

Nuveen Core Equity Alpha Fund
Form N-Q
May 29, 2015

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)

Kevin J. McCarthy 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: 12/31

Date of reporting period: 3/31/2015

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

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Portfolio of Investments (Unaudited)
Nuveen Core Equity Alpha Fund (JCE)
 March 31, 2015

| Shares | Description (1) | Value |
|---------|--|--------------|
| | LONG-TERM INVESTMENTS - 98.3% | |
| | COMMON STOCKS - 98.3% | |
| | Aerospace & Defense - 4.0% | |
| 10,800 | General Dynamics Corporation | \$ 1,465,884 |
| 29,000 | Lockheed Martin Corporation | 5,885,840 |
| 7,000 | Northrop Grumman Corporation | 1,126,720 |
| 27,300 | Raytheon Company | 2,982,525 |
| | Total Aerospace & Defense | 11,460,969 |
| | Air Freight & Logistics - 1.1% | |
| 27,900 | C.H. Robinson Worldwide, Inc. | 2,042,838 |
| 6,800 | FedEx Corporation | 1,125,060 |
| | Total Air Freight & Logistics | 3,167,898 |
| | Airlines - 2.1% | |
| 10,000 | Delta Air Lines, Inc. | 449,600 |
| 126,800 | Southwest Airlines Co. | 5,617,240 |
| | Total Airlines | 6,066,840 |
| | Banks - 1.0% | |
| 11,600 | M&T Bank Corporation | 1,473,200 |
| 23,550 | Wells Fargo & Company | 1,281,120 |
| | Total Banks | 2,754,320 |
| | Beverages - 1.6% | |
| 900 | Constellation Brands, Inc., Class A, (2) | 104,589 |
| 38,700 | Dr. Pepper Snapple Group | 3,037,176 |
| 13,400 | PepsiCo, Inc. | 1,281,308 |
| | Total Beverages | 4,423,073 |
| | Biotechnology - 3.2% | |
| 14,100 | Amgen Inc. | 2,253,885 |
| 9,200 | Celgene Corporation | 1,060,576 |
| 19,600 | Gilead Sciences, Inc., (2) | 1,923,348 |
| 6,100 | Regeneron Pharmaceuticals, Inc., (2) | 2,754,028 |
| 9,000 | Vertex Pharmaceuticals Inc. | 1,061,730 |
| | Total Biotechnology | 9,053,567 |
| | Capital Markets - 3.2% | |
| 23,500 | Bank New York Mellon | 945,640 |
| 10,000 | E*Trade Group Inc. | 285,550 |
| 9,500 | Goldman Sachs Group, Inc., (3) | 1,785,715 |
| 2,000 | Legg Mason, Inc. | 110,400 |
| 78,000 | Morgan Stanley | 2,783,820 |
| 33,000 | Northern Trust Corporation | 2,298,450 |
| 11,500 | State Street Corporation | 845,595 |
| | Total Capital Markets | 9,055,170 |
| | Chemicals - 1.4% | |
| 600 | Air Products & Chemicals Inc. | 90,768 |
| 10,000 | Airgas, Inc. | 1,061,100 |
| 3,300 | Ecolab Inc. | 377,454 |
| 15,600 | LyondellBasell Industries NV | 1,369,680 |
| 2,000 | Sherwin-Williams Company | 569,000 |
| 2,800 | Sigma-Aldrich Corporation | 387,100 |
| | Total Chemicals | 3,855,102 |
| | Commercial Services & Supplies - 2.1% | |

