

Nuveen Core Equity Alpha Fund
Form N-Q
May 30, 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: 3/31/2014

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 (Unaudited)
Nuveen Core Equity Alpha Fund (JCE)
 March 31, 2014

| Shares | Description (1) | Value |
|--------|--|--------------|
| | LONG-TERM INVESTMENTS 100.0% | |
| | COMMON STOCKS 100.0% | |
| | Aerospace & Defense 5.3% | |
| 22,300 | Boeing Company | \$ 2,798,427 |
| 3,500 | General Dynamics Corporation | 381,220 |
| 2,400 | L-3 Communications Holdings, Inc. | 283,560 |
| 19,600 | Lockheed Martin Corporation | 3,199,504 |
| 47,600 | Northrop Grumman Corporation | 5,872,888 |
| 1,700 | Precision Castparts Corporation | 429,692 |
| 23,300 | Raytheon Company | 2,301,807 |
| 1,100 | Rockwell Collins, Inc. | 87,637 |
| | Total Aerospace & Defense | 15,354,735 |
| | Air Freight & Logistics 0.3% | |
| 5,200 | FedEx Corporation | 689,312 |
| 1,600 | United Parcel Service, Inc., Class B | 155,808 |
| | Total Air Freight & Logistics | 845,120 |
| | Airlines 0.7% | |
| 15,200 | Delta Air Lines, Inc. | 526,680 |
| 62,500 | Southwest Airlines Co. | 1,475,625 |
| | Total Airlines | 2,002,305 |
| | Auto Components 2.4% | |
| 15,600 | BorgWarner Inc. | 958,932 |
| 63,700 | Delphi Automotive PLC | 4,322,682 |
| 33,300 | Goodyear Tire & Rubber Company | 870,129 |
| 16,100 | Johnson Controls, Inc. | 761,852 |
| | Total Auto Components | 6,913,595 |
| | Automobiles 0.2% | |
| 20,600 | Ford Motor Company | 321,360 |
| 700 | General Motors Company | 24,094 |
| 2,700 | Harley-Davidson, Inc. | 179,847 |
| | Total Automobiles | 525,301 |
| | Banks 2.0% | |
| 14,700 | Bank of America Corporation | 252,840 |
| 40,300 | BB&T Corporation | 1,618,851 |
| 2,800 | Citigroup Inc. | 133,280 |
| 2,500 | Comerica Incorporated | 129,500 |
| 3,500 | Fifth Third Bancorp. | 80,325 |
| 5,305 | JPMorgan Chase & Co. | 322,067 |
| 30,300 | KeyCorp. | 431,472 |
| 13,200 | M&T Bank Corporation | 1,601,160 |
| 11,500 | U.S. Bancorp | 492,890 |
| 16,450 | Wells Fargo & Company | 818,223 |
| | Total Banks | 5,880,608 |
| | Beverages 1.9% | |
| 4,900 | Beam Inc. | 408,170 |
| 1,700 | Brown-Forman Corporation | 152,473 |
| 11,000 | Coca-Cola Company | 425,260 |
| 45,900 | Constellation Brands, Inc., Class A, (2) | 3,900,123 |
| 1,500 | Dr. Pepper Snapple Group | 81,690 |
| 1,100 | Monster Beverage Corporation, (2) | 76,395 |
| 6,800 | PepsiCo, Inc. | 567,800 |
| | Total Beverages | 5,611,911 |
| | Biotechnology 2.3% | |
| 9,000 | Amgen Inc. | 1,110,060 |
| 7,900 | Biogen Idec Inc., (2) | 2,416,373 |
| 5,700 | Celgene Corporation, (2) | 795,720 |
| 32,300 | Gilead Sciences, Inc., (2) | 2,288,778 |
| | Total Biotechnology | 6,610,931 |
| | Building Products 0.1% | |

