

Nuveen Core Equity Alpha Fund
Form N-Q
November 29, 2016

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM N-Q

**QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT
INVESTMENT COMPANY**

Investment Company Act file number 811-22003

Nuveen Core Equity Alpha Fund

(Exact name of registrant as specified in charter)

333 West Wacker Drive, Chicago, Illinois 60606

(Address of principal executive offices) (Zip code)

Gifford R. Zimmerman Vice President and Secretary

333 West Wacker Drive, Chicago, Illinois 60606

(Name and address of agent for service)

Registrant's telephone number, including area code: 312-917-7700

Date of fiscal year end: December 31

Date of reporting period: September 30, 2016

Form N-Q is to be used by management investment companies, other than small business investment companies registered on Form N-5 (§§ 239.24 and 274.5 of this chapter), to file reports with the Commission, not later than 60 days after the close of the first and third fiscal quarters, pursuant to rule 30b1-5 under the Investment Company Act of 1940 (17 CFR 270.30b1-5). The Commission may use the information provided on Form N-Q in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-Q, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-Q unless the Form displays a currently valid Office of Management and Budget (OMB) control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. § 3507.

Item 1. Schedule of Investments

JCE

Nuveen Core Equity Alpha Fund
Portfolio of Investments

September 30, 2016 (Unaudited)

| Shares | Description (1) | Value |
|--------|--|------------|
| | LONG-TERM INVESTMENTS 98.4% | |
| | COMMON STOCKS 98.4% | |
| | Aerospace & Defense 4.2% | |
| 3,800 | L-3 Communications Holdings, Inc. | \$ 572,774 |
| 19,100 | Lockheed Martin Corporation, (2) | 4,578,652 |
| 7,000 | Northrop Grumman Corporation | 1,497,650 |
| 18,300 | Raytheon Company | 2,491,179 |
| 6,500 | Rockwell Collins, Inc. | 548,210 |
| 800 | TransDigm Group Inc., (3) | 231,296 |
| | Total Aerospace & Defense | 9,919,761 |
| | Air Freight & Logistics 0.3% | |
| 6,400 | C.H. Robinson Worldwide, Inc. | 450,944 |
| 4,100 | Expeditors International of Washington, Inc. | 211,232 |
| | Total Air Freight & Logistics | 662,176 |
| | Airlines 1.7% | |
| 99,300 | Southwest Airlines Co., (2) | 3,861,777 |
| | Auto Components 0.3% | |
| 15,065 | Johnson Controls International PLC | 700,974 |
| | Banks 0.2% | |
| 3,100 | Comerica Incorporated | 146,692 |
| 15,200 | People's United Financial, Inc., (2) | 240,464 |
| | Total Banks | 387,156 |
| | Beverages 2.1% | |
| 22,300 | Constellation Brands, Inc., Class A | 3,712,727 |
| 13,800 | Dr. Pepper Snapple Group, (2) | 1,260,078 |
| | Total Beverages | 4,972,805 |
| | Building Products 0.2% | |
| 1,300 | Allegion PLC | 89,583 |
| 4,000 | Fortune Brands Home & Security | 232,400 |
| 4,500 | Masco Corporation | 154,395 |
| | Total Building Products | 476,378 |
| | Capital Markets 0.7% | |
| 12,700 | CME Group, Inc., (2) | 1,327,404 |
| 3,400 | NASDAQ Stock Market, Inc. | 229,636 |
| | Total Capital Markets | 1,557,040 |

Chemicals 2.2%

| | | |
|--------|---|-----------|
| 15,300 | Albemarle Corporation | 1,307,997 |
| 6,500 | Eastman Chemical Company | 439,920 |
| 17,700 | FMC Corporation | 855,618 |
| 1,700 | International Flavors & Fragrances Inc. | 243,049 |
| 14,700 | LyondellBasell Industries NV | 1,185,702 |
| 7,300 | PPG Industries, Inc. | 754,528 |
| 1,200 | Sherwin-Williams Company | 331,992 |
| | Total Chemicals | 5,118,806 |

