

Nuveen Core Equity Alpha Fund
Form N-Q
May 30, 2013

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: 3/31/2013

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

Portfolio of Investments (Unaudited)
Nuveen Core Equity Alpha Fund (JCE)
 March 31, 2013

| Shares | Description (1) | Value |
|--------|--|------------|
| | Common Stocks 98.4% | |
| | Aerospace & Defense 0.6% | |
| 1,100 | L-3 Communications Holdings, Inc. | \$ 89,012 |
| 2,400 | Northrop Grumman Corporation | 168,360 |
| 4,300 | Raytheon Company | 252,797 |
| 3,800 | Rockwell Collins, Inc. | 239,856 |
| 29,900 | Textron Inc. | 891,319 |
| | Total Aerospace & Defense | 1,641,344 |
| | Air Freight & Logistics 0.2% | |
| 900 | C.H. Robinson Worldwide, Inc. | 53,514 |
| 4,900 | FedEx Corporation | 481,180 |
| | Total Air Freight & Logistics | 534,694 |
| | Airlines 0.0% | |
| 7,600 | Southwest Airlines Co. | 102,448 |
| | Auto Components 0.1% | |
| 5,200 | Delphi Automotive PLC | 230,880 |
| | Automobiles 0.3% | |
| 49,500 | Ford Motor Company | 650,925 |
| | Beverages 2.0% | |
| 12,000 | Beam Inc. | 762,480 |
| 6,900 | Brown-Forman Corporation | 492,660 |
| 2,100 | Coca-Cola Enterprises Inc. | 77,532 |
| 11,000 | Coca-Cola Company | 444,840 |
| 45,900 | Constellation Brands, Inc., Class A, (2) | 2,186,676 |
| 20,300 | Dr. Pepper Snapple Group | 953,085 |
| 3,200 | PepsiCo, Inc. | 253,152 |
| | Total Beverages | 5,170,425 |
| | Biotechnology 2.9% | |
| 8,000 | Alexion Pharmaceuticals Inc., (2) | 737,120 |
| 28,600 | Amgen Inc. | 2,931,786 |
| 14,700 | Biogen Idec Inc., (2) | 2,835,777 |
| 1,200 | Celgene Corporation, (2) | 139,092 |
| 16,800 | Gilead Sciences, Inc., (2) | 822,024 |
| | Total Biotechnology | 7,465,799 |
| | Building Products 0.0% | |
| 4,200 | Masco Corporation | 85,050 |
| | Capital Markets 1.0% | |
| 7,000 | Ameriprise Financial, Inc. | 515,550 |
| 3,400 | Bank of New York Company, Inc. | 95,166 |
| 1,700 | BlackRock Inc. | 436,696 |
| 1,800 | Franklin Resources, Inc. | 271,458 |
| 2,400 | Goldman Sachs Group, Inc. | 353,160 |
| 11,900 | Invesco LTD | 344,624 |
| 15,500 | Morgan Stanley | 340,690 |
| 1,800 | State Street Corporation | 106,362 |
| | Total Capital Markets | 2,463,706 |
| | Chemicals 4.0% | |
| 13,500 | Eastman Chemical Company | 943,245 |
| 3,100 | Ecolab Inc. | 248,558 |
| 16,000 | FMC Corporation | 912,480 |
| 3,800 | International Flavors & Fragrances Inc. | 291,346 |
| 14,000 | LyondellBasell Industries NV | 886,060 |
| 1,900 | Monsanto Company | 200,697 |
| 800 | Mosaic Company | 47,688 |
| 14,500 | PPG Industries, Inc. | 1,942,130 |
| 27,700 | Sherwin-Williams Company | 4,678,253 |
| | Total Chemicals | 10,150,457 |
| | Commercial Banks 2.4% | |
| 93,400 | BB&T Corporation | 2,931,826 |

