Nuveen Core Equity Alpha Fund Form N-Q November 28, 2008

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549 FORM N-O

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: 9/30/2008

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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Item 1. Schedule of Investments Portfolio of Investments (Unaudited) Nuveen Core Equity Alpha Fund (JCE)

Automobiles 0.2%

September 30, 2008

Shares	Description (1)	Value
	Common Stocks 95.9%	
	Aerospace & Defense 4.5%	
27,200 3,900	Boeing Company General Dynamics Corporation Goodrich Corporation Honeywell International Inc. L-3 Communications Holdings, Inc. Lockheed Martin Corporation Northrop Grumman Corporation	\$ 728,345 920,250 965,120 1,819,890 481,768 2,983,024 236,106
15,000 11,900 15,200	Precision Castparts Corporation Raytheon Company United Technologies Corporation	1,181,700 636,769 912,912
	Total Aerospace & Defense	10,865,884
	Air Freight & Logistics 0.4%	
8,800 8,700 3,600	C.H. Robinson Worldwide, Inc. Expeditors International of Washington Inc. United Parcel Service, Inc., Class B	448,448 303,108 226,404
	Total Air Freight & Logistics	977,960
	Airlines 0.0%	
1,300	Southwest Airlines Co.	18,863
	Auto Components 0.8%	
26,000 47,500	Goodyear Tire & Rubber Company, (2) Johnson Controls, Inc.	398,060 1,440,675
	Total Auto Components	1,838,735

41,900 300	General Motors Corporation, (2) Harley-Davidson, Inc.	395,955 11,190
	Total Automobiles	407,145
	Beverages 4.0%	
10,200 84,700 31,600 5,000 8,400 9,200 44,700	Brown-Forman Corporation Coca-Cola Company Coca-Cola Enterprises Inc. Constellation Brands, Inc., Class A, (2) Molson Coors Brewing Company, Class B Pepsi Bottling Group, Inc. PepsiCo, Inc. Total Beverages	732,462 4,478,936 529,932 107,300 392,700 268,364 3,185,769 9,695,463
	Biotechnology 1.0%	
3,500 5,000 8,200 9,100 13,400	Amgen Inc., (2) Biogen Idec Inc., (2) Celgene Corporation, (2) Genzyme Corporation, (2) Gilead Sciences, Inc., (2)	207,445 251,450 518,896 736,099 610,772
	Total Biotechnology	2,324,662
	Building Products 0.1%	
2,700	Fastenal Company	133,353
	Capital Markets 1.9%	
5,000 7,600 19,100 19,000 4,600 9,000 22,705 3,800 10,300 13,300	American Capital Limited Bank of New York Company, Inc. Charles Schwab Corporation Federated Investors Inc. Goldman Sachs Group, Inc. Invesco LTD JPMorgan Chase & Co. Morgan Stanley State Street Corporation T. Rowe Price Group Inc.	127,550 247,608 496,600 548,150 588,800 188,820 1,060,324 87,400 585,864 714,343
	Total Capital Markets	4,645,459

