

Nuveen Core Equity Alpha Fund
Form N-Q
May 29, 2009

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: 3/31/2009

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, 2009

Shares	Description (1)	Value
	Common Stocks 98.9%	
	Aerospace & Defense 1.2%	
2,800	Boeing Company	\$ 99,624
1,100	FLIR Systems Inc., (2)	22,528
5,000	General Dynamics Corporation	207,950
2,700	Honeywell International Inc.	75,222
20,100	Lockheed Martin Corporation	1,387,503
700	Precision Castparts Corporation	41,930
3,600	United Technologies Corporation	154,728
	Total Aerospace & Defense	1,989,485
	Air Freight & Logistics 0.4%	
10,200	C.H. Robinson Worldwide, Inc.	465,222
2,800	FedEx Corporation	124,572
	Total Air Freight & Logistics	589,794
	Airlines 0.5%	
134,800	Southwest Airlines Co.	853,284
	Auto Components 0.1%	
16,900	Johnson Controls, Inc.	202,800
	Automobiles 0.1%	
7,300	Harley-Davidson, Inc.	97,747
	Beverages 2.6%	
19,200	Brown-Forman Corporation	745,536

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33,700	Coca-Cola Company	1,481,115
22,200	Constellation Brands, Inc., Class A, (2)	264,180
5,800	Dr. Pepper Snapple Group, (2)	98,078
1,600	Molson Coors Brewing Company, Class B	54,848
2,000	Pepsi Bottling Group, Inc.	44,280
32,000	PepsiCo, Inc.	1,647,360
	Total Beverages	4,335,397

Biotechnology 1.6%

19,900	Amgen Inc., (2)	985,448
13,700	Celgene Corporation, (2)	608,280
6,200	Cephalon, Inc., (2)	422,220
1,000	Genzyme Corporation, (2)	59,390
11,900	Gilead Sciences, Inc., (2)	551,208
	Total Biotechnology	2,626,546

Building Products 0.5%

23,600	Fastenal Company	758,858
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Capital Markets 0.4%

10,200	Charles Schwab Corporation	158,100
1,700	Franklin Resources, Inc.	91,579
5,100	State Street Corporation	156,978
7,100	T. Rowe Price Group Inc.	204,906
	Total Capital Markets	611,563

Chemicals 1.1%

21,100	E.I. Du Pont de Nemours and Company	471,163
2,400	Ecolab Inc.	83,352
26,400	PPG Industries, Inc.	974,160
1,500	Praxair, Inc.	100,935
1,800	Rohm and Haas Company	141,912
2,800	Sigma-Aldrich Corporation	105,812
	Total Chemicals	1,877,334

Commercial Banks 3.9%

131,100	Bank of America Corporation	894,102
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34,800	BB&T Corporation	588,816
700	Comerica Incorporated	12,817
8,008	First Horizon National Corporation	86,006
1,500	Goldman Sachs Group, Inc.	159,030
51,505	JPMorgan Chase & Co.	1,369,003
1,000	KeyCorp.	7,870
4,100	M&T Bank Corporation	185,484
19,700	Morgan Stanley	448,569
3,800	Northern Trust Corporation	227,316
12,600	PNC Financial Services Group, Inc.	369,054
24,800	U.S. Bancorp	362,328
118,850	Wells Fargo & Company	1,692,424
4,700	Zions Bancorporation	46,201

Total Commercial Banks 6,449,020

Commercial Services & Supplies 1.7%

3,100	Cintas Corporation	76,632
6,700	Dun and Bradstreet Inc.	515,900
8,600	Pitney Bowes Inc.	200,810
17,035	Republic Services, Inc.	292,150
6,200	Robert Half International Inc.	110,546
2,100	Stericycle Inc., (2)	100,233
62,600	Waste Management, Inc.	1,602,560

Total Commercial Services & Supplies 2,898,831

Communications Equipment 2.1%

108,900	Cisco Systems, Inc., (2)	1,826,253
11,000	Motorola, Inc.	46,530
40,000	QUALCOMM, Inc.	1,556,400

