

Nuveen Core Equity Alpha Fund
Form N-Q
May 27, 2016

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM N-Q

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

Investment Company Act file number 811-22003

Nuveen Core Equity Alpha Fund

(Exact name of registrant as specified in charter)

333 West Wacker Drive, Chicago, Illinois 60606

(Address of principal executive offices) (Zip code)

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: December 31

Date of reporting period: March 31, 2016

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

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

Item 1. Schedule of Investments

JCE

Nuveen Core Equity Alpha Fund
Portfolio of Investments

March 31, 2016 (Unaudited)

Shares	Description (1)	Value
	LONG-TERM INVESTMENTS 98.4%	
	COMMON STOCKS 98.4%	
	Aerospace & Defense 4.1%	
19,100	Lockheed Martin Corporation	\$ 4,230,650
7,000	Northrop Grumman Corporation	1,385,300
28,900	Raytheon Company	3,544,007
4,000	Rockwell Collins, Inc.	368,840
	Total Aerospace & Defense	9,528,797
	Air Freight & Logistics 0.1%	
5,400	Expeditors International of Washington, Inc.	263,574
	Airlines 2.5%	
51,800	Delta Air Lines, Inc.	2,521,624
74,000	Southwest Airlines Co., (2)	3,315,200
	Total Airlines	5,836,824
	Auto Components 1.6%	
29,400	Delphi Automotive PLC	2,205,588
45,200	Goodyear Tire & Rubber Company	1,490,696
	Total Auto Components	3,696,284
	Banks 0.8%	
8,900	Fifth Third Bancorp.	148,541
58,100	Huntington BancShares Inc.	554,274
50,500	People's United Financial, Inc., (2)	804,465
5,800	SunTrust Banks, Inc.	209,264
3,150	Wells Fargo & Company	152,334
	Total Banks	1,868,878
	Beverages 2.8%	
5,600	Brown-Forman Corporation	551,432
22,300	Constellation Brands, Inc., Class A	3,369,307
29,700	Dr. Pepper Snapple Group	2,655,774
	Total Beverages	6,576,513
	Biotechnology 0.9%	
6,100	Regeneron Pharmaceuticals, Inc.	2,198,684
	Building Products 0.7%	
10,200	Allegion PLC	649,842
29,200	Masco Corporation	918,340

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	Total Building Products	1,568,182
	Capital Markets 0.0%	
400	Goldman Sachs Group, Inc.	62,792
	Chemicals 1.8%	
1,100	Airgas, Inc.	155,804
4,600	Ecolab Inc., (2)	512,992
1,700	International Flavors & Fragrances Inc.	193,409
39,500	LyondellBasell Industries NV	3,380,410
	Total Chemicals	4,242,615

Nuveen Investments 1

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)
March 31, 2016 (Unaudited)

Shares	Description (1)	Value
Commercial Services & Supplies 1.9%		
19,300	Cintas Corporation	\$ 1,733,333
17,000	Republic Services, Inc.	810,050
9,900	Stericycle Inc.	1,249,281
10,200	Waste Management, Inc.	601,800
	Total Commercial Services & Supplies	4,394,464
Communications Equipment 0.8%		
8,400	Harris Corporation	654,024
17,700	Juniper Networks Inc.	451,527
11,900	Motorola Solutions Inc.	900,830
	Total Communications Equipment	2,006,381
Construction & Engineering 0.2%		
21,900	Quanta Services Incorporated	494,064
Construction Materials 0.8%		
18,400	Vulcan Materials Company	1,942,488
Consumer Finance 0.3%		
13,000	Discover Financial Services	661,960
Containers & Packaging 0.5%		
15,200	Avery Dennison Corporation	1,096,072
1,600	Ball Corporation	114,064
	Total Containers & Packaging	1,210,136
Diversified Consumer Services 0.0%		
300	H & R Block Inc.	7,926
Diversified Financial Services 2.0%		
32,300	CME Group, Inc.	3,102,415
23,100	NASDAQ Stock Market, Inc.	1,533,378
	Total Diversified Financial Services	4,635,793
Electric Utilities 1.2%		
9,600	Eversource Energy	560,064
7,200	Pinnacle West Capital Corporation	540,504
16,600	PPL Corporation	631,962
6,500	Southern Company	336,245
18,100	Xcel Energy, Inc.	756,942
	Total Electric Utilities	2,825,717
Electrical Equipment 0.2%		
7,600	Ametek Inc.	379,848
Electronic Equipment, Instruments & Components 0.1%		