NUVEEN 1

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)

September 30, 2016 (Unaudited)

| Shares | Description (1) | Value |
|--|---------------------------------------|--------------|
| Commercial Services & Supplies 1.3% | | |
| 9,500 | Cintas Corporation | \$ 1,069,700 |
| 25,900 | Republic Services, Inc. | 1,306,655 |
| 10,200 | Waste Management, Inc. | 650,352 |
| | Total Commercial Services & Supplies | 3,026,707 |
| Communications Equipment 0.3% | | |
| 8,400 | Harris Corporation | 769,524 |
| Construction & Engineering 1.2% | | |
| 19,800 | Fluor Corporation | 1,016,136 |
| 23,200 | Jacobs Engineering Group, Inc., (3) | 1,199,904 |
| 21,900 | Quanta Services Incorporated, (3) | 612,981 |
| | Total Construction & Engineering | 2,829,021 |
| Construction Materials 1.6% | | |
| 8,500 | Martin Marietta Materials | 1,522,435 |
| 18,400 | Vulcan Materials Company | 2,092,632 |
| | Total Construction Materials | 3,615,067 |
| Consumer Finance 0.1% | | |
| 12,100 | Navient Corporation | 175,087 |
| Containers & Packaging 1.5% | | |
| 15,200 | Avery Dennison Corporation | 1,182,408 |
| 6,300 | Ball Corporation | 516,285 |
| 30,400 | International Paper Company | 1,458,592 |
| 9,100 | WestRock Company | 441,168 |
| | Total Containers & Packaging | 3,598,453 |
| Distributors 0.3% | | |
| 7,000 | Genuine Parts Company | 703,150 |
| 2,800 | LKQ Corporation, (3) | 99,288 |
| | Total Distributors | 802,438 |
| Electric Utilities 3.7% | | |
| 8,000 | Alliant Energy Corporation | 306,480 |
| 9,500 | American Electric Power Company, Inc. | 609,995 |
| 7,700 | Edison International | 556,325 |
| 10,000 | Entergy Corporation | 767,300 |
| 9,600 | Eversource Energy | 520,128 |
| 22,800 | Exelon Corporation | 759,012 |
| 6,400 | NextEra Energy Inc. | 782,848 |
| 7,000 | PG&E Corporation | 428,190 |
| 7,200 | Pinnacle West Capital Corporation | 547,128 |
| 48,100 | PPL Corporation | 1,662,817 |
| 20,500 | Southern Company | 1,051,650 |

Edgar Filing: Nuveen Core Equity Alpha Fund - Form N-Q

| | | |
|--------|--|-----------|
| 18,100 | Xcel Energy, Inc. | 744,634 |
| | Total Electric Utilities | 8,736,507 |
| | Electrical Equipment 1.5% | |
| 13,100 | Eaton PLC | 860,801 |
| 15,200 | Emerson Electric Company | 828,552 |
| 14,300 | Rockwell Automation, Inc. | 1,749,462 |
| | Total Electrical Equipment | 3,438,815 |
| | Electronic Equipment, Instruments & Components 0.4% | |
| 8,200 | Amphenol Corporation, Class A | 532,344 |
| 19,800 | Corning Incorporated | 468,270 |
| | Total Electronic Equipment, Instruments & Components | 1,000,614 |

