

Nuveen Core Equity Alpha Fund
Form N-Q
November 28, 2014

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: 9/30/2014

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
Nuveen Core Equity Alpha Fund (JCE)
 September 30, 2014 (Unaudited)

| Shares | Description (1) | Value |
|---------|--|--------------|
| | LONG-TERM INVESTMENTS 100.4% | |
| | COMMON STOCKS 100.4% | |
| | Aerospace & Defense 6.5% | |
| 22,300 | Boeing Company | \$ 2,840,574 |
| 13,200 | General Dynamics Corporation | 1,677,588 |
| 1,100 | Honeywell International Inc. | 102,432 |
| 6,000 | L-3 Communications Holdings, Inc. | 713,520 |
| 22,900 | Lockheed Martin Corporation | 4,185,662 |
| 47,600 | Northrop Grumman Corporation | 6,271,776 |
| 23,300 | Raytheon Company | 2,367,746 |
| 600 | Rockwell Collins, Inc. | 47,100 |
| 14,900 | Textron Inc. | 536,251 |
| 700 | United Technologies Corporation | 73,920 |
| | Total Aerospace & Defense | 18,816,569 |
| | Air Freight & Logistics 0.5% | |
| 3,200 | C.H. Robinson Worldwide, Inc. | 212,224 |
| 2,200 | Expeditors International of Washington, Inc. | 89,276 |
| 5,200 | FedEx Corporation | 839,540 |
| 3,600 | United Parcel Service, Inc., Class B | 353,844 |
| | Total Air Freight & Logistics | 1,494,884 |
| | Airlines 2.6% | |
| 15,200 | Delta Air Lines, Inc. | 549,480 |
| 205,500 | Southwest Airlines Co. | 6,939,733 |
| | Total Airlines | 7,489,213 |
| | Auto Components 1.0% | |
| 15,600 | BorgWarner Inc. | 820,716 |
| 34,900 | Delphi Automotive PLC | 2,140,766 |
| | Total Auto Components | 2,961,482 |
| | Automobiles 0.0% | |
| 1,200 | Harley-Davidson, Inc. | 69,840 |
| | Banks 1.6% | |
| 40,300 | BB&T Corporation | 1,499,563 |
| 5,000 | Fifth Third Bancorp. | 100,100 |
| 805 | JPMorgan Chase & Co. | 48,493 |
| 13,200 | M&T Bank Corporation | 1,627,428 |
| 11,500 | U.S. Bancorp | 481,045 |
| 16,450 | Wells Fargo & Company | 853,262 |
| | Total Banks | 4,609,891 |
| | Beverages 3.7% | |
| 29,900 | Brown-Forman Corporation | 2,697,578 |
| 11,000 | Coca-Cola Company | 469,260 |
| 45,900 | Constellation Brands, Inc., Class A, (2) | 4,000,644 |
| 11,300 | Dr. Pepper Snapple Group | 726,703 |
| 30,700 | Molson Coors Brewing Company, Class B | 2,285,308 |
| 6,800 | PepsiCo, Inc. | 633,012 |
| | Total Beverages | 10,812,505 |
| | Biotechnology 0.4% | |
| 9,200 | Gilead Sciences, Inc., (2) | 979,340 |
| 200 | Regeneron Pharmaceuticals, Inc., (2) | 72,104 |
| | Total Biotechnology | 1,051,444 |
| | Building Products 0.4% | |
| 22,100 | Allergion PLC | 1,052,844 |
| | Capital Markets 1.6% | |
| 24,600 | Ameriprise Financial, Inc. | 3,035,148 |
| 1,400 | BlackRock Inc. | 459,648 |
| 1,000 | Charles Schwab Corporation | 29,390 |
| 4,600 | E*Trade Group Inc., (2) | 103,914 |
| 7,700 | Legg Mason, Inc. | 393,932 |
| 10,000 | State Street Corporation | 736,100 |