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| | | |
|---------|--|-----------|
| 5,000 | Allegion PLC | 260,850 |
| | Capital Markets 3.4% | |
| 27,300 | Ameriprise Financial, Inc. | 3,004,911 |
| 3,300 | BlackRock Inc. | 1,037,784 |
| 39,300 | Charles Schwab Corporation | 1,074,069 |
| 33,700 | E*Trade Group Inc., (2) | 775,774 |
| 2,700 | Goldman Sachs Group, Inc. | 442,395 |
| 3,000 | Legg Mason, Inc. | 147,120 |
| 3,000 | Morgan Stanley | 93,510 |
| 48,900 | State Street Corporation | 3,400,995 |
| | Total Capital Markets | 9,976,558 |
| | Chemicals 3.4% | |
| 400 | Air Products & Chemicals Inc. | 47,616 |
| 400 | Airgas, Inc. | 42,604 |
| 1,500 | CF Industries Holdings, Inc. | 390,960 |
| 2,500 | Dow Chemical Company | 121,475 |
| 3,900 | E.I. Du Pont de Nemours and Company | 261,690 |
| 6,600 | Ecolab Inc. | 712,734 |
| 8,700 | FMC Corporation | 666,072 |
| 900 | International Flavors & Fragrances Inc. | 86,103 |
| 5,600 | LyondellBasell Industries NV | 498,064 |
| 4,400 | Monsanto Company | 500,588 |
| 12,100 | PPG Industries, Inc. | 2,340,866 |
| 6,100 | Praxair, Inc. | 798,917 |
| 15,500 | Sherwin-Williams Company | 3,055,515 |
| 3,800 | Sigma-Aldrich Corporation | 354,844 |
| | Total Chemicals | 9,878,048 |
| | Commercial Services & Supplies 0.8% | |
| 19,600 | Cintas Corporation | 1,168,356 |
| 2,100 | Iron Mountain Inc. | 57,897 |
| 11,800 | Pitney Bowes Inc. | 306,682 |
| 7,100 | Republic Services, Inc. | 242,536 |
| 1,400 | Stericycle Inc., (2) | 159,068 |
| 9,300 | Waste Management, Inc. | 391,251 |
| | Total Commercial Services & Supplies | 2,325,790 |
| | Communications Equipment 0.9% | |
| 1,300 | F5 Networks, Inc., (2) | 138,619 |
| 21,100 | Harris Corporation | 1,543,676 |
| 8,800 | Juniper Networks Inc., (2) | 226,688 |
| 4,000 | Motorola Solutions Inc. | 257,160 |
| 4,500 | QUALCOMM, Inc. | 354,870 |
| | Total Communications Equipment | 2,521,013 |
| | Computers & Peripherals 1.8% | |
| 6,100 | Apple, Inc. | 3,274,114 |
| 19,400 | Hewlett-Packard Company | 627,784 |
| 10,300 | NetApp, Inc. | 380,070 |
| 5,100 | Seagate Technology | 286,416 |
| 6,400 | Western Digital Corporation | 587,648 |
| | Total Computers & Peripherals | 5,156,032 |
| | Construction & Engineering 0.2% | |
| 2,000 | Fluor Corporation | 155,460 |
| 8,100 | Jacobs Engineering Group, Inc., (2) | 514,350 |
| | Total Construction & Engineering | 669,810 |
| | Consumer Finance 1.6% | |
| 12,200 | American Express Company | 1,098,366 |
| 6,000 | Discover Financial Services | 349,140 |
| 126,300 | SLM Corporation | 3,091,824 |
| | Total Consumer Finance | 4,539,330 |
| | Containers & Packaging 0.2% | |
| 4,200 | Avery Dennison Corporation | 212,814 |
| 2,200 | Ball Corporation | 120,582 |
| 2,900 | Bemis Company, Inc. | 113,796 |
| 2,200 | Sealed Air Corporation | 72,314 |
| | Total Containers & Packaging | 519,506 |
| | Diversified Consumer Services 1.0% | |
| 900 | Graham Holdings Company | 633,375 |
| 80,200 | H & R Block Inc. | 2,421,238 |
| | Total Diversified Consumer Services | 3,054,613 |
| | Diversified Financial Services 1.6% | |
| 1,200 | Berkshire Hathaway Inc., Class B, (2) | 149,964 |

