

PIONEER MUNICIPAL & EQUITY INCOME TRUST
Form N-Q
April 30, 2008

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM N-Q

CERTIFIED SHAREHOLDER REPORT OF REGISTERED
MANAGEMENT INVESTMENT COMPANIES

Investment Company Act file number 811-21448

Pioneer Municipal and Equity Income Trust
(Exact name of registrant as specified in charter)

60 State Street, Boston, MA 02109
(Address of principal executive offices) (ZIP code)

Dorothy E. Bourassa, Pioneer Investment Management, Inc.,
60 State Street, Boston, MA 02109
(Name and address of agent for service)

Registrant's telephone number, including area code: (617) 742-7825

Date of fiscal year end: November 30

Date of reporting period: February 29, 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 close of the first and third fiscal quarters, pursuant to Rule 30b1-5 under the Investment Company Act of 1940 (17 CFR 270.30b-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 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. ss. 3507.

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ITEM 1. Schedule of Investments.

Pioneer Municipal and Equity Income Trust
SCHEDULE OF INVESTMENTS 2/29/08 (unaudited)

| Principal Amount (\$) | | Value |
|--------------------------|--|-------------|
| | TAX EXEMPT OBLIGATIONS - 78.9% of Net Assets | |
| | Alabama - 1.4% | |
| 5,000,000 | Huntsville-Redstone Village Special Care Facilities Fina | \$4,025,550 |
| 1,500,000 | Sylacauga Health Care Authority Revenue, 6.0%, 8/1/35 | 1,318,095 |
| | | 5,343,645 |
| | Arizona - 1.1% | |
| 1,000,000 | Maricopa County Hospital Revenue, 5.0%, 4/1/35 | 838,840 |
| 470,000 + | Pima County Industrial Development Authority, 6.375%, 7/ | 533,544 |
| 530,000 | Pima County Industrial Development Authority, 6.375%, 7/ | 507,645 |
| 989,000 | Pima County Industrial Development Authority, 6.75%, 7/1 | 990,048 |
| 1,000,000+ | Pima County Industrial Development Authority, 7.5%, 7/1/ | 1,174,520 |
| | | 4,044,597 |
| | California - 5.0% | |
| 1,000,000 | California Health Facilities Authority Revenue, 5.25%, 7 | 974,240 |
| 9,000,000 | Golden State Tobacco Securitization Corp., 5.125%, 6/1/4 | 7,218,090 |
| 4,000,000+ | Golden State Tobacco Securitization Corp., 6.75%, 6/1/39 | 4,547,880 |
| 9,655,000(a) | Golden State Tobacco Securitization Corp., RIB, 8.463% | 5,892,157 |
| | | 18,632,367 |
| | Colorado - 0.7% | |
| 3,000,000 | Colorado Educational & Cultural Facilities Authority Rev | 2,503,920 |
| | Connecticut - 1.0% | |
| 1,500,000 | Mohegan Tribe Indians Gaming Authority, 5.25%, 1/1/33 (1 | 1,216,770 |
| 2,470,000 | Mohegan Tribe Indians Gaming Authority, 6.25%, 1/1/31 (1 | 2,309,524 |
| | | 3,526,294 |
| | District of Columbia - 1.1% | |
| 4,000,000 | District of Columbia Tobacco Settlement Financing Corp., | 4,021,200 |
| | Florida - 4.2% | |
| 1,105,000 | Highlands County Health Facilities Authority Revenue, 5. | 1,038,125 |
| 5,000,000+ | Highlands County Health Facilities Authority Revenue, 6. | 5,534,350 |
| 2,000,000 | Lee County Industrial Development Authority Revenue, 5.3 | 1,544,780 |
| 585,000 | Madison County First Mortgage Revenue, 6.0%, 7/1/25 | 539,429 |
| 2,025,000 | Miami Beach Health Facilities Authority Revenue, 5.375%, | 1,697,780 |
| 500,000 | Miami Beach Health Facilities Authority Revenue, 6.7%, 1 | 503,895 |
| 1,400,000 | Orange County Health Facilities Authority Revenue, 5.5%, | 1,141,532 |
| 3,970,000(a) | Tampa-Hillsborough County Expressway Authority Revenue, | 3,493,243 |
| | | 15,493,134 |
| | Georgia - 3.7% | |
| 9,580,000(a) | Georgia Municipal Electric Authority Power Revenue, RIB, | 11,111,171 |
| 2,500,000+ | Milledgeville-Baldwin County Development Authority Reven | 2,801,850 |
| | | 13,913,021 |
| | Illinois - 4.6% | |
| 3,000,000 | Chicago Illinois General Obligation, 5.0%, 1/1/28 | 2,890,140 |
| 4,580,000 | Illinois Development Finance Authority Revenue, 5.25%, 1 | 4,446,539 |
| 5,000,000 | Illinois Educational Facilities Authority Revenue, 5.0%, | 4,694,050 |
| 2,000,000+ | Illinois Finance Authority Revenue, 5.5%, 8/15/43 | 2,210,380 |
| 2,055,000(a) | Illinois Finance Authority Revenue, RIB, 11.196%, 8/15/4 | 2,789,971 |
| | | 17,031,080 |
| | Indiana - 2.8% | |
| 5,000,000 | Indiana Health & Educational Facilites Financing Authori | 4,275,350 |
| 4,135,000 | Indiana State Development Finance Authority Revenue, 5.7 | 4,079,591 |

