Nuveen Core Equity Alpha Fund Form N-Q November 29, 2010

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: 9/30/2010

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, 2010

Shares	Description (1)	Value
	Common Stocks 98.8% Aerospace & Defense 4.1%	
36,400 5,600 600 13,300 27,100 12,900 2,300 16,100 8,200	Boeing Company General Dynamics Corporation Goodrich Corporation L-3 Communications Holdings, Inc. Northrop Grumman Corporation Precision Castparts Corporation Raytheon Company Rockwell Collins, Inc. United Technologies Corporation Total Aerospace & Defense	\$ 2,422,056 351,736 44,238 961,191 1,643,073 1,642,815 105,133 937,825 584,086 8,692,153
700 15,300	Air Freight & Logistics 0.6% Expeditors International of Washington, Inc. FedEx Corporation Total Air Freight & Logistics	32,361 1,308,150 1,340,511
147,900 39,400	Airlines 0.9% Southwest Airlines Co. Automobiles 0.2% Ford Motor Company, (2)	1,933,053 482,256
3,000 1,400 21,300 51,000	Brown-Forman Corporation Coca-Cola Company Coca-Cola Enterprises Inc. Dr. Pepper Snapple Group	184,920 81,928 660,300 1,811,520

800	Molson Coors Brewing Company, Class B	37,776
	Total Beverages	2,776,444
	Total Be verages	2,770,111
	Biotechnology 0.2%	
1,600	Amgen Inc., (2)	88,176
1,500	Biogen Idec Inc., (2)	84,180
800	Celgene Corporation, (2)	46,088
500	Cephalon, Inc., (2)	31,220
1,500	Genzyme Corporation, (2)	106,185
	Total Biotechnology	355,849
	Capital Markets 1.5%	
14,100	Ameriprise Financial, Inc.	667,353
5,500	Bank of New York Company, Inc.	143,715
21,700	Franklin Resources, Inc.	2,319,730
1,300	Invesco LTD	27,599
	Total Capital Markets	3,158,397
	Chemicals 1.3%	
8 000		543 600
8,000 3,700	Airgas, Inc.	543,600 165,094
3,700	Airgas, Inc. E.I. Du Pont de Nemours and Company	165,094
	Airgas, Inc.	· · · · · · · · · · · · · · · · · · ·
3,700 3,000 800 21,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc.	165,094 222,000 40,592 1,023,772
3,700 3,000 800	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc.	165,094 222,000 40,592
3,700 3,000 800 21,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc.	165,094 222,000 40,592 1,023,772
3,700 3,000 800 21,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company	165,094 222,000 40,592 1,023,772 803,998
3,700 3,000 800 21,100 10,700	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2%	165,094 222,000 40,592 1,023,772 803,998 2,799,056
3,700 3,000 800 21,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation	165,094 222,000 40,592 1,023,772 803,998 2,799,056
3,700 3,000 800 21,100 10,700	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2%	165,094 222,000 40,592 1,023,772 803,998 2,799,056
3,700 3,000 800 21,100 10,700 22,500 21,400	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc.	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100 2,800	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc. KeyCorp.	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677 22,288
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100 2,800 13,000	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc. KeyCorp. M&T Bank Corporation	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677 22,288 1,063,530
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100 2,800 13,000 4,700	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc. KeyCorp. M&T Bank Corporation PNC Financial Services Group, Inc.	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677 22,288 1,063,530 243,977
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100 2,800 13,000 4,700 61,100	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc. KeyCorp. M&T Bank Corporation PNC Financial Services Group, Inc. Regions Financial Corporation	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677 22,288 1,063,530 243,977 444,197
3,700 3,000 800 21,100 10,700 22,500 21,400 15,700 2,100 33,100 2,800 13,000 4,700	Airgas, Inc. E.I. Du Pont de Nemours and Company Eastman Chemical Company Ecolab Inc. International Flavors & Fragrances Inc. Sherwin-Williams Company Total Chemicals Commercial Banks 2.2% BB&T Corporation Comerica Incorporated Fifth Third Bancorp. First Horizon National Corporation, (2) Huntington BancShares Inc. KeyCorp. M&T Bank Corporation PNC Financial Services Group, Inc.	165,094 222,000 40,592 1,023,772 803,998 2,799,056 541,800 795,010 188,871 23,961 187,677 22,288 1,063,530 243,977

