

NUVEEN MUNICIPAL HIGH INCOME OPPORTUNITY FUND
Form N-Q
April 01, 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 811-21449

Nuveen Municipal High Income Opportunity Fund

(Exact name of registrant as specified in charter)

Nuveen Investments

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: 10/31

Date of reporting period: 1/31/09

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 Municipal High Income Opportunity Fund (NMZ)

January 31, 2009

Principal

Amount (000) Description (1)

National □ 3.1% (2.1% of Total Investments)

Charter Mac Equity Issuer Trust, Preferred Shares, Series 2004A-4:

\$ 5,000 6.000%, 12/31/45 (Mandatory put 4/30/19) (Alternative Minimum Tax)
 1,000 5.750%, 12/31/45 (Mandatory put 4/30/15) (Alternative Minimum Tax)

6,000 Total National

Alabama □ 1.2% (0.8% of Total Investments)

2,000 Bessemer, Alabama, General Obligation Warrants, Series 2007, 6.500%, 2/01/37
 2,000 Birmingham Special Care Facilities Financing Authority, Alabama, Revenue Bonds, Baptist Health System Inc., Series 2005A, 5.000%, 11/15/30

4,000 Total Alabama

Alaska □ 0.2% (0.2% of Total Investments)

450 Alaska Municipal Bond Bank Authority, Revenue Bonds, Series 2009, 5.625%, 9/01/29

Arizona □ 6.2% (4.3% of Total Investments)

462 Estrella Mountain Ranch Community Facilities District, Goodyear, Arizona, Special Assessment Lien Bonds, Series 2001A, 7.875%, 7/01/25
 2,000 Maricopa County Industrial Development Authority, Arizona, Multifamily Housing Revenue Bonds, Privado Park Apartments Project, Series 2006A, 5.250%, 11/01/41 (Mandatory put 11/01/11) (Alternative Minimum Tax)
 6,720 Maricopa County Industrial Development Authority, Arizona, Senior Living Facility Revenue Bonds, Christian Care Mesa II Inc., Series 2004A, 6.625%, 1/01/34 (Alternative Minimum Tax)
 Phoenix Industrial Development Authority, Arizona, Educational Revenue Bonds, Keystone Montessori School, Series 2004A:
 235 6.375%, 11/01/13
 790 7.250%, 11/01/23
 1,715 7.500%, 11/01/33
 990 Pima County Industrial Development Authority, Arizona, Charter School Revenue Bonds, Franklin Phonetic Charter School, Series 2006, 5.750%, 7/01/36
 550 Pima County Industrial Development Authority, Arizona, Charter School Revenue Bonds, Noah Webster Basic Schools Inc., Series 2004, 6.125%, 12/15/34
 500 Pima County Industrial Development Authority, Arizona, Charter School Revenue Bonds, Pointe Educational Services Charter School, Series 2004, 6.250%, 7/01/14 (ETM)
 1,150 Pinal County Industrial Development Authority, Arizona, Correctional Facilities Contract Revenue Bonds, Florence West Prison LLC, Series 2002A, 5.250%, 10/01/22 □ ACA Insured
 1,000 Tucson Industrial Development Authority, Arizona, Charter School Revenue Bonds, Arizona Agribusiness and Equine Center Charter School, Series 2004A, 5.850%, 9/01/24

16,112 Total Arizona

California □ 12.0% (8.2% of Total Investments)

940 California Health Facilities Financing Authority, Hospital Revenue Bonds, Downey Community Hospital, Series 1993, 5.750%, 5/15/15
 1,180 California Health Facilities Financing Authority, Revenue Bonds, Sutter Health, Series 2007A,

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|-------|---|
| | Trust 3299, 15.540%, 11/15/48 (IF) |
| 3,425 | California Health Facilities Financing Authority, Revenue Bonds, Sutter Health, Series 2008, Trust 3175, 13.532%, 11/15/38 (IF) |
| 2,515 | California Health Facilities Financing Authority, Revenue Bonds, Sutter Health, Tender Option Bond Trust 3229, 17.393%, 8/15/38 (IF) |
| 4,000 | California Statewide Communities Development Authority, Revenue Bonds, EnerTech Regional Biosolids Project, Series 2007A, 5.500%, 12/01/33 (Alternative Minimum Tax) |
| 2,925 | California Statewide Community Development Authority, Revenue Bonds, Epidaurus Project, Series 2004A, 7.750%, 3/01/34 |
| 1,005 | California Statewide Community Development Authority, Subordinate Lien Multifamily Housing Revenue Bonds, Corona Park Apartments, Series 2004I-S, 7.750%, 1/01/34 (Alternative Minimum Tax) |
| 2,500 | Independent Cities Lease Finance Authority, California, Revenue Bonds, El Granada Mobile Home Park, Series 2004A, 6.450%, 5/15/44 |
| 1,015 | Independent Cities Lease Finance Authority, California, Subordinate Lien Revenue Bonds, El Granada Mobile Home Park, Series 2004B, 6.500%, 5/15/44 |
| 1,200 | Lake Elsinore, California, Special Tax Bonds, Community Facilities District 2003-2 Improvement Area A, Canyon Hills, Series 2004A, 5.950%, 9/01/34 |
| 3,400 | Lee Lake Water District, Riverside County, California, Special Tax Bonds, Community Facilities District 3, Series 2004, 5.950%, 9/01/34 |
| 2,950 | Los Angeles Regional Airports Improvement Corporation, California, Sublease Revenue Bonds, Los Angeles International Airport, American Airlines Inc. Terminal 4 Project, Series 2002C, 7.500%, 12/01/24 (Alternative Minimum Tax) |
| 800 | Moreno Valley Unified School District, Riverside County, California, Special Tax Bonds, Community Facilities District, Series 2004, 5.550%, 9/01/29 |
| 1,250 | San Diego County, California, Certificates of Participation, San Diego-Imperial Counties Developmental Services Foundation Project, Series 2002, 5.500%, 9/01/27 |
| 3,895 | West Patterson Financing Authority, California, Special Tax Bonds, Community Facilities District 2001-1, Series 2004A, 6.125%, 9/01/39 |