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| | | |
|------------|---|------------|
| 2,570,000 | Vigo County Hospital Authority Revenue, 5.8%, 9/1/47 (14 | 2,185,965 |
| | | 10,540,906 |
| | Iowa - 0.9% | |
| 4,000,000 | Iowa Financing Authority Senior Housing Revenue, 5.625%, | 3,213,840 |
| | Kansas - 0.6% | |
| 750,000 | Manhattan Health Care Facilities Revenue, 5.125%, 5/15/3 | 596,925 |
| 2,000,000 | Manhattan Health Care Facilities Revenue, 5.125%, 5/15/4 | 1,568,000 |
| | | 2,164,925 |
| | Louisiana - 3.3% | |
| 5,000,000 | Louisiana Public Facilities Authority Revenue, 5.5%, 5/1 | 4,515,450 |
| 8,335,000 | Tobacco Settlement Financing Corp., 5.875%, 5/15/39 | 7,693,455 |
| | | 12,208,905 |
| | Maryland - 1.9% | |
| 3,000,000 | Frederick County Educational Facilities Revenue, 5.625%, | 2,688,030 |
| 1,000,000 | Maryland State Economic Development Revenue, Series A, 5 | 950,200 |
| 660,000 | Maryland State Economic Development Revenue, Series B, 5 | 627,132 |
| 1,000,000 | Maryland State Economic Development Revenue, 5.0%, 12/1/ | 805,750 |
| 2,000,000+ | Maryland State Health & Higher Educational Facilities Au | 2,163,140 |
| | | 7,234,252 |
| | Massachusetts - 4.5% | |
| 4,500,000 | Massachusetts Health & Educational Facilities Authority | 3,880,890 |
| 2,000,000 | Massachusetts Health & Educational Facilities Authority | 1,919,420 |
| 1,550,000 | Massachusetts Health & Educational Facilities Authority | 1,485,272 |
| 1,600,000 | Massachusetts Health & Educational Facilities Authority | 1,519,856 |
| 2,120,000 | Massachusetts Health & Educational Facilities Authority | 2,003,527 |
| 900,000 | Massachusetts Health & Educational Facilities Authority | 891,513 |
| 2,750,000 | Massachusetts Health & Educational Facilities Authority | 2,793,147 |
| 500,000 | Massachusetts State Development Finance Agency, 5.5%, 1/ | 412,830 |
| 1,100,000 | Massachusetts State Development Finance Agency, 5.625%, | 1,071,609 |
| 1,000,000 | Massachusetts State Development Finance Agency, 5.7%, 10 | 930,290 |
| | | 16,908,354 |
| | Michigan - 3.0% | |
| 5,000,000 | Macomb County Hospital Finance Authority Revenue, 5.875% | 4,514,200 |
| 1,595,000 | Meridian Economic Development Corporate Ltd. Obligation | 1,401,654 |
| 3,340,000 | Michigan Public Educational Facilities Authority Revenue | 2,799,688 |
| 2,000,000 | Michigan State Hospital Finance Authority Revenue, 5.25% | 1,678,860 |
| 1,000,000 | Michigan State Hospital Finance Authority Revenue, 5.5%, | 825,830 |
| | | 11,220,232 |
| | Minnesota - 1.4% | |
| 2,000,000 | Duluth Economic Development Authority Health Care Facili | 1,879,860 |
| 1,500,000 | Duluth Economic Development Authority Health Care Facili | 1,369,770 |
| 1,000,000 | North Oaks Senior Housing Revenue, 6.0%, 10/1/33 | 923,960 |
| 1,000,000 | North Oaks Senior Housing Revenue, 6.5%, 10/1/47 | 977,690 |
| | | 5,151,280 |
| | Missouri - 0.4% | |
| 1,720,000 | Missouri State Health & Educational Authority Health Fac | 1,607,478 |
| | Montana - 0.3% | |
| 1,000,000 | Montana Finance Authority Hospital Facilities Revenue, 5 | 941,520 |
| | Nevada - 0.4% | |
| 1,500,000 | Henderson Nevada Health Care Facilities Revenue, 5.625%, | 1,504,230 |
| | New Hampshire - 0.7% | |
| 1,700,000+ | New Hampshire Business Finance Authority Revenue, 6.05%, | 1,777,384 |
| 1,000,000 | New Hampshire Health & Education Facilities Authority Re | 985,970 |
| | | 2,763,354 |
| | New Jersey - 5.9% | |
| 1,250,000 | Camden County Improvement Authority Revenue, 5.75%, 2/15 | 1,123,075 |
| 5,920,000 | (a)Garden State Preservation Trust, RIB, 12.487%, 11/1/22 | 7,194,221 |

