF AMERICA HOL | 4,488.000 | 168.00 | 168.00 | 654,210.72 | 654,210.72 | 753,984.00 | 753,984.00 | 0.40 | 99,773.28 | 99,773.28 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 512807108 | LAM RESEARCH CORP | 1,053.000 | 231.11 | 231.11 | 194,791.21 | 194,791 21 | 243,358.83 | 243,358.83 | 0.13 | 48,567.62 | 48,567.62 |
| 518439104 | ESTEE LAUDER COS NC/THE | 4,224.000 | 198.95 | 198.95 | 476,520.13 | 476,520.13 | 840,364.80 | 840,364.80 | 0.45 | 363,844.67 | 363,844.67 |
| 521865204 | LEAR CORP | 2,281.000 | 117.90 | 117.90 | 350,490.71 | 350,490.71 | 268,929.90 | 268,929.90 | 0.14 | -81,560.81 | -81,560.81 |
| 526057104 | LENNAR CORP | 11,942.000 | 55.85 | 55.85 | 577,046.45 | 577,046.45 | 666,960.70 | 666,960.70 | 0.35 | 89,914.25 | 89,914.25 |
| 532457108 | ELI L LLY & CO | 2,904.000 | 111.83 | 111.83 | 282,573.62 | 282,573 62 | 324,754.32 | 324,754.32 | 0.17 | 42,180.70 | 42,180.70 |
| 534187109 | LINCOLN NATIONAL CORP | 4,702.000 | 60.32 | 60.32 | 276,993.71 | 276,993.71 | 283,624.64 | 283,624.64 | 0.15 | 6,630.93 | 6,630.93 |
| 540424108 | LOEWS CORP | 8,162.000 | 51.48 | 51.48 | 363,175.20 | 363,175 20 | 420,179.76 | 420,179.76 | 0.22 | 57,004.56 | 57,004.56 |
| 548661107 | LOWE'S COS NC | 2,641.000 | 109.96 | 109.96 | 248,073.21 | 248,073 21 | 290,404.36 | 290,404.36 | 0.15 | 42,331.15 | 42,331.15 |
| 550021109 | LULULEMON ATHLETICA INC | 2,515.000 | 192.53 | 192.53 | 328,332.16 | 328,332.16 | 484,212.95 | 484,212.95 | 0.26 | 155,880.79 | 155,880.79 |
| 55261F104 | M&T BANK CORP | 2,185.000 | 157.97 | 157.97 | 317,028.99 | 317,028 99 | 345,164.45 | 345,164.45 | 0.18 | 28,135.46 | 28,135.46 |
| 552953101 | MGM RESORTS NTERNATIONAL | 19,282.000 | 27.72 | 27.72 | 530,075.74 | 530,075.74 | 534,497.04 | 534,497.04 | 0.28 | 4,421.30 | 4,421.30 |
| 55354G100 | MSCI INC | 2,485.000 | 217.75 | 217.75 | 360,229.88 | 360,229 88 | 541,108.75 | 541,108.75 | 0.29 | 180,878.87 | 180,878.87 |
| 55616P104 | MACY'S INC | 14,375.000 | 15.54 | 15.54 | 455,314.41 | 455,314.41 | 223,387.50 | 223,387.50 | 0.12 | -231,926.91 | -231,926.91 |
| 565849106 | MARATHON OIL CORP | 43,125.000 | 12.27 | 12.27 | 751,165.18 | 751,165.18 | 529,143.75 | 529,143.75 | 0.28 | -222,021.43 | -222,021.43 |
| 570535104 | MARKEL CORP | 449.000 | 1,181.90 | 1,181.90 | 449,545.08 | 449,545 08 | 530,673.10 | 530,673.10 | 0.28 | 81,128.02 | 81,128.02 |
| 571748102 | MARSH & MCLENNAN COS INC | 3,631.000 | 100.05 | 100.05 | 277,763.07 | 277,763 07 | 363,281.55 | 363,281.55 | 0.19 | 85,518.48 | 85,518.48 |
| 574599106 | MASCO CORP | 4,078.000 | 41.68 | 41.68 | 137,305.61 | 137,305 61 | 169,971.04 | 169,971.04 | 0.09 | 32,665.43 | 32,665.43 |
| 57636Q104 | MASTERCARD INC | 1,310.000 | 271.57 | 271.57 | 206,548.82 | 206,548 82 | 355,756.70 | 355,756.70 | 0.19 | 149,207.88 | 149,207.88 |
| 57772K101 | MAX M INTEGRATED PRODUCTS INC | 6,881.000 | 57.91 | 57.91 | 342,715.50 | 342,715 50 | 398,478.71 | 398,478.71 | 0.21 | 55,763.21 | 55,763.21 |
| 579780206 | MCCORMICK & CO INC/MD | 2,864.000 | 156.30 | 156.30 | 348,044.83 | 348,044 83 | 447,643.20 | 447,643.20 | 0.24 | 99,598.37 | 99,598.37 |
| 580135101 | MCDONALD'S CORP | 3,903.000 | 214.71 | 214.71 | 636,465.67 | 636,465 67 | 838,013.13 | 838,013.13 | 0.45 | 201,547.46 | 201,547.46 |
| 58933Y105 | MERCK & CO INC | 4,369.000 | 84.18 | 84.18 | 289,802.32 | 289,802 32 | 367,782.42 | 367,782.42 | 0.20 | 77,980.10 | 77,980.10 |
| 59156R108 | METL FE NC | 3,322.000 | 47.16 | 47.16 | 145,393.42 | 145,393.42 | 156,665.52 | 156,665.52 | 0.08 | 11,272.10 | 11,272.10 |
| 592688105 | METTLER-TOLEDO INTERNATIONAL I | 612.000 | 704.40 | 704.40 | 423,833.02 | 423,833 02 | 431,092.80 | 431,092.80 | 0.23 | 7,259.78 | 7,259.78 |
| 594918104 | MICROSOFT CORP | 2,716.000 | 139.03 | 139.03 | 217,595.78 | 217,595.78 | 377,605.48 | 377,605.48 | 0.20 | 160,009.70 | 160,009.70 |
| 595017104 | MICROCHIP TECHNOLOGY INC | 3,791.000 | 92.91 | 92.91 | 333,194.40 | 333,194.40 | 352,221.81 | 352,221.81 | 0.19 | 19,027.41 | 19,027.41 |
| 595112103 | MICRON TECHNOLOGY INC | 8,943.000 | 42.85 | 42.85 | 281,746.43 | 281,746.43 | 383,207.55 | 383,207.55 | 0.20 | 101,461.12 | 101,461.12 |
| 59522J103 | MID-AMERICA APARTMENT COMMUNIT | 4,005.000 | 130.01 | 130.01 | 428,227.92 | 428,227 92 | 520,690.05 | 520,690.05 | 0.28 | 92,462.13 | 92,462.13 |
| 608190104 | MOHAWK INDUSTR ES NC | 2,636.000 | 124.07 | 124.07 | 463,618.00 | 463,618 00 | 327,048.52 | 327,048.52 | 0.17 | -136,569.48 | -136,569.48 |
| 60871R209 | MOLSON COORS BREW NG CO | 4,568.000 | 57.50 | 57.50 | 390,076.51 | 390,076 51 | 262,660.00 | 262,660.00 | 0.14 | -127,416.51 | -127,416.51 |
| 609207105 | MONDELEZ NTERNATIONAL INC | 10,222.000 | 55.32 | 55.32 | 460,916.96 | 460,916 96 | 565,481.04 | 565,481.04 | 0.30 | 104,564.08 | 104,564.08 |
| 617446448 | MORGAN STANLEY | 4,330.000 | 42.67 | 42.67 | 180,065.15 | 180,065.15 | 184,761.10 | 184,761.10 | 0.10 | 4,695.95 | 4,695.95 |
| 61945C103 | MOSAIC CO/THE | 8,161.000 | 20.50 | 20.50 | 241,083.30 | 241,083 30 | 167,300.50 | 167,300.50 | 0.09 | -73,782.80 | -73,782.80 |
| 620076307 | MOTOROLA SOLUTIONS NC | 3,465.000 | 170.41 | 170.41 | 297,721.01 | 297,721 01 | 590,470.65 | 590,470.65 | 0.31 | 292,749.64 | 292,749.64 |
| 62944T105 | NVR INC | 100.000 | 3,717.35 | 3,717.35 | 292,104.34 | 292,104 34 | 371,735.00 | 371,735.00 | 0.20 | 79,630.66 | 79,630.66 |
| 631103108 | NASDAQ NC | 3,308.000 | 99.35 | 99.35 | 245,342.92 | 245,342 92 | 328,649.80 | 328,649.80 | 0.17 | 83,306.88 | 83,306.88 |
| 637071101 | NATIONAL OILWELL VARCO NC | 18,747.000 | 21.20 | 21.20 | 577,688.58 | 577,688 58 | 397,436.40 | 397,436.40 | 0.21 | -180,252.18 | -180,252.18 |
| 64110D104 | NETAPP INC | 3,229.000 | 52.51 | 52.51 | 129,959.49 | 129,959.49 | 169,554.79 | 169,554.79 | 0.09 | 39,595.30 | 39,595.30 |
| 651639106 | NEWMONT GOLDCORP CORP | 12,108.000 | 37.92 | 37.92 | 464,255.61 | 464,255 61 | 459,135.36 | 459,135.36 | 0.24 | -5,120.25 | -5,120.25 |
| 65339F101 | NEXTERA ENERGY NC | 3,492.000 | 232.99 | 232.99 | 536,672.34 | 536,672 34 | 813,601.08 | 813,601.08 | 0.43 | 276,928.74 | 276,928.74 |
| 654106103 | NIKE INC | 12,440.000 | 93.92 | 93.92 | 976,827.50 | 976,827 50 | 1,168,364.80 | 1,168,364.80 | 0.62 | 191,537.30 | 191,537.30 |
| 65473P105 | NISOURCE INC | 25,719.000 | 29.92 | 29.92 | 664,709.23 | 664,709 23 | 769,512.48 | 769,512.48 | 0.41 | 104,803.25 | 104,803.25 |
| 655044105 | NOBLE ENERGY NC | 25,888.000 | 22.46 | 22.46 | 720,628.67 | 720,628 67 | 581,444.48 | 581,444.48 | 0.31 | -139,184.19 | -139,184.19 |
| 655844108 | NORFOLK SOUTHERN CORP | 2,583.000 | 179.66 | 179.66 | 376,659.68 | 376,659 68 | 464,061.78 | 464,061.78 | 0.25 | 87,402.10 | 87,402.10 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 670346105 | NUCOR CORP | 5,958.000 | 50.91 | 50.91 | 338,878.41 | 338,878.41 | 303,321.78 | 303,321.78 | 0.16 | -35,556.63 | -35,556.63 |
| 67103H107 | O'REILLY AUTOMOTIVE INC | 536.000 | 398.51 | 398.51 | 182,547.48 | 182,547.48 | 213,601.36 | 213,601.36 | 0.11 | 31,053.88 | 31,053.88 |
| 674599105 | OCCIDENTAL PETROLEUM CORP | 13,984.000 | 44.47 | 44.47 | 963,225.55 | 963,225 55 | 621,868.48 | 621,868.48 | 0.33 | -341,357.07 | -341,357.07 |
| 679295105 | OKTA NC | 2,202.000 | 98.46 | 98.46 | 267,587.92 | 267,587 92 | 216,808.92 | 216,808.92 | 0.12 | -50,779.00 | -50,779.00 |
| 693475105 | PNC F NANCIAL SERVICES GROUP I | 3,744.000 | 140.16 | 140.16 | 436,267.54 | 436,267 54 | 524,759.04 | 524,759.04 | 0.28 | 88,491.50 | 88,491.50 |
| 693506107 | PPG INDUSTR ES INC | 5,621.000 | 118.51 | 118.51 | 641,113.05 | 641,113 05 | 666,144.71 | 666,144.71 | 0.35 | 25,031.66 | 25,031.66 |
| 69351T106 | PPL CORP | 25,144.000 | 31.49 | 31.49 | 787,016.96 | 787,016 96 | 791,784.56 | 791,784.56 | 0.42 | 4,767.60 | 4,767.60 |
| 693656100 | PVH CORP | 4,004.000 | 88.23 | 88.23 | 431,117.21 | 431,117 21 | 353,272.92 | 353,272.92 | 0.19 | -77,844.29 | -77,844.29 |
| 695156109 | PACKAG NG CORP OF AMERICA | 1,563.000 | 106.10 | 106.10 | 168,989.88 | 168,989 88 | 165,834.30 | 165,834.30 | 0.09 | -3,155.58 | -3,155.58 |
| 704326107 | PAYCHEX INC | 4,007.000 | 82.77 | 82.77 | 261,742.11 | 261,742.11 | 331,659.39 | 331,659.39 | 0.18 | 69,917.28 | 69,917.28 |
| 70432V102 | PAYCOM SOFTWARE NC | 1,259.000 | 209.49 | 209.49 | 279,427.62 | 279,427 62 | 263,747.91 | 263,747.91 | 0.14 | -15,679.71 | -15,679.71 |
| 713448108 | PEPSICO INC | 3,041.000 | 137.10 | 137.10 | 363,275.02 | 363,275 02 | 416,921.10 | 416,921.10 | 0.22 | 53,646.08 | 53,646.08 |
| 717081103 | PFIZER NC | 12,049.000 | 35.93 | 35.93 | 466,840.97 | 466,840 97 | 432,920.57 | 432,920.57 | 0.23 | -33,920.40 | -33,920.40 |
| 718546104 | PHILLIPS 66 | 7,747.000 | 102.40 | 102.40 | 771,463.57 | 771,463 57 | 793,292.80 | 793,292.80 | 0.42 | 21,829.23 | 21,829.23 |
| 723484101 | PINNACLE WEST CAPITAL CORP | 7,739.000 | 97.07 | 97.07 | 644,197.88 | 644,197 88 | 751,224.73 | 751,224.73 | 0.40 | 107,026.85 | 107,026.85 |
| 74251V102 | PRINCIPAL F NANCIAL GROUP INC | 2,808.000 | 57.14 | 57.14 | 138,463.42 | 138,463.42 | 160,449.12 | 160,449.12 | 0.09 | 21,985.70 | 21,985.70 |
| 742718109 | PROCTER & GAMBLE CO/THE | 3,519.000 | 124.38 | 124.38 | 303,797.23 | 303,797 23 | 437,693.22 | 437,693.22 | 0.23 | 133,895.99 | 133,895.99 |
| 74340W103 | PROLOGIS NC | 6,858.000 | 85.22 | 85.22 | 423,743.90 | 423,743 90 | 584,438.76 | 584,438.76 | 0.31 | 160,694.86 | 160,694.86 |
| 744320102 | PRUDENTIAL FINANCIAL INC | 3,347.000 | 89.95 | 89.95 | 321,947.15 | 321,947.15 | 301,062.65 | 301,062.65 | 0.16 | -20,884.50 | -20,884.50 |
| 744573106 | PUBLIC SERVICE ENTERPRISE GROU | 10,578.000 | 62.08 | 62.08 | 544,871.47 | 544,871.47 | 656,682.24 | 656,682.24 | 0.35 | 111,810.77 | 111,810.77 |
| 74460D109 | PUBLIC STORAGE | 2,899.000 | 245.27 | 245.27 | 684,483.47 | 684,483.47 | 711,037.73 | 711,037.73 | 0.38 | 26,554.26 | 26,554.26 |
| 74736K101 | QORVO NC | 6,768.000 | 74.14 | 74.14 | 458,074.29 | 458,074 29 | 501,779.52 | 501,779.52 | 0.27 | 43,705.23 | 43,705.23 |
| 747525103 | QUALCOMM NC | 6,817.000 | 76.28 | 76.28 | 515,201.59 | 515,201 59 | 520,000.76 | 520,000.76 | 0.28 | 4,799.17 | 4,799.17 |
| 74834L100 | QUEST DIAGNOSTICS NC | 5,032.000 | 107.03 | 107.03 | 443,377.63 | 443,377 63 | 538,574.96 | 538,574.96 | 0.29 | 95,197.33 | 95,197.33 |
| 754730109 | RAYMOND JAMES FINANCIAL INC | 1,679.000 | 82.46 | 82.46 | 131,741.52 | 131,741 52 | 138,450.34 | 138,450.34 | 0.07 | 6,708.82 | 6,708.82 |
| 755111507 | RAYTHEON CO | 2,596.000 | 196.19 | 196.19 | 436,331.59 | 436,331 59 | 509,309.24 | 509,309.24 | 0.27 | 72,977.65 | 72,977.65 |
| 756109104 | REALTY NCOME CORP | 7,627.000 | 76.68 | 76.68 | 512,698.18 | 512,698.18 | 584,838.36 | 584,838.36 | 0.31 | 72,140.18 | 72,140.18 |
| 758849103 | REGENCY CENTERS CORP | 8,578.000 | 69.49 | 69.49 | 549,120.30 | 549,120 30 | 596,085.22 | 596,085.22 | 0.32 | 46,964.92 | 46,964.92 |
| 7591EP100 | REGIONS F NANCIAL CORP | 42,822.000 | 15.82 | 15.82 | 566,812.49 | 566,812.49 | 677,444.04 | 677,444.04 | 0.36 | 110,631.55 | 110,631.55 |
| 760759100 | REPUBLIC SERVICES INC | 7,620.000 | 86.55 | 86.55 | 470,794.06 | 470,794 06 | 659,511.00 | 659,511.00 | 0.35 | 188,716.94 | 188,716.94 |
| 761152107 | RESMED INC | 1,198.000 | 135.11 | 135.11 | 89,966.54 | 89,966 54 | 161,861.78 | 161,861.78 | 0.09 | 71,895.24 | 71,895.24 |
| 773903109 | ROCKWELL AUTOMATION INC | 939.000 | 164.80 | 164.80 | 136,601.67 | 136,601 67 | 154,747.20 | 154,747.20 | 0.08 | 18,145.53 | 18,145.53 |
| 776696106 | ROPER TECHNOLOG ES NC | 1,554.000 | 356.60 | 356.60 | 349,266.66 | 349,266 66 | 554,156.40 | 554,156.40 | 0.29 | 204,889.74 | 204,889.74 |
| 778296103 | ROSS STORES NC | 3,382.000 | 109.85 | 109.85 | 282,766.95 | 282,766 95 | 371,512.70 | 371,512.70 | 0.20 | 88,745.75 | 88,745.75 |
| 78409V104 | S&P GLOBAL INC | 1,945.000 | 244.98 | 244.98 | 332,778.98 | 332,778 98 | 476,486.10 | 476,486.10 | 0.25 | 143,707.12 | 143,707.12 |
| 78440X101 | SL GREEN REALTY CORP | 3,858.000 | 81.75 | 81.75 | 400,246.81 | 400,246 81 | 315,391.50 | 315,391.50 | 0.17 | -84,855.31 | -84,855.31 |
| 78467J100 | SS&C TECHNOLOG ES HOLDINGS NC | 2,337.000 | 51.57 | 51.57 | 132,503.69 | 132,503 69 | 120,519.09 | 120,519.09 | 0.06 | -11,984.60 | -11,984.60 |
| 79466L302 | SALESFORCE.COM INC | 1,998.000 | 148.44 | 148.44 | 271,981.48 | 271,981.48 | 296,583.12 | 296,583.12 | 0.16 | 24,601.64 | 24,601.64 |
| 806407102 | HENRY SCHEIN NC | 5,587.000 | 63.50 | 63.50 | 345,643.79 | 345,643.79 | 354,774.50 | 354,774.50 | 0.19 | 9,130.71 | 9,130.71 |
| 816851109 | SEMPRA ENERGY | 5,521.000 | 147.61 | 147.61 | 634,180.30 | 634,180 30 | 814,954.81 | 814,954.81 | 0.43 | 180,774.51 | 180,774.51 |
| 81762P102 | SERVICENOW INC | 1,562.000 | 253.85 | 253.85 | 208,454.14 | 208,454.14 | 396,513.70 | 396,513.70 | 0.21 | 188,059.56 | 188,059.56 |
| 82968B103 | SIRIUS XM HOLD NGS NC | 32,517.000 | 6.25 | 6.25 | 154,360.58 | 154,360 58 | 203,393.84 | 203,393.84 | 0.11 | 49,033.26 | 49,033.26 |
| 83088M102 | SKYWORKS SOLUTIONS INC | 9,051.000 | 79.25 | 79.25 | 715,132.25 | 715,132 25 | 717,291.75 | 717,291.75 | 0.38 | 2,159.50 | 2,159.50 |
| 832696405 | JM SMUCKER CO/THE | 5,964.000 | 110.02 | 110.02 | 751,407.09 | 751,407 09 | 656,159.28 | 656,159.28 | 0.35 | -95,247.81 | -95,247.81 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 833034101 | SNAP-ON NC | 3,128.000 | 156.54 | 156.54 | 507,336.71 | 507,336.71 | 489,657.12 | 489,657.12 | 0.26 | -17,679.59 | -17,679.59 |
| 842587107 | SOUTHERN CO/THE | 27,373.000 | 61.77 | 61.77 | 1,369,401.09 | 1,369,401 09 | 1,690,830.21 | 1,690,830.21 | 0.90 | 321,429.12 | 321,429.12 |
| 844741108 | SOUTHWEST A RLINES CO | 5,160.000 | 54.01 | 54.01 | 264,362.28 | 264,362 28 | 278,691.60 | 278,691.60 | 0.15 | 14,329.32 | 14,329.32 |
| 848637104 | SPLUNK INC | 2,975.000 | 117.86 | 117.86 | 366,605.38 | 366,605 38 | 350,633.50 | 350,633.50 | 0.19 | -15,971.88 | -15,971.88 |
| 854502101 | STANLEY BLACK & DECKER INC | 1,732.000 | 144.41 | 144.41 | 213,246.54 | 213,246 54 | 250,118.12 | 250,118.12 | 0.13 | 36,871.58 | 36,871.58 |
| 855244109 | STARBUCKS CORP | 3,966.000 | 88.42 | 88.42 | 242,541.09 | 242,541 09 | 350,673.72 | 350,673.72 | 0.19 | 108,132.63 | 108,132.63 |
| 857477103 | STATE STREET CORP | 4,094.000 | 59.19 | 59.19 | 296,678.86 | 296,678 86 | 242,323.86 | 242,323.86 | 0.13 | -54,355.00 | -54,355.00 |
| 863667101 | STRYKER CORP | 1,768.000 | 216.30 | 216.30 | 250,822.00 | 250,822 00 | 382,418.40 | 382,418.40 | 0.20 | 131,596.40 | 131,596.40 |
| 866674104 | SUN COMMUNITIES INC | 2,969.000 | 148.45 | 148.45 | 376,023.55 | 376,023 55 | 440,748.05 | 440,748.05 | 0.23 | 64,724.50 | 64,724.50 |
| 867914103 | SUNTRUST BANKS INC | 6,535.000 | 68.80 | 68.80 | 374,324.67 | 374,324 67 | 449,608.00 | 449,608.00 | 0.24 | 75,283.33 | 75,283.33 |
| 871503108 | SYMANTEC CORP | 17,619.000 | 23.63 | 23.63 | 373,732.47 | 373,732.47 | 416,336.97 | 416,336.97 | 0.22 | 42,604.50 | 42,604.50 |
| 871607107 | SYNOPSYS INC | 5,329.000 | 137.25 | 137.25 | 399,796.95 | 399,796 95 | 731,405.25 | 731,405.25 | 0.39 | 331,608.30 | 331,608.30 |
| 871829107 | SYSCO CORP | 9,393.000 | 79.40 | 79.40 | 590,057.57 | 590,057 57 | 745,804.20 | 745,804.20 | 0.40 | 155,746.63 | 155,746.63 |
| 872540109 | TJX COS NC/THE | 16,111.000 | 55.74 | 55.74 | 764,408.33 | 764,408 33 | 898,027.14 | 898,027.14 | 0.48 | 133,618.81 | 133,618.81 |
| 872590104 | T-MOBILE US NC | 10,079.000 | 78.77 | 78.77 | 570,094.88 | 570,094 88 | 793,922.83 | 793,922.83 | 0.42 | 223,827.95 | 223,827.95 |
| 876030107 | TAPESTRY INC | 15,385.000 | 26.05 | 26.05 | 606,947.13 | 606,947.13 | 400,779.25 | 400,779.25 | 0.21 | -206,167.88 | -206,167.88 |
| 87612E106 | TARGET CORP | 10,741.000 | 106.91 | 106.91 | 770,028.24 | 770,028 24 | 1,148,320.31 | 1,148,320.31 | 0.61 | 378,292.07 | 378,292.07 |
| 87612G101 | TARGA RESOURCES CORP | 8,623.000 | 40.17 | 40.17 | 378,606.15 | 378,606.15 | 346,385.91 | 346,385.91 | 0.18 | -32,220.24 | -32,220.24 |
| 882508104 | TEXAS INSTRUMENTS NC | 4,530.000 | 129.24 | 129.24 | 414,900.00 | 414,900 00 | 585,457.20 | 585,457.20 | 0.31 | 170,557.20 | 170,557.20 |
| 883203101 | TEXTRON INC | 8,833.000 | 48.96 | 48.96 | 457,856.39 | 457,856 39 | 432,463.68 | 432,463.68 | 0.23 | -25,392.71 | -25,392.71 |
| 883556102 | THERMO FISHER SCIENT FIC NC | 1,827.000 | 291.27 | 291.27 | 359,531.54 | 359,531 54 | 532,150.29 | 532,150.29 | 0.28 | 172,618.75 | 172,618.75 |
| 88579Y101 | 3M CO | 961.000 | 164.40 | 164.40 | 177,664.21 | 177,664 21 | 157,988.40 | 157,988.40 | 0.08 | -19,675.81 | -19,675.81 |
| 886547108 | T FFANY & CO | 5,277.000 | 92.63 | 92.63 | 446,594.44 | 446,594.44 | 488,808.51 | 488,808.51 | 0.26 | 42,214.07 | 42,214.07 |
| 892356106 | TRACTOR SUPPLY CO | 3,796.000 | 90.44 | 90.44 | 312,351.83 | 312,351 83 | 343,310.24 | 343,310.24 | 0.18 | 30,958.41 | 30,958.41 |
| 89417E109 | TRAVELERS COS NC/THE | 3,568.000 | 148.69 | 148.69 | 459,577.29 | 459,577 29 | 530,525.92 | 530,525.92 | 0.28 | 70,948.63 | 70,948.63 |
| 90138F102 | TWILIO INC | 3,481.000 | 109.96 | 109.96 | 479,069.84 | 479,069 84 | 382,770.76 | 382,770.76 | 0.20 | -96,299.08 | -96,299.08 |
| 902494103 | TYSON FOODS INC | 8,554.000 | 86.14 | 86.14 | 584,283.49 | 584,283.49 | 736,841.56 | 736,841.56 | 0.39 | 152,558.07 | 152,558.07 |
| 902653104 | UDR INC | 8,905.000 | 48.48 | 48.48 | 359,095.99 | 359,095 99 | 431,714.40 | 431,714.40 | 0.23 | 72,618.41 | 72,618.41 |
| 902973304 | US BANCORP | 9,933.000 | 55.34 | 55.34 | 484,624.25 | 484,624 25 | 549,692.22 | 549,692.22 | 0.29 | 65,067.97 | 65,067.97 |
| 90384S303 | ULTA BEAUTY INC | 2,179.000 | 250.65 | 250.65 | 571,210.33 | 571,210 33 | 546,166.35 | 546,166.35 | 0.29 | -25,043.98 | -25,043.98 |
| 907818108 | UNION PACIFIC CORP | 2,273.000 | 161.98 | 161.98 | 291,439.47 | 291,439.47 | 368,180.54 | 368,180.54 | 0.20 | 76,741.07 | 76,741.07 |
| 913017109 | UNITED TECHNOLOG ES CORP | 3,641.000 | 136.52 | 136.52 | 417,498.10 | 417,498.10 | 497,069.32 | 497,069.32 | 0.26 | 79,571.22 | 79,571.22 |
| 91324P102 | UNITEDHEALTH GROUP NC | 706.000 | 217.32 | 217.32 | 131,163.49 | 131,163.49 | 153,427.92 | 153,427.92 | 0.08 | 22,264.43 | 22,264.43 |
| 913903100 | UNIVERSAL HEALTH SERVICES INC | 5,256.000 | 148.75 | 148.75 | 674,377.32 | 674,377 32 | 781,830.00 | 781,830.00 | 0.42 | 107,452.68 | 107,452.68 |
| 91529Y106 | UNUM GROUP | 10,716.000 | 29.72 | 29.72 | 387,387.48 | 387,387.48 | 318,479.52 | 318,479.52 | 0.17 | -68,907.96 | -68,907.96 |
| 918204108 | VF CORP | 7,653.000 | 88.99 | 88.99 | 590,636.63 | 590,636 63 | 681,040.47 | 681,040.47 | 0.36 | 90,403.84 | 90,403.84 |
| 91913Y100 | VALERO ENERGY CORP | 4,834.000 | 85.24 | 85.24 | 354,451.88 | 354,451 88 | 412,050.16 | 412,050.16 | 0.22 | 57,598.28 | 57,598.28 |
| 92220P105 | VARIAN MEDICAL SYSTEMS INC | 2,376.000 | 119.09 | 119.09 | 226,674.96 | 226,674 96 | 282,957.84 | 282,957.84 | 0.15 | 56,282.88 | 56,282.88 |
| 922475108 | VEEVA SYSTEMS NC | 1,861.000 | 152.69 | 152.69 | 190,120.56 | 190,120 56 | 284,156.09 | 284,156.09 | 0.15 | 94,035.53 | 94,035.53 |
| 92276F100 | VENTAS INC | 4,500.000 | 73.03 | 73.03 | 287,556.67 | 287,556 67 | 328,635.00 | 328,635.00 | 0.17 | 41,078.33 | 41,078.33 |
| 92343E102 | VERISIGN INC | 3,406.000 | 188.63 | 188.63 | 493,265.46 | 493,265.46 | 642,473.78 | 642,473.78 | 0.34 | 149,208.32 | 149,208.32 |
| 92343V104 | VERIZON COMMUNICATIONS INC | 10,530.000 | 60.36 | 60.36 | 581,722.83 | 581,722 83 | 635,590.80 | 635,590.80 | 0.34 | 53,867.97 | 53,867.97 |
| 92345Y106 | VERISK ANALYTICS INC | 3,696.000 | 158.14 | 158.14 | 359,999.32 | 359,999 32 | 584,485.44 | 584,485.44 | 0.31 | 224,486.12 | 224,486.12 |
| 92553P201 | VIACOM INC | 21,707.000 | 24.03 | 24.03 | 626,768.50 | 626,768 50 | 521,619.21 | 521,619.21 | 0.28 | -105,149.29 | -105,149.29 |

BNY MELLON

# Asset Detail

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[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92826C839 | VISA INC | 2,148.000 | 172.01 | 172.01 | 238,934.56 | 238,934 56 | 369,477.48 | 369,477.48 | 0.20 | 130,542.92 | 130,542.92 |
| 928563402 | VMWARE INC | 1,456.000 | 150.06 | 150.06 | 252,876.77 | 252,876.77 | 218,487.36 | 218,487.36 | 0.12 | -34,389.41 | -34,389.41 |
| 929042109 | VORNADO REALTY TRUST | 2,212.000 | 63.67 | 63.67 | 140,943.77 | 140,943.77 | 140,838.04 | 140,838.04 | 0.07 | -105.73 | -105.73 |
| 92936U109 | WP CAREY INC | 6,777.000 | 89.50 | 89.50 | 549,315.83 | 549,315 83 | 606,541.50 | 606,541.50 | 0.32 | 57,225.67 | 57,225.67 |
| 92939U106 | WEC ENERGY GROUP NC | 12,477.000 | 95.10 | 95.10 | 824,886.30 | 824,886 30 | 1,186,562.70 | 1,186,562.70 | 0.63 | 361,676.40 | 361,676.40 |
| 931142103 | WALMART INC | 10,608.000 | 118.68 | 118.68 | 896,962.27 | 896,962 27 | 1,258,957.44 | 1,258,957.44 | 0.67 | 361,995.17 | 361,995.17 |
| 931427108 | WALGREENS BOOTS ALLIANCE NC | 4,707.000 | 55.31 | 55.31 | 334,222.35 | 334,222 35 | 260,344.17 | 260,344.17 | 0.14 | -73,878.18 | -73,878.18 |
| 94106L109 | WASTE MANAGEMENT INC | 3,266.000 | 115.00 | 115.00 | 255,555.71 | 255,555.71 | 375,590.00 | 375,590.00 | 0.20 | 120,034.29 | 120,034.29 |
| 941848103 | WATERS CORP | 683.000 | 223.23 | 223.23 | 119,228.94 | 119,228 94 | 152,466.09 | 152,466.09 | 0.08 | 33,237.15 | 33,237.15 |
| 94946T106 | WELLCARE HEALTH PLANS NC | 1,785.000 | 259.17 | 259.17 | 442,919.48 | 442,919.48 | 462,618.45 | 462,618.45 | 0.25 | 19,698.97 | 19,698.97 |
| 949746101 | WELLS FARGO & CO | 8,881.000 | 50.44 | 50.44 | 411,391.01 | 411,391 01 | 447,957.64 | 447,957.64 | 0.24 | 36,566.63 | 36,566.63 |
| 95040Q104 | WELLTOWER INC | 6,811.000 | 90.65 | 90.65 | 483,610.92 | 483,610 92 | 617,417.15 | 617,417.15 | 0.33 | 133,806.23 | 133,806.23 |
| 958102105 | WESTERN DIGITAL CORP | 8,433.000 | 59.64 | 59.64 | 377,058.83 | 377,058 83 | 502,944.12 | 502,944.12 | 0.27 | 125,885.29 | 125,885.29 |
| 959802109 | WESTERN UNION CO/THE | 7,935.000 | 23.17 | 23.17 | 154,626.49 | 154,626.49 | 183,853.95 | 183,853.95 | 0.10 | 29,227.46 | 29,227.46 |
| 96145D105 | WESTROCK CO | 6,684.000 | 36.45 | 36.45 | 307,675.37 | 307,675 37 | 243,631.80 | 243,631.80 | 0.13 | -64,043.57 | -64,043.57 |
| 963320106 | WH RLPOOL CORP | 2,630.000 | 158.36 | 158.36 | 390,942.61 | 390,942 61 | 416,486.80 | 416,486.80 | 0.22 | 25,544.19 | 25,544.19 |
| 969457100 | W LLIAMS COS NC/THE | 6,032.000 | 24.06 | 24.06 | 166,731.72 | 166,731.72 | 145,129.92 | 145,129.92 | 0.08 | -21,601.80 | -21,601.80 |
| 983134107 | WYNN RESORTS LTD | 3,122.000 | 108.72 | 108.72 | 372,164.13 | 372,164.13 | 339,423.84 | 339,423.84 | 0.18 | -32,740.29 | -32,740.29 |
| 98389B100 | XCEL ENERGY INC | 14,121.000 | 64.89 | 64.89 | 659,022.70 | 659,022.70 | 916,311.69 | 916,311.69 | 0.49 | 257,288.99 | 257,288.99 |
| 983919101 | XILINX INC | 2,988.000 | 95.90 | 95.90 | 251,498.72 | 251,498.72 | 286,549.20 | 286,549.20 | 0.15 | 35,050.48 | 35,050.48 |
| 98419M100 | XYLEM NC/NY | 7,162.000 | 79.62 | 79.62 | 403,341.71 | 403,341.71 | 570,238.44 | 570,238.44 | 0.30 | 166,896.73 | 166,896.73 |
| 988498101 | YUM! BRANDS INC | 4,119.000 | 113.43 | 113.43 | 300,547.53 | 300,547 53 | 467,218.17 | 467,218.17 | 0.25 | 166,670.64 | 166,670.64 |
| 98956P102 | Z MMER BIOMET HOLDINGS INC | 1,364.000 | 137.27 | 137.27 | 160,447.62 | 160,447 62 | 187,236.28 | 187,236.28 | 0.10 | 26,788.66 | 26,788.66 |
| 989701107 | ZIONS BANCORP NA | 5,769.000 | 44.52 | 44.52 | 276,460.72 | 276,460.72 | 256,835.88 | 256,835.88 | 0.14 | -19,624.84 | -19,624.84 |
| 98978V103 | ZOETIS INC | 3,217.000 | 124.59 | 124.59 | 200,487.23 | 200,487 23 | 400,806.03 | 400,806.03 | 0.21 | 200,318.80 | 200,318.80 |
| G0177J108 | ALLERGAN PLC | 1,333.000 | 168.29 | 168.29 | 253,239.53 | 253,239 53 | 224,330.57 | 224,330.57 | 0.12 | -28,908.96 | -28,908.96 |
| G02602103 | AMDOCS LTD | 6,806.000 | 66.11 | 66.11 | 395,793.26 | 395,793 26 | 449,944.66 | 449,944.66 | 0.24 | 54,151.40 | 54,151.40 |
| G0408V102 | AON PLC | 1,861.000 | 193.57 | 193.57 | 243,347.57 | 243,347 57 | 360,233.77 | 360,233.77 | 0.19 | 116,886.20 | 116,886.20 |
| G0450A105 | ARCH CAPITAL GROUP LTD | 21,600.000 | 41.98 | 41.98 | 557,809.38 | 557,809 38 | 906,768.00 | 906,768.00 | 0.48 | 348,958.62 | 348,958.62 |
| G1151C101 | ACCENTURE PLC | 1,891.000 | 192.35 | 192.35 | 286,300.68 | 286,300 68 | 363,733.85 | 363,733.85 | 0.19 | 77,433.17 | 77,433.17 |
| G16962105 | BUNGE LTD | 9,654.000 | 56.62 | 56.62 | 590,489.65 | 590,489 65 | 546,609.48 | 546,609.48 | 0.29 | -43,880.17 | -43,880.17 |
| G29183103 | EATON CORP PLC | 5,575.000 | 83.15 | 83.15 | 412,179.27 | 412,179 27 | 463,561.25 | 463,561.25 | 0.25 | 51,381.98 | 51,381.98 |
| G3223R108 | EVEREST RE GROUP LTD | 2,032.000 | 266.09 | 266.09 | 421,192.54 | 421,192 54 | 540,694.88 | 540,694.88 | 0.29 | 119,502.34 | 119,502.34 |
| G47567105 | IHS MARKIT LTD | 11,554.000 | 66.88 | 66.88 | 546,211.33 | 546,211 33 | 772,731.52 | 772,731.52 | 0.41 | 226,520.19 | 226,520.19 |
| G47791101 | INGERSOLL-RAND PLC | 4,356.000 | 123.21 | 123.21 | 372,809.14 | 372,809.14 | 536,702.76 | 536,702.76 | 0.29 | 163,893.62 | 163,893.62 |
| G51502105 | JOHNSON CONTROLS INTERNATIONAL | 10,002.000 | 43.89 | 43.89 | 364,440.04 | 364,440 04 | 438,987.78 | 438,987.78 | 0.23 | 74,547.74 | 74,547.74 |
| G5494J103 | LINDE PLC | 4,889.000 | 193.72 | 193.72 | 974,580.59 | 974,580 59 | 947,097.08 | 947,097.08 | 0.50 | -27,483.51 | -27,483.51 |
| G5876H105 | MARVELL TECHNOLOGY GROUP LTD | 21,330.000 | 24.97 | 24.97 | 399,740.44 | 399,740.44 | 532,610.10 | 532,610.10 | 0.28 | 132,869.66 | 132,869.66 |
| G5960L103 | MEDTRONIC PLC | 3,699.000 | 108.62 | 108.62 | 316,610.93 | 316,610 93 | 401,785.38 | 401,785.38 | 0.21 | 85,174.45 | 85,174.45 |
| G6518L108 | NIELSEN HOLD NGS PLC | 7,998.000 | 21.25 | 21.25 | 292,521.54 | 292,521 54 | 169,957.50 | 169,957.50 | 0.09 | -122,564.04 | -122,564.04 |
| G66721104 | NORWEGIAN CRUISE LINE HOLD NGS | 5,884.000 | 51.77 | 51.77 | 300,179.87 | 300,179 87 | 304,614.68 | 304,614.68 | 0.16 | 4,434.81 | 4,434.81 |
| G7945M107 | SEAGATE TECHNOLOGY PLC | 5,189.000 | 53.79 | 53.79 | 246,448.59 | 246,448 59 | 279,116.31 | 279,116.31 | 0.15 | 32,667.72 | 32,667.72 |
| G8473T100 | STERIS PLC | 3,653.000 | 144.49 | 144.49 | 533,756.27 | 533,756 27 | 527,821.97 | 527,821.97 | 0.28 | -5,934.30 | -5,934.30 |
| G96629103 | W LLIS TOWERS WATSON PLC | 2,826.000 | 192.97 | 192.97 | 391,219.23 | 391,219 23 | 545,333.22 | 545,333.22 | 0.29 | 154,113.99 | 154,113.99 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G97822103 | PERRIGO CO PLC | 7,807.000 | 55.89 | 55.89 | 481,456.70 | 481,456.70 | 436,333.23 | 436,333.23 | 0.23 | -45,123.47 | -45,123.47 |
| | H1467J104 | CHUBB LTD | 4,099.000 | 161.44 | 161.44 | 569,146.15 | 569,146.15 | 661,742.56 | 661,742.56 | 0.35 | 92,596.41 | 92,596.41 |
| | H84989104 | TE CONNECTIVITY LTD | 3,954.000 | 93.18 | 93.18 | 310,567.62 | 310,567 62 | 368,433.72 | 368,433.72 | 0.20 | 57,866.10 | 57,866.10 |
| | M22465104 | CHECK POINT SOFTWARE TECHNOLOG | 7,871.000 | 109.50 | 109.50 | 776,678.30 | 776,678 30 | 861,874.50 | 861,874.50 | 0.46 | 85,196.20 | 85,196.20 |
| | N59465109 | MYLAN NV | 7,090.000 | 19.78 | 19.78 | 134,611.45 | 134,611.45 | 140,240.20 | 140,240.20 | 0.07 | 5,628.75 | 5,628.75 |
| | V7780T103 | ROYAL CARIBBEAN CRUISES LTD | 3,036.000 | 108.33 | 108.33 | 307,710.35 | 307,710 35 | 328,889.88 | 328,889.88 | 0.17 | 21,179.53 | 21,179.53 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **361,116,618.92** | | **581,114,913.42** | **100.00** | | **219,998,294...** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **915,710.01** | | **915,710.01** | **0.16** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **915,710.01** | **915,710.01** | **915,710.01** | **915,710.01** | **0.16** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 403,071.380 | 1.00 | 1.00 | 403,071.38 | 403,071 38 | 403,071.38 | 403,071.38 | 0.07 | 0.00 | 0.00 |
| | | CASH | 0.000 | 1.00 | 1.00 | 856.88 | 856 88 | 856.88 | 856.88 | 0.00 | 0.00 | 0.00 |
| | | DIVIDENDS RECEIVABLE | 0.000 | 1.00 | 1.00 | 507,473.17 | 507,473.17 | 507,473.17 | 507,473.17 | 0.09 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 1,073.73 | 1,073.73 | 1,073.73 | 1,073.73 | 0.00 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 10,865.21 | 10,865 21 | 10,865.21 | 10,865.21 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -568.02 | -568 02 | -568.02 | -568.02 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG BROKER REBATES | 0.000 | 1.00 | 1.00 | -7,062.34 | -7,062 34 | -7,062.34 | -7,062.34 | 0.00 | 0.00 | 0.00 |
| **EQUITY** | | | | | | | **360,200,908.91** | | **580,199,203.41** | **99.84** | | **219,998,294...** |
| **U.S. DOLLAR** | | | | | | **360,200,908.91** | **360,200,908.91** | **580,199,203.41** | **580,199,203.41** | **99.84** | **219,998,294.50** | **219,998,294...** |
| | 001055102 | AFLAC NC | 17,467.000 | 52.32 | 52.32 | 496,385.41 | 496,385.41 | 913,873.44 | 913,873.44 | 0.16 | 417,488.03 | 417,488.03 |
| | 00130H105 | AES CORP/VA | 15,662.000 | 16.34 | 16.34 | 203,566.03 | 203,566 03 | 255,917.08 | 255,917.08 | 0.04 | 52,351.05 | 52,351.05 |
| | 00206R102 | AT&T NC | 172,388.000 | 37.84 | 37.84 | 5,294,807.39 | 5,294,807 39 | 6,523,161.92 | 6,523,161.92 | 1.12 | 1,228,354.53 | 1,228,354.53 |
| | 002824100 | ABBOTT LABORATORIES | 41,697.000 | 83.67 | 83.67 | 1,730,380.50 | 1,730,380 50 | 3,488,787.99 | 3,488,787.99 | 0.60 | 1,758,407.49 | 1,758,407.49 |
| | 00287Y109 | ABBV E INC | 34,881.000 | 75.72 | 75.72 | 1,562,811.09 | 1,562,811 09 | 2,641,189.32 | 2,641,189.32 | 0.45 | 1,078,378.23 | 1,078,378.23 |
| | 003654100 | ABIOMED INC | 1,071.000 | 177.89 | 177.89 | 418,510.99 | 418,510 99 | 190,520.19 | 190,520.19 | 0.03 | -227,990.80 | -227,990.80 |
| | 00507V109 | ACTIVISION BLIZZARD NC | 18,096.000 | 52.92 | 52.92 | 753,831.18 | 753,831.18 | 957,640.32 | 957,640.32 | 0.16 | 203,809.14 | 203,809.14 |
| | 00724F101 | ADOBE INC | 11,453.000 | 276.25 | 276.25 | 1,136,575.00 | 1,136,575 00 | 3,163,891.25 | 3,163,891.25 | 0.54 | 2,027,316.25 | 2,027,316.25 |
| | 00751Y106 | ADVANCE AUTO PARTS INC | 1,684.000 | 165.40 | 165.40 | 276,085.88 | 276,085 88 | 278,533.60 | 278,533.60 | 0.05 | 2,447.72 | 2,447.72 |
| | 007903107 | ADVANCED MICRO DEVICES INC | 25,610.000 | 28.99 | 28.99 | 509,683.53 | 509,683 53 | 742,433.90 | 742,433.90 | 0.13 | 232,750.37 | 232,750.37 |
| | 008252108 | AFFILIATED MANAGERS GROUP NC | 1,195.000 | 83.35 | 83.35 | 203,698.33 | 203,698 33 | 99,603.25 | 99,603.25 | 0.02 | -104,095.08 | -104,095.08 |
| | 00846U101 | AG LENT TECHNOLOG ES INC | 7,301.000 | 76.63 | 76.63 | 254,786.65 | 254,786 65 | 559,475.63 | 559,475.63 | 0.10 | 304,688.98 | 304,688.98 |
| | 009158106 | AIR PRODUCTS & CHEMICALS NC | 5,199.000 | 221.86 | 221.86 | 578,821.35 | 578,821 35 | 1,153,450.14 | 1,153,450.14 | 0.20 | 574,628.79 | 574,628.79 |
| | 00971T101 | AKAMAI TECHNOLOG ES INC | 3,892.000 | 91.38 | 91.38 | 185,394.12 | 185,394.12 | 355,650.96 | 355,650.96 | 0.06 | 170,256.84 | 170,256.84 |
| | 011659109 | ALASKA A R GROUP INC | 2,908.000 | 64.91 | 64.91 | 178,129.91 | 178,129 91 | 188,758.28 | 188,758.28 | 0.03 | 10,628.37 | 10,628.37 |
| | 012653101 | ALBEMARLE CORP | 2,500.000 | 69.52 | 69.52 | 201,714.58 | 201,714 58 | 173,800.00 | 173,800.00 | 0.03 | -27,914.58 | -27,914.58 |
| | 015271109 | ALEXANDRIA REAL ESTATE EQUIT E | 2,676.000 | 154.04 | 154.04 | 321,143.20 | 321,143 20 | 412,211.04 | 412,211.04 | 0.07 | 91,067.84 | 91,067.84 |
| | 015351109 | ALEXION PHARMACEUTICALS INC | 5,290.000 | 97.94 | 97.94 | 635,224.18 | 635,224.18 | 518,102.60 | 518,102.60 | 0.09 | -117,121.58 | -117,121.58 |
| | 016255101 | ALIGN TECHNOLOGY NC | 1,715.000 | 180.92 | 180.92 | 570,981.91 | 570,981 91 | 310,277.80 | 310,277.80 | 0.05 | -260,704.11 | -260,704.11 |
| | 018581108 | ALLIANCE DATA SYSTEMS CORP | 966.000 | 128.13 | 128.13 | 229,387.44 | 229,387.44 | 123,773.58 | 123,773.58 | 0.02 | -105,613.86 | -105,613.86 |
| | 018802108 | ALLIANT ENERGY CORP | 5,604.000 | 53.93 | 53.93 | 227,757.21 | 227,757 21 | 302,223.72 | 302,223.72 | 0.05 | 74,466.51 | 74,466.51 |
| | 020002101 | ALLSTATE CORP/THE | 7,766.000 | 108.68 | 108.68 | 446,306.47 | 446,306.47 | 844,008.88 | 844,008.88 | 0.15 | 397,702.41 | 397,702.41 |
| | 02079K107 | ALPHABET NC-CL C | 7,129.000 | 1,219.00 | 1,219.00 | 4,344,969.91 | 4,344,969 91 | 8,690,251.00 | 8,690,251.00 | 1.50 | 4,345,281.09 | 4,345,281.09 |
| | 02079K305 | ALPHABET NC-CL A | 7,067.000 | 1,221.14 | 1,221.14 | 4,175,719.86 | 4,175,719 86 | 8,629,796.38 | 8,629,796.38 | 1.49 | 4,454,076.52 | 4,454,076.52 |
| | 02209S103 | ALTRIA GROUP INC | 44,072.000 | 40.90 | 40.90 | 1,704,851.26 | 1,704,851 26 | 1,802,544.80 | 1,802,544.80 | 0.31 | 97,693.54 | 97,693.54 |
| | 023135106 | AMAZON.COM NC | 9,803.000 | 1,735.91 | 1,735.91 | 6,845,616.96 | 6,845,616 96 | 17,017,125.73 | 17,017,125.73 | 2.93 | 10,171,508.77 | 10,171,508.77 |
| | 023608102 | AMEREN CORP | 5,799.000 | 80.05 | 80.05 | 250,438.39 | 250,438 39 | 464,209.95 | 464,209.95 | 0.08 | 213,771.56 | 213,771.56 |
| | 02376R102 | AMERICAN AIRLINES GROUP INC | 9,349.000 | 26.97 | 26.97 | 443,338.13 | 443,338.13 | 252,142.53 | 252,142.53 | 0.04 | -191,195.60 | -191,195.60 |
| | 025537101 | AMERICAN ELECTRIC POWER CO INC | 11,650.000 | 93.69 | 93.69 | 607,629.84 | 607,629 84 | 1,091,488.50 | 1,091,488.50 | 0.19 | 483,858.66 | 483,858.66 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