33,000 Total California

Colorado □ 7.1% (4.8% of Total Investments)

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| 915 | Bradburn Metropolitan District 3, Colorado, General Obligation Bonds, Series 2003, 7.500%, 12/01/33 |
| 6 | Buffalo Ridge Metropolitan District, Colorado, Limited Obligation Assessment Bonds, Series 2003, 7.500%, 12/01/33 |
| 400 | Colorado Educational and Cultural Facilities Authority, Charter School Revenue Bonds, Academy Charter School □ Douglas County School District Re. 1, Series 2000, 6.875%, 12/15/20 (Pre-refunded 12/15/10) |
| 650 | Colorado Educational and Cultural Facilities Authority, Charter School Revenue Bonds, Bromley East Charter School, Series 2000A, 7.250%, 9/15/30 (Pre-refunded 9/15/11) |
| 3,500 | Colorado Educational and Cultural Facilities Authority, Charter School Revenue Bonds, Denver Arts and Technology Academy, Series 2003, 8.000%, 5/01/34 |
| 455 | Colorado Educational and Cultural Facilities Authority, Charter School Revenue Bonds, Excel Academy Charter School, Series 2003, 7.300%, 12/01/23 (Pre-refunded 12/01/11) |
| 1,000 | Colorado Educational and Cultural Facilities Authority, Charter School Revenue Bonds, Jefferson County School District R-1 □ Compass Montessori Secondary School, Series 2006, |

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| | 5.625%, 2/15/36 |
| | Colorado Health Facilities Authority, Colorado, Revenue Bonds, Catholic Health Initiatives, Series 2006A, Trust 1088: |
| 1,900 | 9.767%, 9/01/41 (IF) |
| 495 | 9.635%, 9/01/41 (IF) |
| 1,640 | Colorado Health Facilities Authority, Colorado, Revenue Bonds, Catholic Health Initiatives, Series 2006C-1, Trust 1090, 10.596%, 10/01/41 ☐ FSA Insured (IF) |
| 3,145 | Kit Carson County Health Service District, Colorado, Health Care Facility Revenue Bonds, Series 2007, 6.750%, 1/01/34 |
| 1,250 | Mesa County, Colorado, Residential Care Facilities Mortgage Revenue Bonds, Hilltop Community Resources Inc. Obligated Group, Series 2001A, 5.250%, 12/01/21 ☐ RAAI Insured |
| 1,000 | Mountain Shadows Metropolitan District, Colorado, General Obligation Limited Tax Bonds, Series 2007, 5.500%, 12/01/27 |
| 1,995 | Park Creek Metropolitan District, Colorado, Limited Tax Obligation Revenue Bonds, Series 2003CR-2, 7.875%, 12/01/32 (Mandatory put 12/01/13) |
| 500 | Tallyn's Reach Metropolitan District 3, Aurora, Colorado, Limited Tax General Obligation Bonds, Series 2004, 6.750%, 12/01/33 |

18,851 Total Colorado

Florida ☐ 14.6% (10.0% of Total Investments)

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| 1,565 | Aberdeen Community Development District, Florida, Special Assessment Bonds, Series 2005, 5.500%, 5/01/36 |
| 7,585 | Beacon Lakes Community Development District, Florida, Special Assessment Bonds, Series 2003A, 6.900%, 5/01/35 |
| 700 | Broward County, Florida, Airport Facility Revenue Bonds, Learjet Inc., Series 2000, 7.500%, 11/01/20 (Alternative Minimum Tax) |
| 1,140 | Century Gardens Community Development District, Miami-Dade County, Florida, Special Assessment Revenue Bonds, Series 2004, 5.900%, 5/01/34 |
| 8,525 | Harmony Community Development District, Florida, Special Assessment Bonds, Series 2001, 7.250%, 5/01/32 |
| 440 | Islands at Doral Northeast Community Development District, Miami-Dade County, Florida, Special Assessment Bonds, Series 2004, 6.125%, 5/01/24 |
| 3,000 | Jacksonville, Florida, Economic Development Commission Health Care Facilities Revenue Bonds, The Florida Proton Therapy Institute Project, Series 2007, 6.250%, 9/01/27 |
| 610 | Lexington Community Development District, Florida, Special Assessment Revenue Bonds, Series 2004, 6.125%, 5/01/34 |
| 2,000 | Miami-Dade County, Florida, Aviation Revenue Bonds, Series 2008, Trust 1145, 9.415%, 10/01/38 ☐ AGC Insured (Alternative Minimum Tax) (IF) |
| 3,759 | MMA Financial CDD Junior Securitization Trust, Florida, Pass-Through Certificates, Class A, Series 2003I, 8.000%, 11/01/13 |
| 985 | Old Palm Community Development District, Florida, Special Assessment Bonds, Palm Beach Gardens, Series 2004A, 5.900%, 5/01/35 |
| 3,735 | Palm Beach County Housing Finance Authority, Florida, Multifamily Housing Revenue Bonds, Lake Delray Apartments, Series 1999A, 6.400%, 1/01/31 (Alternative Minimum Tax) |
| 2,000 | Pine Island Community Development District, Florida, Special Assessment Bonds, Bella Collina, Series 2004, 5.750%, 5/01/35 |
| 1,000 | Sarasota County Health Facility Authority, Florida, Revenue Bonds, Sarasota-Manatee Jewish |