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| | | |
|--------------|--|------------|
| 710,000 | New Jersey Economic Development Authority Revenue, 5.75% | 642,443 |
| 1,000,000 | New Jersey Economic Development Authority Revenue, 5.875 | 869,330 |
| 1,000,000 | New Jersey Health Care Facilities Financing Authority Re | 927,920 |
| 5,000,000 | New Jersey Health Care Facilities Financing Authority Re | 4,487,550 |
| 3,500,000 | New Jersey Health Care Facilities Financing Authority Re | 3,302,215 |
| 3,000,000+ | Tobacco Settlement Financing Corp., 6.25%, 6/1/43 | 3,391,500 |
| | | 21,938,254 |
| | New Mexico - 0.6% | |
| 1,000,000 | Dona Ana County PILT Revenue, 5.25%, 12/1/25 | 955,440 |
| 1,500,000 | Farmington New Mexico Hospital Revenue, 5.0%, 6/1/23 | 1,349,925 |
| | | 2,305,365 |
| | New York - 6.4% | |
| 2,500,000 | Albany Industrial Development Agency Civic Facilities Re | 2,224,500 |
| 2,000,000 | Dutchess County Industrial Development Agency Revenue, 7 | 2,090,800 |
| 3,255,000(a) | Lehman Municipal Trust Receipts, RIB, 9.103%, 6/15/38 | 2,770,949 |
| 1,700,000 | Nassau County Industrial Development Agency, 6.7%, 1/1/4 | 1,626,747 |
| 1,000,000 | New York City Industrial Development Agency, 5.0%, 7/1/2 | 980,500 |
| 1,000,000 | New York City Industrial Development Agency, 5.25%, 7/1/ | 1,010,120 |
| 5,000,000 | Port Authority of New York & New Jersey Revenue, 5.0%, 9 | 4,752,600 |
| 1,000,000 | Suffolk County Industrial Development Agency Civic Facil | 805,710 |
| 4,900,000 | Triborough Bridge & Tunnel Authority, 5.25%, 11/15/30 | 4,899,608 |
| 3,000,000 | Ulster County Industrial Development Agency Civic Facili | 2,697,690 |
| | | 23,859,224 |
| | North Carolina - 0.7% | |
| 1,000,000 | North Carolina Capital Facilities Finance Agency Student | 919,810 |
| 1,000,000 | North Carolina Capital Facilities Finance Agency Student | 884,600 |
| 1,000,000 | North Carolina Medical Care Commission Health Care Facil | 914,440 |
| | | 2,718,850 |
| | Ohio - 1.0% | |
| 1,500,000 | Cuyahoga County Health Care & Independent Living Facilit | 1,312,575 |
| 1,500,000 | Cuyahoga County Health Care & Independent Living Facilit | 1,300,710 |
| 1,000,000 | Hamilton County Hospital Facilities Revenue, 5.125%, 5/1 | 930,300 |
| | | 3,543,585 |
| | Oregon - 0.8% | |
| 2,935,000 | Oregon State Housing & Community Services Department Mul | 2,936,966 |
| | Pennsylvania - 3.0% | |
| 5,000,000+ | Pennsylvania State Turnpike Commission Oil Franchise Tax | 5,390,900 |
| 1,315,000+ | Sayre Health Care Facilities Authority Revenue, 5.875%, | 1,442,792 |
| 685,000 | Sayre Health Care Facilities Authority Revenue, 5.875%, | 685,767 |
| 280,000 | Scranton-Lackawanna Health and Welfare Authority Hospita | 279,723 |
| 700,000 | Scranton-Lackawanna Health and Welfare Authority Hospita | 698,243 |
| 460,000 | Scranton-Lackawanna Health and Welfare Authority Hospita | 458,077 |
| 2,165,000 | Swarthmore Borough Authority College Revenue, 5.0%, 9/15 | 2,078,162 |
| | | 11,033,664 |
| | Puerto Rico - 1.2% | |
| 75,000 | + Puerto Rico Public Buildings Authority Revenue, 5.25%, 7 | 81,159 |
| 4,925,000 | Puerto Rico Public Buildings Authority Revenue, 5.25%, 7 | 4,548,878 |
| | | 4,630,037 |
| | Rhode Island - 1.2% | |
| 1,640,000 | Tobacco Settlement Financing Corp., 6.125%, 6/1/32 | 1,576,630 |
| 3,100,000 | Tobacco Settlement Financing Corp., 6.25%, 6/1/42 | 2,932,972 |
| | | 4,509,602 |
| | South Carolina - 4.0% | |
| 4,000,000 | Berkeley County School District Installment Lease, 5.0%, | 3,629,760 |
| 5,000,000 | Florence County Hospital Revenue, 5.25%, 11/1/34 | 4,812,250 |
| 3,500,000+ | Lexington County Health Services District, Inc., Hospita | 3,842,580 |
| 540,000 | + South Carolina Jobs Economic Development Authority Reven | 588,535 |
| 1,960,000 | South Carolina Jobs Economic Development Authority Reven | 1,947,613 |
| | | 14,820,738 |
| | Tennessee - 0.7% | |
| 2,500,000 | Knox County Health Educational & Housing Facilities Boar | 2,512,700 |