2 NUVEEN

| Shares | Description (1) | Value |
|--------|--|--------------|
| | Energy Equipment & Services 1.2% | |
| 40,400 | Halliburton Company | \$ 1,813,152 |
| 14,500 | Helmerich & Payne Inc. | 975,850 |
| | Total Energy Equipment & Services | 2,789,002 |
| | Equity Real Estate Investment Trusts 7.7% | |
| 2,000 | American Tower Corporation | 226,660 |
| 400 | Boston Properties, Inc. | 54,516 |
| 500 | Crown Castle International Corporation | 47,105 |
| 12,700 | Digital Realty Trust Inc. | 1,233,424 |
| 5,543 | Equinix Inc. | 1,996,866 |
| 1,700 | Essex Property Trust Inc. | 378,590 |
| 8,300 | Extra Space Storage Inc. | 659,103 |
| 6,000 | Federal Realty Investment Trust | 923,580 |
| 42,800 | Iron Mountain Inc. | 1,606,284 |
| 51,900 | Kimco Realty Corporation | 1,502,505 |
| 30,300 | Prologis Inc. | 1,622,262 |
| 16,100 | Public Storage, Inc. | 3,592,554 |
| 23,600 | Realty Income Corporation | 1,579,548 |
| 1,700 | Simon Property Group, Inc. | 351,917 |
| 800 | SL Green Realty Corporation | 86,480 |
| 28,800 | Ventas Inc. | 2,034,144 |
| | Total Equity Real Estate Investment Trusts | 17,895,538 |
| | Food & Staples Retailing 0.3% | |
| 16,300 | Sysco Corporation | 798,863 |
| | Food Products 3.1% | |
| 14,500 | Archer-Daniels-Midland Company | 611,465 |
| 26,600 | Campbell Soup Company, (2) | 1,455,020 |
| 34,800 | ConAgra Foods, Inc. | 1,639,428 |
| 1,900 | General Mills, Inc. | 121,372 |
| 10,300 | Kellogg Company | 797,941 |
| 2,600 | McCormick & Company, Incorporated | 259,792 |
| 30,300 | Tyson Foods, Inc., Class A | 2,262,501 |
| | Total Food Products | 7,147,519 |
| | Health Care Equipment & Supplies 3.1% | |
| 16,700 | Baxter International, Inc. | 794,920 |
| 2,200 | Becton, Dickinson and Company | 395,406 |
| 22,400 | Boston Scientific Corporation, (3) | 533,120 |
| 3,200 | C. R. Bard, Inc. | 717,696 |
| 10,600 | DENTSPLY SIRONA Inc. | 629,958 |
| 12,200 | Edwards Lifesciences Corporation, (3) | 1,470,832 |
| 900 | Intuitive Surgical, Inc., (3) | 652,347 |
| 7,600 | Stryker Corporation | 884,716 |
| 2,100 | Varian Medical Systems, Inc., (3) | 209,013 |
| 7,600 | Zimmer Biomet Holdings, Inc. | 988,152 |
| | Total Health Care Equipment & Supplies | 7,276,160 |

Health Care Providers & Services 5.7%

| | | |
|--------|---|-------------------|
| 8,500 | Aetna Inc. | 981,325 |
| 23,400 | Anthem Inc. | 2,932,254 |
| 34,800 | Cardinal Health, Inc. | 2,703,960 |
| 7,900 | Centene Corporation, (3) | 528,984 |
| 3,700 | Davita Inc., (3) | 244,459 |
| 9,100 | HCA Holdings Inc., (3) | 688,233 |
| 8,200 | Henry Schein Inc., (3) | 1,336,436 |
| 5,500 | Quest Diagnostics Incorporated | 465,465 |
| 18,200 | UnitedHealth Group Incorporated | 2,548,000 |
| 6,400 | Universal Health Services, Inc., Class B | 788,608 |
| | Total Health Care Providers & Services | 13,217,724 |

NUVEEN 3

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)

September 30, 2016 (Unaudited)