Total Communications Equipment 3,429,183

Computers & Peripherals 4.5%

13,600	Apple, Inc., (2)	1,429,632
32,800	Dell Inc., (2)	310,944
2,000	EMC Corporation, (2)	22,800
69,000	Hewlett-Packard Company	2,212,140
31,700	International Business Machines Corporation (IBM)	3,071,413
3,700	Lexmark International, Inc., Class A, (2)	62,419
500	McAfee Inc., (2)	16,750
3,500	Network Appliance Inc., (2)	51,940
16,400	SanDisk Corporation, (2)	207,460

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	Total Computers & Peripherals	7,385,498
	Construction & Engineering 0.3%	
13,400	Fluor Corporation	462,970
	Construction Materials 0.3%	
11,200	Vulcan Materials Company	496,048
	Consumer Finance 0.7%	
21,800	Capital One Financial Corporation	266,832
51,700	Discover Financial Services	326,227
53,800	SLM Corporation, (2)	266,310
18,000	Western Union Company	226,260
	Total Consumer Finance	1,085,629
	Containers & Packaging 0.5%	
7,900	Ball Corporation	342,860
17,600	Bemis Company, Inc.	369,072
1,200	Owens-Illinois, Inc., (2)	17,328
3,200	Pactiv Corporation, (2)	46,688
1,200	Sealed Air Corporation	16,560
	Total Containers & Packaging	792,508
	Diversified Consumer Services 0.8%	
900	Apollo Group, Inc., (2)	70,497
64,600	H & R Block Inc.	1,175,074
	Total Diversified Consumer Services	1,245,571
	Diversified Financial Services 0.6%	
21,500	Citigroup Inc.	54,395
100	CME Group, Inc.	24,639
23,200	Leucadia National Corporation, (2)	345,448
22,800	Moody's Corporation	522,576
	Total Diversified Financial Services	947,058

Diversified Telecommunication Services 4.9%

226,600	AT&T Inc.	5,710,320
15,800	CenturyTel, Inc.	444,296
15,100	Embarq Corporation	571,535
62,600	Frontier Communications Corporation	449,468
30,500	Verizon Communications Inc.	921,100
10,000	Windstream Corporation	80,600
	Total Diversified Telecommunication Services	8,177,319

Electric Utilities 2.3%

4,800	Ameren Corporation	111,312
19,500	Consolidated Edison, Inc.	772,395
3,700	DTE Energy Company	102,490
8,900	Entergy Corporation	606,001
8,200	FirstEnergy Corp.	316,520
7,000	FPL Group, Inc.	355,110
4,300	Northeast Utilities	92,837
11,700	PG&E Corporation	447,174
5,000	Pinnacle West Capital Corporation	132,800
15,100	PPL Corporation	433,521
5,400	Progress Energy, Inc.	195,804
3,200	Southern Company	97,984
18,800	TECO Energy, Inc.	209,620
	Total Electric Utilities	3,873,568

Electrical Equipment 0.1%

8,800	Cooper Industries, Ltd., Class A	227,568
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Electronic Equipment & Instruments 0.7%

2,500	Agilent Technologies, Inc., (2)	38,425
1,800	Amphenol Corporation, Class A	51,282
31,400	Jabil Circuit Inc.	174,584
21,500	Molex Inc.	295,410
13,200	Thermo Fisher Scientific, Inc., (2)	470,844
5,000	Tyco Electronics, Limited	55,200
	Total Electronic Equipment & Instruments	1,085,745

Energy Equipment & Services 2.5%

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1,700	Anadarko Petroleum Corporation	66,113
13,700	Baker Hughes Incorporated	391,135
21,200	BJ Services Company	210,940
2,300	Cabot Oil & Gas Corporation	54,211
1,700	Cooper Cameron Corporation, (2)	37,281
1,600	Diamond Offshore Drilling, Inc.	100,576
9,500	ENSCO International Incorporated	250,800
19,800	Halliburton Company	306,306
37,900	Nabors Industries Inc., (2)	378,621
17,000	National-Oilwell Varco Inc., (2)	488,070
1,200	Noble Corporation	28,908
34,600	Schlumberger Limited	1,405,452
16,400	Smith International, Inc.	352,272

Total Energy Equipment & Services 4,070,685

Food & Staples Retailing 3.7%

600	Costco Wholesale Corporation	27,792
16,000	CVS Caremark Corporation	439,840
75,600	Kroger Co.	1,604,232
22,000	Sysco Corporation	501,600
9,300	Walgreen Co.	241,428
63,900	Wal-Mart Stores, Inc.	3,329,190