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| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 025816109 | AMERICAN EXPRESS CO | 16,051.000 | 118.28 | 118.28 | 954,082.60 | 954,082 60 | 1,898,512.28 | 1,898,512.28 | 0.33 | 944,429.68 | 944,429.68 |
| 026874784 | AMERICAN INTERNATIONAL GROUP I | 20,523.000 | 55.70 | 55.70 | 3,070,709.12 | 3,070,709.12 | 1,143,131.10 | 1,143,131.10 | 0.20 | -1,927,578.02 | -1,927,578.02 |
| 03027X100 | AMERICAN TOWER CORP | 10,444.000 | 221.13 | 221.13 | 1,087,961.95 | 1,087,961 95 | 2,309,481.72 | 2,309,481.72 | 0.40 | 1,221,519.77 | 1,221,519.77 |
| 030420103 | AMERICAN WATER WORKS CO INC | 4,262.000 | 124.23 | 124.23 | 332,001.93 | 332,001 93 | 529,468.26 | 529,468.26 | 0.09 | 197,466.33 | 197,466.33 |
| 03073E105 | AMERISOURCEBERGEN CORP | 3,588.000 | 82.33 | 82.33 | 209,684.00 | 209,684 00 | 295,400.04 | 295,400.04 | 0.05 | 85,716.04 | 85,716.04 |
| 03076C106 | AMERIPRISE FINANCIAL INC | 3,088.000 | 147.10 | 147.10 | 242,744.29 | 242,744 29 | 454,244.80 | 454,244.80 | 0.08 | 211,500.51 | 211,500.51 |
| 031100100 | AMETEK INC | 5,387.000 | 91.82 | 91.82 | 298,535.22 | 298,535 22 | 494,634.34 | 494,634.34 | 0.09 | 196,099.12 | 196,099.12 |
| 031162100 | AMGEN INC | 14,148.000 | 193.51 | 193.51 | 1,522,259.46 | 1,522,259.46 | 2,737,779.48 | 2,737,779.48 | 0.47 | 1,215,520.02 | 1,215,520.02 |
| 032095101 | AMPHENOL CORP | 7,017.000 | 96.50 | 96.50 | 323,524.65 | 323,524 65 | 677,140.50 | 677,140.50 | 0.12 | 353,615.85 | 353,615.85 |
| 032654105 | ANALOG DEVICES INC | 8,715.000 | 111.73 | 111.73 | 555,983.06 | 555,983 06 | 973,726.95 | 973,726.95 | 0.17 | 417,743.89 | 417,743.89 |
| 03662Q105 | ANSYS NC | 1,984.000 | 221.36 | 221.36 | 272,198.61 | 272,198 61 | 439,178.24 | 439,178.24 | 0.08 | 166,979.63 | 166,979.63 |
| 036752103 | ANTHEM NC | 6,035.000 | 240.10 | 240.10 | 717,477.20 | 717,477 20 | 1,449,003.50 | 1,449,003.50 | 0.25 | 731,526.30 | 731,526.30 |
| 037411105 | APACHE CORP | 8,870.000 | 25.60 | 25.60 | 377,318.55 | 377,318 55 | 227,072.00 | 227,072.00 | 0.04 | -150,246.55 | -150,246.55 |
| 03748R754 | APARTMENT INVESTMENT & MANAGEM | 3,513.000 | 52.14 | 52.14 | 126,633.04 | 126,633 04 | 183,167.82 | 183,167.82 | 0.03 | 56,534.78 | 56,534.78 |
| 037833100 | APPLE NC | 100,220.000 | 223.97 | 223.97 | 7,918,606.13 | 7,918,606.13 | 22,446,273.40 | 22,446,273.40 | 3.86 | 14,527,667.27 | 14,527,667.27 |
| 038222105 | APPLIED MATERIALS INC | 21,793.000 | 49.90 | 49.90 | 495,427.01 | 495,427 01 | 1,087,470.70 | 1,087,470.70 | 0.19 | 592,043.69 | 592,043.69 |
| 039483102 | ARCHER-DAN ELS-M DLAND CO | 13,140.000 | 41.07 | 41.07 | 436,385.19 | 436,385.19 | 539,659.80 | 539,659.80 | 0.09 | 103,274.61 | 103,274.61 |
| 03965L100 | ARCONIC INC | 9,139.000 | 26.00 | 26.00 | 234,933.77 | 234,933.77 | 237,614.00 | 237,614.00 | 0.04 | 2,680.23 | 2,680.23 |
| 040413106 | ARISTA NETWORKS INC | 1,284.000 | 238.92 | 238.92 | 338,854.53 | 338,854 53 | 306,773.28 | 306,773.28 | 0.05 | -32,081.25 | -32,081.25 |
| 04621X108 | ASSURANT INC | 1,442.000 | 125.82 | 125.82 | 98,183.13 | 98,183.13 | 181,432.44 | 181,432.44 | 0.03 | 83,249.31 | 83,249.31 |
| 049560105 | ATMOS ENERGY CORP | 2,789.000 | 113.89 | 113.89 | 285,942.69 | 285,942 69 | 317,639.21 | 317,639.21 | 0.05 | 31,696.52 | 31,696.52 |
| 052769106 | AUTODESK INC | 5,181.000 | 147.70 | 147.70 | 371,017.84 | 371,017 84 | 765,233.70 | 765,233.70 | 0.13 | 394,215.86 | 394,215.86 |
| 053015103 | AUTOMATIC DATA PROCESSING NC | 10,238.000 | 161.42 | 161.42 | 730,061.28 | 730,061 28 | 1,652,617.96 | 1,652,617.96 | 0.28 | 922,556.68 | 922,556.68 |
| 053332102 | AUTOZONE NC | 579.000 | 1,084.62 | 1,084.62 | 297,873.11 | 297,873.11 | 627,994.98 | 627,994.98 | 0.11 | 330,121.87 | 330,121.87 |
| 053484101 | AVALONBAY COMMUNITIES NC | 3,295.000 | 215.33 | 215.33 | 538,108.23 | 538,108 23 | 709,512.35 | 709,512.35 | 0.12 | 171,404.12 | 171,404.12 |
| 053611109 | AVERY DENNISON CORP | 1,986.000 | 113.57 | 113.57 | 124,495.42 | 124,495.42 | 225,550.02 | 225,550.02 | 0.04 | 101,054.60 | 101,054.60 |
| 054937107 | BB&T CORP | 18,075.000 | 53.37 | 53.37 | 600,349.70 | 600,349.70 | 964,662.75 | 964,662.75 | 0.17 | 364,313.05 | 364,313.05 |
| 05722G100 | BAKER HUGHES CO | 12,182.000 | 23.20 | 23.20 | 467,376.82 | 467,376 82 | 282,622.40 | 282,622.40 | 0.05 | -184,754.42 | -184,754.42 |
| 058498106 | BALL CORP | 7,833.000 | 72.81 | 72.81 | 251,241.26 | 251,241 26 | 570,320.73 | 570,320.73 | 0.10 | 319,079.47 | 319,079.47 |
| 060505104 | BANK OF AMERICA CORP | 197,643.000 | 29.17 | 29.17 | 4,011,187.40 | 4,011,187.40 | 5,765,246.31 | 5,765,246.31 | 0.99 | 1,754,058.91 | 1,754,058.91 |
| 064058100 | BANK OF NEW YORK MELLON CORP/T | 20,238.000 | 45.21 | 45.21 | 716,963.03 | 716,963 03 | 914,959.98 | 914,959.98 | 0.16 | 197,996.95 | 197,996.95 |
| 071813109 | BAXTER INTERNATIONAL NC | 12,045.000 | 87.47 | 87.47 | 562,003.30 | 562,003 30 | 1,053,576.15 | 1,053,576.15 | 0.18 | 491,572.85 | 491,572.85 |
| 075887109 | BECTON DICK NSON AND CO | 6,369.000 | 252.96 | 252.96 | 991,938.84 | 991,938 84 | 1,611,102.24 | 1,611,102.24 | 0.28 | 619,163.40 | 619,163.40 |
| 084670702 | BERKSHIRE HATHAWAY INC | 46,261.000 | 208.02 | 208.02 | 6,110,939.37 | 6,110,939 37 | 9,623,213.22 | 9,623,213.22 | 1.66 | 3,512,273.85 | 3,512,273.85 |
| 086516101 | BEST BUY CO NC | 5,472.000 | 68.99 | 68.99 | 212,951.77 | 212,951.77 | 377,513.28 | 377,513.28 | 0.06 | 164,561.51 | 164,561.51 |
| 09062X103 | BIOGEN NC | 4,352.000 | 232.82 | 232.82 | 747,182.39 | 747,182 39 | 1,013,232.64 | 1,013,232.64 | 0.17 | 266,050.25 | 266,050.25 |
| 09247X101 | BLACKROCK INC | 2,772.000 | 445.64 | 445.64 | 821,204.70 | 821,204.70 | 1,235,314.08 | 1,235,314.08 | 0.21 | 414,109.38 | 414,109.38 |
| 093671105 | H&R BLOCK INC | 4,735.000 | 23.62 | 23.62 | 108,664.00 | 108,664 00 | 111,840.70 | 111,840.70 | 0.02 | 3,176.70 | 3,176.70 |
| 097023105 | BOE NG CO/THE | 12,612.000 | 380.47 | 380.47 | 1,729,061.52 | 1,729,061 52 | 4,798,487.64 | 4,798,487.64 | 0.83 | 3,069,426.12 | 3,069,426.12 |
| 09857L108 | BOOKING HOLDINGS INC | 1,003.000 | 1,962.61 | 1,962.61 | 857,604.04 | 857,604 04 | 1,968,497.83 | 1,968,497.83 | 0.34 | 1,110,893.79 | 1,110,893.79 |
| 099724106 | BORGWARNER NC | 4,872.000 | 36.68 | 36.68 | 173,799.28 | 173,799 28 | 178,704.96 | 178,704.96 | 0.03 | 4,905.68 | 4,905.68 |
| 101121101 | BOSTON PROPERT ES NC | 3,391.000 | 129.66 | 129.66 | 401,425.58 | 401,425 58 | 439,677.06 | 439,677.06 | 0.08 | 38,251.48 | 38,251.48 |
| 101137107 | BOSTON SCIENT FIC CORP | 32,863.000 | 40.69 | 40.69 | 645,493.05 | 645,493 05 | 1,337,195.47 | 1,337,195.47 | 0.23 | 691,702.42 | 691,702.42 |
| 110122108 | BRISTOL-MYERS SQUIBB CO | 38,591.000 | 50.71 | 50.71 | 1,694,695.56 | 1,694,695 56 | 1,956,949.61 | 1,956,949.61 | 0.34 | 262,254.05 | 262,254.05 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11133T103 | BROADRIDGE FINANCIAL SOLUTIONS | 2,696.000 | 124.43 | 124.43 | 312,516.71 | 312,516.71 | 335,463.28 | 335,463.28 | 0.06 | 22,946.57 | 22,946.57 |
| 11135F101 | BROADCOM NC | 9,391.000 | 276.07 | 276.07 | 1,424,369.89 | 1,424,369 89 | 2,592,573.37 | 2,592,573.37 | 0.45 | 1,168,203.48 | 1,168,203.48 |
| 115637209 | BROWN-FORMAN CORP | 4,294.000 | 62.78 | 62.78 | 150,629.30 | 150,629 30 | 269,577.32 | 269,577.32 | 0.05 | 118,948.02 | 118,948.02 |
| 124857202 | CBS CORP | 7,720.000 | 40.37 | 40.37 | 296,377.06 | 296,377 06 | 311,656.40 | 311,656.40 | 0.05 | 15,279.34 | 15,279.34 |
| 12503M108 | CBOE GLOBAL MARKETS INC | 2,635.000 | 114.91 | 114.91 | 247,553.32 | 247,553 32 | 302,787.85 | 302,787.85 | 0.05 | 55,234.53 | 55,234.53 |
| 12504L109 | CBRE GROUP NC | 7,935.000 | 53.01 | 53.01 | 285,377.87 | 285,377 87 | 420,634.35 | 420,634.35 | 0.07 | 135,256.48 | 135,256.48 |
| 12514G108 | CDW CORP/DE | 3,414.000 | 123.24 | 123.24 | 413,324.45 | 413,324.45 | 420,741.36 | 420,741.36 | 0.07 | 7,416.91 | 7,416.91 |
| 125269100 | CF NDUSTRIES HOLD NGS INC | 5,151.000 | 49.20 | 49.20 | 186,266.76 | 186,266.76 | 253,429.20 | 253,429.20 | 0.04 | 67,162.44 | 67,162.44 |
| 12541W209 | CH ROBINSON WORLDWIDE INC | 3,194.000 | 84.78 | 84.78 | 200,505.84 | 200,505 84 | 270,787.32 | 270,787.32 | 0.05 | 70,281.48 | 70,281.48 |
| 125523100 | CIGNA CORP | 8,909.000 | 151.79 | 151.79 | 1,062,617.35 | 1,062,617 35 | 1,352,297.11 | 1,352,297.11 | 0.23 | 289,679.76 | 289,679.76 |
| 12572Q105 | CME GROUP INC | 8,448.000 | 211.34 | 211.34 | 999,024.47 | 999,024.47 | 1,785,400.32 | 1,785,400.32 | 0.31 | 786,375.85 | 786,375.85 |
| 125896100 | CMS ENERGY CORP | 6,695.000 | 63.95 | 63.95 | 240,280.64 | 240,280 64 | 428,145.25 | 428,145.25 | 0.07 | 187,864.61 | 187,864.61 |
| 126408103 | CSX CORP | 18,831.000 | 69.27 | 69.27 | 554,180.09 | 554,180 09 | 1,304,423.37 | 1,304,423.37 | 0.22 | 750,243.28 | 750,243.28 |
| 126650100 | CVS HEALTH CORP | 30,682.000 | 63.07 | 63.07 | 1,784,772.53 | 1,784,772 53 | 1,935,113.74 | 1,935,113.74 | 0.33 | 150,341.21 | 150,341.21 |
| 127097103 | CABOT O L & GAS CORP | 9,871.000 | 17.57 | 17.57 | 187,601.26 | 187,601 26 | 173,433.47 | 173,433.47 | 0.03 | -14,167.79 | -14,167.79 |
| 127387108 | CADENCE DESIGN SYSTEMS INC | 6,609.000 | 66.08 | 66.08 | 316,310.13 | 316,310.13 | 436,722.72 | 436,722.72 | 0.08 | 120,412.59 | 120,412.59 |
| 134429109 | CAMPBELL SOUP CO | 3,979.000 | 46.92 | 46.92 | 172,926.64 | 172,926 64 | 186,694.68 | 186,694.68 | 0.03 | 13,768.04 | 13,768.04 |
| 14040H105 | CAPITAL ONE F NANCIAL CORP | 11,096.000 | 90.98 | 90.98 | 715,485.66 | 715,485 66 | 1,009,514.08 | 1,009,514.08 | 0.17 | 294,028.42 | 294,028.42 |
| 14149Y108 | CARD NAL HEALTH INC | 7,034.000 | 47.19 | 47.19 | 371,135.64 | 371,135 64 | 331,934.46 | 331,934.46 | 0.06 | -39,201.18 | -39,201.18 |
| 143130102 | CARMAX INC | 3,907.000 | 88.00 | 88.00 | 145,079.78 | 145,079.78 | 343,816.00 | 343,816.00 | 0.06 | 198,736.22 | 198,736.22 |
| 143658300 | CARNIVAL CORP | 9,446.000 | 43.71 | 43.71 | 380,943.93 | 380,943 93 | 412,884.66 | 412,884.66 | 0.07 | 31,940.73 | 31,940.73 |
| 149123101 | CATERPILLAR INC | 13,273.000 | 126.31 | 126.31 | 1,029,019.55 | 1,029,019 55 | 1,676,512.63 | 1,676,512.63 | 0.29 | 647,493.08 | 647,493.08 |
| 150870103 | CELANESE CORP | 2,919.000 | 122.29 | 122.29 | 299,555.39 | 299,555 39 | 356,964.51 | 356,964.51 | 0.06 | 57,409.12 | 57,409.12 |
| 151020104 | CELGENE CORP | 16,721.000 | 99.30 | 99.30 | 1,068,481.68 | 1,068,481 68 | 1,660,395.30 | 1,660,395.30 | 0.29 | 591,913.62 | 591,913.62 |
| 15135B101 | CENTENE CORP | 9,758.000 | 43.26 | 43.26 | 388,672.27 | 388,672 27 | 422,131.08 | 422,131.08 | 0.07 | 33,458.81 | 33,458.81 |
| 15189T107 | CENTERPOINT ENERGY INC | 11,848.000 | 30.18 | 30.18 | 262,476.78 | 262,476.78 | 357,572.64 | 357,572.64 | 0.06 | 95,095.86 | 95,095.86 |
| 156700106 | CENTURYLINK NC | 23,160.000 | 12.48 | 12.48 | 559,092.64 | 559,092 64 | 289,036.80 | 289,036.80 | 0.05 | -270,055.84 | -270,055.84 |
| 156782104 | CERNER CORP | 7,512.000 | 68.17 | 68.17 | 342,137.84 | 342,137 84 | 512,093.04 | 512,093.04 | 0.09 | 169,955.20 | 169,955.20 |
| 16119P108 | CHARTER COMMUNICATIONS NC | 3,814.000 | 412.12 | 412.12 | 1,096,745.64 | 1,096,745 64 | 1,571,825.68 | 1,571,825.68 | 0.27 | 475,080.04 | 475,080.04 |
| 166764100 | CHEVRON CORP | 44,788.000 | 118.60 | 118.60 | 3,643,092.31 | 3,643,092 31 | 5,311,856.80 | 5,311,856.80 | 0.91 | 1,668,764.49 | 1,668,764.49 |
| 169656105 | CH POTLE MEXICAN GRILL INC | 602.000 | 840.47 | 840.47 | 240,762.14 | 240,762.14 | 505,962.94 | 505,962.94 | 0.09 | 265,200.80 | 265,200.80 |
| 171340102 | CHURCH & DWIGHT CO INC | 5,830.000 | 75.24 | 75.24 | 274,981.95 | 274,981 95 | 438,649.20 | 438,649.20 | 0.08 | 163,667.25 | 163,667.25 |
| 171798101 | CIMAREX ENERGY CO | 2,394.000 | 47.94 | 47.94 | 261,804.71 | 261,804.71 | 114,768.36 | 114,768.36 | 0.02 | -147,036.35 | -147,036.35 |
| 172062101 | CINCINNATI FINANCIAL CORP | 3,584.000 | 116.67 | 116.67 | 194,769.52 | 194,769 52 | 418,145.28 | 418,145.28 | 0.07 | 223,375.76 | 223,375.76 |
| 17275R102 | CISCO SYSTEMS NC | 100,156.000 | 49.41 | 49.41 | 2,504,206.67 | 2,504,206 67 | 4,948,707.96 | 4,948,707.96 | 0.85 | 2,444,501.29 | 2,444,501.29 |
| 172908105 | CINTAS CORP | 1,958.000 | 268.10 | 268.10 | 182,932.87 | 182,932 87 | 524,939.80 | 524,939.80 | 0.09 | 342,006.93 | 342,006.93 |
| 172967424 | CITIGROUP NC | 53,296.000 | 69.08 | 69.08 | 3,723,117.70 | 3,723,117.70 | 3,681,687.68 | 3,681,687.68 | 0.63 | -41,430.02 | -41,430.02 |
| 174610105 | CITIZENS FINANCIAL GROUP INC | 10,548.000 | 35.37 | 35.37 | 252,123.08 | 252,123 08 | 373,082.76 | 373,082.76 | 0.06 | 120,959.68 | 120,959.68 |
| 177376100 | CITRIX SYSTEMS INC | 2,903.000 | 96.52 | 96.52 | 161,581.30 | 161,581 30 | 280,197.56 | 280,197.56 | 0.05 | 118,616.26 | 118,616.26 |
| 189054109 | CLOROX CO/THE | 2,967.000 | 151.87 | 151.87 | 297,983.66 | 297,983 66 | 450,598.29 | 450,598.29 | 0.08 | 152,614.63 | 152,614.63 |
| 191216100 | COCA-COLA CO/THE | 90,793.000 | 54.44 | 54.44 | 3,278,675.63 | 3,278,675 63 | 4,942,770.92 | 4,942,770.92 | 0.85 | 1,664,095.29 | 1,664,095.29 |
| 192446102 | COGNIZANT TECHNOLOGY SOLUTIONS | 13,030.000 | 60.27 | 60.27 | 574,887.20 | 574,887 20 | 785,252.95 | 785,252.95 | 0.14 | 210,365.75 | 210,365.75 |
| 194162103 | COLGATE-PALMOLIVE CO | 20,242.000 | 73.51 | 73.51 | 1,135,042.75 | 1,135,042.75 | 1,487,989.42 | 1,487,989.42 | 0.26 | 352,946.67 | 352,946.67 |
| 20030N101 | COMCAST CORP | 107,003.000 | 45.08 | 45.08 | 2,436,091.54 | 2,436,091 54 | 4,823,695.24 | 4,823,695.24 | 0.83 | 2,387,603.70 | 2,387,603.70 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200340107 | COMERICA NC | 3,524.000 | 65.99 | 65.99 | 171,906.69 | 171,906 69 | 232,548.76 | 232,548.76 | 0.04 | 60,642.07 | 60,642.07 |
| 205887102 | CONAGRA BRANDS INC | 11,480.000 | 30.68 | 30.68 | 290,596.38 | 290,596 38 | 352,206.40 | 352,206.40 | 0.06 | 61,610.02 | 61,610.02 |
| 20605P101 | CONCHO RESOURCES INC | 4,744.000 | 67.90 | 67.90 | 510,552.92 | 510,552 92 | 322,117.60 | 322,117.60 | 0.06 | -188,435.32 | -188,435.32 |
| 20825C104 | CONOCOPHILLIPS | 26,191.000 | 56.98 | 56.98 | 1,166,184.96 | 1,166,184 96 | 1,492,363.18 | 1,492,363.18 | 0.26 | 326,178.22 | 326,178.22 |
| 209115104 | CONSOLIDATED EDISON INC | 7,836.000 | 94.47 | 94.47 | 497,287.05 | 497,287 05 | 740,266.92 | 740,266.92 | 0.13 | 242,979.87 | 242,979.87 |
| 21036P108 | CONSTELLATION BRANDS NC | 3,946.000 | 207.28 | 207.28 | 387,882.82 | 387,882 82 | 817,926.88 | 817,926.88 | 0.14 | 430,044.06 | 430,044.06 |
| 216648402 | COOPER COS INC/THE | 1,170.000 | 297.00 | 297.00 | 240,477.11 | 240,477.11 | 347,490.00 | 347,490.00 | 0.06 | 107,012.89 | 107,012.89 |
| 217204106 | COPART INC | 4,757.000 | 80.33 | 80.33 | 266,809.22 | 266,809 22 | 382,129.81 | 382,129.81 | 0.07 | 115,320.59 | 115,320.59 |
| 219350105 | CORNING NC | 18,422.000 | 28.52 | 28.52 | 357,604.56 | 357,604 56 | 525,395.44 | 525,395.44 | 0.09 | 167,790.88 | 167,790.88 |
| 22052L104 | CORTEVA INC | 17,668.000 | 28.00 | 28.00 | 403,431.21 | 403,431 21 | 494,704.00 | 494,704.00 | 0.09 | 91,272.79 | 91,272.79 |
| 22160K105 | COSTCO WHOLESALE CORP | 10,376.000 | 288.11 | 288.11 | 1,271,202.70 | 1,271,202.70 | 2,989,429.36 | 2,989,429.36 | 0.51 | 1,718,226.66 | 1,718,226.66 |
| 222070203 | COTY INC | 6,939.000 | 10.51 | 10.51 | 144,461.56 | 144,461 56 | 72,928.89 | 72,928.89 | 0.01 | -71,532.67 | -71,532.67 |
| 22822V101 | CROWN CASTLE NTERNATIONAL COR | 9,809.000 | 139.01 | 139.01 | 832,407.27 | 832,407 27 | 1,363,549.09 | 1,363,549.09 | 0.23 | 531,141.82 | 531,141.82 |
| 231021106 | CUMMINS INC | 3,723.000 | 162.67 | 162.67 | 346,284.06 | 346,284 06 | 605,620.41 | 605,620.41 | 0.10 | 259,336.35 | 259,336.35 |
| 23331A109 | DR HORTON NC | 7,940.000 | 52.71 | 52.71 | 196,454.35 | 196,454 35 | 418,517.40 | 418,517.40 | 0.07 | 222,063.05 | 222,063.05 |
| 233331107 | DTE ENERGY CO | 4,324.000 | 132.96 | 132.96 | 320,036.88 | 320,036 88 | 574,919.04 | 574,919.04 | 0.10 | 254,882.16 | 254,882.16 |
| 23355L106 | DXC TECHNOLOGY CO | 6,180.000 | 29.50 | 29.50 | 304,953.20 | 304,953 20 | 182,310.00 | 182,310.00 | 0.03 | -122,643.20 | -122,643.20 |
| 235851102 | DANAHER CORP | 15,063.000 | 144.43 | 144.43 | 953,602.15 | 953,602.15 | 2,175,549.09 | 2,175,549.09 | 0.37 | 1,221,946.94 | 1,221,946.94 |
| 237194105 | DARDEN RESTAURANTS NC | 2,897.000 | 118.22 | 118.22 | 165,887.48 | 165,887.48 | 342,483.34 | 342,483.34 | 0.06 | 176,595.86 | 176,595.86 |
| 23918K108 | DAVITA INC | 2,284.000 | 57.07 | 57.07 | 125,923.79 | 125,923.79 | 130,347.88 | 130,347.88 | 0.02 | 4,424.09 | 4,424.09 |
| 244199105 | DEERE & CO | 7,429.000 | 168.68 | 168.68 | 649,329.79 | 649,329.79 | 1,253,123.72 | 1,253,123.72 | 0.22 | 603,793.93 | 603,793.93 |
| 247361702 | DELTA A R L NES INC | 13,652.000 | 57.60 | 57.60 | 482,628.45 | 482,628.45 | 786,355.20 | 786,355.20 | 0.14 | 303,726.75 | 303,726.75 |
| 24906P109 | DENTSPLY SIRONA NC | 5,289.000 | 53.31 | 53.31 | 270,765.26 | 270,765 26 | 281,956.59 | 281,956.59 | 0.05 | 11,191.33 | 11,191.33 |
| 25179M103 | DEVON ENERGY CORP | 9,536.000 | 24.06 | 24.06 | 306,087.52 | 306,087 52 | 229,436.16 | 229,436.16 | 0.04 | -76,651.36 | -76,651.36 |
| 25278X109 | DIAMONDBACK ENERGY NC | 3,847.000 | 89.91 | 89.91 | 350,689.61 | 350,689 61 | 345,883.77 | 345,883.77 | 0.06 | -4,805.84 | -4,805.84 |
| 253868103 | DIGITAL REALTY TRUST INC | 4,915.000 | 129.81 | 129.81 | 526,980.41 | 526,980.41 | 638,016.15 | 638,016.15 | 0.11 | 111,035.74 | 111,035.74 |
| 254687106 | WALT DISNEY CO/THE | 42,498.000 | 130.32 | 130.32 | 3,001,389.49 | 3,001,389.49 | 5,538,339.36 | 5,538,339.36 | 0.95 | 2,536,949.87 | 2,536,949.87 |
| 254709108 | DISCOVER FINANCIAL SERVICES | 7,508.000 | 81.09 | 81.09 | 291,279.22 | 291,279 22 | 608,823.72 | 608,823.72 | 0.10 | 317,544.50 | 317,544.50 |
| 25470F104 | DISCOVERY NC | 3,728.000 | 26.63 | 26.63 | 96,259.17 | 96,259.17 | 99,276.64 | 99,276.64 | 0.02 | 3,017.47 | 3,017.47 |
| 25470F302 | DISCOVERY NC | 8,185.000 | 24.62 | 24.62 | 209,209.93 | 209,209 93 | 201,514.70 | 201,514.70 | 0.03 | -7,695.23 | -7,695.23 |
| 25470M109 | DISH NETWORK CORP | 5,676.000 | 34.07 | 34.07 | 317,844.66 | 317,844 66 | 193,381.32 | 193,381.32 | 0.03 | -124,463.34 | -124,463.34 |
| 256677105 | DOLLAR GENERAL CORP | 6,065.000 | 158.94 | 158.94 | 446,096.15 | 446,096.15 | 963,971.10 | 963,971.10 | 0.17 | 517,874.95 | 517,874.95 |
| 256746108 | DOLLAR TREE INC | 5,583.000 | 114.16 | 114.16 | 372,887.77 | 372,887.77 | 637,355.28 | 637,355.28 | 0.11 | 264,467.51 | 264,467.51 |
| 25746U109 | DOM NION ENERGY INC | 19,391.000 | 81.04 | 81.04 | 1,150,810.71 | 1,150,810.71 | 1,571,446.64 | 1,571,446.64 | 0.27 | 420,635.93 | 420,635.93 |
| 260003108 | DOVER CORP | 3,431.000 | 99.56 | 99.56 | 164,577.57 | 164,577 57 | 341,590.36 | 341,590.36 | 0.06 | 177,012.79 | 177,012.79 |
| 264411505 | DUKE REALTY CORP | 8,527.000 | 33.97 | 33.97 | 256,051.04 | 256,051 04 | 289,662.19 | 289,662.19 | 0.05 | 33,611.15 | 33,611.15 |
| 26441C204 | DUKE ENERGY CORP | 17,189.000 | 95.86 | 95.86 | 1,184,938.35 | 1,184,938 35 | 1,647,737.54 | 1,647,737.54 | 0.28 | 462,799.19 | 462,799.19 |
| 26614N102 | DUPONT DE NEMOURS NC | 17,534.000 | 71.31 | 71.31 | 1,042,546.99 | 1,042,546 99 | 1,250,349.54 | 1,250,349.54 | 0.22 | 207,802.55 | 207,802.55 |
| 26875P101 | EOG RESOURCES INC | 13,692.000 | 74.22 | 74.22 | 862,868.94 | 862,868 94 | 1,016,220.24 | 1,016,220.24 | 0.17 | 153,351.30 | 153,351.30 |
| 269246401 | E*TRADE F NANCIAL CORP | 5,658.000 | 43.69 | 43.69 | 135,154.38 | 135,154 38 | 247,198.02 | 247,198.02 | 0.04 | 112,043.64 | 112,043.64 |
| 277432100 | EASTMAN CHEMICAL CO | 3,232.000 | 73.83 | 73.83 | 166,071.39 | 166,071 39 | 238,618.56 | 238,618.56 | 0.04 | 72,547.17 | 72,547.17 |
| 278642103 | EBAY INC | 18,601.000 | 38.98 | 38.98 | 372,972.73 | 372,972.73 | 725,066.98 | 725,066.98 | 0.12 | 352,094.25 | 352,094.25 |
| 278865100 | ECOLAB NC | 5,906.000 | 198.04 | 198.04 | 575,674.95 | 575,674 95 | 1,169,624.24 | 1,169,624.24 | 0.20 | 593,949.29 | 593,949.29 |
| 281020107 | EDISON INTERNATIONAL | 8,448.000 | 75.42 | 75.42 | 458,613.53 | 458,613 53 | 637,148.16 | 637,148.16 | 0.11 | 178,534.63 | 178,534.63 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 28176E108 | EDWARDS LIFESCIENCES CORP | 4,906.000 | 219.91 | 219.91 | 382,389.18 | 382,389.18 | 1,078,878.46 | 1,078,878.46 | 0.19 | 696,489.28 | 696,489.28 |
| 285512109 | ELECTRONIC ARTS NC | 6,953.000 | 97.82 | 97.82 | 328,275.49 | 328,275.49 | 680,142.46 | 680,142.46 | 0.12 | 351,866.97 | 351,866.97 |
| 291011104 | EMERSON ELECTRIC CO | 14,512.000 | 66.86 | 66.86 | 672,740.89 | 672,740 89 | 970,272.32 | 970,272.32 | 0.17 | 297,531.43 | 297,531.43 |
| 29364G103 | ENTERGY CORP | 4,691.000 | 117.36 | 117.36 | 372,484.84 | 372,484 84 | 550,535.76 | 550,535.76 | 0.09 | 178,050.92 | 178,050.92 |
| 294429105 | EQU FAX NC | 2,852.000 | 140.67 | 140.67 | 208,980.22 | 208,980 22 | 401,190.84 | 401,190.84 | 0.07 | 192,210.62 | 192,210.62 |
| 29444U700 | EQU NIX INC | 2,001.000 | 576.80 | 576.80 | 666,887.56 | 666,887 56 | 1,154,176.80 | 1,154,176.80 | 0.20 | 487,289.24 | 487,289.24 |
| 29476L107 | EQUITY RESIDENTIAL | 8,224.000 | 86.26 | 86.26 | 556,779.53 | 556,779 53 | 709,402.24 | 709,402.24 | 0.12 | 152,622.71 | 152,622.71 |
| 297178105 | ESSEX PROPERTY TRUST INC | 1,551.000 | 326.65 | 326.65 | 332,347.06 | 332,347 06 | 506,634.15 | 506,634.15 | 0.09 | 174,287.09 | 174,287.09 |
| 30034W106 | EVERGY INC | 5,555.000 | 66.56 | 66.56 | 299,692.42 | 299,692.42 | 369,740.80 | 369,740.80 | 0.06 | 70,048.38 | 70,048.38 |
| 30040W108 | EVERSOURCE ENERGY | 7,634.000 | 85.47 | 85.47 | 355,366.91 | 355,366 91 | 652,477.98 | 652,477.98 | 0.11 | 297,111.07 | 297,111.07 |
| 30161N101 | EXELON CORP | 22,922.000 | 48.31 | 48.31 | 870,771.34 | 870,771 34 | 1,107,361.82 | 1,107,361.82 | 0.19 | 236,590.48 | 236,590.48 |
| 30212P303 | EXPEDIA GROUP INC | 3,299.000 | 134.41 | 134.41 | 307,506.61 | 307,506 61 | 443,418.59 | 443,418.59 | 0.08 | 135,911.98 | 135,911.98 |
| 302130109 | EXPEDITORS INTERNATIONAL OF WA | 4,028.000 | 74.29 | 74.29 | 160,523.42 | 160,523.42 | 299,240.12 | 299,240.12 | 0.05 | 138,716.70 | 138,716.70 |
| 30225T102 | EXTRA SPACE STORAGE INC | 3,032.000 | 116.82 | 116.82 | 273,121.92 | 273,121 92 | 354,198.24 | 354,198.24 | 0.06 | 81,076.32 | 81,076.32 |
| 30231G102 | EXXON MOBIL CORP | 99,821.000 | 70.61 | 70.61 | 6,484,653.88 | 6,484,653 88 | 7,048,360.81 | 7,048,360.81 | 1.21 | 563,706.93 | 563,706.93 |
| 302445101 | FLIR SYSTEMS NC | 3,199.000 | 52.59 | 52.59 | 111,179.85 | 111,179 85 | 168,235.41 | 168,235.41 | 0.03 | 57,055.56 | 57,055.56 |
| 302491303 | FMC CORP | 3,077.000 | 87.68 | 87.68 | 130,834.82 | 130,834 82 | 269,791.36 | 269,791.36 | 0.05 | 138,956.54 | 138,956.54 |
| 30303M102 | FACEBOOK NC | 56,756.000 | 178.08 | 178.08 | 5,706,533.76 | 5,706,533.76 | 10,107,108.48 | 10,107,108.48 | 1.74 | 4,400,574.72 | 4,400,574.72 |
| 311900104 | FASTENAL CO | 13,528.000 | 32.67 | 32.67 | 255,442.21 | 255,442 21 | 441,959.76 | 441,959.76 | 0.08 | 186,517.55 | 186,517.55 |
| 313747206 | FEDERAL REALTY INVESTMENT TRUS | 1,645.000 | 136.14 | 136.14 | 238,428.26 | 238,428 26 | 223,950.30 | 223,950.30 | 0.04 | -14,477.96 | -14,477.96 |
| 31428X106 | FEDEX CORP | 5,662.000 | 145.57 | 145.57 | 621,092.88 | 621,092 88 | 824,217.34 | 824,217.34 | 0.14 | 203,124.46 | 203,124.46 |
| 315616102 | F5 NETWORKS NC | 1,419.000 | 140.42 | 140.42 | 163,635.61 | 163,635 61 | 199,255.98 | 199,255.98 | 0.03 | 35,620.37 | 35,620.37 |
| 31620M106 | F DELITY NATIONAL INFORMATION | 14,472.000 | 132.76 | 132.76 | 1,398,665.38 | 1,398,665 38 | 1,921,302.72 | 1,921,302.72 | 0.33 | 522,637.34 | 522,637.34 |
| 316773100 | F FTH THIRD BANCORP | 17,234.000 | 27.38 | 27.38 | 329,791.37 | 329,791 37 | 471,866.92 | 471,866.92 | 0.08 | 142,075.55 | 142,075.55 |
| 33616C100 | F RST REPUBLIC BANK/CA | 3,969.000 | 96.70 | 96.70 | 405,682.60 | 405,682 60 | 383,802.30 | 383,802.30 | 0.07 | -21,880.30 | -21,880.30 |
| 337738108 | FISERV INC | 13,467.000 | 103.59 | 103.59 | 780,937.06 | 780,937 06 | 1,395,046.53 | 1,395,046.53 | 0.24 | 614,109.47 | 614,109.47 |
| 337932107 | F RSTENERGY CORP | 12,739.000 | 48.23 | 48.23 | 478,092.17 | 478,092.17 | 614,401.97 | 614,401.97 | 0.11 | 136,309.80 | 136,309.80 |
| 339041105 | FLEETCOR TECHNOLOGIES INC | 2,042.000 | 286.78 | 286.78 | 465,698.10 | 465,698.10 | 585,604.76 | 585,604.76 | 0.10 | 119,906.66 | 119,906.66 |
| 34354P105 | FLOWSERVE CORP | 3,095.000 | 46.71 | 46.71 | 157,371.17 | 157,371.17 | 144,567.45 | 144,567.45 | 0.02 | -12,803.72 | -12,803.72 |
| 345370860 | FORD MOTOR CO | 92,458.000 | 9.16 | 9.16 | 905,373.47 | 905,373.47 | 846,915.28 | 846,915.28 | 0.15 | -58,458.19 | -58,458.19 |
| 34959E109 | FORTINET INC | 3,348.000 | 76.76 | 76.76 | 250,971.71 | 250,971.71 | 256,992.48 | 256,992.48 | 0.04 | 6,020.77 | 6,020.77 |
| 34959J108 | FORTIVE CORP | 6,966.000 | 68.56 | 68.56 | 265,796.88 | 265,796 88 | 477,588.96 | 477,588.96 | 0.08 | 211,792.08 | 211,792.08 |
| 34964C106 | FORTUNE BRANDS HOME & SECURITY | 3,300.000 | 54.70 | 54.70 | 201,409.26 | 201,409 26 | 180,510.00 | 180,510.00 | 0.03 | -20,899.26 | -20,899.26 |
| 354613101 | FRANKLIN RESOURCES INC | 6,654.000 | 28.86 | 28.86 | 225,591.88 | 225,591 88 | 192,034.44 | 192,034.44 | 0.03 | -33,557.44 | -33,557.44 |
| 35671D857 | FREEPORT-MCMORAN INC | 34,230.000 | 9.57 | 9.57 | 596,280.10 | 596,280.10 | 327,581.10 | 327,581.10 | 0.06 | -268,699.00 | -268,699.00 |
| 363576109 | ARTHUR J GALLAGHER & CO | 4,390.000 | 89.57 | 89.57 | 244,531.65 | 244,531 65 | 393,212.30 | 393,212.30 | 0.07 | 148,680.65 | 148,680.65 |
| 364760108 | GAP INC/THE | 5,053.000 | 17.36 | 17.36 | 114,282.09 | 114,282 09 | 87,720.08 | 87,720.08 | 0.02 | -26,562.01 | -26,562.01 |
| 366651107 | GARTNER NC | 2,127.000 | 142.99 | 142.99 | 246,351.63 | 246,351 63 | 304,139.73 | 304,139.73 | 0.05 | 57,788.10 | 57,788.10 |
| 369550108 | GENERAL DYNAMICS CORP | 5,520.000 | 182.73 | 182.73 | 598,896.09 | 598,896 09 | 1,008,669.60 | 1,008,669.60 | 0.17 | 409,773.51 | 409,773.51 |
| 369604103 | GENERAL ELECTRIC CO | 205,891.000 | 8.94 | 8.94 | 4,796,449.57 | 4,796,449 57 | 1,840,665.54 | 1,840,665.54 | 0.32 | -2,955,784.03 | -2,955,784.03 |
| 370334104 | GENERAL MILLS INC | 14,238.000 | 55.12 | 55.12 | 661,387.40 | 661,387.40 | 784,798.56 | 784,798.56 | 0.14 | 123,411.16 | 123,411.16 |
| 37045V100 | GENERAL MOTORS CO | 29,641.000 | 37.48 | 37.48 | 1,037,773.97 | 1,037,773 97 | 1,110,944.68 | 1,110,944.68 | 0.19 | 73,170.71 | 73,170.71 |
| 372460105 | GENUINE PARTS CO | 3,446.000 | 99.59 | 99.59 | 221,213.98 | 221,213 98 | 343,187.14 | 343,187.14 | 0.06 | 121,973.16 | 121,973.16 |
| 375558103 | G LEAD SC ENCES NC | 29,878.000 | 63.38 | 63.38 | 1,321,443.12 | 1,321,443.12 | 1,893,667.64 | 1,893,667.64 | 0.33 | 572,224.52 | 572,224.52 |

BNY MELLON

# Asset Detail

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[redacted]

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 37940X102 | GLOBAL PAYMENTS INC | 7,078.104 | 159.00 | 159.00 | 578,663.70 | 578,663.70 | 1,125,418.54 | 1,125,418.54 | 0.19 | 546,754.84 | 546,754.84 |
| 37959E102 | GLOBE LIFE INC | 2,368.000 | 95.76 | 95.76 | 102,218.99 | 102,218 99 | 226,759.68 | 226,759.68 | 0.04 | 124,540.69 | 124,540.69 |
| 38141G104 | GOLDMAN SACHS GROUP INC/THE | 7,635.000 | 207.23 | 207.23 | 1,086,644.17 | 1,086,644.17 | 1,582,201.05 | 1,582,201.05 | 0.27 | 495,556.88 | 495,556.88 |
| 384802104 | WW GRA NGER INC | 1,043.000 | 297.15 | 297.15 | 178,177.30 | 178,177 30 | 309,927.45 | 309,927.45 | 0.05 | 131,750.15 | 131,750.15 |
| 40412C101 | HCA HEALTHCARE INC | 6,275.000 | 120.42 | 120.42 | 522,565.65 | 522,565 65 | 755,635.50 | 755,635.50 | 0.13 | 233,069.85 | 233,069.85 |
| 40414L109 | HEALTHPEAK PROPERT ES INC | 11,586.000 | 35.63 | 35.63 | 402,872.82 | 402,872 82 | 412,809.18 | 412,809.18 | 0.07 | 9,936.36 | 9,936.36 |
| 40434L105 | HP INC | 34,962.000 | 18.92 | 18.92 | 424,194.81 | 424,194 81 | 661,481.04 | 661,481.04 | 0.11 | 237,286.23 | 237,286.23 |
| 406216101 | HALL BURTON CO | 20,665.000 | 18.85 | 18.85 | 558,638.13 | 558,638.13 | 389,535.25 | 389,535.25 | 0.07 | -169,102.88 | -169,102.88 |
| 410345102 | HANESBRANDS INC | 8,530.000 | 15.32 | 15.32 | 246,086.86 | 246,086 86 | 130,679.60 | 130,679.60 | 0.02 | -115,407.26 | -115,407.26 |
| 412822108 | HARLEY-DAVIDSON NC | 3,698.000 | 35.97 | 35.97 | 166,164.30 | 166,164 30 | 133,017.06 | 133,017.06 | 0.02 | -33,147.24 | -33,147.24 |
| 416515104 | HARTFORD FINANCIAL SERVICES GR | 8,530.000 | 60.61 | 60.61 | 336,056.35 | 336,056 35 | 517,003.30 | 517,003.30 | 0.09 | 180,946.95 | 180,946.95 |
| 418056107 | HASBRO NC | 2,769.000 | 118.69 | 118.69 | 183,470.66 | 183,470 66 | 328,652.61 | 328,652.61 | 0.06 | 145,181.95 | 145,181.95 |
| 423452101 | HELMERICH & PAYNE INC | 2,582.000 | 40.07 | 40.07 | 119,622.49 | 119,622.49 | 103,460.74 | 103,460.74 | 0.02 | -16,161.75 | -16,161.75 |
| 426281101 | JACK HENRY & ASSOCIATES NC | 1,817.000 | 145.97 | 145.97 | 250,483.74 | 250,483.74 | 265,227.49 | 265,227.49 | 0.05 | 14,743.75 | 14,743.75 |
| 427866108 | HERSHEY CO/THE | 3,514.000 | 154.99 | 154.99 | 308,763.36 | 308,763 36 | 544,634.86 | 544,634.86 | 0.09 | 235,871.50 | 235,871.50 |
| 42809H107 | HESS CORP | 6,106.000 | 60.48 | 60.48 | 300,940.74 | 300,940.74 | 369,290.88 | 369,290.88 | 0.06 | 68,350.14 | 68,350.14 |
| 42824C109 | HEWLETT PACKARD ENTERPRISE CO | 30,802.000 | 15.17 | 15.17 | 254,194.74 | 254,194.74 | 467,266.34 | 467,266.34 | 0.08 | 213,071.60 | 213,071.60 |
| 43300A203 | HILTON WORLDWIDE HOLDINGS NC | 6,768.000 | 93.11 | 93.11 | 502,597.41 | 502,597.41 | 630,168.48 | 630,168.48 | 0.11 | 127,571.07 | 127,571.07 |
| 436106108 | HOLLYFRONTIER CORP | 3,572.000 | 53.64 | 53.64 | 243,351.68 | 243,351 68 | 191,602.08 | 191,602.08 | 0.03 | -51,749.60 | -51,749.60 |
| 436440101 | HOLOGIC INC | 6,306.000 | 50.49 | 50.49 | 249,569.86 | 249,569 86 | 318,389.94 | 318,389.94 | 0.05 | 68,820.08 | 68,820.08 |
| 437076102 | HOME DEPOT NC/THE | 25,837.000 | 232.02 | 232.02 | 2,369,721.68 | 2,369,721 68 | 5,994,700.74 | 5,994,700.74 | 1.03 | 3,624,979.06 | 3,624,979.06 |
| 438516106 | HONEYWELL INTERNATIONAL INC | 16,975.000 | 169.20 | 169.20 | 1,321,714.47 | 1,321,714.47 | 2,872,170.00 | 2,872,170.00 | 0.49 | 1,550,455.53 | 1,550,455.53 |
| 440452100 | HORMEL FOODS CORP | 6,551.000 | 43.73 | 43.73 | 197,983.39 | 197,983 39 | 286,475.23 | 286,475.23 | 0.05 | 88,491.84 | 88,491.84 |
| 44107P104 | HOST HOTELS & RESORTS NC | 17,220.000 | 17.29 | 17.29 | 278,630.84 | 278,630 84 | 297,733.80 | 297,733.80 | 0.05 | 19,102.96 | 19,102.96 |
| 444859102 | HUMANA INC | 3,187.000 | 255.67 | 255.67 | 461,096.90 | 461,096 90 | 814,820.29 | 814,820.29 | 0.14 | 353,723.39 | 353,723.39 |
| 445658107 | JB HUNT TRANSPORT SERVICES INC | 2,015.000 | 110.65 | 110.65 | 171,176.54 | 171,176 54 | 222,959.75 | 222,959.75 | 0.04 | 51,783.21 | 51,783.21 |
| 446150104 | HUNTINGTON BANCSHARES INC/OH | 24,485.000 | 14.27 | 14.27 | 230,312.71 | 230,312.71 | 349,400.95 | 349,400.95 | 0.06 | 119,088.24 | 119,088.24 |
| 446413106 | HUNTINGTON INGALLS INDUSTR ES | 975.000 | 211.79 | 211.79 | 247,810.47 | 247,810.47 | 206,495.25 | 206,495.25 | 0.04 | -41,315.22 | -41,315.22 |
| 44980X109 | IPG PHOTONICS CORP | 841.000 | 135.60 | 135.60 | 190,636.10 | 190,636.10 | 114,039.60 | 114,039.60 | 0.02 | -76,596.50 | -76,596.50 |
| 45167R104 | IDEX CORP | 1,789.000 | 163.88 | 163.88 | 289,812.08 | 289,812 08 | 293,181.32 | 293,181.32 | 0.05 | 3,369.24 | 3,369.24 |
| 45168D104 | IDEXX LABORATORIES INC | 2,031.000 | 271.93 | 271.93 | 350,564.46 | 350,564.46 | 552,289.83 | 552,289.83 | 0.10 | 201,725.37 | 201,725.37 |
| 452308109 | ILLINOIS TOOL WORKS INC | 6,945.000 | 156.49 | 156.49 | 523,147.33 | 523,147 33 | 1,086,823.05 | 1,086,823.05 | 0.19 | 563,675.72 | 563,675.72 |
| 452327109 | ILLUMINA INC | 3,468.000 | 304.22 | 304.22 | 702,762.16 | 702,762.16 | 1,055,034.96 | 1,055,034.96 | 0.18 | 352,272.80 | 352,272.80 |
| 45337C102 | INCYTE CORP | 4,211.000 | 74.23 | 74.23 | 552,548.19 | 552,548.19 | 312,582.53 | 312,582.53 | 0.05 | -239,965.66 | -239,965.66 |
| 458140100 | INTEL CORP | 104,513.000 | 51.53 | 51.53 | 3,003,946.48 | 3,003,946.48 | 5,385,554.89 | 5,385,554.89 | 0.93 | 2,381,608.41 | 2,381,608.41 |
| 45866F104 | INTERCONT NENTAL EXCHANGE NC | 13,221.000 | 92.27 | 92.27 | 618,798.32 | 618,798 32 | 1,219,901.67 | 1,219,901.67 | 0.21 | 601,103.35 | 601,103.35 |
| 459200101 | INTERNATIONAL BUS NESS MACH NE | 20,900.000 | 145.42 | 145.42 | 2,629,494.23 | 2,629,494 23 | 3,039,278.00 | 3,039,278.00 | 0.52 | 409,783.77 | 409,783.77 |
| 459506101 | INTERNATIONAL FLAVORS & FRAGRA | 2,519.000 | 122.69 | 122.69 | 259,268.53 | 259,268 53 | 309,056.11 | 309,056.11 | 0.05 | 49,787.58 | 49,787.58 |
| 460146103 | INTERNATIONAL PAPER CO | 9,268.000 | 41.82 | 41.82 | 366,527.66 | 366,527 66 | 387,587.76 | 387,587.76 | 0.07 | 21,060.10 | 21,060.10 |
| 460690100 | INTERPUBLIC GROUP OF COS INC/T | 9,135.000 | 21.56 | 21.56 | 193,020.92 | 193,020 92 | 196,950.60 | 196,950.60 | 0.03 | 3,929.68 | 3,929.68 |
| 461202103 | INTUIT NC | 6,136.000 | 265.94 | 265.94 | 697,069.42 | 697,069.42 | 1,631,807.84 | 1,631,807.84 | 0.28 | 934,738.42 | 934,738.42 |
| 46120E602 | INTUITIVE SURGICAL NC | 2,719.000 | 539.93 | 539.93 | 647,632.97 | 647,632 97 | 1,468,069.67 | 1,468,069.67 | 0.25 | 820,436.70 | 820,436.70 |
| 46266C105 | IQVIA HOLDINGS INC | 4,298.000 | 149.38 | 149.38 | 492,591.71 | 492,591.71 | 642,035.24 | 642,035.24 | 0.11 | 149,443.53 | 149,443.53 |
| 46284V101 | IRON MOUNTAIN INC | 6,773.000 | 32.39 | 32.39 | 215,934.27 | 215,934 27 | 219,377.47 | 219,377.47 | 0.04 | 3,443.20 | 3,443.20 |