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| Total Capital Markets | 4,758,132 |
| Chemicals 2.6% | |
| 600 CF Industries Holdings, Inc. | 167,532 |
| 29,200 Dow Chemical Company | 1,531,248 |
| 3,900 E.I. Du Pont de Nemours and Company | 279,864 |
| 2,000 Eastman Chemical Company | 161,780 |
| 2,800 Ecolab Inc. | 321,524 |
| 8,700 FMC Corporation | 497,553 |
| 900 International Flavors & Fragrances Inc. | 86,292 |
| 15,500 LyondellBasell Industries NV | 1,684,230 |
| 1,700 Monsanto Company | 191,267 |
| 2,800 Mosaic Company | 124,348 |
| 5,900 PPG Industries, Inc. | 1,160,766 |
| 2,500 Praxair, Inc. | 322,500 |
| 2,600 Sherwin-Williams Company | 569,374 |
| 3,800 Sigma-Aldrich Corporation | 516,838 |
| Total Chemicals | 7,615,116 |
| Commercial Services & Supplies 0.9% | |
| 19,600 Cintas Corporation | 1,383,564 |
| 11,800 Pitney Bowes Inc. | 294,882 |
| 7,100 Republic Services, Inc. | 277,042 |
| 600 Stericycle Inc., (2) | 69,936 |
| 1,600 Tyco International Ltd. | 71,312 |
| 9,300 Waste Management, Inc. | 442,029 |
| Total Commercial Services & Supplies | 2,538,765 |
| Communications Equipment 1.4% | |
| 9,400 Cisco Systems, Inc. | 236,598 |
| 8,300 F5 Networks, Inc., (2) | 985,542 |
| 21,100 Harris Corporation | 1,401,040 |
| 22,100 Juniper Networks Inc. | 489,515 |
| 8,600 Motorola Solutions Inc. | 544,208 |
| 4,500 QUALCOMM, Inc. | 336,465 |
| Total Communications Equipment | 3,993,368 |
| Computers & Peripherals 3.0% | |
| 42,700 Apple, Inc. | 4,302,025 |
| 8,700 EMC Corporation | 254,562 |
| 48,800 Hewlett-Packard Company | 1,730,936 |
| 8,400 SanDisk Corporation | 822,780 |
| 17,000 Western Digital Corporation | 1,654,440 |
| Total Computers & Peripherals | 8,764,743 |
| Construction & Engineering 0.3% | |
| 21,400 Quanta Services Incorporated, (2) | 776,606 |
| Construction Materials 0.2% | |
| 2,900 Martin Marietta Materials | 373,926 |
| 1,500 Vulcan Materials Company | 90,345 |
| Total Construction Materials | 464,271 |
| Consumer Finance 0.5% | |
| 12,200 American Express Company | 1,067,988 |
| 800 Capital One Financial Corporation | 65,296 |
| 18,300 Navient Corporation | 324,093 |
| Total Consumer Finance | 1,457,377 |
| Containers & Packaging 0.6% | |
| 19,100 Ball Corporation | 1,208,457 |
| 2,900 Bemis Company, Inc. | 110,258 |
| 10,700 MeadWestvaco Corporation | 438,058 |
| Total Containers & Packaging | 1,756,773 |
| Diversified Consumer Services 0.5% | |
| 43,900 H & R Block Inc. | 1,361,339 |
| Diversified Financial Services 0.9% | |
| 3,500 Berkshire Hathaway Inc., Class B, (2) | 483,490 |
| 5,400 CME Group, Inc. | 431,757 |
| 1,392 Intercontinental Exchange Group, Inc. | 271,510 |
| 16,400 McGraw-Hill Companies, Inc. | 1,384,980 |
| 500 Moody's Corporation | 47,250 |
| Total Diversified Financial Services | 2,618,987 |
| Diversified Telecommunication Services 1.8% | |
| 18,600 AT&T Inc. | 655,464 |
| 45,800 CenturyLink Inc. | 1,872,762 |
| 109,300 Frontier Communications Corporation | 711,543 |
| 11,200 Verizon Communications Inc. | 559,888 |

