

Nuveen Core Equity Alpha Fund
Form N-Q
May 30, 2008

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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: 3/31/2008

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.

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March 31, 2008

Shares	Description (1)	Value
	Common Stocks 95.6%	
	Aerospace & Defense 5.8%	
24,000	Boeing Company	\$ 1,784,880
11,300	General Dynamics Corporation	942,081
28,200	Goodrich Corporation	1,621,782
45,600	Honeywell International Inc.	2,572,752
4,300	L-3 Communications Holdings, Inc.	470,162
34,400	Lockheed Martin Corporation	3,415,920
5,800	Northrop Grumman Corporation	451,298
30,300	Precision Castparts Corporation	3,093,024
8,800	Raytheon Company	568,568
300	Rockwell Collins, Inc.	17,145
16,600	United Technologies Corporation	1,142,412
	Total Aerospace & Defense	16,080,024
	Air Freight & Logistics 0.1%	
4,000	Expeditors International of Washington Inc.	180,720
1,800	United Parcel Service, Inc., Class B	131,436
	Total Air Freight & Logistics	312,156
	Airlines 0.1%	
10,900	Southwest Airlines Co.	135,160
	Auto Components 0.8%	
6,400	Goodyear Tire & Rubber Company, (2)	165,120
60,900	Johnson Controls, Inc.	2,058,420
	Total Auto Components	2,223,540
	Automobiles 0.4%	

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11,300	Ford Motor Company, (2)	64,636
47,900	General Motors Corporation	912,495
	Total Automobiles	977,131

Beverages 4.6%

19,800	Brown-Forman Corporation	1,311,156
69,900	Coca-Cola Company	4,254,813
60,300	Coca-Cola Enterprises Inc.	1,459,260
39,200	Constellation Brands, Inc., Class A, (2)	692,664
9,400	Molson Coors Brewing Company, Class B	494,158
33,300	Pepsi Bottling Group, Inc.	1,129,203
45,300	PepsiCo, Inc.	3,270,660
	Total Beverages	12,611,914

Biotechnology 0.5%

2,000	Amgen Inc., (2)	83,560
4,200	Biogen Idec Inc., (2)	259,098
12,900	Celgene Corporation, (2)	790,641
1,700	Genzyme Corporation, (2)	126,718
1,500	Gilead Sciences, Inc., (2)	77,295
	Total Biotechnology	1,337,312

Building Products 0.0%

700	American Standard Companies Inc.	32,130
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Capital Markets 0.5%

7,800	Charles Schwab Corporation	146,874
400	Franklin Resources, Inc.	38,796
3,300	Goldman Sachs Group, Inc.	545,787
9,600	JPMorgan Chase & Co.	412,320
6,700	T. Rowe Price Group Inc.	335,000
	Total Capital Markets	1,478,777

Chemicals 1.4%

10,700	Air Products & Chemicals Inc.	984,400
7,600	Dow Chemical Company	280,060

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2,000	Ecolab Inc.	86,860
600	International Flavors & Fragrances Inc.	26,430
25,300	PPG Industries, Inc.	1,530,903
8,200	Praxair, Inc.	690,686
3,700	Sigma-Aldrich Corporation	220,705
	Total Chemicals	3,820,044

Commercial Banks 2.5%

94,100	Bank of America Corporation	3,567,331
15,400	BB&T Corporation	493,724
1,800	Comerica Incorporated	63,144
5,000	Fifth Third Bancorp.	104,600
5,000	M&T Bank Corporation	402,400
17,000	Marshall and Ilsley Corporation	394,400
7,900	Northern Trust Corporation	525,113
2,000	PNC Financial Services Group, Inc.	131,140
2,100	SunTrust Banks, Inc.	115,794
7,953	Toronto-Dominion Bank	487,894
22,800	Wells Fargo & Company	663,480
	Total Commercial Banks	6,949,020

