

Nuveen Core Equity Alpha Fund
Form N-Q
November 29, 2011

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM N-Q

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

Investment Company Act file number 811-22003

Nuveen Core Equity Alpha Fund

(Exact name of registrant as specified in charter)

333 West Wacker Drive, Chicago, Illinois 60606

(Address of principal executive offices) (Zip code)

Kevin J. McCarthy Vice President and Secretary

333 West Wacker Drive, Chicago, Illinois 60606

(Name and address of agent for service)

Registrant's telephone number, including area code: 312-917-7700

Date of fiscal year

end: 12/31

Date of reporting period: 9/30/2011

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)
September 30, 2011

Shares	Description (1)	Value
	Common Stocks 100.4%	
	Aerospace & Defense 1.8%	
700	Boeing Company	\$ 42,357
7,500	Honeywell International Inc.	329,325
2,200	L-3 Communications Holdings, Inc.	136,334
5,400	Lockheed Martin Corporation	392,256
27,100	Northrop Grumman Corporation	1,413,536
3,800	Precision Castparts Corporation	590,748
5,100	Raytheon Company	208,437
6,900	Rockwell Collins, Inc.	364,044
2,600	United Technologies Corporation	182,936
	Total Aerospace & Defense	3,659,973
	Air Freight & Logistics 1.3%	
21,700	C.H. Robinson Worldwide, Inc.	1,485,799
3,900	Expeditors International of Washington, Inc.	158,145
15,300	FedEx Corporation	1,035,504
	Total Air Freight & Logistics	2,679,448
	Auto Components 0.0%	
4,400	Goodyear Tire & Rubber Company	44,396
	Automobiles 0.0%	
1,500	Harley-Davidson, Inc.	51,495
	Beverages 1.0%	
4,700	Brown-Forman Corporation	329,658
21,300	Coca Cola Enterprises Inc.	529,944
4,400	Coca-Cola Company	297,264
18,200	Dr. Pepper Snapple Group	705,796
1,300	PepsiCo, Inc.	80,470
	Total Beverages	1,943,132
	Biotechnology 0.7%	
1,700	Amgen Inc.	93,415
7,500	Biogen Idec Inc.	698,625
5,400	Cephalon, Inc.	435,780
4,900	Gilead Sciences, Inc., (2)	190,120
	Total Biotechnology	1,417,940
	Capital Markets 0.9%	
28,200	Ameriprise Financial, Inc.	1,109,952
9,400	Franklin Resources, Inc.	899,016
2,000	T. Rowe Price Group Inc.	95,540
	Total Capital Markets	2,104,508
	Chemicals 1.8%	
600	Air Products & Chemicals Inc.	45,822
37,700	E.I. Du Pont de Nemours and Company	1,506,869
15,800	Eastman Chemical Company	1,082,774
1,900	International Flavors & Fragrances Inc.	106,818
10,700	Sherwin-Williams Company	795,224
	Total Chemicals	3,537,507
	Commercial Banks 0.8%	
8,000	BB&T Corporation	170,640
2,900	Comerica Incorporated	66,613
11,700	Fifth Third Bancorp.	118,170
15,000	First Horizon National Corporation	89,400
9,300	Huntington BancShares Inc.	44,640
15,000	KeyCorp.	88,950
3,600	M&T Bank Corporation	251,640
2,900	PNC Financial Services Group, Inc.	139,751
11,500	U.S. Bancorp	270,710
3,550	Wells Fargo & Company	85,626
16,300	Zions Bancorporation	229,341
	Total Commercial Banks	1,555,481

