

Nuveen Core Equity Alpha Fund
Form N-Q
May 30, 2012

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: 3/31/2012

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, 2012

Shares	Description (1)	Value
	Common Stocks 97.7%	
	Aerospace & Defense 1.5%	
1,500	Boeing Company	\$ 111,555
800	General Dynamics Corporation	58,704
10,200	Goodrich Corporation	1,279,488
3,000	Honeywell International Inc.	183,150
800	Lockheed Martin Corporation	71,888
9,900	Northrop Grumman Corporation	604,692
3,800	Precision Castparts Corporation	657,020
1,300	Raytheon Company	68,614
6,900	Rockwell Collins, Inc.	397,164
2,600	United Technologies Corporation	215,644
	Total Aerospace & Defense	3,647,919
	Air Freight & Logistics 1.2%	
21,700	C.H. Robinson Worldwide, Inc.	1,421,133
3,900	Expeditors International of Washington, Inc.	181,389
15,300	FedEx Corporation	1,406,988
	Total Air Freight & Logistics	3,009,510
	Auto Components 0.2%	
1,700	BorgWarner Inc., (2)	143,378
21,200	Goodyear Tire & Rubber Company, (2)	237,864
	Total Auto Components	381,242
	Automobiles 0.1%	
9,600	Ford Motor Company	119,904
3,500	Harley-Davidson, Inc.	171,780
	Total Automobiles	291,684
	Beverages 1.3%	
23,700	Beam Inc.	1,388,109
9,400	Brown-Forman Corporation	783,866
2,700	Coca Cola Enterprises Inc.	77,220
12,700	Coca-Cola Company	939,927
	Total Beverages	3,189,122
	Biotechnology 1.0%	
2,300	Amgen Inc.	156,377
14,700	Biogen Idec Inc., (2)	1,851,759
3,100	Celgene Corporation, (2)	240,312
2,400	Gilead Sciences, Inc., (2)	117,240
	Total Biotechnology	2,365,688
	Building Products 0.1%	
18,200	Masco Corporation	243,334
	Capital Markets 0.9%	
10,100	Ameriprise Financial, Inc.	577,013
1,700	Franklin Resources, Inc.	210,851
10,400	Invesco LTD	277,368
28,600	Morgan Stanley	561,704
2,000	Northern Trust Corporation	94,900
3,100	State Street Corporation	141,050
2,900	T. Rowe Price Group Inc.	189,370
	Total Capital Markets	2,052,256
	Chemicals 2.2%	
12,700	Airgas, Inc.	1,129,919
500	CF Industries Holdings, Inc.	91,325
37,700	E.I. Du Pont de Nemours and Company	1,994,330
31,600	Eastman Chemical Company	1,633,404
4,800	Sherwin-Williams Company	521,616
	Total Chemicals	5,370,594
	Commercial Banks 1.4%	
15,000	BB&T Corporation	470,850
62,000	Fifth Third Bancorp.	871,100