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2,200	TE Connectivity Limited	136,224
	Energy Equipment & Services 0.4%	
4,300	Cooper Cameron Corporation	288,315
2,000	Helmerich & Payne Inc.	117,440
62,700	Transocean Inc.	573,078
	Total Energy Equipment & Services	978,833
	Food & Staples Retailing 2.3%	
5,100	Costco Wholesale Corporation	803,658
22,900	CVS Health Corporation	2,375,417
55,400	Kroger Co.	2,119,050
4,800	Sysco Corporation	224,304
	Total Food & Staples Retailing	5,522,429

2 Nuveen Investments

Shares	Description (1)	Value
	Food Products 4.7%	
26,600	Campbell Soup Company, (2)	\$ 1,696,814
34,800	ConAgra Foods, Inc.	1,552,776
3,800	Hershey Foods Corporation	349,942
46,800	Hormel Foods Corporation	2,023,632
10,300	Kellogg Company	788,465
21,000	McCormick & Company, Incorporated	2,089,080
24,000	Mondelez International Inc.	962,880
26,300	Tyson Foods, Inc., Class A	1,753,158
	Total Food Products	11,216,747
	Health Care Equipment & Supplies 2.3%	
2,400	Becton, Dickinson and Company	364,368
51,900	Boston Scientific Corporation	976,239
2,900	C. R. Bard, Inc.	587,743
23,000	DENTSPLY SIRONA Inc.	1,417,490
24,100	Edwards Lifesciences Corporation	2,125,861
	Total Health Care Equipment & Supplies	5,471,701
	Health Care Providers & Services 5.3%	
3,559	Aetna Inc.	399,854
19,400	AmerisourceBergen Corporation	1,679,070
23,400	Anthem Inc.	3,252,366
34,800	Cardinal Health, Inc.	2,851,860
5,800	CIGNA Corporation	795,992
8,200	Henry Schein Inc.	1,415,566
15,100	UnitedHealth Group Incorporated, (2)	1,946,390
	Total Health Care Providers & Services	12,341,098
	Hotels, Restaurants & Leisure 2.8%	
13,100	Carnival Corporation	691,287
5,400	McDonald's Corporation	678,672
36,100	Royal Caribbean Cruises Limited	2,965,615
38,800	Starbucks Corporation	2,316,360
	Total Hotels, Restaurants & Leisure	6,651,934
	Household Durables 2.1%	
31,700	D.R. Horton, Inc.	958,291
10,500	Mohawk Industries Inc.	2,004,450
43,900	Newell Rubbermaid Inc.	1,944,331
	Total Household Durables	4,907,072
	Household Products 1.4%	
15,000	Clorox Company	1,890,900
10,500	Kimberly-Clark Corporation	1,412,355
	Total Household Products	3,303,255
	Industrial Conglomerates 0.5%	
6,100	Roper Technologies, Inc.	1,114,897
	Insurance 3.6%	

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6,800	Allstate Corporation	458,116
8,000	American International Group, Inc.	432,400
12,700	Assurant Inc.	979,805
29,000	Cincinnati Financial Corporation	1,895,440
35,900	Hartford Financial Services Group, Inc.	1,654,272
41,400	Progressive Corporation	1,454,796
5,900	Travelers Companies, Inc.	688,589
24,800	XL Capital Ltd, Class A	912,640
	Total Insurance	8,476,058

Nuveen Investments 3

JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)
March 31, 2016 (Unaudited)

Shares	Description (1)	Value
Internet & Catalog Retail 2.7%		
6,500	Amazon.com, Inc.	\$ 3,858,660
3,400	Expedia, Inc.	366,588
20,700	NetFlix.com Inc.	2,116,161
	Total Internet & Catalog Retail	6,341,409
Internet Software & Services 2.2%		
34,600	Facebook Inc., Class A Shares	3,947,860
12,400	VeriSign, Inc.	1,097,896
	Total Internet Software & Services	5,045,756
IT Services 2.9%		
3,300	Accenture Limited	380,820
10,300	Automatic Data Processing, Inc.	924,013
26,000	Fiserv, Inc.	2,667,080
3,500	MasterCard, Inc.	330,750
31,000	Paychex, Inc.	1,674,310
16,300	Total System Services Inc.	775,554
	Total IT Services	6,752,527
Leisure Products 0.5%		
900	Hasbro, Inc.	72,090
35,700	Mattel, Inc.	1,200,234
	Total Leisure Products	1,272,324
Life Sciences Tools & Services 0.6%		
11,800	Agilent Technologies, Inc.	470,230
12,200	Perkinelmer Inc.	603,412
2,700	Thermo Fisher Scientific, Inc.	382,293
	Total Life Sciences Tools & Services	1,455,935
Machinery 1.2%		
7,000	Snap-on Incorporated	1,098,930
8,800	Stanley Black & Decker Inc.	925,848
16,500	Xylem Inc.	674,850
	Total Machinery	2,699,628
Media 2.9%		
34,600	Cablevision Systems Corporation	1,141,800
3,300	Comcast Corporation, Class A	201,564
67,800	Interpublic Group of Companies, Inc.	1,556,010
600	Omnicom Group, Inc.	49,938
3,500	Scripps Networks Interactive, Class A Shares	229,250
12,000	Time Warner Cable, Class A	2,455,440
12,700	Walt Disney Company	1,261,237
	Total Media	6,895,239