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	Commercial Services & Supplies 1.2%	
44,800	Iron Mountain Inc.	1,416,576
3,400	R.R. Donnelley & Sons Company	48,008
9,500	Stericycle Inc.	766,840
8,000	Waste Management, Inc.	260,480
	Total Commercial Services & Supplies	2,491,904
	Communications Equipment 0.7%	
4,825	Motorola Mobility Holdings Inc.	182,289
13,928	Motorola Solutions Inc.	583,583
12,500	QUALCOMM, Inc.	607,875
	Total Communications Equipment	1,373,747
	Computers & Peripherals 5.7%	
29,200	Apple, Inc.	11,130,455
6,700	Dell Inc.	94,805
10,000	EMC Corporation	209,900
2,500	Network Appliance Inc.	84,850
	Total Computers & Peripherals	11,520,010
	Construction & Engineering 0.1%	
2,300	Fluor Corporation	107,065
	Consumer Finance 0.7%	
7,500	American Express Company	336,750
7,900	Capital One Financial Corporation	313,077
25,600	Discover Financial Services	587,264
7,100	SLM Corporation	88,395
	Total Consumer Finance	1,325,486
	Containers & Packaging 0.2%	
12,800	Ball Corporation	397,056
	Diversified Consumer Services 0.3%	
2,500	Apollo Group, Inc., (2)	99,025
4,800	Devry, Inc.	177,408
25,900	H & R Block Inc.	344,729
	Total Diversified Consumer Services	621,162
	Diversified Financial Services 1.6%	
10,205	JP Morgan Chase & Co.	307,375
57,200	Leucadia National Corporation, (2)	1,297,296
24,700	Moody s Corporation	752,115
14,700	NASDAQ Stock Market, Inc., (2)	340,158
20,900	New York Stock Exchange Euronext	485,716
	Total Diversified Financial Services	3,182,660
	Diversified Telecommunication Services 1.6%	
8,500	AT&T Inc.	242,420
63,570	CenturyLink Inc.	2,105,438
1,500	Verizon Communications Inc.	55,200
71,400	Windstream Corporation	832,524
	Total Diversified Telecommunication Services	3,235,582
	Electric Utilities 2.0%	
1,400	American Electric Power Company, Inc.	53,228
14,800	Duke Energy Corporation	295,852
1,300	Edison International	49,725
1,800	Exelon Corporation	76,698
22,300	FirstEnergy Corp.	1,001,493
17,200	Northeast Utilities	578,780
1,600	Pepco Holdings, Inc.	30,272
12,700	Pinnacle West Capital Corporation	545,338
6,800	PPL Corporation	194,072
20,300	Progress Energy, Inc.	1,049,916
1,200	Southern Company	50,844
	Total Electric Utilities	3,926,218
	Electrical Equipment 1.0%	
34,500	Rockwell Automation, Inc.	1,932,000
	Electronic Equipment & Instruments 0.0%	
3,000	FLIR Systems Inc.	75,150
	Energy Equipment & Services 2.2%	
9,800	Baker Hughes Incorporated	452,368
10,200	Helmerich & Payne Inc.	414,120
2,200	Nabors Industries Inc., (2)	26,972
38,500	National-Oilwell Varco Inc.	1,971,970
4,800	Noble Corporation	140,880
22,642	Schlumberger Limited	1,352,407
	Total Energy Equipment & Services	4,358,717