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| | | |
|--------|--|-----------|
| 5,400 | First Horizon National Corporation | 57,672 |
| 13,200 | M&T Bank Corporation | 1,361,712 |
| 49,400 | Regions Financial Corporation | 404,586 |
| 16,400 | SunTrust Banks, Inc. | 472,484 |
| 11,500 | U.S. Bancorp | 390,195 |
| 16,450 | Wells Fargo & Company | 608,486 |
| | Total Commercial Banks | 6,226,961 |
| | Commercial Services & Supplies 0.7% | |
| 11,800 | ADT Corporation | 577,492 |
| 3,100 | Avery Dennison Corporation | 133,517 |
| 19,600 | Cintas Corporation | 864,948 |
| 7,800 | Iron Mountain Inc. | 283,218 |
| 600 | Waste Management, Inc. | 23,526 |
| | Total Commercial Services & Supplies | 1,882,701 |
| | Communications Equipment 0.4% | |
| 12,800 | Harris Corporation | 593,152 |
| 11,400 | Juniper Networks Inc., (2) | 211,356 |
| 2,400 | Motorola Solutions Inc. | 153,672 |
| | Total Communications Equipment | 958,180 |
| | Computers & Peripherals 3.1% | |
| 15,800 | Apple, Inc. | 6,993,554 |
| 6,000 | Dell Inc. | 85,980 |
| 1,900 | EMC Corporation, (2) | 45,391 |
| 900 | SanDisk Corporation, (2) | 49,500 |
| 2,700 | Seagate Technology | 98,712 |
| 13,500 | Western Digital Corporation | 678,780 |
| | Total Computers & Peripherals | 7,951,917 |
| | Construction & Engineering 0.1% | |
| 1,000 | Fluor Corporation | 66,330 |
| 7,000 | Quanta Services Incorporated, (2) | 200,060 |
| | Total Construction & Engineering | 266,390 |
| | Construction Materials 0.1% | |
| 4,000 | Vulcan Materials Company | 206,800 |
| | Consumer Finance 0.7% | |
| 37,800 | Discover Financial Services | 1,694,952 |
| 3,900 | SLM Corporation | 79,872 |
| | Total Consumer Finance | 1,774,824 |
| | Containers & Packaging 0.1% | |
| 3,300 | Bemis Company, Inc. | 133,188 |
| | Distributors 0.1% | |
| 4,100 | Genuine Parts Company | 319,800 |
| | Diversified Consumer Services 0.1% | |
| 5,900 | H & R Block Inc. | 173,578 |
| | Diversified Financial Services 1.7% | |
| 32,600 | Bank of America Corporation | 397,068 |
| 11,600 | Citigroup Inc. | 513,184 |
| 10,205 | JPMorgan Chase & Co. | 484,329 |
| 29,900 | McGraw-Hill Companies, Inc. | 1,557,192 |
| 26,100 | Moody's Corporation | 1,391,652 |
| 2,000 | New York Stock Exchange Euronext | 77,280 |
| | Total Diversified Financial Services | 4,420,705 |
| | Diversified Telecommunication Services 1.4% | |
| 53,000 | AT&T Inc. | 1,944,570 |
| 15,570 | CenturyLink Inc. | 546,974 |
| 86,900 | Frontier Communications Corporation | 345,862 |
| 13,800 | Verizon Communications Inc. | 678,270 |
| | Total Diversified Telecommunication Services | 3,515,676 |
| | Electric Utilities 1.8% | |
| 2,400 | American Electric Power Company, Inc. | 116,712 |
| 39,256 | Duke Energy Corporation | 2,849,593 |
| 10,800 | NextEra Energy Inc. | 838,944 |
| 12,400 | Pinnacle West Capital Corporation | 717,836 |
| 3,900 | Southern Company | 182,988 |
| | Total Electric Utilities | 4,706,073 |
| | Electrical Equipment 0.8% | |
| 15,744 | Eaton PLC | 964,320 |
| 2,200 | Emerson Electric Company | 122,914 |
| 2,800 | Rockwell Automation, Inc. | 241,780 |
| 5,200 | Roper Industries Inc. | 662,012 |
| | Total Electrical Equipment | 1,991,026 |