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47,600	Huntington BancShares Inc.	307,020
33,800	KeyCorp.	287,300
3,600	M&T Bank Corporation	312,768
1,400	PNC Financial Services Group, Inc.	90,286
51,600	Regions Financial Corporation	340,044
11,500	U.S. Bancorp	364,320
8,650	Wells Fargo & Company	295,311
	Total Commercial Banks	3,338,999
	Commercial Services & Supplies 0.2%	
800	Cintas Corporation	31,296
11,900	Iron Mountain Inc.	342,720
400	Stericycle Inc., (2)	33,456
2,100	Waste Management, Inc.	73,416
	Total Commercial Services & Supplies	480,888
	Communications Equipment 1.1%	
51,800	Cisco Systems, Inc.	1,095,570
3,700	F5 Networks, Inc., (2)	499,352
13,928	Motorola Solutions Inc.	707,960
6,800	QUALCOMM, Inc.	462,536
	Total Communications Equipment	2,765,418
	Computers & Peripherals 3.5%	
12,600	Apple, Inc., (2)	7,553,322
6,700	Dell Inc., (2)	111,220
3,500	EMC Corporation, (2)	104,580
4,300	Lexmark International, Inc., Class A	142,932
6,400	SanDisk Corporation, (2)	317,376
3,100	Western Digital Corporation, (2)	128,309
	Total Computers & Peripherals	8,357,739
	Construction Materials 0.1%	
7,800	Vulcan Materials Company	333,294
	Consumer Finance 0.4%	
7,500	American Express Company	433,950
1,000	Capital One Financial Corporation	55,740
11,000	Discover Financial Services	366,740
7,100	SLM Corporation	111,896
	Total Consumer Finance	968,326
	Containers & Packaging 0.1%	
1,400	Ball Corporation	60,032
3,100	Owens-Illinois, Inc., (2)	72,354
	Total Containers & Packaging	132,386
	Distributors 0.7%	
26,500	Genuine Parts Company	1,662,875
	Diversified Consumer Services 0.2%	
5,700	Apollo Group, Inc., (2)	220,248
3,900	Devry, Inc.	132,093
9,200	H & R Block Inc.	151,524
	Total Diversified Consumer Services	503,865
	Diversified Financial Services 1.1%	
25,200	Bank of America Corporation	241,164
7,800	Citigroup Inc.	285,090
10,205	JP Morgan Chase & Co.	469,226
14,300	Leucadia National Corporation	373,230
24,700	Moody's Corporation	1,039,870
5,300	NASDAQ Stock Market, Inc., (2)	137,270
2,000	New York Stock Exchange Euronext	60,020
	Total Diversified Financial Services	2,605,870
	Diversified Telecommunication Services 1.1%	
2,600	AT&T Inc.	81,198
63,570	CenturyLink Inc.	2,456,981
	Total Diversified Telecommunication Services	2,538,179
	Electric Utilities 3.9%	
12,700	American Electric Power Company, Inc.	489,966
39,200	Duke Energy Corporation	823,592
34,376	Exelon Corporation	1,347,883
27,200	FirstEnergy Corp.	1,240,048
6,300	Northeast Utilities	233,856
1,200	Pepco Holdings, Inc.	22,668
28,500	Pinnacle West Capital Corporation	1,365,150
29,400	PPL Corporation	830,844
44,200	Progress Energy, Inc.	2,347,462

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14,300	Southern Company	642,499
	Total Electric Utilities	9,343,968
	Electrical Equipment 0.9%	
18,800	Rockwell Automation, Inc.	1,498,360
6,200	Roper Industries Inc.	614,792
	Total Electrical Equipment	2,113,152
	Electronic Equipment & Instruments 0.4%	
21,300	Jabil Circuit Inc.	535,056
8,100	Molex Inc.	227,772
8,300	TE Connectivity Limited	305,025
	Total Electronic Equipment & Instruments	1,067,853
	Energy Equipment & Services 2.3%	
9,800	Baker Hughes Incorporated	411,012
1,200	Cooper Cameron Corporation, (2)	63,396
3,000	FMC Technologies Inc., (2)	151,260
500	Halliburton Company	16,595
1,600	Helmerich & Payne Inc.	86,320
7,300	Nabors Industries Inc., (2)	127,677
38,500	National-Oilwell Varco Inc.	3,059,595
22,642	Schlumberger Limited	1,583,355
	Total Energy Equipment & Services	5,499,210
	Food & Staples Retailing 0.6%	
4,200	Costco Wholesale Corporation	381,360
8,900	CVS Caremark Corporation	398,720
41,700	SUPERVALU INC.	238,107
2,500	Sysco Corporation	74,650
4,500	Wal-Mart Stores, Inc.	275,400
	Total Food & Staples Retailing	1,368,237
	Food Products 4.7%	
2,800	Archer-Daniels-Midland Company	88,648
15,400	ConAgra Foods, Inc.	404,404
23,300	Dean Foods Company, (2)	282,163
21,600	General Mills, Inc.	852,120
17,000	H.J. Heinz Company	910,350
14,200	Hershey Foods Corporation	870,886
20,000	Hormel Foods Corporation	590,400
31,200	JM Smucker Company	2,538,432
5,300	Kellogg Company	284,239
20,400	Kraft Foods Inc.	775,404
1,400	McCormick & Company, Incorporated	76,202
16,900	Mead Johnson Nutrition Company, Class A Shares	1,393,912
99,700	Sara Lee Corporation	2,146,541
	Total Food Products	11,213,701
	Gas Utilities 1.4%	
6,349	AGL Resources Inc.	249,008
39,600	ONEOK, Inc.	3,233,736
	Total Gas Utilities	3,482,744
	Health Care Equipment & Supplies 1.2%	
9,400	Baxter International, Inc.	561,932
5,000	Covidien PLC	273,400
3,400	DENTSPLY International Inc.	136,442
2,800	Intuitive Surgical, Inc., (2)	1,516,900
3,800	Saint Jude Medical Inc.	168,378
4,200	Stryker Corporation	233,016
1,500	Varian Medical Systems, Inc., (2)	103,440
	Total Health Care Equipment & Supplies	2,993,508
	Health Care Providers & Services 3.4%	
7,700	Aetna Inc.	386,232
59,100	AmerisourceBergen Corporation	2,345,088
34,000	Cardinal Health, Inc.	1,465,740
13,200	CIGNA Corporation	650,100
6,600	Coventry Health Care, Inc., (2)	234,762
3,400	Express Scripts, Holding Company, (2)	184,212
10,300	Humana Inc.	952,544
7,900	McKesson HBOC Inc.	693,383
700	Medco Health Solutions, Inc.	49,210
16,400	Tenet Healthcare Corporation, (2)	87,084
16,900	UnitedHealth Group Incorporated	996,086
800	Wellpoint Inc.	59,040
	Total Health Care Providers & Services	8,103,481