Chemicals 1.6%

10,300	Air Products & Chemicals Inc.	705,447
2,000	CF Industries Holdings, Inc.	182,920
1,700	Dow Chemical Company	54,026
-	E.I. Du Pont de Nemours and Company	290,160
1,300	* •	71,578
-	Eastman Chemical Company	
12,200	Ecolab Inc.	591,944
2,500	PPG Industries, Inc.	145,800
10,600	Praxair, Inc.	760,444
600	Rohm and Haas Company	42,000
19,000	Sigma-Aldrich Corporation	995,980
	Total Chemicals	3,840,299
	Commercial Banks 3.6%	
07.000	Pank of America Corneration	2 426 500
97,900	Bank of America Corporation	3,426,500
23,000	BB&T Corporation	869,400
5,200	M&T Bank Corporation	464,100
3,500	Marshall and Ilsley Corporation	70,525
16,100	Northern Trust Corporation	1,162,420
5,000	PNC Financial Services Group, Inc.	373,500
10,900	Regions Financial Corporation	104,640
30,300	U.S. Bancorp	1,091,406
5,200	Wachovia Corporation	18,200
34,200	Wells Fargo & Company	1,283,526
	Total Commercial Banks	8,864,217
	Commercial Services & Supplies 0.1%	
	Commercial Services & Supplies 0.1 70	
5,100	Allied Waste Industries, Inc., (2)	56,661
4,300	Equifax Inc.	148,135
2,800	Robert Half International Inc.	69,300
_,000	-100 010 1101 110 0 1100	05,200
	Total Commercial Services & Supplies	274,096
	ri	, , , , , , , , , , , , , , , , , , , ,
	Communications Equipment 1.9%	
7.600	Ciara Camanatian (2)	5 7.700
7,600	Ciena Corporation, (2)	76,608
121,900	Cisco Systems, Inc., (2)	2,750,064
45,500	Corning Incorporated	711,620
2,500	Harris Corporation	115,500
20,500	Juniper Networks Inc., (2)	431,935
1,000	Motorola, Inc.	7,140
13,200	QUALCOMM Inc.	567,204

	Total Communications Equipment	4,660,071
	Computers & Peripherals 3.8%	
16,700	Apple, Inc., (2)	1,898,122
2,000	Dell Inc., (2)	32,960
47,600	EMC Corporation, (2)	569,296
83,500	Hewlett-Packard Company	3,861,040
23,200	International Business Machines Corporation (IBM)	2,713,472
3,100	Lexmark International, Inc., Class A, (2)	100,967
10,300	Network Appliance Inc., (2)	187,769
·		
	Total Computers & Peripherals	9,363,626
	Construction & Engineering 0.8%	
17 400	Fluor Corporation	969,180
17,400 20,100	Fluor Corporation Jacobs Engineering Group Inc., (2)	1,091,631
20,100	The state of the s	1,001,001
	Total Construction & Engineering	2,060,811
	Construction Materials 0.00	
	Construction Materials 0.0%	
800	Vulcan Materials Company	59,600
	Consumer Finance 0.5%	
1,400	Capital One Financial Corporation	71,400
1,400 4,500	Capital One Financial Corporation MasterCard, Inc.	71,400 797,985
4,500	•	
4,500	MasterCard, Inc. Western Union Company	797,985 399,654
4,500	MasterCard, Inc.	797,985
4,500	MasterCard, Inc. Western Union Company	797,985 399,654
4,500 16,200	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3%	797,985 399,654 1,269,039
4,500 16,200 1,200	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3% Ball Corporation	797,985 399,654 1,269,039
4,500 16,200	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3%	797,985 399,654 1,269,039
4,500 16,200 1,200 1,800	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3% Ball Corporation Bemis Company, Inc.	797,985 399,654 1,269,039 47,388 47,178
1,200 1,800 2,300	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3% Ball Corporation Bemis Company, Inc. Pactiv Corporation, (2) Sealed Air Corporation	797,985 399,654 1,269,039 47,388 47,178 57,109 499,173
1,200 1,800 2,300	MasterCard, Inc. Western Union Company Total Consumer Finance Containers & Packaging 0.3% Ball Corporation Bemis Company, Inc. Pactiv Corporation, (2)	797,985 399,654 1,269,039 47,388 47,178 57,109

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Diversified Consumer Services 0.5%