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| | Electronic Equipment & Instruments 0.3% | |
| 9,000 | Amphenol Corporation, Class A | 671,850 |
| 5,000 | Molex Inc. | 146,400 |
| | Total Electronic Equipment & Instruments | 818,250 |
| | Energy Equipment & Services 0.7% | |
| 4,300 | Baker Hughes Incorporated | 199,563 |
| 300 | Cooper Cameron Corporation, (2) | 19,560 |
| 7,800 | Enscoc PLC | 468,000 |
| 6,200 | Halliburton Company | 250,542 |
| 2,500 | Helmerich & Payne Inc. | 151,750 |
| 3,700 | National-Oilwell Varco Inc. | 261,775 |
| 2,200 | Noble Corporation | 83,930 |
| 5,242 | Schlumberger Limited | 392,573 |
| | Total Energy Equipment & Services | 1,827,693 |
| | Food & Staples Retailing 1.1% | |
| 1,800 | Costco Wholesale Corporation | 190,998 |
| 7,700 | Kroger Co. | 255,178 |
| 29,700 | Wal-Mart Stores, Inc. | 2,222,451 |
| 2,700 | Whole Foods Market, Inc. | 234,225 |
| | Total Food & Staples Retailing | 2,902,852 |
| | Food Products 2.4% | |
| 3,700 | Campbell Soup Company | 167,832 |
| 17,100 | ConAgra Foods, Inc. | 612,351 |
| 7,600 | H.J. Heinz Company | 549,252 |
| 14,200 | Hershey Foods Corporation | 1,242,926 |
| 5,200 | Hormel Foods Corporation | 214,864 |
| 6,500 | JM Smucker Company | 644,540 |
| 2,300 | Kellogg Company | 148,189 |
| 2,700 | Kraft Foods Inc. | 139,131 |
| 30,100 | McCormick & Company, Incorporated | 2,213,855 |
| 5,600 | Mondelez International Inc. | 171,416 |
| 4,400 | Tyson Foods, Inc., Class A | 109,208 |
| | Total Food Products | 6,213,564 |
| | Gas Utilities 1.0% | |
| 52,900 | ONEOK, Inc. | 2,521,743 |
| | Health Care Equipment & Supplies 0.9% | |
| 7,900 | Abbott Laboratories | 279,028 |
| 11,300 | Baxter International, Inc. | 820,832 |
| 1,300 | Edwards Lifesciences Corporation, (2) | 106,808 |
| 1,300 | Intuitive Surgical, Inc., (2) | 638,547 |
| 2,000 | Medtronic, Inc. | 93,920 |
| 2,100 | Saint Jude Medical Inc. | 84,924 |
| 3,000 | Varian Medical Systems, Inc., (2) | 216,000 |
| | Total Health Care Equipment & Supplies | 2,240,059 |
| | Health Care Providers & Services 1.7% | |
| 1,700 | AmerisourceBergen Corporation | 87,465 |
| 8,500 | CIGNA Corporation | 530,145 |
| 33,100 | Coventry Health Care, Inc. | 1,556,693 |
| 13,400 | Davita Inc., (2) | 1,589,106 |
| 3,700 | McKesson HBOC Inc. | 399,452 |
| 5,200 | Tenet Healthcare Corporation, (2) | 247,416 |
| 1,200 | Wellpoint Inc. | 79,476 |
| | Total Health Care Providers & Services | 4,489,753 |
| | Hotels, Restaurants & Leisure 2.4% | |
| 9,400 | Carnival Corporation, ADR | 322,420 |
| 23,200 | Marriott International, Inc., Class A | 979,736 |
| 2,600 | McDonald's Corporation | 259,194 |
| 5,200 | Starbucks Corporation | 296,192 |
| 50,900 | Wyndham Worldwide Corporation | 3,282,032 |
| 1,800 | Wynn Resorts Ltd | 225,288 |
| 9,400 | YUM! Brands, Inc. | 676,236 |
| | Total Hotels, Restaurants & Leisure | 6,041,098 |
| | Household Durables 2.6% | |
| 23,500 | D.R. Horton, Inc. | 571,050 |
| 22,200 | Leggett and Platt Inc. | 749,916 |
| 46,900 | Lennar Corporation, Class A | 1,945,412 |
| 45,700 | Newell Rubbermaid Inc. | 1,192,770 |
| 27,500 | Pulte Corporation, (2) | 556,600 |
| 13,900 | Whirlpool Corporation | 1,646,594 |
| | Total Household Durables | 6,662,342 |