Total Food & Staples Retailing 6,144,082

Food Products 5.3%

29,400	Campbell Soup Company	804,384
3,500	Dean Foods Company, (2)	63,280
35,000	General Mills, Inc.	1,745,800
44,100	H.J. Heinz Company	1,457,946
26,500	Hershey Foods Corporation	920,875
1,500	Hormel Foods Corporation	47,565
18,500	JM Smucker Company	689,495
32,800	Kellogg Company	1,201,464
24,900	Kraft Foods Inc.	555,021
6,000	McCormick & Company, Incorporated	177,420
6,900	Monsanto Company	573,390
29,500	Sara Lee Corporation	238,360
32,800	Tyson Foods, Inc., Class A	307,992

Total Food Products 8,782,992

Gas Utilities 0.4%

7,700	Nicor Inc.	255,871
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29,600	Spectra Energy Corporation	418,544
	Total Gas Utilities	674,415

Health Care Equipment & Supplies 2.3%

30,500	Baxter International, Inc.	1,562,210
22,200	Boston Scientific Corporation, (2)	176,490
7,000	Cardinal Health, Inc.	220,360
25,700	Covidien Limited	854,268
6,100	DENTSPLY International Inc.	163,785
7,400	Medtronic, Inc.	218,078
700	Saint Jude Medical Inc., (2)	25,431
8,500	Stryker Corporation	289,340
7,200	Varian Medical Systems, Inc., (2)	219,168
	Total Health Care Equipment & Supplies	3,729,130

Health Care Providers & Services 2.0%

3,000	CIGNA Corporation	52,770
13,200	Davita Inc., (2)	580,140
5,400	Express Scripts, Inc., (2)	249,318
1,400	Humana Inc., (2)	36,512
28,200	Medco Health Solutions, Inc., (2)	1,165,788
22,100	Quest Diagnostics Incorporated	1,049,308
4,100	Wellpoint Inc., (2)	155,677
	Total Health Care Providers & Services	3,289,513

Health Care Technology 0.2%

28,400	IMS Health Incorporated	354,148
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Hotels, Restaurants & Leisure 1.4%

10,500	Darden Restaurants, Inc.	359,730
32,300	McDonald's Corporation	1,762,611
8,500	Starbucks Corporation, (2)	94,435
6,000	Wyndham Worldwide Corporation	25,200
	Total Hotels, Restaurants & Leisure	2,241,976

Household Durables 0.6%

4,500	Black & Decker Corporation	142,020
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1,200	Centex Corporation	9,000
2,900	Harman International Industries Inc.	39,237
30,800	Leggett and Platt Inc.	400,092
10,300	Lennar Corporation, Class A	77,353
12,400	Pulte Corporation	135,532
8,100	Snap-on Incorporated	203,310
2,000	Stanley Works	58,240
200	Whirlpool Corporation	5,918
	Total Household Durables	1,070,702

Household Products 2.8%

4,500	Clorox Company	231,660
12,900	Colgate-Palmolive Company	760,842
4,700	Kimberly-Clark Corporation	216,717
73,700	Procter & Gamble Company	3,470,533
	Total Household Products	4,679,752

Industrial Conglomerates 3.4%

9,400	3M Co.	467,368
481,200	General Electric Company	4,864,932
7,700	Genuine Parts Company	229,922
	Total Industrial Conglomerates	5,562,222

Insurance 2.4%

4,800	AFLAC Incorporated	92,928
1,000	Allstate Corporation	19,150
3,000	Assurant Inc.	65,340
2,700	Chubb Corporation	114,264
42,600	Hartford Financial Services Group, Inc.	334,410
34,500	Lincoln National Corporation	230,805
60,500	Loews Corporation	1,337,050
41,700	Marsh & McLennan Companies, Inc.	844,425
2,000	MBIA Inc., (2)	9,160
6,900	MetLife, Inc.	157,113
3,700	Principal Financial Group, Inc.	30,266
29,900	Progressive Corporation, (2)	401,856
12,900	Prudential Financial, Inc.	245,358
1,700	Torchmark Corporation	44,591
9,800	Unum Group	122,500
	Total Insurance	4,049,216

