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PIONEER MUNICIPAL & EQUITY INCOME TRUST

Form N-CSR

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

FORM N-CSR

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: December 1, 2007 through May 31, 2008

Form N-CSR is to be used by management investment companies to file reports with the Commission not later than 10 days after the transmission to stockholders of any report that is required to be transmitted to stockholders under Rule 30e-1 under the Investment Company Act of 1940 (17 CFR 270.30e-1). The Commission may use the information provided on Form N-CSR in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-CSR, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-CSR 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. REPORTS TO SHAREOWNERS.

PIONEER

MUNICIPAL
AND EQUITY
INCOME
TRUST*

PBF
Ticker Symbol

Semiannual
Report

5/31/08

[LOGO]PIONEER
Investments (R)

*Effective November 7, 2007, Pioneer Tax Advantaged Balanced Trust was
renamed Pioneer Municipal and Equity Income Trust

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President's

Dear Shareowner,

Staying diversified and keeping your portfolio invested in the markets are two
general investment principles that have served investors well over time. They

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are particularly useful guides to keep in mind today, at a time when markets around the globe are being buffeted by problems in the financial and real estate industries and by concerns about a slowing economy.

After an extended period of steady economic growth with sustained low unemployment and low inflation, the U.S. economy ran into difficulty as 2007 drew to a close. Investors in subprime mortgages were forced to mark down the value of their assets, imperiling leveraged balance sheets. The ensuing credit crunch forced central banks in the United States and Europe to assume the role of "lender of last resort" to keep credit markets functioning. Conditions worsened in the first quarter of 2008, as falling prices, margin calls and deleveraging continued, and while the auction rate preferred market seized up. The U.S. Federal Reserve expanded its lender-of-last-resort role to include lending to primary dealers and continued to cut interest rates. By then, recession talk was widespread as concern grew that falling home prices, rising unemployment, sharply rising food and energy prices, and disruptions in financial markets posed a significant threat to economic growth.

Markets reacted poorly to the developments leading up to the near failure of Bear Stearns, with fixed-income credit spreads (the difference in rates between corporate and U.S. government bonds) widening dramatically and stock markets declining, wiping out the positive returns markets had delivered in the preceding calendar year. Treasury bond prices rose as the market underwent a flight to quality. In the eleven weeks between the Bear Stearns event and the end of May 2008, though, there were no further market crises, recession fears faded in light of positive economic news, and stock markets rallied, recouping some of their first-quarter losses, while Treasury bond prices fell back.

The Dow Jones Industrial Average and Standard & Poor's 500 Index each fell 4%, and the NASDAQ Composite Index fell 5% over the six-month period ending May 31, 2008. The MSCI EAFE Developed Market Index of international stock markets fell 5%, and the MSCI Emerging Markets Index fell 2% over the same period. The U.S.

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Letter

investment-grade bond market, as measured by the Lehman Brothers Aggregate Bond Index, rose 1% over the six-month period while the U.S. high-yield bond market, as measured by the Merrill Lynch High Yield Bond Master II Index, rose 2% over the six-month period.

A weak U.S. dollar and substantial fiscal and monetary stimulus are potent support for the economy. Markets remain volatile, and falling risk tolerances and deleveraging may depress asset prices in the short term, but equity and corporate bond valuations look attractive over a longer time horizon unless the U.S. economy falls into a severe and protracted recession.

Sudden swings in the markets are always to be expected, but they are difficult to time. Maintaining a long-term time horizon, being diversified, and paying attention to asset allocation are important investment principles. As always, we encourage you to work closely with your financial advisor to find the mix of stocks, bonds and money market assets that is best aligned to your particular risk tolerance and investment objective and to adhere to a strategic plan rather than letting emotions drive investment decisions.

Respectfully,

/s/ Daniel K. Kingsbury
Daniel K. Kingsbury

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President and CEO
Pioneer Investment Management USA, Inc.

Any information in this shareowner report regarding market or economic trends or the factors influencing the Trust's historical or future performance are statements of the opinion of Trust management as of the date of this report. These statements should not be relied upon for any other purposes. Past performance is no guarantee of future results, and there is no guarantee that market forecasts discussed will be realized.

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Pioneer Municipal and Equity Income Trust

PORTFOLIO SUMMARY 5/31/08

Portfolio Maturity

(As a percentage of total debt holdings)

[THE TABLE BELOW WAS REPRESENTED BY A PIE CHART IN THE PRINTED MATERIAL]

| | |
|------------|-------|
| 0-1 Year | 10.5% |
| 1-3 Years | 6.1% |
| 3-6 Years | 30.8% |
| 6-8 Years | 4.5% |
| 8-10 Years | 4.5% |
| 10+ Years | 43.6% |

Portfolio Diversification

(As a percentage of total investment portfolio)

[THE TABLE BELOW WAS REPRESENTED BY A PIE CHART IN THE PRINTED MATERIAL]

| | |
|----------------------------------|-------|
| Tax-Exempt Obligations | 53.2% |
| Common Stocks | 26.9% |
| Non-Convertible Preferred Stocks | 13.3% |
| Temporary Cash Investment | 5.9% |
| Convertible Preferred Stocks | 0.7% |

The portfolio is actively managed, and current holdings may be different.