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|-----------|--|-------------|
| | Texas - 4.6% | |
| 1,552,000 | Houston Housing Financing Corp., 6.25%, 9/20/31 | 1,558,037 |
| 2,750,000 | Lower Colorado River Authority, 5.0%, 5/15/31 | 2,629,743 |
| 1,711,000 | Panhandle Regional Housing Finance Corp., 6.6%, 7/20/31 | 1,744,878 |
| 3,000,000 | Richardson Hospital Authority, 6.0%, 12/1/34 | 2,814,150 |
| 1,000,000 | Seguin Higher Education Facilities Corp. Revenue, 5.0%, | 919,860 |
| 1,500,000 | Texas State Student Housing Revenue, 6.5%, 9/1/34 | 1,479,480 |
| 3,000,000 | Willacy County Local Government Corp. Revenue, 6.0%, 9/1 | 2,972,820 |
| 3,000,000 | Willacy County Local Government Corp. Revenue, 6.875%, 9 | 2,867,310 |
| | | 16,986,278 |
| | Vermont - 1.1% | |
| 3,750,000 | (a)Lehman Municipal Trust Receipts, RIB, 10.718%, 10/31/46 | 2,706,150 |
| 1,295,000 | Vermont Educational & Health Buildings Financing Agency | 1,207,173 |
| | | 3,913,323 |
| | Virginia - 1.3% | |
| 1,500,000 | Prince William County Industrial Development Hospital Re | 1,414,635 |
| 3,925,000 | Prince William County Industrial Development Hospital Re | 3,607,036 |
| | | 5,021,671 |
| | Washington - 2.6% | |
| 3,000,000 | King County Washington Sewer Revenue, 5.0%, 1/1/35 | 2,794,590 |
| 7,000,000 | Tobacco Settlement Authority Revenue, 6.625%, 6/1/32 | 7,006,720 |
| | | 9,801,310 |
| | Wisconsin - 0.8% | |
| 3,500,000 | Wisconsin State Health & Educational Facilities Authorit | 3,149,440 |
| | TOTAL TAX-EXEMPT OBLIGATIONS | |
| | (Cost \$311,894,811) (b) | 293,649,541 |
| | Shares | |
| | COMMON STOCKS - 37.5% of Net Assets | |
| | Energy - 1.5% | |
| | Oil & Gas Drilling - 0.6% | |
| 19,566 | Diamond Offshore Drilling, Inc. | 2,364,160 |
| | Oil & Gas Storage & Transportation - 0.9% | |
| 142,876 | Spectra Energy Corp. | 3,301,864 |
| | Total Energy | 5,666,024 |
| | Materials - 0.5% | |
| | Diversified Chemicals - 0.5% | |
| 94,000 | Olin Corp. | 1,806,680 |
| | Total Materials | 1,806,680 |
| | Commercial Services & Supplies - 0.8% | |
| | Commercial Printing - 0.7% | |
| 79,034 | R.R. Donnelley & Sons Co. | 2,515,652 |
| | Office Services & Supplies - 0.1% | |
| 31,486 | Kimball International, Inc. | 329,029 |
| | Total Commercial Services & Supplies | 2,844,681 |
| | Consumer Durables & Apparel - 0.1% | |
| | Home Furnishings - 0.1% | |
| 50,000 | Bassett Furniture Industries, Inc. | 587,000 |
| | Total Consumer Durables & Apparel | 587,000 |
| | Media - 1.5% | |
| | Movies & Entertainment - 1.1% | |
| 206,487 | Regal Entertainment Group | 4,073,988 |