| Shares | Description (1) | Value |
|--------|---|--------------|
| | Hotels, Restaurants & Leisure 2.4% | |
| 22,700 | McDonald's Corporation | \$ 2,618,672 |
| 19,000 | Starbucks Corporation | 1,028,660 |
| 10,500 | Wynn Resorts Ltd | 1,022,910 |
| 10,500 | YUM! Brands, Inc. | 953,505 |
| | Total Hotels, Restaurants & Leisure | 5,623,747 |
| | Household Durables 1.6% | |
| 31,700 | D.R. Horton, Inc. | 957,340 |
| 5,600 | Garmin Limited | 269,416 |
| 10,700 | Leggett and Platt Inc. | 487,706 |
| 16,300 | Newell Brands Inc. | 858,358 |
| 9,200 | PulteGroup Inc. | 184,368 |
| 6,600 | Whirlpool Corporation | 1,070,256 |
| | Total Household Durables | 3,827,444 |
| | Household Products 1.3% | |
| 6,000 | Church & Dwight Company Inc. | 287,520 |
| 4,300 | Clorox Company | 538,274 |
| 17,500 | Kimberly-Clark Corporation | 2,207,450 |
| | Total Household Products | 3,033,244 |
| | Independent Power & Renewable Electricity Producers 0.7% | |
| 82,500 | AES Corporation | 1,060,125 |
| 41,600 | NRG Energy Inc. | 466,336 |
| | Total Independent Power & Renewable Electricity Producers | 1,526,461 |
| | Industrial Conglomerates 0.3% | |
| 2,100 | Honeywell International Inc. | 244,839 |
| 2,600 | Roper Technologies, Inc. | 474,422 |
| | Total Industrial Conglomerates | 719,261 |
| | Insurance 4.1% | |
| 4,200 | Ace Limited | 527,730 |
| 21,100 | AFLAC Incorporated | 1,516,457 |
| 1,700 | Allstate Corporation | 117,606 |
| 3,100 | AON PLC | 348,719 |
| 6,400 | Arthur J. Gallagher & Co. | 325,568 |
| 5,600 | Assurant Inc. | 516,600 |
| 29,000 | Cincinnati Financial Corporation | 2,187,180 |
| 14,800 | Hartford Financial Services Group, Inc. | 633,736 |
| 4,000 | Loews Corporation | 164,600 |
| 10,200 | Marsh & McLennan Companies, Inc. | 685,950 |
| 41,400 | Progressive Corporation | 1,304,100 |

Edgar Filing: Nuveen Core Equity Alpha Fund - Form N-Q

| | | |
|--------|---|------------------|
| 3,500 | Torchmark Corporation | 223,615 |
| 5,900 | Travelers Companies, Inc. | 675,845 |
| 10,100 | Unum Group | 356,631 |
| | Total Insurance | 9,584,337 |
| | Internet Software & Services 1.5% | |
| 17,400 | Facebook Inc., Class A Shares, (3) | 2,231,898 |
| 12,400 | VeriSign, Inc., (3) | 970,176 |
| 7,600 | Yahoo! Inc., (3) | 327,560 |
| | Total Internet Software & Services | 3,529,634 |
| | IT Services 2.9% | |
| 3,300 | Accenture Limited | 403,161 |
| 10,300 | Automatic Data Processing, Inc. | 908,460 |
| 26,000 | Fiserv, Inc., (3) | 2,586,220 |
| 31,000 | Paychex, Inc. | 1,793,970 |
| 24,900 | Total System Services Inc. | 1,174,035 |
| | Total IT Services | 6,865,846 |