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| 20,500 | CME Group, Inc. | 1,517,205 |
| 6,092 | IntercontinentalExchange Group Inc. | 1,205,180 |
| 16,400 | McGraw-Hill Companies, Inc. | 1,251,320 |
| 1,800 | Moody's Corporation | 142,776 |
| 12,500 | NASDAQ Stock Market, Inc. | 461,750 |
| | Total Diversified Financial Services | 4,728,195 |
| | Diversified Telecommunication Services 0.4% | |
| 18,600 | AT&T Inc. | 652,302 |
| 53,900 | Frontier Communications Corporation | 307,230 |
| 4,900 | Verizon Communications Inc. | 233,093 |
| | Total Diversified Telecommunication Services | 1,192,625 |
| | Electric Utilities 1.5% | |
| 6,000 | American Electric Power Company, Inc. | 303,960 |
| 39,256 | Duke Energy Corporation | 2,795,812 |
| 1,800 | Edison International | 101,898 |
| 800 | Entergy Corporation | 53,480 |
| 4,200 | NextEra Energy Inc. | 401,604 |
| 1,800 | Northeast Utilities | 81,900 |
| 16,000 | PPL Corporation | 530,240 |
| | Total Electric Utilities | 4,268,894 |
| | Electrical Equipment 0.7% | |
| 15,744 | Eaton PLC | 1,182,689 |
| 4,800 | Rockwell Automation, Inc. | 597,840 |
| 1,300 | Roper Industries Inc. | 173,563 |
| | Total Electrical Equipment | 1,954,092 |
| | Electronic Equipment & Instruments 0.9% | |
| 34,200 | FLIR Systems Inc. | 1,231,200 |
| 35,100 | Jabil Circuit Inc. | 631,800 |
| 10,500 | TE Connectivity Limited | 632,205 |
| | Total Electronic Equipment & Instruments | 2,495,205 |
| | Energy Equipment & Services 0.7% | |
| 2,500 | Baker Hughes Incorporated | 162,550 |
| 1,200 | EnSCO PLC | 63,336 |
| 14,600 | Halliburton Company | 859,794 |
| 2,400 | Helmerich & Payne Inc. | 258,144 |
| 8,900 | Nabors Industries Inc. | 219,385 |
| 3,200 | National-Oilwell Varco Inc. | 249,184 |
| 2,100 | Schlumberger Limited | 204,750 |
| 2,000 | Transocean Inc. | 82,680 |
| | Total Energy Equipment & Services | 2,099,823 |
| | Food & Staples Retailing 2.5% | |
| 1,900 | Costco Wholesale Corporation | 212,192 |
| 2,400 | CVS Caremark Corporation | 179,664 |
| 57,200 | Kroger Co. | 2,496,780 |
| 10,400 | Safeway Inc. | 384,176 |
| 2,600 | Sysco Corporation | 93,938 |
| 23,700 | Walgreen Co. | 1,564,911 |
| 29,700 | Wal-Mart Stores, Inc. | 2,269,971 |
| 1,100 | Whole Foods Market, Inc. | 55,781 |
| | Total Food & Staples Retailing | 7,257,413 |
| | Food Products 2.4% | |
| 21,500 | ConAgra Foods, Inc. | 667,145 |
| 12,100 | General Mills, Inc. | 627,022 |
| 14,200 | Hershey Foods Corporation | 1,482,480 |
| 31,400 | Hormel Foods Corporation | 1,547,078 |
| 6,500 | JM Smucker Company | 632,060 |
| 1,000 | Kellogg Company | 62,710 |
| 2,300 | Keurig Green Mountain Inc. | 242,857 |
| 1,800 | McCormick & Company, Incorporated | 129,132 |
| 3,500 | Mead Johnson Nutrition Company, Class A Shares | 290,990 |
| 31,800 | Tyson Foods, Inc., Class A | 1,399,518 |
| | Total Food Products | 7,080,992 |
| | Gas Utilities 0.1% | |
| 7,400 | AGL Resources Inc. | 362,304 |
| | Health Care Equipment & Supplies 2.0% | |
| 800 | Baxter International, Inc. | 58,864 |
| 9,900 | Becton, Dickinson and Company | 1,159,092 |
| 134,400 | Boston Scientific Corporation, (2) | 1,817,088 |
| 3,000 | C. R. Bard, Inc. | 443,940 |
| 14,300 | CareFusion Corporation, (2) | 575,146 |