Internet & Catalog Retail 0.3%

7,100	Amazon.com, Inc., (2)	521,424
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Internet Software & Services 0.1%

500	Google Inc., Class A, (2)	174,030
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IT Services 1.6%

11,900	Affiliated Computer Services, Inc., (2)	569,891
31,000	Automatic Data Processing, Inc.	1,089,960
17,100	Computer Sciences Corporation, (2)	629,964
4,800	Convergys Corporation, (2)	38,784
2,400	Iron Mountain Inc., (2)	53,208
10,500	Paychex, Inc.	269,535
	Total IT Services	2,651,342

Leisure Equipment & Products 0.4%

23,300	Hasbro, Inc.	584,131
2,800	Mattel, Inc.	32,284
	Total Leisure Equipment & Products	616,415

Life Sciences Tools & Services 0.1%

11,500	Perkinelmer Inc.	146,855
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Machinery 2.2%

38,000	Caterpillar Inc.	1,062,480
23,300	Cummins Inc.	592,985
36,700	Dover Corporation	968,146
1,600	Flowserve Corporation	89,792
13,000	Illinois Tool Works, Inc.	401,050
7,361	Ingersoll Rand Company Limited, Class A	101,582
11,000	ITT Industries, Inc.	423,170
200	PACCAR Inc.	5,152
1,600	Pall Corporation	32,688
	Total Machinery	3,677,045

Media 2.4%

167,600	Comcast Corporation, Class A	2,286,064
16,400	DIRECTV Group, Inc., (2)	373,756
14,800	McGraw-Hill Companies, Inc.	338,476
1,100	Scripps Networks Interactive, Class A Shares	24,761
292	Time Warner Cable, Class A	7,242
1,166	Time Warner Inc.	22,504
47,700	Walt Disney Company	866,232
	Total Media	3,919,035

Metals & Mining 0.2%

13,600	AK Steel Holding Corporation	96,832
500	Alcoa Inc.	3,670
2,800	CONSOL Energy Inc.	70,672
900	Freeport-McMoRan Copper & Gold, Inc.	34,299
7,400	United States Steel Corporation	156,362
	Total Metals & Mining	361,835

Multiline Retail 1.2%

5,700	Big Lots, Inc., (2)	118,446
21,000	Family Dollar Stores, Inc.	700,770
5,800	J.C. Penney Company, Inc.	116,406
21,600	Kohl's Corporation, (2)	914,112
2,500	Sears Holding Corporation, (2)	114,275
700	Target Corporation	24,073
	Total Multiline Retail	1,988,082

Multi-Utilities 0.2%

5,900	Integrys Energy Group, Inc.	153,636
2,300	Public Service Enterprise Group Incorporated	67,781
2,700	Scana Corporation	83,403
	Total Multi-Utilities	304,820

Oil, Gas & Consumable Fuels 10.2%

4,000	Apache Corporation	256,360
18,600	Chesapeake Energy Corporation	317,316
51,600	Chevron Corporation	3,469,584
39,000	ConocoPhillips	1,527,240

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3,000	Devon Energy Corporation	134,070
6,700	El Paso Corporation	41,875
1,400	EOG Resources, Inc.	76,664
128,500	Exxon Mobil Corporation	8,750,850
6,300	Hess Corporation	341,460
6,800	Marathon Oil Corporation	178,772
20,200	Massey Energy Company	204,424
100	Murphy Oil Corporation	4,477
14,100	Occidental Petroleum Corporation	784,665
9,800	Peabody Energy Corporation	245,392
20,500	Pioneer Natural Resources Company	337,635
8,200	Southwestern Energy Company, (2)	243,458
2,400	Tesoro Corporation	32,328
350	XTO Energy, Inc.	10,717
	Total Oil, Gas & Consumable Fuels	16,957,287

Personal Products 0.2%

2,700	Avon Products, Inc.	51,921
13,100	Estee Lauder Companies Inc., Class A	322,915
	Total Personal Products	374,836