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	Food & Staples Retailing 1.2%	
4,200	Costco Wholesale Corporation	344,904
8,900	CVS Caremark Corporation	298,862
16,200	Kroger Co.	355,752
2,100	Sysco Corporation	54,390
35,900	Walgreen Co.	1,180,751
1,300	Wal-Mart Stores, Inc.	67,470
1,500	Whole Foods Market, Inc., (2)	97,965
	Total Food & Staples Retailing	2,400,094
	Food Products 5.9%	
2,800	Campbell Soup Company	90,636
15,400	ConAgra Foods, Inc.	372,988
53,400	Dean Foods Company, (2)	473,658
60,300	General Mills, Inc.	2,319,741
6,700	H.J. Heinz Company	338,216
14,200	Hershey Foods Corporation	841,208
20,000	Hormel Foods Corporation	540,400
31,200	JM Smucker Company	2,274,168
13,100	Kellogg Company	696,789
6,100	Kraft Foods Inc.	204,838
7,300	McCormick & Company, Incorporated	336,968
6,800	Mead Johnson Nutrition Company, Class A Shares	468,044
168,900	Sara Lee Corporation	2,761,515
7,200	Tyson Foods, Inc., Class A	124,992
	Total Food Products	11,844,161
	Gas Utilities 1.4%	
3,400	Nicor Inc.	187,034
39,600	ONEOK, Inc.	2,615,184
	Total Gas Utilities	2,802,218
	Health Care Equipment & Supplies 3.2%	
9,400	Baxter International, Inc.	527,716
1,400	Becton, Dickinson and Company	102,648
18,100	Boston Scientific Corporation	106,971
6,500	C. R. Bard, Inc.	569,010
5,800	CareFusion Corporation, (2)	138,910
13,400	Covidien PLC	590,940
3,400	DENTSPLY International Inc.	104,346
6,800	Edwards Lifesciences Corporation, (2)	484,704
1,300	Intuitive Surgical, Inc., (2)	473,564
22,900	Saint Jude Medical Inc., (2)	828,751
25,400	Stryker Corporation	1,197,102
15,000	Varian Medical Systems, Inc., (2)	782,400
8,600	Zimmer Holdings, Inc., (2)	460,100
	Total Health Care Equipment & Supplies	6,367,162
	Health Care Providers & Services 7.2%	
17,500	Aetna Inc.	636,125
116,900	AmerisourceBergen Corporation	4,356,863
78,500	Cardinal Health, Inc.	3,287,580
13,200	CIGNA Corporation	553,608
43,800	Coventry Health Care, Inc., (2)	1,261,878
900	Davita Inc.	56,403
10,300	Humana Inc., (2)	749,119
1,600	Laboratory Corporation of America Holdings, (2)	126,480
21,000	McKesson HBOC Inc.	1,526,700
4,300	Patterson Companies, Inc.	123,109
4,200	Quest Diagnostics Incorporated	207,312
16,900	UnitedHealth Group Incorporated	779,428
11,500	Wellpoint Inc.	750,720
	Total Health Care Providers & Services	14,415,325
	Health Care Technology 0.6%	
16,500	Cerner Corporation, (2)	1,130,580
	Hotels, Restaurants & Leisure 3.0%	
400	Chipotle Mexican Grill, (2)	121,180
6,000	Darden Restaurants, Inc.	256,500
1,600	McDonald's Corporation	140,512
88,200	Starbucks Corporation	3,288,978
900	Wynn Resorts Ltd	103,572
40,900	YUM! Brands, Inc.	2,020,051
	Total Hotels, Restaurants & Leisure	5,930,793
	Household Durables 0.7%	