10 Largest Holdings

(As a percentage of total long-term holdings)*

| | |
|---------------------------------|-------|
| 1. Verizon Communications, Inc. | 2.99% |
| 2. Loews Corp. - Carolina Group | 2.39 |
| 3. Atmos Energy Corp. | 2.07 |
| 4. Windstream Corp. | 2.01 |

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| | |
|--|------|
| 5. Lehman Brothers Municipal Trust Receipts, RIB, 8.056%, 9/1/24 (144A) | 2.00 |
| 6. Merck & Co., Inc. | 1.61 |
| 7. Garden State Preservation Trust, RIB, 13.774%, 11/1/22 (144A) | 1.59 |
| 8. Tobacco Settlement Financing Corp., 5.875%, 5/15/39 | 1.49 |
| 9. Bristol-Myers Squibb Co. | 1.43 |
| 10. AT&T, Inc. | 1.43 |

* This list excludes temporary cash and derivative instruments. The portfolio is actively managed, and current holdings may be different. The holdings listed should not be considered recommendations to buy or sell any security listed.

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Pioneer Municipal and Equity Income Trust

PRICES AND DISTRIBUTIONS

Share Prices and Distributions

| | | |
|-------------------------------------|---------|----------|
| Market Price | 5/31/08 | 11/30/07 |
| per Common Share | \$12.93 | \$13.41 |
| Net Asset Value per Common Share | \$13.32 | \$14.82 |
| Market Discount | 2.9% | 9.5% |

| Distributions per Common Share | Net Investment Income | Short-Term Capital Gains | Long-Term Capital Gains |
|-----------------------------------|-----------------------------|-----------------------------|----------------------------|
| (12/1/07 - 5/31/08) | \$0.6720 | \$ - | \$ - |

Yields

| | | |
|--|---------|----------|
| Distribution | 5/31/08 | 11/30/07 |
| Yield at Market Price | 10.39% | 6.37% |
| Distribution Yield at Net Asset Value | 10.09% | 5.76% |
| 30-Day SEC Yield | 6.82% | 11.35% |

The performance data quoted represents past performance, which is no guarantee of future results.

Pioneer Municipal and Equity Income Trust

 PERFORMANCE UPDATE 5/31/08

Investment Returns

 The mountain chart on the right shows the change in market value, including reinvestment of dividends and distributions, of a \$10,000 investment made in common shares of Pioneer Municipal and Equity Income Trust, compared to that of the Lehman Brothers Municipal Bond Index and the S&P 500 Index.

Cumulative Total Returns
 (As of May 31, 2008)

| Period | Net Asset Value (NAV) | Market Price |
|----------------------------|--------------------------------|-----------------|
| Life-of-Trust (1/30/04) | 22.90% | 13.98% |
| 1 Year | -11.50 | -6.93 |

 [THE TABLE BELOW WAS REPRESENTED BY A MOUNTAIN CHART IN THE PRINTED MATERIAL]

Value of \$10,000 Investment

| | Pioneer Municipal and Equity Income Trust | Lehman Brothers Municipal Bond Index | Standard & Poor's 500 Index |
|------|--|---|-----------------------------------|
| 1/04 | \$10,000 | \$10,000 | \$10,000 |
| 5/04 | 8,123 | 9,840 | 9,964 |
| 5/05 | 9,487 | 10,623 | 10,784 |
| 5/06 | 9,457 | 10,824 | 11,715 |
| 5/07 | 12,246 | 11,349 | 14,383 |
| 5/08 | 11,398 | 11,788 | 13,420 |

Call 1-800-225-6292 or visit www.pioneerinvestments.com for the most recent month-end performance results. Current performance may be lower or higher than the performance data quoted.

Performance data shown represents past performance. Past performance is no guarantee of future results. Investment return and market price will fluctuate, and your shares may trade below net asset value ("NAV"), due to such factors as interest rate changes, and the perceived credit quality of borrowers.

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Total investment return does not reflect broker sales charges or commissions. All performance is for common shares of the Trust. Closed-end funds, unlike open-end funds, are not continuously offered. There is a one-time public offering and once issued, shares of closed-end funds are sold in the open market through a stock exchange and frequently trade at prices lower than their NAV. NAV per common share is total assets less total liabilities, which includes preferred shares, divided by the number of common shares outstanding.

When NAV is lower than market price, dividends are assumed to be reinvested at the greater of NAV or 95% of the market price. When NAV is higher, dividends are assumed to be reinvested at prices obtained under the Trust's dividend reinvestment plan.

The performance table and graph do not reflect the deduction of fees and taxes that a shareowner would pay on Trust distributions.

Index comparisons begin January 31, 2004. The Lehman Brothers Municipal Bond Index is a broad measure of the municipal bond market. The Standard & Poor's 500 Stock Index (the S&P 500) is a commonly used measure of the broad U.S. stock market. Index returns are calculated monthly, assume reinvestment of dividends and, unlike Trust returns, do not reflect any fees, expenses or charges. You cannot invest directly in an index.