Pharmaceuticals 6.4%

40,100	Abbott Laboratories	1,912,770
59,200	Bristol-Myers Squibb Company	1,297,664
2,200	Eli Lilly and Company	73,502
70,400	Johnson & Johnson	3,703,040
58,200	King Pharmaceuticals Inc., (2)	411,474
41,900	Merck & Co. Inc.	1,120,825
6,200	Mylan Laboratories Inc., (2)	83,142
56,300	Pfizer Inc.	766,806
28,300	Schering-Plough Corporation	666,465
14,100	Wyeth	606,864
	Total Pharmaceuticals	10,642,552

Real Estate 1.2%

7,299	Apartment Investment & Management Company, Class A	39,999
2,022	AvalonBay Communities, Inc.	95,155
4,700	Boston Properties, Inc.	164,641
16,900	Equity Residential	310,115
13,300	Health Care Property Investors Inc.	237,405
2,100	Health Care REIT, Inc.	64,239

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2,200	Kimco Realty Corporation	16,764
2,700	Plum Creek Timber Company	78,489
43,900	ProLogis	285,350
8,300	Public Storage, Inc.	458,575
2,504	Simon Property Group, Inc.	86,739
2,700	Ventas Inc.	61,047
3,631	Vornado Realty Trust	120,694

Total Real Estate 2,019,212

Road & Rail 4.0%

26,200	Burlington Northern Santa Fe Corporation	1,575,930
59,200	CSX Corporation	1,530,320
53,300	Norfolk Southern Corporation	1,798,875
12,500	Ryder System, Inc.	353,875
34,700	Union Pacific Corporation	1,426,517

Total Road & Rail 6,685,517

Semiconductors & Equipment 2.8%

45,300	Altera Corporation	795,015
20,200	Analog Devices, Inc.	389,254
24,300	Broadcom Corporation, Class A, (2)	485,514
37,700	Intel Corporation	567,385
36,700	Linear Technology Corporation	843,366
16,800	Microchip Technology Incorporated	355,992
31,500	National Semiconductor Corporation	323,505
9,100	NVIDIA Corporation, (2)	89,726
10,200	QLogic Corporation, (2)	113,424
34,600	Xilinx, Inc.	662,936

Total Semiconductors & Equipment 4,626,117

Software 2.7%

9,400	Adobe Systems Incorporated, (2)	201,066
1,700	Cognizant Technology Solutions Corporation, Class A, (2)	35,343
41,700	Compuware Corporation, (2)	274,803
4,000	Intuit, Inc., (2)	108,000
81,600	Microsoft Corporation	1,498,992
98,100	Oracle Corporation	1,772,667
42,900	Symantec Corporation, (2)	640,926

Total Software 4,531,797

Specialty Retail 1.7%

800	AutoZone, Inc., (2)	130,096
3,700	Bed Bath and Beyond Inc., (2)	91,575
24,900	Home Depot, Inc.	586,644
44,500	Limited Brands, Inc.	387,150
20,900	Lowe's Companies, Inc.	381,425
27,900	RadioShack Corporation	239,103
6,600	Sherwin-Williams Company	343,002
19,300	Staples, Inc.	349,523
2,900	Tiffany & Co.	62,524
7,100	TJX Companies, Inc.	182,044
	Total Specialty Retail	2,753,086

Textiles, Apparel & Luxury Goods 0.9%

5,400	Coach, Inc., (2)	90,180
8,000	Nike, Inc., Class B	375,120
9,100	Polo Ralph Lauren Corporation	384,475
10,000	VF Corporation	571,100
	Total Textiles, Apparel & Luxury Goods	1,420,875

Thriffs & Mortgage Finance 0.4%

55,700	Hudson City Bancorp, Inc.	651,133
2,800	People's United Financial, Inc.	50,316
	Total Thriffs & Mortgage Finance	701,449

Tobacco 0.4%

17,900	Philip Morris International	636,882
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Trading Companies & Distributors 0.4%

10,600	W.W. Grainger, Inc.	743,908
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Total Common Stocks (cost \$200,637,533) 163,602,558

**Principal
Amount**

(000) Description (1) Coupon Maturity Rating (3) Value

U.S. Government and Agency Obligations 3.6%

\$	6,000	U.S. Treasury Bills (4)	0.000%	8/27/09	Aaa	\$	5,992,968
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Total U.S. Government and Agency Obligations							
(cost \$5,990,627)							5,992,968