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| 1,100 | Covidien PLC | 81,026 |
| 2,800 | DENTSPLY International Inc. | 128,912 |
| 1,300 | Intuitive Surgical, Inc., (2) | 569,387 |
| 1,300 | Medtronic, Inc. | 80,002 |
| 9,000 | Saint Jude Medical Inc. | 588,510 |
| 800 | Stryker Corporation | 65,176 |
| 1,000 | Varian Medical Systems, Inc., (2) | 83,990 |
| 1,000 | Zimmer Holdings, Inc. | 94,580 |
| | Total Health Care Equipment & Supplies | 5,745,713 |
| | Health Care Providers & Services 6.0% | |
| 27,959 | Aetna Inc. | 2,096,086 |
| 31,300 | AmerisourceBergen Corporation | 2,052,967 |
| 14,700 | Cardinal Health, Inc. | 1,028,706 |
| 31,000 | CIGNA Corporation | 2,595,630 |
| 26,800 | Davita Inc., (2) | 1,845,180 |
| 7,700 | Express Scripts, Holding Company, (2) | 578,193 |
| 9,500 | Humana Inc. | 1,070,840 |
| 7,600 | Laboratory Corporation of America Holdings, (2) | 746,396 |
| 12,000 | McKesson HBOC Inc. | 2,118,840 |
| 2,800 | Patterson Companies, Inc. | 116,928 |
| 7,800 | Quest Diagnostics Incorporated | 451,776 |
| 8,000 | UnitedHealth Group Incorporated | 655,920 |
| 19,200 | Wellpoint Inc. | 1,911,360 |
| | Total Health Care Providers & Services | 17,268,822 |
| | Health Care Technology 0.0% | |
| 1,000 | Cerner Corporation, (2) | 56,250 |
| | Hotels, Restaurants & Leisure 0.8% | |
| 4,600 | Carnival Corporation | 174,156 |
| 1,400 | Chipotle Mexican Grill, (2) | 795,270 |
| 1,800 | McDonald's Corporation | 176,454 |
| 5,300 | Starbucks Corporation | 388,914 |
| 2,500 | Wyndham Worldwide Corporation | 183,075 |
| 2,100 | Wynn Resorts Ltd | 466,515 |
| 1,800 | YUM! Brands, Inc. | 135,702 |
| | Total Hotels, Restaurants & Leisure | 2,320,086 |
| | Household Durables 0.9% | |
| 9,700 | Garmin Limited | 536,022 |
| 7,300 | Harman International Industries Inc. | 776,720 |
| 45,700 | Newell Rubbermaid Inc. | 1,366,430 |
| | Total Household Durables | 2,679,172 |
| | Household Products 0.7% | |
| 7,400 | Clorox Company | 651,274 |
| 4,100 | Colgate-Palmolive Company | 265,967 |
| 7,100 | Kimberly-Clark Corporation | 782,775 |
| 4,100 | Procter & Gamble Company | 330,460 |
| | Total Household Products | 2,030,476 |
| | Independent Power & Renewable Electricity Producers 0.7% | |
| 6,800 | AES Corporation | 97,104 |
| 57,600 | NRG Energy Inc. | 1,831,680 |
| | Total Independent Power & Renewable Electricity Producers | 1,928,784 |
| | Industrial Conglomerates 0.2% | |
| 1,700 | 3M Co. | 230,622 |
| 12,200 | General Electric Company | 315,858 |
| | Total Industrial Conglomerates | 546,480 |
| | Insurance 7.1% | |
| 1,100 | Ace Limited | 108,966 |
| 32,700 | AFLAC Incorporated | 2,061,408 |
| 91,900 | Allstate Corporation | 5,199,702 |
| 17,300 | AON PLC | 1,458,044 |
| 32,500 | Assurant Inc. | 2,111,200 |
| 2,200 | Chubb Corporation | 196,460 |
| 14,700 | Cincinnati Financial Corporation | 715,302 |
| 7,800 | Genworth Financial Inc., Class A, (2) | 138,294 |
| 10,800 | Hartford Financial Services Group, Inc. | 380,916 |
| 23,200 | Lincoln National Corporation | 1,175,544 |
| 8,000 | Marsh & McLennan Companies, Inc. | 394,400 |
| 2,300 | MetLife, Inc. | 121,440 |
| 40,800 | Principal Financial Group, Inc. | 1,876,392 |
| 3,100 | Progressive Corporation | 75,082 |
| 10,400 | Prudential Financial, Inc. | 880,360 |