BNY MELLON

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 46625H100 | JPMORGAN CHASE & CO | 75,436.000 | 117.69 | 117.69 | 4,310,977.92 | 4,310,977 92 | 8,878,062.84 | 8,878,062.84 | 1.53 | 4,567,084.92 | 4,567,084.92 |
| 469814107 | JACOBS ENGINEER NG GROUP INC | 3,197.000 | 91.50 | 91.50 | 180,135.34 | 180,135 34 | 292,525.50 | 292,525.50 | 0.05 | 112,390.16 | 112,390.16 |
| 47233W109 | JEFFERIES FINANCIAL GROUP INC | 5,945.000 | 18.40 | 18.40 | 136,399.48 | 136,399.48 | 109,388.00 | 109,388.00 | 0.02 | -27,011.48 | -27,011.48 |
| 478160104 | JOHNSON & JOHNSON | 62,264.000 | 129.38 | 129.38 | 5,146,170.11 | 5,146,170.11 | 8,055,716.32 | 8,055,716.32 | 1.39 | 2,909,546.21 | 2,909,546.21 |
| 48203R104 | JUNIPER NETWORKS INC | 8,159.000 | 24.75 | 24.75 | 220,737.14 | 220,737.14 | 201,935.25 | 201,935.25 | 0.03 | -18,801.89 | -18,801.89 |
| 482480100 | KLA CORP | 3,757.000 | 159.45 | 159.45 | 276,197.65 | 276,197 65 | 599,053.65 | 599,053.65 | 0.10 | 322,856.00 | 322,856.00 |
| 485170302 | KANSAS CITY SOUTHERN | 2,373.000 | 133.01 | 133.01 | 247,432.18 | 247,432.18 | 315,632.73 | 315,632.73 | 0.05 | 68,200.55 | 68,200.55 |
| 487836108 | KELLOGG CO | 5,866.000 | 64.35 | 64.35 | 374,145.56 | 374,145 56 | 377,477.10 | 377,477.10 | 0.06 | 3,331.54 | 3,331.54 |
| 493267108 | KEYCORP | 23,669.000 | 17.84 | 17.84 | 328,488.13 | 328,488.13 | 422,254.96 | 422,254.96 | 0.07 | 93,766.83 | 93,766.83 |
| 49338L103 | KEYSIGHT TECHNOLOGIES NC | 4,425.000 | 97.25 | 97.25 | 280,149.94 | 280,149 94 | 430,331.25 | 430,331.25 | 0.07 | 150,181.31 | 150,181.31 |
| 494368103 | KIMBERLY-CLARK CORP | 8,120.000 | 142.05 | 142.05 | 694,472.48 | 694,472.48 | 1,153,446.00 | 1,153,446.00 | 0.20 | 458,973.52 | 458,973.52 |
| 49446R109 | KIMCO REALTY CORP | 9,958.000 | 20.88 | 20.88 | 203,317.40 | 203,317.40 | 207,923.04 | 207,923.04 | 0.04 | 4,605.64 | 4,605.64 |
| 49456B101 | KINDER MORGAN NC/DE | 45,931.000 | 20.61 | 20.61 | 1,277,474.01 | 1,277,474 01 | 946,637.91 | 946,637.91 | 0.16 | -330,836.10 | -330,836.10 |
| 500255104 | KOHL'S CORP | 3,754.000 | 49.66 | 49.66 | 195,315.78 | 195,315.78 | 186,423.64 | 186,423.64 | 0.03 | -8,892.14 | -8,892.14 |
| 500754106 | KRAFT HEINZ CO/THE | 14,679.000 | 27.93 | 27.93 | 851,372.01 | 851,372 01 | 410,057.87 | 410,057.87 | 0.07 | -441,314.14 | -441,314.14 |
| 501044101 | KROGER CO/THE | 18,845.000 | 25.78 | 25.78 | 414,203.07 | 414,203 07 | 485,824.10 | 485,824.10 | 0.08 | 71,621.03 | 71,621.03 |
| 501797104 | L BRANDS INC | 5,477.000 | 19.59 | 19.59 | 251,712.91 | 251,712 91 | 107,294.43 | 107,294.43 | 0.02 | -144,418.48 | -144,418.48 |
| 501889208 | LKQ CORP | 7,271.000 | 31.45 | 31.45 | 230,021.12 | 230,021.12 | 228,672.95 | 228,672.95 | 0.04 | -1,348.17 | -1,348.17 |
| 50540R409 | LABORATORY CORP OF AMERICA HOL | 2,305.000 | 168.00 | 168.00 | 270,568.77 | 270,568.77 | 387,240.00 | 387,240.00 | 0.07 | 116,671.23 | 116,671.23 |
| 512807108 | LAM RESEARCH CORP | 3,410.000 | 231.11 | 231.11 | 276,062.84 | 276,062 84 | 788,085.10 | 788,085.10 | 0.14 | 512,022.26 | 512,022.26 |
| 513272104 | LAMB WESTON HOLDINGS INC | 3,437.000 | 72.72 | 72.72 | 250,196.90 | 250,196 90 | 249,938.64 | 249,938.64 | 0.04 | -258.26 | -258.26 |
| 518439104 | ESTEE LAUDER COS NC/THE | 5,219.000 | 198.95 | 198.95 | 467,780.52 | 467,780 52 | 1,038,320.05 | 1,038,320.05 | 0.18 | 570,539.53 | 570,539.53 |
| 524660107 | LEGGETT & PLATT INC | 3,102.000 | 40.94 | 40.94 | 96,179.17 | 96,179.17 | 126,995.88 | 126,995.88 | 0.02 | 30,816.71 | 30,816.71 |
| 525327102 | LEIDOS HOLDINGS INC | 3,189.000 | 85.88 | 85.88 | 264,911.70 | 264,911.70 | 273,871.32 | 273,871.32 | 0.05 | 8,959.62 | 8,959.62 |
| 526057104 | LENNAR CORP | 6,710.000 | 55.85 | 55.85 | 263,984.36 | 263,984 36 | 374,753.50 | 374,753.50 | 0.06 | 110,769.14 | 110,769.14 |
| 532457108 | ELI L LLY & CO | 20,043.000 | 111.83 | 111.83 | 1,418,016.74 | 1,418,016.74 | 2,241,408.69 | 2,241,408.69 | 0.39 | 823,391.95 | 823,391.95 |
| 534187109 | LINCOLN NATIONAL CORP | 4,723.000 | 60.32 | 60.32 | 179,051.18 | 179,051.18 | 284,891.36 | 284,891.36 | 0.05 | 105,840.18 | 105,840.18 |
| 539830109 | LOCKHEED MARTIN CORP | 5,863.000 | 390.06 | 390.06 | 1,033,580.24 | 1,033,580 24 | 2,286,921.78 | 2,286,921.78 | 0.39 | 1,253,341.54 | 1,253,341.54 |
| 540424108 | LOEWS CORP | 6,135.000 | 51.48 | 51.48 | 255,165.40 | 255,165.40 | 315,829.80 | 315,829.80 | 0.05 | 60,664.40 | 60,664.40 |
| 548661107 | LOWE'S COS NC | 18,208.000 | 109.96 | 109.96 | 935,956.08 | 935,956 08 | 2,002,151.68 | 2,002,151.68 | 0.34 | 1,066,195.60 | 1,066,195.60 |
| 55261F104 | M&T BANK CORP | 3,153.000 | 157.97 | 157.97 | 351,293.83 | 351,293 83 | 498,079.41 | 498,079.41 | 0.09 | 146,785.58 | 146,785.58 |
| 552953101 | MGM RESORTS NTERNATIONAL | 12,302.000 | 27.72 | 27.72 | 385,632.38 | 385,632 38 | 341,011.44 | 341,011.44 | 0.06 | -44,620.94 | -44,620.94 |
| 55354G100 | MSCI INC | 1,998.000 | 217.75 | 217.75 | 340,711.18 | 340,711.18 | 435,064.50 | 435,064.50 | 0.07 | 94,353.32 | 94,353.32 |
| 554382101 | MACERICH CO/THE | 2,600.000 | 31.59 | 31.59 | 166,681.46 | 166,681.46 | 82,134.00 | 82,134.00 | 0.01 | -84,547.46 | -84,547.46 |
| 55616P104 | MACY'S INC | 7,288.000 | 15.54 | 15.54 | 228,181.61 | 228,181 61 | 113,255.52 | 113,255.52 | 0.02 | -114,926.09 | -114,926.09 |
| 565849106 | MARATHON OIL CORP | 18,969.000 | 12.27 | 12.27 | 266,381.27 | 266,381 27 | 232,749.63 | 232,749.63 | 0.04 | -33,631.64 | -33,631.64 |
| 56585A102 | MARATHON PETROLEUM CORP | 15,531.000 | 60.75 | 60.75 | 505,903.30 | 505,903 30 | 943,508.25 | 943,508.25 | 0.16 | 437,604.95 | 437,604.95 |
| 57060D108 | MARKETAXESS HOLD NGS INC | 891.000 | 327.50 | 327.50 | 302,407.02 | 302,407 02 | 291,802.50 | 291,802.50 | 0.05 | -10,604.52 | -10,604.52 |
| 571748102 | MARSH & MCLENNAN COS INC | 11,945.000 | 100.05 | 100.05 | 665,510.53 | 665,510 53 | 1,195,097.25 | 1,195,097.25 | 0.21 | 529,586.72 | 529,586.72 |
| 571903202 | MARRIOTT NTERNATIONAL INC/MD | 6,449.000 | 124.37 | 124.37 | 420,887.01 | 420,887 01 | 802,062.13 | 802,062.13 | 0.14 | 381,175.12 | 381,175.12 |
| 573284106 | MART N MAR ETTA MATERIALS NC | 1,473.000 | 274.10 | 274.10 | 230,739.00 | 230,739 00 | 403,749.30 | 403,749.30 | 0.07 | 173,010.30 | 173,010.30 |
| 574599106 | MASCO CORP | 6,829.000 | 41.68 | 41.68 | 151,474.07 | 151,474 07 | 284,632.72 | 284,632.72 | 0.05 | 133,158.65 | 133,158.65 |
| 57636Q104 | MASTERCARD INC | 21,062.000 | 271.57 | 271.57 | 1,920,528.79 | 1,920,528.79 | 5,719,807.34 | 5,719,807.34 | 0.98 | 3,799,278.55 | 3,799,278.55 |
| 57772K101 | MAX M INTEGRATED PRODUCTS INC | 6,400.000 | 57.91 | 57.91 | 318,116.14 | 318,116.14 | 370,624.00 | 370,624.00 | 0.06 | 52,507.86 | 52,507.86 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 579780206 | MCCORMICK & CO INC/MD | 2,903.000 | 156.30 | 156.30 | 221,726.89 | 221,726 89 | 453,738.90 | 453,738.90 | 0.08 | 232,012.01 | 232,012.01 |
| 580135101 | MCDONALD'S CORP | 17,917.000 | 214.71 | 214.71 | 1,709,015.72 | 1,709,015.72 | 3,846,959.07 | 3,846,959.07 | 0.66 | 2,137,943.35 | 2,137,943.35 |
| 58155Q103 | MCKESSON CORP | 4,362.000 | 136.66 | 136.66 | 457,463.75 | 457,463.75 | 596,110.92 | 596,110.92 | 0.10 | 138,647.17 | 138,647.17 |
| 58933Y105 | MERCK & CO INC | 60,405.000 | 84.18 | 84.18 | 3,135,054.06 | 3,135,054 06 | 5,084,892.90 | 5,084,892.90 | 0.88 | 1,949,838.84 | 1,949,838.84 |
| 59156R108 | METL FE NC | 18,779.000 | 47.16 | 47.16 | 668,989.10 | 668,989.10 | 885,617.64 | 885,617.64 | 0.15 | 216,628.54 | 216,628.54 |
| 592688105 | METTLER-TOLEDO INTERNATIONAL I | 581.000 | 704.40 | 704.40 | 264,439.19 | 264,439.19 | 409,256.40 | 409,256.40 | 0.07 | 144,817.21 | 144,817.21 |
| 594918104 | MICROSOFT CORP | 180,136.000 | 139.03 | 139.03 | 9,826,818.69 | 9,826,818 69 | 25,044,308.08 | 25,044,308.08 | 4.31 | 15,217,489.39 | 15,217,489.39 |
| 595017104 | MICROCHIP TECHNOLOGY INC | 5,616.000 | 92.91 | 92.91 | 288,342.34 | 288,342 34 | 521,782.56 | 521,782.56 | 0.09 | 233,440.22 | 233,440.22 |
| 595112103 | MICRON TECHNOLOGY INC | 26,041.000 | 42.85 | 42.85 | 566,805.20 | 566,805 20 | 1,115,856.85 | 1,115,856.85 | 0.19 | 549,051.65 | 549,051.65 |
| 59522J103 | MID-AMERICA APARTMENT COMMUNIT | 2,691.000 | 130.01 | 130.01 | 271,349.03 | 271,349 03 | 349,856.91 | 349,856.91 | 0.06 | 78,507.88 | 78,507.88 |
| 608190104 | MOHAWK INDUSTR ES NC | 1,413.000 | 124.07 | 124.07 | 216,462.67 | 216,462 67 | 175,310.91 | 175,310.91 | 0.03 | -41,151.76 | -41,151.76 |
| 60871R209 | MOLSON COORS BREW NG CO | 4,432.000 | 57.50 | 57.50 | 281,614.40 | 281,614.40 | 254,840.00 | 254,840.00 | 0.04 | -26,774.40 | -26,774.40 |
| 609207105 | MONDELEZ NTERNATIONAL INC | 34,024.000 | 55.32 | 55.32 | 1,004,280.12 | 1,004,280.12 | 1,882,207.68 | 1,882,207.68 | 0.32 | 877,927.56 | 877,927.56 |
| 61174X109 | MONSTER BEVERAGE CORP | 9,127.000 | 58.06 | 58.06 | 368,992.65 | 368,992 65 | 529,913.62 | 529,913.62 | 0.09 | 160,920.97 | 160,920.97 |
| 615369105 | MOODY'S CORP | 3,839.000 | 204.83 | 204.83 | 338,946.71 | 338,946.71 | 786,342.37 | 786,342.37 | 0.14 | 447,395.66 | 447,395.66 |
| 617446448 | MORGAN STANLEY | 29,634.000 | 42.67 | 42.67 | 930,425.66 | 930,425 66 | 1,264,482.78 | 1,264,482.78 | 0.22 | 334,057.12 | 334,057.12 |
| 61945C103 | MOSAIC CO/THE | 8,375.000 | 20.50 | 20.50 | 331,188.57 | 331,188 57 | 171,687.50 | 171,687.50 | 0.03 | -159,501.07 | -159,501.07 |
| 620076307 | MOTOROLA SOLUTIONS NC | 3,906.000 | 170.41 | 170.41 | 312,299.27 | 312,299 27 | 665,621.46 | 665,621.46 | 0.11 | 353,322.19 | 353,322.19 |
| 629377508 | NRG ENERGY NC | 5,969.000 | 39.60 | 39.60 | 137,033.68 | 137,033 68 | 236,372.40 | 236,372.40 | 0.04 | 99,338.72 | 99,338.72 |
| 631103108 | NASDAQ NC | 2,720.000 | 99.35 | 99.35 | 149,618.80 | 149,618 80 | 270,232.00 | 270,232.00 | 0.05 | 120,613.20 | 120,613.20 |
| 637071101 | NATIONAL OILWELL VARCO NC | 9,104.000 | 21.20 | 21.20 | 362,727.09 | 362,727 09 | 193,004.80 | 193,004.80 | 0.03 | -169,722.29 | -169,722.29 |
| 640268108 | NEKTAR THERAPEUTICS | 4,135.000 | 18.21 | 18.21 | 354,215.27 | 354,215 27 | 75,319.03 | 75,319.03 | 0.01 | -278,896.24 | -278,896.24 |
| 64110D104 | NETAPP INC | 5,613.000 | 52.51 | 52.51 | 248,198.55 | 248,198 55 | 294,738.63 | 294,738.63 | 0.05 | 46,540.08 | 46,540.08 |
| 64110L106 | NETFLIX INC | 10,329.000 | 267.62 | 267.62 | 1,164,964.18 | 1,164,964.18 | 2,764,246.98 | 2,764,246.98 | 0.48 | 1,599,282.80 | 1,599,282.80 |
| 651229106 | NEWELL BRANDS NC | 8,990.000 | 18.72 | 18.72 | 259,516.54 | 259,516 54 | 168,292.80 | 168,292.80 | 0.03 | -91,223.74 | -91,223.74 |
| 651639106 | NEWMONT GOLDCORP CORP | 19,343.000 | 37.92 | 37.92 | 608,695.04 | 608,695 04 | 733,486.56 | 733,486.56 | 0.13 | 124,791.52 | 124,791.52 |
| 65249B109 | NEWS CORP | 9,098.000 | 13.92 | 13.92 | 112,581.91 | 112,581 91 | 126,644.16 | 126,644.16 | 0.02 | 14,062.25 | 14,062.25 |
| 65249B208 | NEWS CORP | 2,873.000 | 14.29 | 14.29 | 40,397.26 | 40,397 26 | 41,069.54 | 41,069.54 | 0.01 | 672.28 | 672.28 |
| 65339F101 | NEXTERA ENERGY NC | 11,531.000 | 232.99 | 232.99 | 1,234,370.16 | 1,234,370.16 | 2,686,607.69 | 2,686,607.69 | 0.46 | 1,452,237.53 | 1,452,237.53 |
| 654106103 | NIKE INC | 29,534.000 | 93.92 | 93.92 | 1,159,410.62 | 1,159,410 62 | 2,773,833.28 | 2,773,833.28 | 0.48 | 1,614,422.66 | 1,614,422.66 |
| 65473P105 | NISOURCE INC | 8,808.000 | 29.92 | 29.92 | 155,974.87 | 155,974 87 | 263,535.36 | 263,535.36 | 0.05 | 107,560.49 | 107,560.49 |
| 655044105 | NOBLE ENERGY NC | 11,283.000 | 22.46 | 22.46 | 382,569.83 | 382,569 83 | 253,416.18 | 253,416.18 | 0.04 | -129,153.65 | -129,153.65 |
| 655664100 | NORDSTROM NC | 2,522.000 | 33.67 | 33.67 | 117,123.05 | 117,123 05 | 84,915.74 | 84,915.74 | 0.01 | -32,207.31 | -32,207.31 |
| 655844108 | NORFOLK SOUTHERN CORP | 6,214.000 | 179.66 | 179.66 | 508,417.75 | 508,417.75 | 1,116,407.24 | 1,116,407.24 | 0.19 | 607,989.49 | 607,989.49 |
| 665859104 | NORTHERN TRUST CORP | 5,070.000 | 93.32 | 93.32 | 322,236.31 | 322,236 31 | 473,132.40 | 473,132.40 | 0.08 | 150,896.09 | 150,896.09 |
| 666807102 | NORTHROP GRUMMAN CORP | 3,712.000 | 374.79 | 374.79 | 506,478.12 | 506,478.12 | 1,391,220.48 | 1,391,220.48 | 0.24 | 884,742.36 | 884,742.36 |
| 670346105 | NUCOR CORP | 7,152.000 | 50.91 | 50.91 | 314,702.70 | 314,702.70 | 364,108.32 | 364,108.32 | 0.06 | 49,405.62 | 49,405.62 |
| 67066G104 | NVIDIA CORP | 14,368.000 | 174.07 | 174.07 | 862,621.15 | 862,621.15 | 2,501,037.76 | 2,501,037.76 | 0.43 | 1,638,416.61 | 1,638,416.61 |
| 67103H107 | O'REILLY AUTOMOTIVE INC | 1,805.000 | 398.51 | 398.51 | 297,200.83 | 297,200 83 | 719,310.55 | 719,310.55 | 0.12 | 422,109.72 | 422,109.72 |
| 674599105 | OCCIDENTAL PETROLEUM CORP | 21,103.000 | 44.47 | 44.47 | 1,046,885.45 | 1,046,885.45 | 938,450.41 | 938,450.41 | 0.16 | -108,435.04 | -108,435.04 |
| 681919106 | OMNICOM GROUP NC | 5,132.000 | 78.30 | 78.30 | 308,345.23 | 308,345 23 | 401,835.60 | 401,835.60 | 0.07 | 93,490.37 | 93,490.37 |
| 682680103 | ONEOK INC | 9,743.000 | 73.69 | 73.69 | 435,067.75 | 435,067.75 | 717,961.67 | 717,961.67 | 0.12 | 282,893.92 | 282,893.92 |
| 68389X105 | ORACLE CORP | 51,942.000 | 55.03 | 55.03 | 1,655,809.37 | 1,655,809 37 | 2,858,368.26 | 2,858,368.26 | 0.49 | 1,202,558.89 | 1,202,558.89 |
| 693475105 | PNC F NANCIAL SERVICES GROUP I | 10,505.000 | 140.16 | 140.16 | 818,010.01 | 818,010 01 | 1,472,380.80 | 1,472,380.80 | 0.25 | 654,370.79 | 654,370.79 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 693506107 | PPG INDUSTR ES INC | 5,575.000 | 118.51 | 118.51 | 377,830.84 | 377,830 84 | 660,693.25 | 660,693.25 | 0.11 | 282,862.41 | 282,862.41 |
| 69351T106 | PPL CORP | 17,039.000 | 31.49 | 31.49 | 496,587.81 | 496,587 81 | 536,558.11 | 536,558.11 | 0.09 | 39,970.30 | 39,970.30 |
| 693656100 | PVH CORP | 1,749.000 | 88.23 | 88.23 | 186,300.36 | 186,300 36 | 154,314.27 | 154,314.27 | 0.03 | -31,986.09 | -31,986.09 |
| 693718108 | PACCAR INC | 8,172.000 | 70.01 | 70.01 | 320,714.81 | 320,714 81 | 572,121.72 | 572,121.72 | 0.10 | 251,406.91 | 251,406.91 |
| 695156109 | PACKAG NG CORP OF AMERICA | 2,233.000 | 106.10 | 106.10 | 252,941.11 | 252,941.11 | 236,921.30 | 236,921.30 | 0.04 | -16,019.81 | -16,019.81 |
| 701094104 | PARKER-HANNIF N CORP | 3,030.000 | 180.61 | 180.61 | 278,069.54 | 278,069 54 | 547,248.30 | 547,248.30 | 0.09 | 269,178.76 | 269,178.76 |
| 704326107 | PAYCHEX INC | 7,545.000 | 82.77 | 82.77 | 354,358.84 | 354,358 84 | 624,499.65 | 624,499.65 | 0.11 | 270,140.81 | 270,140.81 |
| 70450Y103 | PAYPAL HOLDINGS NC | 27,760.000 | 103.59 | 103.59 | 1,180,322.37 | 1,180,322 37 | 2,875,658.40 | 2,875,658.40 | 0.49 | 1,695,336.03 | 1,695,336.03 |
| 712704105 | PEOPLE'S UNITED FINANCIAL INC | 9,407.000 | 15.63 | 15.63 | 149,313.91 | 149,313 91 | 147,078.45 | 147,078.45 | 0.03 | -2,235.46 | -2,235.46 |
| 713448108 | PEPSICO INC | 32,986.000 | 137.10 | 137.10 | 2,557,421.88 | 2,557,421 88 | 4,522,380.60 | 4,522,380.60 | 0.78 | 1,964,958.72 | 1,964,958.72 |
| 714046109 | PERKINELMER INC | 2,621.000 | 85.17 | 85.17 | 110,441.01 | 110,441 01 | 223,230.57 | 223,230.57 | 0.04 | 112,789.56 | 112,789.56 |
| 717081103 | PFIZER NC | 130,490.000 | 35.93 | 35.93 | 3,825,340.72 | 3,825,340.72 | 4,688,505.70 | 4,688,505.70 | 0.81 | 863,164.98 | 863,164.98 |
| 718172109 | PHILIP MORRIS INTERNATIONAL IN | 36,706.000 | 75.93 | 75.93 | 2,317,637.15 | 2,317,637.15 | 2,787,086.58 | 2,787,086.58 | 0.48 | 469,449.43 | 469,449.43 |
| 718546104 | PHILLIPS 66 | 10,582.000 | 102.40 | 102.40 | 630,270.64 | 630,270 64 | 1,083,596.80 | 1,083,596.80 | 0.19 | 453,326.16 | 453,326.16 |
| 723484101 | PINNACLE WEST CAPITAL CORP | 2,649.000 | 97.07 | 97.07 | 162,992.42 | 162,992.42 | 257,138.43 | 257,138.43 | 0.04 | 94,146.01 | 94,146.01 |
| 723787107 | PIONEER NATURAL RESOURCES CO | 3,943.000 | 125.77 | 125.77 | 450,849.43 | 450,849.43 | 495,911.11 | 495,911.11 | 0.09 | 45,061.68 | 45,061.68 |
| 74144T108 | T ROWE PRICE GROUP NC | 5,557.000 | 114.25 | 114.25 | 400,838.95 | 400,838 95 | 634,887.25 | 634,887.25 | 0.11 | 234,048.30 | 234,048.30 |
| 74251V102 | PRINCIPAL F NANCIAL GROUP INC | 6,117.000 | 57.14 | 57.14 | 230,455.44 | 230,455.44 | 349,525.38 | 349,525.38 | 0.06 | 119,069.94 | 119,069.94 |
| 742718109 | PROCTER & GAMBLE CO/THE | 59,043.000 | 124.38 | 124.38 | 4,034,025.91 | 4,034,025 91 | 7,343,768.34 | 7,343,768.34 | 1.26 | 3,309,742.43 | 3,309,742.43 |
| 743315103 | PROGRESSIVE CORP/THE | 13,793.000 | 77.25 | 77.25 | 487,188.52 | 487,188 52 | 1,065,509.25 | 1,065,509.25 | 0.18 | 578,320.73 | 578,320.73 |
| 74340W103 | PROLOGIS NC | 14,890.000 | 85.22 | 85.22 | 736,123.80 | 736,123 80 | 1,268,925.80 | 1,268,925.80 | 0.22 | 532,802.00 | 532,802.00 |
| 744320102 | PRUDENTIAL FINANCIAL INC | 9,484.000 | 89.95 | 89.95 | 656,642.78 | 656,642.78 | 853,085.80 | 853,085.80 | 0.15 | 196,443.02 | 196,443.02 |
| 744573106 | PUBLIC SERVICE ENTERPRISE GROU | 11,929.000 | 62.08 | 62.08 | 411,607.38 | 411,607 38 | 740,552.32 | 740,552.32 | 0.13 | 328,944.94 | 328,944.94 |
| 74460D109 | PUBLIC STORAGE | 3,542.000 | 245.27 | 245.27 | 643,708.31 | 643,708 31 | 868,746.34 | 868,746.34 | 0.15 | 225,038.03 | 225,038.03 |
| 745867101 | PULTEGROUP NC | 6,081.000 | 36.55 | 36.55 | 95,469.31 | 95,469 31 | 222,260.55 | 222,260.55 | 0.04 | 126,791.24 | 126,791.24 |
| 74736K101 | QORVO NC | 2,779.000 | 74.14 | 74.14 | 199,535.60 | 199,535 60 | 206,035.06 | 206,035.06 | 0.04 | 6,499.46 | 6,499.46 |
| 747525103 | QUALCOMM NC | 28,680.000 | 76.28 | 76.28 | 1,450,688.94 | 1,450,688 94 | 2,187,710.40 | 2,187,710.40 | 0.38 | 737,021.46 | 737,021.46 |
| 74762E102 | QUANTA SERVICES INC | 3,354.000 | 37.80 | 37.80 | 85,063.48 | 85,063.48 | 126,781.20 | 126,781.20 | 0.02 | 41,717.72 | 41,717.72 |
| 74834L100 | QUEST DIAGNOSTICS NC | 3,177.000 | 107.03 | 107.03 | 201,013.18 | 201,013.18 | 340,034.31 | 340,034.31 | 0.06 | 139,021.13 | 139,021.13 |
| 751212101 | RALPH LAUREN CORP | 1,223.000 | 95.47 | 95.47 | 151,347.62 | 151,347 62 | 116,759.81 | 116,759.81 | 0.02 | -34,587.81 | -34,587.81 |
| 754730109 | RAYMOND JAMES FINANCIAL INC | 2,915.000 | 82.46 | 82.46 | 230,345.38 | 230,345 38 | 240,370.90 | 240,370.90 | 0.04 | 10,025.52 | 10,025.52 |
| 755111507 | RAYTHEON CO | 6,570.000 | 196.19 | 196.19 | 576,916.25 | 576,916 25 | 1,288,968.30 | 1,288,968.30 | 0.22 | 712,052.05 | 712,052.05 |
| 756109104 | REALTY NCOME CORP | 7,508.000 | 76.68 | 76.68 | 423,675.08 | 423,675 08 | 575,713.44 | 575,713.44 | 0.10 | 152,038.36 | 152,038.36 |
| 758849103 | REGENCY CENTERS CORP | 3,953.000 | 69.49 | 69.49 | 263,388.35 | 263,388 35 | 274,693.97 | 274,693.97 | 0.05 | 11,305.62 | 11,305.62 |
| 75886F107 | REGENERON PHARMACEUTICALS NC | 1,885.000 | 277.40 | 277.40 | 617,515.14 | 617,515.14 | 522,899.00 | 522,899.00 | 0.09 | -94,616.14 | -94,616.14 |
| 7591EP100 | REGIONS F NANCIAL CORP | 23,540.000 | 15.82 | 15.82 | 306,058.45 | 306,058.45 | 372,402.80 | 372,402.80 | 0.06 | 66,344.35 | 66,344.35 |
| 760759100 | REPUBLIC SERVICES INC | 4,994.000 | 86.55 | 86.55 | 244,011.64 | 244,011 64 | 432,230.70 | 432,230.70 | 0.07 | 188,219.06 | 188,219.06 |
| 761152107 | RESMED INC | 3,390.000 | 135.11 | 135.11 | 373,254.46 | 373,254.46 | 458,022.90 | 458,022.90 | 0.08 | 84,768.44 | 84,768.44 |
| 770323103 | ROBERT HALF INTERNATIONAL NC | 2,774.000 | 55.66 | 55.66 | 110,557.76 | 110,557.76 | 154,400.84 | 154,400.84 | 0.03 | 43,843.08 | 43,843.08 |
| 773903109 | ROCKWELL AUTOMATION INC | 2,760.000 | 164.80 | 164.80 | 216,933.39 | 216,933 39 | 454,848.00 | 454,848.00 | 0.08 | 237,914.61 | 237,914.61 |
| 776696106 | ROPER TECHNOLOG ES NC | 2,454.000 | 356.60 | 356.60 | 391,284.77 | 391,284.77 | 875,096.40 | 875,096.40 | 0.15 | 483,811.63 | 483,811.63 |
| 778296103 | ROSS STORES NC | 8,604.000 | 109.85 | 109.85 | 359,578.99 | 359,578 99 | 945,149.40 | 945,149.40 | 0.16 | 585,570.41 | 585,570.41 |
| 78409V104 | S&P GLOBAL INC | 5,811.000 | 244.98 | 244.98 | 541,660.64 | 541,660 64 | 1,423,578.78 | 1,423,578.78 | 0.24 | 881,918.14 | 881,918.14 |
| 78410G104 | SBA COMMUNICATIONS CORP | 2,668.000 | 241.15 | 241.15 | 443,477.69 | 443,477 69 | 643,388.20 | 643,388.20 | 0.11 | 199,910.51 | 199,910.51 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 78440X101 | SL GREEN REALTY CORP | 1,944.000 | 81.75 | 81.75 | 226,540.42 | 226,540.42 | 158,922.00 | 158,922.00 | 0.03 | -67,618.42 | -67,618.42 |
| 78486Q101 | SVB FINANCIAL GROUP | 1,216.000 | 208.95 | 208.95 | 363,045.03 | 363,045 03 | 254,083.20 | 254,083.20 | 0.04 | -108,961.83 | -108,961.83 |
| 79466L302 | SALESFORCE.COM INC | 20,690.000 | 148.44 | 148.44 | 1,834,934.42 | 1,834,934.42 | 3,071,223.60 | 3,071,223.60 | 0.53 | 1,236,289.18 | 1,236,289.18 |
| 806407102 | HENRY SCHEIN NC | 3,498.000 | 63.50 | 63.50 | 204,522.43 | 204,522.43 | 222,123.00 | 222,123.00 | 0.04 | 17,600.57 | 17,600.57 |
| 806857108 | SCHLUMBERGER LTD | 32,628.000 | 34.17 | 34.17 | 1,749,384.92 | 1,749,384 92 | 1,114,898.76 | 1,114,898.76 | 0.19 | -634,486.16 | -634,486.16 |
| 808513105 | CHARLES SCHWAB CORP/THE | 27,447.000 | 41.83 | 41.83 | 716,767.17 | 716,767.17 | 1,148,108.01 | 1,148,108.01 | 0.20 | 431,340.84 | 431,340.84 |
| 81211K100 | SEALED AIR CORP | 3,646.000 | 41.51 | 41.51 | 110,269.49 | 110,269.49 | 151,345.46 | 151,345.46 | 0.03 | 41,075.97 | 41,075.97 |
| 816851109 | SEMPRA ENERGY | 6,477.000 | 147.61 | 147.61 | 551,416.56 | 551,416 56 | 956,069.97 | 956,069.97 | 0.16 | 404,653.41 | 404,653.41 |
| 824348106 | SHERWIN-W LLIAMS CO/THE | 1,937.000 | 549.87 | 549.87 | 448,968.49 | 448,968.49 | 1,065,098.19 | 1,065,098.19 | 0.18 | 616,129.70 | 616,129.70 |
| 828806109 | SIMON PROPERTY GROUP INC | 7,267.000 | 155.65 | 155.65 | 969,980.80 | 969,980 80 | 1,131,108.55 | 1,131,108.55 | 0.19 | 161,127.75 | 161,127.75 |
| 83088M102 | SKYWORKS SOLUTIONS INC | 4,051.000 | 79.25 | 79.25 | 343,267.67 | 343,267 67 | 321,041.75 | 321,041.75 | 0.06 | -22,225.92 | -22,225.92 |
| 831865209 | AO SMITH CORP | 3,264.000 | 47.71 | 47.71 | 183,687.97 | 183,687 97 | 155,725.44 | 155,725.44 | 0.03 | -27,962.53 | -27,962.53 |
| 832696405 | JM SMUCKER CO/THE | 2,691.000 | 110.02 | 110.02 | 253,210.99 | 253,210 99 | 296,063.82 | 296,063.82 | 0.05 | 42,852.83 | 42,852.83 |
| 833034101 | SNAP-ON NC | 1,303.000 | 156.54 | 156.54 | 126,754.04 | 126,754 04 | 203,971.62 | 203,971.62 | 0.04 | 77,217.58 | 77,217.58 |
| 842587107 | SOUTHERN CO/THE | 24,659.000 | 61.77 | 61.77 | 1,034,499.52 | 1,034,499 52 | 1,523,186.43 | 1,523,186.43 | 0.26 | 488,686.91 | 488,686.91 |
| 844741108 | SOUTHWEST A RLINES CO | 11,413.000 | 54.01 | 54.01 | 281,991.17 | 281,991.17 | 616,416.13 | 616,416.13 | 0.11 | 334,424.96 | 334,424.96 |
| 84790A105 | SPECTRUM BRANDS HOLDINGS INC | 148.625 | 52.72 | 52.72 | 7,431.25 | 7,431 25 | 7,835.51 | 7,835.51 | 0.00 | 404.26 | 404.26 |
| 854502101 | STANLEY BLACK & DECKER INC | 3,580.000 | 144.41 | 144.41 | 294,152.00 | 294,152 00 | 516,987.80 | 516,987.80 | 0.09 | 222,835.80 | 222,835.80 |
| 855244109 | STARBUCKS CORP | 28,240.000 | 88.42 | 88.42 | 1,093,799.38 | 1,093,799 38 | 2,496,980.80 | 2,496,980.80 | 0.43 | 1,403,181.42 | 1,403,181.42 |
| 857477103 | STATE STREET CORP | 8,790.000 | 59.19 | 59.19 | 483,870.00 | 483,870 00 | 520,280.10 | 520,280.10 | 0.09 | 36,410.10 | 36,410.10 |
| 863667101 | STRYKER CORP | 7,570.000 | 216.30 | 216.30 | 826,617.25 | 826,617 25 | 1,637,391.00 | 1,637,391.00 | 0.28 | 810,773.75 | 810,773.75 |
| 867914103 | SUNTRUST BANKS INC | 10,473.000 | 68.80 | 68.80 | 474,713.64 | 474,713 64 | 720,542.40 | 720,542.40 | 0.12 | 245,828.76 | 245,828.76 |
| 871503108 | SYMANTEC CORP | 13,414.000 | 23.63 | 23.63 | 269,530.31 | 269,530 31 | 316,972.82 | 316,972.82 | 0.05 | 47,442.51 | 47,442.51 |
| 871607107 | SYNOPSYS INC | 3,546.000 | 137.25 | 137.25 | 290,795.11 | 290,795.11 | 486,688.50 | 486,688.50 | 0.08 | 195,893.39 | 195,893.39 |
| 87165B103 | SYNCHRONY FINANCIAL | 14,400.000 | 34.09 | 34.09 | 452,781.32 | 452,781 32 | 490,896.00 | 490,896.00 | 0.08 | 38,114.68 | 38,114.68 |
| 871829107 | SYSCO CORP | 12,107.000 | 79.40 | 79.40 | 531,388.60 | 531,388 60 | 961,295.80 | 961,295.80 | 0.17 | 429,907.20 | 429,907.20 |
| 872540109 | TJX COS NC/THE | 28,521.000 | 55.74 | 55.74 | 791,751.21 | 791,751 21 | 1,589,760.54 | 1,589,760.54 | 0.27 | 798,009.33 | 798,009.33 |
| 872590104 | T-MOBILE US NC | 7,459.000 | 78.77 | 78.77 | 604,892.65 | 604,892 65 | 587,545.43 | 587,545.43 | 0.10 | -17,347.22 | -17,347.22 |
| 874054109 | TAKE-TWO INTERACTIVE SOFTWARE | 2,670.000 | 125.34 | 125.34 | 288,378.24 | 288,378 24 | 334,657.80 | 334,657.80 | 0.06 | 46,279.56 | 46,279.56 |
| 876030107 | TAPESTRY INC | 6,767.000 | 26.05 | 26.05 | 316,114.14 | 316,114.14 | 176,280.35 | 176,280.35 | 0.03 | -139,833.79 | -139,833.79 |
| 87612E106 | TARGET CORP | 12,054.000 | 106.91 | 106.91 | 762,405.54 | 762,405 54 | 1,288,693.14 | 1,288,693.14 | 0.22 | 526,287.60 | 526,287.60 |
| 879369106 | TELEFLEX INC | 1,091.000 | 339.75 | 339.75 | 336,279.89 | 336,279 89 | 370,667.25 | 370,667.25 | 0.06 | 34,387.36 | 34,387.36 |
| 882508104 | TEXAS INSTRUMENTS NC | 22,026.000 | 129.24 | 129.24 | 1,136,486.31 | 1,136,486 31 | 2,846,640.24 | 2,846,640.24 | 0.49 | 1,710,153.93 | 1,710,153.93 |
| 883203101 | TEXTRON INC | 5,429.000 | 48.96 | 48.96 | 172,845.38 | 172,845 38 | 265,803.84 | 265,803.84 | 0.05 | 92,958.46 | 92,958.46 |
| 883556102 | THERMO FISHER SCIENT FIC NC | 9,448.000 | 291.27 | 291.27 | 1,229,064.21 | 1,229,064 21 | 2,751,918.96 | 2,751,918.96 | 0.47 | 1,522,854.75 | 1,522,854.75 |
| 88579Y101 | 3M CO | 13,572.000 | 164.40 | 164.40 | 1,495,554.19 | 1,495,554.19 | 2,231,236.80 | 2,231,236.80 | 0.38 | 735,682.61 | 735,682.61 |
| 886547108 | T FFANY & CO | 2,565.000 | 92.63 | 92.63 | 176,747.28 | 176,747 28 | 237,595.95 | 237,595.95 | 0.04 | 60,848.67 | 60,848.67 |
| 892356106 | TRACTOR SUPPLY CO | 2,814.000 | 90.44 | 90.44 | 227,372.48 | 227,372.48 | 254,498.16 | 254,498.16 | 0.04 | 27,125.68 | 27,125.68 |
| 893641100 | TRANSDIGM GROUP NC | 1,171.000 | 520.67 | 520.67 | 358,086.92 | 358,086 92 | 609,704.57 | 609,704.57 | 0.10 | 251,617.65 | 251,617.65 |
| 89417E109 | TRAVELERS COS NC/THE | 6,143.000 | 148.69 | 148.69 | 483,950.13 | 483,950.13 | 913,402.67 | 913,402.67 | 0.16 | 429,452.54 | 429,452.54 |
| 896945201 | TRIPADVISOR INC | 2,477.000 | 38.68 | 38.68 | 119,747.93 | 119,747 93 | 95,810.36 | 95,810.36 | 0.02 | -23,937.57 | -23,937.57 |
| 90184L102 | TWITTER INC | 18,237.000 | 41.20 | 41.20 | 757,006.30 | 757,006 30 | 751,364.40 | 751,364.40 | 0.13 | -5,641.90 | -5,641.90 |
| 902494103 | TYSON FOODS INC | 6,952.000 | 86.14 | 86.14 | 280,078.07 | 280,078 07 | 598,845.28 | 598,845.28 | 0.10 | 318,767.21 | 318,767.21 |
| 902653104 | UDR INC | 6,909.000 | 48.48 | 48.48 | 274,595.49 | 274,595.49 | 334,948.32 | 334,948.32 | 0.06 | 60,352.83 | 60,352.83 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 902973304 | US BANCORP | 33,831.000 | 55.34 | 55.34 | 1,174,303.93 | 1,174,303 93 | 1,872,207.54 | 1,872,207.54 | 0.32 | 697,903.61 | 697,903.61 |
| 90384S303 | ULTA BEAUTY INC | 1,388.000 | 250.65 | 250.65 | 317,593.45 | 317,593.45 | 347,902.20 | 347,902.20 | 0.06 | 30,308.75 | 30,308.75 |
| 904311107 | UNDER ARMOUR INC | 4,439.000 | 19.94 | 19.94 | 126,577.00 | 126,577 00 | 88,513.66 | 88,513.66 | 0.02 | -38,063.34 | -38,063.34 |
| 904311206 | UNDER ARMOUR INC | 4,585.000 | 18.13 | 18.13 | 124,324.55 | 124,324 55 | 83,126.05 | 83,126.05 | 0.01 | -41,198.50 | -41,198.50 |
| 907818108 | UNION PACIFIC CORP | 16,621.000 | 161.98 | 161.98 | 1,129,538.92 | 1,129,538 92 | 2,692,269.58 | 2,692,269.58 | 0.46 | 1,562,730.66 | 1,562,730.66 |
| 910047109 | UNITED A RLINES HOLDINGS INC | 5,213.000 | 88.41 | 88.41 | 331,738.38 | 331,738 38 | 460,881.33 | 460,881.33 | 0.08 | 129,142.95 | 129,142.95 |
| 911312106 | UNITED PARCEL SERVICE INC | 16,475.000 | 119.82 | 119.82 | 1,420,983.26 | 1,420,983 26 | 1,974,034.50 | 1,974,034.50 | 0.34 | 553,051.24 | 553,051.24 |
| 911363109 | UNITED RENTALS INC | 1,820.000 | 124.64 | 124.64 | 191,357.64 | 191,357 64 | 226,844.80 | 226,844.80 | 0.04 | 35,487.16 | 35,487.16 |
| 913017109 | UNITED TECHNOLOG ES CORP | 19,137.000 | 136.52 | 136.52 | 1,588,393.93 | 1,588,393 93 | 2,612,583.24 | 2,612,583.24 | 0.45 | 1,024,189.31 | 1,024,189.31 |
| 91324P102 | UNITEDHEALTH GROUP NC | 22,358.000 | 217.32 | 217.32 | 2,442,657.70 | 2,442,657.70 | 4,858,840.56 | 4,858,840.56 | 0.84 | 2,416,182.86 | 2,416,182.86 |
| 913903100 | UNIVERSAL HEALTH SERVICES INC | 1,916.000 | 148.75 | 148.75 | 228,122.55 | 228,122 55 | 285,005.00 | 285,005.00 | 0.05 | 56,882.45 | 56,882.45 |
| 91529Y106 | UNUM GROUP | 4,922.000 | 29.72 | 29.72 | 151,323.17 | 151,323.17 | 146,281.84 | 146,281.84 | 0.03 | -5,041.33 | -5,041.33 |
| 918204108 | VF CORP | 7,703.000 | 88.99 | 88.99 | 449,198.92 | 449,198 92 | 685,489.97 | 685,489.97 | 0.12 | 236,291.05 | 236,291.05 |
| 91913Y100 | VALERO ENERGY CORP | 9,777.000 | 85.24 | 85.24 | 418,779.99 | 418,779 99 | 833,391.48 | 833,391.48 | 0.14 | 414,611.49 | 414,611.49 |
| 92220P105 | VARIAN MEDICAL SYSTEMS INC | 2,148.000 | 119.09 | 119.09 | 158,028.23 | 158,028 23 | 255,805.32 | 255,805.32 | 0.04 | 97,777.09 | 97,777.09 |
| 92276F100 | VENTAS INC | 8,790.000 | 73.03 | 73.03 | 493,606.89 | 493,606 89 | 641,933.70 | 641,933.70 | 0.11 | 148,326.81 | 148,326.81 |
| 92343E102 | VERISIGN INC | 2,458.000 | 188.63 | 188.63 | 232,479.24 | 232,479 24 | 463,652.54 | 463,652.54 | 0.08 | 231,173.30 | 231,173.30 |
| 92343V104 | VERIZON COMMUNICATIONS INC | 97,577.000 | 60.36 | 60.36 | 4,435,566.56 | 4,435,566 56 | 5,889,747.72 | 5,889,747.72 | 1.01 | 1,454,181.16 | 1,454,181.16 |
| 92345Y106 | VERISK ANALYTICS INC | 3,857.000 | 158.14 | 158.14 | 351,813.24 | 351,813 24 | 609,945.98 | 609,945.98 | 0.10 | 258,132.74 | 258,132.74 |
| 92532F100 | VERTEX PHARMACEUTICALS INC | 6,064.000 | 169.42 | 169.42 | 642,682.24 | 642,682 24 | 1,027,362.88 | 1,027,362.88 | 0.18 | 384,680.64 | 384,680.64 |
| 92553P201 | VIACOM INC | 8,351.000 | 24.03 | 24.03 | 360,325.39 | 360,325 39 | 200,674.53 | 200,674.53 | 0.03 | -159,650.86 | -159,650.86 |
| 92826C839 | VISA INC | 40,743.000 | 172.01 | 172.01 | 2,650,177.38 | 2,650,177 38 | 7,008,203.43 | 7,008,203.43 | 1.21 | 4,358,026.05 | 4,358,026.05 |
| 929042109 | VORNADO REALTY TRUST | 3,736.000 | 63.67 | 63.67 | 248,906.37 | 248,906 37 | 237,871.12 | 237,871.12 | 0.04 | -11,035.25 | -11,035.25 |
| 929160109 | VULCAN MATERIALS CO | 3,121.000 | 151.24 | 151.24 | 239,589.71 | 239,589.71 | 472,020.04 | 472,020.04 | 0.08 | 232,430.33 | 232,430.33 |
| 92939U106 | WEC ENERGY GROUP NC | 7,442.000 | 95.10 | 95.10 | 363,605.69 | 363,605 69 | 707,734.20 | 707,734.20 | 0.12 | 344,128.51 | 344,128.51 |
| 929740108 | WABTEC CORP | 4,296.000 | 71.86 | 71.86 | 307,146.97 | 307,146 97 | 308,710.56 | 308,710.56 | 0.05 | 1,563.59 | 1,563.59 |
| 931142103 | WALMART INC | 33,551.000 | 118.68 | 118.68 | 2,406,203.71 | 2,406,203.71 | 3,981,832.68 | 3,981,832.68 | 0.69 | 1,575,628.97 | 1,575,628.97 |
| 931427108 | WALGREENS BOOTS ALLIANCE NC | 17,898.000 | 55.31 | 55.31 | 983,626.26 | 983,626 26 | 989,938.38 | 989,938.38 | 0.17 | 6,312.12 | 6,312.12 |
| 94106L109 | WASTE MANAGEMENT INC | 9,208.000 | 115.00 | 115.00 | 483,936.65 | 483,936 65 | 1,058,920.00 | 1,058,920.00 | 0.18 | 574,983.35 | 574,983.35 |
| 941848103 | WATERS CORP | 1,575.000 | 223.23 | 223.23 | 193,805.40 | 193,805.40 | 351,587.25 | 351,587.25 | 0.06 | 157,781.85 | 157,781.85 |
| 94946T106 | WELLCARE HEALTH PLANS NC | 1,187.000 | 259.17 | 259.17 | 353,098.63 | 353,098 63 | 307,634.79 | 307,634.79 | 0.05 | -45,463.84 | -45,463.84 |
| 949746101 | WELLS FARGO & CO | 94,594.000 | 50.44 | 50.44 | 3,894,556.35 | 3,894,556 35 | 4,771,321.36 | 4,771,321.36 | 0.82 | 876,765.01 | 876,765.01 |
| 95040Q104 | WELLTOWER INC | 9,561.000 | 90.65 | 90.65 | 633,936.50 | 633,936 50 | 866,704.65 | 866,704.65 | 0.15 | 232,768.15 | 232,768.15 |
| 958102105 | WESTERN DIGITAL CORP | 6,983.000 | 59.64 | 59.64 | 319,497.37 | 319,497 37 | 416,466.12 | 416,466.12 | 0.07 | 96,968.75 | 96,968.75 |
| 959802109 | WESTERN UNION CO/THE | 10,001.000 | 23.17 | 23.17 | 190,524.15 | 190,524.15 | 231,723.17 | 231,723.17 | 0.04 | 41,199.02 | 41,199.02 |
| 96145D105 | WESTROCK CO | 6,071.000 | 36.45 | 36.45 | 246,423.62 | 246,423 62 | 221,287.95 | 221,287.95 | 0.04 | -25,135.67 | -25,135.67 |
| 962166104 | WEYERHAEUSER CO | 17,575.000 | 27.70 | 27.70 | 442,414.45 | 442,414.45 | 486,827.50 | 486,827.50 | 0.08 | 44,413.05 | 44,413.05 |
| 963320106 | WH RLPOOL CORP | 1,499.000 | 158.36 | 158.36 | 144,802.36 | 144,802 36 | 237,381.64 | 237,381.64 | 0.04 | 92,579.28 | 92,579.28 |
| 969457100 | W LLIAMS COS NC/THE | 28,594.000 | 24.06 | 24.06 | 735,241.90 | 735,241 90 | 687,971.64 | 687,971.64 | 0.12 | -47,270.26 | -47,270.26 |
| 983134107 | WYNN RESORTS LTD | 2,285.000 | 108.72 | 108.72 | 268,426.20 | 268,426 20 | 248,425.20 | 248,425.20 | 0.04 | -20,001.00 | -20,001.00 |
| 98389B100 | XCEL ENERGY INC | 12,371.000 | 64.89 | 64.89 | 450,141.17 | 450,141.17 | 802,754.19 | 802,754.19 | 0.14 | 352,613.02 | 352,613.02 |
| 983919101 | XILINX INC | 5,960.000 | 95.90 | 95.90 | 312,984.85 | 312,984 85 | 571,564.00 | 571,564.00 | 0.10 | 258,579.15 | 258,579.15 |
| 98419M100 | XYLEM NC/NY | 4,247.000 | 79.62 | 79.62 | 169,451.79 | 169,451.79 | 338,146.14 | 338,146.14 | 0.06 | 168,694.35 | 168,694.35 |
| 98421M106 | XEROX HOLDINGS CORP | 4,490.000 | 29.91 | 29.91 | 115,087.14 | 115,087.14 | 134,295.90 | 134,295.90 | 0.02 | 19,208.76 | 19,208.76 |

BNY MELLON

# Asset Detail

Acct Base Currency Code : USD

[redacted]

As Of Date : 9/30/2019

Accounting Status : FINAL

| Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 988498101 | YUM! BRANDS INC | 7,179.000 | 113.43 | 113.43 | 407,461.89 | 407,461 89 | 814,313.97 | 814,313.97 | 0.14 | 406,852.08 | 406,852.08 |
| 98956P102 | Z MMER BIOMET HOLDINGS INC | 4,844.000 | 137.27 | 137.27 | 413,396.02 | 413,396 02 | 664,935.88 | 664,935.88 | 0.11 | 251,539.86 | 251,539.86 |
| 989701107 | ZIONS BANCORP NA | 4,175.000 | 44.52 | 44.52 | 172,083.31 | 172,083 31 | 185,871.00 | 185,871.00 | 0.03 | 13,787.69 | 13,787.69 |
| 98978V103 | ZOETIS INC | 11,267.000 | 124.59 | 124.59 | 571,710.17 | 571,710.17 | 1,403,755.53 | 1,403,755.53 | 0.24 | 832,045.36 | 832,045.36 |
| G0176J109 | ALLEGION PLC | 2,203.000 | 103.65 | 103.65 | 111,717.39 | 111,717 39 | 228,340.95 | 228,340.95 | 0.04 | 116,623.56 | 116,623.56 |
| G0177J108 | ALLERGAN PLC | 7,739.000 | 168.29 | 168.29 | 1,608,563.27 | 1,608,563 27 | 1,302,396.31 | 1,302,396.31 | 0.22 | -306,166.96 | -306,166.96 |
| G0250X107 | AMCOR PLC | 38,326.000 | 9.75 | 9.75 | 418,482.52 | 418,482 52 | 373,678.50 | 373,678.50 | 0.06 | -44,804.02 | -44,804.02 |
| G0408V102 | AON PLC | 5,564.000 | 193.57 | 193.57 | 482,566.52 | 482,566 52 | 1,077,023.48 | 1,077,023.48 | 0.19 | 594,456.96 | 594,456.96 |
| G1151C101 | ACCENTURE PLC | 15,032.000 | 192.35 | 192.35 | 1,466,437.86 | 1,466,437 86 | 2,891,405.20 | 2,891,405.20 | 0.50 | 1,424,967.34 | 1,424,967.34 |
| G1890L107 | CAPRI HOLDINGS LTD | 3,576.000 | 33.16 | 33.16 | 222,265.70 | 222,265.70 | 118,580.16 | 118,580.16 | 0.02 | -103,685.54 | -103,685.54 |
| G29183103 | EATON CORP PLC | 9,909.000 | 83.15 | 83.15 | 580,275.54 | 580,275 54 | 823,933.35 | 823,933.35 | 0.14 | 243,657.81 | 243,657.81 |
| G3223R108 | EVEREST RE GROUP LTD | 961.000 | 266.09 | 266.09 | 242,489.14 | 242,489.14 | 255,712.49 | 255,712.49 | 0.04 | 13,223.35 | 13,223.35 |
| G47567105 | IHS MARKIT LTD | 9,463.000 | 66.88 | 66.88 | 488,868.08 | 488,868 08 | 632,885.44 | 632,885.44 | 0.11 | 144,017.36 | 144,017.36 |
| G47791101 | INGERSOLL-RAND PLC | 5,699.000 | 123.21 | 123.21 | 328,877.29 | 328,877 29 | 702,173.79 | 702,173.79 | 0.12 | 373,296.50 | 373,296.50 |
| G491BT108 | INVESCO LTD | 9,088.000 | 16.94 | 16.94 | 210,779.41 | 210,779.41 | 153,950.72 | 153,950.72 | 0.03 | -56,828.69 | -56,828.69 |
| G51502105 | JOHNSON CONTROLS INTERNATIONAL | 18,772.000 | 43.89 | 43.89 | 730,347.55 | 730,347 55 | 823,903.08 | 823,903.08 | 0.14 | 93,555.53 | 93,555.53 |
| G5494J103 | LINDE PLC | 12,754.000 | 193.72 | 193.72 | 1,738,362.07 | 1,738,362 07 | 2,470,704.88 | 2,470,704.88 | 0.43 | 732,342.81 | 732,342.81 |
| G5960L103 | MEDTRONIC PLC | 31,653.000 | 108.62 | 108.62 | 2,544,863.16 | 2,544,863.16 | 3,438,148.86 | 3,438,148.86 | 0.59 | 893,285.70 | 893,285.70 |
| G6095L109 | APTIV PLC | 6,044.000 | 87.42 | 87.42 | 296,580.09 | 296,580 09 | 528,366.48 | 528,366.48 | 0.09 | 231,786.39 | 231,786.39 |
| G6518L108 | NIELSEN HOLD NGS PLC | 8,391.000 | 21.25 | 21.25 | 311,707.75 | 311,707.75 | 178,308.75 | 178,308.75 | 0.03 | -133,399.00 | -133,399.00 |
| G66721104 | NORWEGIAN CRUISE LINE HOLD NGS | 5,086.000 | 51.77 | 51.77 | 268,569.04 | 268,569 04 | 263,302.22 | 263,302.22 | 0.05 | -5,266.82 | -5,266.82 |
| G7945M107 | SEAGATE TECHNOLOGY PLC | 5,586.000 | 53.79 | 53.79 | 181,169.77 | 181,169.77 | 300,470.94 | 300,470.94 | 0.05 | 119,301.17 | 119,301.17 |
| G7S00T104 | PENTA R PLC | 3,965.000 | 37.80 | 37.80 | 121,557.23 | 121,557 23 | 149,877.00 | 149,877.00 | 0.03 | 28,319.77 | 28,319.77 |
| G87110105 | TECHNIPFMC PLC | 9,901.000 | 24.14 | 24.14 | 319,864.06 | 319,864 06 | 239,010.14 | 239,010.14 | 0.04 | -80,853.92 | -80,853.92 |
| G96629103 | W LLIS TOWERS WATSON PLC | 3,043.000 | 192.97 | 192.97 | 385,693.40 | 385,693.40 | 587,207.71 | 587,207.71 | 0.10 | 201,514.31 | 201,514.31 |
| G97822103 | PERRIGO CO PLC | 3,210.000 | 55.89 | 55.89 | 400,570.56 | 400,570 56 | 179,406.90 | 179,406.90 | 0.03 | -221,163.66 | -221,163.66 |
| H1467J104 | CHUBB LTD | 10,752.000 | 161.44 | 161.44 | 1,128,154.22 | 1,128,154 22 | 1,735,802.88 | 1,735,802.88 | 0.30 | 607,648.66 | 607,648.66 |
| H2906T109 | GARM N LTD | 3,409.000 | 84.69 | 84.69 | 194,607.86 | 194,607 86 | 288,708.21 | 288,708.21 | 0.05 | 94,100.35 | 94,100.35 |
| H84989104 | TE CONNECTIVITY LTD | 7,925.000 | 93.18 | 93.18 | 409,279.34 | 409,279 34 | 738,451.50 | 738,451.50 | 0.13 | 329,172.16 | 329,172.16 |
| N53745100 | LYONDELLBASELL INDUSTR ES NV | 6,090.000 | 89.47 | 89.47 | 400,553.44 | 400,553.44 | 544,872.30 | 544,872.30 | 0.09 | 144,318.86 | 144,318.86 |
| N59465109 | MYLAN NV | 12,171.000 | 19.78 | 19.78 | 571,762.31 | 571,762 31 | 240,742.38 | 240,742.38 | 0.04 | -331,019.93 | -331,019.93 |
| V7780T103 | ROYAL CARIBBEAN CRUISES LTD | 4,054.000 | 108.33 | 108.33 | 350,909.80 | 350,909 80 | 439,169.82 | 439,169.82 | 0.08 | 88,260.02 | 88,260.02 |

BNY MELLON

# Asset Detail

[redacted]

As Of Date : 9/30/2019

Acct Base Currency Code : USD

Accounting Status : FINAL

| . | Mellon Security ID | Security Description | Shares/Par | Local Price | Base Price | Local Cost | Base Cost | Local Market Value | Base Market Value | Percent of Total | Local Unrealized Gain/Loss | Net Unrealized Gain/Loss Base |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grand Total** | | | | | | | **112,522,146.25** | | **111,817,166.60** | **100.00** | | **-704,979.65** |
| **CASH & CASH EQUIVALENTS** | | | | | | | **141,786.49** | | **141,786.49** | **0.13** | | **0.00** |
| **U.S. DOLLAR** | | | | | | **141,786.49** | **141,786.49** | **141,786.49** | **141,786.49** | **0.13** | **0.00** | **0.00** |
| | 996085619 | EB TEMP IVN FD VAR RT 12/31/49 FEE CL 12 | 46,726.920 | 1.00 | 1.00 | 46,726.92 | 46,726 92 | 46,726.92 | 46,726.92 | 0.04 | 0.00 | 0.00 |
| | | INTEREST RECEIVABLE | 0.000 | 1.00 | 1.00 | 93,124.44 | 93,124.44 | 93,124.44 | 93,124.44 | 0.08 | 0.00 | 0.00 |
| | | RECEIVABLE ON SECURIT ES LENDING INCOME | 0.000 | 1.00 | 1.00 | 2,276.61 | 2,276 61 | 2,276.61 | 2,276.61 | 0.00 | 0.00 | 0.00 |
| | | PAYABLE FOR SEC LEND NG AGENT FEES | 0.000 | 1.00 | 1.00 | -341.48 | -341.48 | -341.48 | -341.48 | 0.00 | 0.00 | 0.00 |
| **FIXED INCOME SECURITIES** | | | | | | | **112,380,359.76** | | **111,675,380.11** | **99.87** | | **-704,979.65** |
| **U.S. DOLLAR** | | | | | | **112,380,359.76** | **112,380,359.76** | **111,675,380.11** | **111,675,380.11** | **99.87** | **-704,979.65** | **-704,979.65** |
| | 912828B25 | US TREAS-CPI INFLAT 0 625% 01/15/2024 DD 01/15.. | 8,411,480.998 | 101.51 | 101.51 | 8,520,212.15 | 8,520,212.15 | 8,538,410.41 | 8,538,410.41 | 7.64 | 18,198.26 | 18,198.26 |
| | 912828H45 | US TREAS-CPI INFLAT 0 250% 01/15/2025 DD 01/15.. | 15,164,520.000 | 100.20 | 100.20 | 15,315,533.41 | 15,315,533.41 | 15,194,961.11 | 15,194,961.11 | 13.59 | -120,572.30 | -120,572.30 |
| | 912828MF4 | US TREAS-CPI INFLAT 1 375% 01/15/2020 DD 01/15.. | 3,559,230.000 | 99.70 | 99.70 | 3,460,896.28 | 3,460,896 28 | 3,548,385.45 | 3,548,385.45 | 3.17 | 87,489.17 | 87,489.17 |
| | 912828NM8 | US TREAS-CPI INFLAT 1 250% 07/15/2020 DD 07/15.. | 6,352,614.000 | 100.40 | 100.40 | 6,261,828.31 | 6,261,828 31 | 6,378,256.07 | 6,378,256.07 | 5.70 | 116,427.76 | 116,427.76 |
| | 912828PP9 | US TREAS-CPI INFLAT 1.125% 01/15/2021 DD 01/15.. | 6,685,074.000 | 100.28 | 100.28 | 6,562,615.00 | 6,562,615 00 | 6,703,894.22 | 6,703,894.22 | 6.00 | 141,279.22 | 141,279.22 |
| | 912828SA9 | US TREAS-CPI INFLAT 0.125% 01/15/2022 DD 01/15.. | 7,934,710.005 | 99.00 | 99.00 | 8,188,692.95 | 8,188,692 95 | 7,855,492.24 | 7,855,492.24 | 7.03 | -333,200.71 | -333,200.71 |
| | 912828TE0 | US TREAS-CPI INFLAT 0.125% 07/15/2022 DD 07/15.. | 34,305,930.000 | 99.53 | 99.53 | 34,610,464.66 | 34,610,464 66 | 34,145,396.09 | 34,145,396.09 | 30.54 | -465,068.57 | -465,068.57 |
| | 912828UH1 | US TREAS-CPI INFLAT 0.125% 01/15/2023 DD 01/15.. | 11,114,900.000 | 99.13 | 99.13 | 11,068,562.19 | 11,068,562.19 | 11,017,992.85 | 11,017,992.85 | 9.85 | -50,569.34 | -50,569.34 |
| | 912828VM9 | US TREAS-CPI INFLAT 0 375% 07/15/2023 DD 07/15.. | 18,190,259.997 | 100.56 | 100.56 | 18,391,554.81 | 18,391,554 81 | 18,292,591.67 | 18,292,591.67 | 16.36 | -98,963.14 | -98,963.14 |

Kentucky Retirement Systems

# Security Litigation Report

Quarter Ending: September 30, 2019

Claims Filed during the Quarter (pg 3):
**9**
Proceeds Received during the Quarter (pg 4):
**$137,835.86**