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| | | |
|--------|--|-----------|
| 3,900 | ADT Corporation | 161,928 |
| 19,300 | Cintas Corporation | 1,575,459 |
| 49,300 | Republic Services, Inc. | 1,999,608 |
| 700 | Stericycle Inc. | 98,301 |
| 41,500 | Waste Management, Inc. | 2,250,545 |
| | Total Commercial Services & Supplies | 6,085,841 |
| | Communications Equipment - 0.3% | |
| 7,200 | F5 Networks, Inc., (2) | 827,568 |
| | Consumer Finance - 2.6% | |
| 29,500 | Capital One Financial Corporation | 2,325,190 |
| 60,800 | Discover Financial Services | 3,426,080 |
| 79,300 | Navient Corporation | 1,612,169 |
| | Total Consumer Finance | 7,363,439 |
| | Containers & Packaging - 1.0% | |
| 22,700 | Ball Corporation | 1,603,528 |
| 29,600 | Sealed Air Corporation | 1,348,576 |
| | Total Containers & Packaging | 2,952,104 |
| | Distributors - 0.7% | |
| 20,500 | Genuine Parts Company | 1,910,395 |
| | Diversified Financial Services - 3.3% | |
| 3,400 | Berkshire Hathaway Inc., Class B | 490,688 |
| 49,800 | CME Group, Inc. | 4,716,558 |
| 16,400 | McGraw-Hill Companies, Inc. | 1,695,760 |
| 11,000 | Moody's Corporation | 1,141,800 |
| 23,100 | NASDAQ Stock Market, Inc. | 1,176,714 |
| | Total Diversified Financial Services | 9,221,520 |
| | Diversified Telecommunication Services - 1.0% | |
| 85,400 | CenturyLink Inc. | 2,950,570 |
| | Electric Utilities - 3.3% | |
| 3,200 | American Electric Power Company, Inc. | 180,000 |
| 5,056 | Duke Energy Corporation | 388,200 |
| 13,600 | Edison International | 849,592 |
| 35,400 | Entergy Corporation | 2,743,146 |
| 14,400 | Eversource Energy | 727,488 |
| 16,500 | Exelon Corporation | 554,565 |
| 24,800 | FirstEnergy Corp. | 869,488 |
| 4,000 | NextEra Energy Inc. | 416,200 |
| 8,900 | Pepco Holdings, Inc. | 238,787 |
| 15,900 | Pinnacle West Capital Corporation | 1,013,625 |
| 10,700 | PPL Corporation | 360,162 |
| 21,100 | Southern Company | 934,308 |
| 400 | Xcel Energy, Inc. | 13,924 |
| | Total Electric Utilities | 9,289,485 |
| | Electronic Equipment & Instruments - 0.4% | |
| 19,900 | Amphenol Corporation, Class A | 1,172,707 |
| | Food & Staples Retailing - 3.1% | |
| 6,500 | Costco Wholesale Corporation, (3) | 984,717 |
| 45,400 | CVS Caremark Corporation | 4,685,734 |
| 41,000 | Kroger Co. | 3,143,060 |
| | Total Food & Staples Retailing | 8,813,511 |
| | Food Products - 1.7% | |
| 33,900 | Archer-Daniels-Midland Company | 1,606,860 |
| 72,300 | ConAgra Foods, Inc. | 2,641,119 |
| 2,200 | Hershey Foods Corporation | 222,002 |
| 4,400 | Hormel Foods Corporation | 250,140 |
| 2,000 | Mead Johnson Nutrition Company, Class A Shares | 201,060 |
| | Total Food Products | 4,921,181 |
| | Gas Utilities - 0.0% | |
| 1,300 | AGL Resources Inc. | 64,545 |