Principal Amount (000)	Description (1)	Coupon	Maturity	Value
Short-Term Investments 3.0%				
\$ 4,993	Repurchase Agreement with State Street Bank, dated 3/31/09, repurchase price \$4,992,958, collateralized by \$5,100,000 U.S. Treasury Bills, 0.000%, due 8/27/09, value \$5,093,880	0.100%	4/01/09	\$ 4,992,944
Total Short-Term Investments (cost \$4,992,944)				4,992,944

Investments in Derivatives

Futures Contracts outstanding at March 31, 2009:

Type	Contract Position	Number of Contracts	Contract Expiration	Unrealized Value at March 31, 2009 (Depreciation)	Appreciation
S&P 500 Index	Long	150	6/09	\$5,961,000	\$580,425

Fair Value Measurements

During the current fiscal period, the Fund adopted the provisions of Statement of Financial Accounting Standards No. 157 (SFAS No. 157) Fair Value Measurements. SFAS No. 157 defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosure about fair value measurements. In determining the value of the Fund's investments various inputs are used. These inputs are summarized in the three broad levels listed below:

Level 1 Quoted prices in active markets for identical securities.

Level 2 Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).

Level 3 Significant unobservable inputs (including management's assumptions in determining the fair value of investments).

The inputs or methodology used for valuing securities are not an indication of the risk associated with investing in those securities.

The following is a summary of the Fund's fair value measurements as of March 31, 2009:

	Level 1	Level 2	Level 3	Total
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Investments	\$ 174,588,470	\$	\$	\$ 174,588,470
Derivatives*	580,425			580,425
Call options written		(6,011,654)		(6,011,654)
Total	\$ 175,168,895	(6,011,654)	\$	169,157,241

* Represents net unrealized appreciation (depreciation). Derivatives may include outstanding futures, forward and swap contracts.

Derivative Instruments and Hedging Activities

During the current fiscal period, the Fund adopted the provisions of Statement of Financial Accounting Standards No. 161 (SFAS No. 161) Disclosures about Derivative Instruments and Hedging Activities . This standard is intended to enhance financial statement disclosures for derivative instruments and hedging activities and enable investors to better understand: a) how and why a fund uses derivative instruments; b) how derivative instruments are accounted for; and c) how derivative instruments affect a fund's financial position, results of operations and cash flows, if any. The Fund records derivative instruments at fair value with changes in fair value recognized in the Statement of Operations. Even though the Fund's investments in derivatives may represent economic hedges, they are considered to be non-hedge transactions for SFAS No. 161 disclosure purposes.

The table below presents the fair value of all derivative instruments held by the Fund as of March 31, 2009, the location of these instruments on the Statement of Assets and Liabilities, and the primary underlying risk exposure.

Underlying Risk	Derivative Instrument	Location on the Statement of Assets and Liabilities			
		Asset Derivatives		Liability Derivatives	
		Location	Fair Value	Location	Fair Value
Equity Price	Options		\$	Call options written, at value	\$ 6,011,654
Equity Price	Futures	Receivable for variation margin on futures contracts*	580,425		
Total			\$ 580,425		\$ 6,011,654

* Represents cumulative appreciation (depreciation) of futures contracts as reported in the Portfolio of Investments and not the current day's variation margin presented in the Statement of Assets and Liabilities.

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.

At March 31, 2009, the cost of investments (excluding call options written) was \$217,625,284.

Gross unrealized appreciation and gross unrealized depreciation of investments at March 31, 2009, were as follows:

Gross unrealized:	
Appreciation	\$ 3,719,526
Depreciation	(46,756,340)
Net unrealized appreciation (depreciation) of investments	\$ (43,036,814)

- (1) All percentages shown in the Portfolio of Investments are based on net assets.
 - (2) Non-income producing.
 - (3) Ratings: Using the higher of Standard & Poor's Group (Standard & Poor's) or Moody's Investor Service, Inc. (Moody's) rating. Ratings below BBB by Standard & Poor's or Baa by Moody's are considered to be below investment grade.
 - (4) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for call options written and investments in derivatives.
 - (5) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by \$100.
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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 29, 2009

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 29, 2009

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

Date May 29, 2009