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| 123,000 | Windstream Holdings Inc. | 1,325,940 |
| | Total Diversified Telecommunication Services | 5,125,597 |
| | Electric Utilities 3.6% | |
| 6,000 | American Electric Power Company, Inc. | 313,260 |
| 39,256 | Duke Energy Corporation | 2,935,171 |
| 8,400 | Edison International | 469,728 |
| 19,000 | Entergy Corporation | 1,469,270 |
| 44,600 | Exelon Corporation | 1,520,414 |
| 4,200 | NextEra Energy Inc. | 394,296 |
| 8,400 | Northeast Utilities | 372,120 |
| 83,500 | Peppco Holdings, Inc. | 2,234,460 |
| 16,000 | PPL Corporation | 525,440 |
| 4,800 | Southern Company | 209,520 |
| 2,100 | Xcel Energy, Inc. | 63,840 |
| | Total Electric Utilities | 10,507,519 |
| | Electrical Equipment 0.1% | |
| 1,400 | Rockwell Automation, Inc. | 153,832 |
| | Electronic Equipment, Instruments & Components 0.4% | |
| 1,200 | Amphenol Corporation, Class A | 119,832 |
| 34,800 | Corning Incorporated | 673,032 |
| 5,300 | FLIR Systems Inc. | 166,102 |
| 4,200 | TE Connectivity Limited | 232,218 |
| | Total Electronic Equipment, Instruments & Components | 1,191,184 |
| | Energy Equipment & Services 3.1% | |
| 25,700 | Baker Hughes Incorporated | 1,672,042 |
| 1,800 | Diamond Offshore Drilling, Inc. | 61,686 |
| 38,500 | Halliburton Company | 2,483,635 |
| 19,700 | Helmerich & Payne Inc. | 1,928,039 |
| 73,500 | Nabors Industries Inc. | 1,672,860 |
| 700 | National-Oilwell Varco Inc. | 53,270 |
| 12,100 | Schlumberger Limited | 1,230,449 |
| | Total Energy Equipment & Services | 9,101,981 |
| | Food & Staples Retailing 2.8% | |
| 2,400 | Costco Wholesale Corporation | 300,768 |
| 14,400 | CVS Caremark Corporation | 1,146,096 |
| 57,200 | Kroger Co. | 2,974,400 |
| 15,300 | Safeway Inc. | 524,790 |
| 2,600 | Sysco Corporation | 98,670 |
| 11,700 | Walgreen Co. | 693,459 |
| 29,700 | Wal-Mart Stores, Inc. | 2,271,159 |
| | Total Food & Staples Retailing | 8,009,342 |
| | Food Products 2.4% | |
| 11,600 | Archer-Daniels-Midland Company | 592,760 |
| 13,900 | ConAgra Foods, Inc. | 459,256 |
| 12,100 | General Mills, Inc. | 610,445 |
| 6,300 | Hershey Foods Corporation | 601,209 |
| 31,400 | Hormel Foods Corporation | 1,613,646 |
| 3,600 | Kellogg Company | 221,760 |
| 1,300 | Keurig Green Mountain Inc. | 169,169 |
| 3,700 | Kraft Foods Inc. | 208,680 |
| 2,100 | Mondelez International Inc. | 71,957 |
| 63,500 | Tyson Foods, Inc., Class A | 2,499,995 |
| | Total Food Products | 7,048,877 |
| | Gas Utilities 0.1% | |
| 7,400 | AGL Resources Inc. | 379,916 |
| | Health Care Equipment & Supplies 1.2% | |
| 4,100 | Baxter International, Inc. | 294,257 |
| 9,900 | Becton, Dickinson and Company | 1,126,719 |
| 57,000 | Boston Scientific Corporation, (2) | 673,170 |
| 3,000 | C. R. Bard, Inc. | 428,130 |
| 3,700 | Covidien PLC | 320,087 |
| 6,600 | Edwards Lifesciences Corporation, (2) | 674,190 |
| 300 | Saint Jude Medical Inc. | 18,039 |
| 500 | Stryker Corporation | 40,375 |
| | Total Health Care Equipment & Supplies | 3,574,967 |
| | Health Care Providers & Services 6.8% | |
| 27,959 | Aetna Inc. | 2,264,679 |
| 31,300 | AmerisourceBergen Corporation | 2,419,490 |
| 35,900 | Cardinal Health, Inc. | 2,689,628 |
| 31,000 | CIGNA Corporation | 2,811,390 |