**Kentucky Retirement Systems**
Quarterly Securities Litigation Report
Quarter Ended 09/30/19

| Total Claims Filed | |
|---|---|
| No Claim on File | 9 |
| Fiscal Year 1997 | 1 |
| Fiscal Year 1998 | 2 |
| Fiscal Year 1999 | 5 |
| Fiscal Year 2000 | 9 |
| Fiscal Year 2001 | 8 |
| Fiscal Year 2002 | 33 |
| Fiscal Year 2003 | 45 |
| Fiscal Year 2004 | 38 |
| Fiscal Year 2005 | 89 |
| Fiscal Year 2006 | 150 |
| Fiscal Year 2007 | 70 |
| Fiscal Year 2008 | 73 |
| Fiscal Year 2009 | 85 |
| Fiscal Year 2010 | 65 |
| Fiscal Year 2011 | 69 |
| Fiscal Year 2012 | 54 |
| Fiscal Year 2013 | 48 |
| Fiscal Year 2014 | 65 |
| Fiscal Year 2015 | 80 |
| Fiscal Year 2016 | 224 |
| Fiscal Year 2017 | 140 |
| Fiscal Year 2018 | 74 |
| Fiscal Year 2019 | 55 |
| Fiscal Year 2020 | 9 |
| **Total Filed** | **1,500** |

| Proceeds Received | |
|---|---|
| Fiscal Year 1998 | $67,682 |
| Fiscal Year 1999 | $233,370 |
| Fiscal Year 2000 | $303,918 |
| Fiscal Year 2001 | $415,502 |
| Fiscal Year 2002 | $387,318 |
| Fiscal Year 2003 | $519,059 |
| Fiscal Year 2004 | $1,080,920 |
| Fiscal Year 2005 | $1,645,440 |
| Fiscal Year 2006 | $797,535 |
| Fiscal Year 2007 | $5,398,363 |
| Fiscal Year 2008 | $5,402,336 |
| Fiscal Year 2009 | $3,504,682 |
| Fiscal Year 2010 | $2,776,544 |
| Fiscal Year 2011 | $1,292,484 |
| Fiscal Year 2012 | $468,657 |
| Fiscal Year 2013 | $1,070,427 |
| Fiscal Year 2014 | $308,704 |
| Fiscal Year 2015 | $23,639,565 |
| Fiscal Year 2016 | $2,417,957 |
| Fiscal Year 2017 | $1,886,532 |
| Fiscal Year 2018 | $2,247,966 |
| Fiscal Year 2019 | $1,702,272 |
| Fiscal Year 2020 | $137,836 |
| **Total Proceeds** | **$57,705,070** |

| Class Action Name | TNT Status Code | Status as of Date | Class Period Start Date | Class Period End Date | Class Account Id | Claimed Account Name |
|---|---|---|---|---|---|---|
| OMNICARE INC. (2006) | FILED | 6/21/2019 | 12/12/2005 | 8/31/2015 | 2606488 | ZZKRS PEN INVESCO US QUANT C-S |
| OMNICARE INC. (2006) | FILED | 6/21/2019 | 12/12/2005 | 8/31/2015 | 2644678 | ZZKRS INS SYSTEMATIC FIN MGM-S |
| OMNICARE INC. (2006) | FILED | 6/21/2019 | 12/12/2005 | 8/31/2015 | 2644679 | ZZKRS PEN SYSTEMATIC FIN MGM-S |
| WELLS FARGO BANK, NA (2016) (RESIDENTIAL MORTGAGE BACKED SECURITIES) | FILED | 7/2/2019 | 1/1/2004 | 3/31/2019 | 353452 | KRS LOOMIS CORE FIXED INCOME |
| WELLS FARGO BANK, NA (2016) (RESIDENTIAL MORTGAGE BACKED SECURITIES) | FILED | 7/2/2019 | 1/1/2004 | 3/31/2019 | 353453 | KRS INS LOOMIS CORE FIXED INCOME |
| DIAMOND FOODS, INC. (SEC FAIR FUND) | FILED | 7/19/2019 | 2/25/2010 | 2/9/2012 | 2602408 | ZZ*KRS PEN NTGI STRUCTURED SM- |
| DIAMOND FOODS, INC. (SEC FAIR FUND) | FILED | 7/19/2019 | 2/25/2010 | 2/9/2012 | 2688058 | ZZKRS INS NTGI STRUCTURED SM |
| STERICYCLE, INC | FILED | 8/2/2019 | 2/6/2013 | 5/22/2018 | 2644680 | ZZKRS PEN GENEVA CAPITAL MGM-S |
| STERICYCLE, INC | FILED | 8/2/2019 | 2/6/2013 | 5/22/2018 | 2644682 | ZZKRS INS GENEVA CAPITAL MGM-S |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN01 | KRS PEN PYRAMIS NON-US GROWTH |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN02 | KRS TRANSITION |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN03 | KRS INS PYRAMIS NON-US GROWTH |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN04 | KRS PEN BOSTON CO NON-US VALUE |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN07 | KRS INS ARTIO GLOBAL |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN08 | KRS PEN ARTIO GLB EQ |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN05 | KRS INSURANCE TRANSITION AC |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | KEN06 | KRS INS BOSTON CO NON-US VALUE |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | 2672598 | ZZKRS PEN RIVER ROAD ASSET M-S |
| CITI SPONSORED ADRS (CITIBANK) | FILED | 8/5/2019 | 12/30/2005 | 9/4/2018 | 2672602 | ZZKRS INS RIVER ROAD ASSET M-S |
| STERICYCLE, INC. | FILED | 8/7/2019 | 2/7/2013 | 2/21/2018 | 956774 | KRS INS S P 500 INDEX |
| CITI SPONSORED AMERICAN DEPOSITARY RECEIPTS (CITIBANK N.A.) | FILED | 8/12/2019 | 1/1/2006 | 9/4/2018 | 956772 | KRS INS KRS INTERNAL EQUITY |
| CITI SPONSORED AMERICAN DEPOSITARY RECEIPTS (CITIBANK N.A.) | FILED | 8/12/2019 | 1/1/2006 | 9/4/2018 | 956596 | KRS KRS INTERNAL EQUITY |
| CITI SPONSORED AMERICAN DEPOSITARY RECEIPTS (CITIBANK N.A.) | FILED | 8/12/2019 | 1/1/2006 | 9/4/2018 | 956774 | KRS INS S P 500 INDEX |
| CITI SPONSORED AMERICAN DEPOSITARY RECEIPTS (CITIBANK N.A.) | FILED | 8/12/2019 | 1/1/2006 | 9/4/2018 | 956599 | KRS S P 500 INDEX |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN01 | KRS PEN PYRAMIS NON-US GROWTH |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN02 | KRS TRANSITION |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN03 | KRS INS PYRAMIS NON-US GROWTH |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN04 | KRS PEN BOSTON CO NON-US VALUE |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN07 | KRS INS ARTIO GLOBAL |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN08 | KRS PEN ARTIO GLB EQ |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN05 | KRS INSURANCE TRANSITION AC |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | KEN06 | KRS INS BOSTON CO NON-US VALUE |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2602408 | ZZ*KRS PEN NTGI STRUCTURED SM- |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2606485 | ZZ*KRS PEN #4 CASH ACCOUNT - |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2606487 | ZZ KRS PEN #20 ALLIANCE CAP |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2606489 | *ZZKRS PEN #28 INTERNAL ADR-SL |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2606500 | ZZ*KRS INS #71 CASH ACCOUNT - |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2606503 | ZZKRS INS #75 INTERNAL ADR A |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2644683 | ZZKRS PEN SASCO CAPITAL INC-SL |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2644684 | ZZKRS INS SASCO CAPITAL INC-SL |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2672598 | ZZKRS PEN RIVER ROAD ASSET M-S |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2672602 | ZZKRS INS RIVER ROAD ASSET M-S |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2672606 | ZZKRS PEN WESTWOOD MANAGEMEN-S |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 12/31/1996 | 1/17/2019 | 2672607 | ZZKRS INS WESTWOOD MANAGEMEN-S |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956816 | KRS INS NUVEEN REAL ASSET |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956801 | KRS INS LSV ASSET MGMT |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956774 | KRS INS S P 500 INDEX |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956772 | KRS INS KRS INTERNAL EQUITY |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956642 | KRS NUVEEN REAL ASSET |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956625 | KRS LSV ASSET MANAGEMENT |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956599 | KRS S P 500 INDEX |
| THE BANK OF NEW YORK MELLON ADR FX | FILED | 8/15/2019 | 1/1/1997 | 1/17/2019 | 956596 | KRS KRS INTERNAL EQUITY |
| TABERNA CAPITAL MANAGEMENT, LLC (SEC FAIR FUND) | FILED | 9/12/2019 | 2/5/2009 | 2/6/2017 | 956632 | KRS WATERFALL |
| J.P. MORGAN CHASE BANK, N.A. ADR-FX | FILED | 9/19/2019 | 11/21/2010 | 7/18/2018 | 956589 | KRS SYSTEMATIC |
| J.P. MORGAN CHASE BANK, N.A. ADR-FX | FILED | 9/19/2019 | 11/21/2010 | 7/18/2018 | 956766 | KRS INS SYSTEMATIC |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code / Link Ref | Shares/Par / Security ID | Description / Broker / Transaction No./Client Ref No. | Trade Date / C. Settle Date / Reported Date | Price / Local/Base | Cost / Local/Base | Amount / Local/Base | Net Gain/Loss / Local/Base |
|---|---|---|---|---|---|---|---|
| **CLASS ACTIONS** | | | | | | | |
| **CASH & CASH EQUIVALENTS** | | | | | | | |
| **CANADIAN DOLLAR** | | | | | | | |
| CD | 0.000 | CLASS ACTION | 7/18/2019 | 0.000000 | 36,603.76 | 36,603.76 | 36,603.76 |
| | NC9123455 | SECURITIES LITIGATION | | 0.000000 | 27,961.01 | 27,961.01 | 27,961.01 |
| | | 20190731A000020 | 7/18/2019 | | | Gain/Loss Local Amounts: 36,603.76 Long | |
| | | KR2F20080002: LAZARD ASSET MGMT | | | | Gain/Loss Base Amounts: 27,961.01 Long | |
| **U.S. DOLLAR** | | | | | | | |
| CD | 0.000 | 3 13-CV-00580-BEN RBMAXWELL TE | 7/2/2019 | 0.000000 | 16.46 | 16.46 | 16.46 |
| | NA9123459 | CHNOLOGIES, INC. Distribution | | 0.000000 | 16.46 | 16.46 | 16.46 |
| | | 20190702S000530 / 000000000098 | 7/2/2019 | | | Gain/Loss Local Amounts: 16.46 Long | |
| | | KR2F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 16.46 Long | |
| CD | 0.000 | BIOVAL CORP 02/06/03 - 03/02/0 | 7/12/2019 | 0.000000 | 234.98 | 234.98 | 234.98 |
| | NA9123459 | 4 CLASS ACTION PROCEEDS | | 0.000000 | 234.98 | 234.98 | 234.98 |
| | | 20190712S000200 / 12JUL1940006 | 7/12/2019 | | | Gain/Loss Local Amounts: 234.98 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 234.98 Long | |
| CD | 0.000 | CARTER'S INC. 03/15/05 - 11/09 | 7/12/2019 | 0.000000 | 70.62 | 70.62 | 70.62 |
| | NA9123459 | /09 CLASS ACTION PROCEEDS | | 0.000000 | 70.62 | 70.62 | 70.62 |
| | | 20190712S000210 / 12JUL1940006 | 7/12/2019 | | | Gain/Loss Local Amounts: 70.62 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 70.62 Long | |
| CD | 0.000 | CV 07-2536 PSG (PLAx)AMGEN INC | 7/16/2019 | 0.000000 | 32,413.24 | 32,413.24 | 32,413.24 |
| | NA9123459 | . (2007) Distribution 1ST DIST | | 0.000000 | 32,413.24 | 32,413.24 | 32,413.24 |
| | | 20190716S000010 / 000000000000 | 7/16/2019 | | | Gain/Loss Local Amounts: 32,413.24 Long | |
| | | KR2F10090002: INVESCO | | | | Gain/Loss Base Amounts: 32,413.24 Long | |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code / Link Ref | Shares/Par / Security ID | Description / Broker / Transaction No./Client Ref No. | Trade Date / C. Settle Date / Reported Date | Price / Local/Base | Cost / Local/Base | Amount / Local/Base | Net Gain/Loss / Local/Base |
|---|---|---|---|---|---|---|---|
| CD | 0.000 | CV 07-2536 PSG (PLAx)AMGEN INC | 7/16/2019 | 0.000000 | 3,909.41 | 3,909.41 | 3,909.41 |
| | NA9123459 | . (2007) Distribution 1ST DIST | | 0.000000 | 3,909.41 | 3,909.41 | 3,909.41 |
| | | 20190716S000070 / 000000000000 | 7/16/2019 | | | Gain/Loss Local Amounts: 3,909.41 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 3,909.41 Long | |
| CD | 0.000 | COMPUTER SCIENCES CORP (SEC FA | 8/26/2019 | 0.000000 | 2,880.09 | 2,880.09 | 2,880.09 |
| | NA9123459 | IR FUND) 08/014/08-03/23/12 | | 0.000000 | 2,880.09 | 2,880.09 | 2,880.09 |
| | | 20190826S000100 / 33696229 | 8/26/2019 | | | Gain/Loss Local Amounts: 2,880.09 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 2,880.09 Long | |
| CD | 0.000 | AMGEN INC (2007) 04/21/04 - 08 | 8/26/2019 | 0.000000 | 31,390.85 | 31,390.85 | 31,390.85 |
| | NA9123459 | /08/07 CLASS ACTION PROCEEDS | | 0.000000 | 31,390.85 | 31,390.85 | 31,390.85 |
| | | 20190826S000110 / 33696229 | 8/26/2019 | | | Gain/Loss Local Amounts: 31,390.85 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 31,390.85 Long | |
| CD | 0.000 | AMGEN INC (2007) 04/21/04 - 08 | 8/26/2019 | 0.000000 | 3,742.13 | 3,742.13 | 3,742.13 |
| | NA9123459 | /08/07 CLASS ACTION PROCEEDS | | 0.000000 | 3,742.13 | 3,742.13 | 3,742.13 |
| | | 20190826S000120 / 33696229 | 8/26/2019 | | | Gain/Loss Local Amounts: 3,742.13 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 3,742.13 Long | |
| CD | 0.000 | COUNTRYWIDE FINANCIAL CORP 201 | 9/13/2019 | 0.000000 | 1,119.10 | 1,119.10 | 1,119.10 |
| | NA9123459 | 0 03/11/04 - 08/07/13 | | 0.000000 | 1,119.10 | 1,119.10 | 1,119.10 |
| | | 20190913S000130 / 13SEP1940004 | 9/13/2019 | | | Gain/Loss Local Amounts: 1,119.10 Long | |
| | | KR2F90010002: CASH ACCOUNT KR2 | | | | Gain/Loss Base Amounts: 1,119.10 Long | |
| CD | 0.000 | COUNTRYWIDE FINANCIAL CORP 201 | 9/13/2019 | 0.000000 | 5,130.07 | 5,130.07 | 5,130.07 |
| | NA9123459 | 0 03/11/04 - 08/07/13 | | 0.000000 | 5,130.07 | 5,130.07 | 5,130.07 |
| | | 20190913S000140 / 13SEP1940004 | 9/13/2019 | | | Gain/Loss Local Amounts: 5,130.07 Long | |
| | | KR2F90010002: CASH ACCOUNT KR2 | | | | Gain/Loss Base Amounts: 5,130.07 Long | |
| CD | 0.000 | UNITED HEALTHCARE SECURITIES L | 9/13/2019 | 0.000000 | 91.15 | 91.15 | 91.15 |
| | NA9123459 | ITIGATION PER FILE MEMO | | 0.000000 | 91.15 | 91.15 | 91.15 |
| | | 20190913S000150 / 13SEP1940004 | 9/13/2019 | | | Gain/Loss Local Amounts: 91.15 Long | |
| | | KR2F90010002: CASH ACCOUNT KR2 | | | | Gain/Loss Base Amounts: 91.15 Long | |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code / Link Ref | Shares/Par / Security ID | Description / Broker / Transaction No./Client Ref No. | Trade Date / C. Settle Date / Reported Date | Price / Local/Base | Cost / Local/Base | Amount / Local/Base | Net Gain/Loss / Local/Base |
|---|---|---|---|---|---|---|---|
| CD | 0.000 | COUNTRYWIDE FINANCIAL CORP 201 | 9/13/2019 | 0.000000 | 102.06 | 102.06 | 102.06 |
| | NA9123459 | 0 03/11/04 - 08/07/13 | | 0.000000 | 102.06 | 102.06 | 102.06 |
| | | 20190913S000330 / 13SEP1940004 | 9/13/2019 | | | Gain/Loss Local Amounts: 102.06 Long | |
| | | KR2F30050002: WATERFALL | | | | Gain/Loss Base Amounts: 102.06 Long | |
| CD | 0.000 | COMPUTER SCIENCES CORP SEC FAI | 9/13/2019 | 0.000000 | 5,023.99 | 5,023.99 | 5,023.99 |
| | NA9123459 | R FUND 08/04/08 - 03/23/12 | | 0.000000 | 5,023.99 | 5,023.99 | 5,023.99 |
| | | 20190913S000440 / 13SEP1940004 | 9/13/2019 | | | Gain/Loss Local Amounts: 5,023.99 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 5,023.99 Long | |
| CD | 0.000 | 14-cv-00952 (SLR)BANCORP INC. | 9/16/2019 | 0.000000 | 17.45 | 17.45 | 17.45 |
| | NA9123459 | Distribution 1ST DISTRIBUTION | | 0.000000 | 17.45 | 17.45 | 17.45 |
| | | 20190916S000530 / 000000000000 | 9/16/2019 | | | Gain/Loss Local Amounts: 17.45 Long | |
| | | KR2F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 17.45 Long | |
| CD | 0.000 | 4-14-cv-01680-PJHIMPERVA, INC. | 9/25/2019 | 0.000000 | 2,471.27 | 2,471.27 | 2,471.27 |
| | NA9123459 | Distribution 1ST DISTRIBUTION | | 0.000000 | 2,471.27 | 2,471.27 | 2,471.27 |
| | | 20190925S000120 / 000000000010 | 9/25/2019 | | | Gain/Loss Local Amounts: 2,471.27 Long | |
| | | KR2F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 2,471.27 Long | |
| CD | 0.000 | 3-15-CV-00923-JPMAAC HOLDINGS, | 9/26/2019 | 0.000000 | 4,922.11 | 4,922.11 | 4,922.11 |
| | NA9123459 | INC Distribution 1ST DISTRIBU | | 0.000000 | 4,922.11 | 4,922.11 | 4,922.11 |
| | | 20190926S000230 / 000000005708 | 9/26/2019 | | | Gain/Loss Local Amounts: 4,922.11 Long | |
| | | KR2F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 4,922.11 Long | |
| CD | 0.000 | 3-15507JPMORGAN CHASE & CO. (S | 9/27/2019 | 0.000000 | 176.74 | 176.74 | 176.74 |
| | NA9123459 | EC FAIR FUND) Distribution 2ND | | 0.000000 | 176.74 | 176.74 | 176.74 |
| | | 20190927S000410 / 000000000014 | 9/27/2019 | | | Gain/Loss Local Amounts: 176.74 Long | |
| | | KR2F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 176.74 Long | |
| | | **TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:** | | | **93,711.72** | **93,711.72** | **93,711.72** |
| | | | | | **93,711.72** | **93,711.72** | **93,711.72** |
| | | **TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:** | | | **121,672.73** | **121,672.73** | **121,672.73** |
| | | **TOTAL CLASS ACTIONS:** | | | **121,672.73** | **121,672.73** | **121,672.73** |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code<br>Link Ref | Shares/Par<br>Security ID | Description<br>Broker<br>Transaction No./Client Ref No. | Trade Date<br>C. Settle Date<br>Reported Date | Price<br>Local/Base | Cost<br>Local/Base | Amount<br>Local/Base | Net Gain/Loss<br>Local/Base |
|---|---|---|---|---|---|---|---|
| | | TOTAL TRANSACTIONS BASE: | | | 121,672.73 | 121,672.73 | 121,672.73 |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code / Link Ref | Shares/Par / Security ID | Description / Broker / Transaction No./Client Ref No. | Trade Date / C. Settle Date / Reported Date | Price / Local/Base | Cost / Local/Base | Amount / Local/Base | Net Gain/Loss / Local/Base |
|---|---|---|---|---|---|---|---|
| **CLASS ACTIONS** | | | | | | | |
| **CASH & CASH EQUIVALENTS** | | | | | | | |
| **CANADIAN DOLLAR** | | | | | | | |
| CD | 0.000 | CLASS ACTION | 7/18/2019 | 0.000000 | 15,451.31 | 15,451.31 | 15,451.31 |
| | NC9123455 | SECURITIES LITIGATION | | 0.000000 | 11,803.00 | 11,803.00 | 11,803.00 |
| | | 20190731A000020 | 7/18/2019 | | | Gain/Loss Local Amounts: 15,451.31 Long | |
| | | KR3F20080002: LAZARD ASSET MGMT | | | | Gain/Loss Base Amounts: 11,803.00 Long | |
| **U.S. DOLLAR** | | | | | | | |
| CD | 0.000 | 1 16-CV-03925-LLSGERDAU S.A. D | 7/3/2019 | 0.000000 | 1,871.15 | 1,871.15 | 1,871.15 |
| | NA9123459 | istribution 1ST DISTRIBUTION P | | 0.000000 | 1,871.15 | 1,871.15 | 1,871.15 |
| | | 20190703S000150 / 000000000010 | 7/3/2019 | | | Gain/Loss Local Amounts: 1,871.15 Long | |
| | | KR3F90010002: CASH ACCOUNT KR3 | | | | Gain/Loss Base Amounts: 1,871.15 Long | |
| CD | 0.000 | BIOVAL CORP 02/06/03 - 03/02/0 | 7/12/2019 | 0.000000 | 26.47 | 26.47 | 26.47 |
| | NA9123459 | 4 CLASS ACTION PROCEEDS | | 0.000000 | 26.47 | 26.47 | 26.47 |
| | | 20190712S000200 / 12JUL1940006 | 7/12/2019 | | | Gain/Loss Local Amounts: 26.47 Long | |
| | | KR3F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 26.47 Long | |
| CD | 0.000 | CV 07-2536 PSG (PLAx)AMGEN INC | 7/16/2019 | 0.000000 | 1,167.63 | 1,167.63 | 1,167.63 |
| | NA9123459 | . (2007) Distribution 1ST DIST | | 0.000000 | 1,167.63 | 1,167.63 | 1,167.63 |
| | | 20190716S000060 / 000000000000 | 7/16/2019 | | | Gain/Loss Local Amounts: 1,167.63 Long | |
| | | KR3F19020002: S&P 500 INDEX | | | | Gain/Loss Base Amounts: 1,167.63 Long | |
| CD | 0.000 | 3-14-cv-01564BANCORPSOUTH, INC | 7/24/2019 | 0.000000 | 46.40 | 46.40 | 46.40 |
| | NA9123459 | . (2014) Distribution 1ST DIST | | 0.000000 | 46.40 | 46.40 | 46.40 |
| | | 20190724S000080 / 000000000010 | 7/24/2019 | | | Gain/Loss Local Amounts: 46.40 Long | |
| | | KR3F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 46.40 Long | |

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**Transaction Detail**
**Reported By Transaction Category**
**6/30/2019 - 9/30/2019**

**Report ID : IACS0008**
**Base Currency : USD**
**Status : REVISED**

| Trans Code / Link Ref | Shares/Par / Security ID | Description / Broker / Transaction No./Client Ref No. | Trade Date / C. Settle Date / Reported Date | Price / Local/Base | Cost / Local/Base | Amount / Local/Base | Net Gain/Loss / Local/Base |
|---|---|---|---|---|---|---|---|
| CD | 0.000 | 2-14-CV-02066-CBM-EUTI WORLDWI | 9/10/2019 | 0.000000 | 66.57 | 66.57 | 66.57 |
| | NA9123459 | DE INC. Distribution 1ST DISTR | | 0.000000 | 66.57 | 66.57 | 66.57 |
| | | 20190910S000310 / 000000000000 | 9/10/2019 | | | Gain/Loss Local Amounts: 66.57 Long | |
| | | KR3F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 66.57 Long | |
| CD | 0.000 | 4-14-cv-01680-PJHIMPERVA, INC. | 9/25/2019 | 0.000000 | 1,181.91 | 1,181.91 | 1,181.91 |
| | NA9123459 | Distribution 1ST DISTRIBUTION | | 0.000000 | 1,181.91 | 1,181.91 | 1,181.91 |
| | | 20190925S000120 / 000000000010 | 9/25/2019 | | | Gain/Loss Local Amounts: 1,181.91 Long | |
| | | KR3F10020002: NTGI STRUCTURED | | | | Gain/Loss Base Amounts: 1,181.91 Long | |
| | | **TOTAL U.S. DOLLAR CASH & CASH EQUIVALENTS:** | | | **4,360.13** | **4,360.13** | **4,360.13** |
| | | | | | **4,360.13** | **4,360.13** | **4,360.13** |
| | | **TOTAL CASH & CASH EQUIVALENTS CLASS ACTIONS:** | | | **16,163.13** | **16,163.13** | **16,163.13** |
| | | **TOTAL CLASS ACTIONS:** | | | **16,163.13** | **16,163.13** | **16,163.13** |
| | | **TOTAL TRANSACTIONS BASE:** | | | **16,163.13** | **16,163.13** | **16,163.13** |

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Insurance Fund*** | | | | | | | | | | | |
| AMERRA Agr Fund I , P | 16,200,000 | 8,836,155 | 0 | 8,836,155 | -105,737 | 0 | 8,836,155 | -105,737 | 8,730,418 | 0.00 | 0.00 |
| AMERRA- R Agri Holding Company, LP | 35,000,000 | 24,078,659 | 0 | 24,078,659 | 0 | 269,499 | 24,078,659 | -269,499 | 23,809,160 | 0.00 | 0.00 |
| A bor Cap a II, L.P. | 2,500,000 | 48,683 | 0 | 48,683 | 0 | 35,082 | 48,683 | -35,082 | 13,601 | 0.00 | 0.00 |
| A cano KRS Fund , L P | 4,000,000 | 2,812,000 | 0 | 2,812,000 | 0 | 129,968 | 2,812,000 | -129,968 | 2,682,032 | 0.00 | 0.00 |
| Ares Special Situations Fund IV, L.P. | 13,808,000 | 12,283,156 | 0 | 12,283,156 | 0 | 0 | 12,283,156 | 0 | 12,283,156 | 0.00 | 0.00 |
| Avenue Spec al Situa ions Fund V, L.P. | 7,500,000 | 0 | -10,266 | -10,266 | 0 | 0 | 0 | -10,266 | -10,266 | 0.00 | 0.00 |
| Barings Real Estate European Value Add I SCSp | 49,059,000 | 21,487,812 | 0 | 21,487,812 | 3,058,549 | 1,704,802 | 21,487,812 | 406,612 | 21,894,425 | -4.21 | -4.21 |
| Bay Hi ls Cap tal I, L.P | 7,500,000 | 2,996,968 | -15,500 | 2,981,468 | 0 | 1,959,000 | 2,996,968 | -1,974,500 | 1,022,468 | 0.00 | 0.00 |
| Bay Hi ls Cap tal II , L P | 48,750,000 | 57,921,330 | -2,045,360 | 55,875,970 | 1,586,141 | 12,396,639 | 57,921,330 | -12,855,858 | 45,065,472 | 0.00 | 0.00 |
| Bay Hi ls Emerg ng Par ners II LP | 5,000,000 | 8,574,911 | 22,500 | 8,597,411 | 0 | 36,000 | 8,574,911 | -13,500 | 8,561,411 | 0.00 | 0.00 |
| Bay Hi ls Emerg ng Par ners II-B LP | 5,000,000 | 6,713,477 | -23,500 | 6,689,977 | 13,500 | 340,000 | 6,713,477 | -350,000 | 6,363,477 | 0.00 | 0.00 |
| BDCM Oppo tunity Fund IV, L.P. | 24,420,000 | 23,942,984 | 0 | 23,942,984 | 613,630 | 343,367 | 23,942,984 | 270,263 | 24,213,247 | 0.00 | 0.00 |
| Blackstone Capital Partners V, L.P. | 12,414,403 | 607,844 | 0 | 607,844 | 0 | 49,672 | 607,844 | -49,672 | 558,172 | 0.00 | 0.00 |
| Blacks one Capital Par ners VI, L.P. | 40,000,000 | 34,545,932 | 0 | 34,545,932 | 33,511 | 3,426,950 | 34,545,932 | -3,393,439 | 31,152,493 | 0.00 | 0.00 |
| BSP Private Credit Fund | 50,000,000 | 27,980,202 | 0 | 27,980,202 | 3,300,330 | 632,557 | 27,980,202 | 2,667,773 | 30,647,975 | 0.00 | 0.00 |
| BTG Pactual razil Timberland Fund I | 15,500,000 | 10,848,724 | 0 | 10,848,724 | 0 | 258,200 | 10,848,724 | -258,200 | 10,590,524 | 0.00 | 0.00 |
| Camelot Oppor unitie Fund, L.P. | 2,600,000 | 922,779 | 0 | 922,779 | 0 | 0 | 922,779 | 0 | 922,779 | 0.00 | 0.00 |
| Cerbe us KR Levered Loan Opportunities Fund, L.P. | 37,500,000 | 39,462,503 | 0 | 39,462,503 | 6,000,000 | 6,150,000 | 33,925,631 | 6,000,000 | 39,925,631 | 1.74 | 1.74 |
| Columbia Cap al Equ ty Partners IV, L.P. | 3,000,000 | 419,640 | 0 | 419,640 | 0 | 0 | 419,640 | 0 | 419,640 | 0.00 | 0.00 |
| C estv ew Pa tners II, L P. | 7,500,000 | 3,663,853 | 0 | 3,663,853 | 32,344 | 131,027 | 3,663,853 | -98,683 | 3,565,170 | 0.00 | 0.00 |
| C estv ew Pa tners II , P. | 21,000,000 | 16,269,109 | 0 | 16,269,109 | 0 | 354,874 | 16,269,109 | -354,874 | 15,914,235 | 0.00 | 0.00 |
| CVC Eu opean Equity Partners VI, L.P. | 13,191,638 | 15,626,822 | 0 | 15,626,822 | 0 | 2,130,818 | 15,626,822 | -2,746,931 | 12,879,891 | -4.29 | -4.29 |
| DAG Ventures II, L.P. | 3,000,000 | 359,731 | 0 | 359,731 | 0 | 0 | 359,731 | 0 | 359,731 | 0.00 | 0.00 |
| DAG Ventures I I, .P | 3,000,000 | 344,764 | 0 | 344,764 | 0 | 25,701 | 344,764 | -25,701 | 319,063 | 0.00 | 0.00 |
| DAG Ventures IV, L.P. | 10,000,000 | 6,033,101 | 0 | 6,033,101 | 0 | 235,044 | 6,033,101 | -235,044 | 5,798,057 | 0.00 | 0.00 |
| DAG Ventures V, L.P | 7,000,000 | 23,405,865 | 0 | 23,405,865 | 0 | 0 | 23,405,865 | 0 | 23,405,865 | 0.00 | 0.00 |
| DCM VI, L P | 1,500,000 | 1,292,162 | 0 | 1,292,162 | 0 | 0 | 1,292,162 | 0 | 1,292,162 | 0.00 | 0.00 |
| DivcoWest Fund IV | 9,200,000 | 1,684,537 | 0 | 1,684,537 | 0 | 0 | 1,684,537 | 0 | 1,684,537 | 0.00 | 0.00 |
| Essex Woodlands Fund VIII, L.P. | 5,000,000 | 2,280,559 | 0 | 2,280,559 | 0 | 0 | 2,280,559 | 0 | 2,280,559 | 0.00 | 0.00 |
| Fundamen al Partners III LP | 30,000,000 | 17,447,617 | 0 | 17,447,617 | 1,536,280 | 1,812,689 | 17,447,617 | -276,409 | 17,171,208 | 0.00 | 0.00 |
| Green Equ ty Investo s IV, L.P. | 7,500,000 | 66,399 | 0 | 66,399 | 0 | 58,205 | 66,399 | -58,205 | 8,194 | 0.00 | 0.00 |
| Green Equity Investors V, L.P. | 10,000,000 | 5,082,396 | 0 | 5,082,396 | 767 | 1,121,985 | 5,082,396 | -1,121,218 | 3,961,178 | 0.00 | 0.00 |
| Green Equ ty Investo s VI, L.P. | 28,000,000 | 31,208,631 | 0 | 31,208,631 | 62,779 | 994,721 | 31,208,631 | -931,942 | 30,276,689 | 0.00 | 0.00 |
| Green Equ ty Investo s VII LP | 25,000,000 | 17,214,359 | 0 | 17,214,359 | 2,725,869 | 52,236 | 17,214,359 | 2,673,633 | 19,887,992 | 0.00 | 0.00 |
| Green ield Acquisi ion Partners VI, L.P. | 16,700,000 | 837,715 | 0 | 837,715 | 0 | 0 | 837,715 | 0 | 837,715 | 0.00 | 0.00 |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Insurance Fund*** | | | | | | | | | | | |
| Green ield Acquisi ion Partners VII, L.P. | 12,200,000 | 9,373,879 | 0 | 9,373,879 | 0 | 1,078,119 | 9,373,879 | -1,078,119 | 8,295,760 | 0.00 | 0.00 |
| GTCR und IX-A, L.P. | 7,000,000 | 19,054 | 0 | 19,054 | 0 | 0 | 19,054 | 0 | 19,054 | 0.00 | 0.00 |
| H.I.G. BioVen ures II, L P. | 11,500,000 | 12,438,958 | 0 | 12,438,958 | 673,460 | 2,892,387 | 12,438,958 | -2,218,928 | 10,220,030 | 0.00 | 0.00 |
| H.I.G. Capital Partner V, L.P. | 6,900,000 | 6,279,279 | 0 | 6,279,279 | 0 | 0 | 6,279,279 | 0 | 6,279,279 | 0.00 | 0.00 |
| H.I.G. Ventures I, .P | 2,000,000 | 659,164 | 0 | 659,164 | 0 | 0 | 659,164 | 0 | 659,164 | 0.00 | 0.00 |
| H&F Spoc I LP | 1,794,672 | 2,006,634 | 0 | 2,006,634 | 0 | 0 | 2,006,634 | 0 | 2,006,634 | 0.00 | 0.00 |
| Harve t Pa tners V, L P | 4,000,000 | 505,578 | 0 | 505,578 | 0 | 0 | 505,578 | 0 | 505,578 | 0.00 | 0.00 |
| Harve t Pa tners VI, .P | 11,600,000 | 5,878,364 | 0 | 5,878,364 | 0 | 0 | 5,878,364 | 0 | 5,878,364 | 0.00 | 0.00 |
| Harve t Pa tners VII P | 20,000,000 | 16,076,950 | 0 | 16,076,950 | 1,576,651 | 0 | 16,076,950 | 1,576,651 | 17,653,601 | 0.00 | 0.00 |
| Hellman and Friedman Capital Partners VI, L.P. | 7,500,000 | 360,050 | 0 | 360,050 | 0 | 21,232 | 360,050 | -21,232 | 338,818 | 0.00 | 0.00 |
| Horsley Br dge nterna onal Fund V, L.P. | 5,000,000 | 8,974,525 | 0 | 8,974,525 | 19,500 | 210,963 | 8,974,525 | -191,463 | 8,783,062 | 0.00 | 0.00 |
| IFM US Infrastructure Debt Fund | 0 | N/A | 0 | 0 | 0 | 0 | N/A | 0 | 0 | N/A | N/A |
| Institu ional enture Partners XI, L.P. | 1,500,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Institu ional enture Partners XII, L.P. | 3,000,000 | 725,292 | 0 | 725,292 | 0 | 89,100 | 725,292 | -89,100 | 636,192 | 0.00 | 0.00 |
| JW Ch lds qu ty Partners III, L.P. | 4,000,000 | 77 | 0 | 77 | 0 | 0 | 77 | 0 | 77 | 0.00 | 0.00 |
| Kayne Ander on Ene gy Fund VII LP | 50,000,000 | 38,416,691 | 0 | 38,416,691 | 750,000 | 0 | 38,416,691 | 750,000 | 39,166,691 | 0.00 | 0.00 |
| KCP IV Co-Invest | 8,874,228 | 2,844,894 | 0 | 2,844,894 | 748,183 | 0 | 2,844,894 | 610,752 | 3,455,646 | -4.18 | -4.18 |
| Keyhaven Cap tal Par ners Fund III, L.P. | 3,052,560 | 2,305,088 | 0 | 2,305,088 | 10,421 | 72,533 | 2,305,088 | -159,994 | 2,145,094 | -4.29 | -4.29 |
| Keyhaven Cap tal Par ners IV LP | 8,874,228 | 3,607,441 | 0 | 3,607,441 | 52,146 | 920,132 | 3,607,441 | -1,015,744 | 2,591,696 | -4.11 | -4.11 |
| Levine eichtman Capi al Partners V, L.P. | 24,000,000 | 20,740,154 | 0 | 20,740,154 | 131,689 | 486,614 | 20,740,154 | -354,925 | 20,385,229 | 0.00 | 0.00 |
| Levine Leichtman Capital Partners VI LP | 37,500,000 | 13,543,089 | 0 | 13,543,089 | 299,352 | 1,396,535 | 13,543,089 | -1,097,183 | 12,445,906 | 0.00 | 0.00 |
| Lubert Adler VII | 15,250,000 | 13,067,698 | 0 | 13,067,698 | -464,131 | 0 | 13,067,698 | -464,131 | 12,603,567 | 0.00 | 0.00 |
| Lubert-Ad er Real Esta e Fund VII-B LP | 15,750,000 | 9,196,484 | 0 | 9,196,484 | 2,362,500 | 0 | 9,196,484 | 2,362,500 | 11,558,984 | 0.00 | 0.00 |
| Magentar M P Energy Opportunities Fund II LLC | 12,500,000 | 12,067,996 | 0 | 12,067,996 | 0 | 992,352 | 12,067,996 | -992,352 | 11,075,644 | 0.00 | 0.00 |
| MatlinPatter on G oba Opportunities Partners | 5,000,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| MatlinPatter on G oba Opportunities Partners II | 5,000,000 | 147,381 | 0 | 147,381 | 0 | 0 | 147,381 | 0 | 147,381 | 0.00 | 0.00 |
| MatlinPatter on G oba Opportunities Partners III | 5,000,000 | 1,431,060 | 0 | 1,431,060 | 0 | 0 | 1,431,060 | 0 | 1,431,060 | 0.00 | 0.00 |
| Merit Mezzanine Fund IV, L.P. | 3,000,000 | 64,168 | 0 | 64,168 | 0 | 0 | 64,168 | 0 | 64,168 | 0.00 | 0.00 |
| Mesa Wes Core Lend ng Fund, LP | 29,600,000 | 38,383,872 | 0 | 38,383,872 | 0 | 0 | 38,383,872 | 0 | 38,383,872 | 0.00 | 0.00 |
| Mesa West Real Estate Income Fund II | 9,999,999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Mesa Wes Real Esta e Income Fund IV LP | 14,000,000 | 6,402,001 | 0 | 6,402,001 | 0 | 103,216 | 6,402,001 | -103,216 | 6,298,785 | 0.00 | 0.00 |
| MHR nstitut onal Pa tners III, L.P. | 4,000,000 | 1,418,628 | 0 | 1,418,628 | 0 | 24,708 | 1,111,986 | 0 | 1,111,986 | -20.14 | -20.14 |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Insurance Fund*** | | | | | | | | | | | |
| Mill Road Cap tal , L P | 3,000,000 | 1,010,376 | 0 | 1,010,376 | 0 | 0 | 1,010,376 | 0 | 1,010,376 | 0.00 | 0.00 |
| New Mountain Partners II, L.P. | 5,000,000 | 69,668 | 0 | 69,668 | 0 | 0 | 69,668 | 0 | 69,668 | 0.00 | 0.00 |
| New Mounta n Partne s III, L.P. | 7,500,000 | 5,750,024 | 0 | 5,750,024 | 0 | 0 | 5,750,024 | 0 | 5,750,024 | 0.00 | 0.00 |
| New Mountain Partners IV, L.P. | 17,200,000 | 20,717,158 | 0 | 20,717,158 | 0 | 8,226,390 | 20,717,158 | -8,226,390 | 12,490,768 | 0.00 | 0.00 |
| Oak H ll Capi al Partne s II, L.P. | 7,500,000 | 199,244 | 0 | 199,244 | 0 | 0 | 199,244 | 0 | 199,244 | 0.00 | 0.00 |
| Oak H ll Capi al Partne s III, L.P. | 12,500,000 | 3,935,867 | 0 | 3,935,867 | 0 | 1,596,386 | 3,935,867 | -1,596,386 | 2,339,481 | 0.00 | 0.00 |
| Oberland Capital Heal hcare LP | 15,500,000 | 1,926,017 | 0 | 1,926,017 | 1,458,824 | 1,751,589 | 1,926,017 | -292,765 | 1,633,252 | 0.00 | 0.00 |
| OCM Opportun ties und VI b, L.P. | 7,500,000 | 162,842 | 0 | 162,842 | 0 | 0 | 162,842 | 0 | 162,842 | 0.00 | 0.00 |
| Patron Capit l V LP | 15,262,800 | 5,824,574 | 0 | 5,824,574 | 1,665,550 | 742,723 | 5,824,574 | 643,745 | 6,468,319 | -4.13 | -4.13 |
| R vers de Capi al Appreciation Fund VI, L.P. | 18,712,500 | 16,128,794 | 0 | 16,128,794 | 0 | 2,378,759 | 16,128,794 | -2,378,759 | 13,750,035 | 0.00 | 0.00 |
| Rubenstein Properties und II | 9,200,000 | 7,971,432 | 0 | 7,971,432 | 0 | 0 | 7,971,432 | 0 | 7,971,432 | 0.00 | 0.00 |
| Secondary Opportun t es Fund III, L.P. | 75,000,000 | 57,723,728 | 0 | 57,723,728 | 1,274,361 | 4,652,903 | 57,723,728 | -3,378,541 | 54,345,187 | 0.00 | 0.00 |
| Strategic Value Special Situations Fund IV LP | 21,700,000 | 6,238,485 | 0 | 6,238,485 | 1,085,000 | 10,850 | 6,238,485 | 1,074,150 | 7,312,635 | 0.00 | 0.00 |
| Sun Capita Partners IV | 2,000,000 | 275,635 | 0 | 275,635 | 0 | 0 | 275,635 | 0 | 275,635 | 0.00 | 0.00 |
| Taurus Mining Finance Fund LLC | 19,900,000 | 12,855,968 | 0 | 12,855,968 | 3,069,904 | 237,056 | 12,855,968 | 2,832,848 | 15,688,816 | 0.00 | 0.00 |
| TCV V , L.P | 2,500,000 | 553,466 | 0 | 553,466 | 0 | 0 | 553,466 | 0 | 553,466 | 0.00 | 0.00 |
| Tenaska Powe Fund II, L.P. | 3,000,000 | 86,283 | 0 | 86,283 | 0 | 0 | 86,283 | 0 | 86,283 | 0.00 | 0.00 |
| T iton Fund IV, P | 14,111,549 | 10,753,779 | 0 | 10,753,779 | 428,518 | 3,246,100 | 10,753,779 | -3,194,072 | 7,559,708 | -4.36 | -4.36 |
| VantagePoin Ven ure Partners 2006, L.P. | 3,000,000 | 828,313 | 0 | 828,313 | 0 | 0 | 828,313 | 0 | 828,313 | 0.00 | 0.00 |
| VantagePoin Ven ure Partners IV, L.P. | 4,000,000 | 243,105 | 0 | 243,105 | 0 | 0 | 243,105 | 0 | 243,105 | 0.00 | 0.00 |
| Vista Equity artners III, L.P. | 5,000,000 | 503,399 | 0 | 503,399 | 2,124 | 0 | 503,399 | 2,124 | 505,523 | 0.00 | 0.00 |
| V sta quity ar ners IV, L.P. | 23,000,000 | 16,276,014 | 0 | 16,276,014 | 80,665 | 0 | 16,276,014 | 80,665 | 16,356,679 | 0.00 | 0.00 |
| V sta quity ar ners VI LP | 25,000,000 | 28,703,227 | 0 | 28,703,227 | 121,805 | 0 | 28,703,227 | 121,805 | 28,825,032 | 0.00 | 0.00 |
| Walton Stree Rea Estate Fund VI, LP | 4,000,000 | 1,509,596 | 0 | 1,509,596 | 0 | 0 | 1,509,596 | 0 | 1,509,596 | 0.00 | 0.00 |
| Walton Stree Rea Estate Fund VII, LP | 16,755,000 | 6,525,535 | 0 | 6,525,535 | 0 | 786,488 | 6,525,535 | -786,488 | 5,739,047 | 0.00 | 0.00 |
| Warburg, incus P ivate Equity IX, L.P. | 10,000,000 | 585,124 | 0 | 585,124 | 0 | 49,290 | 585,124 | -49,290 | 535,834 | 0.00 | 0.00 |
| Warburg, incus P ivate Equity X, L.P. | 7,500,000 | 3,908,966 | 0 | 3,908,966 | 0 | 749,258 | 3,908,966 | -749,258 | 3,159,709 | 0.00 | 0.00 |
| Wayzata Opportunities Fund II, L.P. | 7,500,000 | 184,347 | 0 | 184,347 | 0 | 72,310 | 184,347 | -72,310 | 112,037 | 0.00 | 0.00 |
| Wayzata Oppor unitie Fund III, L.P. | 18,712,500 | 3,296,649 | 0 | 3,296,649 | 0 | 0 | 3,296,649 | 0 | 3,296,649 | 0.00 | 0.00 |
| Wayzata Opportunities Fund, L.P. | 7,500,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| White Oak Yield Spect um Parallel Fund LP | 50,000,000 | 47,209,854 | 0 | 47,209,854 | 2,333,178 | 858,774 | 47,209,854 | 1,474,403 | 48,684,257 | 0.00 | 0.00 |
| ***Total: Kentucky Retirement Systems - Insur*** | ***1,365,793,077*** | ***916,193,297*** | ***-2,072,126*** | ***914,121,171*** | ***36,537,663*** | ***68,295,804*** | ***910,349,783*** | ***-30,257,449*** | ***880,092,334*** | ***-0.25*** | ***-0.25*** |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Investments: 98** | **1,365,793,077** | **916,193,297** | **-2,072,126** | **914,121,171** | **36,537,663** | **68,295,804** | **910,349,783** | **-30,257,449** | **880,092,334** | **-0.25** | **-0.25** |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Pension Fund*** | | | | | | | | | | | |
| AMERRA Agri und II, LP | 40,100,000 | 21,909,563 | 0 | 21,909,563 | -262,178 | 0 | 21,909,563 | -262,178 | 21,647,385 | 0.00 | 0.00 |
| AMERRA-KRS Agri Ho ding Company, LP | 65,000,000 | 44,717,509 | 0 | 44,717,509 | 0 | 500,498 | 44,717,509 | -500,498 | 44,217,011 | 0.00 | 0.00 |
| Arbor Capita II, L P | 22,500,000 | 438,149 | 0 | 438,149 | 0 | 315,742 | 438,149 | -315,742 | 122,407 | 0.00 | 0.00 |
| Arcano KRS Fund I, .P. | 36,000,000 | 25,307,987 | 0 | 25,307,987 | 0 | 1,169,708 | 25,307,987 | -1,169,708 | 24,138,279 | 0.00 | 0.00 |
| Ares Special Situations Fund IV, L.P. | 26,192,000 | 23,299,567 | 0 | 23,299,567 | 0 | 0 | 23,299,567 | 0 | 23,299,567 | 0.00 | 0.00 |
| Ba ings Real Estate u opean Value Add I SCSp | 114,471,000 | 50,138,230 | 0 | 50,138,230 | 7,136,615 | 3,977,871 | 50,138,230 | 948,762 | 51,086,992 | -4.21 | -4.21 |
| Bay Hil s Cap tal I, L P | 67,500,000 | 26,972,703 | -139,500 | 26,833,203 | 0 | 17,631,000 | 26,972,703 | -17,770,500 | 9,202,203 | 0.00 | 0.00 |
| Bay Hil s Cap tal I I, .P. | 51,250,000 | 67,727,142 | -2,394,640 | 65,332,502 | 1,857,002 | 14,513,576 | 67,727,142 | -15,051,214 | 52,675,928 | 0.00 | 0.00 |
| Bay Hil s Emerg ng artners II LP | 45,000,000 | 77,174,193 | 202,500 | 77,376,693 | 0 | 324,000 | 77,174,193 | -121,500 | 77,052,693 | 0.00 | 0.00 |
| Bay Hil s Emerg ng artners II-B LP | 45,000,000 | 60,421,294 | -211,500 | 60,209,794 | 121,500 | 3,060,000 | 60,421,294 | -3,150,000 | 57,271,294 | 0.00 | 0.00 |
| BDCM Oppo tuni y Fund IV, L.P. | 35,580,000 | 34,884,986 | 0 | 34,884,986 | 894,058 | 500,287 | 34,884,986 | 393,771 | 35,278,757 | 0.00 | 0.00 |
| Blackstone Capital Pa ners V, L.P. | 47,174,735 | 2,310,818 | 0 | 2,310,818 | 0 | 188,694 | 2,310,818 | -188,694 | 2,122,124 | 0.00 | 0.00 |
| Blackstone Capital Partners VI, L.P. | 60,000,000 | 51,818,883 | 0 | 51,818,883 | 50,266 | 5,140,425 | 51,818,883 | -5,090,159 | 46,728,724 | 0.00 | 0.00 |
| BSP Private Credit Fund | 100,000,000 | 55,960,401 | 0 | 55,960,401 | 6,600,660 | 1,265,113 | 55,960,401 | 5,335,547 | 61,295,948 | 0.00 | 0.00 |
| BTG Pactual Brazil Timberland Fund I | 34,500,000 | 24,147,159 | 0 | 24,147,159 | 0 | 574,703 | 24,147,159 | -574,703 | 23,572,456 | 0.00 | 0.00 |
| Camelot Oppo uni ies Fund, L.P. | 23,400,000 | 8,305,014 | 0 | 8,305,014 | 0 | 0 | 8,305,014 | 0 | 8,305,014 | 0.00 | 0.00 |
| Cerberus KRS evered Loan Opportunities Fund, L.P. | 87,500,000 | 92,079,175 | 0 | 92,079,175 | 14,000,000 | 14,350,000 | 79,159,807 | 14,000,000 | 93,159,807 | 1.74 | 1.74 |
| Columbia Captal qu ty Partners IV, L.P. | 27,000,000 | 3,776,754 | 0 | 3,776,754 | 0 | 0 | 3,776,754 | 0 | 3,776,754 | 0.00 | 0.00 |
| Crestview Pa tners , L.P. | 67,500,000 | 32,974,745 | 0 | 32,974,745 | 291,112 | 1,179,254 | 32,974,745 | -888,142 | 32,086,603 | 0.00 | 0.00 |
| Crestview Pa tners I, L.P. | 39,000,000 | 30,214,052 | 0 | 30,214,052 | 0 | 659,052 | 30,214,052 | -659,052 | 29,555,000 | 0.00 | 0.00 |
| CVC European Equity Partners VI, L.P. | 23,898,023 | 29,573,981 | 0 | 29,573,981 | 0 | 4,032,604 | 29,573,981 | -5,198,605 | 24,375,375 | -4.29 | -4.29 |
| DAG Ventures II, .P | 27,000,000 | 3,237,664 | 0 | 3,237,664 | 0 | 0 | 3,237,664 | 0 | 3,237,664 | 0.00 | 0.00 |
| DAG Ventures III, L. . | 27,000,000 | 3,102,991 | 0 | 3,102,991 | 0 | 231,310 | 3,102,991 | -231,310 | 2,871,682 | 0.00 | 0.00 |
| DAG Ventures IV, L P. | 90,000,000 | 54,297,913 | 0 | 54,297,913 | 0 | 2,115,399 | 54,297,913 | -2,115,399 | 52,182,514 | 0.00 | 0.00 |
| DAG Ventures V, L.P. | 8,000,000 | 26,749,566 | 0 | 26,749,566 | 0 | 0 | 26,749,566 | 0 | 26,749,566 | 0.00 | 0.00 |
| DCM VI, L P | 13,500,000 | 11,629,457 | 0 | 11,629,457 | 0 | 0 | 11,629,457 | 0 | 11,629,457 | 0.00 | 0.00 |
| D vcoWes Fund V | 20,800,000 | 3,808,507 | 0 | 3,808,507 | 0 | 0 | 3,808,507 | 0 | 3,808,507 | 0.00 | 0.00 |
| Essex Woodlands und VIII, L.P. | 22,500,000 | 10,262,517 | 0 | 10,262,517 | 0 | 0 | 10,262,517 | 0 | 10,262,517 | 0.00 | 0.00 |
| Fundamental Partner III LP | 70,000,000 | 40,711,101 | 0 | 40,711,101 | 3,584,653 | 4,229,607 | 40,711,101 | -644,954 | 40,066,147 | 0.00 | 0.00 |
| G een qui y Investors IV, L.P. | 67,500,000 | 597,591 | 0 | 597,591 | 0 | 523,845 | 597,591 | -523,845 | 73,746 | 0.00 | 0.00 |
| G een qui y Investors V, L.P. | 90,000,000 | 45,741,571 | 0 | 45,741,571 | 6,906 | 10,097,859 | 45,741,571 | -10,090,953 | 35,650,618 | 0.00 | 0.00 |
| Green Equity Investors VI, L.P. | 32,000,000 | 35,666,992 | 0 | 35,666,992 | 71,748 | 1,136,824 | 35,666,992 | -1,065,076 | 34,601,916 | 0.00 | 0.00 |
| G een qui y Investors VII LP | 25,000,000 | 17,214,360 | 0 | 17,214,360 | 2,725,869 | 52,236 | 17,214,360 | 2,673,633 | 19,887,993 | 0.00 | 0.00 |
| G eenfie d Acquisition Partners VI, L.P. | 38,100,000 | 1,905,919 | 0 | 1,905,919 | 0 | 0 | 1,905,919 | 0 | 1,905,919 | 0.00 | 0.00 |
| G eenfie d Acquisition Partners VII, L.P. | 27,800,000 | 21,360,148 | 0 | 21,360,148 | 0 | 2,456,698 | 21,360,148 | -2,456,698 | 18,903,450 | 0.00 | 0.00 |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Pension Fund*** | | | | | | | | | | | |
| GTCR Fund IX-A, L.P | 63,000,000 | 171,595 | 0 | 171,595 | 0 | 0 | 171,595 | 0 | 171,595 | 0.00 | 0.00 |
| H.I.G. BioVentures II, L.P. | 13,500,000 | 14,602,255 | 0 | 14,602,255 | 790,583 | 3,395,411 | 14,602,255 | -2,604,828 | 11,997,427 | 0.00 | 0.00 |
| H I.G. Cap tal Partne V, L.P. | 13,100,000 | 11,921,529 | 0 | 11,921,529 | 0 | 0 | 11,921,529 | 0 | 11,921,529 | 0.00 | 0.00 |
| H.I.G. Ventures II, L. . | 18,000,000 | 5,932,477 | 0 | 5,932,477 | 0 | 0 | 5,932,477 | 0 | 5,932,477 | 0.00 | 0.00 |
| H&F Spock I LP | 3,250,153 | 5,351,028 | 0 | 5,351,028 | 0 | 0 | 5,351,028 | 0 | 5,351,028 | 0.00 | 0.00 |
| Harvest artne s V, .P. | 36,000,000 | 4,550,205 | 0 | 4,550,205 | 0 | 0 | 4,550,205 | 0 | 4,550,205 | 0.00 | 0.00 |
| Harvest artne s VI, L P. | 28,400,000 | 14,391,843 | 0 | 14,391,843 | 0 | 0 | 14,391,843 | 0 | 14,391,843 | 0.00 | 0.00 |
| Harvest artne s VI LP | 20,000,000 | 16,076,950 | 0 | 16,076,950 | 1,576,651 | 0 | 16,076,950 | 1,576,651 | 17,653,601 | 0.00 | 0.00 |
| Hellman and F iedman Capital Partners VI, L.P. | 20,000,000 | 960,099 | 0 | 960,099 | 0 | 56,627 | 960,099 | -56,627 | 903,472 | 0.00 | 0.00 |
| Horsley Bridge International Fund V, L.P. | 45,000,000 | 80,770,735 | 0 | 80,770,735 | 175,500 | 1,898,673 | 80,770,735 | -1,723,173 | 79,047,562 | 0.00 | 0.00 |
| Institut onal Venture Partners XI, L.P. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Institutional Venture Partners XII, L.P. | 27,000,000 | 6,528,850 | 0 | 6,528,850 | 0 | 801,900 | 6,528,850 | -801,900 | 5,726,950 | 0.00 | 0.00 |
| JW Childs Equi y Pa tners III, L.P. | 36,000,000 | 693 | 0 | 693 | 0 | 0 | 693 | 0 | 693 | 0.00 | 0.00 |
| Kayne Anderson nergy Fund VII LP | 50,000,000 | 38,416,691 | 0 | 38,416,691 | 750,000 | 0 | 38,416,691 | 750,000 | 39,166,691 | 0.00 | 0.00 |
| KCP IV Co-Invest | 12,929,772 | 4,145,018 | 0 | 4,145,018 | 1,090,104 | 0 | 4,145,018 | 889,867 | 5,034,884 | -4.18 | -4.18 |
| Keyhaven Capi al Par ners Fund III, L.P. | 27,508,135 | 20,745,807 | 0 | 20,745,807 | 93,787 | 652,801 | 20,745,807 | -1,439,947 | 19,305,859 | -4.29 | -4.29 |
| Keyhaven Capi al Par ners IV LP | 12,929,772 | 5,256,052 | 0 | 5,256,052 | 75,977 | 1,340,635 | 5,256,052 | -1,479,942 | 3,776,110 | -4.11 | -4.11 |
| Levine Leichtman Capital Partners V, L.P. | 46,000,000 | 39,751,959 | 0 | 39,751,959 | 252,404 | 932,676 | 39,751,959 | -680,272 | 39,071,687 | 0.00 | 0.00 |
| Levine Leichtman Capital Partners VI LP | 37,500,000 | 13,543,089 | 0 | 13,543,089 | 299,352 | 1,396,535 | 13,543,089 | -1,097,183 | 12,445,906 | 0.00 | 0.00 |
| Lubert Ad er VII | 34,750,000 | 29,777,215 | 0 | 29,777,215 | -1,057,609 | 0 | 29,777,215 | -1,057,609 | 28,719,606 | 0.00 | 0.00 |
| Lubert-Adler Real Estate Fund VII-B LP | 36,750,000 | 21,458,462 | 0 | 21,458,462 | 5,512,500 | 0 | 21,458,462 | 5,512,500 | 26,970,962 | 0.00 | 0.00 |
| Magen ar M P Energy Opportunities Fund II LLC | 37,500,000 | 36,203,988 | 0 | 36,203,988 | 0 | 2,977,056 | 36,203,988 | -2,977,056 | 33,226,932 | 0.00 | 0.00 |
| MatlinPatterson Global Opportunities Partners | 45,000,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| MatlinPatterson Global Opportunities Partners II | 45,000,000 | 1,326,461 | 0 | 1,326,461 | 0 | 0 | 1,326,461 | 0 | 1,326,461 | 0.00 | 0.00 |
| MatlinPatterson Global Opportunities Partners III | 45,000,000 | 12,879,031 | 0 | 12,879,031 | 0 | 0 | 12,879,031 | 0 | 12,879,031 | 0.00 | 0.00 |
| Merit Mezzanine Fund IV, L.P. | 27,000,000 | 577,514 | 0 | 577,514 | 0 | 0 | 577,514 | 0 | 577,514 | 0.00 | 0.00 |
| Mesa West Co e end ng Fund, LP | 57,500,000 | 60,646,219 | 0 | 60,646,219 | 0 | 977,911 | 60,646,219 | -977,911 | 59,668,308 | 0.00 | 0.00 |
| Mesa West Real Estate Income Fund II | 9,999,999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Mesa West Real Estate Income Fund IV LP | 36,000,000 | 16,462,289 | 0 | 16,462,289 | 0 | 265,414 | 16,462,289 | -265,414 | 16,196,875 | 0.00 | 0.00 |
| MHR Institutional Partners III, L.P. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Mill Road Capi al I, .P. | 27,000,000 | 9,093,391 | 0 | 9,093,391 | 0 | 0 | 9,093,391 | 0 | 9,093,391 | 0.00 | 0.00 |
| New Moun ain Partne s II, L.P. | 25,000,000 | 348,323 | 0 | 348,323 | 0 | 0 | 348,323 | 0 | 348,323 | 0.00 | 0.00 |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