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|--|--|------------|
| Health Care Equipment & Supplies - 1.8% | | |
| 21,900 | Edwards Lifesciences Corporation, (2) | 3,119,874 |
| 2,600 | Intuitive Surgical, Inc., (2) | 1,313,078 |
| 5,900 | Stryker Corporation | 544,275 |
| | Total Health Care Equipment & Supplies | 4,977,227 |
| Health Care Providers & Services - 7.4% | | |
| 4,859 | Aetna Inc. | 517,629 |
| 40,600 | AmerisourceBergen Corporation, (3) | 4,615,002 |
| 42,500 | Anthem Inc., (3) | 6,562,425 |
| 34,800 | Cardinal Health, Inc. | 3,141,396 |
| 5,800 | Davita Inc., (2) | 471,424 |
| 3,800 | Humana Inc. | 676,476 |
| 10,400 | McKesson HBOC Inc. | 2,352,480 |
| 12,600 | Patterson Companies, Inc. | 614,754 |
| 4,700 | Quest Diagnostics Incorporated | 361,195 |
| 8,600 | UnitedHealth Group Incorporated | 1,017,294 |
| 6,700 | Universal Health Services, Inc., Class B | 788,657 |
| | Total Health Care Providers & Services | 21,118,732 |
| Health Care Technology - 0.4% | | |
| 15,000 | Cerner Corporation, (2) | 1,098,900 |
| Hotels, Restaurants & Leisure - 3.3% | | |
| 13,100 | Carnival Corporation | 626,704 |
| 2,100 | Chipotle Mexican Grill, (2) | 1,366,134 |
| 9,600 | Darden Restaurants, Inc. | 665,664 |
| 44,500 | Marriott International, Inc., Class A | 3,574,240 |
| 19,000 | Royal Caribbean Cruises Limited | 1,555,150 |
| 17,000 | Wyndham Worldwide Corporation | 1,537,990 |
| | Total Hotels, Restaurants & Leisure | 9,325,882 |
| Household Durables - 1.5% | | |
| 2,400 | D.R. Horton, Inc. | 68,352 |
| 23,100 | Leggett and Platt Inc. | 1,064,679 |
| 43,900 | Newell Rubbermaid Inc. | 1,715,173 |
| 6,100 | Pulte Corporation | 135,603 |
| 6,400 | Whirlpool Corporation | 1,293,184 |
| | Total Household Durables | 4,276,991 |
| Insurance - 2.3% | | |
| 2,500 | Ace Limited | 278,725 |
| 20,400 | Allstate Corporation | 1,451,868 |
| 4,200 | AON PLC | 403,704 |
| 3,600 | Chubb Corporation | 363,960 |
| 35,900 | Hartford Financial Services Group, Inc. | 1,501,338 |
| 7,700 | Lincoln National Corporation | 442,442 |
| 16,700 | Marsh & McLennan Companies, Inc. | 936,703 |
| 9,500 | Principal Financial Group, Inc. | 488,015 |
| 6,300 | Travelers Companies, Inc. | 681,219 |
| | Total Insurance | 6,547,974 |
| Internet Software & Services - 2.9% | | |
| 68,400 | Facebook Inc., Class A Shares, (2) | 5,623,506 |
| 59,700 | Yahoo! Inc., (2) | 2,652,770 |
| | Total Internet Software & Services | 8,276,276 |
| IT Services - 1.8% | | |
| 14,600 | Automatic Data Processing, Inc. | 1,250,344 |
| 9,600 | Fidelity National Information Services | 653,376 |
| 6,800 | Fiserv, Inc., (2) | 539,920 |
| 11,900 | Paychex, Inc. | 590,418 |
| 161,700 | Xerox Corporation | 2,077,845 |
| | Total IT Services | 5,111,903 |
| Machinery - 0.5% | | |
| 14,000 | Pall Corporation | 1,405,460 |
| Media - 0.6% | | |