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| | Housing Council, Inc., Series 2007, 5.750%, 7/01/45 |
| 440 | Stonegate Community Development District, Florida, Special Assessment Revenue Bonds, Series 2004, 6.000%, 5/01/24 |
| 985 | Tolomato Community Development District, Florida, Special Assessment Bonds, Series 2006, 5.400%, 5/01/37 |
| 1,715 | Tolomato Community Development District, Florida, Special Assessment Bonds, Series 2007, 6.650%, 5/01/40 |
| | Westchester Community Development District 1, Florida, Special Assessment Bonds, Series 2003: |
| 135 | 6.000%, 5/01/23 |
| 3,735 | 6.125%, 5/01/35 |

44,054 Total Florida

Georgia □ 1.2% (0.8% of Total Investments)

| | |
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| 500 | Effingham County Development Authority, Georgia, Solid Waste Disposal Revenue Bonds, Ft. James Project, Series 1998, 5.625%, 7/01/18 (Alternative Minimum Tax) (5) |
| 1,000 | Fulton County Residential Care Facilities Authority, Georgia, Revenue Bonds, Elderly Care, Lenbrook Square Project, Series 2006A, 5.125%, 7/01/37 |
| 1,890 | Fulton County Residential Care Facilities Authority, Georgia, Revenue Bonds, St. Anne's Terrace, Series 2003, 7.625%, 12/01/33 |

3,390 Total Georgia

Hawaii □ 1.0% (0.7% of Total Investments)

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|-------|---|
| 2,000 | Hawaii State Department of Budget and Finance, Private School Revenue Bonds, Island Pacific Academy Project, Series 2007, 6.375%, 3/01/34 |
| 1,000 | Hawaii State Department of Budget and Finance, Private School Revenue Bonds, Montessori of Maui, Series 2007, 5.500%, 1/01/37 |

3,000 Total Hawaii

Illinois □ 9.5% (6.4% of Total Investments)

| | |
|-------|---|
| 2,000 | Chicago, Illinois, Certificates of Participation Tax Increment Revenue Notes, Chicago/Kingsbury Redevelopment Project, Series 2004A, 6.570%, 2/15/13 |
| 990 | Chicago, Illinois, Certificates of Participation, Tax Increment Allocation Revenue Bonds, Diversey-Narragansett Project, Series 2006, 7.460%, 2/15/26 |
| 2,000 | Illinois Finance Authority, Revenue Bonds, Midwest Regional Medical Center Galena-Stauss Hospital, Series 2006, 6.750%, 10/01/46 |
| 1,350 | Illinois Health Facilities Authority, FHA-Insured Mortgage Revenue Refunding Bonds, Sinai Health System, Series 2003, 5.150%, 2/15/37 (6) |
| 1,000 | Illinois Health Facilities Authority, Revenue Bonds, Condell Medical Center, Series 2002, 5.500%, 5/15/32 |
| 7,800 | Illinois Health Facilities Authority, Revenue Bonds, Lake Forest Hospital, Residual Series 2002A, 5.750%, 7/01/29 (UB) |
| 1,400 | Illinois Health Facilities Authority, Revenue Bonds, Midwest Physicians Group Ltd., Series 1998, 5.500%, 11/15/19 |
| 1,150 | Lombard Public Facilities Corporation, Illinois, First Tier Conference Center and Hotel Revenue Bonds, Series 2005A-1, 7.125%, 1/01/36 |

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| 1,311 | Lombard Public Facilities Corporation, Illinois, Third Tier Conference Center and Hotel Revenue Bonds, Series 2005C-3, 4.000%, 1/01/36 |
| 2,022 | Plano Special Service Area 1, Illinois, Special Tax Bonds, Lakewood Springs Project, Series 2004A, 6.200%, 3/01/34 |
| 998 | Volo Village, Illinois, Special Service Area 3 Special Tax Bonds, Symphony Meadows Project 1, Series 2006, 6.000%, 3/01/36 (Mandatory put 2/29/16) |
| 1,000 | Yorkville United City Business District, Illinois, Storm Water and Water Improvement Project Revenue Bonds, Series 2007, 6.000%, 1/01/26 |
| 969 | Yorkville, Illinois, Special Service Area 2005-108 Assessment Bonds, Autumn Creek Project, Series 2006, 6.000%, 3/01/36 |