## ADJUSTED ENDING VALUE POINT TO POINT (7/1/2019 - 9/30/2019)

All Portfolio Investments

Base Currency: USD

| Investment | Commitment | Beginning Valuation | Adjustments | Beginning Adjusted Valuation | Period Contributions | Period Distributions | Ending Valuation | Adjustments | Ending Adjusted Valuation | IRR [1] | Unann. IRR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Kentucky Retirement Systems - Pension Fund*** | | | | | | | | | | | |
| New Moun ain Partne s III, L.P. | 33,750,000 | 25,875,128 | 0 | 25,875,128 | 0 | 0 | 25,875,128 | 0 | 25,875,128 | 0.00 | 0.00 |
| New Mountain Partners IV, L.P. | 32,800,000 | 39,507,128 | 0 | 39,507,128 | 0 | 15,687,518 | 39,507,128 | -15,687,518 | 23,819,610 | 0.00 | 0.00 |
| Oak Hill apital Partners II, L.P. | 67,500,000 | 1,797,302 | 0 | 1,797,302 | 0 | 0 | 1,797,302 | 0 | 1,797,302 | 0.00 | 0.00 |
| Oak Hill Capital Partners III, L.P. | 33,750,000 | 10,626,840 | 0 | 10,626,840 | 0 | 4,310,241 | 10,626,840 | -4,310,241 | 6,316,599 | 0.00 | 0.00 |
| Oberland Capi al Hea hcare LP | 34,500,000 | 4,286,939 | 0 | 4,286,939 | 3,247,059 | 3,898,697 | 4,286,939 | -651,638 | 3,635,301 | 0.00 | 0.00 |
| OCM Opportun ties F nd VI b, L.P. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Pa ron Cap tal V LP | 39,247,200 | 14,977,001 | 0 | 14,977,001 | 4,282,714 | 1,909,799 | 14,977,001 | 1,655,299 | 16,632,301 | -4.13 | -4.13 |
| Riverside Capital App eciation Fund VI, L.P. | 35,500,000 | 30,598,401 | 0 | 30,598,401 | 0 | 4,512,791 | 30,598,401 | -4,512,791 | 26,085,610 | 0.00 | 0.00 |
| Rubenstein Propertie Fund II | 20,800,000 | 18,022,367 | 0 | 18,022,367 | 0 | 0 | 18,022,367 | 0 | 18,022,367 | 0.00 | 0.00 |
| Seconda y Opportun ies Fund III, L.P. | 25,000,000 | 19,241,243 | 0 | 19,241,243 | 424,787 | 1,550,968 | 19,241,243 | -1,126,180 | 18,115,063 | 0.00 | 0.00 |
| Strategic Value Special Situations Fund IV LP | 43,300,000 | 12,448,198 | 0 | 12,448,198 | 2,165,000 | 21,650 | 12,448,198 | 2,143,350 | 14,591,548 | 0.00 | 0.00 |
| Sun Capital Partners IV | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Taurus Mining Finance Fund LLC | 45,100,000 | 29,135,884 | 0 | 29,135,884 | 6,957,422 | 537,248 | 29,135,884 | 6,420,174 | 35,556,058 | 0.00 | 0.00 |
| TCV VI, L P. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| Tenaska Power Fund I , L.P. | 27,000,000 | 776,526 | 0 | 776,526 | 0 | 0 | 776,526 | 0 | 776,526 | 0.00 | 0.00 |
| Tri on und IV, .P. | 27,428,257 | 20,400,943 | 0 | 20,400,943 | 812,940 | 6,158,160 | 20,400,943 | -6,059,458 | 14,341,485 | -4.36 | -4.36 |
| VantagePo n Venture Partners 2006, L.P. | 27,000,000 | 7,454,815 | 0 | 7,454,815 | 0 | 202,783 | 7,454,815 | -202,783 | 7,252,032 | 0.00 | 0.00 |
| VantagePo n Venture Partners IV, L.P. | 36,000,000 | 2,431,048 | 0 | 2,431,048 | 0 | 0 | 2,431,048 | 0 | 2,431,048 | 0.00 | 0.00 |
| Vista Equi y Par ner l, L.P. | 45,000,000 | 4,530,593 | 0 | 4,530,593 | 19,114 | 0 | 4,530,593 | 19,114 | 4,549,707 | 0.00 | 0.00 |
| Vista Equi y Par ner V, L.P. | 27,000,000 | 19,106,626 | 0 | 19,106,626 | 94,695 | 0 | 19,106,626 | 94,695 | 19,201,321 | 0.00 | 0.00 |
| Vista Equity artners VI LP | 25,000,000 | 28,703,227 | 0 | 28,703,227 | 121,805 | 0 | 28,703,227 | 121,805 | 28,825,032 | 0.00 | 0.00 |
| Walton St eet Real s ate Fund VI, LP | 36,000,000 | 13,586,368 | 0 | 13,586,368 | 0 | 0 | 13,586,368 | 0 | 13,586,368 | 0.00 | 0.00 |
| Walton St eet Real s ate Fund VII, LP | 38,120,000 | 14,846,516 | 0 | 14,846,516 | 0 | 1,789,372 | 14,846,516 | -1,789,372 | 13,057,144 | 0.00 | 0.00 |
| Warburg, Pincus Private Equity IX, L.P. | 50,000,000 | 2,925,616 | 0 | 2,925,616 | 0 | 246,450 | 2,925,616 | -246,450 | 2,679,166 | 0.00 | 0.00 |
| Warburg, Pincus Private Equity X, L.P. | 38,750,000 | 20,196,352 | 0 | 20,196,352 | 0 | 3,871,164 | 20,196,352 | -3,871,164 | 16,325,188 | 0.00 | 0.00 |
| Wayzata Oppor uni ies Fund II, L.P. | 67,500,000 | 1,659,122 | 0 | 1,659,122 | 0 | 650,791 | 1,659,122 | -650,791 | 1,008,331 | 0.00 | 0.00 |
| Wayzata Oppor uni ies Fund III, L.P. | 35,500,000 | 6,254,162 | 0 | 6,254,162 | 0 | 0 | 6,254,162 | 0 | 6,254,162 | 0.00 | 0.00 |
| Wayzata Opportunities Fund, L.P. | 67,500,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A |
| White Oak Yield Spec rum Parallel Fund LP | 100,000,000 | 94,419,709 | 0 | 94,419,709 | 4,666,356 | 1,717,549 | 94,419,709 | 2,948,807 | 97,368,516 | 0.00 | 0.00 |
| ***Total: Kentucky Retirement Systems - Pensi*** | ***3,613,429,046*** | ***1,956,136,423*** | ***-2,543,140*** | ***1,953,593,283*** | ***69,429,351*** | ***151,987,123*** | ***1,943,217,055*** | ***-76,855,204*** | ***1,866,361,851*** | ***-0.24*** | ***-0.24*** |
| **Total Investments: 96** | **3,613,429,046** | **1,956,136,423** | **-2,543,140** | **1,953,593,283** | **69,429,351** | **151,987,123** | **1,943,217,055** | **-76,855,204** | **1,866,361,851** | **-0.24** | **-0.24** |

[1] *Calculation follows the "Nominalize Short Term IRR Values" preference*

**KENTUCKY RETIREMENT SYSTEMS**
**Investment Fees and Expenses**
**For the Year Ended September 30, 2019**
**Pension**

| | 2020 | | | 2019 | | |
|---|---|---|---|---|---|---|
| | FYTD Fees | % of MV | Market Value | FYTD Fees | % of MV | Market Value |
| **Absolute Return** | $ 232,262 | 0.11% | $ 204,193,864 | $ 1,264,575 | 0.25% | $ 513,698,482 |
| *Investment Advisory Fees* | *240,123* | | | *1,052,247* | | |
| *Performance Fees* | *(7,861)* | | | *212,329* | | |
| *Miscellaneous Fees and Expenses* | | | | | | |
| **Core Fixed Income** | 730,873 | 0.03% | 2,341,871,106 | 165,719 | 0.01% | 2,014,569,194 |
| *Investment Advisory Fees* | *724,163* | | | *165,719* | | |
| *Performance Fees* | - | | | - | | |
| *Miscellaneous Fees and Expenses* | *6,710* | | | - | ***Fixed Income- not yet split*** | |
| **Opportunistic** | 566,352 | 0.41% | 139,104,289 | - | 0.00% | 20,642,147 |
| *Investment Advisory Fees* | *566,352* | | | - | | |
| *Performance Fees* | - | | | - | | |
| *Miscellaneous Fees and Expenses* | - | | | - | | |
| **Private Equity** | 10,097,740 | 0.88% | 1,153,844,068 | 6,125,613 | 0.49% | 1,240,097,473 |
| *Investment Advisory Fees* | *2,448,737* | | | *1,768,624* | | |
| *Performance Fees* | *5,070,080* | | | *3,716,049* | | |
| *Miscellaneous Fees and Expenses* | *2,578,923* | | | *640,940* | | |
| **Public Equity** | 2,218,253 | 0.05% | 4,867,211,185 | 2,359,635 | 0.05% | 4,831,041,634 |
| *Investment Advisory Fees* | *2,102,620* | | | *2,255,970* | | |
| *Miscellaneous Fees and Expenses* | *115,633* | | | *103,665* | | |
| **Real Estate** | 6,710,740 | 1.23% | 547,646,427 | 3,485,721 | 0.80% | 433,888,869 |
| *Investment Advisory Fees* | *1,233,393* | | | *1,116,406* | | |
| *Performance Fees* | *5,084,005* | | | *2,121,091* | | |
| *Miscellaneous Fees and Expenses* | *393,341* | | | *248,225* | | |
| **Real Return** | 1,870,567 | 0.17% | 1,106,599,987 | 2,208,595 | 0.21% | 1,062,850,954 |
| *Investment Advisory Fees* | *1,073,768* | | | *1,509,102* | | |
| *Performance Fees* | *224,542* | | | *482,585* | | |
| *Miscellaneous Fees and Expenses* | *572,258* | | | *216,907* | | |
| **Speciality Credit Fixed Income** | 5,134,568 | 0.25% | 2,053,123,323 | 4,781,800 | 0.25% | 1,878,342,402 |
| *Investment Advisory Fees* | *3,117,266* | | | *2,450,605* | | |
| *Performance Fees* | *1,362,169* | | | *2,232,898* | | |
| *Miscellaneous Fees and Expenses* | *655,133* | | | *98,297* | | |
| **Cash** | 796,144 | 0.16% | 488,488,198 | 408,957 | 0.08% | 495,105,466 |
| *Consulting* | *217,711* | | | *64,407* | | |
| *Trustee* | *304,400* | | | *291,935* | | |
| *Miscellaneous Fees and Expenses* | *274,033* | | | *52,615* | | |
| | | | | | | |
| **Total Investment Mgmt Fees** | 28,357,498 | 0.22% | 12,902,082,447 | $ 20,800,616 | 0.16% | 13,223,651,802 |

**KENTUCKY RETIREMENT SYSTEMS**
**Investment Fees and Expenses**
**For the Year Ended June 30, 2019**
**Insurance**

| | 2020 | | | 2019 | | |
|---|---|---|---|---|---|---|
| | FYTD Fees | % of MV | Market Value | FYTD Fees | % of MV | Market Value |
| **Absolute Return** | $ 94,313 | 0.11% | $ 83,663,076 | $ 528,256 | 0.25% | $ 211,655,490 |
| *Investment Advisory Fees* | *97,236* | | | *433,435* | | |
| *Performance Fees* | *(2,923)* | | | *94,821* | | |
| *Miscellaneous Fees and Expenses* | | | | | | |
| **Core Fixed Income** | 309,986 | 0.03% | 999,540,816 | 167,280 | 0.02% | 798,692,824 |
| *Investment Advisory Fees* | *306,854* | | | *167,280* | | |
| *Performance Fees* | - | | | - | | |
| *Miscellaneous Fees and Expenses* | *3,131* | | | - | ***Fixed Income - not yet split*** | |
| **Opportunistic** | 288,389 | 0.41% | 70,832,760 | - | 0.00% | 10,511,108 |
| *Investment Advisory Fees* | *288,389* | | | - | | |
| *Performance Fees* | | | | - | | |
| *Miscellaneous Fees and Expenses* | | | | - | | |
| **Private Equity** | 5,380,282 | 0.97% | 554,094,931 | 3,564,535 | 0.65% | 549,714,528 |
| *Investment Advisory Fees* | *2,139,366* | | | *1,095,575* | | |
| *Performance Fees* | *3,293,822* | | | *2,079,680* | | |
| *Miscellaneous Fees and Expenses* | *(52,906)* | | | *389,280* | | |
| **Public Equity** | 917,480 | 0.04% | 2,165,430,192 | 1,039,780 | 0.05% | 2,125,492,814 |
| *Investment Advisory Fees* | *866,568* | | | *993,794* | | |
| *Miscellaneous Fees and Expenses* | *50,912* | | | *45,986* | | |
| **Real Estate** | 2,787,757 | 1.23% | 227,114,222 | 1,474,277 | 0.83% | 178,100,520 |
| *Investment Advisory Fees* | *533,789* | | | *516,213* | | |
| *Performance Fees* | *2,021,339* | | | *851,750* | | |
| *Miscellaneous Fees and Expenses* | *232,629* | | | *106,314* | | |
| **Real Return** | 777,604 | 0.17% | 469,151,091 | 934,470 | 0.21% | 447,049,147 |
| *Investment Advisory Fees* | *453,197* | | | *660,790* | | |
| *Performance Fees* | *74,847* | | | *166,695* | | |
| *Miscellaneous Fees and Expenses* | *249,561* | | | *106,985* | | |
| **Speciality Credit Fixed Income** | 2,545,261 | 0.30% | 849,707,888 | 1,906,931 | 0.26% | 743,546,220 |
| *Investment Advisory Fees* | *1,387,321* | | | *965,194* | | |
| *Performance Fees* | *840,793* | | | *893,698* | | |
| *Miscellaneous Fees and Expenses* | *317,147* | | | *48,038* | | |
| **Cash** | 418,016 | 0.46% | 90,774,029 | 249,951 | 0.14% | 177,855,862 |
| *Consulting* | *92,821* | | | *26,806* | | |
| *Trustee* | *208,884* | | | *202,741* | | |
| *Miscellaneous Fees and Expenses* | *116,310* | | | *20,404* | | |
| | | | | | | |
| **Total Investment Mgmt Fees** | $ 13,519,088 | 0.25% | 5,510,309,004 | $ 9,865,481 | 0.19% | 5,242,618,513 |

| Date | Other Party | Asset Class | Reason for Meeting | Location | Travel Location | KRS Attendees | Individuals Met With |
|---|---|---|---|---|---|---|---|
| 01-Jul-19 | First State Investments | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Jon Salstrom |
| 08-Jul-19 | Stockbridge | Real Estate | Existing Manager | Other Parties' Offices | Chicago | Andy Kiehl | Sol Rasso, Alan Purser |
| 08-Jul-19 | Harrison St | Real Estate | Existing Manager | Other Parties' Offices | Chicago | Andy Kiehl | Elizabeth Wohleb |
| 09-Jul-19 | CapitalSpring | Fixed Income, Other | Prospect | KRS Offices | | Anthony Chiu, Rich Robben | Richard Fitzgerald, Wade Daniel |
| 09-Jul-19 | PIMCO | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Iggie Galzon, Priya Bishen |
| 09-Jul-19 | Aspect Capital | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Stephen Wood, Lukasz Wojtowicz |
| 10-Jul-19 | BlackRock | General | Existing Manager | KRS Offices | Louisville | Andy Kiehl, Rich Robben | Multiple BlackRock Employees |
| 11-Jul-19 | Morgan Stanley | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Mike Chambers |
| 11-Jul-19 | Apollo | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Janet Quarberg |
| 11-Jul-19 | Angel Oak | Other | Prospect | KRS Offices | Louisville | Andy Kiehl | Bernard Dzata |
| 16-Jul-19 | Nuveen | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Clint Doroff |
| 17-Jul-19 | Brookfield | Other | Prospect | KRS Offices | Louisville | Andy Kiehl | Kate Bizga, Caroline Fitzpatrick |
| 23-Jul-19 | Next Century | Equity | Prospect | Other Parties' Offices | Minneapolis | Andy Kiehl | Multiple Next Century Team |
| 24-Jul-19 | Securian Asset Management | Other | Prospect | Other Parties' Offices | Minneapolis | Andy Kiehl | Multiple Securian Team |
| 24-Jul-19 | Blackrock | Private Equity | Prospect | KRS Offices | Louisville | Rich Robben | Don Perault |
| 25-Jul-19 | BlackRock LTPC | Private Equity | Prospect | KRS Offices | | Anthony Chiu, Rich Robben | Andre Bourbonnais, Colm Lanigan, Mei Friedman, Sofya Alterman, Don Perault |
| 31-Jul-19 | ManuLife | Real Estate | Prospect | Other | Louisville | Andy Kiehl | Kevin Ryan |
| 01-Aug-19 | Morgan Stanley | Fixed Income, Other | Prospect | KRS Offices | Louisville | Andy Kiehl, Rich Robben | Mike Chambers |
| 15-Aug-19 | Hayfin | Fixed Income | Prospect | KRS Offices | Louisville | Rich Robben | Rob Keif |
| 15-Aug-19 | Benefit Street | Fixed Income | Manager Update | KRS Offices | Louisville | Rich Robben | Catherine Saunders |
| 15-Aug-19 | Abel Noser | Equity | Manager Update | KRS Offices | Frankfort | Joe Gilbert | Ian Leverich |
| 19-Aug-19 | Lord Abbett | Equity | Manager Update | KRS Offices | Frankfort | Joe Gilbert | Samantha Scher, Brian Foerster |
| 20-Aug-19 | Arrowmark | Other | Existing Manager | Other Parties' Offices | Denver | Andy Kiehl | Kaelyn Abrel, Greth Lester |
| 21-Aug-19 | Pzena | Equity | On-site Due Diligence | Other Parties' Offices | New York City | Joe Gilbert | Rakes Bordia, Alison Fisch, Chris Tessman |
| 21-Aug-19 | Franklin Templeton | Equity | On-site Due Diligence | Other Parties' Offices | New York City | Joe Gilbert | John Remmert, Yan Lager, Chris Tessman |
| 21-Aug-19 | Lazard | Equity | On-site Due Diligence | Other Parties' Offices | New York City | Joe Gilbert | Tony Dote, Mike Powers, Evan Lorey, Chris Tessman |

| Date | Other Party | Asset Class | Reason for Meeting | Location | Travel Location | KRS Attendees | Individuals Met With |
|---|---|---|---|---|---|---|---|
| 22-Aug-19 | Columbia | Fixed Income | Manager Update | KRS Offices | Louisville | Rich Robben | Anne Holleran |
| 22-Aug-19 | JP Morgan | Equity | On-site Due Diligence | Other Parties' Offices | New York City | Joe Gilbert | Jeff Fox, Tom Leventhorpe, Mina Zorrilla, Chris Tessman |
| 22-Aug-19 | American Century | Equity | On-site Due Diligence | Other Parties' Offices | New York City | Joe Gilbert | Rajesh Gandhi, Laura Granger, Paul Shahrokhi, Chris Tessman |
| 30-Aug-19 | Ft. Washington | Absolute Return, Equity, Fixed Income, Private Equity, Real Estate, Real Return | Prospect | Other Parties' Offices | Cincinnati, Ohio | Rich Robben | Jo Don Cole |
| 03-Sep-19 | Citymark | Real Estate | Prospect | KRS Offices | Louisville | Rich Robben | Dan Walsh |
| 09-Sep-19 | BlackRock | Other | Prospect | Other Parties' Offices | Chicago | Andy Kiehl | Multiple Managers - Forum |
| 09-Sep-19 | Fiduciary Management | Equity | Introduction | KRS Offices | Frankfort | Joe Gilbert | Michael Stanley |
| 09-Sep-19 | Reverence Capital | Private Equity | Prospect | Other Parties' Offices | New York, NY | Rich Robben | Peter Aberg |
| 09-Sep-19 | Morgan Stanley | Real Return | Prospect | Other Parties' Offices | New York, NY | Rich Robben | Mike Chambers |
| 09-Sep-19 | Churchill Asset Management | Other | Prospect | Other Parties' Offices | New York, NY | Rich Robben | Clint Doroff |
| 11-Sep-19 | Adams Street | Other | Prospect | Other Parties' Offices | Chicago | Andy Kiehl | Gary Fencick, Multiple Team |
| 19-Sep-19 | East Lodge | Other | Prospect | KRS Offices | | Anthony Chiu, Rich Robben | Ali Lumsden, Andy Armstrong, Karyn Geringer |
| 24-Sep-19 | Markets Group Speaking | | Other | Other | Chicago | Andy Kiehl | Multiple Managers |
| 25-Sep-19 | HPS | Other | Prospect | KRS Offices | | Anthony Chiu, Rich Robben | Colbert Cannon, Anders Fischer, Jen Severance, Adam Jordan |
| 25-Sep-19 | Xyresic | Private Equity | Prospect | KRS Offices | | Anthony Chiu, Rich Robben | Chris Kipley, Nishant Machado, Brad Eden |
| 26-Sep-19 | Acadian | Equity | Manager Update | KRS Offices | Frankfort | Joe Gilbert | Andrew Miller |

**Kentucky Retirement Systems (KRS)**
FY2019 Investment Policy Performance Review
For the Quarter Ended September 30, 2019

## Asset Allocations

The Investment Committee recognizes asset allocation as an investment strategy where apportioning resources across asset classes may temper volatility and risk. Portfolio diversification is important because risk tolerance is not the same for all plans. Therefore, each system has been studied and asset allocation guidelines have been established on a fund-by-fund basis. For example, KERS and SPRS are more risk averse because of funding levels compared to KERS-H, CERS, and CERS-H. The former are overweight in Fixed Income/Liquidity to balance the risks associated with the Growth strategy, which includes publicly traded equities, high yield credit, and private equity.

On July 12, 2019, the Investment staff sold the majority of KRS' holdings in its Intermediate Credit Collective Trust, which brought the daily cash balance to over $1 billion. To address the excess daily cash balance, the Investment Committee, on July 25, 2019, approved the recommendation that Lord Abbett serve as the transitional cash manager. As of September 30, 2019, KRS allocated a total of $725 million to Lord Abbett. On August 27, 2019, the Investment Committee approved three new Public Equity managers: New Century (U.S. micro), Pzena (Non-U.S. emerging), and J.P Morgan (Non-U.S. emerging). The following graphs and tables display target and actual asset allocations for each fund.

***Figure 1: KERS and SPRS Target Asset Allocations***

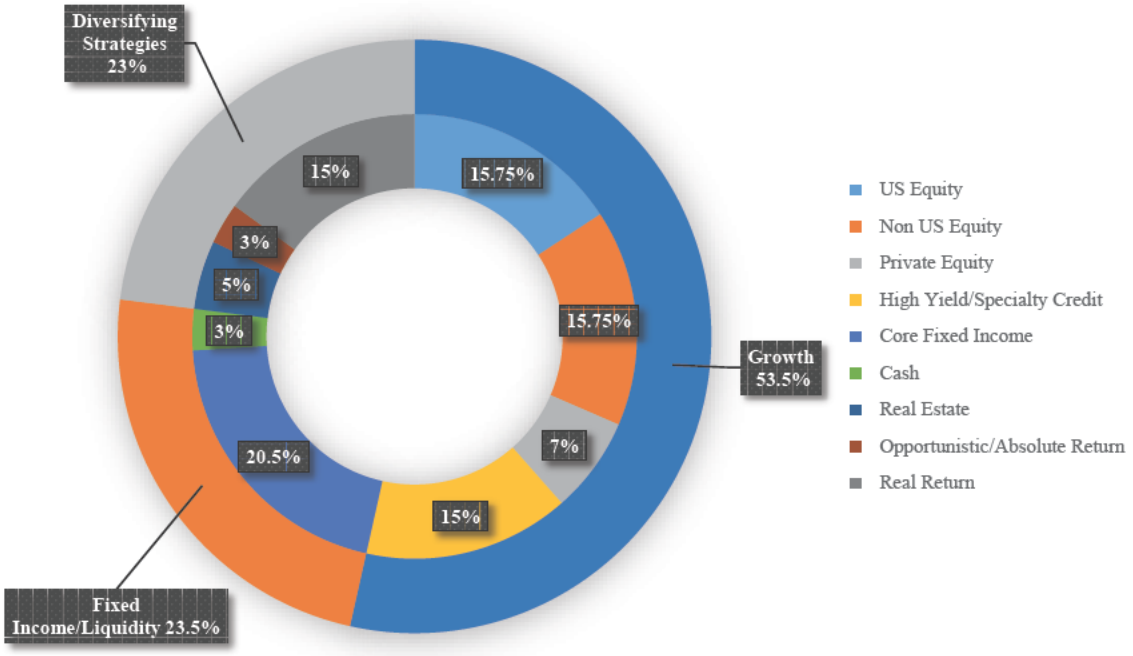
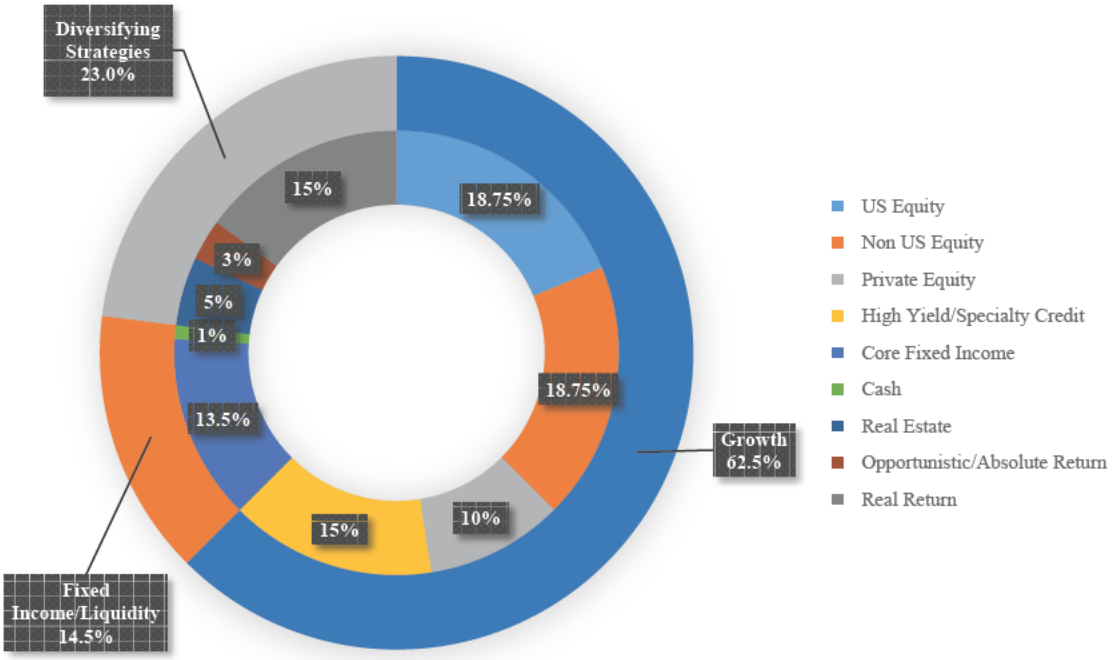


**Figure 2: KERS-H, CERS, and CERS-H Target Asset Allocations**



KERS

| KRS Pension Fund Asset Allocation for KERS<br>For the Quarter Ended September 30, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **Target Allocation** | **FY2019 Q1** | **FY2019 Q2** | **FY2019 Q3** | **FY2019 Q4** | **FY2020 Q1** |
| **Growth** | **53.50%** | **68.99%** | **51.37%** | **55.50%** | **55.50%** | **53.55%** |
| US Equity | 15.75% | 14.99% | 13.41% | 14.23% | 15.70% | 15.61% |
| Non US Equity | 15.75% | 18.69% | 16.41% | 17.01% | 16.80% | 15.81% |
| Private Equity | 7.00% | 11.69% | 11.72% | 9.83% | 9.20% | 8.65% |
| High Yield/Specialty Credit | 15.00% | 23.62% | 9.83% | 13.86% | 13.80% | 13.48% |
| **Fixed Income / Liquidity** | **23.50%** | **12.63%** | **33.17%** | **30.71%** | **30.50%** | **32.39%** |
| Core Fixed Income | 20.50% | 8.25% | 25.24% | 22.42% | 22.20% | 21.94% |
| Cash | 3.00% | 4.38% | 7.93% | 8.29% | 8.30% | 10.45% |
| **Diversifying Strategies** | **23.00%** | **18.24%** | **15.47%** | **14.38%** | **14.00%** | **14.06%** |
| Real Estate | 5.00% | 4.81% | 4.03% | 3.82% | 3.60% | 4.10% |
| Opportunistic/Absolute Return | 3.00% | 5.31% | 3.77% | 2.81% | 2.70% | 2.66% |
| Real Return | 15.00% | 8.12% | 7.67% | 7.75% | 7.70% | 7.30% |

SPRS

| KRS Pension Fund Asset Allocation for SPRS<br>For the Quarter Ended September 30, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **Target Allocation** | **FY2019 Q1** | **FY2019 Q2** | **FY2019 Q3** | **FY2019 Q4** | **FY2020 Q1** |
| **Growth** | **53.50%** | **65.81%** | **51.58%** | **55.30%** | **55.50%** | **54.20%** |
| US Equity | 15.75% | 15.72% | 14.05% | 15.11% | 15.70% | 15.63% |
| Non US Equity | 15.75% | 18.89% | 16.58% | 17.41% | 17.30% | 16.62% |
| Private Equity | 7.00% | 7.85% | 8.19% | 7.18% | 6.90% | 6.47% |
| High Yield/Specialty Credit | 15.00% | 23.35% | 12.76% | 15.60% | 15.60% | 15.48% |
| **Fixed Income / Liquidity** | **23.50%** | **16.41%** | **32.92%** | **29.98%** | **30.20%** | **31.12%** |
| Core Fixed Income | 20.50% | 10.71% | 24.93% | 23.67% | 23.60% | 24.75% |
| Cash | 3.00% | 5.70% | 7.99% | 6.31% | 6.60% | 6.37% |
| **Diversifying Strategies** | **23.00%** | **17.61%** | **15.51%** | **14.73%** | **14.37%** | **14.69%** |
| Real Estate | 5.00% | 4.81% | 4.27% | 4.06% | 3.80% | 4.28% |
| Opportunistic/Absolute Return | 3.00% | 4.31% | 3.15% | 2.40% | 2.37% | 2.38% |
| Real Return | 15.00% | 8.49% | 8.09% | 8.27% | 8.20% | 8.03% |

KERS-H

| KRS Pension Fund Asset Allocation for KERS-H<br>For the Quarter Ended September 30, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **Target Allocation** | **FY2019 Q1** | **FY2019 Q2** | **FY2019 Q3** | **FY2019 Q4** | **FY2020 Q1** |
| **Growth** | **62.50%** | **68.37%** | **60.31%** | **63.34%** | **63.90%** | **63.17%** |
| US Equity | 18.75% | 18.18% | 16.69% | 17.84% | 18.70% | 18.69% |
| Non US Equity | 18.75% | 21.48% | 19.37% | 20.23% | 20.10% | 19.55% |
| Private Equity | 10.00% | 9.35% | 10.25% | 9.15% | 9.00% | 8.69% |
| High Yield/Specialty Credit | 15.00% | 19.36% | 14.00% | 16.12% | 16.10% | 16.24% |
| **Fixed Income / Liquidity** | **14.50%** | **13.94%** | **23.88%** | **21.73%** | **21.50%** | **21.75%** |
| Core Fixed Income | 13.50% | 10.10% | 18.92% | 16.65% | 16.60% | 19.04% |
| Cash | 1.00% | 3.84% | 4.96% | 5.08% | 4.90% | 2.71% |
| **Diversifying Strategies** | **23.00%** | **17.42%** | **15.80%** | **14.92%** | **14.50%** | **15.07%** |
| Real Estate | 5.00% | 4.61% | 4.25% | 4.01% | 3.70% | 4.25% |
| Opportunistic/Absolute Return | 3.00% | 4.28% | 3.21% | 2.44% | 2.40% | 2.45% |
| Real Return | 15.00% | 8.53% | 8.34% | 8.47% | 8.40% | 8.37% |

CERS

| KRS Pension Fund Asset Allocation for CERS<br>For the Quarter Ended September 30, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **Target Allocation** | **FY2019 Q1** | **FY2019 Q2** | **FY2019 Q3** | **FY2019 Q4** | **FY2020 Q1** |
| **Growth** | **62.50%** | **67.63%** | **61.10%** | **64.76%** | **65.40%** | **65.05%** |
| US Equity | 18.75% | 18.25% | 17.06% | 18.36% | 18.90% | 18.97% |
| Non US Equity | 18.75% | 21.61% | 19.84% | 20.85% | 20.90% | 20.45% |
| Private Equity | 10.00% | 9.25% | 10.38% | 9.38% | 9.30% | 9.08% |
| High Yield/Specialty Credit | 15.00% | 18.52% | 13.82% | 16.17% | 16.30% | 16.55% |
| **Fixed Income / Liquidity** | **14.50%** | **14.16%** | **22.47%** | **19.66%** | **19.30%** | **19.03%** |
| Core Fixed Income | 13.50% | 10.19% | 18.87% | 16.95% | 17.00% | 16.94% |
| Cash | 1.00% | 3.97% | 3.60% | 2.71% | 2.30% | 2.09% |
| **Diversifying Strategies** | **23.00%** | **18.16%** | **16.43%** | **15.57%** | **15.40%** | **15.92%** |
| Real Estate | 5.00% | 4.77% | 4.23% | 4.02% | 3.80% | 4.33% |
| Opportunistic/Absolute Return | 3.00% | 4.69% | 3.53% | 2.69% | 2.70% | 2.71% |
| Real Return | 15.00% | 8.70% | 8.67% | 8.86% | 8.90% | 8.88% |

CERS-H

| KRS Pension Fund Asset Allocation for CERS-H<br>For the Quarter Ended September 30, 2019 | | | | | | |
|---|---|---|---|---|---|---|
| **Asset Class** | **Target Allocation** | **FY2019 Q1** | **FY2019 Q2** | **FY2019 Q3** | **FY2019 Q4** | **FY2020 Q1** |
| **Growth** | **62.50%** | **68.33%** | **61.05%** | **64.58%** | **65.10%** | **64.53%** |
| US Equity | 18.75% | 18.26% | 17.00% | 18.28% | 18.80% | 18.80% |
| Non US Equity | 18.75% | 21.64% | 19.80% | 20.78% | 20.80% | 20.29% |
| Private Equity | 10.00% | 9.45% | 10.58% | 9.56% | 9.50% | 9.18% |
| High Yield/Specialty Credit | 15.00% | 18.98% | 13.67% | 15.96% | 16.00% | 16.26% |
| **Fixed Income / Liquidity** | **14.50%** | **13.69%** | **22.70%** | **20.00%** | **19.80%** | **19.77%** |
| Core Fixed Income | 13.50% | 9.63% | 18.91% | 16.62% | 16.70% | 17.18% |
| Cash | 1.00% | 4.06% | 3.79% | 3.38% | 3.10% | 2.59% |
| **Diversifying Strategies** | **23.00%** | **17.86%** | **16.23%** | **15.42%** | **15.20%** | **15.71%** |
| Real Estate | 5.00% | 4.51% | 4.04% | 3.84% | 3.60% | 4.12% |
| Opportunistic/Absolute Return | 3.00% | 4.46% | 3.37% | 2.57% | 2.60% | 2.60% |
| Real Return | 15.00% | 8.89% | 8.82% | 9.01% | 9.00% | 8.99% |

## Investment Objectives and Rates of Return

KRS' returns are measured on a rolling basis and should exceed the return rates of comparable passive market indices. All allocations, ranges, and assumed rates of return are based on actuarial assumptions that went into effect July 12, 2017. The following definitions of short-term and long-term rates of return can be found in KRS' Investment Policy Statement.[1]

Short-Term Rate of Return: defined as a period of time shorter than the defined long-term period, typically considered as a full market cycle lasting three years. For more information, see the individual portfolio information included in the monthly update.[2]

Long-Term Rate of Return: defined as a period of time exceeding twenty years. In the long-term, KRS' total assets should achieve a return which exceeds the actuarially required rate of return of each plan. In addition to exceeding the actuarially required rate of return, the total fund return should exceed the return achieved by its blended performance benchmark.

The table below displays the market value, percent ownership of the total market value, rate of return, and index for each plan for the first quarter of fiscal year 2019. All plans exceeded their respective index.

| KRS Pension Fund Market Values and Returns<br>For the Quarter Ended September 30, 2019 | | | | | |
|---|---|---|---|---|---|
| | Market Value | % of Total | Return | Index | Performance |
| KERS | $2,277,762,393 | 17.65% | 1.41 | 1.03 | Above Target |
| KERS-H | $692,431,656 | 5.37% | 1.25 | 0.99 | Above Target |
| CERS | $7,215,246,567 | 55.92% | 1.23 | 0.99 | Above Target |
| CERS-H | $2,430,493,410 | 18.84% | 1.20 | 0.99 | Above Target |
| SPRS | $286,148,414 | 2.22% | 1.36 | 1.03 | Above Target |
| **Total** | **$12,902,082,440** | **100.00%** | | | |

[1]Kentucky Retirement Systems, "Statement of Investment Policy " Adopted on July 12, 2017 Available at: https://kyret ky gov/Investments/Investment%20Policies/KRS%20Investment%20Policy%20Statement%20JULY%2012%202017 pdf

[2] KRS Monthly Staff Performance Reports available at: https://kyret.ky.gov/Investments/Investments-Library/Pages/Monthly%20Performance%20Updates.aspx

The table below shows 1-Year returns for each of KRS' plans and KRS in total. The KERS and SPRS plans were below target.

| KRS Pension Fund FY2019 Returns by Plan<br>For the Quarter Ended September 30, 2019 | | | | |
|---|---|---|---|---|
| **Fund** | **Return** | **Benchmark** | **Benchmark Rate of Return** | **Performance** |
| KRS 1-Year Return | 4.77 | KRS Pension Blended Index | 4.65 | Above Target |
| KERS 1-Year Return | 4.8 | KERS Pension Plan Tactical Index | 4.88 | **Below Target** |
| KERS-H 1-Year Return | 4.6 | KERS-H Pension Plan Tactical Index | 4.53 | Above Target |
| CERS 1-Year Return | 4.69 | CERS Pension Plan Tactical Index | 4.53 | Above Target |
| CERS-H 1-Year Return | 4.68 | CERS-H Pension Plan Tactical Index | 4.53 | Above Target |
| SPRS 1-Year Return | 4 93 | SPRS Pension Plan Tactical Index | 4.88 | **Below Target** |

The table below displays 10-Year and 30-Year returns for all plans. All returns outperformed the actuarially assumed rates of return.

| KRS Pension Fund Long-Term Returns<br>For the Quarter Ended September 30, 2019 | | | | |
|---|---|---|---|---|
| **Fund** | **Return** | **Benchmark** | **Benchmark Rate of Return** | **Performance** |
| KERS 30-Year Return | 7 99 | Actuarial Assumed Rate of Return | 5.25 | Above Target |
| KERS 10-Year Return | 7 56 | Actuarial Assumed Rate of Return | 5.25 | Above Target |
| KERS-H 30-Year Return | 8 06 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| KERS-H1 0-Year Return | 7.79 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| CERS 30-Year Return | 8 07 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| CERS 10-Year Return | 7 81 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| CERS-H 30-Year Return | 8 07 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| CERS-H 10-Year Return | 7 82 | Actuarial Assumed Rate of Return | 6.25 | Above Target |
| SPRS 30-Year Return | 7 96 | Actuarial Assumed Rate of Return | 5.25 | Above Target |
| SPRS 10-Year Return | 7.48 | Actuarial Assumed Rate of Return | 5.25 | Above Target |

**Returns by Asset Class**

The following tables display KRS' 3-year, 5-year, and 10-year returns for the following asset classes: U.S. Equity, Non-U.S. Equity, Real Return, and Cash; these returns are compared to benchmarked indices. The 20-year returns have also been provided for U.S. Equity and Cash. For all periods, the U.S. Equity portfolio trailed its benchmark.

When applicable, portfolio performance is also examined using the standard deviation, Sharpe ratio, and median return. The standard deviation is a statistical measure of volatility where a higher standard deviation indicates greater volatility indicating higher risk. The Sharpe ratio measures risk as the average return in excess of a risk free investment, e.g. a U.S. Treasury bond. A higher Sharpe ratio exemplifies a higher return in excess of a risk free investment. Finally, distance from the median measures performance based on peer comparisons.

| U.S. Equity | | | | | |
|---|---|---|---|---|---|
| **Standard Measurement** | | **KRS** | **Index** | **Result** | **Times Out of Compliance (Past 4 Qtrs.)** |
| Short-Term: | | | | | |
| For periods less than five years or a full market cycle, U.S. Equity should exceed the returns of the KRS Equity Blended Index. | 3-Year | 12.25 | 12.83 | Below Target | 4 |
| Long-Term: (5 & 10 Years) | | | | | |
| U.S. Equity return should exceed the KRS Equity Blended Index. | 5-Year | 9.85 | 10.44 | Below Target | 4 |
| | 10-Year | 12.49 | 13.11 | Below Target | 4 |
| | 20-Year | 6.55 | 6.95 | Below Target | 4 |
| Volatility, as measured by the standard deviation of monthly returns, should be comparable to that of the Index within a 10 percent range of the Index. | 5-Year | 12.17 | 12.07 | Within Range | 0 |
| | 10-Year | 13.12 | 12.92 | Within Range | 0 |
| U.S. Equity return should compare favorably to the KRS Equity Blended Index on a risk-adjusted basis, as measured by Sharpe ratio. | 5-Year | 0.76 | 0.81 | Below Target | 4 |
| | 10-Year | 0.93 | 0.98 | Below Target | 4 |
| U.S. Equity should generate returns that rank above the median return of a relevant peer group. | 5-Year | 9.96 | 9.62 | Above Target | 0 |
| | 10-Year | 12.60 | 12.62 | Below Target | 4 |

| Non-U.S. Equity | | | | | |
|---|---|---|---|---|---|
| **Standard Measurement** | | **KRS** | **Index** | **Result** | **Times Out of Compliance (Past 4 Qtrs.)** |
| Short-Term: | | | | | |
| For periods less than five years or a full market cycle, Non-U.S. Equity should exceed the returns of the KRS International Equity Blended Index | 3-Year | 7.56 | 6.26 | Above Target | 0 |
| Long-Term: (5 & 10 Years) | | | | | |
| Non-U.S. Equity return should exceed the KRS International Equity Blended Index | 5-Year | 4.36 | 3.10 | Above Target | 0 |
| | 10-Year | 5.01 | 4.82 | Above Target | 0 |
| Volatility, as measured by the standard deviation of monthly returns, should be comparable to that of the Index within a 10 percent range of the Index. | 5-Year | 12.03 | 12.41 | Within Range | 0 |
| | 10-Year | 13.86 | 14.52 | Within Range | 0 |
| Non-U.S. Equity return should compare favorably to the KRS International Equity Blended Index on a risk-adjusted basis, as measured by Sharpe ratio. | 5-Year | 0.34 | 0.23 | Above Target | 0 |
| | 10-Year | 0.39 | 0.36 | Above Target | 0 |
| Non-U.S. Equity should generate returns that rank above the median return of a relevant peer group | 5-Year | 4.62 | 4.23 | Above Target | 0 |
| | 10-Year | 5.22 | 5.88 | **Below Target** | 4 |

| Real Return | | | | | |
|---|---|---|---|---|---|
| **Standard Measurement** | | **KRS** | **Index** | **Result** | **Times Out of Compliance (Past 4 Qtrs.)** |
| Short-Term: | | | | | |
| For periods less than five years or a full market cycle, Real Return should exceed the returns of the KRS Pension Real Return Custom Benchmark | 3-Year | 3.94 | 2.67 | Above Target | 0 |
| Long-Term | | | | | |
| Real Return return should exceed the KRS Pension Real Return Custom Benchmark | 5-Year | 2.72 | 1.99 | Above Target | 0 |
| | 10-Year | N/A | N/A | N/A | 0 |
| Volatility, as measured by the standard deviation of monthly returns, should be comparable to that of the Index within a 10 percent range of the Index. | 5-Year | 5.61 | 4.64 | **Outside Range** | 4 |
| | 10-Year | N/A | N/A | N/A | 0 |
| Total Real Return Allocation return should compare favorably to the KRS Pension Real Return Custom Benchmark on a risk-adjusted basis, as measured by Sharpe ratio. | 5-Year | 0.27 | 0.18 | Above Target | 0 |
| | 10-Year | N/A | N/A | N/A | 0 |

| Cash | | | | | |
|---|---|---|---|---|---|
| **Standard Measurement** | | **KRS** | **Index** | **Result** | **Times Out of Compliance (Past 4 Qtrs.)** |
| Short-Term: | | | | | |
| For periods less than five years or a full market cycle, return should exceed the Citi Group 3 Month -bill Index. | 3-Year | 1.90 | 1.52 | Above Target | 0 |
| Long-Term: (5 & 10 Years) | | | | | |
| Return should exceed the Citi Group 3 Month -bill Index. | 5-Year | 1.28 | 0.96 | Above Target | 0 |
| | 10-Year | 0.89 | 0.52 | Above Target | 0 |
| | 20-Year | 2.16 | 1.73 | Above Target | 0 |
| Volatility, as measured by the standard deviation of monthly returns, should be comparable to that of the Index within a 10 percent range. | 5-Year | 0.31 | 0.26 | Outside Range | 4 |
| | 10-Year | 0.28 | 0.22 | Outside Range | 4 |

## Portfolio Compliance Guidelines

- Securities issued by the state of Kentucky, its subsidiaries or affiliates are prohibited. — In Compliance
- The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of the System's assets. — In Compliance
- The amount of stock held in domestic or international equity allocation shall not exceed 3% of the shares outstanding of any corporation. — In Compliance
- The amount of stock in any one industry in the domestic equity allocation shall not exceed 10% of the aggregate market value of the System's assets. — In Compliance
- Investment on "frontier" markets shall not exceed 10% of the System's international equity assets. — In Compliance
- The duration of the total fixed income portfolio shall not deviate from the KRS Fixed Income Index by more than 25%. — In Compliance
- The duration of the TIPS portfolio shall not deviate from the Barclay's TIPS Index by more than 10%. — **Not In Compliance**
- The amount invested in the debt of a single corporation shall not exceed 5% of the total market value of the System's Assets. — In Compliance
- No public fixed income manager shall invest more than 5% of the total market value of assets held in any single issue short-term instruments, with the exception of U.S. Government issued, guaranteed or agency obligations. — In Compliance
- 50% of the fixed income assets must have liquidity that is T+3 (trade date plus three days) settlement or better. — In Compliance
- For the S&P 500 portfolio, securities must be in the S&P 500. — **Not In Compliance**

As indicated above, there were Public Equities that did not comply with the policy that S&P securities must be held in the S&P 500. The exceptions were due to spin-offs, mergers, and loss of market capitalization. The following companies triggered the S&P 500 guideline:

- Covetrus: merger of Henry Schein Animal Health and Vets First Choice; warrant in Pension on March 30, 2019.
- Fluor Corporation: moved to the S&P MidCap 400 following loss of market capitalization on June 4, 2019. Resolved on July 31, 2019.
- On Monday, September 23, 2009, Global Payments Inc. (NYSE: GPN) acquired Total System Services. Following that transaction, KRS held zero shares, which constituted .0001% of market value.
- On August 9, 2019, Foot Looker was replaced on the S&P 500 and moved to the S&P MidCap 400 following loss of market capitalization. Resolved on August 8, 2019.
- Rebalances occurred on July 30, 2019; August 28, 2019; and September 24, 2019.

Most of these holdings came into compliance following rebalancing. The deviation of the TIPS portfolio from the Barclay's index was triggered by a poorly performing manager that created a drag on performance.

This is presented for informational purposes only.

**No action is required of the Committee.**

**KENTUCKY RETIREMENT SYSTEMS**

**David L. Eager, Executive Director**

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To: Members of the Investment Committee of the KRS Board of Trustees

From: Jared Crawford
Assistant Director and Investment Compliance Officer
Internal Audit Division

Date: November 12, 2019

Subject: Investment Manager Gating and Onboarding Processes and Procedures

On August 27, 2019, the Kentucky Auditor of Public Accounts (APA) provided KRS' Executive Team with the results of its *Examination of Certain Policies, Procedures Compliance-Activities of Retirement Systems in Kentucky*. To address the APA's concerns about adherence to Senate Bill 2, KRS assembled a team of individuals from the Executive Team, Office of Legal Services, Office of Investments, and Internal Audit Division to update the current investment manager gating and onboarding processes and procedures.

Upon completion, KRS will present these processes and procedures to the Investment Committee for consideration.

This is presented for informational purposes only.

**No action is required of the Committee.**

# KENTUCKY RETIREMENT SYSTEMS

INVESTMENTS

To: Investment Committee – Kentucky Retirement Systems

From: Rich Robben, CIO

Date: November 12, 2019

Subject: Adams Street Partners Private Credit Fund II

KRS has been following the progression of the private credit at Adams Street Partners since 2016 when the firm hired Bill Sacher and Shahab Rashid from Oaktree Capital Management. Adams Street Partners is one of the largest and oldest Private Equity Fund-of-Funds firms in the world, investing over $3 billion dollars annually with over 250 general partners around the world. These GP relationships provide ASP unique access to financing opportunities within the LBO private equity space. Also, ASP's position as an LP for over 40 years has provided them with an extensive database of portfolio company operating metrics. This proprietary database gives ASP a distinct advantage when evaluating potential loan opportunities.

While KRS did not invest in their first private debt fund, we have monitored its progress and continued having dialogue with the Adams Street investment team. [redacted]. The fund is well diversified, with 29 current loans across a broad variety of industries. In light of this success, staff went to Chicago in early 2019 to further diligence the firm and process, and that meeting led to a series of discussions regarding the opportunity for an anchor investor spot in the firm's next credit fund.

Staff is recommending an investment of $250mm into the Adams Street Partners Private Credit Fund II, and an additional $250mm investment into a co-investment side car vehicle. [redacted] KRS will occupy one of 2 "anchor investor" positions, providing us with preferred pricing and a position on the Limited Partners Advisory Committee for the fund. The funding for this investment will come from a combination of our existing public bank loan investment, and our global total return bond mandate, both currently held within our Growth allocation.

| | |
|---|---|
| Type of Investment: | Senior Sponsor-backed Private Debt |
| Fund Size: | $1B target, hard cap at $1.5B |
| Structure: | GP/LP Fund |
| Target Return: | 9% – 11% net-of-fees annual return, distributed quarterly. |
| Management Fee: | [redacted] |
| Incentive Fee: | [redacted] |

| | |
|---|---|
| Leverage: | [redacted] |
| Term: | [redacted]. |
| Income: | Distributed Quarterly. |
| Risks: | Credit Risk, Liquidity Risk, Manager Risk, Macro-economic Risk |

This investment will be allocated to all plans in both Pension and Insurance.

***MOTION: To invest $250mm into the Adams Street Partners Private Credit Fund II, and another $250mm into a co-investment sidecar vehicle.***

Wilshire Private Markets

# ADAMS STREET PRIVATE CREDIT FUND II

($1.5 billion)

PRELIMINARY REVIEW

[redacted]

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# Adams Street Private Credit II

November 2019

Presented by: Bill Sacher, Fred Chung, Gary Fencik

Adams Street

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As of November 2019

Adams Street

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# Adams Street Partners Overview

# Proven Private Markets Partner

Adams Street

| PRIVATE MARKETS PARTNER | EXPERIENCED AND PROVEN TEAM | EXEMPLARY CLIENT SERVICE |
|---|---|---|
| ▪ 45+ years of experience<br>▪ Recognized as industry leader with $38 billion in assets under management<br>▪ 100% independent and employee owned – our interests are directly aligned with those of our clients'<br>▪ More than $365 million invested into the firm and funds* | ▪ Since Inception IRRs**:<br>**Primary: 21%[1]**<br>**Secondary: 19%[1]**<br>**Growth Equity: 16%[2]**<br>**Co-Investment: 21%[3]**<br>▪ Highly integrated platform with shared insights<br>▪ Senior team members average 19 years of investment experience<br>▪ Excellent risk management capabilities | ▪ Deep understanding of institutional client needs<br>▪ 400+ diverse clients<br>▪ Client access to industry-leading interactive analytical tools and data<br>▪ Customized approach to all client portfolios |

As of March 31, 2019

1. Composite since inception IRR of private equity fund investments in Adams Street Partners "Core Portfolios" which are funds and separate accounts (excluding special mandate funds and non-discretionary separate accounts) of which Adams Street Partners is the general partner, manager or investment adviser (as applicable) and for which Adams Street Partners makes discretionary investments in private equity. Primary inception date as of November 1, 1979. Secondary inception date as of August 29, 1986. IRRs are net of fees, carried interest and expenses charged to the underlying private equity funds, but are gross of Adams Street Partners' fees, carried interest and expenses, which reduce returns to investors. For the effect of Adams Street Partners' fees, carried interest and expenses on Adams Street Partners' fund returns to investors, please see Adams Street Partners Net Performance chart in this presentation.
2. Composite since inception IRR is net of Adams Street Partners' fees, carried interest and expenses. IVCF II, a component of this composite, charged only management fees and expenses. Inception date as of March 1, 1989. Includes IVCF II (invested in both partnerships and direct portfolio companies), IVCF III, BVCF IV, AS V, AS 2006, AS 2007, AS 2008, AS 2009, AS 2010, AS 2011, AS 2012, AS 2013, AS 2014, AS 2015 and AS Venture Growth VI.
3. Composite since inception IRR, which is net of Adams Street Partners' fees, carried interest and expenses. Inception date as of July 8, 1992. Includes a separate account (1992-1998), Co-Investment I (2006), II (2009) and III (2014).