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23,700	Fortune Brands Inc.	1,281,696
5,600	Lennar Corporation, Class A	75,824
	Total Household Durables	1,357,520
	Household Products 0.3%	
2,900	Colgate-Palmolive Company	257,172
2,600	Kimberly-Clark Corporation	184,626
1,200	Procter & Gamble Company	75,816
	Total Household Products	517,614
	Independent Power Producers & Energy Traders 0.5%	
16,100	Constellation Energy Group	612,766
16,600	NRG Energy Inc.	352,086
	Total Independent Power Producers & Energy Traders	964,852
	Industrial Conglomerates 0.5%	
3,900	Danaher Corporation	163,566
27,500	General Electric Company	419,100
9,200	Tyco International Ltd.	374,900
	Total Industrial Conglomerates	957,566
	Insurance 2.0%	
3,700	Ace Limited	224,220
6,700	Allstate Corporation	158,723
34,900	Aon Corporation	1,465,102
4,100	Chubb Corporation	245,959
6,500	Cincinnati Financial Corporation	171,145
8,900	Marsh & McLennan Companies, Inc.	236,206
35,800	Progressive Corporation	635,808
1,950	Torchmark Corporation	67,977
15,000	Travelers Companies, Inc.	730,950
6,200	Unum Group	129,952
	Total Insurance	4,066,042
	Internet & Catalog Retail 2.1%	
4,100	Amazon.com, Inc., (2)	886,543
7,400	Priceline.com Incorporated, (2)	3,326,004
	Total Internet & Catalog Retail	4,212,547
	Internet Software & Services 3.2%	
56,000	eBay Inc., (2)	1,651,440
9,100	Google Inc., Class A, (2)	4,680,858
	Total Internet Software & Services	6,332,298
	IT Services 4.7%	
10,500	Accenture Limited	553,140
10,000	Automatic Data Processing, Inc.	471,500
84,700	Cognizant Technology Solutions Corporation, Class A, (2)	5,310,690
5,400	Fidelity National Information Services	131,328
12,100	International Business Machines Corporation (IBM)	2,117,863
300	MasterCard, Inc.	95,148
14,400	Paychex, Inc.	379,728
5,100	Teradata Corporation, (2)	273,003
1,700	Total System Services Inc.	28,781
800	Visa Inc.	68,576
5,900	Western Union Company	90,211
	Total IT Services	9,519,968
	Leisure Equipment & Products 0.2%	
14,100	Hasbro, Inc.	459,801
	Life Sciences Tools & Services 1.0%	
41,400	Agilent Technologies, Inc., (2)	1,293,750
2,300	Thermo Fisher Scientific, Inc.	116,472
6,700	Waters Corporation	505,783
	Total Life Sciences Tools & Services	1,916,005
	Machinery 3.5%	
27,300	Caterpillar Inc.	2,015,832
7,300	Deere & Company	471,361
54,800	Eaton Corporation	1,945,400
11,100	Pall Corporation	470,640
15,600	Parker Hannifin Corporation	984,828
24,287	Stanley Black & Decker Inc.	1,192,492
	Total Machinery	7,080,553
	Media 4.5%	
43,300	Cablevision Systems Corporation	681,109
57,700	CBS Corporation, Class B	1,175,926
22,100	Comcast Corporation, Class A	461,890
120,900	DIRECTV Group, Inc., (2)	5,108,025