8,950 28,700	Wells Fargo & Company Zions Bancorporation	224,914 613,032
	Total Commercial Banks	4,693,458
	Commercial Services & Supplies 0.2%	
4,800 4,700	Republic Services, Inc. Stericycle Inc., (2)	146,352 326,556
	Total Commercial Services & Supplies	472,908
	Communications Equipment 1.8%	
38,300 20,800 800 123,400 500 88,100	Harris Corporation JDS Uniphase Corporation, (2) Juniper Networks Inc., (2) Motorola, Inc., (2) QUALCOMM, Inc. Tellabs Inc.	1,696,307 257,712 24,280 1,052,602 22,560 656,345
	Total Communications Equipment	3,709,806
	Computers & Peripherals 7.8%	
39,800 25,900 77,000 3,900	Apple, Inc., (2) Lexmark International, Inc., Class A, (2) Network Appliance Inc., (2) Western Digital Corporation, (2) Total Computers & Peripherals	11,293,250 1,155,658 3,833,830 110,721 16,393,459
	Construction & Engineering 0.0%	
1,300	construction & Engineering 000 /c	
	Fluor Corporation	64,389
		64,389
2,500	Fluor Corporation	64,389 98,875
2,500	Fluor Corporation Consumer Finance 0.0%	

Diversified Consumer Services 0.7%

20,800 36,200	Devry, Inc. H & R Block Inc.	1,023,568 468,790
	Total Diversified Consumer Services	1,492,358
	Diversified Financial Services 0.3%	
15,700	Bank of America Corporation	205,827
50,500	Citigroup Inc., (2)	196,950
5,105	JPMorgan Chase & Co.	194,347
5,500	Moody s Corporation	137,390
	Total Diversified Financial Services	734,514
	Diversified Telecommunication Services 0.9%	
3,200	AT&T Inc.	91,520
7,600	Frontier Communications Corporation	62,092
174,200	Qwest Communications International Inc.	1,092,234
1,400	Verizon Communications Inc.	45,626
42,300	Windstream Corporation	519,867
	Total Diversified Telecommunication Services	1,811,339
	Total Diversified Telecommunication Services Electric Utilities 0.7%	1,811,339
4,200	Electric Utilities 0.7%	
4,200 1,500	Electric Utilities 0.7% American Electric Power Company, Inc.	152,166
•	Electric Utilities 0.7%	
1,500	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation	152,166 26,565
1,500 1,100 41,600	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc.	152,166 26,565 59,829
1,500 1,100 41,600 7,000 1,900	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc.	152,166 26,565 59,829 773,760 288,890 84,398
1,500 1,100 41,600 7,000	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation	152,166 26,565 59,829 773,760 288,890
1,500 1,100 41,600 7,000 1,900	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc.	152,166 26,565 59,829 773,760 288,890 84,398
1,500 1,100 41,600 7,000 1,900	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc. Southern Company	152,166 26,565 59,829 773,760 288,890 84,398 96,824
1,500 1,100 41,600 7,000 1,900 2,600	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc. Southern Company Total Electric Utilities Electrical Equipment 1.8%	152,166 26,565 59,829 773,760 288,890 84,398 96,824 1,482,432
1,500 1,100 41,600 7,000 1,900 2,600	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc. Southern Company Total Electric Utilities Electrical Equipment 1.8% Emerson Electric Company	152,166 26,565 59,829 773,760 288,890 84,398 96,824 1,482,432
1,500 1,100 41,600 7,000 1,900 2,600 31,900 34,500	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc. Southern Company Total Electric Utilities Electrical Equipment 1.8% Emerson Electric Company Rockwell Automation, Inc.	152,166 26,565 59,829 773,760 288,890 84,398 96,824 1,482,432
1,500 1,100 41,600 7,000 1,900 2,600	Electric Utilities 0.7% American Electric Power Company, Inc. Duke Energy Corporation NextEra Energy Inc. Pepco Holdings, Inc. Pinnacle West Capital Corporation Progress Energy, Inc. Southern Company Total Electric Utilities Electrical Equipment 1.8% Emerson Electric Company	152,166 26,565 59,829 773,760 288,890 84,398 96,824 1,482,432