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| 26,800 | Davita Inc., (2) | 1,960,152 |
| 7,700 | Express Scripts, Holding Company, (2) | 543,851 |
| 9,500 | Humana Inc. | 1,237,755 |
| 3,900 | Laboratory Corporation of America Holdings, (2) | 396,825 |
| 12,000 | McKesson HBOC Inc. | 2,336,040 |
| 8,000 | UnitedHealth Group Incorporated | 690,000 |
| 1,300 | Universal Health Services, Inc., Class B | 135,850 |
| 19,200 | Wellpoint Inc. | 2,296,704 |
| | Total Health Care Providers & Services | 19,782,364 |
| | Hotels, Restaurants & Leisure 1.9% | |
| 3,700 | Carnival Corporation | 148,629 |
| 600 | Chipotle Mexican Grill, (2) | 399,954 |
| 1,500 | Darden Restaurants, Inc. | 77,190 |
| 54,100 | Marriott International, Inc., Class A | 3,781,590 |
| 4,100 | McDonald's Corporation | 388,721 |
| 4,300 | Wynn Resorts Ltd | 804,444 |
| | Total Hotels, Restaurants & Leisure | 5,600,528 |
| | Household Durables 1.0% | |
| 22,300 | Garmin Limited | 1,159,377 |
| 7,300 | Harman International Industries Inc. | 715,692 |
| 5,200 | Leggett and Platt Inc. | 181,584 |
| 1,000 | Lennar Corporation, Class A | 38,830 |
| 24,300 | Newell Rubbermaid Inc. | 836,163 |
| | Total Household Durables | 2,931,646 |
| | Household Products 1.3% | |
| 15,900 | Clorox Company | 1,527,036 |
| 9,100 | Colgate-Palmolive Company | 593,502 |
| 7,100 | Kimberly-Clark Corporation | 763,747 |
| 9,300 | Procter & Gamble Company | 778,782 |
| | Total Household Products | 3,663,067 |
| | Independent Power & Renewable Electricity Producers 0.6% | |
| 57,600 | NRG Energy Inc. | 1,755,648 |
| | Industrial Conglomerates 0.3% | |
| 3,800 | 3M Co. | 538,384 |
| 12,200 | General Electric Company | 312,564 |
| | Total Industrial Conglomerates | 850,948 |
| | Insurance 4.3% | |
| 2,700 | Ace Limited | 283,149 |
| 1,800 | AFLAC Incorporated | 104,850 |
| 64,500 | Allstate Corporation | 3,958,365 |
| 3,200 | American International Group, Inc. | 172,864 |
| 17,300 | AON PLC | 1,516,691 |
| 32,500 | Assurant Inc. | 2,089,750 |
| 1,200 | Chubb Corporation | 109,296 |
| 5,500 | Cincinnati Financial Corporation | 258,775 |
| 8,000 | Marsh & McLennan Companies, Inc. | 418,720 |
| 16,800 | Principal Financial Group, Inc. | 881,496 |
| 20,625 | Torchmark Corporation | 1,080,131 |
| 8,100 | Travelers Companies, Inc. | 760,914 |
| 20,700 | Unum Group | 711,666 |
| 5,500 | XL Capital Ltd, Class A | 182,435 |
| | Total Insurance | 12,529,102 |
| | Internet & Catalog Retail 0.2% | |
| 500 | priceline.com Incorporated, (2) | 579,290 |
| | Internet Software & Services 1.1% | |
| 2,400 | Facebook Inc., Class A Shares, (2) | 189,696 |
| 2,600 | Google Inc., Class A, (2) | 1,529,866 |
| 2,600 | Google Inc., Class C Shares, (2) | 1,501,136 |
| 900 | Yahoo! Inc., (2) | 36,675 |
| | Total Internet Software & Services | 3,257,373 |
| | IT Services 1.5% | |
| 4,100 | Alliance Data Systems Corporation, (2) | 1,017,907 |
| 1,500 | Automatic Data Processing, Inc. | 124,620 |
| 500 | Cognizant Technology Solutions Corporation, Class A, (2) | 22,385 |
| 4,600 | Computer Sciences Corporation | 281,290 |
| 31,300 | Fidelity National Information Services | 1,762,190 |
| 2,700 | International Business Machines Corporation (IBM) | 512,541 |
| 4,200 | MasterCard, Inc. | 310,464 |
| 2,500 | Total System Services Inc. | 77,400 |
| 400 | Visa Inc. | 85,348 |