Commercial Services & Supplies 0.1%

2,100	Cintas Corporation	59,934
1,700	Equifax Inc.	58,616
1,800	R.R. Donnelley & Sons Company	54,558
2,200	Waste Management, Inc.	73,832
	Total Commercial Services & Supplies	246,940

Communications Equipment 2.2%

12,500	Ciena Corporation, (2)	385,375
156,300	Cisco Systems, Inc., (2)	3,765,267
15,700	Corning Incorporated	377,428
54,100	Juniper Networks Inc., (2)	1,352,500
24,900	Motorola, Inc.	231,570
	Total Communications Equipment	6,112,140

Computers & Peripherals 4.5%

22,400	Apple, Inc., (2)	3,214,400
30,500	Dell Inc., (2)	607,560

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101,800	EMC Corporation, (2)	1,459,812
87,900	Hewlett-Packard Company	4,013,514
26,000	International Business Machines Corporation (IBM)	2,993,640
2,100	SanDisk Corporation, (2)	47,397
6,900	Teradata Corporation, (2)	152,214
	Total Computers & Peripherals	12,488,537
	Construction & Engineering 0.9%	
8,800	Fluor Corporation	1,242,208
16,100	Jacobs Engineering Group Inc., (2)	1,184,799
	Total Construction & Engineering	2,427,007
	Construction Materials 0.1%	
4,800	Vulcan Materials Company	318,720
	Consumer Finance 0.3%	
2,700	American Express Company	118,044
1,400	Capital One Financial Corporation	68,908
38,200	SLM Corporation, (2)	586,370
	Total Consumer Finance	773,322
	Containers & Packaging 0.1%	
4,400	Ball Corporation	202,136
	Diversified Consumer Services 0.5%	
26,500	Apollo Group, Inc., (2)	1,144,800
12,100	H & R Block Inc.	251,196
	Total Diversified Consumer Services	1,395,996
	Diversified Financial Services 1.6%	
103,900	Citigroup Inc.	2,225,538
600	CME Group, Inc.	281,460
1,600	Intercontinental Exchange Inc., (2)	208,800
38,200	Leucadia National Corporation	1,727,404

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200	New York Stock Exchange Euronext	12,342
	Total Diversified Financial Services	4,455,544
	Diversified Telecommunication Services 5.4%	
297,800	AT&T Inc.	11,405,740
600	CenturyTel, Inc.	19,944
19,000	Embarq Corporation	761,900
38,700	Sprint Nextel Corporation	258,903
70,800	Verizon Communications Inc.	2,580,660
1,500	Windstream Corporation	17,925
	Total Diversified Telecommunication Services	15,045,072
	Electric Utilities 4.8%	
4,800	Allegheny Energy, Inc.	242,400
9,500	Ameren Corporation	418,380
28,400	American Electric Power Company, Inc.	1,182,292
8,700	Edison International	426,474
26,600	Entergy Corporation	2,901,528
4,900	Exelon Corporation	398,223
17,800	FirstEnergy Corp.	1,221,436
49,800	FPL Group, Inc.	3,124,452
8,500	PG&E Corporation	312,970
69,000	PPL Corporation	3,168,480
	Total Electric Utilities	13,396,635
	Electrical Equipment 0.4%	
16,800	Cooper Industries, Ltd., Class A, (2)	674,520
9,500	Rockwell Automation, Inc.	545,490
	Total Electrical Equipment	1,220,010
	Electronic Equipment & Instruments 1.1%	
8,800	MEMC Electronic Materials, (2)	623,920
5,800	Molex Inc.	134,328
34,700	Thermo Fisher Scientific, Inc., (2)	1,972,348
6,700	Waters Corporation, (2)	373,190
	Total Electronic Equipment & Instruments	3,103,786