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| | Household Products 0.7% | |
| 6,700 | Colgate-Palmolive Company | 790,801 |
| 7,100 | Kimberly-Clark Corporation | 695,658 |
| 4,100 | Procter & Gamble Company | 315,946 |
| | Total Household Products | 1,802,405 |
| | Independent Power Producers & Energy Traders 0.6% | |
| 57,600 | NRG Energy Inc. | 1,525,824 |
| | Industrial Conglomerates 0.2% | |
| 27,500 | General Electric Company | 635,800 |
| | Insurance 4.7% | |
| 32,700 | AFLAC Incorporated | 1,701,054 |
| 91,900 | Allstate Corporation | 4,509,533 |
| 1,700 | American International Group, (2) | 65,994 |
| 17,300 | AON PLC | 1,063,950 |
| 45,300 | Cincinnati Financial Corporation | 2,137,707 |
| 27,800 | Hartford Financial Services Group, Inc. | 717,240 |
| 1,900 | Lincoln National Corporation | 61,959 |
| 2,400 | Marsh & McLennan Companies, Inc. | 91,128 |
| 2,600 | Progressive Corporation | 65,702 |
| 8,150 | Torchmark Corporation | 487,370 |
| 8,100 | Travelers Companies, Inc. | 681,939 |
| 17,900 | XL Capital Ltd, Class A | 542,370 |
| | Total Insurance | 12,125,946 |
| | Internet & Catalog Retail 0.8% | |
| 2,100 | Amazon.com, Inc., (2) | 559,629 |
| 24,300 | Expedia, Inc. | 1,458,243 |
| 100 | Priceline.com Incorporated, (2) | 68,793 |
| | Total Internet & Catalog Retail | 2,086,665 |
| | Internet Software & Services 1.7% | |
| 1,900 | Akamai Technologies, Inc., (2) | 67,051 |
| 20,300 | eBay Inc., (2) | 1,100,666 |
| 3,400 | Google Inc., Class A, (2) | 2,699,702 |
| 17,700 | Yahoo! Inc., (2) | 416,481 |
| | Total Internet Software & Services | 4,283,900 |
| | IT Services 3.5% | |
| 10,500 | Accenture Limited | 797,685 |
| 15,500 | Cognizant Technology Solutions Corporation, Class A, (2) | 1,187,455 |
| 21,000 | Computer Sciences Corporation | 1,033,830 |
| 31,300 | Fidelity National Information Services | 1,240,106 |
| 700 | Fiserv, Inc., (2) | 61,481 |
| 12,100 | International Business Machines Corporation (IBM) | 2,580,930 |
| 400 | MasterCard, Inc. | 216,452 |
| 7,800 | Paychex, Inc. | 273,546 |
| 9,600 | Visa Inc. | 1,630,464 |
| | Total IT Services | 9,021,949 |
| | Life Sciences Tools & Services 0.8% | |
| 3,100 | Life Technologies Corporation, (2) | 200,353 |
| 46,300 | Perkinelmer Inc. | 1,557,532 |
| 3,200 | Thermo Fisher Scientific, Inc. | 244,768 |
| | Total Life Sciences Tools & Services | 2,002,653 |
| | Machinery 1.7% | |
| 1,900 | Deere & Company | 163,362 |
| 2,100 | Dover Corporation | 153,048 |
| 8,100 | Flowserve Corporation | 1,358,451 |
| 3,700 | Illinois Tool Works, Inc. | 225,478 |
| 4,200 | Ingersoll Rand Company Limited, Class A | 231,042 |
| 1,300 | Joy Global Inc. | 77,376 |
| 1,400 | PACCAR Inc. | 70,784 |
| 8,900 | Pall Corporation | 608,493 |
| 19,200 | Snap-on Incorporated | 1,587,840 |
| | Total Machinery | 4,475,874 |
| | Media 8.8% | |
| 46,200 | Cablevision Systems Corporation | 691,152 |
| 11,100 | CBS Corporation, Class B | 518,259 |
| 153,900 | Comcast Corporation, Class A | 6,465,339 |
| 31,100 | DIRECTV Group, Inc., (2) | 1,760,571 |
| 4,300 | Discovery Communications Inc., Class A Shares, (2) | 338,582 |
| 72,800 | Gannett Company Inc. | 1,592,136 |
| 75,300 | News Corporation, Class A | 2,298,156 |
| 15,500 | Scripps Networks Interactive, Class A Shares | 997,270 |