	Apollo Group, Inc., (2) H & R Block Inc.	628,580 539,175
	Total Diversified Consumer Services	1,167,755
	Diversified Financial Services 1.1%	
3,200 800 1,000 39,900	CIT Group Inc. Citigroup Inc. CME Group, Inc. Intercontinental Exchange Inc., (2) Leucadia National Corporation Moody s Corporation New York Stock Exchange Euronext Total Diversified Financial Services	40,368 65,632 297,208 80,680 1,813,056 261,800 188,064
	Diversified Telecommunication Services 3.7%	
	AT&T Inc. Verizon Communications Inc.	7,683,584 1,363,825
	Total Diversified Telecommunication Services	9,047,409
	Electric Utilities 3.9%	
9,900	Allegheny Energy, Inc. Ameren Corporation American Electric Power Company, Inc. Edison International Entergy Corporation Exelon Corporation FirstEnergy Corp. FPL Group, Inc. PG&E Corporation Pinnacle West Capital Corporation PPL Corporation Southern Company TECO Energy, Inc. Total Electric Utilities	80,894 386,397 614,698 91,770 1,860,309 87,668 1,172,325 2,394,280 37,450 182,373 1,987,974 512,584 119,548
	Total Electric Othlities	9,328,270

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Electrical Equipment 0.1%

8,200	Emerson Electric Co.	334,478
400	Rockwell Automation, Inc.	14,936
	Total Electrical Equipment	349,414
	Electronic Equipment & Instruments 1.0%	
	Electronic Equipment & Instruments 1.0%	
16,300	MEMC Electronic Materials, (2)	460,638
3,300	Molex Inc.	74,085
26,300	Thermo Fisher Scientific, Inc., (2)	1,446,500
10,800	Tyco Electronics, Limited	298,728
	Waters Corporation, (2)	40,726
	Total Electronic Equipment & Instruments	2,320,677
	Energy Equipment & Services 2.5%	
	ον 1 1	
17,500	Anadarko Petroleum Corporation	848,925
400	Baker Hughes Incorporated	24,216
	BJ Services Company	89,911
15,700	Cabot Oil & Gas Corporation	567,398
1,000		38,540
	ENSCO International Incorporated	51,867
	Halliburton Company	38,868
	Nabors Industries Limited, (2)	196,868
19,000	National-Oilwell Varco Inc., (2)	954,370
1,200	Noble Corporation	52,680
18,700	Schlumberger Limited	1,460,283
10,000	Smith International, Inc.	586,400
5,946	Transocean Inc., (2)	653,109
21,400	Weatherford International Ltd, (2)	537,996
	Total Energy Equipment & Services	6,101,431
	Total Zhongy Zquirphionic de Services	0,202,102
	F 10.6. 1 P 1 W 246	
	Food & Staples Retailing 2.4%	
6,100	Costco Wholesale Corporation	396,073
38,200	CVS Caremark Corporation	1,285,812
59,100	Kroger Co.	1,624,068
20,000	Safeway Inc.	474,400
1,200	SUPERVALU INC.	26,040
2,600	Sysco Corporation	80,158
23,900	Wal-Mart Stores, Inc.	1,431,371
28,600	Whole Foods Market, Inc., (2)	572,858
	Total Food & Stanley Datailing	5 000 700
	Total Food & Staples Retailing	5,890,780