Energy Equipment & Services 3.2%

9,700	Baker Hughes Incorporated	664,450
6,200	Cooper Cameron Corporation, (2)	258,168
39,300	National-Oilwell Varco Inc., (2)	2,294,334
5,300	Noble Corporation	263,251
400	Rowan Companies Inc.	16,472
30,200	Schlumberger Limited	2,627,400
19,300	Smith International, Inc.	1,239,639
4,546	Transocean Inc., (2)	614,619
10,600	Weatherford International Ltd, (2)	768,182
	Total Energy Equipment & Services	8,746,515

Food & Staples Retailing 2.5%

43,200	CVS Caremark Corporation	1,750,032
89,800	Kroger Co.	2,280,920
35,100	Safeway Inc.	1,030,185
28,800	SUPERVALU INC.	863,424
4,600	Sysco Corporation	133,492
2,600	Wal-Mart Stores, Inc.	136,968
22,300	Whole Foods Market, Inc.	735,231
	Total Food & Staples Retailing	6,930,252

Food Products 1.7%

2,500	Archer-Daniels-Midland Company	102,900
1,600	ConAgra Foods, Inc.	38,320
500	Dean Foods Company, (2)	10,045
5,000	General Mills, Inc.	299,400
15,900	H.J. Heinz Company	746,823
19,600	Kellogg Company	1,030,176
11,400	Kraft Foods Inc.	353,514
7,100	Monsanto Company	791,650
49,000	Tyson Foods, Inc., Class A	781,550
7,000	Wm. Wrigley Jr. Company	439,880
	Total Food Products	4,594,258

Gas Utilities 0.2%

7,400	Questar Corporation	418,544
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Health Care Equipment & Supplies 2.3%

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7,900	Applera Corporation-Applied Biosystems Group	259,594
40,200	Baxter International Inc.	2,324,364
300	Becton, Dickinson and Company	25,755
600	C. R. Bard, Inc.	57,840
1,800	Cardinal Health, Inc.	94,518
2,700	Hospira Inc., (2)	115,479
900	Medtronic, Inc.	43,533
10,900	Patterson Companies Inc., (2)	395,670
39,300	Stryker Corporation	2,556,465
7,600	Zimmer Holdings, Inc., (2)	591,736

Total Health Care Equipment & Supplies 6,464,954

Health Care Providers & Services 2.9%

9,400	Aetna Inc.	395,646
52,200	CIGNA Corporation	2,117,754
4,100	Coventry Health Care, Inc., (2)	165,435
10,100	Express Scripts, Inc., (2)	649,632
100	McKesson HBOC Inc.	5,237
74,100	Medco Health Solutions, Inc., (2)	3,244,839
33,700	Quest Diagnostics Incorporated	1,525,599
500	UnitedHealth Group Incorporated	17,180

Total Health Care Providers & Services 8,121,322

Health Care Technology 0.1%

11,500	IMS Health Incorporated	241,615
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Hotels, Restaurants & Leisure 1.3%

55,400	McDonald's Corporation	3,089,658
4,900	Wyndham Worldwide Corporation	101,332
7,200	YUM! Brands, Inc.	267,912

Total Hotels, Restaurants & Leisure 3,458,902

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Household Durables 0.3%

2,300	Black & Decker Corporation	152,030
3,000	Centex Corporation	72,630
3,500	D.R. Horton, Inc.	55,125
2,200	Fortune Brands Inc.	152,900
1,000	Harman International Industries Inc.	43,540