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| 13,750 | Torchmark Corporation | 1,082,125 |
| 8,100 | Travelers Companies, Inc. | 689,310 |
| 48,100 | Unum Group | 1,698,411 |
| 6,300 | XL Capital Ltd, Class A | 196,875 |
| | Total Insurance | 20,560,231 |
| | Internet & Catalog Retail 1.2% | |
| 1,500 | Amazon.com, Inc., (2) | 504,780 |
| 2,200 | NetFlix.com Inc., (2) | 774,466 |
| 1,400 | priceline.com Incorporated, (2) | 1,668,646 |
| 4,300 | TripAdvisor Inc., (2) | 389,537 |
| | Total Internet & Catalog Retail | 3,337,429 |
| | Internet Software & Services 2.5% | |
| 24,400 | Facebook Inc., Class A Shares, (2) | 1,469,856 |
| 2,600 | Google Inc., Class A, (2) | 2,897,726 |
| 10,500 | VeriSign, Inc., (2) | 566,055 |
| 64,500 | Yahoo! Inc., (2) | 2,315,550 |
| | Total Internet Software & Services | 7,249,187 |
| | IT Services 2.7% | |
| 600 | Accenture Limited | 47,832 |
| 4,100 | Alliance Data Systems Corporation, (2) | 1,117,045 |
| 3,400 | Automatic Data Processing, Inc. | 262,684 |
| 12,200 | Cognizant Technology Solutions Corporation, Class A, (2) | 617,442 |
| 12,200 | Computer Sciences Corporation | 742,004 |
| 31,300 | Fidelity National Information Services | 1,672,985 |
| 1,000 | Fiserv, Inc., (2) | 56,690 |
| 1,200 | International Business Machines Corporation (IBM) | 230,988 |
| 11,500 | MasterCard, Inc. | 859,050 |
| 6,200 | Paychex, Inc. | 264,120 |
| 19,300 | Total System Services Inc. | 586,913 |
| 5,100 | Visa Inc. | 1,100,886 |
| 15,200 | Xerox Corporation | 171,760 |
| | Total IT Services | 7,730,399 |
| | Leisure Equipment & Products 0.2% | |
| 8,300 | Hasbro, Inc. | 461,646 |
| 1,800 | Mattel, Inc. | 72,198 |
| | Total Leisure Equipment & Products | 533,844 |
| | Life Sciences Tools & Services 0.7% | |
| 3,700 | Agilent Technologies, Inc. | 206,904 |
| 15,600 | Thermo Fisher Scientific, Inc. | 1,875,744 |
| | Total Life Sciences Tools & Services | 2,082,648 |
| | Machinery 1.8% | |
| 2,000 | Deere & Company | 181,600 |
| 18,900 | Dover Corporation | 1,545,075 |
| 24,300 | Flowserve Corporation | 1,903,662 |
| 3,000 | Ingersoll Rand Company Limited, Class A | 171,720 |
| 3,900 | Pall Corporation | 348,933 |
| 600 | Parker Hannifin Corporation | 71,826 |
| 1,500 | Pentair Limited | 119,010 |
| 4,200 | Snap-on Incorporated | 476,616 |
| 8,100 | Xylem Inc. | 295,002 |
| | Total Machinery | 5,113,444 |
| | Media 7.6% | |
| 5,600 | Cablevision Systems Corporation | 94,472 |
| 123,900 | Comcast Corporation, Class A | 6,197,478 |
| 8,700 | DirecTV, (2) | 664,854 |
| 5,300 | Discovery Communications inc., Class A Shares, (2) | 438,310 |
| 25,800 | Interpublic Group Companies, Inc. | 442,212 |
| 18,825 | News Corporation, Class A Shares, (2) | 324,167 |
| 2,000 | Omnicom Group, Inc. | 145,200 |
| 15,500 | Scripps Networks Interactive, Class A Shares | 1,176,605 |
| 15,800 | Time Warner Cable, Class A | 2,167,444 |
| 63,700 | Time Warner Inc. | 4,161,521 |
| 75,300 | Twenty First Century Fox Inc., Class A Shares | 2,407,341 |
| 10,000 | Viacom Inc., Class B | 849,900 |
| 36,500 | Walt Disney Company | 2,922,555 |
| | Total Media | 21,992,059 |
| | Metals & Mining 0.7% | |
| 26,900 | Alcoa Inc. | 346,203 |
| 5,100 | Freeport-McMoRan Copper & Gold, Inc. | 168,657 |
| 20,500 | Newmont Mining Corporation | 480,520 |