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| | | |
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| | Publishing - 0.4% | |
| 295,935 | Idearc, Inc. | 1,426,407 |
| | Total Media | 5,500,395 |
| | Food, Beverage & Tobacco - 8.8% | |
| | Packaged Foods & Meats - 2.2% | |
| 532,758 | B&G Foods, Inc. | 5,295,614 |
| 92,828 | Kraft Foods, Inc. | 2,893,449 |
| | | 8,189,063 |
| | Tobacco - 6.6% | |
| 134,140 | Altria Group, Inc. | 9,811,000 |
| 172,872 | Loews Corp. - Carolina Group | 13,015,533 |
| 29,704 | Reynolds American, Inc. | 1,892,739 |
| | | 24,719,272 |
| | Total Food, Beverage & Tobacco | 32,908,335 |
| | Pharmaceuticals, Biotechnology & Life Sciences - 4.6% | |
| | Pharmaceuticals - 4.6% | |
| 329,758 | Bristol-Myers Squibb Co. | 7,455,828 |
| 216,536 | Merck & Co., Inc. | 9,592,545 |
| | Total Pharmaceuticals, Biotechnology & Life Sciences | 17,048,373 |
| | Banks - 1.6% | |
| | Diversified Banks - 0.2% | |
| 28,642 | Wachovia Corp. | 877,018 |
| | Regional Banks - 0.9% | |
| 81,550 | KeyCorp | 1,798,178 |
| 67,800 | Regions Financial Corp. | 1,437,360 |
| | | 3,235,538 |
| | Thrifts & Mortgage Finance - 0.5% | |
| 222,700 | TrustCo Bank Corp., NY | 1,926,355 |
| | Total Banks | 6,038,911 |
| | Diversified Financials - 0.5% | |
| | Other Diversified Financial Services - 0.5% | |
| 42,500 | Bank of America Corp. | 1,688,950 |
| | Total Diversified Financials | 1,688,950 |
| | Telecommunication Services - 9.8% | |
| | Integrated Telecommunication Services - 9.8% | |
| 187,900 | AT&T, Inc. | 6,544,557 |
| 529,946 | Citizens Communications Co. | 5,691,620 |
| 406,745 | Verizon Communications, Inc. | 14,772,978 |
| 790,184 | Windstream Corp. | 9,292,564 |
| | Total Telecommunication Services | 36,301,719 |
| | Utilities - 7.8% | |
| | Electric Utilities - 0.7% | |
| 138,400 | Empire District Electric Co. | 2,838,584 |
| | Gas Utilities - 3.5% | |
| 81,249 | AGL Resources, Inc. | 2,817,715 |
| 395,466 | Atmos Energy Corp. | 10,282,116 |
| | | 13,099,831 |
| | Multi-Utilities - 3.6% | |
| 100,000 | Consolidated Edison, Inc. | 4,089,000 |
| 285,753 | Duke Energy Corp. | 5,012,108 |
| 134,112 | NSTAR | 4,144,061 |
| | | 13,245,169 |
| | Total Utilities | 29,183,584 |