Electronic Equipment & Instruments 1.3%

65,400 1,300	Agilent Technologies, Inc., (2) Corning Incorporated	2,182,398 23,764
23,300	FLIR Systems Inc., (2)	598,810
	Total Electronic Equipment & Instruments	2,804,972
	Energy Equipment & Services 1.0%	
1,127	Baker Hughes Incorporated	48,010
22,000	Halliburton Company	727,540
22,642	Schlumberger Limited	1,394,974
	Total Energy Equipment & Services	2,170,524
	Food & Staples Retailing 0.2%	
2,200	Kroger Co.	47,652
2,400	Sysco Corporation	68,448
8,200	Walgreen Co.	274,700
700	Wal-Mart Stores, Inc.	37,464
1,100	Whole Foods Market, Inc., (2)	40,821
	Total Food & Staples Retailing	469,085
	Food Products 6.3%	
95,800	General Mills, Inc.	3,500,532
19,100	Hershey Foods Corporation	908,969
31,200	JM Smucker Company	1,888,536
30,300	Kellogg Company	1,530,453
3,100	Kraft Foods Inc.	95,666
4,300	McCormick & Company, Incorporated	180,772
24,500	Mead Johnson Nutrition Company, Class A Shares	1,394,295
168,900	Sara Lee Corporation	2,268,327
100,200	Tyson Foods, Inc., Class A	1,605,204
	Total Food Products	13,372,754
	Gas Utilities 0.4%	
17,800	ONEOK, Inc.	801,712

Health Care Equipment & Supplies 6.1%

33,700 14,600 3,700 60,500 21,900 26,400	CareFusion Corporation, (2) Hospira Inc., (2) Intuitive Surgical, Inc., (2) Medtronic, Inc. Stryker Corporation Varian Medical Systems, Inc., (2) Zimmer Holdings, Inc., (2) Total Health Care Equipment & Supplies	981,180 1,921,237 4,142,604 124,246 3,028,025 1,324,950 1,381,512 12,903,754
	Health Care Providers & Services 6.0%	
116,900 132,200 6,900 23,200 46,600 3,100 1,900 1,600	AmerisourceBergen Corporation Cardinal Health, Inc. Express Scripts, Inc., (2) Humana Inc., (2) McKesson HBOC Inc. Medco Health Solutions, Inc., (2) UnitedHealth Group Incorporated Wellpoint Inc., (2) Total Health Care Providers & Services	3,584,154 4,367,888 336,030 1,165,568 2,878,948 161,386 66,709 90,624
	Hotels, Restaurants & Leisure 3.4%	
35,300 8,700 5,500 135,400	Darden Restaurants, Inc. Marriott International, Inc., Class A McDonald s Corporation Starbucks Corporation	1,510,134 311,721 409,805 3,463,532
4,700 6,500 600 21,500	Starwood Hotels & Resorts Worldwide, Inc. Wyndham Worldwide Corporation Wynn Resorts Ltd. YUM! Brands, Inc. Total Hotels, Restaurants & Leisure	246,985 178,555 52,062 990,290 7,163,084
6,500 600	Wyndham Worldwide Corporation Wynn Resorts Ltd. YUM! Brands, Inc.	246,985 178,555 52,062 990,290

Household Products 0.4%

5,300 2,300 3,700	Clorox Company Colgate-Palmolive Company Kimberly-Clark Corporation	353,828 176,778 240,685
	Total Household Products	771,291
	Industrial Conglomerates 0.5%	
2,500 22,400 1,300 10,400	3M Co. General Electric Company Textron Inc. Tyco International Ltd.	216,775 364,000 26,728 381,992
	Total Industrial Conglomerates	989,495
	Insurance 1.4%	
5,600	Ace Limited	326,200
2,500 1,800	AFLAC Incorporated American International Group, (2)	129,275 70,380
5,300	Assurant Inc.	215,710
3,331	Berkshire Hathaway Inc., Class B, (2)	275,407
31,700	Progressive Corporation Torobmork Corporation	661,579
7,800 15,000	Torchmark Corporation Travelers Companies, Inc.	414,492 781,500
,	Total Insurance	2,874,543
	Internet & Catalog Retail 4.1%	
32,600	Amazon.com, Inc., (2)	5,120,156
10,200	Priceline.com Incorporated, (2)	3,553,068
	Total Internet & Catalog Retail	8,673,224
	Internet Software & Services 4.8%	
23,200	Akamai Technologies, Inc., (2)	1,164,176
95,200	eBay Inc., (2)	2,322,880
12,600	Google Inc., Class A, (2)	6,624,954
	Total Internet Software & Services	10,112,010