23,990 Total Illinois

Indiana □ 12.4% (8.5% of Total Investments)

| | |
|--------|---|
| 6,360 | Carmel Redevelopment District, Indiana, Tax Increment Revenue Bonds, Series 2004A, 6.650%, 1/15/24 |
| 22,770 | Indiana Finance Authority, Water Facilities Refunding Revenue Bonds, Indiana-American Water Company Inc. Project, Series 2006, 4.875%, 10/01/36 □ AMBAC Insured (Alternative Minimum Tax) |
| 1,250 | Indiana Health and Educational Facility Financing Authority, Revenue Bonds, Ascension Health, Series 2009, Trust 3301, 13.585%, 11/15/39 (IF) |
| | Indiana Health Facility Financing Authority, Hospital Revenue Bonds, Community Foundation of Northwest Indiana, Series 2004A: |
| 500 | 6.250%, 3/01/25 |
| 2,500 | 6.000%, 3/01/34 |
| 200 | Jasper County, Indiana, Economic Development Revenue Refunding Bonds, Georgia Pacific Corporation Project, Series 2000, 6.700%, 4/01/29 (Alternative Minimum Tax) |
| 1,000 | St. Joseph County, Indiana, Economic Development Revenue Bonds, Chicago Trail Village Apartments, Series 2005A, 7.500%, 7/01/35 |
| 1,650 | Whitley County, Indiana, Solid Waste and Sewerage Disposal Revenue Bonds, Steel Dynamics Inc., Series 1998, 7.250%, 11/01/18 (Alternative Minimum Tax) |

36,230 Total Indiana

Iowa □ 0.4% (0.2% of Total Investments)

| | |
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| 1,000 | Iowa Finance Authority, Health Facility Revenue Bonds, Care Initiatives Project, Series 2006A, 5.500%, 7/01/25 |
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Kansas □ 0.6% (0.4% of Total Investments)

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| 2,000 | Fredonia, Kansas, Hospital Revenue Bonds, Series 2007, 6.125%, 8/15/37 |
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Louisiana □ 6.8% (4.6% of Total Investments)

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| 8,500 | Hodge, Louisiana, Combined Utility System Revenue Bonds, Smurfit-Stone Container Corporation, Series 2003, 7.450%, 3/01/24 (Alternative Minimum Tax) (7) |
| 2,500 | Louisiana Local Government Environmental Facilities & Community Development Authority, Revenue Bonds, Westlake Chemical Corporation Project, Series 2007, 6.750%, 11/01/32 |
| 1,000 | Louisiana Local Government Environmental Facilities and Community Development Authority, Carter Plantation Hotel Project Revenue Bonds, Series 2006A, 6.000%, 9/01/36 |
| 1,000 | Louisiana Local Government Environmental Facilities and Community Development Authority, |

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| | Revenue Bonds, CDF Healthcare of Louisiana LLC, Series 2006A, 7.000%, 6/01/36 |
| 3,000 | Louisiana Local Government Environmental Facilities and Community Development Authority, Revenue Bonds, Southgate Suites Hotel LLC Project, Series 2007A, 6.750%, 12/15/37 |
| | Ouachita Parish Industrial Development Authority, Louisiana, Solid Waste Disposal Revenue Bonds, White Oaks Project, Series 2004A: |
| 815 | 8.250%, 3/01/19 (Alternative Minimum Tax) |
| 805 | 8.500%, 3/01/24 (Alternative Minimum Tax) |
| 5,125 | St. James Parish, Louisiana, Solid Waste Disposal Revenue Bonds, Freeport McMoran Project, Series 1992, 7.700%, 10/01/22 (Alternative Minimum Tax) |
| 2,000 | Tobacco Settlement Financing Corporation, Louisiana, Tobacco Settlement Asset-Backed Bonds, Series 2001B, 5.875%, 5/15/39 |

24,745 Total Louisiana

Maine □ 1.1% (0.7% of Total Investments)

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| 3,155 | Portland Housing Development Corporation, Maine, Section 8 Assisted Senior Living Revenue Bonds, Avesta Housing Development Corporation, Series 2004A, 6.000%, 2/01/34 |
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Maryland □ 1.0% (0.7% of Total Investments)

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| 2,000 | Maryland Energy Financing Administration, Revenue Bonds, AES Warrior Run Project, Series 1995, 7.400%, 9/01/19 (Alternative Minimum Tax) |
| 350 | Maryland Health and Higher Educational Facilities Authority, Revenue Bonds, MedStar Health, Series 2004, 5.500%, 8/15/33 |
| 435 | Prince George's County, Maryland, Revenue Bonds, Dimensions Health Corporation, Series 1994, 5.300%, 7/01/24 |

2,785 Total Maryland

Massachusetts □ 0.7% (0.5% of Total Investments)

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| 525 | Massachusetts Development Finance Agency, Pioneer Valley Resource Recovery Revenue Bonds, Eco/Springfield LLC, Series 2006, 5.875%, 7/01/14 (Alternative Minimum Tax) |
| 1,350 | Massachusetts Health and Educational Facilities Authority, Revenue Bonds, Northern Berkshire Community Services Inc., Series 2004B, 6.375%, 7/01/34 |

1,875 Total Massachusetts

Michigan □ 4.4% (3.0% of Total Investments)