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Pioneer Municipal and Equity Income Trust

PORTFOLIO MANAGEMENT DISCUSSION 5/31/08

On May 23, 2008, the Board of Trustees of the Trust approved a plan to merge the Trust into Pioneer Tax Free Income Fund, an open-end fund. The proposed merger is subject to the approval of shareholders of the Trust. A shareowner meeting is anticipated to be held in September 2008. If approved by shareowners of the Trust, the merger is expected to take place in September 2008. If the proposed merger is approved by shareowners of the Trust, the Trust would call for redemption and redeem all of its outstanding Auction Market Preferred Shares prior to the closing of the merger. The Trustees believe that the proposed merger is in the best interests of shareowners. Details of the rationale for this merger will be contained in the proxy materials to be sent to shareowners of the Trust. There can be no assurance that the merger will be approved or, if approved, completed.

During the first half of Pioneer Municipal and Equity Income Trust's fiscal year, the widening credit crisis triggered by problems in the subprime mortgage market resulted in a sharp decline in both the fixed-income and equity markets. By the end of the semi-annual period ended May 31, 2008, however, the financial markets appeared to be stabilizing and had begun to recoup some of their losses. In the following interview David Eurkus, who is responsible for the Trust's fixed-income investments, and Walter Hunnewell, Jr., who is responsible for the Trust's equity investments, discuss the strategies they used in managing the Trust during this turbulent time.

Q: How did the Trust perform over the six months ended May 31, 2008?

A: For the six-month period ended May 31, 2008, Pioneer Municipal and Equity Income Trust returned -5.33% at net asset value and 1.56% at market price. As of May 31, 2008, the Trust was selling at a discount of market price to net asset value of -2.90%. For the same six-month period, the Lehman

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Brothers Municipal Bond Index returned 1.44%, and the S&P 500 Index returned -4.47%.

Call 1-800-225-6292 or visit www.pioneerinvestments.com for the most recent month-end performance results. Current performance may be lower or higher than the performance data quoted. The performance data quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, and shares, when redeemed, may be worth more or less than their original cost.

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Pioneer Municipal and Equity Income Trust

PORTFOLIO MANAGEMENT DISCUSSION 5/31/08

(continued)

Q: What was the investment environment like during the first half of the fiscal year ending May 31, 2008?

A: It was a challenging investment environment, as both the fixed-income and equity markets were affected negatively by the credit crisis that began last summer. In the first quarter of 2008, municipal bonds declined on concerns that some bond insurers would have to write off losses on securities tied to subprime mortgage loans. As a result, the AAA credit quality ratings on some municipal bonds were downgraded - a situation that led to a loss of confidence and a major sell-off. The outcome was that municipal bond yields rose above Treasury yields, even before the tax-exempt effect. As with almost all fixed-income investments, rising bond yields push prices down. As valuations became more compelling, investors returned to the municipal bond market, which began to recover in March.

The uncertainty in the credit markets during the period also spilled over to the equity markets. Stocks fell from the beginning of the period through mid-March when they troughed and began a period of recovery, as the Bear Stearns implosion reached its conclusion and profits in the non-financial segment of the S&P 500 continued to grow. The stock market, as measured by the S&P 500 index, produced positive returns for the months of April and May.

Q: How did you manage the Trust during the period?

A: We continued to focus on providing tax-favored income from a mix of municipal bonds and dividend-paying equity securities with the potential to produce qualified dividend income ("QDI"). We made several changes in the equity portion of the Trust during the period, selling \$24 million of securities and purchasing \$7 million of securities. The net proceeds from sales and purchases of equity securities were invested into the municipal side of the portfolio, as yields were attractive and values more opportune. The changes resulted in a portfolio that had a 59% municipal bond allocation and a 41% equity allocation at the end of the period.

In the fixed-income portion of the Trust, we continued to favor sectors that are vital components of the economy, such as health care, transportation and education. About 70% of the fixed-income part of the Trust was invested in investment-grade securities, and about 20% was in below investment-grade securities. Ten percent

Pioneer Municipal and Equity Income Trust

of the Trust's fixed-income assets were in cash. At the end of the period, the Trust had 125 fixed income issues in 37 states including District of Columbia, and the credit quality of the fixed-income assets was A+.

As for equities, the focus on higher-dividend yielding companies continued to emphasize holdings in the financial and utilities sectors, although portfolio diversification remains an important objective. We sold the Trust's holdings Washington Mutual a few days into the period; the stock had underperformed severely, and we saw no likelihood of a timely recovery. We took profits in Compass Minerals International and trimmed the Trust's position in AT&T. The balance of equity securities sold by the Trust during the period represented was in the preferred shares of equity securities of primarily European money center banks. We believe the full impact of the credit issues troubling U.S. money center banks has yet to be recorded overseas. We sold preferred shares held by the Trust in HSBC Holdings, Deutsche Bank and Barclays Bank. As values emerged in the municipal fixed-income market, we allocated some proceeds for purchase of municipal bonds by the Trust. Other proceeds were invested in non-financial common stocks. For example, we added Idearc to the Portfolio, one of the yellow pages publishers, and B&G Foods, an owner of many well-recognized packaged food brands with substantial market share and brand awareness in their regional markets.

Q: Can you comment on the issues surrounding auction-rate preferred securities?