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| 38,100 | United States Steel Corporation | 1,051,941 |
| | Total Metals & Mining | 2,047,321 |
| | Multiline Retail 0.3% | |
| 3,900 | Dollar General Corporation, (2) | 216,372 |
| 4,800 | Dollar Tree Stores Inc., (2) | 250,464 |
| 3,700 | Family Dollar Stores, Inc. | 214,637 |
| 1,000 | Kohl's Corporation | 56,800 |
| | Total Multiline Retail | 738,273 |
| | Multi-Utilities 2.0% | |
| 3,600 | Ameren Corporation | 148,320 |
| 6,600 | CMS Energy Corporation | 193,248 |
| 3,800 | Dominion Resources, Inc. | 269,762 |
| 29,900 | NiSource Inc. | 1,062,347 |
| 9,700 | Public Service Enterprise Group Incorporated | 369,958 |
| 27,600 | Sempra Energy | 2,670,576 |
| 22,800 | Wisconsin Energy Corporation | 1,061,340 |
| | Total Multi-Utilities | 5,775,551 |
| | Oil, Gas & Consumable Fuels 3.9% | |
| 700 | Anadarko Petroleum Corporation | 59,332 |
| 1,500 | Apache Corporation | 124,425 |
| 29,600 | Cabot Oil & Gas Corporation | 1,002,848 |
| 34,100 | Chesapeake Energy Corporation | 873,642 |
| 3,500 | Chevron Corporation | 416,185 |
| 7,000 | ConocoPhillips | 492,450 |
| 5,200 | CONSOL Energy Inc. | 207,740 |
| 3,300 | Devon Energy Corporation | 220,869 |
| 4,200 | EOG Resources, Inc. | 823,914 |
| 14,300 | EQT Corporation | 1,386,671 |
| 1,700 | Exxon Mobil Corporation | 166,056 |
| 3,700 | Hess Corporation | 306,656 |
| 3,900 | Marathon Oil Corporation | 138,528 |
| 7,650 | Marathon Petroleum Corporation | 665,856 |
| 2,800 | Murphy Oil Corporation | 176,008 |
| 6,500 | Newfield Exploration Company, (2) | 203,840 |
| 1,600 | Noble Energy, Inc. | 113,664 |
| 5,500 | Occidental Petroleum Corporation | 524,095 |
| 10,700 | ONEOK, Inc. | 633,975 |
| 26,500 | Peabody Energy Corporation | 433,010 |
| 4,400 | Phillips 66 | 339,064 |
| 3,100 | QEP Resources Inc. | 91,264 |
| 2,000 | Range Resources Corporation | 165,940 |
| 9,700 | Southwestern Energy Company, (2) | 446,297 |
| 15,500 | Spectra Energy Corporation | 572,570 |
| 5,200 | Valero Energy Corporation | 276,120 |
| 8,100 | Williams Companies, Inc. | 328,698 |
| | Total Oil, Gas & Consumable Fuels | 11,189,717 |
| | Personal Products 0.0% | |
| 700 | Estee Lauder Companies Inc., Class A | 46,816 |
| | Pharmaceuticals 3.7% | |
| 2,500 | AbbVie Inc. | 128,500 |
| 16,500 | Actavis Inc., (2) | 3,396,525 |
| 48,000 | Bristol-Myers Squibb Company | 2,493,600 |
| 2,000 | Forest Laboratories, Inc., (2) | 184,540 |
| 4,200 | Hospira Inc., (2) | 181,650 |
| 4,100 | Johnson & Johnson | 402,743 |
| 18,932 | Merck & Company Inc. | 1,074,770 |
| 34,100 | Mylan Laboratories Inc., (2) | 1,665,103 |
| 3,900 | Perrigo Company | 603,174 |
| 5,800 | Pfizer Inc. | 186,296 |
| 9,300 | Zoetis Incorporated | 269,142 |
| | Total Pharmaceuticals | 10,586,043 |
| | Professional Services 0.9% | |
| 2,200 | Dun and Bradstreet Inc. | 218,570 |
| 17,500 | Equifax Inc. | 1,190,525 |
| 26,200 | Nielsen Holdings BV | 1,169,306 |
| | Total Professional Services | 2,578,401 |
| | Real Estate Investment Trust 1.9% | |
| 46,400 | Crown Castle International Corporation | 3,423,392 |
| 1,600 | General Growth Properties Inc. | 35,200 |
| 2,500 | Public Storage, Inc. | 421,225 |