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| 15,800 | Time Warner Cable, Class A | 1,517,748 |
| 56,100 | Time Warner Inc. | 3,232,482 |
| 57,100 | Walt Disney Company | 3,243,280 |
| | Total Media | 22,654,975 |
| | Metals & Mining 0.1% | |
| 1,500 | Freeport-McMoRan Copper & Gold, Inc. | 49,650 |
| 4,000 | Nucor Corporation | 184,600 |
| | Total Metals & Mining | 234,250 |
| | Multiline Retail 0.2% | |
| 11,400 | J.C. Penney Company, Inc. | 172,254 |
| 11,200 | Macy's, Inc. | 468,608 |
| | Total Multiline Retail | 640,862 |
| | Multi-Utilities 2.3% | |
| 15,900 | CMS Energy Corporation | 444,246 |
| 1,600 | Consolidated Edison, Inc. | 97,648 |
| 15,800 | Dominion Resources, Inc. | 919,244 |
| 2,200 | DTE Energy Company | 150,348 |
| 29,900 | NiSource Inc. | 877,266 |
| 2,000 | Scana Corporation | 102,320 |
| 27,600 | Sempra Energy | 2,206,344 |
| 3,500 | TECO Energy, Inc. | 62,370 |
| 22,800 | Wisconsin Energy Corporation | 977,892 |
| | Total Multi-Utilities | 5,837,678 |
| | Oil, Gas & Consumable Fuels 7.5% | |
| 800 | Anadarko Petroleum Corporation | 69,960 |
| 14,800 | Cabot Oil & Gas Corporation | 1,000,628 |
| 7,700 | Chevron Corporation | 914,914 |
| 4,400 | ConocoPhillips | 264,440 |
| 2,800 | CONSOL Energy Inc. | 94,220 |
| 2,200 | EOG Resources, Inc. | 281,754 |
| 7,800 | EQT Corporation | 528,450 |
| 33,500 | Exxon Mobil Corporation | 3,018,685 |
| 13,512 | Kinder Morgan, Inc. | 522,644 |
| 11,500 | Marathon Oil Corporation | 387,780 |
| 17,150 | Marathon Petroleum Corporation | 1,536,640 |
| 7,400 | Murphy Oil Corporation | 471,602 |
| 2,900 | Noble Energy, Inc. | 335,414 |
| 7,600 | Peabody Energy Corporation | 160,740 |
| 5,050 | Phillips 66 | 353,349 |
| 4,000 | Pioneer Natural Resources Company | 497,000 |
| 4,200 | QEP Resources Inc. | 133,728 |
| 900 | Range Resources Corporation | 72,936 |
| 6,000 | Southwestern Energy Company, (2) | 223,560 |
| 15,500 | Spectra Energy Corporation | 476,625 |
| 50,400 | Tesoro Corporation | 2,950,920 |
| 47,300 | Valero Energy Corporation | 2,151,677 |
| 71,300 | Williams Companies, Inc. | 2,670,898 |
| | Total Oil, Gas & Consumable Fuels | 19,118,564 |
| | Paper & Forest Products 0.1% | |
| 4,700 | International Paper Company | 218,926 |
| | Personal Products 0.1% | |
| 5,300 | Estee Lauder Companies Inc., Class A | 339,359 |
| | Pharmaceuticals 2.8% | |
| 7,900 | AbbVie Inc. | 322,162 |
| 16,500 | Actavis Inc., (2) | 1,519,815 |
| 58,800 | Bristol-Myers Squibb Company | 2,421,972 |
| 17,000 | Eli Lilly and Company | 965,430 |
| 18,932 | Merck & Company Inc. | 837,362 |
| 34,100 | Mylan Laboratories Inc., (2) | 986,854 |
| 2,400 | Pfizer Inc. | 69,264 |
| | Total Pharmaceuticals | 7,122,859 |
| | Professional Services 1.1% | |
| 9,900 | Dun and Bradstreet Inc. | 828,135 |
| 32,200 | Equifax Inc. | 1,854,398 |
| 2,100 | Robert Half International Inc. | 78,813 |
| | Total Professional Services | 2,761,346 |
| | Real Estate Investment Trust 3.0% | |
| 6,000 | American Tower REIT Inc. | 461,520 |
| 10,200 | Health Care Property Investors Inc. | 508,572 |
| 6,800 | Public Storage, Inc. | 1,035,776 |