A: The Trust issued auction-rate preferred shares as an effective way of borrowing to provide leverage for the Trust. These auction-rate preferred shares typically have been traded at regularly scheduled auctions, giving investors in the preferred shares a source of financial liquidity while keeping the Trust's borrowing costs low. However, the aggravated problems in the credit markets have recently led to failed auctions for the preferred shares of many closed-end funds, including the Trust. Investors holding the preferred shares also have been adversely affected because they have not had the ability to sell their shares at auctions. Meanwhile, because of the failed auctions, the Trust pays dividends on the preferred shares at a higher rate consistent with the terms of documents authorizing the issuance of preferred shares.

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Pioneer Municipal and Equity Income Trust

PORTFOLIO MANAGEMENT DISCUSSION 5/31/08

(continued)

The Trust continues to pay all dividends in compliance with the terms of the auction-rate preferred share agreements. Further, auction-rate preferred shares issued by the Trust continue to be rated AAA/Aaa by Fitch and Moody's, the two principal credit rating agencies monitoring the Trust. Under current market conditions, we believe that the Trust's auction-rate preferred shares continue to be an effective form of leverage. As noted earlier, shareowners of the Trust are being asked to

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approve a proposed merger of the Trust into Pioneer Tax Free Income Fund, an open-end fund. If the merger is approved by shareowners, the Trust would call for redemption and redeem all of its outstanding Auction Market Preferred Shares prior to the closing of the merger.

Q: What affected the Trust's performance during the period?

A: The decline in the municipal bond market early in the period dampened results. Also, the Trust's insured municipal bonds suffered because of concerns surrounding the status of the bond rating agencies. A pull back in special revenue tobacco bonds also held back the Trust's return.

On an absolute basis, the Trust's top five equity securities that contributed to the Trust's investment return during the six-month period were: Windstream Corp. (+7% total return for the period), a rural wire-line phone service company; Atmos Energy Corp. (+7%), a high dividend-yield utility with operations in regulated and unregulated natural gas storage, marketing and distribution; AT&T, Inc. (+7%), which rose on continued earnings growth; Spectra Energy Corp. (+12%), which operates predominantly in gathering, processing, storing and distributing natural gas; and Diamond Offshore Drilling, Inc. (+20%), owner of one of the largest fleets of deep-water oil drilling vessels.

The Trust's large exposure to the financials sector, an area at the center of the credit crisis, had a continuing negative impact on performance. In particular, the Trust's many financial institution preferred-stock holdings declined as credit-worthiness continued to be called into question. The equity securities that had the greatest negative impact on the Trust's absolute returns during the period was the pharmaceutical company Merck & Co., Inc. (-33% total return for the period). After producing strong returns in the previous six months, Merck gave back its gains because of

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Pioneer Municipal and Equity Income Trust

adverse publicity surrounding its cholesterol-lowering drug joint venture with Schering-Plough. We believe the damage caused by adverse publicity will abate to a degree, and the Trust continues to hold Merck in the portfolio. Idearc, Inc. (-78%) declined dramatically as the market interpreted the current cyclical decline in yellow pages advertising as irreversible. We believe that Idearc stock should make a dramatic recovery as the economy improves. The Trust's large position in Carolina Group (-17%), the tobacco tracking stock of Lowes Corp., also declined. Shortly after period-end, Carolina Group was spun out from Lowes and renamed Lorillard. We believe Lorillard will increase its dividend and has the potential to be a strong contributor to the Trust's future performance. Bristol-Myers Squibb Co. (-21%), another pharmaceutical company, also disappointed during the period. We feel the company's strong dividend yield and promising drug pipeline will continue to work to the Trust's advantage, and the stock remains in the Trust's portfolio. The Trust's large and long-standing convertible preferred holding in Lazard (-25%), an investment banking advisory and asset management firm - a significant contributor to performance in the past - declined because of the general downturn in the financials sector. As we expected, the security converted to common shares during the period, and the Trust continues to hold it.

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Q: What is your investment outlook over the next several months?

A: The credit crisis has had an impact on the overall economy, as banks have reduced their inclination to provide credit. The pullback in gross domestic product (GDP) and the higher jobless numbers could be a direct result of this situation. Nevertheless, we are positive for the long-term prospects for the Trust. The municipal-bond market has recovered somewhat from the turmoil of the first quarter, and demand for tax-free securities is improving - a situation that should benefit the Trust. While the stock market has retreated from its positive performance in April and May, valuations currently present attractive investment opportunities. Also, while current economic news remains unsettling, we expect the market to begin focusing on potential for economic recovery in the future.

Information regarding the Trust's principal investment risks is contained in the Trust's prospectus. Please refer to those documents when considering the Trust's risks.

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Pioneer Municipal and Equity Income Trust

PORTFOLIO MANAGEMENT DISCUSSION 5/31/08

(continued)

There can be no assurance as to the portion of the Trust's dividends that will be tax-exempt or tax-qualified.

A portion of income may be subject to state, federal, and/or alternative minimum tax. Capital gains, if any, are subject to a capital gains tax. When interest rates rise, the prices of fixed-income securities in the Trust will generally fall. Conversely, when interest rates fall the prices of fixed-income securities in the Trust will generally rise. By concentrating in municipal securities, the portfolio is more susceptible to adverse economic, political or regulatory developments than is a portfolio that invests more broadly. Investments in the Trust are subject to possible loss due to the financial failure of underlying securities and their inability to meet their debt obligations.

The Trust may invest in derivative securities, which may include futures and options. These types of instruments can increase price fluctuation.