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4,400	McGraw-Hill Companies, Inc.	180,400
4,900	Time Warner Cable, Class A	307,083
7,200	Time Warner Inc.	215,784
14,900	Viacom Inc., Class B	577,226
6,800	Walt Disney Company	205,088
1,300	Washington Post Company	425,061
	Total Media	9,337,592
	Metals & Mining 0.1%	
21,100	Alcoa Inc.	201,927
	Multiline Retail 0.9%	
10,400	Big Lots, Inc., (2)	362,232
19,400	Family Dollar Stores, Inc.	986,684
6,200	J.C. Penney Company, Inc.	166,036
1,200	Kohl's Corporation, (2)	58,920
7,000	Macy's, Inc.	184,240
	Total Multiline Retail	1,758,112
	Multi-Utilities 2.5%	
41,600	CenterPoint Energy, Inc.	816,192
38,900	CMS Energy Corporation	769,831
8,300	Consolidated Edison, Inc.	473,266
7,000	Dominion Resources, Inc.	355,390
1,700	DTE Energy Company	83,334
71,200	NiSource Inc.	1,522,256
2,100	PG&E Corporation	88,851
1,300	Scana Corporation	52,585
6,200	TECO Energy, Inc.	106,206
22,800	Wisconsin Energy Corporation	713,412
	Total Multi-Utilities	4,981,323
	Oil, Gas, & Consumable Fuels 7.9%	
6,800	Cabot Oil & Gas Corporation	420,988
64,300	Chesapeake Energy Corporation	1,642,865
18,200	Chevron Corporation	1,683,864
10,100	ConocoPhillips	639,532
2,700	CONSOL Energy Inc.	91,611
13,100	Devon Energy Corporation	726,264
49,900	El Paso Corporation	872,252
4,900	EQT Corporation	261,464
33,500	Exxon Mobil Corporation	2,433,105
17,900	Hess Corporation	939,034
52,800	Marathon Oil Corporation	1,139,424
29,450	Marathon Petroleum Corporation	796,917
3,000	Murphy Oil Corporation	132,480
28,700	Pioneer Natural Resources Company	1,887,599
1,400	Range Resources Corporation	81,844
11,900	Tesoro Corporation	231,693
9,100	Valero Energy Corporation	161,798
71,300	Williams Companies, Inc.	1,735,442
	Total Oil, Gas, & Consumable Fuels	15,878,176
	Paper & Forest Products 0.1%	
20,200	MeadWestvaco Corporation	496,112
	Personal Products 1.3%	
29,900	Estee Lauder Companies Inc., Class A	2,626,416
	Pharmaceuticals 1.4%	
1,600	Abbott Laboratories	81,824
3,700	Allergan, Inc.	304,806
8,000	Bristol-Myers Squibb Company	251,040
2,500	Eli Lilly and Company	92,425
7,400	Forest Laboratories, Inc.	227,846
1,000	Johnson & Johnson	63,710
18,032	Merck & Company Inc.	589,827
11,500	Pfizer Inc.	203,320
14,500	Watson Pharmaceuticals Inc.	989,625
	Total Pharmaceuticals	2,804,423
	Professional Services 0.0%	
700	Dun and Bradstreet Inc.	42,882
	Real Estate Investment Trust 2.2%	
4,400	AvalonBay Communities, Inc.	501,820
4,600	Boston Properties, Inc.	409,860
13,300	Equity Residential	689,871
5,000	Health Care REIT, Inc.	234,000

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6,800	Public Storage, Inc.	757,180
900	Simon Property Group, Inc.	98,982
1,000	Ventas Inc.	49,400
106,900	Weyerhaeuser Company	1,662,295
	Total Real Estate Investment Trust	4,403,408
	Real Estate Management & Development 0.2%	
24,300	CB Richard Ellis Group, Inc., Class A	327,078
	Road & Rail 0.4%	
31,600	CSX Corporation	589,972
4,300	Norfolk Southern Corporation	262,386
	Total Road & Rail	852,358
	Semiconductors & Equipment 1.4%	
8,800	Altera Corporation	277,464
4,100	Intel Corporation	87,453
10,400	LSI Logic Corporation	53,872
36,000	NVIDIA Corporation, (2)	450,000
69,800	Texas Instruments Incorporated	1,860,170
	Total Semiconductors & Equipment	2,728,959
	Software 1.0%	
22,600	Electronic Arts Inc. (EA)	462,170
27,400	Intuit, Inc., (2)	1,299,856
8,600	Microsoft Corporation	214,054
2,900	Oracle Corporation	83,346
	Total Software	2,059,426
	Specialty Retail 5.2%	
3,400	Abercrombie & Fitch Co., Class A	209,304
8,100	AutoNation Inc., (2)	265,518
5,100	AutoZone, Inc., (2)	1,627,869
3,400	Bed Bath and Beyond Inc.	194,854
6,000	CarMax, Inc., (2)	143,100
11,700	GameStop Corporation, (2)	270,270
5,000	Gap, Inc.	81,200
20,600	Home Depot, Inc.	677,122
23,000	Limited Brands, Inc.	885,730
10,200	Ross Stores, Inc.	802,638
5,200	Tiffany & Co.	316,264
87,900	TJX Companies, Inc.	4,875,813
	Total Specialty Retail	10,349,682
	Textiles, Apparel & Luxury Goods 0.5%	
6,100	Coach, Inc.	316,163
1,700	Nike, Inc., Class B	145,367
1,900		