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17,200	Pulte Corporation	250,260
2,600	Whirlpool Corporation	225,628
	Total Household Durables	952,113
Household Products 2.9%		
35,700	Colgate-Palmolive Company	2,781,387
1,800	Kimberly-Clark Corporation	116,190
74,600	Procter & Gamble Company	5,227,222
	Total Household Products	8,124,799
Independent Power Producers & Energy Traders 0.7%		
23,300	Constellation Energy Group	2,056,691
Industrial Conglomerates 4.4%		
17,400	3M Co.	1,377,210
262,100	General Electric Company	9,700,321
19,600	Textron Inc.	1,086,232
	Total Industrial Conglomerates	12,163,763
Insurance 2.7%		
11,000	AFLAC Incorporated	714,450
2,700	Allstate Corporation	129,762
14,400	American International Group, Inc.	622,800
1,400	Aon Corporation	56,280
3,200	Cincinnati Financial Corporation	121,728
91,300	Loews Corporation	3,672,086
21,900	MBIA Inc.	267,618
4,400	MetLife, Inc.	265,144
16,100	Progressive Corporation	258,727
5,700	Prudential Financial, Inc.	446,025
3,400	Travelers Companies, Inc.	162,690
27,400	Unum Group	603,074
3,700	XL Capital Ltd, Class A	109,335
	Total Insurance	7,429,719
Internet & Catalog Retail 1.2%		
41,000	Amazon.com, Inc., (2)	2,923,300

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20,500	Expedia, Inc., (2)	448,745
	Total Internet & Catalog Retail	3,372,045
	Internet Software & Services 0.6%	
3,600	Google Inc., Class A, (2)	1,585,692
	IT Services 0.2%	
10,900	Fidelity National Information Services	415,726
	Leisure Equipment & Products 0.1%	
6,400	Eastman Kodak Company	113,088
2,300	Hasbro, Inc.	64,170
9,300	Mattel, Inc.	185,070
	Total Leisure Equipment & Products	362,328
	Life Sciences Tools & Services 0.1%	
11,700	Perkinelmer Inc.	283,725
	Machinery 3.3%	
23,600	Caterpillar Inc.	1,847,644
32,500	Cummins Inc.	1,521,650
1,000	Danaher Corporation	76,030
9,300	Deere & Company	748,092
1,400	Dover Corporation	58,492
4,400	Eaton Corporation	350,548
7,900	Illinois Tool Works Inc.	381,017
38,900	Ingersoll Rand Company Limited, Class A	1,734,162
1,000	ITT Industries Inc.	51,810
2,600	Manitowoc Company Inc.	106,080
28,300	PACCAR Inc.	1,273,500
10,400	Pall Corporation	364,728
2,400	Parker Hannifin Corporation	166,248
7,600	Terex Corporation, (2)	475,000
	Total Machinery	9,155,001
	Media 2.1%	

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2,500	CBS Corporation, Class B	55,200
28,300	Clear Channel Communications, Inc.	826,926
82,300	Comcast Corporation, Class A	1,591,682
44,800	DIRECTV Group, Inc., (2)	1,110,592
1,700	E.W. Scripps Company, Class A	71,417
59,400	News Corporation, Class A	1,113,750
3,000	Omnicom Group Inc.	132,540
18,700	Walt Disney Company	586,806
400	Washington Post Company	264,600
	Total Media	5,753,513

Metals & Mining 0.7%

9,500	Alcoa Inc.	342,570
2,300	Allegheny Technologies, Inc.	164,128
5,900	CONSOL Energy Inc.	408,221
4,500	Freeport-McMoRan Copper & Gold, Inc.	432,990
5,500	United States Steel Corporation	697,785
	Total Metals & Mining	2,045,694

Multiline Retail 0.3%

1,700	Big Lots, Inc., (2)	37,910
900	Costco Wholesale Corporation	58,473
11,400	Kohl's Corporation, (2)	488,946
1,300	Sears Holding Corporation, (2)	132,717
3,900	Target Corporation	197,652
	Total Multiline Retail	915,698

Multi-Utilities 0.7%

14,100	Dynegy Inc., (2)	111,249
46,000	Public Service Enterprise Group Incorporated	1,848,740
1,000	Sempra Energy	53,280
	Total Multi-Utilities	2,013,269

Oil, Gas & Consumable Fuels 9.4%

10,200	Anadarko Petroleum Corporation	642,906
2,100	Apache Corporation	253,722
1,700	Chesapeake Energy Corporation	78,455
54,500	Chevron Corporation	4,652,120