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| 8,800 | Simon Property Group, Inc. | 1,395,328 |
| 8,200 | Ventas Inc. | 600,240 |
| 113,900 | Weyerhaeuser Company | 3,574,182 |
| | Total Real Estate Investment Trust | 7,575,618 |
| | Road & Rail 0.3% | |
| 6,700 | Ryder System, Inc. | 400,325 |
| 3,200 | Union Pacific Corporation | 455,712 |
| | Total Road & Rail | 856,037 |
| | Semiconductors & Equipment 0.4% | |
| 17,600 | First Solar Inc., (2) | 474,496 |
| 47,200 | LSI Logic Corporation, (2) | 320,016 |
| 1,300 | Microchip Technology Incorporated | 47,788 |
| 6,200 | Micron Technology, Inc., (2) | 61,876 |
| | Total Semiconductors & Equipment | 904,176 |
| | Software 1.3% | |
| 4,900 | Adobe Systems Incorporated, (2) | 213,199 |
| 66,000 | CA Inc. | 1,661,220 |
| 15,900 | Electronic Arts Inc., (2) | 281,430 |
| 4,900 | Intuit, Inc. | 321,685 |
| 9,700 | Oracle Corporation | 313,698 |
| 4,800 | Red Hat, Inc., (2) | 242,688 |
| 400 | Salesforce.com, Inc., (2) | 71,532 |
| 13,800 | Symantec Corporation, (2) | 340,584 |
| | Total Software | 3,446,036 |
| | Specialty Retail 11.0% | |
| 3,500 | Abercrombie & Fitch Co., Class A | 161,700 |
| 1,300 | AutoZone, Inc., (2) | 515,801 |
| 15,500 | CarMax, Inc., (2) | 646,350 |
| 14,400 | GameStop Corporation | 402,768 |
| 61,800 | Gap, Inc. | 2,187,720 |
| 118,700 | Home Depot, Inc. | 8,282,886 |
| 3,500 | Limited Brands, Inc. | 156,310 |
| 73,200 | Lowe's Companies, Inc. | 2,775,744 |
| 1,500 | O'Reilly Automotive Inc., (2) | 153,825 |
| 13,000 | PetSmart Inc. | 807,300 |
| 63,900 | Ross Stores, Inc. | 3,873,618 |
| 164,400 | TJX Companies, Inc. | 7,685,700 |
| 17,400 | Urban Outfitters, Inc., (2) | 674,076 |
| | Total Specialty Retail | 28,323,798 |
| | Textiles, Apparel & Luxury Goods 0.2% | |
| 1,200 | PVH Corporation | 128,172 |
| 1,700 | VF Corporation | 285,175 |
| | Total Textiles, Apparel & Luxury Goods | 413,347 |
| | Thriffs & Mortgage Finance 0.2% | |
| 55,300 | Hudson City Bancorp, Inc. | 477,792 |
| | Tobacco 2.2% | |
| 50,600 | Altria Group, Inc. | 1,740,134 |
| 26,600 | Philip Morris International | 2,466,086 |
| 30,600 | Reynolds American Inc. | 1,361,394 |
| | Total Tobacco | 5,567,614 |
| | Trading Companies & Distributors 2.6% | |
| 52,100 | Fastenal Company | 2,675,335 |
| 17,800 | W.W. Grainger, Inc. | 4,004,644 |
| | Total Trading Companies & Distributors | 6,679,979 |
| | Wireless Telecommunication Services 1.8% | |
| 35,700 | Crown Castle International Corporation, (2) | 2,486,148 |
| 360,400 | Sprint Nextel Corporation, (2) | 2,238,084 |
| | Total Wireless Telecommunication Services | 4,724,232 |
| | Total Common Stocks (cost \$195,197,424) | 252,599,365 |