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| TOTAL COMMON STOCKS | | |
| | (Cost \$134,909,957) | 139,574,652 |
| | | |
| NON-CONVERTIBLE PREFERRED STOCKS - 26.7% of Net Assets | | |
| Energy - 1.1% | | |
| | Oil & Gas Exploration & Production- 1.1% | |
| 49,300 | Apache Corp., Series B, 5.68% | 4,242,881 |
| | Total Energy | 4,242,881 |
| | | |
| Automobiles & Components - 1.2% | | |
| Automobile Manufacturers - 1.2% | | |
| 126,542 | Ford Motor Co. Capital Trust II, 6.5% | 4,180,857 |
| | Total Automobiles & Components | 4,180,857 |
| | | |
| Banks - 6.9% | | |
| Diversified Banks - 3.8% | | |
| 105,000 | Bank One Capital VI, 7.2% | 2,593,766 |
| 120,000 | Barclays Bank Plc, Series 2, 6.625% | 2,947,200 |
| 120,000 | HSBC Holdings Plc, Series A, 6.2%, | 2,709,600 |
| 170,579 | Royal Bank of Scotland Group Plc, Series Q, 6.75% | 4,245,711 |
| 71,000 | Wachovia Preferred Funding Corp., Series A, 7.25% | 1,764,350 |
| | | 14,260,627 |
| | | |
| Thrifts & Mortgage Finance - 3.1% | | |
| 56,980 | Countrywide Capital V, 7.0% | 973,163 |
| 171,677 | Fannie Mae, Series N, 6.75% | 4,082,479 |
| 57,000 | Freddie Mac, 5.81% | 2,422,500 |
| 39,000 | Freddie Mac, Series F, 5.0% | 1,472,250 |
| 58,000 | Freddie Mac, Series K, 5.79% | 2,436,000 |
| | | 11,386,392 |
| | Total Banks | 25,647,019 |
| | | |
| Diversified Financials - 7.2% | | |
| Other Diversified Financial Services - 2.8% | | |
| 49,000 | ABN Amro Capital Fund Trust VII, 6.08% | 1,095,150 |
| 120,000 | Bank of America Corp., Series D, 6.204% | 2,719,200 |
| 120,000 | Deutsche Bank Capital Funding Trust VIII, 6.375% | 2,932,500 |
| 150,000 | JPMorgan Chase Capital Trust XVI, 6.35% | 3,556,500 |
| | | 10,303,350 |
| | | |
| Consumer Finance - 1.0% | | |
| 18,000 | MBNA Capital, Series D, 8.125% | 449,373 |
| 71,300 | SLM Holdings Corp., Series A, 6.97% | 3,362,508 |
| | | 3,811,881 |
| | | |
| Investment Banking & Brokerage - 3.4% | | |
| 57,000 | Bear Stearns Companies, Inc., Series F, 5.72% | 2,309,070 |
| 40,000 | Bear Stearns Companies, Inc., Series G, 5.49% | 1,560,000 |
| 100,000 | Lehman Brothers Holdings, Inc., 6.5% | 2,270,000 |
| 19,000 | Lehman Brothers Holdings, Inc., Series C, 5.94% | 804,650 |
| 50,800 | Lehman Brothers Holdings, Inc., Series D, 5.67% | 2,131,060 |
| 65,000 | Merrill Lynch Preferred Capital Trust IV, 7.12% | 1,579,293 |
| 87,000 | Merrill Lynch Preferred Capital Trust V, 7.28% | 2,113,230 |
| | | 12,767,303 |
| | Total Diversified Financials | 26,882,534 |
| | | |
| Insurance - 3.4% | | |
| Life & Health Insurance - 0.4% | | |
| 159,000 | Scottish Re Group, Ltd., 7.25% | 1,590,000 |
| | | |
| Property & Casualty Insurance 2.1% | | |
| 160,000 | ACE, Ltd., Series C, 7.8% | 3,996,800 |
| 161,000 | Berkley W.R. Capital Trust II, 6.75% | 3,706,119 |
| | | 7,702,919 |
| | | |
| Reinsurance - 0.9% | | |