IT Services 3.9%

84,700	Cognizant Technology Solutions Corporation,	
2 1,1 2 2	Class A, (2)	5,460,609
6,500	Fidelity National Information Services	176,345
12,100	International Business Machines Corporation (IBM)	1,623,094
2,200	MasterCard, Inc.	492,800
5,400	Visa Inc.	401,004
	Total IT Services	8,153,852
	Leisure Equipment & Products 1.1%	
50,300	Hasbro, Inc.	2,238,853
20,300	Table of the	2,230,033
	Life Sciences Tools & Services 0.2%	
200	List To I also Governo	14.007
300	Life Technologies Corporation, (2)	14,007
4,400 3,000	Perkinelmer Inc. Waters Corporation, (2)	101,816 212,340
3,000	waters Corporation, (2)	212,340
	Total Life Sciences Tools & Services	328,163
	M 1' 210'	
	Machinery 2.1%	
13,200	Caterpillar Inc.	1,038,576
5,100	Cummins Inc.	461,958
2,800	Deere & Company	195,384
1,800	Dover Corporation	93,978
25,300	Eaton Corporation	2,086,997
1,600	PACCAR Inc.	77,040
4,800	Parker Hannifin Corporation	336,288
2,200	Snap-on Incorporated	102,322
	Total Machinery	4,392,543
	Media 3.4%	
3,600	Comcast Corporation, Class A	65,088
120,900	DIRECTV Group, Inc., (2)	5,033,067
8,300	Discovery Communications Inc., Class A Shares, (2)	361,465
4,400	McGraw-Hill Companies, Inc.	145,464
19,000	Scripps Networks Interactive, Class A Shares	904,020
4,900	Time Warner Cable, Class A	264,551
7,400	Viacom Inc., Class B	267,806
6,800	Walt Disney Company	225,148
	Total Media	7,266,609

Metals & Mining 0.2%

1,500 900 2,000 6,500	Allegheny Technologies, Inc. Cliffs Natural Resources Inc. Nucor Corporation Titanium Metals Corporation, (2)	69,675 57,528 76,400 129,740
	Total Metals & Mining	333,343
	Multiline Retail 1.2%	
24,400	Big Lots, Inc., (2)	811,300
19,400	Family Dollar Stores, Inc.	856,704
11,700	Sears Holding Corporation, (2)	844,038
	Total Multiline Retail	2,512,042
	Multi-Utilities 3.0%	
41,600	CenterPoint Energy, Inc.	653,952
16,400	CMS Energy Corporation	295,528
5,400	Dominion Resources, Inc.	235,764
54,300	DTE Energy Company	2,493,999
28,800	Integrys Energy Group, Inc.	1,499,328
30,700	NiSource Inc.	534,180
2,400	Public Service Enterprise Group Incorporated	79,392
900	Sempra Energy	48,420
18,700	TECO Energy, Inc.	323,884
3,600	Wisconsin Energy Corporation	208,080
	Total Multi-Utilities	6,372,527
	Oil, Gas & Consumable Fuels 1.0%	
400	Chevron Corporation	32,420
2,500	Denbury Resources Inc., (2)	39,725
700	Hess Corporation	41,384
28,700	Pioneer Natural Resources Company	1,866,361
2,000	QEP Resources Inc., (2)	60,280
500	Sunoco, Inc.	18,250
	Total Oil, Gas & Consumable Fuels	2,058,420
	Personal Products 1.5%	
6,300	Avon Products, Inc.	202,293