| Principal Amount (000) | Description (1) | Coupon | Maturity | Ratings (3) | Value |
|------------------------|---|--------|----------|-------------|-----------|
| | Short-Term Investments 3.7% | | | | |
| | U.S. Government and Agency Obligations 1.0% | | | | |
| \$ 2,500 | U.S. Treasury Bills, (4) | 0.083% | 8/15/13 | Aaa \$ | 2,499,175 |
| | Repurchase Agreements 2.7% | | | | |
| 6,918 | Repurchase Agreement with State Street Bank, dated 3/28/13, repurchase price \$6,917,876, | 0.010% | 4/01/13 | N/A | 6,917,868 |

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| | collateralized by \$6,765,000 U.S. Treasury Notes, 2.375%, due 10/31/14, value \$7,059,535 | |
| \$ 9,418 | Total Short-Term Investments (cost \$9,416,612) | 9,417,043 |
| | Total Investments (cost \$204,614,036) 102.1% | 262,016,408 |
| | Other Assets Less Liabilities (2.1)% (5) | (5,504,172) |
| | Net Assets 100% | \$ 256,512,236 |

Investments in Derivatives as of March 31, 2013

Call Options Written outstanding:

| Number of Contracts | Type | Notional Amount | Expiration Date | Strike Price | Value (5) |
|---------------------|---|-------------------------|-----------------|--------------|---------------------|
| | Call Options Written (0.3)% | | | | |
| (303,879) | Custom Basket 2 NASDAQ@* | \$ (30,387,875)(6) | 4/09/13 | \$ 103.0000 | \$ (115,778) |
| (308,580) | Custom Basket 3 NASDAQ@** | (30,858,001)(6) | 4/15/13 | 102.0000 | (127,259) |
| (200) | S&P MidCap 400@ Index | (23,150,200)(7) | 4/22/13 | 1,157.5100 | (288,346) |
| (180) | S&P MidCap 400@ Index | (21,246,284)(7) | 4/29/13 | 1,180.3491 | (123,819) |
| | Total Call Options Written (premiums received) | | | | |
| (612,839) | \$213,683,989 | \$ (105,642,360) | | | \$ (655,202) |

* The following table represents the individual common stock holdings comprising the Custom Basket 2 NASDAQ@ Call Options Written as of March 31, 2013:

| Shares | Description | Value (5) |
|--------|---|---------------------|
| 81,000 | iShares Core S&P Mid-Cap ETF | \$ (34,496) |
| 16,000 | iShares Dow Jones U.S. Real Estate Index Fund | (4,208) |
| 24,000 | iShares Russell 2000 Index Fund | (8,452) |
| 24,000 | Market Vectors@ Gold Miners ETF | (3,424) |
| 41,000 | SPDR@ S&P 500@ ETF | (24,134) |
| 10,000 | Apollo Group Inc. | (633) |
| 1,600 | Apple, Inc. | (2,595) |
| 19,200 | AT&T Inc. | (2,655) |
| 6,700 | Berkshire Hathaway Inc., Class B | (2,635) |
| 4,700 | Chevron Corporation | (2,121) |
| 11,900 | Exxon Mobil Corporation | (4,061) |
| 700 | Google Inc., Class A | (2,217) |
| 10,000 | Groupon Inc. | (202) |
| 24,000 | Hewlett-Packard Company | (1,914) |
| 4,400 | International Business Machines Corporation (IBM) | (3,493) |
| 13,200 | Johnson & Johnson | (3,892) |
| 9,400 | JPMorgan Chase & Co. | (1,792) |
| 24,300 | Pfizer Inc. | (2,603) |
| 6,000 | Philip Morris International | (2,094) |
| 11,800 | Procter & Gamble Company | (3,471) |
| 8,900 | Wal-Mart Stores, Inc. | (2,488) |
| 16,000 | Wells Fargo & Company | (2,198) |
| | | \$ (115,778) |