The Trust currently uses leverage through the issuance of preferred shares. The Trust is also authorized to borrow from banks and to issue debt securities, which are other forms of leverage. Leverage creates significant risks, including the risk that the Trust's income or capital appreciation will not be sufficient to cover the cost of leverage, which may adversely affect the return of the holders of common shares.

Any information in this shareowner report regarding market or economic trends or the factors influencing the Trust's historical or future performance are statements of the opinion of Trust management as of the date of this report. These statements should not be relied upon for any other purposes. Past performance is no guarantee of future results, and there is no guarantee that the market forecasts discussed will be realized.

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Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited)

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|---|---------------|
| | | TAX EXEMPT OBLIGATIONS - 77.5% of Net Assets | |
| | | Alabama - 1.5% | |
| \$5,000,000 | NR/NR | Huntsville-Redstone Village Special Care Facilities Financing Authority, 5.5%, 1/1/43 | \$ 4,195,800 |
| 1,500,000 | NR/NR | Sylacauga Health Care Authority Revenue, 6.0%, 8/1/35 | 1,369,275 |
| | | | ----- |
| | | | \$ 5,565,075 |
| | | | ----- |
| | | Arizona - 1.1% | |
| 1,000,000 | BBB/Baa1 | Maricopa County Hospital Revenue, 5.0%, 4/1/35 | \$ 899,240 |
| 470,000+ | NR/Baa3 | Pima County Industrial Development Authority, 6.375%, 7/1/31 | 537,854 |
| 530,000 | NR/Baa3 | Pima County Industrial Development Authority, 6.375%, 7/1/31 | 530,419 |
| 989,000 | NR/Baa3 | Pima County Industrial Development Authority, 6.75%, 7/1/31 | 1,000,403 |
| 1,000,000+ | NR/NR | Pima County Industrial Development Authority, 7.5%, 7/1/34 | 1,192,370 |
| | | | ----- |
| | | | \$ 4,160,286 |
| | | | ----- |
| | | California - 3.3% | |
| 1,000,000 | A/A2 | California Health Facilities Authority Revenue, 5.25%, 7/1/23 | \$ 1,018,710 |
| 9,000,000 | BBB/Baa3 | Golden State Tobacco Securitization Corp., 5.125%, 6/1/47 | 7,015,950 |
| 4,000,000+ | AAA/Aaa | Golden State Tobacco Securitization Corp., 6.75%, 6/1/39 | 4,591,480 |
| | | | ----- |
| | | | \$ 12,626,140 |
| | | | ----- |
| | | Colorado - 0.7% | |
| 3,000,000 | NR/NR | Colorado Educational & Cultural Facilities Authority Revenue, 5.5%, 6/1/37 (144A) | \$ 2,638,860 |
| | | | ----- |
| | | Connecticut - 0.9% | |
| 1,500,000 | BB/NR | Mohegan Tribe Indians Gaming Authority, 5.25%, 1/1/33 (144A) | \$ 1,256,850 |
| 2,470,000 | BB/NR | Mohegan Tribe Indians Gaming Authority, 6.25%, 1/1/31 (144A) | 2,349,612 |
| | | | ----- |
| | | | \$ 3,606,462 |
| | | | ----- |
| | | District of Columbia - 1.1% | |
| 4,000,000 | BBB/Baa3 | District of Columbia Tobacco Settlement Financing Corp., 6.75%, 5/15/40 | \$ 4,021,800 |
| | | | ----- |

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The accompanying notes are an integral part of these financial statements. 13

Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|---|---------------|
| \$1,105,000 | A+/A1 | Florida - 3.2% Highlands County Health Facilities Authority Revenue, 5.0%, 11/15/24 | \$ 1,106,337 |
| 5,000,000+ | NR/A1 | Highlands County Health Facilities Authority Revenue, 6.0%, 11/15/25 | 5,589,450 |
| 2,000,000 | BB/NR | Lee County Industrial Development Authority Revenue, 5.375%, 6/15/37 | 1,625,900 |
| 585,000 | NR/NR | Madison County First Mortgage Revenue, 6.0%, 7/1/25 | 555,680 |
| 2,025,000 | BB+/NR | Miami Beach Health Facilities Authority Revenue, 5.375%, 11/15/28 | 1,803,728 |
| 500,000 | BB+/Ba1 | Miami Beach Health Facilities Authority Revenue, 6.7%, 11/15/19 | 513,455 |
| 1,400,000 | NR/NR | Orange County Health Facilities Authority Revenue, 5.5%, 7/1/38 | 1,188,446 |
| | | | ----- |
| | | | \$ 12,382,996 |
| | | | ----- |
| 2,500,000+ | AAA/NR | Georgia - 0.7% Milledgeville-Baldwin County Development Authority Revenue, 5.625%, 9/1/30 | \$ 2,844,075 |
| | | | ----- |
| 3,000,000 | AAA/Aaa | Illinois - 4.7% Chicago Illinois General Obligation, 5.0%, 1/1/28 | \$ 3,062,850 |
| 4,580,000 | NR/A3 | Illinois Development Finance Authority Revenue, 5.25%, 10/1/24 | 4,706,271 |
| 5,000,000 | AA+/Aaa | Illinois Educational Facilities Authority Revenue, 5.0%, 12/1/38 | 5,076,850 |
| 2,000,000+ | AA+/Aa2 | Illinois Finance Authority Revenue, 5.5%, 8/15/43 | 2,248,660 |
| 2,055,000 (a) | NR/Aa2 | Illinois Finance Authority Revenue, RIB, 12.384%, 8/15/43 (144A) | 2,923,690 |
| | | | ----- |
| | | | \$ 18,018,321 |
| | | | ----- |
| 5,000,000 | A+/A2 | Indiana - 2.9% Indiana Health & Educational Facilities Financing Authority Hospital Revenue, 5.0%, 2/15/39 | \$ 4,708,450 |
| 4,135,000 | BBB+/NR | Indiana State Development Finance Authority Revenue, 5.75%, 10/1/11 | 4,217,452 |
| 2,570,000 | NR/NR | Vigo County Hospital Authority Revenue, 5.8%, 9/1/47 (144A) | 2,247,928 |
| | | | ----- |
| | | | \$ 11,173,830 |