* As of July 2019

** Past performance is not a guarantee of future results. The IRRs shown above are composite IRRs and do not represent returns achieved by any particular Adams Street Partners fund or any investor in an Adams Street Partners fund. **There can be no guarantee that unrealized investments reflected in this performance data will ultimately be liquidated at values reflected above. For net performance of Adams Street Partners funds, see the Net Performance chart included in this presentation.**

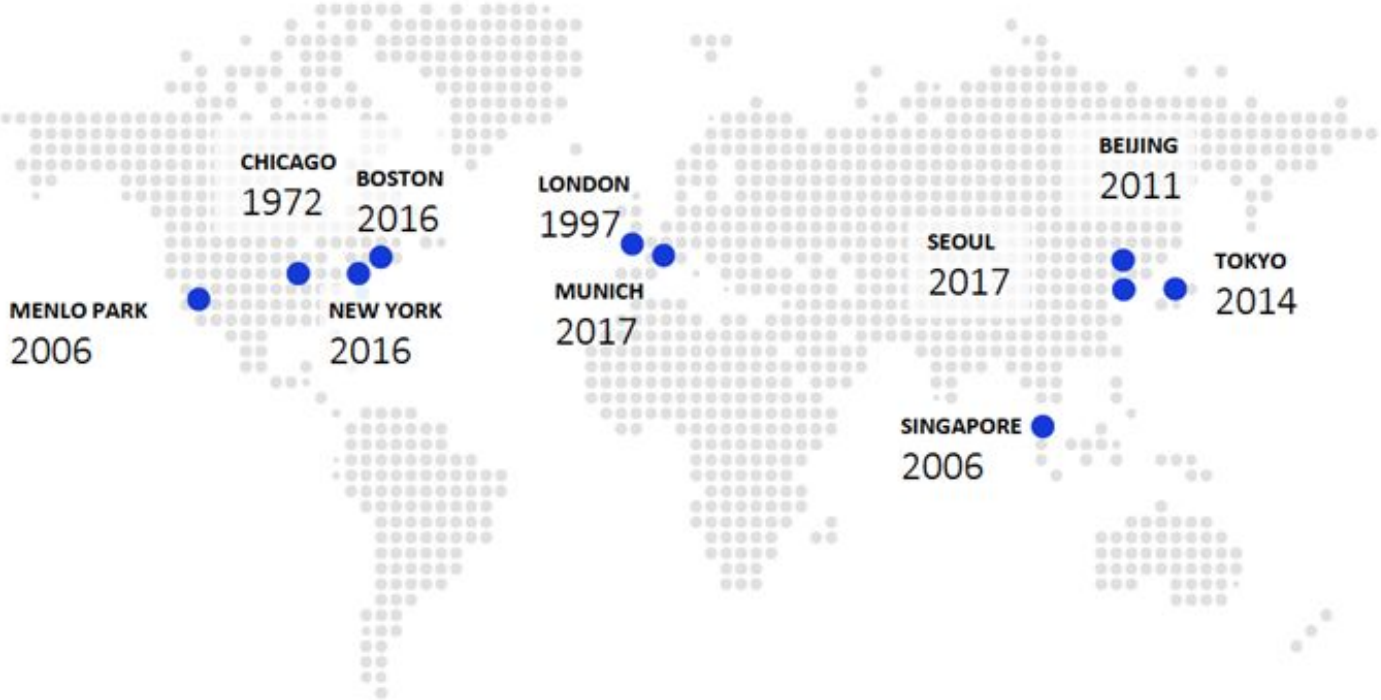
**The page entitled "Adams Street Partners Net Performance " included in this presentation, is an important component of this performance data. Past performance is not a guarantee of future results.**

# A Premier Global Private Markets Platform

Adams Street

Adams Street Partners is a global private markets investment manager with $38 billion of assets under management across five dedicated strategies: **primary investments, secondary investments, co-investments, growth equity,** and **private credit**. Adams Street has partnered with venture capital and private equity sponsors for more than 45 years and is one of the leading sources of capital to the sponsor community.

| $38bn | 200+ | 10 | 75+ | 100% |
|---|---|---|---|---|
| Assets under management | Employees | Global offices | Global investment professionals | Employee-owned firm |




As of March 31, 2019

# Strategically Integrated Private Markets Platform

Adams Street

**PRIMARY INVESTMENTS**

## $25.7bn AUM

Provider of LP capital commitments to sponsors since 1979

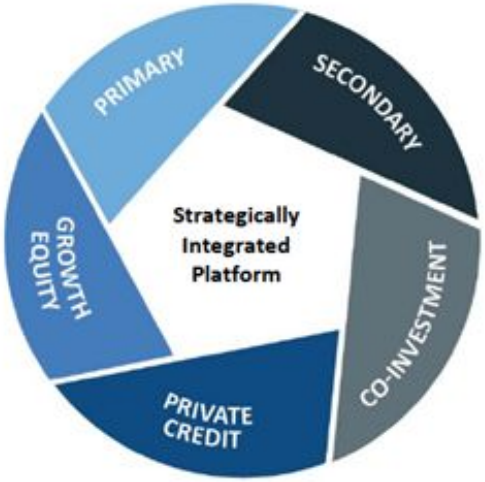
- Broad focus area including, small/mid buyout, large buyout, growth, and venture funds
- **940+ funds, 310+ GP relationships, 470+ advisory boards**

**GROWTH EQUITY**

## $1.9bn AUM

Provider of long term capital to growth stage companies since 1972

- Leader in healthcare and technology growth investing with focus on expansion, late, and growth stage
- **280+ companies**




**PRIVATE CREDIT**

## $1.2bn Investable Capital*

Provider of debt financing solutions to private equity backed transactions

- Offer direct-lending financing solutions to private equity-backed middle-market companies
- Target middle-market companies across all industry sectors
- **250+ GP relationships**

**SECONDARY INVESTMENTS**

## $6.4bn AUM

Purchaser of secondary LP interests since 1986

- Broad focus area including small/mid buyout, large buyout, growth and venture funds
- **450+ funds, 190+ GP relationships**

**CO-INVESTMENTS**

## $2.3bn AUM

Provider of direct equity co-investments to sponsor-backed transactions since 1989

- Equity investor alongside lead sponsor
- **140+ companies, 100+ GP relationships**

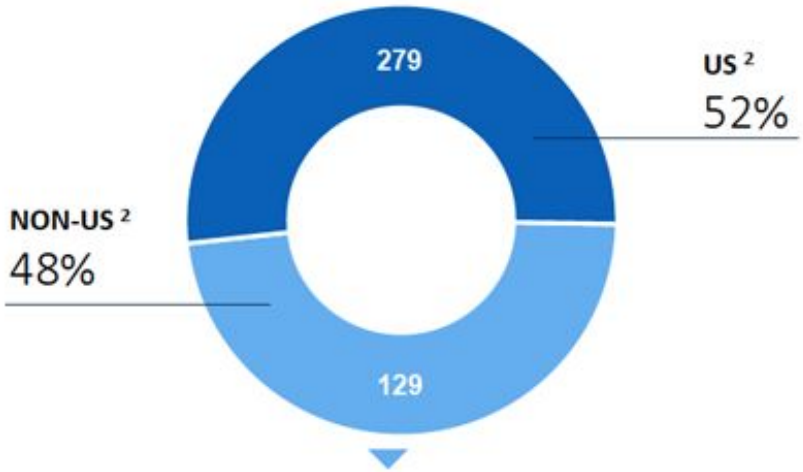
**45+ YEARS OF EXPERIENCE WITH $38 BILLION OF ASSETS UNDER MANAGEMENT ACROSS FIVE DEDICATED STRATEGIES**

As of March 31, 2019
*Private Credit investable capital including anticipated leverage is $1.2bn, client-level Assets Under Management (AUM) is $0.6bn.

# A Diverse Global Investor Base[1]

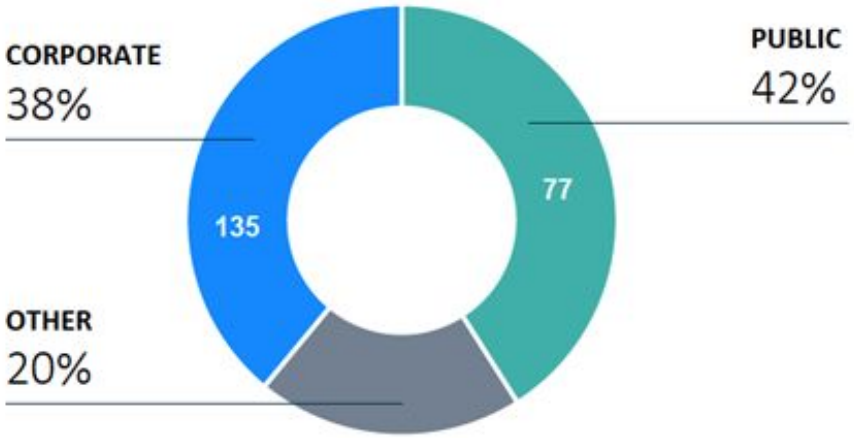
Adams Street

## Investor Base By Location
As of March 31, 2019




| Five Largest Non-US Regions: | |
|---|---|
| D-A-CH Region[3] | 13% |
| United Kingdom | 12% |
| Japan | 11% |
| Australia | 5% |
| Canada | 3% |

## Investor Base By Investor Type
As of March 31, 2019




| Other Investor Types: | |
|---|---|
| Foundations | 47 |
| Endowments | 33 |
| Other | 116 |

1. Percentages are based on assets under management in US dollars as of March 31, 2019.
2. Geographic mix is United Kingdom (12%), Switzerland (9%), Japan (11%), Australia (5%), Germany (3%), Canada (3%), Denmark (1%), Hong Kong (1%), Sweden (1%), Netherlands (1%), and <1% each for Cayman Islands, Finland, France, Iceland, Ireland, Kuwait, Luxembourg, Liechtenstein, Monaco, New Zealand, Norway, Panama, Singapore, South Korea, Spain, Taiwan, and Thailand.
3. D-A-CH stands for Germany (D), Austria (A) and Switzerland (CH) and is based on the location of underlying clients, not on the location of any legal entities used for investment purposes.

# Deep Expertise Around the World

Adams Street

**Jeff Diehl**
Managing Partner & Head of Investments
*Chicago*

**Bon French**
Chairman
*Chicago*

## FUND INVESTMENTS

### Primary

**Kelly Meldrum**
Head of Primary Investments
*Menlo Park*

**Matthew Auran**
*Menlo Park*

**Mark Hourihan**
*Boston*

**Ross Morrison**
*London*

**Matt Autrey**
*Chicago*

**Yimin Huang**
*Beijing*

**Calum Paterson**
*London*

**Alex Bozoglou**
*London*

**Jim Korczak**
*Chicago*

**Sergey Sheshuryak**
*London*

**Jeff Burgis**
*Chicago*

**Brijesh Jeevarathnam**
*Menlo Park*

**Brandon Shirk**
*Chicago*

**Spencer Chernus**
*Menlo Park*

**Marcus Lindroos**
*Menlo Park*

**Yar-Ping Soo**
*Singapore*

**Mattias de Beau**
*London*

**Saguna Malhotra**
*Menlo Park*

**Alexander Tatham**
*Chicago*

**Jonathan Goh**
*Singapore*

**Sam McCartney**
*Chicago*

**Michael Taylor**
*New York*

**Doris (Yiyang) Guo**
*Beijing*

**Sunil Mishra**
*Singapore*

**Andy Wang**
*Beijing*

**Morgan Holzaepfel**
*Boston*

**Ling Jen Wu**
*Singapore*

### Secondary

**Jeff Akers**
Head of Secondary Investments
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**Troy Barnett**
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**Pinal Nicum**
*London*

**Samuel Gage**
*Chicago*

**Kushal Shah**
*London*

**Joe Goldrick**
*Chicago*

**Alexander Silver**
*London*

**Greg Holden**
*London*

**Mark Terwilliger**
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**Elizabeth Huizenga**
*Chicago*

**Arjun Thakkar**
*Chicago*

**Eric Klen**
*Chicago*

**Faylynn Wang**
*London*

**Clinton Miller**
*Chicago*

## DIRECT INVESTMENTS

### Co-Investment

**Dave Brett**
Head of Co-Investments
*Chicago*

**Paul Cappelli**
*Chicago*

**Adam Gajewski**
*Chicago*

**Alex Kessel**
*Chicago*

**Carol Rusin**
*London*

**Benjamin Wallwork**
*ondon*

**Craig Waslin**
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Head of Growth Equity Investments
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*Chicago*

**Robin Murray**
*Menlo Park*

**Tom Bremner**
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**Luke Prioleau**
*Menlo Park*

**Sarah Collins**
*Menlo Park*

**Sam Shanley**
*Chicago*

**Jeff Diehl**
*Chicago*

**Fred Wang**
*Menlo Park*

**Brian Dudley**
*Menlo Park*

**Todd Havill**
*Chicago*

### Private Credit

**Bill Sacher**
Head of Private Credit
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**Shahab Rashid**
*New York*

**Michael Allen**
*New York*

**Fred Chung**
*New York*

**Dennis Kan**
*New York*

**Justin Lawrence**
*New York*

**Nolan Pauker**
*New York*

**Emily Shiau**
*New York*

**Ervis Vukaj**
*New York*

**Matthew Wachtel**
*New York*

## INVESTMENT STRATEGY AND RISK MANAGEMENT

**Miguel Gonzalo**
Head of Investment Strategy and Risk Management
*Chicago*

**Luke Frey**
*Chicago*

**Alex Lesch**
*Chicago*

**Alex Storer**
*Chicago*

**Jana Tortora**
*Chicago*

**Toby True**
*Chicago*

**Jian Zhang**
*Chicago*

# Adams Street Partners Private Credit

# Adams Street Private Credit II

Adams Street

**Strategy Description**

- Invest primarily in directly originated, privately negotiated debt of private equity backed middle-market companies
- [redacted]
- Invest in conservatively leveraged capital structure with significant equity cushion for added downside protection
- Structure loans with financial maintenance covenants and other structural safeguards
- Seek to be a lead in the transaction

**Portfolio Characteristics**

- Geography: Primarily North America
- Interest Rate: Floating rate coupons
- Portfolio: Highly diversified by both issuer and industry

**Objectives**

- Focus on capital preservation and loss avoidance
- Generate consistent results with low volatility, regular current income distributions, and attractive all-in returns

# Experienced Lending Team with Advantage of Scale

Adams Street

## $38bn AUM Firmwide

| Primary Investments | Secondary Investments | Private Credit | Co-Investments | Growth Equity |
|---|---|---|---|---|
| **$25.7bn AUM**<br>**27 Professionals**<br>940+ funds<br>310+ GP relationships<br>470+ advisory boards | **$6.4bn AUM**<br>**14 Professionals**<br>450+ funds<br>190+ GP relationships | **$1.2bn Investable Capital[1]**<br>10 Professionals<br>250+ GP relationships | **$2.3bn AUM**<br>**7 Professionals**<br>140+ companies<br>100+ GP relationships | **$1.9bn AUM**<br>11 Professionals<br>280+ companies |

Leveraging 75+ investment professionals and 250+ GP relationships to create significant incremental deal flow

| | Bill Sacher | Shahab Rashid | Fred Chung | Justin Lawrence | Nolan Pauker | Emily Shiau | Michael Allen | Matthew Wachtel | Ervis Vukaj | Dennis Kan | Q1 2020 Start |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Title | Partner & Head of Private Credit | Partner & Co-founder, Private Credit | Partner | Principal | Vice President | Vice President | Senior Associate | Senior Associate | Associate | Associate | Associate |
| Years of Experience | 34 | 17 | 14 | 13 | 9 | 7 | 4 | 5 | 3 | 3 | 4 |
| Previous Experience | Oaktree, J.P.Morgan, NationsBank, Bear Stearns | Oaktree, citi | Goldman Sachs Asset Management, FifthStreet | Ares, MidOcean Partners, Merrill Lynch | Solar Capital, Houlihan Lokey | AIG, citi | J.P.Morgan | Credit Suisse, CIT | Jefferies | Jefferies | Goldman Sachs |

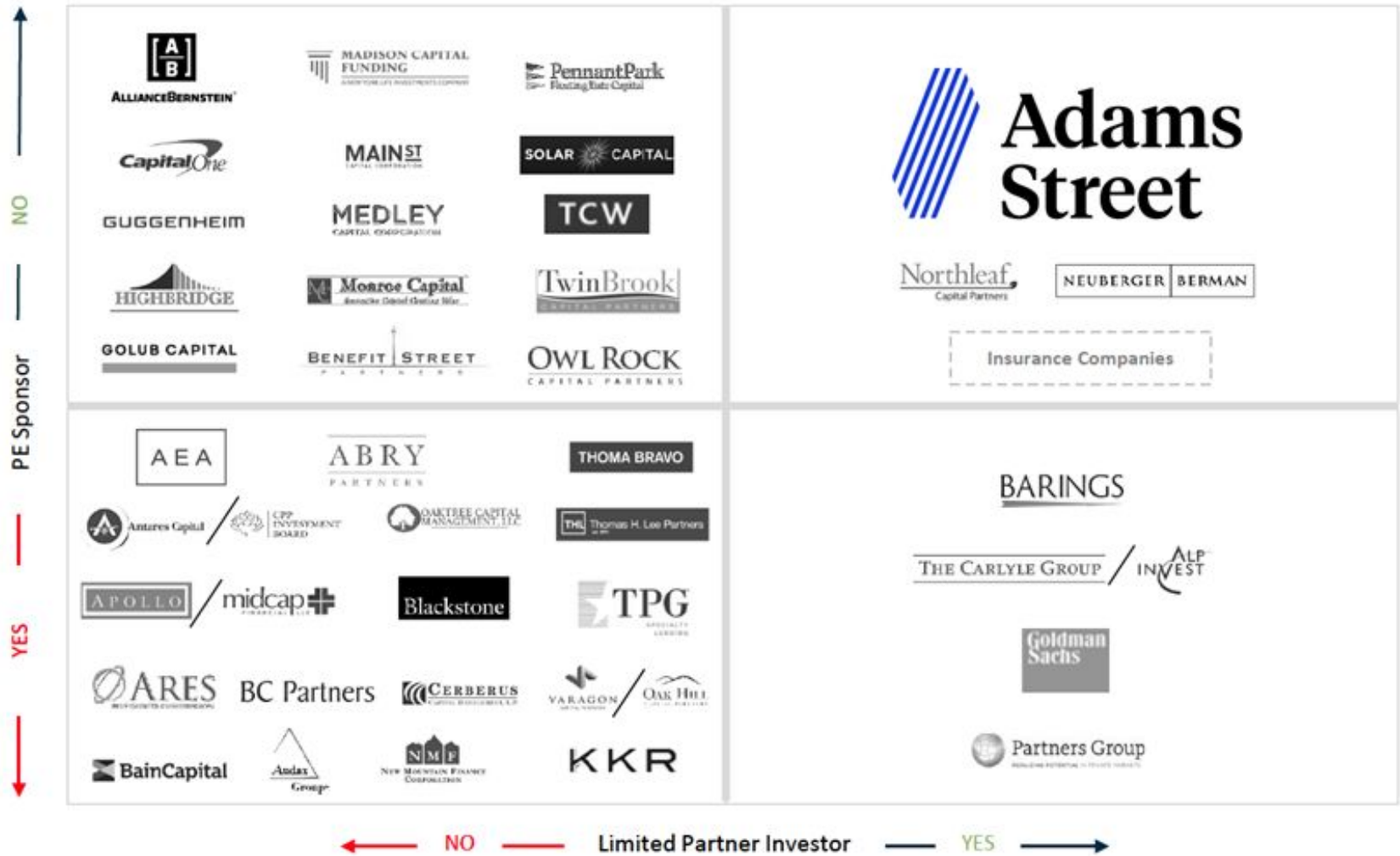
As of March 31, 2019

1. Private Credit investable capital including anticipated leverage is $1.2bn, client-level Assets Under Management (AUM) is $0.6bn.

# Unique Sourcing Advantage from Adams Street Platform

Adams Street

## Adams Street Private Credit enjoys a preferential uncrowded position in the market



# Highly Differentiated, Proprietary Deal Sourcing

Adams Street

**Representat**
**Adams Str**
**Relationship**

[redacted]

*A complete list of general partners in whose funds Adams Street has invested is available upon request.

1. Represents aggregate commitments, as of 9/30/2018, to underlying Private Equity and Venture Capital funds on a primary or secondary basis by all funds and separate accounts of which Adams Street Partners is the general partner / investment manager.
2. As of October 2019
3. Represents total size of respective debt tranches in which ASP is invested across our portfolio

# Information Advantage

[redacted]

Adams Street

[redacted]

1. As of December 31, 2018. Cumulative total partnerships and companies since Adams Street Partners' predecessor firm began fund of funds investing in 1979

[redacted]

# Our Deal Sourcing Advantage Enables us to Produce Portfolio Investments that Compare Favorably to the Broader Market

Adams Street

[redacted]

2. Source: S&P Global, LCD September 2019.
3. Source: S&P Global, LCD September 2019. Large Corporate and Middle-Market Weighted Average Yield calculated by Adams Street Partners based on mix of First and Second Lien debt in Adams Street portfolio
4. **The Adams Street Private Credit Portfolio weighted average yield is modeled based on certain assumptions described in note 3 on "Notes to Portfolio Highlights" included in this presentation.** There can be no guarantee that these assumptions will be met or that the modeled yield will be achieved

Adams Street

# Portfolio Company Performance Has Been Strong

Percentage change since deal close

[redacted]

Past performance is not a guarantee of future results . As of the most recent financial reporting period for deals with reported results since close

# Summary of Terms

# Private Credit Fund II Key Terms

Adams Street

**Investment Objective:** Generate current income and attractive risk-adjusted returns with strong downside protection. Invest primarily in directly originated, 1st lien senior secured debt of private equity backed middle-market companies.

| Fund | Unlevered Fund | Levered Fund |
|---|---|---|
| Targeted Size | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | |

1. Adams Street Partners reserves the right to waive the minimum subscription amount
2. The targeted annual net internal rate of return (after Adams Street Partners' fees, expenses and carried interest) is only a target. There can be no guarantee that the Adams Street Private Credit Fund II will achieve returns in the targeted range.

# Private Credit Fund II Anchor Term Sheet

Adams Street

[redacted]

# Appendix

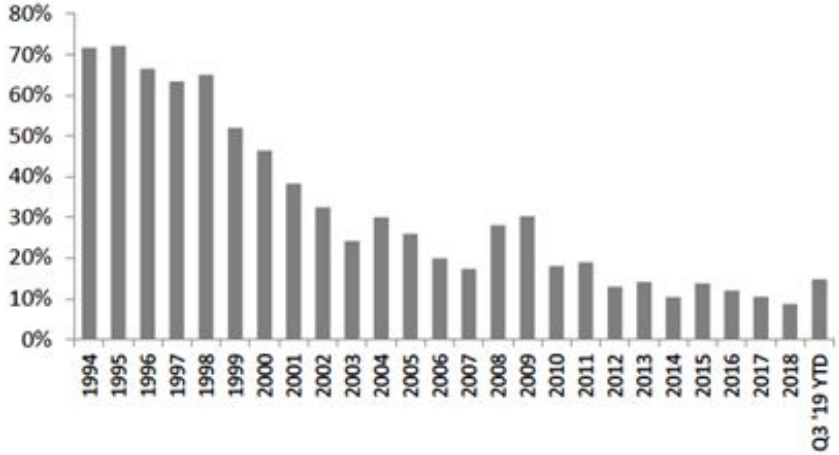
# Private Credit Market Update

# Long-Term Secular Changes Favor Private Credit Market

Adams Street

## Traditional Source of Capital has Declined

% of US Leveraged Loans Held by Banks[1]




## Record Private Equity Dry Powder Creates Strong Future Debt Demand

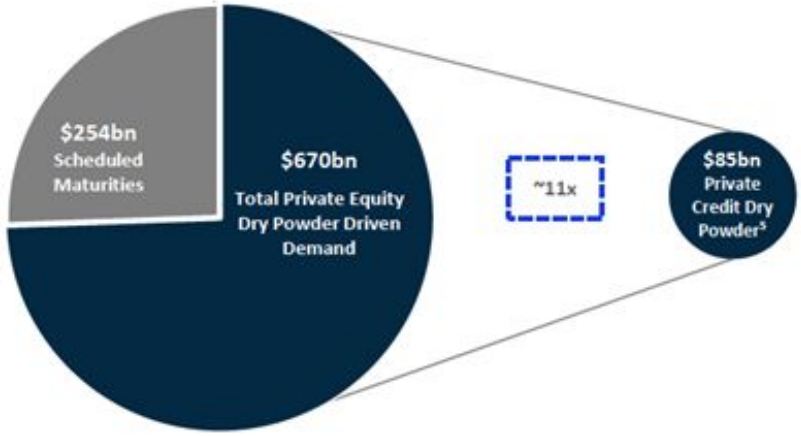
US Private Equity Dry Powder[2]

## Record Issuance Volume in Recent Years Creates Strong Future Pipeline for Refinancing Activity

US Sponsor-Backed Middle-Market Cumulative Leveraged Loan Maturities[4]

## US Prospective Financing Demand

$920bn of Debt Financing Demand



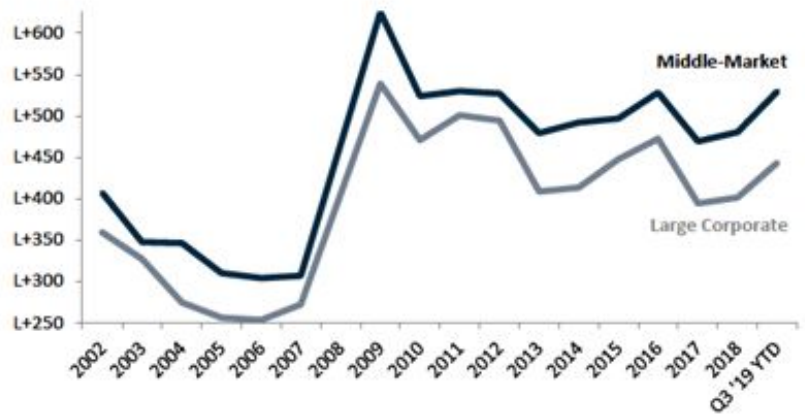

Please refer to page entitled "Notes to Market Environment Statistics" for detailed footnotes

# Current Private Credit Market Environment

Adams Street

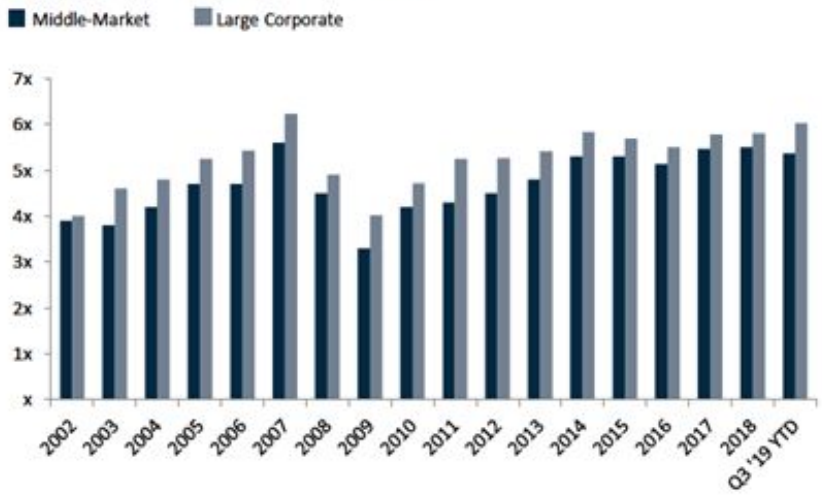
## Demand/Supply Imbalance Creates Premium Pricing

Institutional Spreads for Leveraged Buyout Loans[6]




## Leverage Remains More Conservative for Middle-Market LBOs...

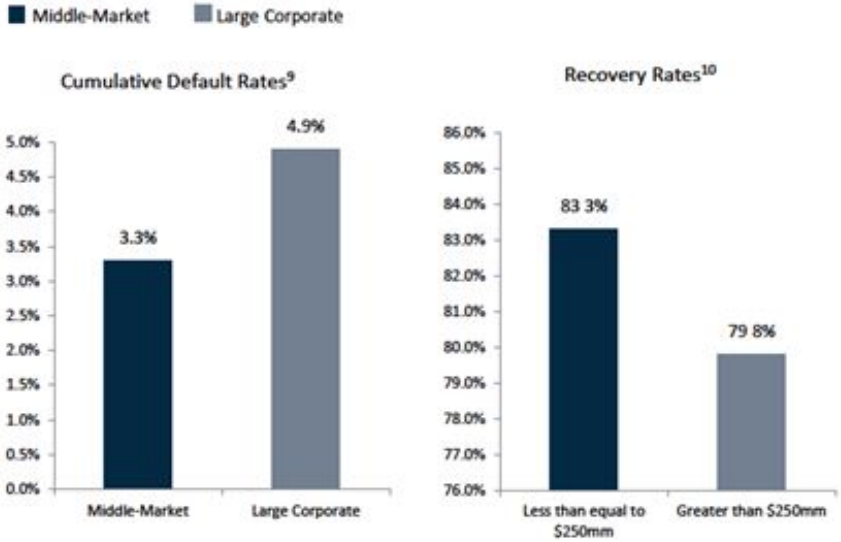
Average Debt Multiples of LBO Loans[7]




## ...while High Equity Contributions for Middle Market LBOs Provides Further Downside Protection

LBO Equity Contribution[8]

## Reduced Risk Created Superior Performance




**Please refer to page entitled "Notes to Market Environment Statistics" for detailed footnotes.**

# Compared to Other Fixed Income Alternatives Private Credit Yields Remain Attractive on Both a Relative and Absolute Basis

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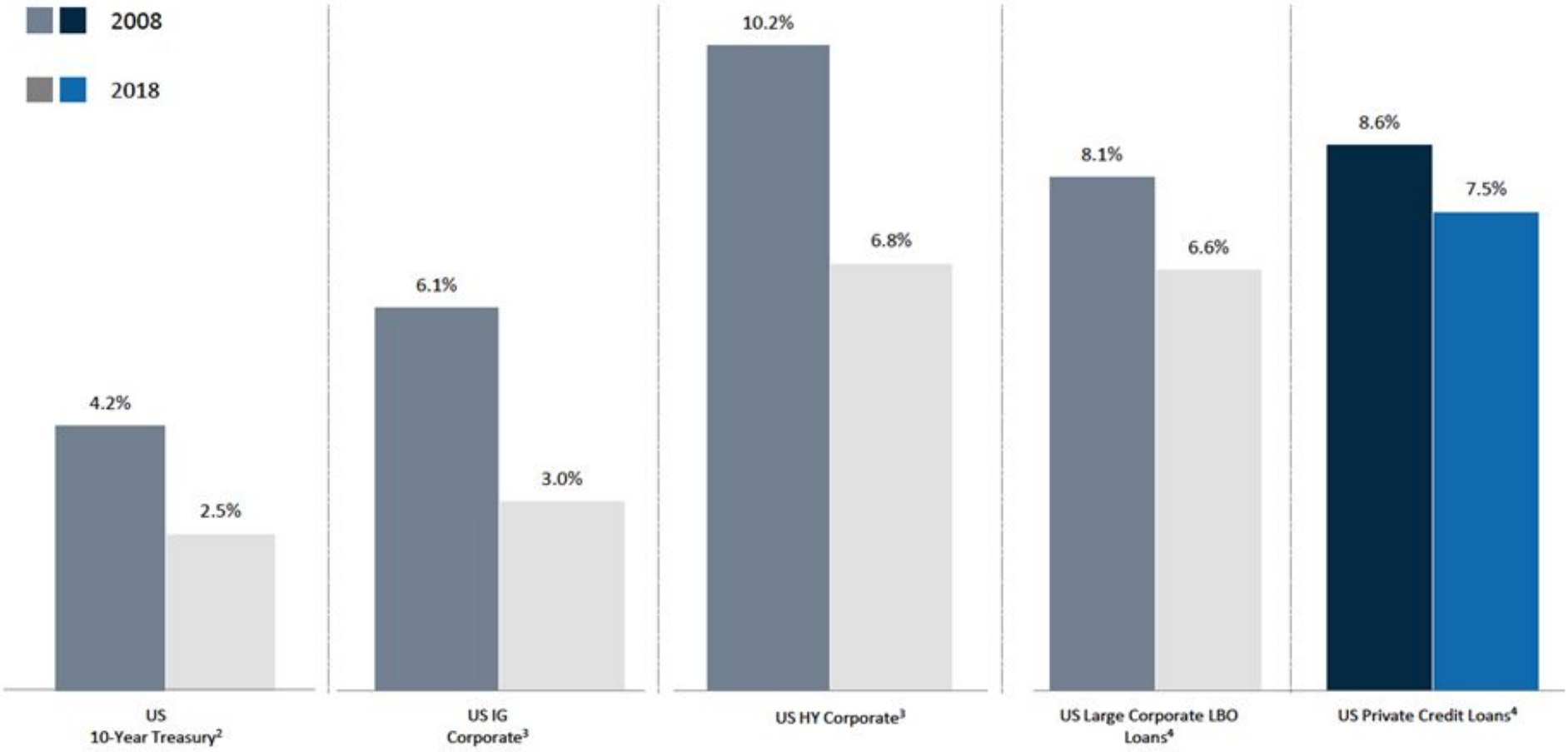
**Yield Today vs. Ten Years Ago Across Various Fixed Income Asset classes[1]**




1. 2008 and 2018 data is an average observed during each respective period.
2. Source: Capital IQ as of April 1, 2019.
3. Source: High Yield ("HY") Bond Index Yield to Maturity as of April 1, 2019.
4. Source: LCD Capital IQ Leveraged Loan Review, 1Q 2019.

# Notes

# Notes to Portfolio Highlights

Adams Street

## As of November 2019

1. Deal statistics for Private Credit Fund and separately managed accounts. Does not include commitments made to Private Credit portfolio companies by other Adams Street Funds or repayments.
2. As of 06/30/19. Net IRR is the since inception internal rate of return of Adams Street Private Credit Fund I, which is net of Adams Street Partners' fees, carried interest, and expenses. Adams Street Private Credit Fund I is comprised of Adams Street Private Credit Fund I-A ("Fund I-A") and Adams Street Private Credit Fund I-B ("Fund I-B"). The net since inception IRR of Fund I-A is 20.5%, and the net since inception IRR of Fund I-B is 12.2%. Fund I-A and Fund I-B have different structural characteristics that may result in different investment timing and pacing. The difference between the two return profiles is expected to narrow over time The IRRs set forth above reflect the use of a credit line. It should not be assumed that the funds will ultimately achieve the returns set forth above; the ultimate returns of these funds may be materially lower. Past performance is not a guarantee of future results. There can be no guarantee that unrealized investments included in this performance data will ultimately be liquidated at values reflected above.
3. Assumes pre-payment periods as follows: assumes 1st lien is prepaid in 2.5 years, 1st lien unitranche prepaid in 3.25 years, and 2nd lien is prepaid in 4.5 years. Includes fees (i.e. amendment fees, prepayment penalty fees, commitment line fees, etc.) and sales. Return calculations reflect the deal terms and assume all loan payments are made on a timely basis. There can be no guarantee that loan payments will be made, or made on a timely basis; there can be no guarantee that the returns set forth above will be achieved
4. Assumes 3-month LIBOR of 2.30%.
5. Investment has been fully realized at a combined unlevered return of 26.3%. First Lien Term Loan unlevered return of 18.5%, Equity unlevered return of 80.2%.
6. Funded in Canadian Dollars. USD equivalent of $6.5mm.
7. Investment has been fully realized at an unlevered return of 10.9%
8. Includes $5mm Preferred and $1mm Common Equity investment. Preferred Equity tranche pays L+10.5% PIK interest.
9. Industry and Asset Mix reflect investments made by Private Credit Fund I.

# Notes to Market Environment Statistics

Adams Street

1. Source: S&P Capital IQ, LCD's Leveraged Lending Review, 3Q19.
2. Source: Prequin, US focused buyout funds only, as of October 11, 2019.
3. Assumes dry powder is deployed at an average equity contribution of 40%.
4. Source: Thompson Reuters 3Q 2019 Middle Market Lending Review. Middle-market defined as issuers with revenue of less than $500mm and total deal size of less than $500mm.
5. Source: Preqin, US focused mezzanine and direct lending funds only, as of October 11, 2019.
6. Source: S&P Capital IQ, 3Q19 High-End Middle Market Lending Review. Middle-Market is defined as issuers with $50mm of EBITDA or less. Large-Corporate is defined as issuers with more than $50mm of EBITDA.
7. Source: S&P Capital IQ, Leveraged Buyout Review, 3Q19. Prior to 2011, media and telecom deals were excluded. EBITDA adjusted for prospective cost savings or synergies. Middle-Market is defined as issuers with $50mm of EBITDA or less. Large-Corporate is defined as issuers with more than $50mm of EBITDA.
8. Source: S&P Capital IQ, High-End Middle-Market Lending Review, 3Q19. Total Sources/adjusted Pro Forma Trailing EBITDA. Prior to 2003 Media, Telecom, Energy and Utility Deals, were excluded. Now all outliers, regardless of the industry, are excluded. Middle-Market is defined as issuers with $50mm of EBITDA or less. Large-Corporate is defined as issuers with more than $50mm of EBITDA.
9. S&P Capital IQ, LCD's Institutional Loan Default review 4Q2018, February 2019. Default by number of loans closed between 1995-2018 tracked by LCD. Standard & Poor's LCD eliminated loans to issuers that do not have public debt or equity. Loans identified as defaulted include those that: (1) files for bankruptcy, (2) rated a "D" by either rating agency or (3) misses a payment without a forbearance.
10. S&P Global Market Intelligence as of March 2019. Average recovery rates based on publicly available information for loans between 1998-2018. Middle-Market is defined as deal sizes less than $249mm.

# Notes to Performance: Adams Street Partners Net Performance

Adams Street

As of March 31, 2019

Note: Brinson Partnership Subscription gross and net IRR presents representative subscription performance of a subscriber that followed Adams Street Partners' recommended allocation and pays the highest fees. For Adams Street Funds, actual commingled fund performance gross and net IRR are presented. Gross IRRs are net of management fees, carried interest and expenses charged to the underlying private equity funds, in the case of primary and secondary fund, but gross of Adams Street Partners' management fees and carried interest, which reduce returns to investors. Net IRRs are net of Adams Street Partners' management fees, carried interest and expenses as well as net of management fees, carried interest and expenses charged to the underlying private equity funds. Any fund-level net IRRs and net multiples presented herein for the 2015 Global Program Funds and all subsequently formed commingled Funds reflect the use of the Fund's capital call credit line (or, in the case of an Adams Street Global Fund, capital call credit lines of the underlying Funds) and are calculated using limited partner capital call dates, rather than the earlier dates on which the investment was made using the line of credit. The use of such dates generally results in higher net IRR and net multiple calculations, and the related differences in net IRR and net multiple figures could be material. The group of investments shown on these slides invests in primary investments, secondary investments, growth equity investments, co-investments, and private credit investments. Capital-weighted annualized returns from inception through quarter end. There can be no guarantee that unrealized investments will ultimately be liquidated at the values reflected in this return data. Each Brinson Partnership Subscription includes fund allocations made within a series of pooled investment vehicles. Performance for vintage years later than 2016 is not shown because performance early in a fund's life is not generally meaningful due to fee drag and immature investments. Past performance is not a guarantee of future results.

*Public Market Equivalent (PME) is calculated using the S&P 500 Index for Brinson Partnership Subscription, US Funds and Direct Funds; MSCI EAFE (Europe, Australasia, Far East) for Non-US and Non-US Developed Funds; MSCI Emerging for Emerging Markets Funds; and MSCI All Country World for Global Funds. The PME calculation is based on the Net IRR cash flows which reflects the payments of fees, carried interest and expenses.

^ During some periods in which Adams Street Partners investments outperformed the benchmark by a substantial margin, PME could not be calculated because the tracking position in the underlying benchmark index would have resulted in a short position. In these cases, the PME is calculated using the "Direct Alpha" PME methodology (Gredil, Griffiths, Stucke, "Benchmarking Private Equity: The Direct Alpha Method," 2014). Mathematically, Direct Alpha PME is equal to the IRR of the future value of the cash flows underlying the IRR calculation, where future value is based on the return of the benchmark index, less the IRR of the actual value of the cash flows.

# Team Biographies

Adams Street

## Gary Fencik

Partner & Head of Investor Relations, Chicago

Gary focuses on the development of institutional client and consultant relationships, and works with other members of the investor relations team to serve the needs of Adams Street Partners' clients. He is also involved in prioritizing the strategic initiatives of the firm.

Gary joined Adams Street after five years as Managing Director of Business Development at Brinson Partners/UBS Global Asset Management where he was responsible for business development in North America as well as global consultant relationships.

Gary spent twelve seasons with the Chicago Bears football club and was co-captain of the 1985 Super Bowl Championship Team.

Gary is a member of the Adams Street Partners Executive Committee.

Education:
Yale University, BA
Northwestern University Kellogg School of Management, MBA

Investment/operational experience: 31 years

Adams Street

## Bill Sacher

Partner & Head of Private Credit, New York

Bill leads the investment, portfolio construction, and fundraising efforts of the Private Credit Team, and manages key relationships with general partners in North America and Europe.

Prior to joining Adams Street, Bill was head of the US Private Debt Group (at the time the Mezzanine Debt Group) at Oaktree Capital Management. In this role he developed the strategy, managed the team, and approved the investments. In conjunction with Oaktree's in-house marketing team, Bill led the fundraising effort for each of the three funds for which he was responsible.

Prior to Oaktree, Bill worked at J.P. Morgan, where he was the Co-Head of both the Leveraged Finance Origination Team and the High Yield Capital Markets Group. Bill previously worked at NationsBank as head of the high yield business where he was responsible for the High Yield Origination Team, the High Yield Capital Markets Group, Private Placements, and NationsBridge (the banks bridge loan unit). Bill commenced his career at Bear Stearns.

Bill is Chair of the Adams Street Partners Private Credit Investment Committee and a member of the Executive Committee.

Education:
New York University, BS, *cum laude*
New York University, MBA

Years of investment/operational experience: 34 years

Adams Street

## Fred Chung

Partner, Private Credit, New York

Fred supports all aspects of the decision-making process of the Private Credit Team, including sourcing, structuring, reviewing, and negotiating deal opportunities.

Prior to joining Adams Street, Fred was a Vice President at Goldman Sachs. In this role, he focused on investing capital out of various private debt vehicles, including the firm's first Business Development Company (BDC), as well as managing initial credit reviews, structuring the financing, business due diligence, participating in Investment Committee approval, negotiating deal terms, and coordinating legal documentation.

Fred's other experience includes a Vice President role at Fifth Street Asset Management, an Associate role at Greenhill & Co. and Golden Arc Capital, and an Analyst position at Banc of America Securities. Frederick commenced his career at Lehman Brothers, as an Analyst within the Credit Derivatives team.

Fred is a member of the Adams Street Partners Private Credit Investment Committee.

Education:
Georgetown University, BS, cum laude
Columbia Business School, MBA

Investment/operational experience: 14 years

BARINGS

# Barings Real Estate European Value-Add Strategy

Kentucky Retirement Systems
Investment Committee
November 12, 2019
**Private and Confidential**

*This document has been delivered at your request and is for discussion purposes only. This proposed strategy does not yet exist and may not come to market. All terms, and conditions contained herein are subject to and will be superseded by the final documentation. This document is not an offer or solicitation to purchase interests in a fund and no such orders will be accepted at this time. Such interests are only offered pursuant to the terms of the offering documents, which should be reviewed carefully prior to investing.*

19-994261

# Barings Real Estate European Value-Add II Fund: Overview

**ITEM FOR APPROVAL**

Barings Real Estate is seeking approval for a commitment from KRS equal to 25% of the total equity commitments of the Barings Real Estate European Value-Add II Fund ("BREEVA II")

## FUND OBJECTIVES

- Construct a European Real Estate equity portfolio investing in value-add opportunities to reposition, build-to-core, and exploit pricing inefficiencies
- Focus on supply constrained locations in major Western European markets
- Target 12-14% net IRR[1]
- Drive returns through stock selection and active asset management
- Ability to invest across office, logistics, alternatives – living, and retail
- Target investment size between €20M-€80M with capabilities to execute on larger deals

## MARKET OPPORTUNITY

- Supportive fundamentals and strong liquidity across Europe
- Compelling supply/demand imbalance results in favourable conditions for rental growth and lease up
- There exists a particular shortage of Grade A assets, creating repositioning and build-to-core opportunities
- Exaggerated pricing dislocation between core and non-core assets favours value-add strategies

As of September 30, 2019.

1. Investors should bear in mind that these are return targets, rather than actual returns, and the Fund may experience substantial loss. There can be no assurance that such return targets will be achieved.

BARINGS

# Barings Real Estate European Value-Add II Fund: Fundraising Timeline

**ESTIMATED FUNDRAISING TIMELINE[1]**

[redacted]

| DEC-19 | JAN-20 | FEB-20 | MAR-20 | APR-20 | MAY-20 | JUN-20 | JUL-20 | AUG-20 | SEP-20 |
|---|---|---|---|---|---|---|---|---|---|

Final documents distributed / **signed**

Target second close (KRS & other investors)

~15 months to secure additional commitments *(18 months from first close)*

Draft documents distributed to KRS

**First close (KRS & MassMutual)**

1. Fundraising timeline is preliminary and subject to change.

# Barings Real Estate European Value-Add II Fund: Summary Term Sheet

| | SUMMARY TERM SHEET |
|---|---|
| FUND NAME | Barings Real Estate European Value-Add II (BREEVA II) |
| FUND TYPE | Closed-End Private Equity Fund<br>Luxembourg SCSp |
| BASE CURRENCY | EUR |
| INVESTMENT STRATEGY | Style: Value-Add<br>Geography: Focus on major Western European markets where Barings has local market presence<br>Property Type: Diversified |
| [redacted] | [redacted]TV[redacted] |

As of September 30, 2019.

1. Investors should bear in mind that these are return objectives rather than actual returns, and the Fund may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Portfolio limits apply from the end of the Investment Period. Leverage limit applies from the second anniversary of the Sponsor Closing Date.

The information herein does not constitute an offer of or the solicitation of an offer for the purchase or sale of any security, which can only be made through a formal Confidential Private Placement Memorandum. The Confidential Private Placement Memorandum contains information as to certain risks, and supersedes the information contained herein. Investors should consult the Confidential Private Placement Memorandum for a full discussion.

BARINGS

# Table of Contents

Section 1: Barings Real Estate European Value-Add I Update

Section 2: Barings Real Estate European Value-Add II Strategy

Appendix

# Section 1: Barings Real Estate European Value-Add I Update

BARINGS

# Barings Real Estate European Value-Add Team

**CHARLES WEEKS**
REAL ESTATE EQUITY – EUROPE & ASIA PACIFIC

**BARINGS REAL ESTATE EUROPEAN/ASIA PACIFIC INVESTMENT COMMITTEE**

## BARINGS REAL ESTATE EUROPEAN VALUE-ADD TEAM

**VALERIA FALCONE**
PORTFOLIO MANAGER

**RORY ALLAN**
DEPUTY PORTFOLIO MANAGER

**ANTONIO MERCURIO**
SENIOR PORTFOLIO ANALYST

1 FUND CONTROLLER

### ACQUISITIONS

**GUNTHER DEUTSCH**
REAL ESTATE TRANSACTIONS – EUROPE

| | |
|---|---|
| FINLAND | Jere Fredriksson |
| FRANCE | Séverine Maumy-Laffineur |
| GERMANY | Christoph Wittkop |
| ITALY | Valeria Falcone |
| SPAIN | Adolfo Favieres |
| SWEDEN | Kristina Johnson[1] |
| UK | Darren Hutchinson |

*23 investment professionals*

### ASSET MANAGEMENT

**JAMES SALMON**
REAL ESTATE ASSET MANAGEMENT – EUROPE

| | |
|---|---|
| FINLAND | Markku Lindholm |
| FRANCE | Guillaume Bieganski |
| GERMANY | Nick Puschkasch |
| ITALY | Marco Corti |
| SPAIN | Carlos de Oya Jiménez |
| SWEDEN | Kristina Johnson |
| UK | Graham Barker |

*31 investment professionals*

### PORTFOLIO MANAGEMENT

**NICK PINK**
REAL ESTATE PORTFOLIO MANAGEMENT – EUROPE

### PLATFORM SHARED SERVICES

- BUSINESS MANAGEMENT
- CAPITAL MARKETS
- COMPLIANCE
- ESG
- GLOBAL INVESTMENT SERVICES
- INVESTMENT ACCOUNTING
- INVESTOR RELATIONS
- LEGAL
- PRODUCT MANAGEMENT
- RESEARCH & ANALYTICS
- RISK MANAGEMENT
- STRATEGIC INVESTMENT CAPITAL

As of September 30, 2019.
1. Interim Real Estate Country Head – Sweden.

BARINGS

# Barings Real Estate European Value-Add I: Geographical and Sector Exposure

## CHARACTERISTICS[1]

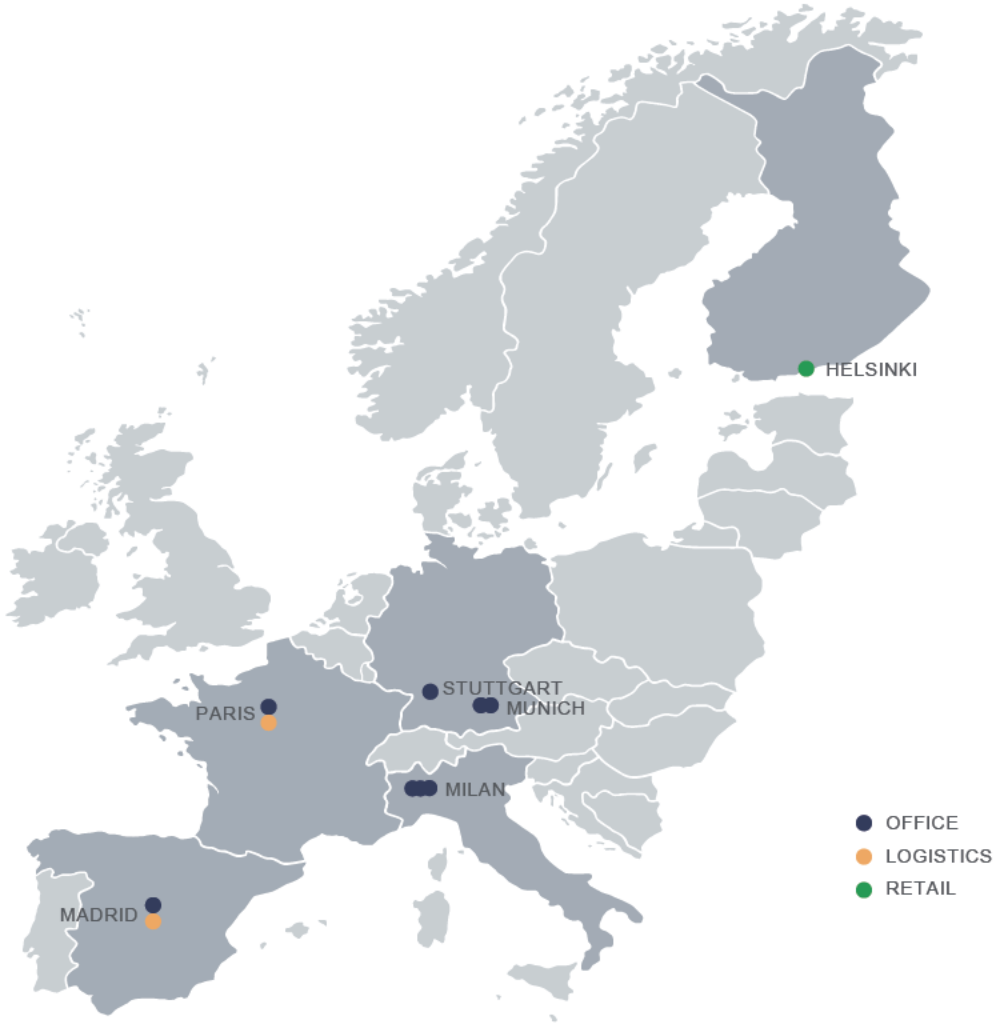
| | |
|---|---|
| Equity Raised (€M) | 300.0 |
| Capital Committed to Investments (%) | 70.0 |
| Number of Assets | 11 |
| Number of Countries | 5 |
| Leverage (%) | 46.4 |
| Final Close Date | November 2018 |

## COUNTRIES[2]

| | Count | % |
|---|---|---|
| Germany | 3 | 36.4 |
| Italy | 3 | 24.8 |
| Spain | 2 | 21.1 |
| France | 2 | 10.8 |
| Finland | 1 | 6.9 |

## SECTORS[2]

| | Count | % |
|---|---|---|
| Office | 8 | 75.3 |
| Logistics | 2 | 17.7 |
| Retail | 1 | 6.9 |




As of October 8, 2019.
Numbers may not sum due to rounding. Data includes current and realised assets.
1. Leverage based on Loan To Value as of June 30, 2019.
2. Allocation percentages based on Equity Committed.

# Barings European Value-Add I Status

[redacted]

As of June 30, 2019.

1. Percentage figure considering the total commitment of the Fund.

# Barings Real Estate European Value-Add I: Portfolio Summary

# Asset Summary: Via Pola (Realized)

[redacted]

As of October 8, 2019.

*For investment professionals only*



BARINGS

# Asset Summary: Le Coudray (Realized)

[redacted]

As of June 30, 2019.

# Asset Summary: Leo

As of June 30, 2019.

1. 50% share of the JV vehicle acquiring the property.
2. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
3. Projected hold period is as of asset acquisition date.

# European Value-Add Acquisition Pipeline

EXTENSIVE AND EXPERIENCED ACQUISITION TEAM ENSURES **STRONG DEAL FLOW** AND **OFF MARKET OPPORTUNITIES**

**OVER €2.4B OF EUROPEAN VALUE-ADD DEALS** PRESENTED BY THE ACQUISITIONS TEAMS SINCE MID-2018

BENEFIT FROM **LACK OF COMPETING MANDATES INTERNALLY**

**OVER THE PAST 12 MONTHS, NEARLY 50 EUROPEAN VALUE-ADD DEALS HAVE BEEN PRESENTED TO INVESTMENT COMMITTEE, 28% OF WHICH HAVE BEEN CLOSED[1]**

As of June 30, 2019.

1. Close rate does not include deals in progress.

# Section 2: Barings Real Estate European Value-Add II Strategy

BARINGS

# Market Opportunity: Macro Economy

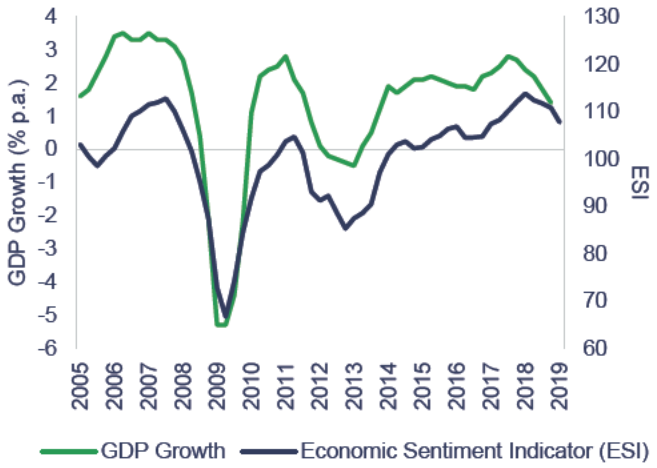
## Economic growth remains positive, supported by a strong labour market and accommodative monetary policy

MODERATED ECONOMIC GROWTH IS ANTICIPATED, BUT **HETEROGENEOUS MARKET BRINGS VARIATION AND OPPORTUNITY**

**FALLING UNEMPLOYMENT IMPLIES RISING CONSUMPTION** AND OCCUPIER DEMAND

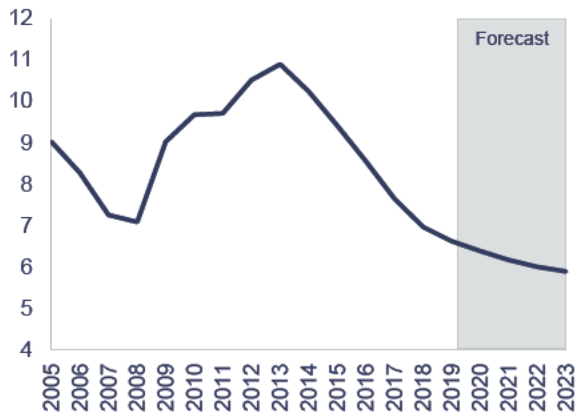
**ACCOMMODATIVE MONETARY POLICY** WITH EXPECTED CONTINUED LOW INTEREST RATES UNDERPINNING PROPERTY PRICING

### GDP GROWTH AND EUROZONE ECONOMIC SENTIMENT



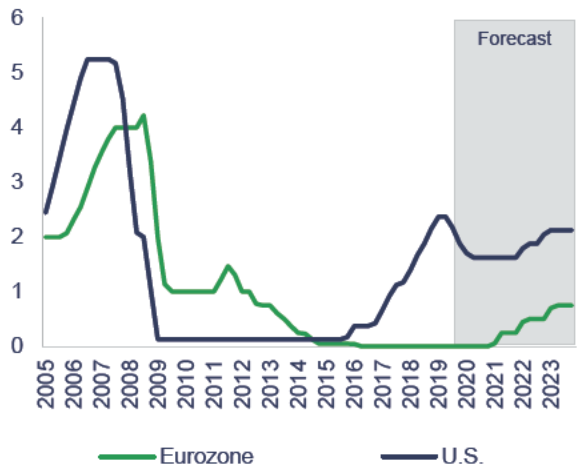

Source: Oxford Economics, Eurostat, April 2019.

### EUROZONE UNEMPLOYMENT (%)




Source: Oxford Economics, April 2019.

### EUROZONE VS. U.S. POLICY RATES (%)




Source: Oxford Economics, August 2019.

The above views are of the Barings Real Estate Research & Analytics team as of October 2019 and are subject to change at any time.

*For investment professionals only*

BARINGS

# Market Opportunity: Cyclical and Structural Drivers

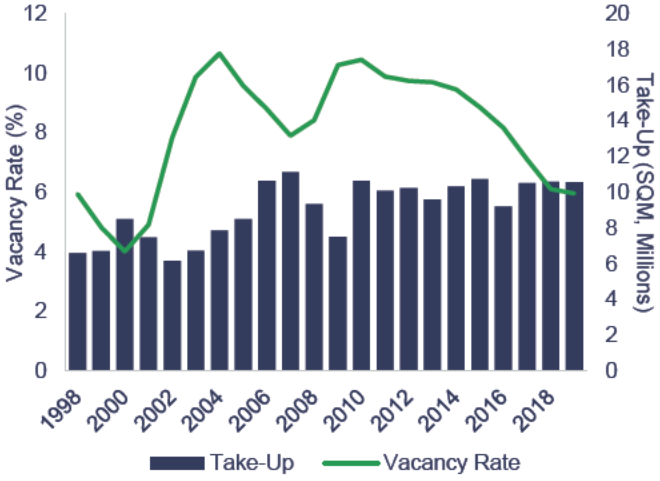
## Supply/demand imbalance, particular shortages of Grade A assets, and pricing dislocation between core and non-core assets favor value-add strategies

**DEMAND IS STRONG, MARKED BY STABLE TAKE-UP** AND VACANCY RATES THAT ARE BELOW LONG-RUN AVERAGES

SUPPLY IS LACKING, AS MARKETS ACROSS EUROPE HAVE **LESS MODERN STOCK TODAY COMPARED TO 10 YEARS AGO**

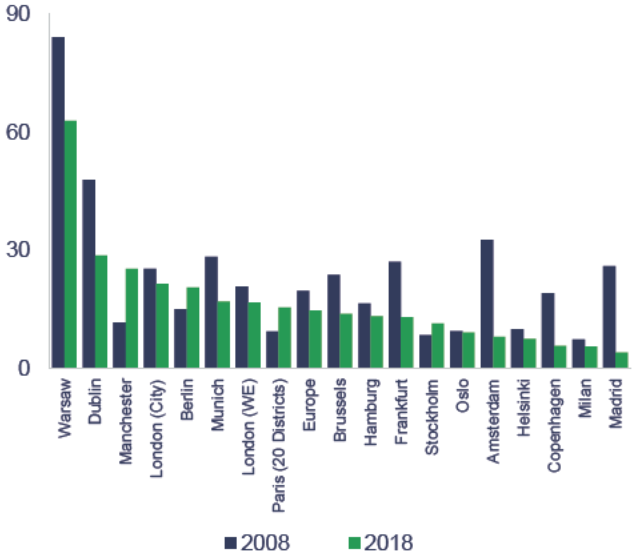
**LARGE SPREAD BETWEEN CORE AND NON-CORE YIELDS** PROVIDES OPPORTUNITY FOR VALUE-ADD STRATEGIES

### EUROPEAN OFFICE TAKE-UP & VACANCY RATES



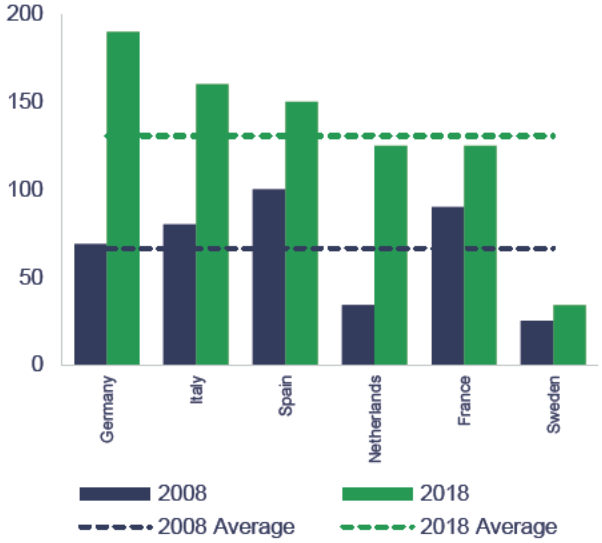

Source: Cushman & Wakefield, March 2019.