4 NUVEEN

| Shares | Description (1) | Value |
|--------|--|--------------|
| | Leisure Products 0.9% | |
| 13,700 | Hasbro, Inc. | \$ 1,086,821 |
| 35,700 | Mattel, Inc. | 1,080,996 |
| | Total Leisure Products | 2,167,817 |
| | Life Sciences Tools & Services 1.1% | |
| 11,800 | Agilent Technologies, Inc. | 555,662 |
| 7,500 | Thermo Fisher Scientific, Inc. | 1,192,950 |
| 4,900 | Waters Corporation, (3) | 776,601 |
| | Total Life Sciences Tools & Services | 2,525,213 |
| | Machinery 2.7% | |
| 2,600 | Caterpillar Inc. | 230,802 |
| 3,300 | Cummins Inc. | 422,895 |
| 3,900 | Dover Corporation | 287,196 |
| 9,400 | Flowserve Corporation | 453,456 |
| 6,700 | Fortive Corporation | 341,030 |
| 4,300 | Illinois Tool Works, Inc. | 515,312 |
| 14,200 | Ingersoll Rand Company Limited, Class A | 964,748 |
| 4,600 | Parker Hannifin Corporation | 577,438 |
| 8,700 | Pentair Limited | 558,888 |
| 8,800 | Stanley Black & Decker Inc. | 1,082,224 |
| 16,500 | Xylem Inc. | 865,425 |
| | Total Machinery | 6,299,414 |
| | Media 1.4% | |
| 26,300 | CBS Corporation, Class B | 1,439,662 |
| 67,800 | Interpublic Group of Companies, Inc. | 1,515,330 |
| 4,100 | Omnicom Group, Inc. | 348,500 |
| 400 | Scripps Networks Interactive, Class A Shares | 25,396 |
| | Total Media | 3,328,888 |
| | Metals & Mining 1.7% | |
| 43,700 | Freeport-McMoRan, Inc. | 474,582 |
| 49,700 | Newmont Mining Corporation | 1,952,713 |
| 29,300 | Nucor Corporation | 1,448,885 |
| | Total Metals & Mining | 3,876,180 |
| | Multiline Retail 0.1% | |
| 2,800 | Dollar General Corporation | 195,972 |
| 700 | Dollar Tree Stores Inc., (3) | 55,251 |
| 400 | Target Corporation | 27,472 |
| | Total Multiline Retail | 278,695 |
| | Multi-Utilities 4.1% | |
| 21,600 | Ameren Corporation | 1,062,288 |
| 57,900 | CenterPoint Energy, Inc. | 1,345,017 |
| 13,200 | CMS Energy Corporation | 554,532 |
| 18,100 | Consolidated Edison, Inc. | 1,362,930 |
| 4,000 | DTE Energy Company | 374,680 |

Edgar Filing: Nuveen Core Equity Alpha Fund - Form N-Q

| | | |
|--------|--|------------------|
| 74,000 | NiSource Inc., (2) | 1,784,140 |
| 6,800 | Public Service Enterprise Group Incorporated | 284,716 |
| 23,400 | Scana Corporation | 1,693,458 |
| 2,800 | Sempra Energy | 300,132 |
| 15,600 | WEC Energy Group, Inc. | 934,128 |
| | Total Multi-Utilities | 9,696,021 |
| | Oil, Gas & Consumable Fuels 8.8% | |
| 47,800 | Apache Corporation | 3,052,986 |
| 46,700 | Cabot Oil & Gas Corporation | 1,204,860 |
| 8,400 | Cimarex Energy Company | 1,128,708 |

NUVEEN 5

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)

September 30, 2016 (Unaudited)