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Multiline Retail 1.3%

36,200	Target Corporation, (2)	2,978,536
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Multi-Utilities 2.9%

7,500	Ameren Corporation	375,750
13,200	CMS Energy Corporation	560,208
18,100	Consolidated Edison, Inc.	1,386,822
1,400	DTE Energy Company	126,924
74,000	NiSource Inc., (2)	1,743,440
7,000	PG&E Corporation	418,040
7,100	Scana Corporation	498,065
24,800	TECO Energy, Inc.	682,744
15,600	WEC Energy Group, Inc.	937,092
	Total Multi-Utilities	6,729,085

4 Nuveen Investments

Shares	Description (1)	Value
Oil, Gas & Consumable Fuels 2.8%		
2,500	Cimarex Energy Company	\$ 243,175
8,200	Marathon Petroleum Corporation	304,876
15,100	Newfield Exploration Company	502,075
10,100	Phillips 66	874,559
11,200	Tesoro Corporation	963,312
56,800	Valero Energy Corporation	3,643,152
	Total Oil, Gas & Consumable Fuels	6,531,149
Personal Products 0.2%		
5,100	Estee Lauder Companies Inc., Class A	480,981
Pharmaceuticals 1.9%		
817	Allergan PLC	218,981
9,700	Eli Lilly and Company, (2)	698,497
80,600	Zoetis Incorporated, (2)	3,572,998
	Total Pharmaceuticals	4,490,476
Professional Services 1.2%		
23,400	Equifax Inc.	2,674,386
1,800	Verisk Analytics Inc, Class A Shares	143,856
	Total Professional Services	2,818,242
Real Estate Investment Trust 7.7%		
11,400	Apartment Investment & Management Company, Class A	476,748
3,300	AvalonBay Communities, Inc.	627,660
1,500	Boston Properties, Inc.	190,620
600	Crown Castle International Corporation	51,900
9,043	Equinix Inc.	2,990,611
15,400	Equity Residential	1,155,462
4,200	Essex Property Trust Inc.	982,212
18,700	Extra Space Storage Inc.	1,747,702
6,000	Federal Realty Investment Trust	936,300
51,900	Kimco Realty Corporation	1,493,682
11,900	Macerich Company	942,956
30,300	Prologis Inc.	1,338,654
15,000	Public Storage, Inc.	4,137,450
7,600	Realty Income Corporation	475,076
600	Simon Property Group, Inc.	124,614
3,500	Vornado Realty Trust	330,505
	Total Real Estate Investment Trust	18,002,152
Semiconductors & Semiconductor Equipment 5.3%		
44,200	Applied Materials, Inc.	936,156
21,044	Broadcom Limited	3,251,298
11,300	First Solar Inc.	773,711
11,500	Intel Corporation	372,025
13,700	KLA-Tencor Corporation	997,497

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11,600	Lam Research Corporation	958,160
12,200	Microchip Technology Incorporated	588,040
99,700	NVIDIA Corporation, (2)	3,552,311
18,800	Xilinx, Inc.	891,684
	Total Semiconductors & Semiconductor Equipment	12,320,882
	Software 4.6%	
64,100	Activision Blizzard Inc.	2,169,144
33,000	Adobe Systems Incorporated	3,095,400
3,100	Autodesk, Inc.	180,761
62,300	Electronic Arts Inc., (2)	4,118,653
3,600	Intuit, Inc.	374,436
12,300	Red Hat, Inc.	916,473
	Total Software	10,854,867

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JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)
March 31, 2016 (Unaudited)

Shares	Description (1)	Value
	Specialty Retail 6.1%	
1,500	AutoZone, Inc.	\$ 1,195,035
30,300	Home Depot, Inc.	4,042,929
29,700	L Brands Inc.	2,607,957
36,400	Lowe's Companies, Inc., (2)	2,757,300
10,900	O'Reilly Automotive Inc., (2)	2,982,894
2,000	Ross Stores, Inc.	115,800
5,700	Tractor Supply Company	515,622
	Total Specialty Retail	14,217,537
	Textiles, Apparel & Luxury Goods 1.0%	
22,600	Nike, Inc., Class B, (2)	1,389,222
2,900	Under Armour, Inc.	246,007
9,200	VF Corporation	595,792
	Total Textiles, Apparel & Luxury Goods	2,231,021
	Tobacco 1.7%	
16,100	Altria Group, Inc.	1,008,826
60,078	Reynolds American Inc.	3,022,523
	Total Tobacco	4,031,349
	Total Long-Term Investments (cost \$198,289,320)	230,671,263