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| 1,100 | Vornado Realty Trust | 108,416 |
| 53,800 | Weyerhaeuser Company | 1,579,030 |
| | Total Real Estate Investment Trust | 5,567,263 |
| | Road & Rail 0.2% | |
| 1,300 | Kansas City Southern Industries | 132,678 |
| 3,300 | Norfolk Southern Corporation | 320,661 |
| 1,300 | Union Pacific Corporation | 243,958 |
| | Total Road & Rail | 697,297 |
| | Semiconductors & Equipment 1.2% | |
| 27,000 | Applied Materials, Inc. | 551,340 |
| 4,800 | Broadcom Corporation, Class A | 151,104 |
| 11,900 | Intel Corporation | 307,139 |
| 1,800 | Linear Technology Corporation | 87,642 |
| 34,300 | LSI Logic Corporation | 379,701 |
| 71,600 | Micron Technology, Inc., (2) | 1,694,056 |
| 3,700 | Xilinx, Inc. | 200,799 |
| | Total Semiconductors & Equipment | 3,371,781 |
| | Software 1.5% | |
| 13,400 | Adobe Systems Incorporated, (2) | 880,916 |
| 2,900 | Autodesk, Inc., (2) | 142,622 |
| 35,600 | CA Inc. | 1,102,532 |
| 19,900 | Electronic Arts Inc., (2) | 577,299 |
| 2,500 | Intuit, Inc. | 194,325 |
| 27,200 | Microsoft Corporation | 1,114,928 |
| 2,100 | Salesforce.com, Inc., (2) | 119,889 |
| 15,500 | Symantec Corporation | 309,535 |
| | Total Software | 4,442,046 |
| | Specialty Retail 6.9% | |
| 500 | AutoZone, Inc., (2) | 268,550 |
| 2,100 | Bed Bath and Beyond Inc., (2) | 144,480 |
| 23,100 | Best Buy Co., Inc. | 610,071 |
| 20,500 | GameStop Corporation | 842,550 |
| 11,000 | Gap, Inc. | 440,660 |
| 108,300 | Home Depot, Inc. | 8,569,778 |
| 8,900 | L Brands Inc. | 505,253 |
| 3,800 | Lowe's Companies, Inc. | 185,820 |
| 3,400 | O'Reilly Automotive Inc., (2) | 504,526 |
| 1,500 | PetSmart Inc. | 103,335 |
| 11,300 | Ross Stores, Inc. | 808,515 |
| 4,700 | Tiffany & Co. | 404,905 |
| 106,100 | TJX Companies, Inc. | 6,434,965 |
| 900 | Tractor Supply Company | 63,567 |
| | Total Specialty Retail | 19,886,975 |
| | Textiles, Apparel & Luxury Goods 0.8% | |
| 1,500 | Coach, Inc. | 74,490 |
| 900 | Fossil Group Inc., (2) | 104,949 |
| 9,200 | Michael Kors Holdings Limited, (2) | 858,084 |
| 4,300 | Nike, Inc., Class B | 317,598 |
| 2,300 | PVH Corporation | 286,971 |
| 12,800 | VF Corporation | 792,064 |
| | Total Textiles, Apparel & Luxury Goods | 2,434,156 |
| | Thrifts & Mortgage Finance 0.0% | |
| 2,200 | Hudson City Bancorp, Inc. | 21,626 |
| 6,600 | People's United Financial, Inc. | 98,142 |
| | Total Thrifts & Mortgage Finance | 119,768 |
| | Tobacco 1.2% | |
| 50,600 | Altria Group, Inc. | 1,893,958 |
| 16,400 | Lorillard Inc. | 886,912 |
| 13,100 | Reynolds American Inc. | 699,802 |
| | Total Tobacco | 3,480,672 |
| | Trading Companies & Distributors 0.4% | |
| 4,800 | W.W. Grainger, Inc. | 1,212,769 |
| | Total Long-Term Investments (cost \$216,884,343) | 289,435,472 |

| Principal Amount (000) | Description (1) | Coupon | Maturity | Ratings (3) | Value |
|------------------------|--------------------------------------|--------|----------|-------------|-------|
| | SHORT-TERM INVESTMENTS - 1.6% | | | | |
| | Repurchase Agreements - 0.7% | | | | |