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| 1,240 | Countryside Charter School, Berrien County, Michigan, Charter School Revenue Bonds, Series 1999, 7.000%, 4/01/29 |
| 870 | Countryside Charter School, Berrien County, Michigan, Charter School Revenue Bonds, Series 2000, 8.000%, 4/01/29 |
| | Detroit Local Development Finance Authority, Michigan, Tax Increment Bonds, Series 1998A: |
| 1,425 | 5.500%, 5/01/21 |
| 15 | 5.500%, 5/01/21 □ ACA Insured |
| | Garden City Hospital Finance Authority, Michigan, Revenue Bonds, Garden City Hospital Obligated Group, Series 2007A: |
| 1,000 | 4.875%, 8/15/27 |
| 1,000 | 5.000%, 8/15/38 |

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| 3,580 | Michigan State Hospital Finance Authority, Hospital Revenue Refunding Bonds, Detroit Medical Center Obligated Group, Series 1993B, 5.500%, 8/15/23 |
| 500 | Michigan State Hospital Finance Authority, Revenue Bonds, Chelsea Community Hospital, Series 2005, 5.000%, 5/15/30 |
| 1,500 | Michigan State Hospital Finance Authority, Revenue Bonds, Hills and Dales General Hospital, Series 2005A, 6.750%, 11/15/38 |
| 1,000 | Royal Oak Hospital Finance Authority, Michigan, Hospital Revenue Bonds, William Beaumont Hospital, Refunding Series 2009V, 8.250%, 9/01/39 |
| 1,000 | Summit Academy North Charter School, Michigan, Charter School Revenue Bonds, Series 2005, 5.500%, 11/01/30 |

13,130 Total Michigan

Minnesota □ 2.0% (1.4% of Total Investments)

Minneapolis, Minnesota, Student Housing Revenue Bonds, Riverton Community Housing Project, Series 2000:

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| 100 | 7.200%, 7/01/14 (Pre-refunded 7/01/10) |
| 100 | 7.300%, 7/01/15 (Pre-refunded 7/01/10) |
| 1,325 | Ramsey, Anoka County, Minnesota, Charter School Lease Revenue Bonds, PACT Charter School, Series 2004A, 6.750%, 12/01/33 |
| 1,390 | St. Paul Housing and Redevelopment Authority, Minnesota, Charter School Revenue Bonds, Higher Ground Academy Charter School, Series 2004A, 6.625%, 12/01/23 |
| 1,100 | St. Paul Housing and Redevelopment Authority, Minnesota, Charter School Revenue Bonds, HOPE Community Academy Charter School, Series 2004A, 6.750%, 12/01/33 |
| 1,000 | St. Paul Port Authority, Minnesota, Lease Revenue Bonds, HealthEast Midway Campus, Series 2005B, 6.000%, 5/01/30 |

5,015 Total Minnesota

Mississippi □ 0.3% (0.2% of Total Investments)

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| 945 | Mississippi Home Corporation, Multifamily Housing Revenue Bonds, Tupelo Personal Care Apartments, Series 2004-2, 6.125%, 9/01/34 (Alternative Minimum Tax) |
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Missouri □ 3.2% (2.2% of Total Investments)

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|-------|---|
| 2,000 | Branson Regional Airport Transportation Development District, Missouri, Project Revenue Bonds, Series 2007B, 6.000%, 7/01/37 (Alternative Minimum Tax) |
| 5,935 | Missouri Environmental Improvement and Energy Resources Authority, Water Facility Revenue Bonds, Missouri-American Water Company, Series 2006, 4.600%, 12/01/36 □ AMBAC Insured (Alternative Minimum Tax) (UB) |
| 1,300 | Saint Louis Industrial Development Authority, Missouri, Saint Louis Convention Center Headquarters Hotel Project, Series 2000A, 7.250%, 12/15/35 (Alternative Minimum Tax) (8) |
| 805 | Saint Louis, Missouri, Tax Increment Financing Revenue Bonds, Grace Lofts Redevelopment Projects, Series 2007A, 6.000%, 3/27/26 |

10,040 Total Missouri

Montana □ 2.3% (1.6% of Total Investments)

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| 5,200 | Montana Board of Investments, Exempt Facility Revenue Bonds, Stillwater Mining Company, Series |
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2000, 8.000%, 7/01/20 (Alternative Minimum Tax)

2,000 Montana Board of Investments, Resource Recovery Revenue Bonds, Yellowstone Energy LP, Series 1993, 7.000%, 12/31/19 (Alternative Minimum Tax)

7,200 Total Montana

Nebraska □ 4.1% (2.8% of Total Investments)

6,485 Omaha Public Power District, Nebraska, Separate Electric System Revenue Bonds, Nebraska City 2, Trust 11673, 18.664%, 2/01/49 □ AMBAC Insured (IF)

Nevada □ 1.3% (0.9% of Total Investments)

500 Clark County, Nevada, Industrial Development Revenue Bonds, Nevada Power Company, Series 1997A, 5.900%, 11/01/32 (Alternative Minimum Tax)

1,460 Clark County, Nevada, Local Improvement Bonds, Mountain's Edge Special Improvement District 142, Series 2003, 6.375%, 8/01/23

1,000 Director of Nevada State Department of Business and Industry, Revenue Bonds, Las Vegas Monorail Project, First Tier, Series 2000, 5.375%, 1/01/40 □ AMBAC Insured

4,500 Director of Nevada State Department of Business and Industry, Revenue Bonds, Las Vegas Monorail Project, Second Tier, Series 2000, 7.375%, 1/01/40