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|--------|--|------------|
| 5,600 | Cablevision Systems Corporation | 102,480 |
| 900 | Time Warner Cable, Class A | 134,892 |
| 1,100 | Time Warner Inc. | 92,884 |
| 12,700 | Walt Disney Company | 1,332,103 |
| | Total Media | 1,662,359 |
| | Metals & Mining - 0.2% | |
| 52,900 | Alcoa Inc. | 683,468 |
| | Multiline Retail - 2.4% | |
| 24,500 | Dollar Tree Stores Inc., (2) | 1,988,053 |
| 31,600 | Kohl's Corporation | 2,472,700 |
| 10,400 | Nordstrom, Inc. | 835,328 |
| 19,100 | Target Corporation | 1,567,537 |
| | Total Multiline Retail | 6,863,618 |
| | Multi-Utilities - 2.6% | |
| 35,500 | Ameren Corporation | 1,498,100 |
| 7,100 | CMS Energy Corporation | 247,861 |
| 10,200 | Consolidated Edison, Inc. | 622,200 |
| 2,200 | DTE Energy Company | 177,518 |
| 2,700 | Integrus Energy Group, Inc. | 194,454 |
| 50,600 | NiSource Inc. | 2,234,496 |
| 3,500 | Public Service Enterprise Group Incorporated | 146,720 |
| 19,000 | Sempra Energy | 2,071,380 |
| 6,800 | TECO Energy, Inc. | 131,920 |
| | Total Multi-Utilities | 7,324,649 |
| | Oil, Gas & Consumable Fuels - 0.0% | |
| 2,000 | Spectra Energy Corporation | 72,340 |
| | Pharmaceuticals - 4.6% | |
| 16,917 | Actavis Inc., (2) | 5,034,838 |
| 22,900 | Eli Lilly and Company | 1,663,685 |
| 21,500 | Mallinckrodt PLC, (2) | 2,722,975 |
| 80,600 | Zoetis Incorporated | 3,730,974 |
| | Total Pharmaceuticals | 13,152,472 |
| | Professional Services - 0.3% | |
| 3,300 | Dun and Bradstreet Inc. | 423,588 |
| 4,800 | Robert Half International Inc. | 290,496 |
| | Total Professional Services | 714,084 |
| | Real Estate Investment Trust - 3.2% | |
| 4,200 | American Tower Corporation, REIT | 395,430 |
| 4,800 | Apartment Investment & Management Company, Class A | 188,928 |
| 15,100 | AvalonBay Communities, Inc. | 2,631,175 |
| 1,600 | Boston Properties, Inc. | 224,768 |
| 36,700 | Equity Residential | 2,857,462 |
| 2,000 | Essex Property Trust Inc. | 459,800 |
| 9,100 | General Growth Properties Inc. | 268,905 |
| 1,000 | Health Care REIT, Inc. | 77,360 |
| 16,400 | Host Hotels & Resorts Inc. | 330,952 |
| 25,900 | Iron Mountain Inc. | 944,832 |
| 7,200 | Macerich Company | 607,176 |
| 6,700 | Weyerhaeuser Company | 222,105 |
| | Total Real Estate Investment Trust | 9,208,893 |
| | Road & Rail - 4.6% | |
| 87,500 | CSX Corporation | 2,898,000 |
| 22,000 | Kansas City Southern Industries | 2,245,760 |
| 42,100 | Norfolk Southern Corporation | 4,332,932 |
| 33,700 | Union Pacific Corporation | 3,650,047 |
| | Total Road & Rail | 13,126,739 |
| | Semiconductors & Semiconductor Equipment - 4.9% | |
| 26,500 | Avago Technologies Limited | 3,364,970 |
| 74,600 | Broadcom Corporation, Class A | 3,229,807 |
| 38,000 | Intel Corporation | 1,188,260 |
| 26,600 | KLA-Tencor Corporation | 1,550,514 |

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|---------|---|----------------------------------|
| 24,800 | Lam Research Corporation | 1,741,828 |
| 105,100 | Micron Technology, Inc., (2) | 2,851,363 |
| | Total Semiconductors & Semiconductor Equipment Software - 1.7% | 13,926,742 |
| 24,800 | Electronic Arts Inc., (2) | 1,458,612 |
| 10,100 | Intuit, Inc. | 979,296 |
| 7,400 | Microsoft Corporation | 300,847 |
| 12,300 | Red Hat, Inc., (2) | 931,725 |
| 44,600 | Symantec Corporation | 1,042,079 |
| | Total Software Specialty Retail - 7.7% | 4,712,559 |
| 7,700 | Bed Bath and Beyond Inc., (2) | 591,167 |
| 51,200 | Best Buy Co., Inc. | 1,934,848 |
| 20,100 | CarMax, Inc., (2) | 1,387,101 |
| 43,300 | Home Depot, Inc. | 4,919,313 |
| 38,900 | L Brands Inc. | 3,667,881 |
| 46,000 | Lowe's Companies, Inc. | 3,421,940 |
| 7,300 | O'Reilly Automotive Inc., (2) | 1,578,552 |
| 22,000 | Ross Stores, Inc. | 2,317,920 |
| 105,300 | Staples, Inc. | 1,714,810 |
| 3,300 | TJX Companies, Inc. | 231,165 |
| | Total Specialty Retail Technology Hardware, Storage & Peripherals - 3.1% | 21,764,697 |
| 12,200 | Apple, Inc. | 1,518,046 |
| 17,800 | EMC Corporation | 454,968 |
| 43,800 | NetApp, Inc. | 1,553,148 |
| 33,100 | SanDisk Corporation | 2,105,822 |
| 20,900 | Seagate Technology | 1,087,427 |
| 22,600 | Western Digital Corporation | 2,056,826 |
| | Total Technology Hardware, Storage & Peripherals Textiles, Apparel & Luxury Goods - 1.7% | 8,776,237 |
| 8,100 | Ralph Lauren Corporation | 1,065,150 |
| 48,100 | VF Corporation | 3,622,411 |
| | Total Textiles, Apparel & Luxury Goods Tobacco - 1.7% | 4,687,561 |
| 70,900 | Altria Group, Inc. | 3,546,418 |
| 18,700 | Lorillard Inc. | 1,222,045 |
| | Total Tobacco Total Long-Term Investments (cost \$243,062,196) | 4,768,463 278,994,031 |