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14 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|--|---------------|
| \$4,000,000 | NR/NR | Iowa - 0.9% Iowa Financing Authority Senior Housing Revenue, 5.625%, 12/1/45 | \$ 3,349,760 |
| 750,000 | NR/NR | Kansas - 0.6% Manhattan Health Care Facilities Revenue, 5.125%, 5/15/37 | \$ 600,622 |
| 2,000,000 | NR/NR | Manhattan Health Care Facilities Revenue, 5.125%, 5/15/42 | 1,611,300 |
| | | | \$ 2,211,922 |
| 5,000,000 | NR/A3 | Louisiana - 3.3% Louisiana Public Facilities Authority Revenue, 5.5%, 5/15/47 | \$ 4,819,100 |
| 8,335,000 | BBB/Baa3 | Tobacco Settlement Financing Corp., 5.875%, 5/15/39 | 7,811,895 |
| | | | \$ 12,630,995 |
| 3,000,000 | BBB-/Baa3 | Maryland - 1.9% Frederick County Educational Facilities Revenue, 5.625%, 9/1/38 | \$ 2,898,300 |
| 1,000,000 | NR/NR | Maryland State Economic Development Revenue, Series A, 5.0%, 12/1/16 | 952,050 |
| 660,000 | NR/NR | Maryland State Economic Development Revenue, Series B, 5.0%, 12/1/16 | 28,353 |
| 1,000,000 | NR/NR | Maryland State Economic Development Revenue, 5.0%, 12/1/31 | 774,790 |
| 2,000,000+ | A/A2 | Maryland State Health & Higher Educational Facilities Authority Revenue, 5.125%, 7/1/34 | 2,185,880 |
| | | | \$ 7,439,373 |
| 8,500,000 (a) | AAA/Aaa | Massachusetts - 7.4% Lehman Brothers Municipal Trust Receipts, RIB, 8.056%, 9/1/24 (144A) | \$ 10,458,230 |
| 4,500,000 | AA/NR | Massachusetts Health & Educational Facilities Authority Revenue, 4.625%, 8/15/28 | 4,128,300 |
| 2,000,000 | AA+/Aaa | Massachusetts Health & Educational Facilities Authority Revenue, 5.0%, 7/1/33 | 2,032,200 |
| 1,550,000 | BBB-/Baa3 | Massachusetts Health & Educational Facilities Authority Revenue, 5.25%, 7/15/18 | 1,540,297 |

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| | | | |
|-----------|----------|--|-----------|
| 1,600,000 | BBB/NR | Massachusetts Health & Educational Facilities Authority Revenue, 5.45%, 11/15/23 | 1,603,520 |
| 2,120,000 | BBB/Baa3 | Massachusetts Health & Educational Facilities Authority Revenue, 5.625%, 7/1/20 | 2,100,666 |

The accompanying notes are an integral part of these financial statements. 15

Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|--|---------------|
| | | Massachusetts - (continued) | |
| \$ 900,000 | BBB/Baa3 | Massachusetts Health & Educational Facilities Authority Revenue, 6.25%, 7/1/22 | \$ 918,351 |
| 2,750,000 | BBB/Baa2 | Massachusetts Health & Educational Facilities Authority Revenue, 6.625%, 7/1/32 | 2,824,387 |
| 500,000 | BBB-/NR | Massachusetts State Development Finance Agency, 5.5%, 1/1/35 | 439,945 |
| 1,100,000 | BBB/Baa2 | Massachusetts State Development Finance Agency, 5.625%, 10/1/24 | 1,114,223 |
| 1,000,000 | BBB/Baa2 | Massachusetts State Development Finance Agency, 5.7%, 10/1/34 | 1,001,490 |
| | | | ----- |
| | | | \$ 28,161,609 |
| | | | ----- |
| | | Michigan - 3.1% | |
| 5,000,000 | BB+/NR | Macomb County Hospital Finance Authority Revenue, 5.875%, 11/15/34 | \$ 4,693,100 |
| 1,595,000 | NR/NR | Meridian Economic Development Corporate Ltd. Obligation Revenue, 5.25%, 7/1/26 | 1,488,135 |
| 3,340,000 | NR/NR | Michigan Public Educational Facilities Authority Revenue, 5.875%, 6/1/37 | 2,943,375 |
| 2,000,000 | NR/NR | Michigan State Hospital Finance Authority Revenue, 5.25%, 11/15/25 | 1,745,940 |
| 1,000,000 | NR/NR | Michigan State Hospital Finance Authority Revenue, 5.5%, 11/15/35 | 859,080 |
| | | | ----- |
| | | | \$ 11,729,630 |
| | | | ----- |
| | | Minnesota - 1.5% | |
| 2,000,000+ | A-/NR | Duluth Economic Development Authority Health Care Facilities Revenue, 5.25%, 2/15/28 | \$ 2,202,940 |
| 1,500,000+ | A-/NR | Duluth Economic Development Authority Health Care Facilities Revenue, 5.25%, 2/15/33 | 1,652,205 |
| 1,000,000 | NR/NR | North Oaks Senior Housing Revenue, 6.0%, 10/1/33 | 959,730 |
| 1,000,000 | NR/NR | North Oaks Senior Housing Revenue, 6.5%, 10/1/47 | 1,009,630 |
| | | | ----- |
| | | | \$ 5,824,505 |