7,460 Total Nevada

New Jersey □ 0.8% (0.6% of Total Investments)

1,660 New Jersey Economic Development Authority, Special Facilities Revenue Bonds, Continental Airlines Inc., Series 1999, 6.250%, 9/15/29 (Alternative Minimum Tax)

500 New Jersey Economic Development Authority, Special Facilities Revenue Bonds, Continental Airlines Inc., Series 2000, 7.000%, 11/15/30 (Alternative Minimum Tax)

500 Tobacco Settlement Financing Corporation, New Jersey, Tobacco Settlement Asset-Backed Bonds, Series 2007-1A, 5.000%, 6/01/41

2,660 Total New Jersey

New York □ 0.4% (0.2% of Total Investments)

1,700 New York City Industrial Development Agency, New York, Special Facilities Revenue Bonds, American Airlines Inc., Series 1994, 6.900%, 8/01/24 (Alternative Minimum Tax)

North Carolina □ 3.4% (2.3% of Total Investments)

1,910 Charlotte-Mecklenberg Hospital Authority, North Carolina, Carolinas HealthCare System Revenue Bonds, Series 2008, Trust 1149, 9.412%, 1/15/47 (IF)

5,500 North Carolina Capital Facilities Finance Agency, Solid Waste Facilities Revenue Bonds, Liberty Tire Services of North Carolina LLC, Series 2004A, 6.750%, 7/01/29

1,190 North Carolina Capital Facilities Financing Agency, Revenue Bonds, Duke University, Series 2008, Tender Option Bonds Trust 3248, 19.801%, 10/01/44 (IF)

8,600 Total North Carolina

Ohio □ 6.1% (4.1% of Total Investments)

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| | Buckeye Tobacco Settlement Financing Authority, Ohio, Tobacco Settlement Asset-Backed Revenue Bonds, Senior Lien, Series 2007A-2: |
| 340 | 5.125%, 6/01/24 |
| 375 | 5.750%, 6/01/34 |
| 10,855 | 5.875%, 6/01/47 |
| 3,255 | Cleveland-Cuyahoga County Port Authority, Ohio, Development Revenue Bonds, Bond Fund Program □ Garfield Heights Project, Series 2004D, 5.250%, 5/15/23 |
| 1,000 | Ohio, Environmental Facilities Revenue Bonds, Ford Motor Company, Series 2005, 5.750%, 4/01/35 (Alternative Minimum Tax) |
| 4,000 | Western Reserve Port Authority, Ohio, Solid Waste Facility Revenue Bonds, Central Waste Inc., Series 2007A, 6.350%, 7/01/27 (Alternative Minimum Tax) |

19,825 Total Ohio

Oklahoma □ 1.4% (0.9% of Total Investments)

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| 970 | Okeene Municipal Hospital and Schallmo Authority, Oklahoma, Revenue Bonds, Series 2006, 7.000%, 1/01/35 |
| 60 | Oklahoma Development Finance Authority, Revenue Refunding Bonds, Hillcrest Healthcare System, Series 1999A, 5.625%, 8/15/29 (Pre-refunded 8/15/09) |
| 850 | Tulsa Industrial Authority, Oklahoma, Student Housing Revenue Bonds, University of Tulsa, Series 2006, 5.000%, 10/01/37 |
| 1,500 | Tulsa Municipal Airport Trust, Oklahoma, Revenue Refunding Bonds, American Airlines Inc., Series 2004A, 7.750%, 6/01/35 (Mandatory put 12/01/14) |

3,380 Total Oklahoma

Pennsylvania □ 2.9% (2.0% of Total Investments)

| | |
|-------|---|
| 460 | Allentown Area Hospital Authority, Pennsylvania, Revenue Bonds, Sacred Heart Hospital, Series 2005, 6.000%, 11/15/16 |
| 1,000 | Berks County Industrial Development Authority, Pennsylvania, First Mortgage Revenue Bonds, One Douglassville Properties Project, Series 2007A, 6.125%, 11/01/34 (Alternative Minimum Tax) |
| 2,000 | Chester County Health and Education Facilities Authority, Pennsylvania, Revenue Bonds, Immaculata University, Series 2005, 5.750%, 10/15/37 |
| 4,000 | Pennsylvania Economic Development Financing Authority, Revenue Bonds, Amtrak 30th Street Station Parking Garage, Series 2002, 5.800%, 6/01/23 □ ACA Insured (Alternative Minimum Tax) |

7,460 Total Pennsylvania

Rhode Island □ 1.4% (1.0% of Total Investments)

| | |
|-------|---|
| 1,000 | Rhode Island Student Loan Authority, Student Loan Program Revenue Bonds, Series 2008A, 6.750%, 12/01/28 (Alternative Minimum Tax) |
| 3,000 | Rhode Island Tobacco Settlement Financing Corporation, Tobacco Settlement Asset-Backed Bonds, Series 2002A, 6.250%, 6/01/42 |

4,000 Total Rhode Island

South Carolina □ 1.5% (1.0% of Total Investments)

| | |
|-------|---|
| 4,000 | Lancaster County, South Carolina, Assessment Bonds, Edgewater II Improvement District, Series |
|-------|---|