** The following table represents the individual common stock holdings comprising the Custom Basket 3 NASDAQ@ Call Options Written as of March 31, 2013:

| Shares | Description | Value (5) |
|--------|---|-------------|
| 81,000 | iShares Core S&P Mid-Cap ETF | \$ (38,155) |
| 16,000 | iShares Dow Jones U.S. Real Estate Index Fund | (4,568) |
| 24,000 | iShares Russell 2000 Index Fund | (9,367) |

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| | | |
|--------|---|---------------------|
| 10,000 | Market Vectors® Gold Miners ETF | (1,540) |
| 41,000 | SPDR® S&P 500® ETF | (26,357) |
| 10,000 | Apollo Group Inc. | (699) |
| 1,600 | Apple, Inc. | (2,929) |
| 19,200 | AT&T Inc. | (2,884) |
| 6,700 | Berkshire Hathaway Inc., Class B | (2,840) |
| 4,700 | Chevron Corporation | (2,322) |
| 11,900 | Exxon Mobil Corporation | (4,386) |
| 700 | Google Inc., Class A | (2,352) |
| 10,000 | Groupon Inc. | (222) |
| 26,000 | Hewlett-Packard Company | (2,378) |
| 4,400 | International Business Machines Corporation (IBM) | (3,900) |
| 13,200 | Johnson & Johnson | (4,311) |
| 9,400 | JPMorgan Chase & Co. | (1,939) |
| 2,000 | Netflix, Inc. | (1,525) |
| 24,300 | Pfizer Inc. | (2,808) |
| 6,000 | Philip Morris International | (2,261) |
| 11,800 | Procter & Gamble Company | (3,715) |
| 10,000 | Research In Motion Ltd. | (619) |
| 8,900 | Wal-Mart Stores, Inc. | (2,661) |
| 16,000 | Wells Fargo & Company | (2,521) |
| | | \$ (127,259) |

Future Contracts outstanding:

| Type | Contract Position | Number of Contracts | Contract Expiration | Notional Value | Unrealized Appreciation (Depreciation) |
|----------------|-------------------|---------------------|---------------------|----------------|--|
| S&P 500® Index | Long | 60 | 6/13 | \$ 4,688,100 | \$ 37,170 |

Fair Value Measurements

Fair value is defined as the price that the Fund 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 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 | \$ 252,599,365 | \$ | \$ | \$ 252,599,365 |
| Short-Term Investments: | | | | |
| U.S. Government and Agency Obligations | | 2,499,175 | | 2,499,175 |
| Repurchase Agreements | | 6,917,868 | | 6,917,868 |
| Derivatives: | | | | |
| Call Options Written | (412,165) | (243,037) | | (655,202) |
| Futures Contracts* | 37,170 | | | 37,170 |
| Total | \$ 252,224,370 | \$ 174,006 | \$ | \$ 261,398,376 |

*Represents net unrealized appreciation (depreciation) as reported in the Fund's Portfolio of Investments.

Income Tax Information

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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, 2013, the cost of investments (excluding investments in derivatives) was \$204,732,516.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of March 31, 2013, were as follows:

| | |
|---|---------------|
| Gross unrealized: | |
| Appreciation | \$ 57,864,082 |
| Depreciation | (580,190) |
| Net unrealized appreciation (depreciation) of investments | \$ 57,283,892 |

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.
- ADR American Depositary Receipt.
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 30, 2013

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, 2013

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

Date: May 30, 2013