**Principal
Amount**

| (000) | Description (1) | Coupon | Maturity | Ratings (4) | Value |
|-----------|---|--------|----------|-------------|-----------------------|
| | SHORT-TERM INVESTMENTS - 4.0% | | | | |
| | Repurchase Agreements - 3.1% | | | | |
| \$ 8,870 | Repurchase Agreement with Fixed Income Clearing Corporation, dated 3/31/15, repurchase price \$8,869,740, collateralized by \$8,705,000 U.S. Treasury Notes, 2.375%, due 8/15/24, value \$9,053,200 | 0.000% | 4/01/15 | N/A | \$ 8,869,740 |
| | U.S. Government and Agency Obligations - 0.9% | | | | |
| 2,500 | U.S. Treasury Bills, (3) | 0.000% | 1/15/15 | AAA | 2,497,578 |
| \$ 11,370 | Total Short-Term Investments (cost \$11,367,832) | | | | 11,367,318 |
| | Total Investments (cost \$254,430,028) | | | | 290,361,349 |
| | - 102.3% | | | | |
| | Other Assets Less Liabilities - (2.3)% | | | | (6,542,954) |
| | (5) | | | | |
| | Net Assets - 100% | | | | \$ 283,818,395 |

Investments in Derivatives as of March 31, 2015

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Options Written outstanding:

| Option Type | Number of Contracts | Description | Counterparty | Notional Amount | Expiration Date | Strike Price | Value |
|-------------|---------------------|---|---------------|--------------------|-----------------|--------------|--------------|
| Call | (205,169) | Custom Basket 1* | Deutsche Bank | \$ (20,516,900)(6) | 5/05/15 | \$ 103.00 | \$ (125,153) |
| Call | (93,939) | Custom Basket 6** | Citigroup | (9,393,900)(6) | 4/13/15 | 103.00 | (57,782) |
| Call | (231,975) | Custom Basket 7*** | BNP Paribas | (23,197,500)(6) | 4/17/15 | 103.00 | (3,781) |
| Call | (130) | S&P Midcap 400® Index | Citigroup | (20,227,350)(7) | 4/17/15 | 1,555.95 | (40,592) |
| | (531,213) | Total Options Written (premiums received \$365,401) | | \$ (73,335,650) | | | \$ (227,308) |

*The following table represents the individual common stock holdings comprising the Custom Basket 1 Options Written as of March 31, 2015.

| Shares | Description | Value |
|---------|--|--------------|
| 20,000 | 58.com, Inc., ADR | \$ (6,451) |
| 16,000 | Cognizant Technology Solutions Corp | (6,089) |
| 80,000 | Flextronics International Ltd. | (6,185) |
| 110,000 | iShares® MSCI Australia ETF | (15,339) |
| 140,000 | iShares® MSCI Hong Kong ETF | (18,728) |
| 20,000 | iShares® Russell 2000® ETF | (15,171) |
| 36,000 | JD.com Inc., ADR | (6,452) |
| 16,000 | Lululemon Athletica Inc. | (6,248) |
| 40,000 | New Oriental Education & Technology Group, ADR | (5,410) |
| 24,000 | Qunar Cayman Islands Ltd., ADR | (6,039) |
| 20,000 | SOHU.com, Inc. | (6,506) |
| 22,000 | SPDR® S&P® Retail ETF | (13,560) |
| 38,000 | Vipshop Holdings Ltd., ADR | (6,824) |
| 26,000 | WuXi PharmaTech (Cayman) Inc., ADR | (6,151) |
| | | \$ (125,153) |