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| 11,200 | Xerox Corporation | 148,176 |
| | Total IT Services | 4,342,321 |
| | Leisure Equipment & Products 0.2% | |
| 8,300 | Hasbro, Inc. | 456,459 |
| | Life Sciences Tools & Services 1.1% | |
| 1,100 | Perkinelmer Inc. | 47,960 |
| 25,000 | Thermo Fisher Scientific, Inc. | 3,042,500 |
| | Total Life Sciences Tools & Services | 3,090,460 |
| | Machinery 1.2% | |
| 7,500 | Caterpillar Inc. | 742,725 |
| 1,600 | Cummins Inc. | 211,168 |
| 5,400 | Deere & Company | 442,746 |
| 6,700 | Dover Corporation | 538,211 |
| 6,100 | Flowserve Corporation | 430,172 |
| 800 | Illinois Tool Works, Inc. | 67,536 |
| 800 | Joy Global Inc. | 43,632 |
| 2,300 | PACCAR Inc. | 130,813 |
| 1,400 | Pall Corporation | 117,180 |
| 3,700 | Pentair Limited | 242,313 |
| 1,800 | Snap-on Incorporated | 217,944 |
| 900 | Stanley Black & Decker Inc. | 79,911 |
| 2,200 | Xylem Inc. | 78,078 |
| | Total Machinery | 3,342,429 |
| | Media 6.0% | |
| 5,600 | Cablevision Systems Corporation | 98,056 |
| 103,800 | Comcast Corporation, Class A | 5,582,364 |
| 8,700 | DirecTV, (2) | 752,724 |
| 9,700 | Interpublic Group of Companies, Inc. | 177,704 |
| 7,725 | News Corporation, Class A Shares, (2) | 126,304 |
| 15,800 | Time Warner Cable, Class A | 2,267,142 |
| 44,000 | Time Warner Inc. | 3,309,240 |
| 34,600 | Twenty First Century Fox Inc., Class A Shares | 1,186,434 |
| 10,000 | Viacom Inc., Class B | 769,400 |
| 36,500 | Walt Disney Company | 3,249,595 |
| | Total Media | 17,518,963 |
| | Metals & Mining 1.2% | |
| 155,100 | Alcoa Inc. | 2,495,559 |
| 16,600 | Allegheny Technologies, Inc. | 615,860 |
| 6,300 | Newmont Mining Corporation | 145,215 |
| 1,300 | Nucor Corporation | 70,564 |
| | Total Metals & Mining | 3,327,198 |
| | Multiline Retail 0.2% | |
| 1,400 | Dollar Tree Stores Inc., (2) | 78,498 |
| 5,000 | Macy's, Inc. | 290,900 |
| 2,800 | Nordstrom, Inc. | 191,436 |
| | Total Multiline Retail | 560,834 |
| | Multi-Utilities 2.5% | |
| 9,100 | Ameren Corporation | 348,803 |
| 6,600 | CMS Energy Corporation | 195,756 |
| 1,400 | Consolidated Edison, Inc. | 79,324 |
| 9,900 | Dominion Resources, Inc. | 683,991 |
| 400 | DTE Energy Company | 30,432 |
| 5,400 | Integrus Energy Group, Inc. | 350,028 |
| 4,400 | NiSource Inc. | 180,312 |
| 7,400 | PG&E Corporation | 333,296 |
| 23,100 | Public Service Enterprise Group Incorporated | 860,244 |
| 1,200 | Scana Corporation | 59,532 |
| 27,600 | Sempra Energy | 2,908,488 |
| 9,800 | TECO Energy, Inc. | 170,324 |
| 22,800 | Wisconsin Energy Corporation | 980,400 |
| | Total Multi-Utilities | 7,180,930 |
| | Oil, Gas & Consumable Fuels 6.2% | |
| 6,000 | Anadarko Petroleum Corporation | 608,640 |
| 29,600 | Cabot Oil & Gas Corporation | 967,624 |
| 13,600 | Chesapeake Energy Corporation | 312,664 |
| 1,500 | Cimarex Energy Company | 189,795 |
| 38,100 | ConocoPhillips | 2,915,412 |
| 24,900 | CONSOL Energy Inc. | 942,714 |
| 11,700 | Devon Energy Corporation | 797,706 |
| 8,400 | EOG Resources, Inc. | 831,768 |