| Shares | Description (1) | Value |
|--|--|-------------------|
| Oil, Gas & Consumable Fuels (continued) | | |
| 8,600 | Concho Resources Inc., (3) | \$ 1,181,210 |
| 17,200 | Devon Energy Corporation | 758,692 |
| 18,900 | EQT Corporation | 1,372,518 |
| 17,200 | Hess Corporation | 922,264 |
| 7,700 | Marathon Oil Corporation | 121,737 |
| 21,100 | Murphy Oil Corporation | 641,440 |
| 25,200 | Newfield Exploration Company, (3) | 1,095,192 |
| 7,300 | Occidental Petroleum Corporation | 532,316 |
| 28,600 | ONEOK, Inc. | 1,469,754 |
| 29,600 | Phillips 66 | 2,384,280 |
| 1,200 | Pioneer Natural Resources Company | 222,780 |
| 26,300 | Range Resources Corporation | 1,019,125 |
| 63,800 | Southwestern Energy Company, (3) | 882,992 |
| 41,700 | Spectra Energy Corporation | 1,782,675 |
| 26,400 | Williams Companies, Inc. | 811,272 |
| | Total Oil, Gas & Consumable Fuels | 20,584,801 |
| Pharmaceuticals 0.2% | | |
| 1,900 | Bristol-Myers Squibb Company | 102,448 |
| 6,900 | Zoetis Incorporated, (2) | 358,869 |
| | Total Pharmaceuticals | 461,317 |
| Professional Services 1.7% | | |
| 4,900 | Dun and Bradstreet Inc. | 669,438 |
| 23,400 | Equifax Inc. | 3,149,172 |
| 3,200 | Nielsen Holdings PLC | 171,424 |
| | Total Professional Services | 3,990,034 |
| Road & Rail 0.7% | | |
| 10,700 | J.B. Hunt Transports Services Inc. | 868,198 |
| 8,900 | Kansas City Southern Industries | 830,548 |
| | Total Road & Rail | 1,698,746 |
| Semiconductors & Semiconductor Equipment 6.2% | | |
| 114,200 | Applied Materials, Inc. | 3,443,130 |
| 21,044 | Broadcom Limited | 3,630,511 |
| 13,700 | KLA-Tencor Corporation | 955,027 |
| 11,600 | Lam Research Corporation | 1,098,636 |
| 1,000 | Linear Technology Corporation | 59,290 |
| 12,200 | Microchip Technology Incorporated | 758,108 |
| 58,700 | NVIDIA Corporation, (2) | 4,022,124 |
| 4,000 | Qorvo Inc., (3) | 222,960 |
| 200 | QUALCOMM, Inc. | 13,700 |
| 5,600 | Texas Instruments Incorporated | 393,008 |

Edgar Filing: Nuveen Core Equity Alpha Fund - Form N-Q

| | | |
|--------|--|------------|
| | Total Semiconductors & Semiconductor Equipment | 14,596,494 |
| | Software 2.3% | |
| 33,000 | Adobe Systems Incorporated, (2), (3) | 3,581,820 |
| 4,200 | Electronic Arts Inc., (2), (3) | 358,680 |
| 5,400 | Intuit, Inc. | 594,054 |
| 29,600 | Symantec Corporation | 742,960 |
| | Total Software | 5,277,514 |
| | Specialty Retail 2.6% | |
| 3,500 | Best Buy Co., Inc. | 133,630 |
| 19,500 | Home Depot, Inc. | 2,509,260 |
| 36,400 | Lowe's Companies, Inc., (2) | 2,628,444 |
| 400 | O'Reilly Automotive Inc., (3) | 112,044 |
| 1,100 | Ross Stores, Inc. | 70,730 |
| 4,900 | Tractor Supply Company | 330,015 |
| 1,400 | Ulta Salon, Cosmetics & Fragrance, Inc., (3) | 333,172 |
| | Total Specialty Retail | 6,117,295 |

6 NUVEEN

| Shares | Description (1) | Value |
|--------|--|--------------------|
| | Textiles, Apparel & Luxury Goods 0.9% | |
| 28,800 | Coach, Inc. | \$ 1,052,928 |
| 9,500 | PVH Corporation | 1,049,750 |
| | Total Textiles, Apparel & Luxury Goods | 2,102,678 |
| | Tobacco 2.1% | |
| 33,100 | Altria Group, Inc. | 2,092,913 |
| 60,078 | Reynolds American Inc., (2) | 2,832,678 |
| | Total Tobacco | 4,925,591 |
| | Trading Companies & Distributors 0.3% | |
| 2,500 | Fastenal Company | 104,450 |
| 7,600 | United Rentals Inc., (3) | 596,524 |
| | Total Trading Companies & Distributors | 700,974 |
| | Water Utilities 0.9% | |
| 27,700 | American Water Works Company | 2,073,068 |
| | Total Long-Term Investments (cost \$199,809,225) | 230,184,626 |