** The following table represents the individual common stock holdings comprising the Custom Basket 6 Options Written as of March 31, 2015.

| Shares | Description | Value |
|--------|---------------------------------------|-------------|
| 40,000 | Barrick Gold Corporation | \$ (2,657) |
| 30,000 | Goldcorp Inc. | (3,432) |
| 20,000 | iShares® Core S&P Mid-Cap ETF | (18,349) |
| 20,000 | iShares® MSCI Hong Kong ETF | (2,633) |
| 50,000 | iShares® MSCI Japan ETF | (3,774) |
| 90,000 | Market Vectors® Gold Miners ETF | (9,915) |
| 30,000 | Newmont Mining Corporation | (4,137) |
| 40,000 | Pan American Silver Corporation | (2,170) |
| 15,000 | PowerShares NASDAQ Internet Portfolio | (6,500) |
| 10,000 | Randgold Resources Ltd., ADR | (4,215) |
| | | \$ (57,782) |

*** The following table represents the individual common stock holdings comprising the Custom Basket 7 Options Written as of March 31, 2015.

| Shares | Description | Value |
|--------|-------------------------------|----------|
| 10,000 | Boeing Company | \$ (248) |
| 20,000 | Deere & Company | (294) |
| 40,000 | iShares® Core S&P Mid-Cap ETF | (978) |

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|--------|--------------------------------------|------------|
| 40,000 | iShares® Transportation Average ETF | (1,056) |
| 20,000 | J.B. Hunt Transport Services, Inc. | (282) |
| 10,000 | Kansas City Southern | (187) |
| 20,000 | Landstar System, Inc. | (223) |
| 10,000 | Union Pacific Corporation | (188) |
| 20,000 | United Parcel Service, Inc., Class B | (325) |
| | | \$ (3,781) |

Futures Contracts outstanding:

| Description | Contract Position | Number of Contracts | Contract Expiration | Notional Value | Variation Margin Receivable/ (Payable) | Unrealized Appreciation (Depreciation) |
|----------------|-------------------|---------------------|---------------------|----------------|--|--|
| S&P 500 E-Mini | Long | 60 | 6/15 | \$ 6,182,400 | \$ (44,400) | \$ 56,221 |

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 risks 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 | \$ 278,994,031 | \$ | \$ | \$ 278,994,031 |
| Short-Term Investments: | | | | |
| Repurchase Agreements | | 8,869,740 | | 8,869,740 |
| U.S. Government and Agency Obligations | | 2,497,578 | | 2,497,578 |
| Investments in Derivatives: | | | | |
| Options Written | | (227,308) | | (227,308) |
| Futures Contracts* | 56,221 | | | 56,221 |
| Total | \$ 279,050,252 | \$ 11,140,010 | \$ | \$ 290,190,262 |

* 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. 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 March 31, 2015, the cost of investments (excluding investments in derivatives) was \$254,839,441.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of March 31, 2015, were as follows:

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| | |
|---|-------------------|
| Gross unrealized: | |
| Appreciation | \$ 41,931,058 |
| Depreciation | (6,409,150) |
| | |
| Net unrealized appreciation (depreciation) of investments | \$ 35,521,908 |

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) Non-income producing; issuer has not declared a dividend within the past twelve months.
- (3) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in derivatives.
- (4) Ratings: Using the highest of Standard & Poor's Group (Standard & Poor's), Moody's Investors Service, Inc. (Moody's) or Fitch, Inc. (Fitch) rating. 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 derivatives as well as the exchange-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 100.
- (7) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by the Strike Price by 100.

ADR ADR American Depositary Receipt

REIT Real Estate Investment Trust

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/ Kevin J. McCarthy
Kevin J. McCarthy
Vice President and Secretary

Date: May 29, 2015

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/ Gifford R. Zimmerman
Gifford R. Zimmerman
Chief Administrative Officer (principal executive officer)

Date: May 29, 2015

By (Signature and Title) /s/ Stephen D. Foy
Stephen D. Foy
Vice President and Controller (principal financial officer)

Date: May 29, 2015