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32,900	ConocoPhillips	2,507,309
800	Devon Energy Corporation	83,464
147,900	Exxon Mobil Corporation	12,509,382
600	Hess Corporation	52,908
31,200	Marathon Oil Corporation	1,422,720
10,600	Murphy Oil Corporation	870,684
17,600	Occidental Petroleum Corporation	1,287,792
1,000	Peabody Energy Corporation	51,000
700	Range Resources Corporation	44,415
6,800	Tesoro Petroleum Corporation	204,000
23,000	Valero Energy Corporation	1,129,530
1,700	Williams Companies, Inc.	56,066
3,950	XTO Energy, Inc.	244,347
	Total Oil, Gas & Consumable Fuels	26,090,820
Paper & Forest Products 0.2%		
3,300	International Paper Company	89,760
3,300	MeadWestvaco Corporation	89,826
3,700	Weyerhaeuser Company	240,648
	Total Paper & Forest Products	420,234
Personal Products 0.2%		
9,200	Avon Products, Inc.	363,768
3,800	Estee Lauder Companies Inc., Class A	174,230
	Total Personal Products	537,998
Pharmaceuticals 5.6%		
43,600	Abbott Laboratories	2,404,540
1,200	Allergan, Inc.	67,668
68,100	Bristol-Myers Squibb Company	1,450,530
15,300	Eli Lilly and Company	789,327
28,400	Johnson & Johnson	1,842,308
163,400	Merck & Co. Inc.	6,201,030
46,000	Pfizer Inc.	962,780
103,800	Schering-Plough Corporation	1,495,758
6,600	Watson Pharmaceuticals Inc., (2)	193,512
	Total Pharmaceuticals	15,407,453
Real Estate 0.0%		

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3,300	Plum Creek Timber Company	134,310
Road & Rail 0.3%		
5,300	CSX Corporation	297,171
4,000	Union Pacific Corporation	501,520
	Total Road & Rail	798,691
Semiconductors & Equipment 1.6%		
40,400	Advanced Micro Devices, Inc., (2)	237,956
7,200	Altera Corporation	132,696
17,000	Analog Devices, Inc.	501,840
3,500	Applied Materials, Inc.	68,285
67,700	Intel Corporation	1,433,886
1,500	KLA-Tencor Corporation	55,650
14,000	Linear Technology Corporation	429,660
3,600	Microchip Technology Incorporated	117,828
60,700	Micron Technology, Inc., (2)	362,379
7,200	National Semiconductor Corporation	131,904
6,500	NVIDIA Corporation, (2)	128,635
26,800	Texas Instruments Incorporated	757,636
	Total Semiconductors & Equipment	4,358,355
Software 2.1%		
1,600	Autodesk, Inc., (2)	50,368
7,500	Citrix Systems, (2)	219,975
5,700	Compuware Corporation, (2)	41,838
1,600	Electronic Arts Inc. (EA), (2)	79,872
7,500	Intuit Inc., (2)	202,575
92,100	Microsoft Corporation	2,613,798
92,400	Oracle Corporation, (2)	1,807,344
30,600	Symantec Corporation, (2)	508,572
9,500	VeriSign, Inc., (2)	315,780
	Total Software	5,840,122
Specialty Retail 1.1%		
2,300	Abercrombie & Fitch Co., Class A	168,222
4,000	AutoNation Inc., (2)	59,880
900	AutoZone, Inc., (2)	102,447
5,200	Best Buy Co., Inc.	215,592
18,100	GameStop Corporation, (2)	935,951