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| | | | | | | | |
|----|-------|---|--------|---------|-----|----|-----------------------|
| \$ | 1,992 | Repurchase Agreement with State Street Bank, dated 3/31/14, repurchase price \$1,992,304, collateralized by \$2,070,000 U.S. Treasury Notes, 0.625%, due 8/31/17, value \$2,033,645 | 0.000% | 4/01/14 | N/A | \$ | 1,992,304 |
| | 2,500 | U.S. Treasury Bills, (4) | 0.000% | 7/24/14 | Aaa | | 2,499,662 |
| \$ | 4,492 | Total Short-Term Investments (cost \$4,491,849) | | | | | 4,491,966 |
| | | Total Investments (cost \$221,376,192) - 101.6% | | | | | 293,927,438 |
| | | Other Assets Less Liabilities - (1.6%) (5) | | | | | (4,736,377) |
| | | Net Assets - 100% | | | | | \$ 289,191,061 |

Investments in Derivatives as of March 31, 2014

Options Written outstanding:

| Number of Contracts | Description | Notional Amount | Expiration Date | Strike Price | Value (5) |
|---------------------|--|-------------------------|-----------------|--------------|---------------------|
| (150,447) | Custom Basket 1* | \$ (15,044,700(6)) | 4/11/14 | \$ 103.0000 | \$ (15,045) |
| (170) | Russell 2000® Index | (20,686,542(7)) | 4/17/14 | 1,216.8554 | (50,775) |
| (200) | S&P Midcap 400® Index | (28,852,800(7)) | 4/21/14 | 1,442.6400 | (15,997) |
| (150) | S&P Midcap 400® Index | (21,190,500(7)) | 4/28/14 | 1,412.7000 | (110,589) |
| (150) | S&P Midcap 400® Index | (21,297,900(7)) | 5/02/14 | 1,419.8600 | (83,745) |
| (151,117) | Total Options Written (premiums received \$440,973) | \$ (107,072,442) | | | \$ (276,151) |

* The following table represents the individual common stock holdings comprising the Custom Basket 1 Options Written as of March 31, 2014.

| Shares | Description | Value |
|--------|----------------------------------|-------------|
| 20,000 | Altria Group, Inc. | \$ (735) |
| 40,000 | iShares® Core S&P Mid-Cap ETF | (5,493) |
| 20,000 | iShares® Russell 2000® Index ETF | (2,361) |
| 20,000 | Lorillard Inc. | (1,044) |
| 10,000 | Phillip Morris International | (795) |
| 20,000 | SPDR® S&P 500® ETF Trust | (3,745) |
| 45,000 | Vapor Corp. | (348) |
| 25,000 | Vector Group Ltd. | (524) |
| | | \$ (15,045) |

Futures Contracts outstanding:

| Description | Contract Position | Number of Contracts | Contract Expiration | Notional Value | Unrealized Appreciation (Depreciation) |
|----------------|-------------------|---------------------|---------------------|----------------|--|
| S&P 500 E-Mini | Long | 60 | 6/14 | \$ 5,593,800 | \$ 3,120 |

Fair Value Measurements

Fair value is defined as the price that the Funds would receive 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

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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 | \$ 289,435,472 | \$ | \$ | 289,435,472 |
| Short-Term Investments: | | | | |
| Repurchase Agreements | | 1,992,304 | | 1,992,304 |
| U.S. Government and Agency Obligations | | 2,499,662 | | 2,499,662 |
| Investments in Derivatives: | | | | |
| Options Written | | (276,151) | | (276,151) |
| Futures Contracts* | 3,120 | | | 3,120 |
| Total | \$ 289,438,592 | \$ 4,215,815 | \$ | 293,654,407 |

*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, 2014, the cost of investments (excluding investments in derivatives) was \$221,465,617.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of March 31, 2014, were as follows:

| | | |
|---|----|------------|
| Gross unrealized: | | |
| Appreciation | \$ | 73,329,800 |
| Depreciation | | (867,979) |
| Net unrealized appreciation (depreciation) of investments | \$ | 72,461,821 |

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) 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/ANot 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 30, 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: May 30, 2014

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

Date: May 30, 2014