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2007A, 7.750%, 11/01/39

Tennessee □ 3.0% (2.1% of Total Investments)

| | |
|-------|--|
| 3,500 | Knox County Health, Educational and Housing Facilities Board, Tennessee, Hospital Revenue Bonds, Baptist Health System of East Tennessee Inc., Series 2002, 6.500%, 4/15/31 |
| 1,500 | Maury County Industrial Development Board, Tennessee, Multi-Modal Interchangeable Rate Pollution Control Revenue Refunding Bonds, Saturn Corporation, Series 1994, 6.500%, 9/01/24 |
| | Sumner County Health, Educational, and Housing Facilities Board, Tennessee, Revenue Refunding Bonds, Sumner Regional Health System Inc., Series 2007: |
| 2,000 | 5.500%, 11/01/37 |
| 2,000 | 5.500%, 11/01/46 |
| 990 | Wilson County Health and Educational Facilities Board, Tennessee, Senior Living Revenue Bonds, Rutland Place, Series 2007A, 6.300%, 7/01/37 |
| 9,990 | Total Tennessee |

Texas □ 8.6% (5.8% of Total Investments)

| | |
|-------|---|
| 1,905 | Austin Convention Enterprises Inc., Texas, Convention Center Hotel Revenue Bonds, First Tier Series 2001C-1, 9.750%, 1/01/26 |
| 1,000 | Austin Convention Enterprises Inc., Texas, Convention Center Hotel Revenue Bonds, First Tier Series 2006B, 5.750%, 1/01/34 |
| 10 | Brazos River Authority, Texas, Pollution Control Revenue Refunding Bonds, TXU Electric Company, Series 2001C, 5.750%, 5/01/36 (Mandatory put 11/01/11) (Alternative Minimum Tax) |
| 700 | Brazos River Authority, Texas, Pollution Control Revenue Refunding Bonds, TXU Electric Company, Series 2001D, 8.250%, 5/01/33 (Alternative Minimum Tax) |
| 1,750 | Dallas-Ft. Worth International Airport Facility Improvement Corporation, Texas, Revenue Bonds, American Airlines Inc., Series 2007, 5.500%, 11/01/30 (Alternative Minimum Tax) |
| | Decatur Hospital Authority, Texas, Revenue Bonds, Wise Regional Health System, Series 2004A: |
| 1,840 | 7.000%, 9/01/25 |
| 6,600 | 7.125%, 9/01/34 |
| 585 | Gulf Coast Industrial Development Authority, Texas, Solid Waste Disposal Revenue Bonds, Citgo Petroleum Corporation Project, Series 1998, 8.000%, 4/01/28 (Alternative Minimum Tax) |
| 1,000 | Heart of Texas Education Finance Corporation, Texas, Gateway Charter Academy, Series 2006A, 6.000%, 2/15/36 |
| 2,020 | Houston, Texas, Airport System Special Facilities Revenue Bonds, Continental Air Lines Inc., Series 1998B, 5.700%, 7/15/29 (Alternative Minimum Tax) |
| 975 | Houston, Texas, Airport System Special Facilities Revenue Bonds, Continental Air Lines Inc., Series 1998C, 5.700%, 7/15/29 (Alternative Minimum Tax) |
| 600 | Houston, Texas, Airport System Special Facilities Revenue Bonds, Continental Air Lines Inc., Series 2001E, 7.375%, 7/01/22 (Alternative Minimum Tax) |
| 1,000 | La Vernia Education Financing Corporation, Texas, Charter School Revenue Bonds, Riverwalk Education Foundation, Series 2007A, 5.450%, 8/15/36 |
| 1,000 | Sabine River Authority, Texas, Pollution Control Revenue Refunding Bonds, TXU Energy Company LLC Project, Series 2003B, 6.150%, 8/01/22 |
| 3,680 | Tarrant County Cultural and Educational Facilities Finance Corporation, Texas, Revenue Bonds, Texas Health Resources Project, Trust 1031, 9.591%, 2/15/36 (IF) |
| 1,000 | Texas Public Finance Authority, Charter School Finance Corporation Revenue Bonds, Cosmos Foundation Inc., Series 2007A, 5.375%, 2/15/37 |

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340 Trinity River Authority of Texas, Pollution Control Revenue Refunding Bonds, TXU Electric Company, Series 2003, 6.250%, 5/01/28 (Alternative Minimum Tax)

26,005 Total Texas

Virgin Islands □ 2.5% (1.7% of Total Investments)

5,000 Virgin Islands Public Finance Authority, Revenue Bonds, Refinery Project □ Hovensa LLC, Series 2003, 6.125%, 7/01/22 (Alternative Minimum Tax)

2,000 Virgin Islands Public Finance Authority, Senior Secured Lien Revenue Bonds, Refinery Project □ Hovensa LLC, Series 2004, 5.875%, 7/01/22

7,000 Total Virgin Islands

Virginia □ 0.5% (0.3% of Total Investments)

1,940 Isle of Wight County Industrial Development Authority, Virginia, Environmental Improvement Revenue Bonds, International Paper Company Project, Series 2007A, 4.700%, 3/01/31 (Alternative Minimum Tax)

Washington □ 5.6% (3.9% of Total Investments)

3,000 Skagit County Public Hospital District 1, Washington, Revenue Bonds, Skagit Valley Hospital, Series 2003, 6.000%, 12/01/18

Vancouver Downtown Redevelopment Authority, Washington, Revenue Bonds, Conference Center Project, Series 2003A:

1,750 6.000%, 1/01/28 □ ACA Insured

4,725 6.000%, 1/01/34 □ ACA Insured

2,500 5.250%, 1/01/34 □ ACA Insured

1,000 Washington State Economic Development Finance Authority, Revenue Bonds, Coeur D'Alene Fiber Project, Series 2007G, 7.000%, 12/01/27 (Alternative Minimum Tax)

2,000 Washington State Health Care Facilities Authority, Revenue Bonds, Northwest Hospital and Medical Center of Seattle, Series 2007, 5.700%, 12/01/32

14,975 Total Washington

West Virginia □ 0.3% (0.2% of Total Investments)

500 Ohio County Commission, West Virginia, Special District Excise Tax Revenue Bonds, Fort Henry Economic Development, Series 2006B, 5.625%, 3/01/36

500 Ohio County Commission, West Virginia, Tax Increment Revenue Bonds, Fort Henry Centre Financing District, Series 2007A, 5.850%, 6/01/34

1,000 Total West Virginia

Wisconsin □ 11.5% (7.9% of Total Investments)

550 Lac Courte Oreilles Band of Lake Superior Chippewa Indians, Wisconsin, Revenue Bonds, Series 2003A, 7.750%, 6/01/16 (Pre-refunded 12/01/14)

Wisconsin Health and Educational Facilities Authority, Revenue Bonds, Aurora Health Care Inc., Series 1999A:

9,485 5.600%, 2/15/29

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| | | | |
|--------|-----------------|-------------|--|
| 2,300 | 5.600%, 2/15/29 | ACA Insured | Wisconsin Health and Educational Facilities Authority, Revenue Bonds, Southwest Health Center Inc., Series 2004A: |
| 875 | 6.125%, 4/01/24 | | |
| 1,000 | 6.250%, 4/01/34 | | Wisconsin Health and Educational Facilities Authority, Revenue Bonds, Wheaton Franciscan Healthcare System, Series 2006: |
| 7,995 | 5.250%, 8/15/26 | | |
| 12,000 | 5.250%, 8/15/34 | | |

34,205 Total Wisconsin

\$ 421,652 Total Investments (cost 395,434,659) 146.6%

Floating Rate Obligations 5.2%

Other Assets Less Liabilities 9.9%

Preferred Shares, at Liquidation Value 51.3% (9)

Net Assets Applicable to Common Shares 100%

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- (1) All percentages shown in the Portfolio of Investments are based on net assets applicable to Common shares unless otherwise noted.
- (2) Optional Call Provisions: Dates (month and year) and prices of the earliest optional call or redemption. There may be other call provisions at varying prices at later dates. Certain mortgage-backed securities may be subject to periodic principal paydowns.
- (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.

The Portfolio of Investments may reflect the ratings on certain bonds insured by ACA, AGC, AMBAC, CFIG, FGIC, FSA, MBIA, RAAI and SYNCORA as of January 31, 2009. Subsequent to January 31, 2009, and during the period this Portfolio of Investments was prepared, there may have been reductions to the ratings of certain bonds resulting from changes to the ratings of the underlying insurers both during the period and after period end. Such reductions would likely reduce the effective rating of many of the bonds insured by that insurer or insurers presented at period end.

- (4) Backed by an escrow or trust containing sufficient U.S. Government or U.S. Government agency securities which ensure the timely payment of principal and interest. Such investments are normally considered to be equivalent to AAA rated securities.
 - (5) The issuer has received a formal adverse determination from the Internal Revenue Service (the "IRS") regarding the tax-exempt status of the bonds' coupon payments. The Fund will continue to treat coupon payments as tax-exempt income until such time that it is formally determined that the interest on the bonds should be treated as taxable.
 - (6) Investment, or portion of investment has been pledged as collateral for Recourse Trusts.
 - (7) During the current fiscal period, the Adviser concluded this issue is not likely to meet its future interest payment obligations and directed the custodian to cease accruing additional income on the Fund's records.
 - (8) Non-income producing security, in the case of a bond, generally denotes that the issuer has defaulted on the payment of principal or interest or has filed for bankruptcy.
 - (9) Preferred Shares, at Liquidation Value as a percentage of Total Investments is 35.0%.
- N/R Not rated.
- (ETM) Escrowed to maturity.
- (IF) Inverse floating rate investment.
- (UB) Underlying bond of an inverse floating rate trust reflected as a financing transaction pursuant to the provisions of SFAS No. 140.

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).

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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 January 31, 2009:

| | Level 1 | Level 2 | Level 3 | Total |
|-------------|---------|---------------|---------|---------------|
| Investments | \$ 0 | \$292,798,312 | \$ 0 | \$292,798,312 |

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 taxable market discount, timing differences in recognizing certain gains and losses on investment transactions and the treatment of investments in inverse floating rate transactions subject to SFAS No. 140. 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 January 31, 2009, the cost of investments was \$384,575,829.

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

| | |
|---|-----------------|
| Gross unrealized: | |
| Appreciation | \$ 7,485,857 |
| Depreciation | (109,564,272) |
| Net unrealized appreciation (depreciation) of investments | \$(102,078,415) |

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: See 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 Municipal High Income Opportunity Fund

By (Signature and Title) /s/ Kevin J. McCarthy
Kevin J. McCarthy
Vice President and Secretary

Date April 1, 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 April 1, 2009

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

Date April 1, 2009