Food Products 1.7%

Archer-Daniels-Midland Company General Mills, Inc. H.J. Heinz Company Kellogg Company Kraft Foods Inc. Monsanto Company Tyson Foods, Inc., Class A Wm. Wrigley Jr. Company Total Food Products	385,616 151,184 524,685 583,440 294,750 1,385,720 71,640 738,420
Gas Utilities 0.1%	
Questar Corporation	298,716
Health Care Equipment & Supplies 3.1%	
	671,300 2,021,404 481,560 344,787 379,480 327,936 156,620 289,176 185,501 52,188 1,675,870 742,690 213,048 7,541,560
Health Care Providers & Services 2.2%	
Aetna Inc. CIGNA Corporation Coventry Health Care, Inc., (2) Davita Inc., (2) Express Scripts, Inc., (2) Humana Inc., (2) Medco Health Solutions, Inc., (2) Quest Diagnostics Incorporated Tenet Healthcare Corporation, (2)	162,495 1,121,340 16,275 68,412 863,694 45,320 2,245,500 397,859 408,480
	General Mills, Inc. H.J. Heinz Company Kellogg Company Kraft Foods Inc. Monsanto Company Tyson Foods, Inc., Class A Wm. Wrigley Jr. Company Total Food Products Gas Utilities 0.1% Questar Corporation Health Care Equipment & Supplies 3.1% Applera Corporation-Applied Biosystems Baxter International Inc. Becton, Dickinson and Company Boston Scientific Corporation, (2) C. R. Bard, Inc. Covidien Limited Hospira Inc., (2) Intuitive Surgical, Inc., (2) Patterson Companies Inc., (2) Saint Jude Medical Inc., (2) Stryker Corporation Varian Medical Systems, Inc., (2) Zimmer Holdings, Inc., (2) Total Health Care Equipment & Supplies Health Care Providers & Services 2.2% Aetna Inc. CIGNA Corporation Coventry Health Care, Inc., (2) Bayress Scripts, Inc., (2) Humana Inc., (2) Humana Inc., (2) Hudeco Health Solutions, Inc., (2) Quest Diagnostics Incorporated

Hotels, Restaurants & Leisure 1.8%

7,800 19,400 2,100 46,100 7,700 16,200	Carnival Corporation International Game Technology Marriott International, Inc., Class A McDonald s Corporation Starwood Hotels & Resorts Worldwide, Inc. YUM! Brands, Inc. Total Hotels, Restaurants & Leisure	275,730 333,292 54,789 2,844,370 216,678 528,282 4,253,141
	Household Durables 1.1%	
24,600 52,800 16,600 4,400 15,700 36,700 6,300 200	Centex Corporation D.R. Horton, Inc. KB Home Leggett and Platt Inc. Lennar Corporation, Class A Pulte Corporation Snap-on Incorporated Whirlpool Corporation	398,520 687,456 326,688 95,876 238,483 512,699 331,758 15,858
	Total Household Durables	2,607,338
	Household Products 3.2%	
33,600 75,600	Colgate-Palmolive Company Procter & Gamble Company	2,531,760 5,268,564
	Total Household Products	7,800,324
	Independent Power Producers & Energy Traders 0.2%	
20,000	Constellation Energy Group	486,000
	Industrial Conglomerates 3.5%	
9,600 278,800 18,400 7,000	3M Co. General Electric Company Textron Inc. Tyco International Ltd.	655,776 7,109,400 538,752 245,140
	Total Industrial Conglomerates	8,549,068

Insurance 3.3%

4,100 30,800 2,800 14,000 2,400 4,700 68,300 10,400 3,100	AFLAC Incorporated Allstate Corporation American International Group, Inc., (2) Aon Corporation Assurant Inc. Chubb Corporation Cincinnati Financial Corporation Loews Corporation Marsh & McLennan Companies, Inc. MetLife, Inc. Principal Financial Group, Inc. Progressive Corporation Prudential Financial, Inc. Torchmark Corporation Travelers Companies, Inc. Unum Group Total Insurance	1,410,000 189,092 102,564 125,888 770,000 131,760 133,668 2,697,167 330,304 173,600 500,135 297,540 266,400 101,660 158,200 599,890
	Internet & Catalog Retail 0.7%	
22,900 9,600	Amazon.com, Inc., (2) Expedia, Inc., (2)	1,666,204 145,056
	Total Internet & Catalog Retail	1,811,260
	Internet Software & Services 0.5%	
2,800 11,700	Google Inc., Class A, (2) Yahoo! Inc., (2)	1,121,456 202,410
	Total Internet Software & Services	1,323,866
	IT Services 0.3%	
9,700 7,600 3,600	Affiliated Computer Services Inc., (2) Convergys Corporation, (2) Fiserv, Inc., (2)	491,111 112,328 170,352
	Total IT Services	773,791
	Leisure Equipment & Products 0.3%	
16,100 6,000	Hasbro, Inc. Mattel, Inc.	558,992 108,240