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| | | | |
|-----------|--------|---|--------------|
| 1,720,000 | AA/Aa3 | Missouri - 0.4% Missouri State Health & Educational Authority Health Facilities Revenue, 5.25%, 8/15/28 | \$ 1,717,730 |
|-----------|--------|---|--------------|

16 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|---|---------------|
| \$1,000,000 | NR/A3 | Montana - 0.3% Montana Finance Authority Hospital Facilities Revenue, 5.0%, 6/1/24 | \$ 1,003,600 |
| 1,500,000 | A/A2 | Nevada - 0.4% Henderson Nevada Health Care Facilities Revenue, 5.625%, 7/1/24 | \$ 1,542,270 |
| 1,700,000+ | NR/NR | New Hampshire - 0.7% New Hampshire Business Finance Authority Revenue, 6.05%, 9/1/29 | \$ 1,781,923 |
| 1,000,000 | A+/A2 | New Hampshire Health & Education Facilities Authority Revenue, 5.75%, 10/1/31 | 1,018,270 |
| | | | \$ 2,800,193 |
| 1,250,000 | BBB/Baa3 | New Jersey - 6.2% Camden County Improvement Authority Revenue, 5.75%, 2/15/34 | \$ 1,221,987 |
| 5,920,000 (a) | NR/Aaa | Garden State Preservation Trust, RIB, 13.774%, 11/1/22 (144A) | 8,325,710 |
| 710,000 | NR/NR | New Jersey Economic Development Authority Revenue, 5.75%, 1/1/25 | 656,388 |
| 1,000,000 | NR/NR | New Jersey Economic Development Authority Revenue, 5.875%, 1/1/37 | 880,950 |
| 1,000,000 | BB/Ba2 | New Jersey Health Care Facilities Financing Authority Revenue, 5.125%, 7/1/14 | 943,080 |
| 5,000,000 | BBB/Baa1 | New Jersey Health Care Facilities Financing Authority Revenue, 5.375%, 7/1/33 | 4,771,450 |
| 3,500,000 | NR/NR | New Jersey Health Care Facilities Financing Authority Revenue, 7.25%, 7/1/27 | 3,449,950 |
| 3,000,000+ | AAA/Aaa | Tobacco Settlement Financing Corp., 6.25%, 6/1/43 | 3,413,670 |
| | | | \$ 23,663,185 |
| 1,000,000 | AA/NR | New Mexico - 0.6% Dona Ana County PILT Revenue, 5.25%, 12/1/25 | \$ 1,009,310 |
| 1,500,000 | NR/A3 | Farmington New Mexico Hospital Revenue, | |

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5.0%, 6/1/23

1,446,315

\$ 2,455,625

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Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|---------------------|---------------------------------------|--|---------------------------------|
| | | New York - 5.4% | |
| \$2,500,000 | BBB+/Baa2 | Albany Industrial Development Agency Civic Facilities Revenue, 5.25%, 11/15/32 | \$ 2,426,250 |
| 2,000,000 | NR/NR | Dutchess County Industrial Development Agency Revenue, 7.5%, 3/1/29 | 2,130,320 |
| 3,255,000 (a) | NR/Aa2 | Lehman Brothers Municipal Trust Receipts, RIB, 10.039%, 6/15/38 (144A) | 3,452,676 |
| 1,700,000 | NR/NR | Nassau County Industrial Development Agency, 6.7% 1/1/43 | 1,702,006 |
| 1,000,000 | NR/Aa1 | New York City Industrial Development Agency, 5.0%, 7/1/27 | 1,028,470 |
| 1,000,000 | NR/Aa1 | New York City Industrial Development Agency, 5.25%, 7/1/24 | 1,050,360 |
| 5,000,000 | AA-/Aa3 | Port Authority of New York & New Jersey Revenue, 5.0%, 9/1/38 | 5,097,100 |
| 1,000,000 | NR/NR | Suffolk County Industrial Development Agency Civic Facilities Revenue, 5.5%, 1/1/37 (144A) | 834,840 |
| 3,000,000 | NR/NR | Ulster County Industrial Development Agency Civic Facility Revenue, 6.0%, 9/15/27 | 2,792,490 |
| | | | ----- \$ 20,514,512 ----- |
| | | North Carolina - 0.5% | |
| 1,000,000 | AA/Aa3 | North Carolina Capital Facilities Finance Agency Student Revenue, 5.0%, 6/1/27 | \$ 981,950 |
| 1,000,000 | AA/Aa3 | North Carolina Capital Facilities Finance Agency Student Revenue, 5.0%, 6/1/32 | 947,830 |
| | | | ----- \$ 1,929,780 ----- |
| | | Ohio - 2.2% | |
| 1,500,000 | NR/NR | Cuyahoga County Health Care & Independent Living Facilities Revenue, 6.0%, 5/15/37 | \$ 1,364,700 |
| 1,500,000 | NR/NR | Cuyahoga County Health Care & Independent Living Facilities Revenue, 6.0%, 5/15/42 | 1,354,425 |
| 1,000,000 | NR/Baa3 | Hamilton County Hospital Facilities Revenue, 5.125%, 5/15/28 | 961,910 |
| 3,955,000 (a) | NR/Aa2 | Lehman Brothers Municipal Trust Receipts, RIB, 10.212%, 6/1/28 (144A) | 4,526,933 |
| | | | ----- |