### OFFICE STOCK LESS THAN 10 YEARS OLD (%)




Source: Cushman & Wakefield, April 2019.

### EUROPEAN CBD OFFICES PRICING SPREAD: PRIME VS. SECONDARY (BPS)




Source: CBRE, Q3 2018.

The above views are of the Barings Real Estate Research & Analytics team as of October 2019 and are subject to change at any time.

BARINGS

# Barings Real Estate European Value-Add: Philosophy

## Barings evaluates and executes on the following factors when constructing value-add portfolios

### LOCATION

Primary focus on location within major growth markets

### ASSET LEVEL STRATEGIES

Stock selection and active asset management drive returns

### MIX OF CAPITAL AND INCOME

Focus on short-term business plans with income components important to preserve capital and boost equity multiples

### LIQUIDITY

Core markets, combined with the target deal sizes that have a wide universe of buyers, provide exit liquidity

### DIVERSIFICATION

Risk spreading via a mix of asset management strategy as well as market and sector

### SECTOR

Invest in core sectors with an increased focus on alternatives which are less reliant on cyclical factors

# Barings Real Estate European Value-Add: Strategy

## INVESTMENT APPROACH OVERVIEW

Barings Real Estate seeks to create value via repositioning, building-to-core, and exploiting pricing inefficiencies

### REPOSITIONING

- Refurbishing and upgrading existing facilities to specific specifications aligned to long term demand drivers
- Adding rentable SQM by extending building footprint or reconfiguring existing space to improve layout efficiencies
- Leasing up vacancy
- Identifying under rent / reversionary situations that can be exploited
- Tenant engineering to improve expiry profile and tenant mix to enhance income durability
- Improving operational performance

### BUILD-TO-CORE

- Develop assets in markets where there is lack of core supply
- Take advantage of the material spread between the cost to develop core assets and valuations of existing core assets
- Use of forward funding structures mitigates construction risk
- Focus on leasing risk

## PRICING INEFFICIENCIES

Seek to exploit pricing inefficiencies by understanding potential value of assets in need of specific improvements that are unknown to the greater market

BARINGS

# Barings Real Estate European Value-Add: Geographical Strategies

## GEOGRAPHY OVERVIEW

Barings Real Estate European Value-Add Strategy targets assets in supply constrained locations in major Western European markets with strong structural drivers. The team utilizes BAI research, proprietary "City Profiles" and local acquisition officers to understand relevant dynamics of a given market that drive or detract demand on a city-specific basis

**STUTTGART**
Low rents, demographics, tech hub

**FRANKFURT**
Low rents to GDP per capita, demographics, financial hub

**COLOGNE**
Low vacancy, low rents, positive population growth

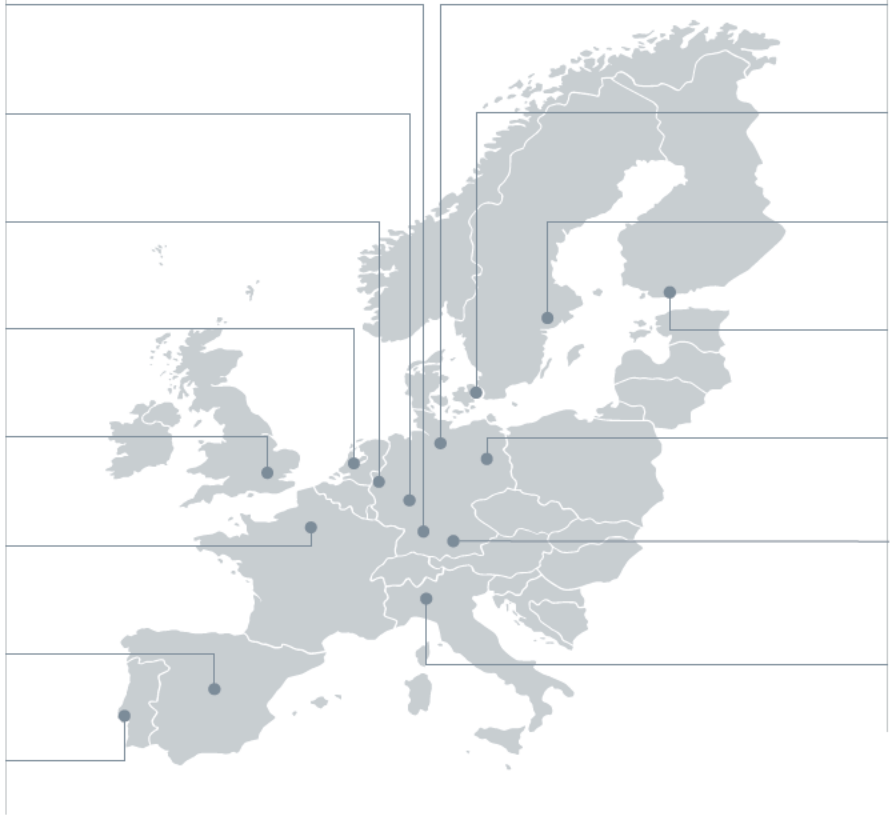
**AMSTERDAM**
Low vacancy and ageing stock, demographics and innovation

**LONDON**
Brexit price pop, demographics, tech and financial hub

**PARIS**
Gateway market, innovation, aged stock

**MADRID**
Rebounding occupier market, ageing stock and ultra low pipeline

**LISBON**
Booming take up, aged stock and ultra low pipeline



**HAMBURG**
Low rents to GDP per capita, strong demographics

**COPENHAGEN**
Ultra strong demographics, low pipeline and aged stock

**STOCKHOLM**
Ultra strong demographics, tech hub, low vacancy

**HELSINKI**
Strong demographics, tech hub

**BERLIN**
Ultra strong lettings market, demographics, tech hub

**MUNICH**
Strong occupier market, demographics, tech hub

**MILAN**
Despite national economy, strong occupier demand, low pipeline and aged stock

As of June 30, 2019.
Cities above are not ordered by ranking. Inclusion based on Portfolio Management views regarding potential target markets.

# Barings Real Estate European Value-Add: Sector Strategies

## SECTOR OVERVIEW

Barings Real Estate European Value-Add Strategy has the opportunity to invest across office, logistics, alternatives – living, and retail assets, evaluated on an opportunity-by-opportunity basis

## SECTOR STRATEGIES

### OFFICE

Major growth markets as well as prime CBD locations in growing Tier II cities

**DRIVERS**

**Population growth** supports economic, employment, and rental growth

**Innovation** leads to strong business clusters and optimal conditions for start ups and corporate growth

Chronic **shortages of modern space** create a compelling supply / demand imbalance

### LOGISTICS

Established logistics corridors and major urban markets where land values are high relative to rents

**DRIVERS**

Sustained **population growth** and thus increased consumption means strong occupational demand

The **shift to E-Commerce** will continue to generate logistics demand for years to come

**Growth of third party logistics providers** increase operating efficiencies, leading to faster output, supporting logistics rents and asset values

### ALTERNATIVES - LIVING

Attractive opportunity in emerging institutional property sectors, such as student housing, apartment, hotel, and senior living

**DRIVERS**

**Increasing number of university students** driving consolidated living situations

**Residential sector in Europe beginning to receive attention** from institutional investors

Growth in domestic and international travel, **record hotel occupancies and rates**

### RETAIL

Prime retail space with leisure and food offerings in regional and sub-regional locations

**DRIVERS**

**Online sales penetration varies significantly** across Europe; retail will continue to be dominant in select markets

Selectivity of assets is crucial as **E-Commerce** accounts for closures of physical stores unevenly

**Low floorspace per capita** in select European markets will lessen impacts of E-Commerce

As of June 30, 2019.

BARINGS

# Appendix

BARINGS

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Projected hold period is as of asset acquisition date.

As of June 30, 2019.

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Projected hold period is as of asset acquisition date.

[redacted]

As of June 30, 2019.

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
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As of June 30, 2019.

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[redacted]

As of June 30, 2019.

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Projected hold period is as of asset acquisition date.

As of June 30, 2019.

1. Projected hold period is as of asset acquisition date.

As of June 30, 2019.

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Projected hold period is as of asset acquisition date.

As of October 8, 2019.

1. Underwritten returns are based on information provided by Barings Real Estate Research, Regional Offices, Portfolio Management, and other sources. They are based on property level and micro/macro economic assumptions. Investors should bear in mind that these are return objectives rather than actual returns, and the Strategy may experience substantial loss. There can be no assurance that such return objectives will be achieved.
2. Projected hold period is as of asset acquisition date.

# Barings Real Estate European Value-Add: Team Biographies

## Valeria Falcone

*Portfolio Manager & Real Estate Country Head – Italy*

Valeria Falcone is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Valeria is a Managing Director, Portfolio Manager for a value-add closed-end European fund and Real Estate Country Head – Italy, responsible for sourcing both new real estate investment opportunities in Italy, as well as capital from Italian institutions wishing to invest in debt and equity products in the U.S. and Europe. In addition, she serves on the European/Asia Pacific Investment Committee. Valeria has worked in the industry since 1997. Prior to joining the firm in 2015, Valeria was Managing Director and Real Estate Country Head for Italy at The Carlyle Group where she was responsible for the acquisition of commercial and residential properties in Italy and the ongoing management of their Italian portfolio as well as a member of their Real Estate Operating Committee. She also held positions at Pirelli & C. Real Estate (now Prelios) and Citibank. Valeria holds a B.A. and a M.Sc. in Architecture from Polytechnic of Milan. She is a Member of the Association of Women in Real Estate in Italy.

## Rory Allan

*Deputy Portfolio Manager*

Rory Allan is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Rory is a Managing Director, Deputy Portfolio Manager for a value-add closed-end European fund. Prior to his current role, Rory has managed a variety of funds and separate accounts during his time at Barings. Rory has worked in the industry since 2004 and his experience has encompassed real estate investment across property sectors and risk spectrums in both the UK and continental Europe. Prior to joining the firm in 2006, Rory worked at Drivers Jonas where he qualified as a member of the Royal Institution of Chartered Surveyors. In addition, he holds the Investment Management Certificate and is a member of the Investment Property Forum.

## Antonio Mercurio

*Senior Portfolio Analyst*

Antonio Mercurio is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Antonio is an Associate Director, Real Estate Transactions – Europe, based in Italy. He has been involved in a range of acquisitions across Europe, contr buting to all stages of new investments. Antonio has worked in the industry since 2012. Before joining the firm in 2015, Antonio completed work placements at the Carlyle Group in Milan and at Société Générale Corporate and Investment Banking in London. Antonio holds an MSc in Corporate Finance and a BSc in Institutions and Financial Markets Management from Bocconi University.

## Gunther Deutsch

*Head of Real Estate Transactions – Europe*

Gunther Deutsch is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Gunther is a Managing Director and Head of Real Estate Transactions – Europe, overseeing the sourcing and acquisition of equity products in Europe. In addition, he serves on the European/Asia Pacific Investment Committee. Gunther has worked in the industry since 1992. Prior to joining the firm in 2010, Gunther co-founded PAMERA before its acquisition by the firm in July 2014. Gunther was previously an owner of Metis Asset Management GmbH, which he founded in 2004. Prior to that, he worked with various companies, including serving as a director of a holding company owned by Deutsche Bank (RREEF) and Jones Lang LaSalle (JLL) in Munich, Berlin and New York, where he was responsible for placing German sourced investments into the U.S. He also worked for a project development company in Berlin. Gunther holds a degree in Business Administration and a degree in real estate economics from the European Business School in Wiesbaden.

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# Barings Real Estate European Value-Add: Team Biographies

## Nick Pink

*Head of Real Estate Portfolio Management – Europe*

Nick Pink is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Nick is a Managing Director and Head of Real Estate Portfolio Management – Europe, overseeing portfolio management activities in Europe. He chairs the European/Asia Pacific Investment Committee, and is a member of the Equity Securities and Global Debt Investment Committees as well as the Portfolio Management Committee. Nick has worked in the industry since 1994. Prior to joining the firm in 2005, Nick was with CBRE Global Investors (formerly CB Hillier Parker Investors) serving pension fund clients over a seven-year period. Prior to joining CBRE Investors, he worked as a business analyst in the financial sector. Nick holds a B.A. from Durham University in County Durham, United Kingdom, and a M.Sc. from the University of Reading, in Reading, Berkshire, United Kingdom. He is a Member of the Royal Institution of Chartered Surveyors and a member of the Investment Property Forum.

## James Salmon

*Head of Real Estate Asset Management – Europe*

James Salmon is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. James is a Managing Director and Head of Real Estate Asset Management – Europe, responsible for setting property strategies to ensure that the performance of funds are maximized over their life. In addition, he serves on the European/Asia Pacific Investment Committee. James has worked in the industry since 1990. Prior to joining the firm in 2005, he was with Protego Real Estate Investors LLP before its acquisition by the firm in January 2010. Prior to that, James was with Aberdeen Property Investors for six years. While at Aberdeen, he was responsible for managing specialist retail limited partnerships. Prior to joining Aberdeen, James worked at Capital and Regional plc for five years, where he specialized in retail property. James holds a BSc in Urban Land Economics from Sheffield Hallam University. He is a Member of the Royal Institution of Chartered Surveyors and a member of the Investment Property Forum.

## Charles Weeks

*Head of Real Estate Equity – Europe & Asia Pacific*

Charles Weeks is a member of Barings Alternative Investments, a global real estate, private equity and real assets platform. Charles is a Managing Director and Head of Real Estate Equity – Europe & Asia Pacific, overseeing the European and Asia Pacific real estate platform. He leads the development of the European and Asia Pacific real estate business strategy and oversees key aspects of its implementation to further the group's reputation and ensure its success. In addition, he serves on the European/Asia Pacific and Equity Securities Investment Committees. Charles has worked in the industry since 1992. Prior to joining the firm, Charles was responsible for business development and investor relations activities at Protego Real Estate Investors LLP, which he founded in 2004 and the firm acquired in January 2010. Charles was also responsible for corporate marketing and sales at Aberdeen Property Investors International. His experience has encompassed devising, arranging, structuring, marketing, and closing a number of collective investment schemes, targeting UK and European institutional investors and clients, as well as property derivatives and synthetics. Charles holds an estate management degree from the University of Central England. He is a Member of the Royal Institution of Chartered Surveyors and a member of the Investment Property Forum.

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BARINGS

**Kentucky Retirement Systems**
Statement of Investment Policy
Adopted
~~July 12th, 2017~~November 12th, 2019

This Statement of Investment Policy is issued by the Board of Trustees of the Kentucky Retirement Systems (Systems) in connection with investing the pension and insurance funds of the Kentucky Employees Retirement Systems, the County Employees Retirement Systems and the State Police Retirement System. This document supersedes all prior documents entitled Statement of Investment Policy.

## I. Introduction

### A. Purpose

The purpose of this Investment Policy Statement ("Policy") is to define the framework for investing the assets ("Portfolio") of the Kentucky Retirement Systems ("KRS" or "Plan"). This Policy is intended to provide general principles for establishing the goals of KRS, the allocation of assets, employment of internal and/or external~~outside~~ asset management, and monitoring the results of the Plan.

**Commented [CM1]:** NEW

The retirement plans administered by the Kentucky Retirement Systems are a "Qualified Pension Plan" under Section 401 of the Internal Revenue Code. Additionally, KRS 61.701 establishes health insurance benefits to recipients of the Kentucky Employees Retirement Systems, County Employees Retirement Systems and State Police Retirement System. KRS 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The Board shall administer the fund in the same manner as the retirement funds.

**Commented [CM2]:** From Board of Trustees responsibilities in prior versions

### B. Philosophy

**Commented [CM3]:** Moved (was section 5)

The Trustees of the Kentucky Retirement Systems recognize their fiduciary duty not only to invest the Systems' funds in formal compliance with the Prudent Person Rule but also to manage those funds in continued recognition of the basic long term nature of those systems. The Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in this document, that the assets of the systems shall be proactively managed -- that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of the conscious exercise of discretion.

The trustees recognize that asset allocation is the primary driver of long-term investment performance, and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The asset allocation policy represents a strategic decision, with the primary aim that the portfolios meet their performance objectives in the long-term, ~~but~~ understanding that individual yearly performance can vary widely. ~~they may~~

~~not necessarily every year.~~

The trustees recognize that there is generally an inverse relationship between market efficiency and the ability for active management to produce excess returns (returns above market returns, also referred to as "alpha".) Therefore, investments in efficient markets, such as U.S. Large-Cap Equity and Core Fixed Income, will be made using index or index-like investments with the goal of replicating index returns with low management fees. Active management will be pursued in less efficient markets, such as U.S. Small-Cap Equity and High Yield/Specialty Credit mandates, accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This focuses staff and consultant(s') efforts on identifying, selecting, and monitoring managers, as well as ~~the~~ overall management fees ~~paid~~, in the areas of the market most likely to produce excess returns.

**Commented [CM4]:** New language regarding importance of asset allocation

**Commented [CM5]:** New language regarding the "alpha plan"

The Trustees recognize that, commensurate with their overall objective of maximizing long-range return while maintaining a high standard of portfolio quality and consistency of return, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their Fiduciary Responsibilities and the concept of Modern Portfolio Theory, the Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the Trustees rely upon appropriate professional advice from multiple service providers.

~~The Trustees and other fiduciaries shall discharge their duties with respect to the Systems: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations and other instruments governing the Systems.~~

~~Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of the Systems income or assets without adequate security and reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).~~
~~Board of Trustees~~

~~The retirement plans administered by the Kentucky Retirement Systems are a "Qualified Pension Plan" under Section 401 of the Internal Revenue Code. Additionally, KRS 61.701 establishes health insurance benefits to recipients of the Kentucky Employees Retirement Systems, County Employees Retirement Systems and State Police Retirement System. KRS 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The Board shall administer the fund in the same manner as the retirement funds.~~

~~The Board of Trustees authorizes and directs the appointment of an Investment Committee with full power to act for the board in the acquisition, sale and management of the securities and funds of the Systems in accordance with the provisions of the Statutes and Investment Policy of the Board. The Board shall review the actions of the Investment Committee at each quarterly Board meeting.~~

C. Objectives

Commented [CM6]: Moved (was section 6)

The Board of Trustees realizes that prudent investment management is a duty, with the primary objective of being able to pay benefits. In fulfillment of this duty, the Board of Trustees recognizes that while long-term objectives are important, it is also necessary that short-term benchmarks be used to assess the periodic performance of the investment program.

Commented [CM7]: New

Accordingly, the Board of Trustees has established the following investment objectives:

- Long-Term: Defined as a period of time exceeding ten years.

In the long-term, the total assets of the Systems should achieve a return which exceeds the actuarially required rate of return of each plan. In addition to exceeding the actuarially required rate of return, the total fund return should exceed the return achieved by its blended performance benchmark.

- Short-Term: Defined as any period shorter than the defined Long-Term period.

The returns of the particular asset classes of the System, measured on a rolling basis, should seek to exceed the returns achieved by comparable passive market indices as described in Section IV - Monitoring.

## II. Responsibilities

Commented [CM8]: Moved (was sections 1-4)

The Trustees and other fiduciaries shall discharge their duties with respect to the Systems: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations and other instruments governing the Systems.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of the Systems' income or assets without adequate security and reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

A. Board of Trustees

~~The retirement plans administered by the Kentucky Retirement Systems are a "Qualified Pension Plan" under Section 401 of the Internal Revenue Code. Additionally, KRS 61.701 establishes health insurance benefits to recipients of the Kentucky Employees Retirement Systems, County Employees Retirement Systems and State Police Retirement System. KRS 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The Board shall administer the fund in the same manner as the retirement funds.~~

The Board of Trustees authorizes and directs the appointment of an Investment Committee with full power to act for the board in the acquisition, sale and management of the securities and funds of the Systems in accordance with the provisions of the Statutes and Investment Policy of the Board. The Board shall review the actions of the Investment Committee at each quarterly Board meeting.

B. Investment Committee

The Investment Committee consists of nine members of the Board of Trustees. The 6 members appointed by the Governor, and 3 members of the committee being appointed by the chairperson of the Board of Trustees. In accordance with statute, six (6) positions are filled by the Trustees that were appointed to the board as persons with specific experience (Section 61.645.1.e.2). The committee acts on behalf of the board on investment related matters.

The Investment Committee has the following oversight responsibilities:

i. Assure compliance with this policy and all applicable laws and regulations.

ii. Approve the selection and termination of service providers. If a situation warrants a termination of an investment manager prior to the next available investment committee, the Chief Investment Officer can terminate an investment manager relationship with a detailed review of the situation to occur at the next investment committee.

iii. Meet no less than quarterly to evaluate whether this policy, the investment activities and management controls and processes continue to be consistent with meeting the Systems' goals. Mandate actions necessary to maintain the overall effectiveness of the program.

iv. Review assessment of investment program management processes and procedures, and this policy relative to meeting stated goals.

~~III. Staff Responsibilities~~

C. Staff

The Chief Investment Officer is responsible for administration of investment assets of the

Systems consistent with the policies, guidelines and limits established by the law, this Statement of Investment Policy and the Investment Committee.

The Chief Investment Officer receives direction from and reports to the KRS Investment Committee on all investment matters, including but not limited to the following:

i. Maintaining the diversification and risk exposure of the funds consistent with policies and guidelines.

ii. Assess and report on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines.

iii. Monitoring and assessing service ~~providers, including not less than annual onsite visits, to~~providers to assure that they meet expectations and conform to policies and guidelines.

iv. Recommend changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; act as liaison on all investment related matters.

v. Communicating with the mass media and other agencies, entities or institutions regarding investment related issues.

vi. Identify issues for consideration by the Investment Committee and prepare recommendations regarding such matters.

vii. Preparing for each proposed investment a memo to the Investment committee covering the pertinent details including but not limited to: Amount of the investment, type of investment, purpose, opportunity/goal, risks, volatility assumptions, liquidity, structure, fees, background of investment firm with reasons for selection, list of other firms considered, which plans will invest, and the reasons why specific plans may be excluded.

The Chief Investment Officer or designee is authorized to execute trades on fixed income and equity securities (including ETF's) and to execute proxies for the Board consistent with this Policy.

To carry out this Policy and investment related decisions of the Board, the Chief Investment Officer or designee is authorized to execute agreements and other necessary or proper documents pertaining to investment managers, consultants, investment related transactions or other investment functions.

## ~~IV. Service Providers~~

D. Investment Managers

In instances where the Investment Committee has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

i. Investment Managers shall be qualified and agree to serve as a fiduciary to the Systems and ~~shall generally have been in the business of investment management for large United States institutional investors for at least three to five years.~~ should be of institutional quality as deemed by staff in conjuncture with the investment consultant(s)

ii. Investment Managers shall manage assets in accordance with this Policy and any additional guidelines established by contract, as may be modified in writing from time to time.

iii. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.

iv. The assets managed by any one active or passive investment manager shall not exceed 15% of the assets in the pension and insurance funds.

v. All investment management services will be contracted according to the KRS Investment Procurement Policy established by the Board of Trustees.

E. Custody Bank

The Board shall hire custodians and other agents who will be fiduciaries to the Systems and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of the Systems and other duties as agreed to by contract.

F. Investment Consultants

Qualified independent investment consultants may be retained by the Systems for asset allocation studies, asset allocation recommendations, performance reviews, manager searches and other investment related consulting functions and duties as set forth by contract.

G. Selection

Qualified investment managers, custody banks, investment consultants and other service providers shall be selected by the Investment Committee in accordance with the KRS Investment Procurement Policy. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the RFP/RFI (if utilized). In order to create an efficient and effective process, the Investment Committee or Chief Investment Officer may, in their sole discretion, utilize RFI, RFP, third party proprietary software or database, review of existing service provider capabilities or any combination of these or other methods to select a service provider.

~~V. Investment Philosophy~~

**Commented [CM9]:** Moved to section 1

~~The Trustees of the Kentucky Retirement Systems recognize their fiduciary duty not only to invest the Systems' funds in formal compliance with the Prudent Person Rule but also to manage these funds in continued recognition of the basic long term nature of these systems. The Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in this document, that the assets of the systems shall be proactively managed — that is, investment decisions regarding the particular asset classes, strategies, and securities to be~~

~~purchased or sold shall be the result of the conscious exercise of discretion.~~

~~The Trustees recognize that, commensurate with their overall objective of maximizing long-range return while maintaining a high standard of portfolio quality and consistency of return, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their Fiduciary Responsibilities and the concept of Modern Portfolio Theory, the Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the Trustees rely upon appropriate professional advice from multiple service providers.~~

~~The Trustees and other fiduciaries shall discharge their duties with respect to the Systems: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations and other instruments governing the Systems.~~

~~Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of the Systems income or assets without adequate security and reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).~~

## ~~VI. Investment Objectives~~

**Commented [CM10]:** Moved to section 1

~~The Board of Trustees realizes that prudent investment management is a duty. In fulfillment of this duty, the Board of Trustees recognizes that while long term objectives are important, it is also necessary that short term benchmarks be used to assess the periodic performance of the investment program.~~

~~Accordingly, the Board of Trustees has established the following investment objectives:~~

- ~~Long Term: Defined as a period of time exceeding twenty years.~~

~~In the long term, the total assets of the Systems should achieve a return which exceeds the actuarially required rate of return of each plan. In addition to exceeding the actuarially required rate of return, the total fund return should exceed the return achieved by its blended performance benchmark.~~

- ~~Short Term: Defined as any period shorter than the defined Long Term period.~~

~~The returns of the particular asset classes of the System, measured on a rolling basis, should seek to exceed the returns achieved by comparable passive market indices as described in the appropriate Addendum of this statement.~~

~~VII. Derivative Securities and Leveraging~~

Commented [CM11]: Moved to section 7 - additional items

~~**Definition:**~~

~~A derivative is broadly defined as a financial instrument whose value, usefulness, and marketability is derived from or linked to the value of an underlying security.~~

~~Definitions and examples in the investment universe include:~~

~~**Forward Contracts** – a forward contract is a non standardized, Over the Counter (OTC) contract between two parties, governed by ISDA agreements, to buy or sell an asset at a specified future time at a price agreed to today. This is in contract to a spot contract, which is an agreement to buy or sell an asset at a set price today. It costs nothing to enter a forward contract. The party agreeing to buy the underlying asset in the future assumes a long position, and the party agreeing to sell the asset in the future assumes a short position. The price agreed upon is called the delivery price, which is equal to the forward price at the time the contract is entered into. An example of a forward contract is a currency forward contract. Currency forward contracts are commonly used to hedge foreign currency risk, which is an inherent risk of investing in international assets.~~

~~**Futures Contracts** – a futures contract is a standardized, exchange traded contract between two parties to buy or sell a specified asset of standardized quantity and quality at a specified future date at a price agreed to today (the futures price). Futures contracts are not "direct" securities like stocks, bonds, rights or warrants. The party agreeing to buy the underlying asset in the future assumes a long position and the party agreeing to sell the asset in the future assumes a short position. Futures may be settled in cash or physically settled depending on the characteristics of the underlying asset and the specifications of the contract. If futures are physically settled the buyer must make arrangements for taking physical delivery. An example of a futures contract is the S&P 500 Futures contract which is traded at the Chicago Mercantile Exchange. The S&P 500 futures contract is commonly used for equitization of cash held in the equity portfolio of a fund so as to keep up invested cash levels at a minimum. Futures contracts have many other uses for portfolio managers and are considered a valuable tool for adding flexibility and cost effectiveness to the management of a portfolio.~~

~~**Options** – Options are derivative financial instruments that may be standardized, exchange traded, or OTC contracts that specify a contract between two parties for a future transaction on an asset at a reference price. The buyer of the option gains the right, but not the obligation, to engage in that transaction, while the seller incurs the corresponding obligation to fulfill the transaction. The price of an option is derived from the difference between the reference price and the value of the underlying asset (commonly a stock, a bond, a currency or a futures contract) plus a premium based on the time to maturity, expected volatility, and~~

~~the interest rate environment. Other types of options exist, and options can in principle be created for any type of valuable asset.~~

~~An option which conveys the right to buy an asset is called a call; an option which conveys the right to sell an asset is called a put. The reference price at which the underlying asset may be traded is called the strike price or exercise price. The process of activating an option and thereby trading the underlying asset is referred to as exercising it. While there are several styles of option contracts the two most common are American style contracts and European style contracts. American style options contracts may be exercised at or before expiration while European style options may only be exercised at expiration. Most options have an expiration date while others have strike reset points. If the option is not exercised by the expiration date, it becomes void and worthless.~~

~~In return for assuming the obligation, called writing the option, the originator of the option collects a payment, a premium, from the buyer. The writer of an option must make good on delivering (or receiving) the underlying asset or its cash equivalent, if the option is exercised.~~

~~An example of an option contract is an S&P 500 put contract. These contracts may be used by a portfolio manager to purchase downside portfolio protection or may be combined with other options contracts to temper volatility in the portfolio, thus reducing risk.~~

~~**Swaps and Swaptions** – Swaps are derivative financial instruments in which counterparties exchange certain benefits of one party's financial instrument for those of the other party's financial instrument. (Swaptions are simply options on swaps) Most swaps are non-standardized, OTC contracts between two parties and are governed by ISDA agreements. Some types of swaps are also exchanged on public markets such as the Chicago Mercantile Exchange, the Chicago Board Options Exchange, Intercontinental Exchange and Frankfurt based Eurex AG. The benefits of a swap depend on the type of financial instruments involved. At the initiation of a swap contract, two counterparties agree to exchange one stream of cash flows against another stream. These streams are called the legs of the swap. The swap agreement defines the dates when the cash flows are to be paid and the way they are calculated. Usually at the time when the contract is initiated, at least one of these series of cash flows is determined by a reference point such as an interest rate, foreign exchange rate, equity price or commodity price. The cash flows are calculated on a notional principal amount, which is usually not exchanged between counterparties. Value transfers can be made with cash or collateral depending on contract terms.~~

~~An example of a swap contract is an interest rate swap. An interest rate swap is an agreement to exchange a series of cash flows on periodic settlement dates over a certain time period. The duration properties of interest rate swaps are the primary reason for their popularity as an effective portfolio management tool for fixed income managers. If a fixed income manager agrees to pay a floating rate and receive a fixed rate in a swap, s/he will be increasing duration in her/his portfolio.~~

~~**Warrants** – a warrant is a type of derivative security that entitles the holder to buy or sell the underlying stock of the issuing company at a fixed exercise price until the expiry date.~~

~~Warrants may be either exchange traded or OTC in nature. OTC Warrants are typically long term in nature.~~

~~Warrants are frequently attached to bonds (to reduce interest rates for the issuer) or preferred stock (to reduce dividend payments) as a sweetener. Warrants can also be used in private equity deals. Frequently, these warrants are detachable, and can be sold independently of the bond or stock. (Typically traded OTC)~~

~~*This list is not intended to be an all encompassing list of derivative contracts available for use in the portfolios, but rather, to display a sample of the most common types of contracts and describe the spirit of their intended use in the portfolios.*~~

**~~Derivatives Permitted Use:~~**

~~KRS permits external managers and Investment Division (Staff) to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:~~

**~~Exposure:~~**

~~Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.~~

**~~Cost Efficiency:~~**

~~Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.~~

**~~Risk Management:~~**

~~Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.~~

**~~Derivatives Restricted Use:~~**

~~**Settlement:**~~

~~Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall KRS agree to take physical delivery on a futures contract.~~

~~**Position Limits:**~~

~~Futures and options positions entered into by KRS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.~~

~~**Over the Counter (OTC):**~~
~~Investments in securities not traded on public exchanges that are deemed Over the Counter (OTC) in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).~~

~~All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of KRS under the transactions. All ISDA Master Agreements entered into by or on behalf of KRS by the Investment Division (Staff) and external manager pursuant to an Agency Agreement shall provide that Netting applies. (Netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The Investment Division (Staff) and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.~~

~~**Derivatives Applications Not Permitted:**~~

~~**Speculation:**~~

~~Except for investments in alternative, absolute return investments, and real return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to KRS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by KRS IPS or applicable to the portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the KRS IPS or applicable regulatory requirements.~~

~~**Leverage**:~~

~~Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where~~

~~in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.~~

~~*The above is not intended to limit KRS from borrowing to cover short term cash flow needs nor prohibit KRS from loaning securities in accordance with a securities lending agreement.*~~

## ~~V~~VII. Asset Allocation Guidelines

Commented [CM12]: Moved from section 8

In establishing asset allocation guidelines the Board recognizes that each system has its own capacity to tolerate investment volatility, or risk. Therefore, each system has been studied and asset allocation guidelines have been established on a system by system basis. The Board will cause the asset allocation guidelines of each system to be reviewed annually. The Board will provide the Investment Committee with the results of ~~any asset~~any asset liability study and guidance for determining the needs of the systems.

Based on an asset liability valuation study, which analyzed the expected returns, risk and correlations of various asset classes, projected liabilities, liquidity, and the risks associated with alternative asset mix strategies, the trustees have established the following Asset Allocation Policy, effective July 1st, 2018. The asset classes are "bucketed" or grouped together into macro-asset class buckets (i.e. growth, liquidity and diversifying) based on their expected correlations to one another to create a better understanding of risk and diversification, and based on asset class exposures to the economic factors of growth and inflation.

| **Pension and Insurance Funds (excluding KERS and SPRS Pension Funds) – 6.25% Assumed Rate of Return** | | | |
|---|---|---|---|
| Asset Class | Target | Minimum | Maximum |
| **Growth** | **62.50%** | **60.00%** | **66.00%** |
| US Equity | 18.75% | 10.00% | 25.00% |
| Non US Equity | 18.75% | 10.00% | 25.00% |
| Private Equity | 10.00% | 7.00% | 13.00% |
| High Yield / Specialty Credit | 15.00% | 5.00% | 20.00% |
| **Liquidity** | **14.50%** | **10.00%** | **18.00%** |
| Core Fixed Income | 13.50% | 7.00% | 18.00% |
| Cash | 1.00% | 0.00% | 5.00% |
| **Diversifying** | **23.00%** | **15.00%** | **26.00%** |
| Real Estate | 5.00% | 0.00% | 10.00% |
| Opportunistic | 3.00% | 0.00% | 10.00% |
| Real Return | 15.00% | 5.00% | 20.00% |

| KERS and SPRS Pension Funds – 5.25% Assumed Rate of Return | | | |
|---|---|---|---|
| Asset Class | Target | Minimum | Maximum |
| **Growth** | **53.50%** | **50.00%** | **65.00%** |
| US Equity | 15.75% | 10.00% | 25.00% |
| Non US Equity | 15.75% | 10.00% | 25.00% |
| Private Equity | 7.00% | 5.00% | 15.00% |
| High Yield / Specialty Credit | 15.00% | 10.00% | 25.00% |
| **Liquidity** | **23.50%** | **15.00%** | **26.00%** |
| Core Fixed Income | 20.50% | 15.00% | 26.00% |
| Cash | 3.00% | 0.00% | 5.00% |
| **Diversifying** | **23.00%** | **15.00%** | **26.00%** |
| Real Estate | 5.00% | 0.00% | 10.00% |
| Opportunistic | 3.00% | 0.00% | 10.00% |
| Real Return | 15.00% | 5.00% | 20.00% |

The intent of the Board of Trustees in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the Board of Trustees is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed Five percent (5%) of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager's investment strategy.

The individual plan level asset allocations of the each Pension and Insurance Fund constituent will be reviewed monthly by staff relative to its target asset class allocation, taking into account any tactical policy shift directed by the Investment Committee. ~~Staff shall reallocate the assets when the actual asset class allocation deviates from the policy plus any tactical shift by a minimum of 1%, and a maximum of 15% of the allocation target (if target allocation is 20% then action required when +/- 3%).~~

Regarding individual investment manager initial allocations, staff will get approval at the Investment Committee meeting for a specific dollar amount intended to be committed to a closed-end fund such as private equity or real estate funds and will get approval for a percent of ~~plan~~ the appropriate asset~~s~~ class target for open-end investments such as public equity, public fixed income, and ~~absolute return~~Diversifying Strategies managers. For those open-end funds where assets can be added or subtracted, the Chief Investment Officer will have ~~full~~ discretion to reduce or increase an investment manager's allocation between 50% and 150% of the approved ~~or fire a manager, and will have limited discretion to add to an investment manager's allocation. Limited discretion is defined as doubling the size of any Investment Committee approved investment where the of that investment that is less than or equal to 1% of total assets, or adding an additional 1% of capital to any investment committee approved amount that is greater than 1% of total assets. In neither case will this occur~~ target. The Chief Investment Officer will also have full discretion to fire a manager~~prior to the one year anniversary of the amount approved by the Investment Committee~~, ~~and~~ which must be reported to the Investment Committee at the next scheduled meeting.

**Commented [CM13]:** Key point of consideration - too restrictive

Short term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, the staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class. Within the allowable ranges, staff should use regular cash flows to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from policy targets. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Policy. Under/overweights to these asset classes shall be invested in public markets securities with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

**Commented [CM14]:** New language

In keeping with its responsibility as Trustee and wherever consistent with its fiduciary responsibility, the Board encourages the investment of the fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a proh bited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Growth

~~Domestic Equity Investments~~US Equity

**Commented [CM15]:** Name changed to match Appendix A/B

Investment may be made in common stock, securities convert ble into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual domestic equity account shall have a comprehensive set of investment guidelines prepared, which contains a listing of permissible investments, portfolio restrictions and standards of performance for the account.

The internally managed equity index funds are intended, consistent with the governing plan documents, to gain exposure to a broad asset sector to replicate the characteristics of the asset class, to minimize administrative expenses and to help achieve overall portfolio objectives. These objectives can be achieved through several management techniques, including but not limited to, portfolio optimization, non-reinvestment of index dividends and other management techniques intended to help achieve the objectives of the entire pension fund.

~~International Equity Investments~~Non US Equity

**Commented [CM16]:** Name changed to match Appendix A/B

Investments may be made in common stock, securities convert ble into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual international equity account shall have a comprehensive set of investment guidelines which shall contain a

listing of permissible investments, portfolio restrictions and standards of performance for the account.

~~Fixed Income Investments~~High Yield/Specialty Credit

~~Fixed Income~~High yield/specialty credit investments will be similar in type to those securities found in the KRS ~~fixed income~~high yield benchmarks and the characteristics of the ~~KRS fixed income~~ portfolio will be similar to the KRS high yield fixed income benchmarks. The high yield fixed income accounts may include, but are not limited to the following fixed income securities: ~~U.S. Government and Agency bonds, investment grade U.S. corporate credit, investment grade non U.S. corporate credit,~~ non-investment grade U.S. corporate credit including both bonds and bank loans, non-investment grade non U.S. corporate credit including bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities, and emerging market debt including both sovereign EMD and corporate EMD and asset class relevant ETF's.

**Commented [CM17]:** Need to split between core and opportunistic

Each individual high yield/specialty credit ~~fixed income~~ account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Private Equity Investments

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made for the purpose of creating a diversified portfolio of alternative investments. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. ~~They have low correlation to other investment classes and therefore can contribute to reducing the risk and enhancing the returns of a total portfolio, as well as providing portfolio diversification.~~ Examples of such investments include, but are not limited to, private investments into venture capital ~~partnerships~~, ~~private equity,~~ leveraged buyouts ~~and funds~~, special situations, distressed debt, private debt, timberland, oil and gas partnerships, infrastructure, commodities and private placements. While it is expected that the majority of these assets will be invested within the United States, a portion has been allocated to non-US investments. These non-U.S. investments are not restricted by geography.

**Guidelines for Private Equity**

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investor and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled vehicles and often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited

partner investor. These contractual arrangements are long-term in nature and provide the general partner or sponsors a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner are critical to the economic incentives and ultimate net performance of the partnership.

~~Over the long term, KRS will use a specified index plus risk premium approach.~~

**Investment Strategy and Plan Guidelines**

To strengthen the diversification of the investments, several guidelines will be utilized in Staff's formulation and recommended annual investment strategy and plan. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

*Investment Vehicles*: KRS will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, the Fund will subscribe as a Limited Partner to limited partnership vehicles sponsored by such specialty external investment managers. The Fund will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. KRS may also gain exposure by utilizing the following vehicles: limited liability companies and co-investments alongside the Fund's existing or potential limited partnerships.

*Investment Timing Risks*: Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impacting the current and long term net return of the portfolio. In addition, mindful of vintage year diversification, KRS should seek to identify attractive commitments annually, further ensuring the portfolio invests across business cycles.

*General Partner Diversification*: Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than fifteen (15) percent of the KRS Pension or Insurance total allocation to private equity investments may be committed to any one partnership, without the approval of the Board.

~~*Geographical Diversification*: To ensure geographical diversification, the target range for total commitments outside of the United States will be 15-45% through commitments to funds located and or investing both in and outside of the United States.~~

~~*Industry/Sector Concentration:* As fallout of diversified commitments outlined above, it is expected that the portfolio will be generally diversified by sector/industry. KRS will maintain diversification by ensuring:~~

~~No more than 35% of total net assets of the private equity portfolio may be invested in a single sector of the domestic economy.~~

~~No more than 20 % of total net assets of the private equity portfolio may be invested in a single industry within a particular sector.~~

~~No more than 10% of total net assets of the private equity portfolio may be invested in any single equity or debt related assets.~~

~~**Subcategory Strategy**~~

~~The private equity portfolio includes strategic subcategory classifications including venture capital, buyouts and debt-related. The target percentages set forth below for each category are based on invested capital. For specific plan allocations to Private Equity, Please refer to Appendix A for the Pension funds and Appendix B for the Insurance funds.~~

~~The sub-asset target allocations to Venture Capital, Buyouts, and Debt-related for specific plan allocations refer to Appendix A for the Pension funds and Appendix B for the Insurance fund are based on market value and will have a range of +/- 10%:~~

B. Fixed Income/Liquidity

Core Fixed Income

Core Fixed Income investments will be similar in type to those securities found in the KRS core fixed income benchmark(s) and the characteristics of the KRS core fixed income portfolio will be similar to the KRS core fixed income benchmarks. The core fixed income accounts may include, but are not limited to the following fixed income securities: U.S. Government and Agency bonds, investment grade U.S. corporate credit, investment grade non-U.S. corporate credit, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities, and asset class relevant ETF's.

Each individual core fixed income account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the

investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds, variable rate demand notes, government and agency bonds, mortgages, municipal bonds, and collective STIFs, money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days~~.~~ Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

The Systems' fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permiss ble investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

C. Diversifying Strategies

Real Estate ~~Investments~~

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private REITs (real estate investment trusts), public real estate operating companies, and real estate related debt.

~~Private real estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short term performance discrepancies versus public benchmarks, KRS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:~~

~~*Relative Return:* The real estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index ("NCREIF ODCE") lagged 1 calendar quarter.~~

~~*Absolute Return:* The long term real return objective (returns adjusted for inflation) for the KRS real estate portfolio is five percent (5%) over the *Barclays* Capital U.S. 7-10 Year Treasury Bond *Index*, net of investment management fees. This return shall be calculated on a time weighted basis using industry standard reporting methodologies.~~

**Commented [CM18]:** Moved to IV Monitoring

KRS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk adjusted returns through active management and ability to access managers with the expertise and capabilities to exploit market inefficiencies in the asset class. The illiquid nature of real estate investments combined with the complexity of investments makes it difficult for casual investors to effectively access the asset class effectively. It is our belief that through active management and by investing in top tier managers with interests aligned through co-investment and incentive based compensation, KRS can maximize its risk adjusted returns. This active management approach will be pursued.

- Diversification benefits through low correlations with other asset classes, primarily the U.S. equity markets.

- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures and the increases in material and labor costs during inflationary periods.

- Permit KRS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

~~Allocation to Real Estate Asset Class~~

~~KRS divides the real estate investment universe into core, value add, opportunistic and public securities sectors, with descriptive attributes of each listed below. It should be noted that targeted returns for each sector denoted in the descriptions below are based on industry guidelines and may vary based on different points in market cycles and changes in general inflation levels.~~

~~Core Properties~~

~~i. Operating, substantially leased office, retail, industrial or apartment properties. Several alternative property types may be included in Core such as self-storage, medical office, ground leases, senior housing and triple net leased properties to the extent they exhibit similar risk and return attributes to the traditional Core property types.~~

~~ii. Generally have institutional qualities for size, physical attributes and location.~~

~~iii. Target total returns of 3-5% per year (net of fees and promoted interest) above the *Barclays* Capital U.S. 7-10 Year Treasury Bond *Index* , with a high proportion of the total return to be generated from current income and a small proportion of the total return generated from appreciation.~~

~~iv. Leverage for core properties is moderate with an upper limit of 50% loan to value.~~

~~Value Added Properties~~

~~i. Office, retail, industrial or apartment properties that have moderate risk associated with their investment. Several alternative property types may be included in Value-Added such as self-storage, medical office, senior housing and triple net leased~~

~~properties to the extent they exhibit similar risk and return attributes for Value-Added investments.~~

~~ii. Value-Added investments are targeted to capitalize on defects with specific properties that can be identifiable and correctable through leasing, re-development, management and/or recapitalization.~~

~~iii. Target returns for value added investments are 5-7% above the *Barclays* Capital U.S. 7-10 Year Treasury Bond Index per year (net of fees and promoted interest).~~

~~Leverage for value added investments is generally limited to approximately 65% loan to value.~~

~~Opportunistic Investments~~

~~i. Opportunistic investments can be comprised of any property sector. Opportunistic investments can include office, retail, industrial and apartments with high-risk attributes. In addition, hotels, operating companies, development, land and distressed properties are all examples of opportunistic investments~~

~~ii. Leverage for opportunistic investments can be 75% loan to value or higher in certain cases.~~

~~iii. Opportunistic investments will target returns in excess of 7% (net of fees and promoted interest) above the *Barclays* Capital U.S. 7-10 Year Treasury Bond Index in order to compensate for the additional risk commensurate with the increased risk compared to core property investments.~~

~~Public Securities~~

~~i. Public Real Estate securities ("Public Securities") do not allow for control over the assets or management. Examples of public securities may include REITs and CMBS, among others. Investment strategies using public securities may be classified as core, value-add, or opportunistic strategies based on the characteristics of those specific investments and are reviewed on a case by case basis. Real estate strategies utilizing public securities that provide daily liquidity to KRS shall be required to be classified as "Public Securities" under the Investment Policy Statement.~~

~~ii. Public Securities generally have higher risk and return characteristics than Core properties due to higher leverage and operating company risks. In addition, the daily pricing of securities result in additional reported volatility of returns.~~

~~iii. Daily pricing and public market trading provide liquidity. However, due to small float and limited market capitalization of Public Securities, improved liquidity may come at a price.~~

~~iv. The emergence of the international Public Securities market has broadened the universe to include Asia, European, Australian and North American property companies.~~

~~v. Expected returns are dependent on investment strategy of the public security which shall be identified at time of investment and the return expectation will match one the above the categories~~

~~Diversification and Risk Management Guidelines~~

~~The policy ranges for the real estate portfolio sectors have been set with reasonably wide ranges in order to allow KRS to capitalize on market inefficiencies and attractive opportunities, while also maintaining a certain level of low risk stability to the portfolio. Since many of the real estate investments will be private market investments in commingled funds, KRS will not have precise control over the actual real estate exposure. Funding, de-funding and rebalancing the portfolio may be protracted (l ke private equity) due to the asset classes illiquid characteristics.~~

~~Sector Diversification~~

~~KRS will seek to limit investments using the following diversification limits:~~

| | Target | Range |
|---|---|---|
| Core: | 70% | 50% to 90% |
| Value Added: | 20% | 10% to 30% |
| Opportunistic: | 10% | 0% to 20% |
| Public Securities: | 0% | 0% to 100% |

~~Investment Vehicles~~

~~Due to the size of KRS's portfolio, the preferred investment structure is commingled funds. Exceptions may be for public equity accounts which may be efficiently invested through a separate account or single property investments. Single property investments, outside of a joint venture with an approved property manager or co-investment with an approved real estate fund manager, shall be limited to no more than 5% of the total real estate allocation and a presentation to the full board prior to investment.~~

~~KRS may also consider co-investment opportunities in cases where discounted fees and appropriate diversification can be achieved for a particular investment opportunity.~~

~~Diversification~~

~~KRS will seek to control risk in its real estate investment program by diversifying its investments by investment manager, property type and location diversification.~~

~~Investment Manager~~

~~KRS will limit the amount committed to any one investment manager to the larger of thirty percent (30%) of the total allocation for real estate investments or 1% of the total funds value at the time of commitment.~~

~~Property Type Diversification~~

~~KRS will seek to limit investments by property type diversification using the following limits:~~

~~Office: 0% to 40% of the total allocation~~

~~Retail: 0% to 40% of the total allocation~~

~~Apartment: 0% to 40% of the total allocation~~

~~Industrial: 0% to 40% of the total allocation~~

~~Other: 0% to 40% of the total allocation (other includes hotels, self-storage, parking, etc.) Geographic Diversification~~

~~The KRS real estate portfolio shall seek to include investments diversified across various locations with different economic concentrations. The portfolio shall be at least 80% invested in U.S. markets.~~

~~Diversification will be monitored with respect to major regional areas; e.g. Pacific, Mountain, Southwest, Southeast, Mideast, Northeast, East North Central, West North Central. International monitoring will be carried out in a similar fashion as that used domestically.~~

~~Total Leverage~~

~~KRS recognizes that leverage is an inherent component of real estate investments and use of leverage can be an effective means to increase overall returns from time to time on a risk-adjusted basis. There will be a goal to a limit of 65% of the total portfolio placed on the use of leverage. The measurement will be the weighted average of investments with their max allowed leverage.~~

~~All portfolio leverage will be secured through the individual fund investments. There will be no recourse debt permitted.~~

~~Vintage Year Risks~~

~~KRS will seek to avoid any concentrated vintage year risks.~~

Real Return ~~**Investments**~~

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real return strategies are not necessarily a separate asset class but may include real assets, such as infrastructure, real estate, commodities, and natural resources among others, as well as financial assets that have a positive correlation to inflation. This can include “real” bonds such as TIPs (and other inflation linkers) or “real” stocks such as REITs, MLPs, and oil & gas stocks. Additionally, GTAA (Global Tactical Asset Allocation) ~~real return~~ managers may be used, in an attempt to add value by tactically allocating to various asset classes according to how each asset class performs across an economic cycle and the manager’s perception of

where we are in the cycle. The goal is to invest in inflation sensitive assets during inflationary periods, and avoid those assets in deflationary periods, thus providing a positive real return across the cycle. Within a real return portfolio, these strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time. Other strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time.

~~The real return opportunity set may include numerous vehicles to access a wide variety of investment styles and strategies. These investment vehicles may include mutual funds, ETFs, separately managed accounts as well as hedge funds (open-end limited partnerships) and private equity (close-end limited partnerships). The list of strategies that the KRS Real Return Portfolio may use includes, but is not limited to, the following:~~

- ~~GTAA (Global Tactical Asset Allocation)/ Global Macro: GTAA or macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. GTAA and macro strategies typically invest in all major assets classes including equity markets, credit and debt instruments, currencies/interest rates, and commodities. These strategies tend to focus on economic factors that would suggest an opportune time to invest in a given asset class, and will change their allocations actively over time. Within a real return portfolio, these strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time.~~

- ~~Inflation Linked Securities are securities that directly tie coupon payments or principal increases to an inflation index, such as CPI. These strategies could include not only US TIPs, but also global sovereign inflation linked bonds, corporate or infrastructure inflation linked bonds, and possibly short duration floating rate bonds.~~

- ~~Inflation Sensitive Equities include publicly traded equity and equity related securities in companies which have a high sensitivity to inflation in their profit margins via the nature of their operating assets, such as energy companies, basic materials and miners, natural resource stocks, and listed infrastructure. This category can also include REITs, MLPs as well as ETFs and index products on REITS, MLPs, natural resource stocks, etc.~~

- ~~Commodities: Commodities are the raw materials that are physical inputs into the production process. Managers that invest in liquid commodity strategies using exchange traded futures can span from simple indexing (matching a long-only commodities index), to enhanced indexing or active long (selecting positions that vary from the index but within fairly tight ranges), as well as unconstrained long-short managers.~~

- ~~Private Property: For the purposes of this policy, private property refers to the ownership of an idiosyncratic, physical asset that is predominately fixed and/or permanent or at least substantially long-lived. This includes real estate, such as land and any improvements to or on the land, as well as timberland and farmland. Timberland investing involves the institutional ownership of forest for the purpose of growing and harvesting the timber. The timber may be used for furniture, housing lumber, flooring, pulp for paper, woodchips, and charcoal, among other things. Farmland investing entails ownership of land used primarily if not exclusively for agricultural production both for crops, including row crops and permanent crops, as well as livestock. Private property can also include infrastructure investing, which refers to financing the manufacture or development of the underlying fundamental assets and basic systems that are necessary for an economy whereby such assets are largely fixed and long-lived. These tend to be high-cost, capital-intensive investments that are vital to a society's prosperity and facilitate the transfer, distribution, or production of basic goods and services.~~

- ~~Natural Resources: Natural resources can include investing in the financing, development, extraction, and production of minerals, basic materials, petroleum products, and water as well as renewable resources such as agricultural commodities and solar energy. As opposed to property, the returns generated in these investment strategies come more from the actual production of the resource itself. Further, these are depleting and/or consumable assets that are also portable and fungible and which in the aggregate comprise a majority of the inputs into most measurements of inflation.~~

- ~~Private Assets: Private assets can include tangible or intangible assets that are not easily sold in the regular course of a business's operations for cash, and which are held for their role in contributing directly to the business's ability to generate profit. As the useful life of the asset tends to extend across many years and the assets tend to be capital intensive as well, they have some similarity to private infrastructure. Further, given that the assets contribute directly to the production process as well as often retaining intrinsic value, there is a fundamental link to inflation somewhat similar to natural resources.~~

- ~~Other (Opportunistic Inflation Hedge): Other/opportunistic strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time. Liquid strategies such as inflation swaps, diversified inflation hedging mutual funds, or nominal bonds backed by inflation sensitive assets may be included in this allocation, while other illiquid strategies that may provide the same real profile can include private equity in inflation sensitive companies, hard asset-backed private credit, and structured inflation-linked products among others.~~

~~The Real Return allocation shall seek to achieve the following:~~

1) ~~Short-term benchmark: For periods less than five years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.~~

2) ~~Strategic objective: For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.~~

**Commented [CM19]:** Moved to IV Monitoring

**Portfolio Guidelines**

No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual plan's liquidity needs, funding status, and allocation targets on an investment by investment basis.

~~G. Cash Equivalent Securities~~

**Commented [CM20]:** Moved up to Liquidity bucket

~~Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds, variable rate demand notes, government and agency bonds, mortgages, municipal bonds, and collective STIFs, money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days. Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is~~

~~scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.~~

~~The Systems' fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permiss ble investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.~~

~~H. Absolute Return~~Opportunistic ~~Strategies~~

The purpose of the ~~Absolute Return~~Opportunistic Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of diversification for the overall plan. ~~Absolute return~~Opportunistic strategies, by definition, are not necessarily a separate asset class, but broaden the opportunity set within existing asset classes such as stocks, bonds, currencies and commodities by going both long and short, employing derivatives and leverage, shortening and extending investment horizons, and moving across public and private markets, amongst others. By focusing on the idiosyncratic risks of security selection and often attempting to minimize systematic market risks through hedging activities, ~~absolute return~~such managers can make investment decisions unconstrained by restrictive relative benchmarks such as the S&P 500 or Bloomberg Barclay's Aggregate Bond Index, and add value to portfolios by achieving favorable risk-adjusted returns in most market environments while also reducing overall plan volatility. While there are exceptions, these investments generally exh bit low beta and low correlation to risk asset indices. More specifically, KRS will target strategies that demonstrate the following investment characteristics:

- Fundamental, explainable investment strategies with a clear methodology and minimal complexity.
- Expected returns that exceed the annualized return of the Bloomberg Barclays Global Aggregate Bond Index.
- Expected annualized standard deviation less than 6.0%.
- Expected Sharpe Ratio of 1.0 or greater.
- Expected correlation to the S&P 500 Index less than 0.25.
- Expected correlation to the Bloomberg Barclays Global Aggregate Bond Index less than 0.25.