48,400	Estee Lauder Companies Inc., Class A	3,060,332
	Total Personal Products	3,262,625
	Pharmaceuticals 3.1%	
30,800 4,700 2,400 1,300 94,232 62,600	Abbott Laboratories Bristol-Myers Squibb Company Eli Lilly and Company Johnson & Johnson Merck & Company Inc. Mylan Laboratories Inc., (2) Total Pharmaceuticals	1,608,992 127,417 87,672 80,548 3,468,680 1,177,506 6,550,815
	Professional Services 0.2%	
16,600	Equifax Inc.	517,920
10,000	Equitive Inc.	317,920
	Real Estate 0.9%	
6,600	Apartment Investment & Management Company, Class A	141,108
3,600	AvalonBay Communities, Inc.	374,148
500	Boston Properties, Inc.	41,560
13,300	Equity Residential	632,681
900	Health Care REIT, Inc.	32,382
3,600 4,700	Host Hotels & Resorts Inc. Public Storage, Inc.	52,128 456,088
1,300	Ventas Inc.	67,041
600	Vornado Realty Trust	51,318
	Total Real Estate	1,848,454
	Road & Rail 0.0%	
400	Ryder System, Inc.	17,108
500	Union Pacific Corporation	40,900
	Total Road & Rail	58,008
	Semiconductors & Equipment 1.1%	
35,200	Advanced Micro Devices, Inc., (2)	250,272
2,500	Altera Corporation	75,400
2,100	Linear Technology Corporation	64,533

2 000	No. 11 m 1 1 X	110.510
3,800	Microchip Technology Incorporated	119,510
800	Novellus Systems, Inc., (2)	21,264
69,800	Texas Instruments Incorporated	1,894,372
	Total Samicanductors & Equipment	2,425,351
	Total Semiconductors & Equipment	2,423,331
	Software 2.1%	
1,400	Autodesk, Inc., (2)	44,758
13,400	Intuit, Inc., (2)	587,054
60,200	Microsoft Corporation	1,474,298
105,700	Novell Inc., (2)	631,029
14,300	Salesforce.com, Inc., (2)	1,598,740
	Total Software	4,335,879
	Specialty Retail 4.6%	
900	Abercrombie & Fitch Co., Class A	35,388
800	AutoNation Inc., (2)	18,600
2,200	AutoZone, Inc., (2)	503,602
6,300	GameStop Corporation, (2)	124,173
38,000	Home Depot, Inc.	1,203,840
87,300	Limited Brands, Inc.	2,337,894
9,200	O Reilly Automotive Inc., (2)	489,440
2,400	RadioShack Corporation	51,192
5,200	Ross Stores, Inc.	284,024
14,000	Tiffany & Co.	657,860
87,900	TJX Companies, Inc.	3,922,977
	Total Specialty Potail	9,628,990
	Total Specialty Retail	9,020,990
	Textiles, Apparel & Luxury Goods 0.1%	
2,900	Nike, Inc., Class B	232,406
	Thrifts & Mortgage Finance 0.1%	
	Timino et moregage i manec	
10,700	Hudson City Bancorp, Inc.	131,182
	TD 1 1 10	
(000	Tobacco 1.1%	175 500
6,900	Altria Group, Inc.	165,738
300	Lorillard Inc.	24,093
900	Philip Morris International	50,418
36,000	Reynolds American Inc.	2,138,040

	Total Tobacco	. , ,		2,3	378,289
46,30	Trading Companies & Distributors 1.2% O Fastenal Company			2 4	162,697
40,50	Wireless Telecommunication Services 1.9%	6		۷,٦	102,071
74,300 45,400					808,618 210,202
	Total Wireless Telecommunication Services			4,0	018,820
	Total Common Stocks (cost \$185,086,331)			208,7	705,082
Principal Amount (000)	Description (1)	Coupon	Maturity	Rating (3)	Value
	Short-Term Investments 4.0%				
	U.S. Government and Agency Obligations 1.9%				
\$ 2,000 2,000	U.S. Treasury Bills, (4) U.S. Treasury Bills	0.000% 0.000%	1/27/11 2/03/11	AAA AAA	\$ 1,999,214 1,999,118
4,000	Total U.S. Government and Agency Obligations				3,998,332
	Repurchase Agreements 2.1%				
4,465	Repurchase Agreement with State Street Bank, dated 9/30/10, repurchase price \$4,464,799, collateralized by \$4,255,000 U.S. Treasury Notes, 2.500%, due 4/30/15, value \$4,555,829	0.080%	10/01/10	N/A	4,464,789
\$ 8,465	Total Short-Term Investments (cost \$8,462,469)				8,463,121
	Total Investments (cost \$193,548,800) 102.8%				217,168,203
	Other Assets Less Liabilities (2.8)%				(5,817,522)