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7,100	Gap, Inc.	139,728
5,400	Office Depot, Inc., (2)	59,670
9,900	RadioShack Corporation	160,875
100	Sherwin-Williams Company	5,104
17,600	Tiffany & Co.	736,384
10,200	TJX Companies, Inc.	337,314
	Total Specialty Retail	2,921,167
	Textiles, Apparel & Luxury Goods 1.1%	
26,100	Coach, Inc., (2)	786,915
16,100	Nike, Inc., Class B	1,094,800
500	Polo Ralph Lauren Corporation	29,145
14,700	VF Corporation	1,139,397
	Total Textiles, Apparel & Luxury Goods	3,050,257
	Thrifts & Mortgage Finance 0.6%	
8,800	Federal Home Loan Mortgage Corporation	222,816
18,600	Federal National Mortgage Association	489,552
25,400	Hudson City Bancorp, Inc.	449,072
40,300	Washington Mutual, Inc.	415,090
	Total Thrifts & Mortgage Finance	1,576,530
	Tobacco 0.2%	
8,100	Altria Group, Inc.	179,820
8,100	Philip Morris International, (2)	409,698
	Total Tobacco	589,518
	Trading Companies & Distributors 0.0%	
1,700	W.W. Grainger, Inc.	129,863
	Wireless Telecommunication Services 0.0%	
2,000	American Tower Corporation, (2)	78,420
	Total Common Stocks (cost \$277,623,172)	264,682,929

Principal

Amount (000)	Description (1)	Coupon	Maturity	Value
	Short-Term Investments	6.1%		
	U.S. Government and Agency Obligations	2.1%		
\$ 6,000	U.S. Treasury Bills	0.000%	4/17/08	\$ 5,994,347
	Repurchase Agreements	4.0%		
11,062	Repurchase Agreement with State Street Bank, dated 3/31/08, repurchase price \$11,061,990, collateralized by \$9,745,000 U.S. Treasury Bonds, 5.375%, due 2/15/31, value \$11,285,570	1.100%	4/01/08	11,061,652
\$ 17,062	Total Short-Term Investments (cost \$17,055,999)			17,055,999
	Total Investments (cost \$294,679,171)			281,738,928
	101.7%			

Contracts	Type	Notional Amount (3)	Expiration Date	Strike Price	Value
	Call Options Written				(0.1)%
(694,700)	Custom Basket 1 NASDAQ	\$ (69,470,038)	4/10/08	\$ 100.0	\$ (351,796)
(689,327)	Custom Basket 3 NASDAQ	(68,932,699)	4/03/08	100.0	(18,888)
(1,384,027)	Total Call Options Written (premiums received \$4,014,378)	(138,402,737)			(370,684)

Futures Contracts outstanding at March 31, 2008:

Type	Contract Position	Number of Contracts	Contract Expiration	Value at March 31, 2008	Unrealized Appreciation (Depreciation)
S&P 500 Index	Long	185	6/08	\$12,247,000	\$(18,593)

(1) All percentages shown in the

Portfolio of Investments are based on net assets.

- (2) Non-income producing.
- (3) For disclosure purposes, Notional Amount is calculated by multiplying the number of Contracts by the Strike Price.

Fair Value Measurements

During the current fiscal period, the Fund adopted the provisions of Statement of Financial Accounting Standards No. 157, Fair Value Measurements (SFAS 157). SFAS 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, 2008:

	Level 1	Level 2	Level 3	Total
Investments	\$281,329,230	\$ 409,698	\$ -	\$281,738,928
Derivatives*	(18,593)	-	-	(18,593)
Call options written	-	(370,684)	-	(370,684)
Total	\$281,310,637	\$ 39,014	\$ -	\$281,349,651

* 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 the recognition of unrealized gain or loss for tax (mark-to-market) on futures contracts and timing differences in recognizing certain gains and losses on investment transactions. 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

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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, 2008, the cost of investments was \$295,287,890.

Gross unrealized appreciation and gross unrealized depreciation of investments at March 31, 2008, were as follows:

Gross unrealized:	
Appreciation	\$ 8,517,644
Depreciation	(22,066,606)
Net unrealized appreciation (depreciation) of investments	\$ (13,548,962)

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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.

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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, 2008

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, 2008

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

Date May 30, 2008

* Print the name and title of each signing officer under his or her signature.