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	Health Care Technology 0.8%	
25,800	Cerner Corporation, (2)	1,964,928
	Hotels, Restaurants & Leisure 2.6%	
1,400	Carnival Corporation, ADR	44,912
18,400	McDonald's Corporation	1,805,040
44,600	Starbucks Corporation	2,492,694
2,800	Starwood Hotels & Resorts Worldwide, Inc.	157,948
5,300	Wyndham Worldwide Corporation	246,503
22,300	YUM! Brands, Inc.	1,587,314
	Total Hotels, Restaurants & Leisure	6,334,411
	Household Durables 0.7%	
34,200	D.R. Horton, Inc.	518,814
1,800	Harman International Industries Inc.	84,258
24,200	Lennar Corporation, Class A	657,756
16,400	Newell Rubbermaid Inc.	292,084
25,600	Pulte Corporation, (2)	226,560
	Total Household Durables	1,779,472
	Household Products 0.5%	
6,700	Colgate-Palmolive Company	655,126
7,100	Kimberly-Clark Corporation	524,619
	Total Household Products	1,179,745
	Independent Power Producers & Energy Traders 0.0%	
3,600	NRG Energy Inc., (2)	56,412
	Industrial Conglomerates 0.2%	
600	Danaher Corporation	33,600
27,500	General Electric Company	551,925
	Total Industrial Conglomerates	585,525
	Insurance 3.4%	
3,700	Ace Limited	270,840
15,700	AFLAC Incorporated	722,043
1,300	Allstate Corporation	42,796
3,300	American International Group, (2)	101,739
34,900	Aon Corporation	1,712,194
7,100	Assurant Inc.	287,550
9,500	Chubb Corporation	656,545
4,000	Cincinnati Financial Corporation	138,040
75,100	Genworth Financial Inc., Class A, (2)	624,832
5,000	Hartford Financial Services Group, Inc.	105,400
7,200	Lincoln National Corporation	189,792
8,900	Marsh & McLennan Companies, Inc.	291,831
4,500	MetLife, Inc.	168,075
6,600	Principal Financial Group, Inc.	194,766
35,800	Progressive Corporation	829,844
4,400	Prudential Financial, Inc.	278,916
4,050	Torchmark Corporation	201,893
15,000	Travelers Companies, Inc.	888,000
6,200	Unum Group	151,776
10,300	XL Capital Ltd, Class A	223,407
	Total Insurance	8,080,279
	Internet & Catalog Retail 0.7%	
4,100	Amazon.com, Inc., (2)	830,291
800	NetFlix.com Inc., (2)	92,032
1,200	Priceline.com Incorporated, (2)	861,000
	Total Internet & Catalog Retail	1,783,323
	Internet Software & Services 1.7%	
20,300	eBay Inc., (2)	748,867
5,100	Google Inc., Class A, (2)	3,270,324
	Total Internet Software & Services	4,019,191
	IT Services 3.5%	
10,500	Accenture Limited	677,250
3,800	Automatic Data Processing, Inc.	209,722
30,900	Cognizant Technology Solutions Corporation, Class A, (2)	2,377,755
600	Computer Sciences Corporation	17,964
1,000	Fiserv, Inc., (2)	69,390
12,100	International Business Machines Corporation (IBM)	2,524,665
2,200	MasterCard, Inc.	925,188
14,400	Paychex, Inc.	446,256
5,100	Teradata Corporation, (2)	347,565
10,100	Total System Services Inc.	233,007
4,200	Visa Inc.	495,600