| Principal Amount (000) | Description (1) | Coupon | Maturity | Ratings (4) | Value |
|------------------------|--|--------|----------|-------------|--------------|
| | SHORT-TERM INVESTMENTS 3.8% | | | | |
| | REPURCHASE AGREEMENTS 2.7% | | | | |
| \$ 5,019 | Repurchase Agreement with Fixed Income Clearing Corporation, dated 9/30/16, repurchase price \$5,019,528, collateralized by \$4,525,000 U.S. Treasury Bonds, 2.875%, due 8/15/45, value \$5,124,563 | 0.030% | 10/03/16 | N/A | \$ 5,019,515 |
| 1,349 | Repurchase Agreement with Fixed Income Clearing Corporation, dated 9/30/16, repurchase price \$1,348,602, collateralized by \$1,180,000 U.S. Treasury Bonds, 3.000%, due 11/15/45, value \$1,377,650 | 0.030% | 10/03/16 | N/A | 1,348,599 |
| 6,368 | Total Repurchase Agreements | | | | 6,368,114 |
| | U.S. GOVERNMENT AND AGENCY OBLIGATIONS 1.1% | | | | |

Edgar Filing: Nuveen Core Equity Alpha Fund - Form N-Q

| | | | | | | |
|----|-------|--|--------|---------|-----|-----------------------|
| | 2,500 | U.S. Treasury Bills, (2) | 0.000% | 2/02/17 | AAA | 2,497,232 |
| \$ | 8,868 | Total Short-Term Investments (cost \$8,864,557) | | | | 8,865,346 |
| | | Total Investments (cost \$208,673,782) | | | | 239,049,972 |
| | | 102.2% | | | | |
| | | Other Assets Less Liabilities (2.2%) | | | | (5,124,751) |
| | | (5) | | | | |
| | | Net Assets 100% | | | | \$ 233,925,221 |

Investments in Derivatives as of September 30, 2016

Options Written

| Number of Contracts | Description | Notional Amount (6) | Expiration Date | Strike Price | Value |
|----------------------------|---|----------------------------|------------------------|---------------------|--------------|
| (250) | RUSSELL 2000® Index | \$ (31,250,000) | 10/21/16 | \$ 1,250 | \$ (438,750) |
| (195) | RUSSELL 2000® Index | (24,570,000) | 10/21/16 | 1,260 | (234,000) |
| (350) | RUSSELL 2000® Index | (44,450,000) | 10/21/16 | 1,270 | (264,250) |
| | Total Options Written (premiums received) | | | | |
| (795) | \$648,826) | \$ (100,270,000) | | | \$ (937,000) |

NUVEEN 7

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)

September 30, 2016 (Unaudited)

Futures Contracts

| Description | Contract Position | Number of Contracts | Contract Expiration | Notional Amount at Value | Variation Margin Receivable/ (Payable) | Unrealized Appreciation (Depreciation) |
|----------------|-------------------|---------------------|---------------------|--------------------------|--|--|
| S&P 500 E-Mini | Long | 40 | 12/16 | \$ 4,320,800 | \$ 23,800 | \$ 16,813 |

Fair Value Measurements

Fair value is defined as the price that would be received upon selling an investment or transferring a liability in an orderly transaction to an independent buyer in the principal or most advantageous market for the investment. A three-tier hierarchy is used to maximize the use of observable market data and minimize the use of unobservable inputs and to establish classification of fair value measurements for disclosure purposes. Observable inputs reflect the assumptions market participants would use in pricing the asset or liability. Observable inputs are based on market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability. Unobservable inputs are based on the best information available in the circumstances. The following is a summary of the three-tiered hierarchy of valuation input levels.

- Level 1 Inputs are unadjusted and prices are determined using quoted prices in active markets for identical securities.
Level 2 Prices are determined using other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).
Level 3 Prices are determined using significant unobservable inputs (including management's assumptions in determining the fair value of investments).