	Total Leisure Equipment & Products	667,232
	Life Sciences Tools & Services 0.0%	
1,400	Perkinelmer Inc.	34,958
	Machinery 1.6%	
16,100 15,300 3,300 17,900 2,700 14,461 3,800 11,100 2,300 2,400	Caterpillar Inc. Cummins Inc. Danaher Corporation Deere & Company Illinois Tool Works Inc. Ingersoll Rand Company Limited, Class A Manitowoc Company Inc. PACCAR Inc. Parker Hannifin Corporation Terex Corporation, (2) Total Machinery	959,560 668,916 229,020 886,050 120,015 450,749 59,090 423,909 121,900 73,248
	Media 1.5%	
31,600 44,800 19,300 3,800 4,100 46,100 15,100 8,200 5,100 100	Comcast Corporation, Class A DIRECTV Group, Inc., (2) Interpublic Group Companies, Inc., (2) McGraw-Hill Companies, Inc. New York Times, Class A News Corporation, Class A Scripps Networks Interactive, Class A Shares Viacom Inc., Class B, (2) Walt Disney Company Washington Post Company Total Media	620,308 1,172,416 149,575 120,118 58,589 552,739 548,281 203,688 156,519 55,676
	Metals & Mining 1.1%	
11,400 1,200 19,200 5,200 6,000 10,200 6,400	AK Steel Holding Corporation Alcoa Inc. CONSOL Energy Inc. Freeport-McMoRan Copper & Gold, Inc. Newmont Mining Corporation Nucor Corporation United States Steel Corporation	295,488 27,096 881,088 295,620 232,560 402,900 496,704

	Total Metals & Mining	2,631,456
	Multiline Retail 0.1%	
3,700	Big Lots, Inc., (2)	102,971
	Kohl s Corporation, (2)	59,904
3,100	Target Corporation	152,055
	Total Multiline Retail	314,930
	Multi-Utilities 0.6%	
300	Dominion Resources, Inc.	12,834
	NiSource Inc.	59,040
	Public Service Enterprise Group Incorporated	1,111,581
1,000	1 65	50,470
12,600	Xcel Energy, Inc.	251,874
	Total Multi-Utilities	1,485,799
	Oil, Gas & Consumable Fuels 11.0%	
6,700	Apache Corporation	698,676
8,600	Chesapeake Energy Corporation	308,396
48,200	Chevron Corporation	3,975,536
28,300	ConocoPhillips	2,072,975
5,700		519,840
	EOG Resources, Inc.	787,248
	Exxon Mobil Corporation	11,812,086
	Hess Corporation	746,928
21,600	Marathon Oil Corporation	861,192
13,400	Massey Energy Company	477,978
14,800	Murphy Oil Corporation	949,272
16,800	Occidental Petroleum Corporation	1,183,560
5,900 2,500	Peabody Energy Corporation Pioneer Natural Resources Company	265,500 130,700
18,300	Range Resources Corporation	784,521
20,500	Southwestern Energy Company, (2)	626,070
4,600	Valero Energy Corporation	139,380
3,400	Williams Companies, Inc.	80,410
8,450	XTO Energy, Inc.	393,094
	Total Oil, Gas & Consumable Fuels	26,813,362
	Paper & Forest Products 0.1%	
3,700	Weyerhaeuser Company	224,146