The ~~absolute return~~ opportunity set ~~is generally considered to~~ includes hedge funds and other strategies attempting to achieve positive returns without heavy reliance on the assumption of traditional systematic risk factors. Investment vehicles used to access this opportunity set can include limited partnerships, but also mutual funds, ETFs, and separately managed accounts, amongst others. ~~Absolute return strategies~~ Opportunistic strategies are extremely heterogeneous, as managers have both greater variability within a strategy and the flexibility to evolve across styles and asset classes. This is a key benefit of ~~absolute return~~the investment universe; however, it also makes strategy classifications less meaningful and manager selection significantly more important. It also necessitates relatively broader allowable strategy ranges than in other more traditional asset classes.

~~The list of strategies that the KRS Absolute Return Portfolio may utilize includes, but is not limited to:~~

- ~~Equity Strategies: Equity-based hedge funds are those which primarily purchase listed stocks, long and short, using no to substantial leverage. These strategies may differ across multiple styles such as broad or sector based mandates, geographically focused or global, concentrated versus diversified, long biased or market neutral, or short term trading versus longer term fundamental. Sub-strategies in this category would include fundamental long/short equity, short bias, tactical trading, and equity market neutral.~~

- ~~Event Driven: Event driven strategies also invest in the securities of corporate issuers, including stocks and corporate bonds. However, these strategies will invest based upon specific corporate actions that will change the value of these securities including mergers, spin-offs, tender and exchange offers and bankruptcy or restructuring. These strategies can be flexible across equity/credit, long/short as well as other style characteristics noted earlier. Another critical differentiator among event driven strategies is whether they pursue primarily hard versus soft catalysts. Examples of sub-strategies in this category include merger arbitrage, shareholder activism, multi-strategy event, special situations, and opportunistic value/soft catalyst.~~

- ~~Credit Strategies: Credit strategies are those which focus on the debt side of the capital structure. They may have equity exposure, but the vast majority of the portfolio is invested in credit securities. Similarly, these strategies may be long biased or more hedged, may be more fundamentally based or more quantitative, focus on paying versus non-performing, and shorter term trading versus longer term focused. However, some funds may be focused on structured credit markets, including RMBS and CMBS, and others may move opportunistically across various credit segments. Sub-strategies may include long/short corporate credit, structured credit, and distressed securities.~~

- ~~Relative Value: Relative Value strategies are those that do not invest in the intrinsic value of any individual security, but rather research the historical and/or mechanical relationships between related securities and invest in the spread. For example, they may bet on one bond being overvalued relative to another bond from the same issuer. These strategies are almost always market neutral, but may vary from moderately to highly leveraged, concentrated versus diversified, or from HFT (high frequency trading) to a longer term investment horizon. Examples of sub-strategies in this category include fixed income arbitrage, convertible arbitrage, and statistical arbitrage.~~

- ~~Multi-Strategies: Multi-Strategy hedge funds are those which will actively employ several of the other major hedge fund categories. Typically, hedge funds may do more than one thing, but to be a true multi-strategy, a hedge fund must have meaningful allocations of capital to at least 3 of the other four major categories: equity, credit/event, relative value, and macro/CTA. A true multi-strategy hedge fund should not have 50% to 70% of NAV invested in one strategy or 50% to 70% of the historical return attribution from one strategy. Finally, most multi-strategy hedge funds have their roots in one specific style and have evolved into multi-strategies over time.~~

- ~~Global Macro: Macro strategies are those that make directional bets on major markets or asset classes instead of individual securities. Global macro funds are typically diversified across 3 of the 4 major liquid markets: equity indices, credit/debt, currencies/rates, and commodities. These strategies are often quantitative or discretionary, or shorter term/market timing versus longer term/macroeconomic focused. Finally, some traders may focus largely on certain markets, such as rates or currencies, trading on fundamental economic signals.~~

- ~~CTA/Commodity/Currency: Managed Futures or CTAs will trade the same markets as global macro funds (i.e. equity indices, debt markets, currencies, and commodities) but will focus heavily on price or other technical signals, instead of fundamental or economic data. CTAs tend to be purely systematic (black box) or discretionary, shorter to longer term and will employ either trend following/momentum strategies or counter trend/ mean reversion. Similar to macro funds, some CTAs focus purely on certain markets, such as commodities or currencies.~~

- ~~Other: Strategies in this category, sometimes referred to as alternatives to alternatives, tend to be the most highly uncorrelated strategies. These may not be true "alpha" generators, as they often are simply accessing extremely unique and non competitive markets, looking to harvest systemic risk premia found in these markets. However, the "betas" they are accessing are truly idiosyncratic. These strategies are much smaller and tend to have a bit higher illiquidity than other hedge funds. Examples of sub-strategies that fall in this category would be intellectual property, weather risk, and insurance strategies.~~

~~The Absolute Return allocation shall seek to achieve the following.~~

1) ~~Short term benchmark: For periods less than five years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (HFRI Diversified Fund of Fund Composite), net of all investment management fees, with similar risk relative to the benchmark.~~

2) ~~Strategic benchmark: For periods greater than five years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds the appropriate long-term benchmark (1 Year Treasury Bill Rate + 500 basis points) as well.~~

**Commented [CM21]:** Move to IV Monitoring

**Portfolio Guidelines**

No more than 10% of the total net assets of the ~~Absolute Return~~Opportunistic portfolio may be invested in any one ~~single manager hedge~~ fund. No more than 15% of the total net assets of the ~~Absolute Return~~Opportunistic portfolio may be invested in any one ~~single~~ separately managed account, mutual fund, or other registered investment vehicle.

No more than 15% of the total net assets of the ~~Absolute Return~~Opportunistic portfolio allocation may be invested with any one ~~single hedge fund manager~~investment strategy (excluding Funds of Funds). No more than 25% of the net assets of the ~~Absolute Return~~Opportunistic portfolio allocation may be invested with any one ~~single~~ investment manager (excluding Funds of Funds).

As the ~~Absolute Return~~Opportunistic allocation can ~~invest in~~include various investment vehicles and strategies with differing liquidity profiles, it is important to consider liquidity as a separate risk spectrum. In order to manage the portfolio and provide the system liquidity as necessary while remaining~~, but remain~~== flexible enough to capture returns available in moderately illiquid opportunities, the ~~Absolute Return~~Opportunistic allocation will adhere to the following liquidity targets:

At all times, at least 25.0% of the ~~Absolute Return~~Opportunistic portfolio as a whole ~~is to~~should be ~~available~~ committed to ~~in quarterly or better liquidity~~ vehicles the offer quarterly liquidity or better.

At all times, no more than 50.0% of the ~~Absolute Return~~Opportunistic portfolio as a whole ~~is to~~should be committed to vehicles that provide liquidity ~~on a greater than annual basis~~in periods greater than one year.

No investments ~~to~~ in vehicles with a ~~greater than 5 year~~ lock-up period greater than five years are permitted in the ~~Absolute Return~~Opportunistic portfolio.

## ~~IX~~IV. ~~Standards of Measurement~~Monitoring

Performance Measurement

The Kentucky Retirement Systems ("KRS") overall fund performance is measured relative to the KRS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with industry-wide standards and the practices utilized by the CFA Institute. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

KRS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indexes that are recognized and published (e.g., S&P 500 & Barclays Aggregate Bond Index). These indices are determined to be appropriate

measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to KRS and the investment manager/advisor as the neutral position consistent with the underlying investor status. KRS' investment consultant and staff recommend the benchmarks and indexes. These measures shall be subject to the ~~annual~~ review and approval of the KRS Investment Committee and ratification of the Kentucky Retirement Systems' Board of Trustees when asset allocation studies are performed, or when a change to existing benchmarks is recommended by staff and consultant. The current asset class benchmarks, effective as of July 1, 2018 with the adoption of the asset allocation, are as follows:

| Asset Class | Benchmark |
|---|---|
| **Growth** | |
| US Equity | Russell 3000 |
| Non US Equity | MSCI ACWI ex US IMI |
| Private Equity | Russell 3000 + 300 bps (lagged) |
| High Yield / Specialty Credit | 50% Bloomberg Barclays US High Yield<br>50% S&P LSTA Leveraged Loan |
| **Liquidity** | |
| Core Fixed Income | Bloomberg Barclays US Aggregate |
| Cash | Citi Grp 3-mos Treasury Bill |
| **Diversifying** | |
| Real Estate | NCREIF ODCE |
| Opportunistic | HFRI Diversified |
| Real Return | US CPI + 3% |

~~The KRS Total Fund Benchmarks and sub-components, indexes, are described in Appendix A and B of this document.~~ The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of the Kentucky Retirement Systems. They are to be computed and expressed on a time-weighted total return basis:

*Total Public Asset Class Allocations*

Short-term

- For periods less than ~~five~~ ten years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than ~~five~~ ten years or one market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

*Individual Public Security Portfolios:* Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than ~~five~~ ten years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than ~~five~~ ten years or one market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

~~In addition to exceeding the appropriate benchmark listed in Appendix A and B, the Alternative~~The Private Equity portfolio should also seek to achieve the following:

Short-term

- Alternative investments should earn a Net IRR that place the investment above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds the KRS Private Equity Index. Individual private equity investments should earn a Net IRR above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Real Estate

Private real estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short term performance discrepancies versus public benchmarks KRS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

*Relative Return:* The real estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index ("NCREIF ODCE") lagged 1 calendar quarter.

*Absolute Return:* The long term real return objective (returns adjusted for inflation) for the KRS real estate portfolio is five percent (5%) over the *Barclays* Capital U.S. 7-10 Year Treasury Bond *Index*, net of investment management fees. This return shall be calculated on a time-weighted basis using industry standard reporting methodologies.~~The Total Real Estate allocation of the fund shall be benchmarked to the appropriate benchmark and are listed in Appendix A and B.~~

Real Return

The total Real Return allocation shall seek to :

(1) ~~Achieve a rate of return that exceeds the appropriate benchmark annually over a complete market cycle (historically 3-5 years), net of all investment management fees~~Short-term benchmark: For periods less than ten years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.

(2) ~~Achieve a rate of return that exceeds the appropriate real return composite index over a complete market cycle (historically 3-5 years), net of all investment management fees~~Strategic objective: For periods greater than ten years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.

(3) Achieve a positive risk/reward trade-off when compared to similar style real return Investment Managers.

~~Absolute Returns~~Opportunistic

The total ~~Absolute Return~~Opportunistic allocation shall seek to :

~~(1) Achieve a rate of return that exceeds the appropriate benchmark annually over a complete market cycle (historically 3-5 years), net of all investment management fees~~.

(1) Short-term benchmark: For periods less than ten years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (HFRI Diversified Fund of Fund Composite Index), net of all investment management fees, with similar risk relative to the benchmark.

(2) Strategic benchmark: For periods greater than ten years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds the appropriate long-term benchmark (1 Year Treasury Bill Rate + 500 basis points) as well.~~Achieve a positive risk/reward trade-off when compared to similar style FOF return Investment Managers.~~

~~X. Investments Performance Review Procedures~~

Performance Review

On a timely basis, but not less than quarterly, the Investment Committee, on behalf of the Board of Trustees, will review the performance of the portfolio for determination of compliance with

this Statement of Investment Policy. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the staff and presented to the Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer shall perform tests at least monthly to assure compliance with the restrictions imposed by this policy. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The Investment Committee shall report the findings to the Board of Trustees at the next regularly scheduled meeting.

The following restrictions shall be tested at least monthly:

- The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of the Systems' assets.
- The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.
- Investment in "frontier" markets (those countries not included in the MSCI EM Index) shall not exceed 5% of the System's international equity assets.
- The duration of the core ~~and global~~ fixed income portfolios combined shall not vary from that of the KRS Fixed Income Index by more than+/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the Investment Committee has determined a target duration to be used for an interim basis.
- ~~The duration of the TIPS portfolio shall not deviate from the KRS TIPS benchmark by more than 10%.~~
- The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of the Systems' fixed income assets, with the exception of U.S. Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.
- 50% of the core fixed income assets must have liquidity that is trade date plus three days or better.

The Chief Investment Officer shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

## ~~VII~~ V. ~~Derivative Securities and Leveraging~~Additional Items

### Derivative Securities and Leveraging

~~**Definition:**~~

~~A derivative is broadly defined as a financial instrument whose value, usefulness, and marketability is derived from or linked to the value of an underlying security.~~

~~Definitions and examples in the investment universe include:~~

~~**Forward Contracts** – a forward contract is a non-standardized, Over the Counter (OTC) contract between two parties, governed by ISDA agreements, to buy or sell an asset at a specified future time at a price agreed to today. This is in contrast to a spot contract, which is an agreement to buy or sell an asset at a set price today. It costs nothing to enter a forward contract. The party agreeing to buy the underlying asset in the future assumes a long position, and the party agreeing to sell the asset in the future assumes a short position. The price agreed upon is called the delivery price, which is equal to the forward price at the time the contract is entered into. An example of a forward contract is a currency forward contract – Currency forward contracts are commonly used to hedge foreign currency risk which is an inherent risk of investing in international assets.~~

~~**Futures Contracts** – a futures contract is a standardized, exchange traded contract between two parties to buy or sell a specified asset of standardized quantity and quality at a specified future date at a price agreed to today (the futures price). Futures contracts are not "direct" securities like stocks, bonds, rights or warrants. The party agreeing to buy the underlying asset in the future assumes a long position and the party agreeing to sell the asset in the future assumes a short position. Futures may be settled in cash or physically settled depending on the characteristics of the underlying asset and the specifications of the contract. If futures are physically settled the buyer must make arrangements for taking physical delivery. An example of a futures contract is the S&P 500 Futures contract which is traded at the Chicago Mercantile Exchange. The S&P 500 futures contract is commonly used for equitization of cash held in the equity portfolio of a fund so as to keep un-invested cash levels at a minimum. Futures contracts have many other uses for portfolio managers and are considered a valuable tool for adding flexibility and cost effectiveness to the management of a portfolio.~~

~~**Options** – Options are derivative financial instruments that may be standardized exchange traded, or OTC contracts that specify a contract between two parties for a future transaction on an asset at a reference price. The buyer of the option gains the right, but not the obligation to engage in that transaction while the seller incurs the corresponding obligation to fulfill the transaction. The price of an option is derived from the difference between the reference price and the value of the underlying asset (commonly a stock, a bond, a currency or a futures contract) plus a premium based on the time to maturity, expected volatility, and the interest rate environment. Other types of options exist, and options can in principle be created for any type of valuable asset.~~

~~An option which conveys the right to buy an asset is called a call; an option which conveys the right to sell an asset is called a put. The reference price at which the underlying asset may be traded is called the strike price or exercise price. The process of activating an option and thereby trading the underlying asset is referred to as exercising it. While there are several styles of option contracts the two most common are American style contracts and~~

~~European-style contracts. American-style options contracts may be exercised at or before expiration while European-style options may only be exercised at expiration. Most options have an expiration date while others have strike reset points. If the option is not exercised by the expiration date, it becomes void and worthless.~~

~~In return for assuming the obligation, called writing the option, the originator of the option collects a payment, a premium, from the buyer. The writer of an option must make good on delivering (or receiving) the underlying asset or its cash equivalent, if the option is exercised.~~

~~An example of an option contract is an S&P 500 put contract. These contracts may be used by a portfolio manager to purchase downside portfolio protection or may be combined with other options contracts to temper volatility in the portfolio, thus reducing risk.~~

~~**Swaps and Swaptions** – Swaps are derivative financial instruments in which counterparties exchange certain benefits of one party's financial instrument for those of the other party's financial instrument. (Swaptions are simply options on swaps) Most swaps are non-standardized, OTC contracts between two parties and are governed by ISDA agreements. Some types of swaps are also exchanged on public markets such as the Chicago Mercantile Exchange, the Chicago Board Options Exchange, Intercontinental Exchange and Frankfurt-based Eurex AG. The benefits of a swap depend on the type of financial instruments involved. At the initiation of a swap contract, two counterparties agree to exchange one stream of cash flows against another stream. These streams are called the legs of the swap. The swap agreement defines the dates when the cash flows are to be paid and the way they are calculated. Usually at the time when the contract is initiated, at least one of these series of cash flows is determined by a reference point such as an interest rate, foreign exchange rate, equity price or commodity price. The cash flows are calculated on a notional principal amount, which is usually not exchanged between counterparties. Value transfers can be made with cash or depending on contract terms.~~

~~An example of a swap contract is an interest rate swap. An interest rate swap is an agreement to exchange a series of cash flows on periodic settlement dates over a certain time period. The duration properties of interest rate swaps are the primary reason for their popularity as an effective portfolio management tool for fixed income managers. If a fixed income manager agrees to pay a floating rate and receive a fixed rate in a swap, s/he will be increasing duration in her/his portfolio.~~

~~**Warrants** – a warrant is a type of derivative security that entitles the holder to buy or sell the underlying stock of the issuing company at a fixed exercise price until the expiry date. Warrants may be either exchange traded or OTC in nature. OTC Warrants are typically long term in nature.~~

~~Warrants are frequently attached to bonds (to reduce interest rates for the issuer) or preferred stock (to reduce dividend payments) as a sweetener. Warrants can also be used in private equity deals. Frequently, these warrants are detachable, and can be sold independently of the bond or stock. (Typically traded OTC)~~

~~*This list is not intended to be an all encompassing list of derivative contracts available for use in the portfolios, but rather, to display a sample of the most common types of contracts and describe the spirit of their intended use in the portfolios.*~~

**Derivatives Permitted Use:**

KRS permits external managers and Investment Division (Staff) to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

**Exposure:**

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

**Cost Efficiency:**

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

**Risk Management:**

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

**Derivatives Restricted Use:**

**Settlement:**

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall KRS agree to take physical delivery on a futures contract.

**Position Limits:**

Futures and options positions entered into by KRS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

**Over-the-Counter (OTC):**
Investments in securities not traded on public exchanges that are deemed Over-the-Counter (OTC) in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions including those managed through Agency Agreements must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of KRS under the transactions. All ISDA Master Agreements entered into by or on behalf of KRS by the Investment Division (Staff) and external manager pursuant to an Agency Agreement shall provide that Netting applies. (Netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The Investment Division (Staff) and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

**Derivatives Applications Not Permitted:**

**Speculation:**

Except for investments in alternative, ~~absolute return~~Opportunistic Diversifying Strategies investments and real return investments derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to KRS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by KRS IPS or applicable to the portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the KRS IPS or applicable regulatory requirements.

**Leverage**:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.

*The above is not intended to limit KRS from borrowing to cover short-term cash flow needs nor prohibit KRS from loaning securities in accordance with a securities lending agreement.*

## ~~XI. Additional Items~~

The KRS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance of the Fund over a long time horizon. The Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The Board has adopted the ISS U.S. Proxy Voting Guidelines as the System's approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS is and hereby incorporated by this reference. The policy can be found publically using the following link:

~~http://www.issgovernance.com/files/2012USSummaryGuidelines1312012.pdf~~
https://www.issgovernance.com/file/policy/active/americas/US-Voting-Guidelines.pdf

The following policies are incorporated by reference and can be found publically using the following link:

https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Policies.aspx

A. Investment Procurement Policy Dated ~~July~~ September 2017 is hereby incorporated by reference.
B. Investment Brokerage Policy dated ~~May 2011~~June 2018 is hereby incorporated by reference.
C. Transactions Procedures Policy dated ~~November 2014~~June 2018 is hereby incorporated by reference.
D. Securities Litigation Policy and Procedures dated ~~May 2011~~June 2018 is hereby incorporated by reference.
E. Investment Securities Lending Guidelines dated ~~May 2011~~June 2018 is hereby incorporated by reference.
F. Securities Trading Policy for Trustees and Employees dated ~~February 2015~~June 2018 is hereby incorporated by reference.
G. Manager and Placement Agent Statement of Disclosure Policy dated ~~August 2012~~June 2018 is hereby incorporated by reference.

H. Real Estate policy dated June 2018 is hereby incorporated by reference.

~~G.~~I. Conflict of Interest and Confidentiality Policy date August 2011 is hereby incorporated by reference.

Signatories

As Adopted by the Investment Committee

Date: _____

Signature:_____
Mr. David L. Harris
Chair, Investment Committee

As Adopted by the Board of Trustees
Date: _____

Signature:_____
Mr. John R. Farris
Chair, Board of Trustees

# Kentucky Retirement Systems

Statement of Investment Policy
Adopted November 12th, 2019

This Statement of Investment Policy is issued by the Board of Trustees of the Kentucky Retirement Systems (Systems) in connection with investing the pension and insurance funds of the Kentucky Employees Retirement Systems, the County Employees Retirement Systems and the State Police Retirement System. This document supersedes all prior documents entitled Statement of Investment Policy.

## I. Introduction

### A. Purpose

The purpose of this Investment Policy Statement ("Policy") is to define the framework for investing the assets ("Portfolio") of the Kentucky Retirement Systems ("KRS" or "Plan"). This Policy is intended to provide general principles for establishing the goals of KRS, the allocation of assets, employment of internal and/or external asset management, and monitoring the results of the Plan.

The retirement plans administered by the Kentucky Retirement Systems are a "Qualified Pension Plan" under Section 401 of the Internal Revenue Code. Additionally, KRS 61.701 establishes health insurance benefits to recipients of the Kentucky Employees Retirement Systems, County Employees Retirement Systems and State Police Retirement System. KRS 61.702 provides that all amounts necessary to provide for insurance benefits shall be paid to the insurance fund. The Board shall administer the fund in the same manner as the retirement funds.

### B. Philosophy

The Trustees of the Kentucky Retirement Systems recognize their fiduciary duty not only to invest the Systems' funds in formal compliance with the Prudent Person Rule but also to manage those funds in continued recognition of the basic long term nature of those systems. The Trustees interpret this to mean, in addition to the specific guidelines and restrictions set forth in this document, that the assets of the systems shall be proactively managed -- that is, investment decisions regarding the particular asset classes, strategies, and securities to be purchased or sold shall be the result of the conscious exercise of discretion.

The trustees recognize that asset allocation is the primary driver of long-term investment performance, and will therefore review asset allocation and asset-liability studies on a regular basis as outlined in Section III of this document. The asset allocation policy represents a strategic decision, with the primary aim that the portfolios meet their performance objectives in the long-term, understanding that individual yearly performance can vary widely.

The trustees recognize that there is generally an inverse relationship between market efficiency and the ability for active management to produce excess returns (returns above market returns, also referred to as "alpha".) Therefore, investments in efficient markets, such as U.S. Large-Cap Equity and Core Fixed Income, will be made using index or index-like investments with the goal of replicating index returns with low management fees. Active management will be pursued in less efficient markets, such as U.S. Small-Cap Equity and High Yield/Specialty Credit mandates, accepting higher tracking error and paying higher management fees with the expectation of producing excess returns over the long term. This focuses staff and consultant(s') efforts on identifying, selecting, and monitoring managers, as well as overall management fees, in the areas of the market most likely to produce excess returns.

The Trustees recognize that, commensurate with their overall objective of maximizing long-range return while maintaining a high standard of portfolio quality and consistency of return, it is necessary that proper diversification of assets be maintained both across and within the classes of securities held to minimize/mitigate overall portfolio risk. Consistent with carrying out their Fiduciary Responsibilities and the concept of Modern Portfolio Theory, the Trustees will not systematically exclude any investments in companies, industries, countries, or geographic areas unless required to do so by statute. Within this context of proactive management and the necessity for adherence to proper diversification, the Trustees rely upon appropriate professional advice from multiple service providers.

## II. Responsibilities

The Trustees and other fiduciaries shall discharge their duties with respect to the Systems: (1) solely in the interest of the participants and beneficiaries; (2) for the exclusive purpose of providing benefits to participants and beneficiaries; (3) with the care, skill and caution under the circumstances then prevailing which a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an activity of like character and purpose; (4) impartially; (5) incurring and paying appropriate and reasonable expenses of administration which may not necessarily be the lowest and (6) in accordance with a good faith interpretation of the laws, regulations and other instruments governing the Systems.

Additionally, the Trustees and other fiduciaries shall not engage in any transaction which results in a substantial diversion of the Systems' income or assets without adequate security and reasonable rate of return to a disqualified person or in any other prohibited transaction described in Internal Revenue Code Section 503(b).

### A. Board of Trustees

The Board of Trustees authorizes and directs the appointment of an Investment Committee with full power to act for the board in the acquisition, sale and management of the securities and funds of the Systems in accordance with the provisions of the Statutes and Investment Policy of the Board. The Board shall review the actions of the Investment Committee at each quarterly Board meeting.

B. Investment Committee

The Investment Committee consists of nine members of the Board of Trustees. The 6 members appointed by the Governor, and 3 members of the committee being appointed by the chairperson of the Board of Trustees. In accordance with statute, six (6) positions are filled by the Trustees that were appointed to the board as persons with specific experience (Section 61.645.1.e.2). The committee acts on behalf of the board on investment related matters.

The Investment Committee has the following oversight responsibilities:

i. Assure compliance with this policy and all applicable laws and regulations.

ii. Approve the selection and termination of service providers. If a situation warrants a termination of an investment manager prior to the next available investment committee, the Chief Investment Officer can terminate an investment manager relationship with a detailed review of the situation to occur at the next investment committee.

iii. Meet no less than quarterly to evaluate whether this policy, the investment activities and management controls and processes continue to be consistent with meeting the Systems' goals. Mandate actions necessary to maintain the overall effectiveness of the program.

iv. Review assessment of investment program management processes and procedures, and this policy relative to meeting stated goals.

C. Staff

The Chief Investment Officer is responsible for administration of investment assets of the Systems consistent with the policies, guidelines and limits established by the law, this Statement of Investment Policy and the Investment Committee.

The Chief Investment Officer receives direction from and reports to the KRS Investment Committee on all investment matters, including but not limited to the following:

i. Maintaining the diversification and risk exposure of the funds consistent with policies and guidelines.

ii. Assess and report on the performance and risk exposure of the overall investment program relative to goals, objectives, policies and guidelines.

iii. Monitoring and assessing service providers to assure that they meet expectations and conform to policies and guidelines.

iv. Recommend changes to service providers, statutes, policies or guidelines as needed to maintain a productive relationship between the investment program and its goals; act as liaison on all investment related matters.

v. Communicating with the mass media and other agencies, entities or institutions regarding investment related issues.

vi. Identify issues for consideration by the Investment Committee and prepare recommendations regarding such matters.

vii. Preparing for each proposed investment a memo to the Investment committee covering the pertinent details including but not limited to: Amount of the investment, type of investment, purpose, opportunity/goal, risks, volatility assumptions, liquidity, structure, fees, background of investment firm with reasons for selection, list of other firms considered, which plans will invest, and the reasons why specific plans may be excluded.

The Chief Investment Officer or designee is authorized to execute trades on fixed income and equity securities (including ETF's) and to execute proxies for the Board consistent with this Policy.

To carry out this Policy and investment related decisions of the Board, the Chief Investment Officer or designee is authorized to execute agreements and other necessary or proper documents pertaining to investment managers**,** consultants, investment related transactions or other investment functions.

D. Investment Managers

In instances where the Investment Committee has determined it is desirable to employ the services of an external Investment Manager, the following shall be applicable:

i. Investment Managers shall be qualified and agree to serve as a fiduciary to the Systems and should be of institutional quality as deemed by staff in conjuncture with the investment consultant(s)
ii. Investment Managers shall manage assets in accordance with this Policy and any additional guidelines established by contract, as may be modified in writing from time to time.
iii. Total assets assigned to the selected manager shall not exceed 25% of that firm's total assets under management and shall not exceed 25% of a firm's total assets under management in a commingled product. Separate accounts or funds of one are not included in this 25% limitation for commingled products.
iv. The assets managed by any one active or passive investment manager shall not exceed 15% of the assets in the pension and insurance funds.
v. All investment management services will be contracted according to the KRS Investment Procurement Policy established by the Board of Trustees.

E. Custody Bank

The Board shall hire custodians and other agents who will be fiduciaries to the Systems and who will assume responsibility for the safekeeping and accounting of all assets held on behalf of the Systems and other duties as agreed to by contract.

F. Investment Consultants

Qualified independent investment consultants may be retained by the Systems for asset allocation studies, asset allocation recommendations, performance reviews, manager searches and other investment related consulting functions and duties as set forth by contract.

G. Selection

Qualified investment managers, custody banks, investment consultants and other service providers shall be selected by the Investment Committee in accordance with the KRS Investment Procurement Policy. The selection shall be based upon the demonstrated ability of the professional(s) to provide the required expertise or assistance described in the RFP/RFI (if utilized). In order to create an efficient and effective process, the Investment Committee or Chief Investment Officer may, in their sole discretion, utilize RFI, RFP, third party proprietary software or database, review of existing service provider capabilities or any combination of these or other methods to select a service provider.

## III. Asset Allocation Guidelines

In establishing asset allocation guidelines the Board recognizes that each system has its own capacity to tolerate investment volatility, or risk. Therefore, each system has been studied and asset allocation guidelines have been established on a system by system basis. The Board will cause the asset allocation guidelines of each system to be reviewed annually. The Board will provide the Investment Committee with the results of any asset liability study and guidance for determining the needs of the systems.

Based on an asset liability valuation study, which analyzed the expected returns, risk and correlations of various asset classes, projected liabilities, liquidity, and the risks associated with alternative asset mix strategies, the trustees have established the following Asset Allocation Policy, effective July 1st, 2018. The asset classes are "bucketed" or grouped together into macro-asset class buckets (i.e. growth, liquidity and diversifying) based on their expected correlations to one another to create a better understanding of risk and diversification, and based on asset class exposures to the economic factors of growth and inflation.

| **Pension and Insurance Funds (excluding KERS and SPRS Pension Funds) – 6.25% Assumed Rate of Return** | | | |
|---|---|---|---|
| Asset Class | Target | Minimum | Maximum |
| **Growth** | **62.50%** | **60.00%** | **66.00%** |
| US Equity | 18.75% | 10.00% | 25.00% |
| Non US Equity | 18.75% | 10.00% | 25.00% |
| Private Equity | 10.00% | 7.00% | 13.00% |
| High Yield / Specialty Credit | 15.00% | 5.00% | 20.00% |
| **Liquidity** | **14.50%** | **10.00%** | **18.00%** |
| Core Fixed Income | 13.50% | 7.00% | 18.00% |
| Cash | 1.00% | 0.00% | 5.00% |

| | | | |
|---|---|---|---|
| **Diversifying** | **23.00%** | **15.00%** | **26.00%** |
| Real Estate | 5.00% | 0.00% | 10.00% |
| Opportunistic | 3.00% | 0.00% | 10.00% |
| Real Return | 15.00% | 5.00% | 20.00% |

| **KERS and SPRS Pension Funds – 5.25% Assumed Rate of Return** | | | |
|---|---|---|---|
| Asset Class | Target | Minimum | Maximum |
| **Growth** | **53.50%** | **50.00%** | **65.00%** |
| US Equity | 15.75% | 10.00% | 25.00% |
| Non US Equity | 15.75% | 10.00% | 25.00% |
| Private Equity | 7.00% | 5.00% | 15.00% |
| High Yield / Specialty Credit | 15.00% | 10.00% | 25.00% |
| **Liquidity** | **23.50%** | **15.00%** | **26.00%** |
| Core Fixed Income | 20.50% | 15.00% | 26.00% |
| Cash | 3.00% | 0.00% | 5.00% |
| **Diversifying** | **23.00%** | **15.00%** | **26.00%** |
| Real Estate | 5.00% | 0.00% | 10.00% |
| Opportunistic | 3.00% | 0.00% | 10.00% |
| Real Return | 15.00% | 5.00% | 20.00% |

The intent of the Board of Trustees in allocating funds to the investment managers is for the investment managers to fully invest the funds. However, the Board of Trustees is aware that from time to time the investment manager will require a portion of the allocated funds to be held in cash provided the cash holdings do not exceed Five percent (5%) of the manager's allocation for any given quarter, unless such cash holdings are an integral part of a fixed income manager’s investment strategy.

The individual plan level asset allocations of the each Pension and Insurance Fund constituent will be reviewed monthly by staff relative to its target asset class allocation, taking into account any tactical policy shift directed by the Investment Committee.

Regarding individual investment manager initial allocations, staff will get approval at the Investment Committee meeting for a specific dollar amount intended to be committed to a closed-end fund such as private equity or real estate funds and will get approval for a percent of the appropriate asset class target for open-end investments such as public equity, public fixed income, and Diversifying Strategies managers. For those open-end funds where assets can be added or subtracted, the Chief Investment Officer will have discretion to reduce or increase an investment manager’s allocation between 50% and 150% of the approved target. The Chief Investment Officer will also have full discretion to fire a manager, which must be reported to the Investment Committee at the next scheduled meeting.

Short term market shifts may cause the asset mix to drift from the allocation targets. Should the target percentage fall out of the indicated range for a particular asset class, the staff shall direct rebalancing transactions to reallocate assets from the over-allocated asset class to the under-allocated asset class. Within the allowable ranges, staff should use regular cash flows

to rebalance toward targets to avoid incurring additional trading costs to correct minor deviations from policy targets. Except when there is a perceived extraordinary downside risk in a particular asset class, movement outside the normal ranges should be avoided.

Investments in private assets are generally less liquid than investments in public markets securities and are typically implemented via periodic commitments to funds with limited partnership structures. As a result, actual allocations to these asset classes may deviate from their strategic targets for extended periods. Actual vs. target deviations for these asset classes shall not be considered in violation of the Asset Allocation Policy. Under/overweights to these asset classes shall be invested in public markets securities with the most similar risk/return characteristics as a short-term proxy for the private asset classes.

In keeping with its responsibility as Trustee and wherever consistent with its fiduciary responsibility, the Board encourages the investment of the fund's assets in investments, funds, and securities of corporations which provide a positive contribution to the economy of the Commonwealth of Kentucky. However, where any security is not a prohibited investment under the governing laws and policies, discretion will be granted to the appointed investment managers in the selection of such securities and timing of transactions consistent with the following guidelines and restrictions.

A. Growth

US Equity

Investment may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual domestic equity account shall have a comprehensive set of investment guidelines prepared, which contains a listing of permissible investments, portfolio restrictions and standards of performance for the account.

The internally managed equity index funds are intended, consistent with the governing plan documents, to gain exposure to a broad asset sector to replicate the characteristics of the asset class, to minimize administrative expenses and to help achieve overall portfolio objectives. These objectives can be achieved through several management techniques, including but not limited to, portfolio optimization, non-reinvestment of index dividends and other management techniques intended to help achieve the objectives of the entire pension fund.

Non US Equity

Investments may be made in common stock, securities convertible into common stock, preferred stock of publicly traded companies on stock markets, asset class relevant ETF's or any other type of security contained in a manager's benchmark. Each individual international equity account shall have a comprehensive set of investment guidelines which shall contain a listing of permissible investments, portfolio restrictions and standards of performance for the account.

High Yield/Specialty Credit

High yield/specialty credit investments will be similar in type to those securities found in the

KRS high yield benchmarks and the characteristics of the portfolio will be similar to the KRS high yield fixed income benchmarks. The high yield fixed income accounts may include, but are not limited to the following fixed income securities: non-investment grade U.S. corporate credit including both bonds and bank loans, non-investment grade non U.S. corporate credit including bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities, and emerging market debt including both sovereign EMD and corporate EMD and asset class relevant ETF's.

Each individual high yield/specialty credit account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Private Equity Investments

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made for the purpose of creating a diversified portfolio of alternative investments. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments. Examples of such investments include, but are not limited to, private investments into venture capital, leveraged buyouts, special situations, distressed debt, private debt, timberland, oil and gas partnerships, infrastructure, commodities and private placements. While it is expected that the majority of these assets will be invested within the United States, a portion has been allocated to non-US investments. These non-U.S. investments are not restricted by geography.

**Guidelines for Private Equity**

The private equity market is highly sophisticated and specialized with respect to variety and types of investment structures. There exists major competition for deal flow on the part of both investor and general partners. To a great extent, market forces drive the bargaining of economic terms. Most investment vehicles are structured as commingled vehicles and often blind pool investment partnerships. The most common offering forms are equity private placements where the governing laws of the partnership impose a passive role of the limited partner investor. These contractual arrangements are long-term in nature and provide the general partner or sponsors a reasonable time horizon to wisely invest capital, add value through intensive operational management, then realize the proceeds of such an investment. Moreover, terms of the partnership are proposed by the general partner are critical to the economic incentives and ultimate net performance of the partnership.

**Investment Strategy and Plan Guidelines**

To strengthen the diversification of the investments, several guidelines will be utilized in Staff's formulation and recommended annual investment strategy and plan. These guidelines encompass annual commitment levels to the asset class, types of investment vehicles that can

be utilized, controlling financing stage risks, industry, manager and geography concentration/diversification limits, acceptable contract negotiations, appropriate sizes for investments, and the preferred alignment of interests.

*Investment Vehicles:* KRS will gain exposure to private equity investments by hiring external investment managers either directly or through participation in secondary private equity markets. Typically, the Fund will subscribe as a Limited Partner to limited partnership vehicles sponsored by such specialty external investment managers. The Fund will also at times structure separately managed accounts with specific investment objectives to be implemented by external investment managers. KRS may also gain exposure by utilizing the following vehicles: limited liability companies and co-investments alongside the Fund's existing or potential limited partnerships.

*Investment Timing Risks*: Staff should limit the potential for any one investment to negatively impact the long-term results of the portfolio by investing across business cycles. Moreover, the portfolio must gain exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle. Staff may also consider purchasing secondary partnership interests to shorten the effective life of the partnership interest and therefore positively impacting the current and long term net return of the portfolio. In addition, mindful of vintage year diversification, KRS should seek to identify attractive commitments annually, further ensuring the portfolio invests across business cycles.

*General Partner Diversification:* Staff will seek to work with a variety of general partners due to their specialized expertise in particular segments of the private equity market and source of their deal flow. No more than fifteen (15) percent of the KRS Pension or Insurance total allocation to private equity investments may be committed to any one partnership, without the approval of the Board.

B. Fixed Income/Liquidity

Core Fixed Income

Core Fixed Income investments will be similar in type to those securities found in the KRS core fixed income benchmark(s) and the characteristics of the KRS core fixed income portfolio will be similar to the KRS core fixed income benchmarks. The core fixed income accounts may include, but are not limited to the following fixed income securities: U.S. Government and Agency bonds, investment grade U.S. corporate credit, investment grade non-U.S. corporate credit, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities, and whole loans, asset-backed securities, and asset class relevant ETF's.

Each individual core fixed income account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash Equivalent Securities

Selection of particular short-term instruments, whether viewed as liquidity reserves or as investment vehicles, should be determined primarily by the safety and liquidity of the investment and only secondarily by the available yield. The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds, variable rate demand notes, government and agency bonds, mortgages, municipal bonds, and collective STIFs, money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days~~.~~ Repurchase agreements shall be deemed to have a maturity equal to the period remaining until the date on which the repurchase of the underlying securities is scheduled to occur. Variable rate securities shall be deemed to have a maturity equal to the time left until the next interest rate reset occurs, but in no case will any security have a stated final maturity of more than three years.

The Systems' fixed income managers that utilize cash equivalent securities as an integral part of their investment strategy are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for fixed income managers shall be included in the investment manager's investment guidelines.

C. Diversifying Strategies

Real Estate

Subject to specific approval of the Investment Committee of the Board of Trustees, investments may be made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. Allowable real estate investments include open-end and closed-end commingled real estate funds, joint venture investments, public and private REITs (real estate investment trusts), public real estate operating companies, and real estate related debt.

KRS has determined that the primary role of the real estate asset class is to provide for the following:

- Attractive risk adjusted returns through active management and ability to access managers with the expertise and capabilities to exploit market inefficiencies in the asset class. The illiquid nature of real estate investments combined with the complexity of investments makes it difficult for casual investors to effectively access the asset class effectively. It is our belief that through active management and by investing in top tier managers with interests aligned through co-investment and incentive based compensation, KRS can maximize its risk adjusted returns. This active management approach will be pursued.

- Diversification benefits through low correlations with other asset classes, primarily the U.S. equity markets.

- Provide a hedge against unanticipated inflation, which real estate has historically provided due to lease structures and the increases in material and labor costs during inflationary periods.
- Permit KRS to invest in unique opportunities that arise due to dislocations in markets that occur from time to time.

Real Return

The purpose of the Real Return Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans. Real return strategies are not necessarily a separate asset class but may include real assets, such as infrastructure, real estate, commodities, and natural resources among others, as well as financial assets that have a positive correlation to inflation. This can include “real” bonds such as TIPs (and other inflation linkers) or “real” stocks such as REITs, MLPs, and oil & gas stocks. Additionally, GTAA (Global Tactical Asset Allocation) managers may be used, in an attempt to add value by tactically allocating to various asset classes according to how each asset class performs across an economic cycle and the manager’s perception of where we are in the cycle. The goal is to invest in inflation sensitive assets during inflationary periods, and avoid those assets in deflationary periods, thus providing a positive real return across the cycle. Within a real return portfolio, these strategies may use inflation as the economic factor to gain exposure to and will target a real rate of return over time. Other strategies include those that have a propensity to provide a positive real return or positive correlation with inflation over time.

**Portfolio Guidelines**

No more than 50% of the total net assets of the Real Return portfolio may be invested in any one registered investment vehicle, mutual fund, or separately managed account.

No more than 20% of the total net assets of the Real Return portfolio may be invested in any single closed-end or open-end limited partnership or other unregistered investment vehicle.

The relative allocations to the liquid and illiquid portfolios will be determined according to each individual plan’s liquidity needs, funding status, and allocation targets on an investment by investment basis.

Opportunistic

The purpose of the Opportunistic Portfolio is to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of diversification for the overall plan. Opportunistic strategies, by definition, are not necessarily a separate asset class, but broaden the opportunity set within existing asset classes such as stocks, bonds, currencies and commodities by going both long and short, employing derivatives and leverage, shortening and

extending investment horizons, and moving across public and private markets, amongst others. By focusing on the idiosyncratic risks of security selection and often attempting to minimize systematic market risks through hedging activities, such managers can make investment decisions unconstrained by restrictive relative benchmarks such as the S&P 500 or Bloomberg Barclay's Aggregate Bond Index, and add value to portfolios by achieving favorable risk-adjusted returns in most market environments while also reducing overall plan volatility. While there are exceptions, these investments generally exhibit low beta and low correlation to risk asset indices. More specifically, KRS will target strategies that demonstrate the following investment characteristics:

- Fundamental, explainable investment strategies with a clear methodology and minimal complexity.
- Expected returns that exceed the annualized return of the Bloomberg Barclays Global Aggregate Bond Index.
- Expected annualized standard deviation less than 6.0%.
- Expected Sharpe Ratio of 1.0 or greater.
- Expected correlation to the S&P 500 Index less than 0.25.
- Expected correlation to the Bloomberg Barclays Global Aggregate Bond Index less than 0.25.

The opportunity set includes hedge funds and other strategies attempting to achieve positive returns without heavy reliance on the assumption of traditional systematic risk factors. Investment vehicles used to access this opportunity set can include limited partnerships, but also mutual funds, ETFs, and separately managed accounts, amongst others. Opportunistic strategies are extremely heterogeneous, as managers have both greater variability within a strategy and the flexibility to evolve across styles and asset classes. This is a key benefit of the investment universe; however, it also makes strategy classifications less meaningful and manager selection significantly more important. It also necessitates relatively broader allowable strategy ranges than in other more traditional asset classes.

**Portfolio Guidelines**

No more than 10% of the total net assets of the Opportunistic portfolio may be invested in any one fund. No more than 15% of the total net assets of the Opportunistic portfolio may be invested in any one separately managed account, mutual fund, or other registered investment vehicle.

No more than 15% of the total net assets of the Opportunistic portfolio allocation may be invested with any one investment strategy (excluding Funds of Funds). No more than 25% of the net assets of the Opportunistic portfolio allocation may be invested with any one investment manager (excluding Funds of Funds).

As the Opportunistic allocation can include various investment vehicles and strategies with differing liquidity profiles, it is important to consider liquidity as a separate risk spectrum. In order to manage the portfolio and provide the system liquidity as necessary while remaining== flexible enough to capture returns available in moderately illiquid opportunities, the Opportunistic allocation will adhere to the following liquidity targets:

At all times, at least 25.0% of the Opportunistic portfolio as a whole should be committed to vehicles the offer quarterly liquidity or better.

At all times, no more than 50.0% of the Opportunistic portfolio as a whole should be committed to vehicles that provide liquidity in periods greater than one year.

No investments in vehicles with a \lock-up period greater than five years are permitted in the Opportunistic portfolio.

## IV. Monitoring

Performance Measurement

The Kentucky Retirement Systems ("KRS") overall fund performance is measured relative to the KRS Pension or Insurance Total Fund Benchmark. The benchmark is calculated by means of a weighted average methodology. This method is consistent with industry-wide standards and the practices utilized by the CFA Institute. It is the product of the various component weights (i.e., asset classes' percentages) by their respective performance (returns). Due to market fluctuations and acceptable divergence, the asset classes' weights (percentages) are often not equivalent to the benchmark's weights. Therefore, the performance may indicate that the Funds have outperformed (underperformed) relative to their respective benchmarks, even when the preponderance of lesser weighted categories have underperformed (outperformed) their indices.

KRS measures its asset classes, sub-asset classes, sectors, strategies, portfolios, and instruments (investment) performance with indexes that are recognized and published (e.g., S&P 500 & Barclays Aggregate Bond Index). These indices are determined to be appropriate measures of investments and composites of investments with identical or similar investments profiles, characteristics, and strategies. The benchmarks and indexes are intended to be objective, investable, replicable, representative and measurable of the investment mandate and, developed from publicly available information that is acceptable to KRS and the investment manager/advisor as the neutral position consistent with the underlying investor status. KRS' investment consultant and staff recommend the benchmarks and indexes. These measures shall be subject to the review and approval of the KRS Investment Committee and ratification of the Kentucky Retirement Systems' Board of Trustees when asset allocation studies are performed, or when a change to existing benchmarks is recommended by staff and consultant. The current asset class benchmarks, effective as of July 1, 2018 with the adoption of the asset allocation, are as follows:

| Asset Class | Benchmark |
|---|---|
| **Growth** | |
| US Equity | Russell 3000 |
| Non US Equity | MSCI ACWI ex US IMI |
| Private Equity | Russell 3000 + 300 bps (lagged) |
| High Yield / Specialty Credit | 50% Bloomberg Barclays US High Yield |

| | |
|---|---|
| | 50% S&P LSTA Leveraged Loan |
| **Liquidity** | |
| Core Fixed Income | Bloomberg Barclays US Aggregate |
| Cash | Citi Grp 3-mos Treasury Bill |
| **Diversifying** | |
| Real Estate | NCREIF ODCE |
| Opportunistic | HFRI Diversified |
| Real Return | US CPI + 3% |

The following descriptions represent general standards of measurement that will be used as guidelines for the various classes of investments and managers of the Kentucky Retirement Systems. They are to be computed and expressed on a time-weighted total return basis:

*Total Public Asset Class Allocations*

Short-term

- For periods less than ten years or a full market cycle, the Asset Class Allocation should exceed the returns of the appropriate Index.

Intermediate & Long-term

- For periods greater than ten years or one market cycle, the Asset Class Allocation should exceed the appropriate Index, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the Index.

*Individual Public Security Portfolios:* Individual portfolios shall be assigned a market goal or benchmark that is representative of the style or market capitalization of the assignment. Individual accounts should be monitored using the following Standards:

Short-term

- For periods less than ten years or a full market cycle, individual portfolios should exceed the returns of their market goal or benchmark.

Intermediate & Long-term

- For periods greater than ten years or one market cycle, individual portfolios should exceed the return of their market goal or benchmark, compare favorably on a risk-adjusted basis, and generate returns that rank above the median return of a relevant peer group. Volatility, as measured by the standard deviation of monthly returns, should be comparable to the benchmark.

Alternative Assets:

Private Equity

The Private Equity portfolio should also seek to achieve the following:

Short-term

- Alternative investments should earn a Net IRR that place the investment above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Intermediate & Long-term

- The private equity portfolio should earn a return that meets or exceeds the KRS Private Equity Index. Individual private equity investments should earn a Net IRR above the median Net IRR of other similar funds, of the same vintage year, as reported by Venture Economics.

Real Estate

Private real estate investments are unique and can be illiquid and long term in nature. Given that this may lead to large short term performance discrepancies versus public benchmarks, KRS more appropriately measures its real estate investments based on both relative return and absolute return methodologies:

*Relative Return:* The real estate portfolio is expected to generate returns, net of all fees and expenses, in excess of the National Council of Real Estate Investment Fiduciaries Open End Diversified Core Equity Index ("NCREIF ODCE") lagged 1 calendar quarter.

*Absolute Return:* The long term real return objective (returns adjusted for inflation) for the KRS real estate portfolio is five percent (5%) over the *Barclays* Capital U.S. 7-10 Year Treasury Bond *Index*, net of investment management fees. This return shall be calculated on a time-weighted basis using industry standard reporting methodologies.

Real Return

The total Real Return allocation shall seek to:

(1) Short-term benchmark: For periods less than ten years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the appropriate benchmark (the weighted average return of the underlying investment benchmarks) annually over a complete market cycle, net of all investment management fees.

(2) Strategic objective: For periods greater than ten years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds (CPI + 300 basis points) as well.

(3) Achieve a positive risk/reward trade-off when compared to similar style real return Investment Managers.

Opportunistic

The total Opportunistic allocation shall seek to:

(1) .Short-term benchmark: For periods less than ten years or a full market cycle, the allocation should achieve an annual rate of return that exceeds the

appropriate benchmark (HFRI Diversified Fund of Fund Composite Index), net of all investment management fees, with similar risk relative to the benchmark.

(2) Strategic benchmark: For periods greater than ten years or a full market cycle, the allocation should not only outperform the short-term benchmark, but also achieve a rate of return that exceeds the appropriate long-term benchmark (1 Year Treasury Bill Rate + 500 basis points) as well.

Performance Review

On a timely basis, but not less than quarterly, the Investment Committee, on behalf of the Board of Trustees, will review the performance of the portfolio for determination of compliance with this Statement of Investment Policy. On an annual basis, a comprehensive review of each asset class and underlying portfolios shall be conducted by the staff and presented to the Investment Committee. The review shall consist of an organizational, performance and compliance assessment.

The Compliance Officer shall perform tests at least monthly to assure compliance with the restrictions imposed by this policy. These tests shall be performed at the asset class and total fund level. Quarterly, the Compliance Officer shall prepare a report to the Investment Committee detailing the restrictions tested, exceptions, the cause of the exception and the subsequent resolution. The Investment Committee shall report the findings to the Board of Trustees at the next regularly scheduled meeting.

The following restrictions shall be tested at least monthly:

- The amount of stock in the domestic or international equity allocation in any single corporation shall not exceed 5% of the aggregate market value of the Systems' assets.
- The amount of stock held in the domestic or international equity allocation shall not exceed 3% of the outstanding shares of any single corporation.
- Investment in “frontier” markets (those countries not included in the MSCI EM Index) shall not exceed 5% of the System’s international equity assets.
- The duration of the core fixed income portfolios combined shall not vary from that of the KRS Fixed Income Index by more than+/- 25% duration as measured by effective duration, modified duration, or dollar duration except when the Investment Committee has determined a target duration to be used for an interim basis.
- The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of the Systems' fixed income assets, with the exception of U.S. Government issued, guaranteed or agency obligations (or securities collateralized by same), and derivative securities used for exposure, cost efficiency, or risk management purposes in compliance with Section VII of this policy.
- 50% of the core fixed income assets must have liquidity that is trade date plus three days or better.

The Chief Investment Officer shall develop a comprehensive set of investment guidelines for each externally managed account. These guidelines should ensure, at the total fund and asset class level, that the restrictions set forth above are preserved.

## V Additional Items

Derivative Securities and Leveraging

**Derivatives Permitted Use:**

KRS permits external managers and Investment Division (Staff) to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Typical uses of derivatives in the portfolio are broadly defined below:

**Exposure:**

Derivatives are an effective way for a portfolio manager to gain exposure to a security that the manager does not want to purchase in the cash market. Reasons for gaining exposure to a security through the use of derivatives may include cheaper transactions costs, liquidity/lack of supply in the underlying market, and the flexibility to implement investment views with minimum portfolio disruption. An example is a cash equitization program.

**Cost Efficiency:**

Derivatives are often used due to the cost efficiency associated with the contract properties. Given the fact that derivatives can be used as a form of insurance, upfront trading costs must be sufficiently low for investors to purchase the contract and insure their portfolios efficiently. Furthermore, due to properties associated with derivatives and cash outlay characteristics (minimal cash outlay at inception of the contract) derivatives are generally a vehicle of gaining cost efficient exposure. An example is the cost (zero) to purchase a futures contract.

**Risk Management:**

Derivatives can be used for mitigating risk in the portfolio. When used as a risk management tool, derivatives can significantly reduce an identified financial risk or involuntary risk from investment areas by providing changes in fair values or cash flows that substantially offset the changes in fair values or cash flows of the associated item being hedged. An example is the use of currency forwards to offset periods of dollar strength when international equity markets increase in value, thereby protecting foreign asset gains in the portfolio.

**Derivatives Restricted Use:**

**Settlement:**

Investments in futures contracts are to be cash settled unless physically settled and stored by external managers. At no time shall KRS agree to take physical delivery on a futures contract.

**Position Limits:**

Futures and options positions entered into by KRS, or on its behalf, will comply with all position and aggregate limits established by the local governing authorities within each jurisdiction.

**Over-the-Counter (OTC):**

Investments in securities not traded on public exchanges that are deemed Over-the-Counter (OTC) in nature are allowed provided that a counterparty risk monitoring component is delineated in the manager's guideline section of the manager's contract. All counterparties must have a short-term credit rating of at least BBB (Standard and Poor's or Fitch) or Baa2 (Moody's).

All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements and have full documentation of all legal obligations of KRS under the transactions. All ISDA Master Agreements entered into by or on behalf of KRS by the Investment Division (Staff) and external manager pursuant to an Agency Agreement shall provide that Netting applies. (Netting allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other.) The Investment Division (Staff) and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. If an external manager utilizes a collateral arrangement to mitigate counterparty credit or performance risk the arrangement shall be delineated in the manager's guideline section of the manager's contract.

**<u>Derivatives Applications Not Permitted:</u>**

**Speculation:**

Except for investments in alternative, Opportunistic Diversifying Strategies investments, and real return investments, derivatives may not be used for any activity for which the primary purpose is speculation or to profit while materially increasing risk to KRS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by KRS IPS or applicable to the portfolio. Derivatives may not be used for circumventing any limitations or restrictions imposed by the KRS IPS or applicable regulatory requirements.

**Leverage**:

Leverage is inherent in derivative contracts since only a small cash deposit is required to establish a much larger economic impact position. Thus, relative to the cash markets, where in most cases the cash outlay is equal to the asset acquired, derivative investments offer the possibility of establishing substantially larger market risk exposures with the same amount of cash as a traditional cash market portfolio. Therefore, risk management and control processes must focus on the total risk, i.e. the net notional value, assumed in a derivative investment.

*The above is not intended to limit KRS from borrowing to cover short-term cash flow needs nor prohibit KRS from loaning securities in accordance with a securities lending agreement.*

Proxy Voting

The KRS Board recognizes that the voting of proxies is an important responsibility in assuring the overall performance of the Fund over a long time horizon. The Board has delegated the responsibility of voting all proxies to an outside Proxy Voting service provider or contracted external investment manager. The Board expects that the proxy voting service will execute all proxies in a timely fashion, and in accordance with the voting policy which has been formally adopted.

The Board has adopted the ISS U.S. Proxy Voting Guidelines as the System's approved Proxy Voting Policy for all internally voted items. This policy is updated at least annually by ISS is and hereby incorporated by this reference. The policy can be found publically using the following link:

https://www.issgovernance.com/file/policy/active/americas/US-Voting-Guidelines.pdf

Incorporated Polices

The following policies are incorporated by reference and can be found publically using the following link:

https://kyret.ky.gov/Investments/Investments-Library/Pages/Investments-Policies.aspx

A. Investment Procurement Policy Dated September 2017 is hereby incorporated by reference.
B. Investment Brokerage Policy dated June 2018 is hereby incorporated by reference.
C. Transactions Procedures Policy dated June 2018 is hereby incorporated by reference.
D. Securities Litigation Policy and Procedures dated June 2018 is hereby incorporated by reference.
E. Investment Securities Lending Guidelines dated June 2018 is hereby incorporated by reference.

F. Securities Trading Policy for Trustees and Employees dated June 2018 is hereby incorporated by reference.

G. Manager and Placement Agent Statement of Disclosure Policy dated June 2018 is hereby incorporated by reference.

H. Real Estate policy dated June 2018 is hereby incorporated by reference.

I. Conflict of Interest and Confidentiality Policy date August 2011 is hereby incorporated by reference.

Signatures

Signatories

| | |
|---|---|
| As Adopted by the Investment Committee | As Adopted by the Board of Trustees |
| Date: _____ | Date: _____ |
| Signature:_____ | Signature:_____ |
| Mr. David L. Harris | Mr. John R. Farris |
| Chair, Investment Committee | Chair, Board of Trustees |