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| 158,000 | RenaissanceRE Holdings, Ltd., Series D, 6.6% | 3,476,000 |
| | Total Insurance | 12,768,919 |
| | Real Estate - 3.1% | |
| | Diversification Real Estate Investment Trust - 0.9% | |
| 32,440 | PS Business Parks, Inc., Series I, 6.875% | 697,785 |
| 13,000 | PS Business Parks, Inc., Series L, 7.6% | 300,040 |
| 119,200 | PS Business Parks, Inc., Series P, 6.7% | 2,491,280 |
| | | 3,489,105 |
| | Industrial Real Estate Investment Trust - 0.3% | |
| 40,000 | Prologis Trust, Series G, 6.75% | 940,400 |
| | Office Real Estate Investment Trust - 0.3% | |
| 15,000 | Brandywine Realty Trust, Series C, 7.5% | 323,550 |
| 34,500 | Brandywine Realty Trust, Series D, 7.375% | 730,020 |
| | | 1,053,570 |
| | Retail Real Estate Investment Trust - 0.9% | |
| 94,000 | Regency Centers Corp., Series C, 7.45% | 2,232,500 |
| 53,500 | Regency Centers Corp., Series E, 6.7% | 1,145,970 |
| | | 3,378,470 |
| | Specialized Real Estate Investment Trust - 0.7% | |
| 118,000 | Public Storage, Inc., Series L, 6.75% | 2,677,420 |
| | Total Real Estate | 11,538,965 |
| | Utilities - 3.8% | |
| | Electric Utilities - 3.4% | |
| 98,000 | Alabama Power Co., 5.3% | 2,198,140 |
| 113,000 | Alabama Power Co., 5.83% | 2,719,910 |
| 78,000 | Interstate Power and Light Co., Series B, 8.375% | 2,303,340 |
| 40,000 | Mississippi Power Co., 5.25% | 986,000 |
| 7,700 | PPL Electric Utilities Corp., 4.5% | 619,850 |
| 73,000 | Southern California Edison Co., 4.32% | 1,441,750 |
| 94,000 | Virginia Power Capital Trust II, 7.375% | 2,357,800 |
| | | 12,626,790 |
| | Gas Utilities - 0.4% | |
| 62,000 | Southern Union Co., Series C, 7.55% | 1,562,400 |
| | Total Utilities | 14,189,190 |
| | TOTAL NON-CONVERTIBLE PREFERRED STOCKS (Cost \$111,664,059) | 99,450,365 |
| | CONVERTIBLE PREFERRED STOCKS - 3.0% of Net Assets | |
| | Capital Goods - 0.6% | |
| | Aerospace & Defense - 0.6% | |
| 15,000 | Northrop Grumman Corp., 7.0% | 2,147,700 |
| | Total Capital Goods | 2,147,700 |
| | Commercial Services & Supplies - 0.8% | |
| | Office Services & Supplies - 0.8% | |
| 60,000 | Avery Dennison Corp., 7.875% | 3,066,000 |
| | Total Commercial Services & Supplies | 3,066,000 |
| | Diversified Financials - 1.4% | |
| | Other Diversified Financial Services - 1.4% | |
| 161,000 | Lazard, Ltd., 6.625% | 5,172,930 |
| | Total Diversified Financials | 5,172,930 |
| | Insurance - 0.2% | |
| | Property & Casualty Insurance - 0.2% | |
| 47,919 | XL Capital, Ltd., Class A, 7.0% | 682,846 |
| | Total Insurance | 682,846 |

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| | | |
|---------|--|---------------|
| | TOTAL CONVERTIBLE PREFERRED STOCKS (Cost \$10,175,221) | 11,069,476 |
| 405,000 | TAX-EXEMPT MONEY MARKET MUTUAL FUND - 0.1% of Net Assets BlackRock Liquidity Funds MuniFund Portfolio | 405,000 |
| | TOTAL TAX-EXEMPT MONEY MARKET MUTUAL FUND (Cost \$405,000) | 405,000 |
| | TOTAL INVESTMENTS IN SECURITIES - 146.2% (Cost \$569,049,048) (c) | \$544,149,034 |
| | OTHER ASSETS AND LIABILITIES 1.2% | 4,497,171 |
| | PREFERRED SHARES AT REDEMPTION VALUE, INCLUDING DIVIDENDS PAYABLE - (47.4%) | (176,414,160) |
| | NET ASSETS APPLICABLE TO COMMON SHAREOWNERS - 100.0% | \$372,232,045 |

Portfolio Abbreviations
RIB Residual Interest Bonds

(144A) Security is exempt from registration under Rule 144A of the Securities Act of 1933. Such securities may be resold normally to qualified institutional buyers in a transaction exempt from registration. At February 29, 2008, the value of these securities amounted \$44,979,751, or 12.1% of total net assets.