Personal Products 0.1%

5,400 1,200	Avon Products, Inc.	224,478
1,200	Estee Lauder Companies Inc., Class A	59,892
	Total Personal Products	284,370
	Pharmaceuticals 4.4%	
31,600	Abbott Laboratories	1,819,528
4,900	Allergan, Inc.	252,350
1,500	Barr Laboratories Inc., (2)	97,950
16,000		333,600
6,600		290,598
7,800	Forest Laboratories, Inc., (2)	220,584
35,700	Johnson & Johnson Wing Pharmacourticals Inc. (2)	2,473,296
14,300 131,100	King Pharmaceuticals Inc., (2) Merck & Co. Inc.	136,994 4,137,516
7,300	Mylan Laboratories Inc., (2)	83,366
40,200	Pfizer Inc.	741,288
4,300	Schering-Plough Corporation	79,421
2,500	Watson Pharmaceuticals Inc., (2)	71,250
1,300	Wyeth	48,022
	Total Pharmaceuticals	10,785,763
	Real Estate 2.5%	
15,573	Apartment Investment & Management	545,366
	Company, Class A	
700	AvalonBay Communities, Inc.	68,894
5,000	Boston Properties, Inc.	468,300
2,000	Developers Diversified Realty Corporation	63,380
16,500	Equity Residential	732,765
31,500	Health Care Property Investors Inc.	1,264,095
7,700	Kimco Realty Corporation Plum Creek Timber Company	284,438 393,894
	ProLogis	326,033
12,400	· ·	1,227,724
6,200	Simon Property Group, Inc.	601,400
	Total Real Estate	5,976,289
	Total Real Estate Real Estate Management & Development 0.1%	5,976,289
9,300		5,976,289 124,341

Road & Rail 1.5%

9,200 17,000 9,200 9,400 10,400	Burlington Northern Santa Fe Corporation CSX Corporation Norfolk Southern Corporation Ryder System, Inc. Union Pacific Corporation	850,356 927,690 609,132 582,800 740,064
	Total Road & Rail	3,710,042
	Semiconductors & Equipment 1.2%	
9,300	Advanced Micro Devices, Inc., (2)	48,825
2,300	Analog Devices, Inc.	60,605
6,700	Applied Materials, Inc.	101,371
68,000	Intel Corporation	1,273,640
100	KLA-Tencor Corporation	3,165
1,000	Linear Technology Corporation	30,660
46,200	LSI Logic Corporation, (2)	247,632
4,600	Microchip Technology Incorporated	135,378
15,500	Micron Technology, Inc., (2)	62,775
24,300	QLogic Corporation, (2)	373,248
19,500	Teradyne Inc., (2)	152,295
11,700	Texas Instruments Incorporated	251,550
6,700	Xilinx, Inc.	157,115
	Total Semiconductors & Equipment	2,898,259
	Software 2.8%	
1,300	Adobe Systems Incorporated, (2)	51,311
11,200	Akamai Technologies, Inc., (2)	195,328
14,600	BMC Software, Inc., (2)	417,998
2,500	CA Inc.	49,900
5,100	Compuware Corporation, (2)	49,419
2,900	Electronic Arts Inc. (EA), (2)	107,271
12,000	Intuit Inc., (2)	379,320
99,700	Microsoft Corporation	2,660,993
75,300	Oracle Corporation, (2)	1,529,343
3,600	Salesforce.com, Inc., (2)	174,240
40,400	Symantec Corporation, (2)	791,032
18,800	VeriSign, Inc., (2)	490,304
	Total Software	6,896,459

Specialty Retail 2.0%

8,700 9,800 2,400 7,400 11,500 22,400 32,800 7,800 7,600 9,000 25,400 8,000 26,800	Abercrombie & Fitch Co., Class A AutoNation Inc., (2) AutoZone, Inc., (2) Bed Bath and Beyond Inc., (2) Best Buy Co., Inc. GameStop Corporation, (2) Gap, Inc. Home Depot, Inc. Lowe s Companies, Inc. Office Depot, Inc., (2) Staples, Inc. Tiffany & Co. TJX Companies, Inc. Total Specialty Retail	343,215 110,152 296,016 232,434 431,250 766,304 583,184 201,942 180,044 52,380 571,500 284,160 817,936
	Textiles, Apparel & Luxury Goods 1.1%	
11,800 6,400 24,300 900 7,400	Coach, Inc., (2) Jones Apparel Group, Inc. Nike, Inc., Class B Polo Ralph Lauren Corporation VF Corporation	295,472 118,464 1,625,670 59,976 572,094
	Total Textiles, Apparel & Luxury Goods	2,671,676
	Thrifts & Mortgage Finance 0.8%	
99,800 18,500	Hudson City Bancorp, Inc. Washington Mutual, Inc., (2)	1,841,310 1,517
	Total Thrifts & Mortgage Finance	1,842,827
	Tobacco 0.7%	
33,700 800 17,900 1,000	Altria Group, Inc. Lorillard Inc. Philip Morris International UST Inc.	668,608 56,920 860,990 66,540
	Total Tobacco	1,653,058
	Trading Companies & Distributors 0.0%	
500	W.W. Grainger, Inc.	43,485