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| 14,300 | EQT Corporation | 1,309,022 |
| 3,300 | Exxon Mobil Corporation | 310,365 |
| 8,600 | Hess Corporation | 811,152 |
| 3,100 | Kinder Morgan, Inc. | 118,854 |
| 450 | Marathon Petroleum Corporation | 38,102 |
| 20,400 | Newfield Exploration Company, (2) | 756,228 |
| 1,900 | Occidental Petroleum Corporation | 182,685 |
| 10,700 | ONEOK, Inc. | 701,385 |
| 10,600 | Phillips 66 | 861,886 |
| 5,500 | Range Resources Corporation | 372,955 |
| 21,300 | Southwestern Energy Company, (2) | 744,435 |
| 38,300 | Spectra Energy Corporation | 1,503,658 |
| 11,300 | Valero Energy Corporation | 522,851 |
| 39,700 | Williams Companies, Inc. | 2,197,395 |
| | Total Oil, Gas & Consumable Fuels | 17,997,296 |
| | Personal Products 0.0% | |
| 900 | Estee Lauder Companies Inc., Class A | 67,248 |
| | Pharmaceuticals 3.5% | |
| 16,155 | Actavis PLC, (2) | 3,897,878 |
| 14,000 | Allergan, Inc. | 2,494,660 |
| 1,200 | Bristol-Myers Squibb Company | 61,416 |
| 6,100 | Eli Lilly and Company | 395,585 |
| 4,200 | Hospira Inc. | 218,526 |
| 2,700 | Johnson & Johnson | 287,793 |
| 1,600 | Mallinckrodt PLC, (2) | 144,240 |
| 38,232 | Merck & Company Inc. | 2,266,393 |
| 10,800 | Mylan Laboratories Inc., (2) | 491,292 |
| | Total Pharmaceuticals | 10,257,783 |
| | Professional Services 0.9% | |
| 17,500 | Equifax Inc. | 1,307,950 |
| 26,200 | Nielsen Holdings N.V | 1,161,446 |
| 2,400 | Robert Half International Inc. | 117,600 |
| | Total Professional Services | 2,586,996 |
| | Real Estate Investment Trust 3.4% | |
| 1,500 | American Tower Corporation, REIT | 140,445 |
| 16,500 | Apartment Investment & Management Company, Class A | 525,030 |
| 4,300 | AvalonBay Communities, Inc. | 606,171 |
| 6,500 | Boston Properties, Inc. | 752,440 |
| 29,500 | Crown Castle International Corporation | 2,375,635 |
| 11,700 | Equity Residential | 720,486 |
| 3,400 | Essex Property Trust Inc. | 607,750 |
| 14,200 | General Growth Properties Inc. | 334,410 |
| 5,000 | Health Care Property Investors Inc. | 198,550 |
| 4,600 | Health Care REIT, Inc. | 286,902 |
| 10,800 | Host Hotels & Resorts Inc. | 230,364 |
| 6,600 | Iron Mountain Inc. | 215,490 |
| 9,200 | Kimco Realty Corporation | 201,572 |
| 5,800 | Macerich Company | 370,214 |
| 2,900 | Prologis Inc. | 109,330 |
| 2,500 | Public Storage, Inc. | 414,600 |
| 2,700 | Simon Property Group, Inc. | 443,934 |
| 5,000 | Ventas Inc. | 309,750 |
| 7,600 | Vornado Realty Trust | 759,696 |
| 9,900 | Weyerhaeuser Company | 315,414 |
| | Total Real Estate Investment Trust | 9,918,183 |
| | Road & Rail 1.4% | |
| 5,500 | CSX Corporation | 176,330 |
| 3,300 | Norfolk Southern Corporation | 368,280 |
| 17,100 | Ryder System, Inc. | 1,538,487 |
| 18,500 | Union Pacific Corporation | 2,005,770 |
| | Total Road & Rail | 4,088,867 |
| | Semiconductors & Semiconductor Equipment 2.0% | |
| 4,500 | Analog Devices, Inc. | 222,705 |
| 14,600 | Applied Materials, Inc. | 315,506 |
| 14,500 | Avago Technologies Limited | 1,261,500 |
| 14,600 | Broadcom Corporation, Class A | 590,132 |
| 22,000 | Intel Corporation | 766,040 |
| 7,900 | Lam Research Corporation | 590,130 |
| 5,000 | Linear Technology Corporation | 221,950 |
| 29,000 | Micron Technology, Inc., (2) | 993,540 |