Principal Amount (000)	Description (1)	Coupon	Maturity	Ratings (3)	Value
	SHORT-TERM INVESTMENTS 4.0%				
	REPURCHASE AGREEMENTS 2.9%				
\$ 6,761	Repurchase Agreement with Fixed Income Clearing Corporation, dated 3/31/16, repurchase price \$6,760,975 collateralized by \$6,660,000 U.S. Treasury Notes, 2.125%, due 5/15/25, value \$6,901,425	0.030%	4/01/16	N/A	\$ 6,760,969
	U.S. GOVERNMENT AND AGENCY OBLIGATIONS 1.1%				
2,500	U.S. Treasury Bills, (2)	0.00%	4/28/16	AAA	2,499,680
\$ 9,261	Total Short-Term Investments (cost \$9,260,461)				9,260,649
	Total Investments (cost)				239,931,912

\$207,549,781	102.4%	
Other Assets Less Liabilities	(2.4)%	(5,727,358)
(4)		
Net Assets	100%	\$ 234,204,554

Investments in Derivatives as of March 31, 2016

Options Written outstanding:

Number of Contracts	Description	Notional Amount (\$)	Expiration Date	Strike Price	Value
(125)	RUSSELL 2000® Index	\$ (13,437,500)	4/15/16	\$ 1,075	\$ (515,000)
(150)	RUSSELL 2000® Index	(16,500,000)	4/15/16	1,100	(321,750)
(160)	RUSSELL 2000® Index	(17,920,000)	4/15/16	1,120	(151,200)
(75)	RUSSELL 2000® Index	(8,325,000)	4/15/16	1,110	(112,500)
(125)	RUSSELL 2000® Index	(14,125,000)	5/20/16	1,130	(218,125)
(75)	RUSSELL 2000® Index	(8,625,000)	5/20/16	1,150	(72,000)
(25)	RUSSELL 2000® Index	(2,875,000)	6/17/16	1,150	(40,250)
	Total Options Written (premiums received				
(735)	\$719,374)	\$ (81,807,500)			\$ (1,430,825)

Futures Contracts outstanding:

Description	Contract Position	Number of Contracts	Contract Expiration	Notional Amount at Value	Variation Margin Receivable/ (Payable)	Unrealized Appreciation (Depreciation)
S&P 500 E-Muni	Long	55	6/16	\$ 5,528,719	\$ (10,175)	\$ 112,906

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	\$ 230,671,263	\$	\$	\$ 230,671,263
Short-Term Investments:				
Repurchase Agreements		6,760,969		6,760,969
U.S. Government and Agency Obligations		2,499,680		2,499,680
Investments in Derivatives:				
Options Written	(1,430,825)			(1,430,825)
Futures Contracts*	112,906			112,906
Total	\$ 229,353,344	\$ 9,260,649	\$	\$ 238,613,993

* 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

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investment transactions and the recognition of unrealized gain or loss for tax (mark-to-market) on futures contracts and certain options contracts. To the extent that differences arise that are permanent in nature, such amounts are reclassified within the capital accounts on the Statement of Assets and Liabilities presented in the annual report, based on their federal tax basis treatment; temporary differences do not require reclassification. Temporary and permanent differences do not impact the net asset value of the Fund.

As of March 31, 2016, the cost of investments (excluding investments in derivatives) was \$207,590,016.

Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) as of March 31, 2016, were as follows:

Gross unrealized:	
Appreciation	\$34,332,315
Depreciation	(1,990,419)
Net unrealized appreciation (depreciation) of investments	\$32,341,896

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JCE Nuveen Core Equity Alpha Fund
Portfolio of Investments (continued)**March 31, 2016** (Unaudited)

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

- (1) All percentages shown in the Portfolio of Investments are based on net assets.
- (2) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in derivatives.
- (3) 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) Other assets less liabilities includes the unrealized appreciation (depreciation) of certain over-the-counter derivatives as well as the exchange-cleared and exchange-traded derivatives, when applicable. Other assets less liabilities also includes the value of options.
- (5) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by the Strike Price by 100.

N/A Not Applicable

8 Nuveen Investments

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 27, 2016

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

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

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

Date: May 27, 2016

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

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

Date: May 27, 2016