+ Prerefunded bonds have been collateralized by U.S. Treasury securities or U.S. Government Agencies, which are held in escrow to pay interest and principal on the tax exempt issue and to retire the bonds in full at the earliest refunding date.

(a) The interest rate is subject to change periodically and inversely based upon prevailing market rates. The interest rate shown is the rate at February 29, 2008.

(b) The concentration of tax-exempt investments by type of obligation/market sector is as follows:

| | |
|-------------------------|--------|
| Insured | 20.0% |
| General Obligation | 3.5 |
| Revenue Bonds: | |
| Health Revenue | 31.9 |
| Tobacco Revenue | 17.0 |
| Development Revenue | 10.1 |
| Education Revenue | 6.6 |
| Housing Revenue | 3.7 |
| Facilities Revenue | 3.1 |
| Transportation Revenue | 1.6 |
| Gaming Revenue | 1.2 |
| School District Revenue | 1.2 |
| Other Revenue | 0.1 |
| | 100.0% |

(c) At February 29, 2008, the net unrealized loss on investments based on cost for federal income tax purposes of \$568,812,984 was as follows:

| | |
|--|----------------|
| Aggregate gross unrealized gain for all investments in which there is an excess of value over tax cost | \$25,325,590 |
| Aggregate gross unrealized loss for all investments in which there is an excess of tax cost over value | (49,989,540) |
| Net unrealized loss | (\$24,663,950) |

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For financial reporting purposes net unrealized loss on investments was \$24,900,014 and cost of investments aggregated \$569,049,048.

FAS 157 Footnote Disclosures

Various inputs are used in determining the value of the Fund's investments. These inputs are summarized in the three broad levels listed below.

Highest priority is given to Level 1 inputs and lowest priority is given to Level 3.

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 the Fund's own assumptions in determining fair value of investments)

The following is a summary of the inputs used as of February 29, 2008, in valuing the Fund's assets:

| Valuation Inputs | Investments in Securities | Other Financial Instruments |
|---|------------------------------|-----------------------------------|
| Level 1 - Quoted Prices | \$242,919,111 | |
| Level 2 - Other Significant Observable Inputs | \$301,229,923 | (\$1,240,178) |
| Level 3 - Significant Unobservable Inputs | | |
| Total | \$544,149,034 | (\$1,240,178) |

ITEM 2. CONTROLS AND PROCEDURES.

(a) Disclose the conclusions of the registrant's principal executive officer or officers and principal financial officer or officers, or persons performing similar functions, about the effectiveness of the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Act (17 CFR 270.30a-3(c))) as of a date within 90 days of the filing date of the report that includes the disclosure required by this paragraph, based on their evaluation of these controls and procedures required by Rule 30a-3(b) under the Act (17 CFR 270.30a-3(b)) and Rule 13a-15(b) or 15d-15(b) under the Exchange Act (17 CFR 240.13a-15(b) or 240.15d-15(b)).

The registrant's principal executive officer and principal financial officer have concluded that the registrant's disclosure controls and procedures are effective based on their evaluation of these controls and procedures as of a date within 90 days of the filing date of this report.

(b) Disclose any change in the registrant's internal controls over financial reporting (as defined in Rule 30a-3(d) under the Act (17 CFR 270.30a-3(d))) that occurred during the registrant's last fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

There were no significant changes in the registrant's internal control over financial reporting that occurred during the second fiscal quarter of the period covered by this report that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

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ITEM 3. EXHIBITS.

(a) A separate certification for each principal executive officer and principal financial officer of the registrant as required by Rule 30a-2 under the Act (17 CFR 270.30a-2).

Filed herewith.

SIGNATURES

[See General Instruction F]

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) Pioneer Municipal and Equity Income Trust

By (Signature and Title)* /s/ John F. Cogan, Jr.
John F. Cogan, Jr, President

Date April 29, 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/ John F. Cogan, Jr.
John F. Cogan, Jr., President

Date April 29, 2008

By (Signature and Title)* /s/ Vincent Nave
Vincent Nave, Treasurer

Date April 29, 2008

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