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| 30,800 | NVIDIA Corporation | 568,260 |
| 3,700 | Xilinx, Inc. | 156,695 |
| | Total Semiconductors & Semiconductor Equipment | 5,686,458 |
| | Software 0.7% | |
| 1,900 | Adobe Systems Incorporated, (2) | 131,461 |
| 1,700 | Citrix Systems, (2) | 121,278 |
| 8,500 | Electronic Arts Inc., (2) | 302,685 |
| 1,400 | Intuit, Inc. | 122,710 |
| 27,200 | Microsoft Corporation | 1,260,992 |
| 5,600 | Oracle Corporation | 214,368 |
| | Total Software | 2,153,494 |
| | Specialty Retail 3.6% | |
| 1,900 | AutoNation Inc., (2) | 95,589 |
| 1,400 | AutoZone, Inc., (2) | 713,524 |
| 4,400 | Gap, Inc. | 183,436 |
| 72,100 | Home Depot, Inc. | 6,614,454 |
| 3,400 | O Reilly Automotive Inc., (2) | 511,224 |
| 500 | Tiffany & Co. | 48,155 |
| 40,000 | TJX Companies, Inc. | 2,366,800 |
| | Total Specialty Retail | 10,533,182 |
| | Textiles, Apparel & Luxury Goods 0.6% | |
| 9,200 | Michael Kors Holdings Limited, (2) | 656,788 |
| 1,200 | Nike, Inc., Class B | 107,040 |
| 12,800 | VF Corporation | 845,184 |
| | Total Textiles, Apparel & Luxury Goods | 1,609,012 |
| | Thriffs & Mortgage Finance 0.1% | |
| 31,400 | Hudson City Bancorp, Inc. | 305,208 |
| 5,600 | People's United Financial, Inc. | 81,032 |
| | Total Thriffs & Mortgage Finance | 386,240 |
| | Tobacco 1.8% | |
| 50,600 | Altria Group, Inc. | 2,324,564 |
| 16,400 | Lorillard Inc. | 982,524 |
| 2,800 | Philip Morris International | 233,520 |
| 29,700 | Reynolds American Inc. | 1,752,300 |
| | Total Tobacco | 5,292,908 |
| | Trading Companies & Distributors 0.1% | |
| 1,400 | United Rentals Inc., (2) | 155,540 |
| | Total Long-Term Investments (cost \$228,967,217) | 291,060,131 |

| Principal Amount (000) | Description (1) | Coupon | Maturity | Ratings (3) | Value |
|------------------------|---|--------|----------|-------------|-----------------------|
| | SHORT-TERM INVESTMENTS 1.4% | | | | |
| | Repurchase Agreements 0.5% | | | | |
| \$ 1,426 | Repurchase Agreement with Fixed Income Clearing Corporation, dated 9/30/14, repurchase price \$1,426,023, collateralized by \$1,460,000 U.S. Treasury Notes, 1.750%, due 9/30/19, value \$1,456,350 | 0.000% | 10/01/14 | N/A | \$ 1,426,023 |
| | U.S. Government and Agency Obligations 0.9% | | | | |
| 2,500 | U.S. Treasury Bills, (4) | 0.000% | 1/15/15 | Aaa | 2,499,870 |
| \$ 3,926 | Total Short-Term Investments (cost \$3,925,476) | | | | 3,925,893 |
| | Total Investments (cost \$232,892,693) 101.8% | | | | 294,986,024 |
| | Other Assets Less Liabilities (1.8)% (5) | | | | (5,234,486) |
| | Net Assets 100% | | | | \$ 289,751,538 |

Investments in Derivatives as of September 30, 2014

Options Written outstanding:

| Number of Contracts | Description | Counterparty | Notional Amount | Expiration Date | Strike Price | Value (5) |
|---------------------|------------------|--------------|--------------------|-----------------|--------------|-------------|
| (171,827) | Custom Basket 1* | Citigroup | \$ (17,182,700)(6) | 10/30/14 | \$ 103.0 | \$ (12,629) |

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| | | | | | | |
|------------------|--|---------------|-------------------------|----------|---------|---------------------|
| (197,557) | Custom Basket 3** | HSBC | (19,755,700)(6) | 10/09/14 | 103.0 | (20) |
| (199,525) | Custom Basket 4*** | HSBC | (19,952,500)(6) | 10/17/14 | 103.0 | (539) |
| (450) | NASDAQ Internet Index | Deutsche Bank | (18,405,000)(7) | 11/03/14 | 409.0 | (273,686) |
| (140) | S&P Midcap 400® Index | JPMorgan | (20,216,000)(7) | 10/27/14 | 1,444.0 | (23,240) |
| (160) | S&P Midcap 400® Index | HSBC | (23,040,000)(7) | 10/31/14 | 1,440.0 | (37,081) |
| (200) | S&P Midcap 400® Index | JPMorgan | (28,402,000)(7) | 10/31/14 | 1,420.1 | (87,343) |
| (569,859) | Total Options Written (premiums received \$553,836) | | \$ (146,953,900) | | | \$ (434,538) |