Wireless Telecommunication Services 0.0%

2,000	American Tower Corporation, (2)				71,940
	Total Common Stocks (cost \$258,164,478)			233,6	31,712
Principal Amount (000)	Description (1)	Coupon	Maturity	Rating (3)	Value
	Short-Term Investments 6.6%				
	U.S. Government and Agency Obligations	2.5%			
\$ 6,000	U.S. Treasury Bills (4)	0.000%	10/16/08	Aaa \$ 5,9	96,535
	Repurchase Agreements 4.1%				
10,014	Repurchase Agreement with State Street Bank, dated 9/30/08, repurchase price \$1,013,690, collateralized by \$10,220,000 U.S. Treasury Bills, 0.000%, due 12/18/08, value \$10,214,890	0.100%	10/01/08	N/A 10,0	13,662
\$ 16,014	Total Short-Term Investments (cost \$16,010,197)			16,0	10,197
	Total Investments (cost \$274,174,675) 102.5%			249,6	41,909
Number of Contracts	Туре	Notional Amount (5)	Expiration Date	Strike Price	Value
	Call Options Written (0.8)%				
	Custom Basket 9 NASDAQ Custom Basket 4 NASDAQ	\$ (69,433,527) (65,864,621)	10/18/08 10/18/08	-	34,323)
(1,352,981)	Total Call Options Written (premiums received \$3,904,763)	(135,298,148)		(2,0	68,604)
	Other Assets Less Liabilities (1.7)%			(4,0	80,307)
	Net Assets 100%			\$ 243,4	92,998

Futures Contracts Outstanding at September 30, 2008:

					Unreali	zed	
	N	umber					
	Contract	of	Contract		Value at Appreciat	ion	
				,	September 30,		
Type	Position Contracts Expiration			- ·	2008(Depreciation)		
S&P 500 Index	Long	150	12/08	\$	8,767,500 \$ 43,	050	

- (1) All percentages shown in Portfolio of Investments are based on net assets.
- (2) Non-income producing.
- (3) Rating 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) Portion of investment has been pledged to collateralize the net payment obligations under call options written.
- (5) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by the Strike Price.

N/A Not applicable/not available.

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 September 30, 2008:

	Level				
	Level 1	Level 2	3	Total	
Investments	\$ 249,641,909	\$	\$	\$ 249,641,909	
Derivatives*	43,050			43,050	
Call options written		(2,068,604)		(2,068,604)	
Total	\$ 249,684,959	\$ (2,068,604)	\$	\$ 247,616,355	

* 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 basis treatment; temporary differences do not require reclassification. Temporary and permanent differences do not impact the net asset value of the Fund.

At September 30, 2008, the cost of investments was \$274,783,394.

Gross unrealized appreciation and gross unrealized depreciation of investments at September 30, 2008, were as follows:

Gross unrealized:

Appreciation \$ 8,711,313 Depreciation (33,852,798)

Net unrealized appreciation (depreciation) of investments \$ (25,141,485)

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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 November 28, 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 November 28, 2008

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

Stephen D. Foy

Vice President and Controller (principal financial

officer)

Date November 28, 2008

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