The inputs or methodologies used for valuing securities are not an indication of the risk associated with investing in those securities. The following is a summary of the Fund's fair value measurements as of the end of the reporting period:

| | Level 1 | Level 2 | Level 3 | Total |
|--|-----------------------|---------------------|-----------|-----------------------|
| Long-Term Investments: | | | | |
| Common Stocks | \$ 230,184,626 | \$ | \$ | \$ 230,184,626 |
| Short-Term Investments: | | | | |
| Repurchase Agreements | | 6,368,114 | | 6,368,114 |
| U.S. Government and Agency Obligations | | 2,497,232 | | 2,497,232 |
| Investments in Derivatives: | | | | |
| Options Written | (937,000) | | | (937,000) |
| Futures Contracts* | 16,813 | | | 16,813 |
| Total | \$ 229,264,439 | \$ 8,865,346 | \$ | \$ 238,129,785 |

* Represents net unrealized appreciation (depreciation).

Income Tax Information

The following information is presented on an income tax basis. Differences between amounts for financial statement and federal income tax purposes are primarily due to timing differences in recognizing certain gains and losses on investment transactions and the recognition of unrealized gain or loss for tax (mark-to-market) on futures contracts and certain options contracts. To the extent that differences arise that are permanent in nature, such amounts are reclassified within the capital accounts on the Statement of Assets and Liabilities presented in the annual report, based on their federal tax basis treatment; temporary differences do not require reclassification. Temporary and permanent differences do not impact the net asset value of the Fund.

As of September 30, 2016, the cost of investments (excluding investments in derivatives) was \$208,714,017.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of September 30, 2016, were as follows:

| | |
|---|---------------|
| Gross unrealized: | |
| Appreciation | \$ 33,220,092 |
| Depreciation | (2,884,137) |
| Net unrealized appreciation (depreciation) of investments | \$ 30,335,955 |

For Fund portfolio compliance purposes, the Fund's industry classifications refer to any one or more of the industry sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by Fund management. This definition may not apply for purposes of this report, which may combine industry sub-classifications into sectors for reporting ease.

- (1) All percentages shown in the Portfolio of Investments are based on net assets.
- (2) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in derivatives.
- (3) Non-income producing; issuer has not declared a dividend within the past twelve months.
- (4) For financial reporting purposes, the ratings disclosed are the highest of Standard & Poor's Group (Standard & Poor's), Moody's Investors Service, Inc. (Moody's) or Fitch, Inc. (Fitch) rating. This treatment of split-rated securities may differ from that used for other purposes, such as Fund investment policies. Ratings below BBB by Standard & Poor's, Baa by Moody's or BBB by Fitch are considered to be below investment grade. Holdings designated N/R are not rated by any of these national rating agencies.
- (5) Other assets less liabilities includes the unrealized appreciation (depreciation) of certain over-the-counter (OTC) derivatives as well as the OTC-cleared and exchange-traded derivatives, when applicable. Other assets less liabilities also includes the value of options.
- (6) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by the Strike Price by 100.

N/A Not Applicable

Item 2. Controls and Procedures.

- a. The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the "1940 Act") (17 CFR 270.30a-3(c))) are effective, as of a date within 90 days of the filing date of this report that includes the disclosure required by this paragraph, based on their evaluation of the controls and procedures required by Rule 30a-3(b) under the 1940 Act (17 CFR 270.30a-3(b)) and Rule 13a-15(b) or 15d-15(b) under the Securities Exchange Act of 1934 (17 CFR 240.13a-15(b) or 240.15d-15(b)).
- b. There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act (17 CFR 270.30a-3(d))) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3. Exhibits.

File as exhibits as part of this Form a separate certification for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2(a) under the 1940 Act (17 CFR 270.30a-2(a)), exactly as set forth below: EX-99 CERT Attached hereto.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant) Nuveen Core Equity Alpha Fund

By (Signature and Title) /s/ Gifford R. Zimmerman

Gifford R. Zimmerman
Vice President and Secretary

Date: November 29, 2016

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By (Signature and Title) /s/ Cedric H. Antosiewicz

Cedric H. Antosiewicz
Chief Administrative Officer (principal executive officer)

Date: November 29, 2016

By (Signature and Title) /s/ Stephen D. Foy

Stephen D. Foy
Vice President and Controller (principal financial officer)

Date: November 29, 2016