* The following table represents the individual common stock holdings comprising the Custom Basket 1 Options Written as of September 30, 2014.

| Shares | Description | Value |
|--------|---|-------------|
| 90,000 | Financial Select Sector SPDR® Fund | \$ (1,554) |
| 30,000 | Hudson City Bancorp, Inc. | (224) |
| 40,000 | Materials Select Sector SPDR® Fund | (1,482) |
| 40,000 | Microsoft Corporation | (1,383) |
| 10,000 | PetSmart, Inc. | (515) |
| 20,000 | Procter & Gamble Co. | (1,247) |
| 10,000 | SPDR® Dow Jones® Industrial AverageSM ETF | (1,260) |
| 15,000 | The Clorox Company | (1,072) |
| 95,000 | WisdomTree India Earnings Fund | (1,583) |
| 60,000 | WisdomTree Japan Hedged Equity Fund | (2,309) |
| | | \$ (12,629) |

** The following table represents the individual common stock holdings comprising the Custom Basket 3 Options Written as of September 30, 2014.

| Shares | Description | Value |
|---------|------------------------------------|---------|
| 25,000 | Dish Network | \$ (2) |
| 30,000 | iShares® China Large-Cap ETF | (1) |
| 145,000 | iShares® MSCI Emerging Markets ETF | (6) |
| 20,000 | iShares® Russell 2000 Index ETF | (2) |
| 35,000 | Microsoft Corporation | (2) |
| 20,000 | PetSmart, Inc. | (1) |
| 40,000 | Sysco Corporation | (2) |
| 10,000 | The Goldman Sachs Group, Inc. | (2) |
| 20,000 | Wal-Mart Stores, Inc. | (2) |
| | | \$ (20) |

*** The following table represents the individual common stock holdings comprising the Custom Basket 4 Options Written as of September 30, 2014.

| Shares | Description | Value |
|---------|---|----------|
| 20,000 | Citrix Systems, Inc. | \$ (39) |
| 17,000 | CME Group Inc. | (37) |
| 75,000 | Consumer Staples Select Sector SPDR® Fund | (92) |
| 30,000 | iShares® Core S&P Mid-Cap ETF | (115) |
| 150,000 | iShares® MSCI Japan ETF | (48) |
| 10,000 | SPDR® Dow Jones® Industrial AverageSM ETF | (46) |
| 100,000 | SPDR® S&P® Bank ETF | (89) |
| 7,000 | The International Business Machines Corporation | (37) |
| 7,000 | TransDigm Group Incorporated | (36) |
| | | \$ (539) |

Futures Contracts outstanding:

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| Description | Contract Position | Number of Contracts | Contract Expiration | Notional Value | Unrealized Appreciation (Depreciation) |
|----------------|----------------------|------------------------|------------------------|-------------------|--|
| S&P 500 E-Mini | Long | 60 | 12/14 | \$ 5,896,500 | \$ (33,330) |

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 | \$ 291,060,131 | \$ | \$ | \$ 291,060,131 |
| Short-Term Investments: | | | | |
| Repurchase Agreements | | 1,426,023 | | 1,426,023 |
| U.S. Government and Agency Obligations | | 2,499,870 | | 2,499,870 |
| Investments in Derivatives: | | | | |
| Options Written | (334,007) | (100,531) | | (434,538) |
| Futures Contracts* | (33,330) | | | (33,330) |
| Total | \$ 290,692,794 | \$ 3,825,362 | \$ | \$ 294,518,156 |

* 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 September 30, 2014, the cost of investments (excluding investments in derivatives) was \$232,982,118.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of September 30, 2014, were as follows:

| | |
|---|---------------|
| Gross unrealized: | |
| Appreciation | \$ 65,168,864 |
| Depreciation | (3,164,958) |
| Net unrealized appreciation (depreciation) of investments | \$ 62,003,906 |

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

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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) 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.
- (4) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in derivatives.
- (5) Other Assets Less Liabilities includes the Value of certain derivative instruments as listed within Investments in Derivatives as of the end of the reporting period.
- (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.

N/A Not applicable.

REIT Real Estate Investment Trust.

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: November 28, 2014

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: November 28, 2014

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

Date: November 28, 2014