Net Assets 100% \$211,350,681

Investments in Derivatives

Call Options Written outstanding at September 30, 2010:

Number of Contracts	Туре	Notional Amount (5)	Expiration Date	Strike Price		Value
(455,052)	Custom Basket NASDAQ	\$ (45,505,214)	10/21/10	\$ 103.0	\$	(817,319)
(463,508)	Custom Basket NASDAQ	(46,350,790)	11/04/10	103.0		(486,683)
(918,560)	Total Call Options Written	¢ (01 957 004)			ሰ (1	1 204 002)
	(premiums received \$996,342)	\$ (91,856,004)			Þ (1	1,304,002)

Futures Contracts outstanding at September 30, 2010:

					Unrealized	
		Number				
	Contract	of	Contract	Value at September 30,	Appreciation	
Туре	Position	Contracts	Expiration	2010	(Depreciation)	
S&P 500 Index	Long	125	12/10	\$7,104,375	\$130,250	

Fair Value Measurements

In determining the fair 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 methodologies 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, 2010:

	Level 1	Level 2	Level 3	Total
Investments:				
Common Stocks	\$ 208,705,082	\$	\$	\$ 208,705,082
Short-Term Investments	8,463,121			8,463,121
Derivatives:				
Call Options Written		(1,304,002)		(1,304,002)
Futures Contracts *	130,250			130,250
Total	\$ 217,298,453	\$ (1,304,002)	\$	\$ 215,994,451

^{*}Represents net unrealized appreciation (depreciation).

Derivative Instruments and Hedging Activities

The Fund records derivative instruments at fair value, with changes in fair value recognized on the Statement of Operations, when applicable. Even though the Fund s investments in derivatives may represent economic hedges, they are not considered to be hedge transactions for financial reporting purposes.

The following table presents the fair value of all derivative instruments held by the Fund as of September 30, 2010, the location of these instruments on the Statement of Assets and Liabilities, and the primary underlying risk exposure.

Underlying	Derivative	Location on the S Asset Derivatives		tatement of Assets and Liabil Liability Derivativ	
Risk Exposure		Location		Location	Value
Equity Price	Futures Contracts	Receivable for variation margin on futures contracts*	\$ 130,250	Payable for variation margin on futures contracts*	\$
Equity Price	Options			Call options written, at value	1,304,002
Total			\$ 130,250		\$ 1,304,002

^{*} Value represents cumulative unrealized appreciation (depreciation) of futures contracts as reported in the Portfolio of Investments and not the deposits with brokers, if any, or the receivable or payable for variation margin presented on 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 September 30, 2010, the cost of investments (excluding investments in derivatives) was \$195,113,910. Gross unrealized appreciation and gross unrealized depreciation of investments (excluding investments in derivatives) at September 30, 2010, were as follows:

Gross unrealized:

Appreciation \$25,022,506 Depreciation (2,968,213)

Net unrealized appreciation (depreciation) of investments \$22,054,293

For Fund portfolio compliance purposes, the Fund s industry classifications refer to any one or more of the industry sub-classifications used by one or more widely recognized market indexes or ratings group indexes, and/or as defined by Fund management. This definition may not apply for purposes of this report, which may combine industry sub-classifications into sectors for reporting ease.

(1) All percentages shown in the Portfolio of Investments are based on net assets.

- (2) Non-income producing; issuer has not declared a dividend within the past twelve months.
- (3) Ratings: Using the highest of Standard & Poor s Group (Standard & Poor s), Moody s Investor Service, Inc. (Moody s) or Fitch, Inc. (Fitch) rating. Ratings below BBB by Standard & Poor s, Baa by Moody s or BBB by Fitch are considered to be below investment grade. Holdings designated N/R are not rated by any of these national rating agencies.
- (4) Investment, or portion of investment, has been pledged to collateralize the net payment obligations for investments in derivatives.
- (5) For disclosure purposes, Notional Amount is calculated by multiplying the Number of Contracts by \$100.
- N/A Not applicable.

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 November 29, 2010

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 29, 2010

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

Stephen D. Foy

Vice President and Controller (principal financial

officer)

Date November 29, 2010