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\$ 8,207,968

18 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|---------------------|---------------------------------------|--|--|
| \$2,935,000 | NR/Aaa | Oregon - 0.8% Oregon State Housing & Community Services Department Multi-Family Revenue, 6.0%, 7/1/31 | \$ 2,947,327 ----- |
| 3,000,000 | BB/Ba2 | Pennsylvania - 3.6% Allegheny County Hospital Development Authority Revenue, 5.375%, 11/15/40 | \$ 2,524,680 |
| 5,000,000+ | AAA/Aaa | Pennsylvania State Turnpike Commission Oil Franchise Tax Revenue, 5.0%, 12/1/31 | 5,467,450 |
| 1,315,000+ | A/NR | Sayre Health Care Facilities Authority Revenue, 5.875%, 12/1/31 | 1,453,338 |
| 685,000 | A/NR | Sayre Health Care Facilities Authority Revenue, 5.875%, 12/1/31 | 701,693 |
| 280,000 | B-/NR | Scranton-Lackawanna Health and Welfare Authority Hospital Revenue, 5.9%, 7/1/08 | 279,969 |
| 700,000 | B-/NR | Scranton-Lackawanna Health and Welfare Authority Hospital Revenue, 6.0%, 7/1/09 | 700,462 |
| 460,000 | B-/NR | Scranton-Lackawanna Health and Welfare Authority Hospital Revenue, 6.05%, 7/1/10 | 460,304 |
| 2,165,000 | AAA/Aaa | Swarthmore Borough Authority College Revenue, 5.0%, 9/15/31 | 2,189,703 ----- \$ 13,777,599 ----- |
| 75,000+ | BBB-/Baa3 | Puerto Rico - 1.3% Puerto Rico Public Buildings Authority Revenue, 5.25%, 7/1/33 | \$ 82,093 |
| 4,925,000 | BBB-/Baa3 | Puerto Rico Public Buildings Authority Revenue, 5.25%, 7/1/33 | 4,884,073 ----- \$ 4,966,166 ----- |
| 1,640,000 | BBB/Baa3 | Rhode Island - 1.2% Tobacco Settlement Financing Corp., 6.125%, 6/1/32 | \$ 1,594,654 |
| 3,100,000 | BBB/Baa3 | Tobacco Settlement Financing Corp., 6.25%, 6/1/42 | 2,957,679 ----- \$ 4,552,333 ----- |
| 2,000,000 | A-/A3 | South Carolina - 3.5% Berkeley County School District Installment | |

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| | | | |
|------------|---------|---|------------------------|
| 5,000,000 | AAA/Aaa | Lease, 5.0%, 12/1/28 Florence County Hospital Revenue, 5.25%, 11/1/34 | \$ 2,003,800 |
| 3,500,000+ | A+/A2 | Lexington County Health Services District, Inc., Hospital Revenue, 5.5%, 11/1/32 | 5,092,450 3,858,505 |

The accompanying notes are an integral part of these financial statements. 19

Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|---|---------------|
| | | South Carolina - (continued) | |
| \$ 540,000+ | A-/A3 | South Carolina Jobs Economic Development Authority Revenue, 5.5%, 11/15/23 | \$ 594,632 |
| 1,960,000 | A-/A3 | South Carolina Jobs Economic Development Authority Revenue, 5.5%, 11/15/23 | 2,002,610 |
| | | | ----- |
| | | | \$ 13,551,997 |
| | | | ----- |
| 2,500,000 | NR/Ba2 | Tennessee - 0.7% Knox County Health Educational & Housing Facilities Board Hospital Revenue, 6.5%, 4/15/31 | \$ 2,591,400 |
| | | | ----- |
| 1,552,000 | NR/Aaa | Texas - 4.6% Houston Housing Financing Corp., 6.25%, 9/20/31 | \$ 1,610,821 |
| 2,750,000 | AAA/Aaa | Lower Colorado River Authority, 5.0%, 5/15/31 | 2,785,365 |
| 1,711,000 | NR/Aaa | Panhandle Regional Housing Finance Corp., 6.6%, 7/20/31 | 1,807,381 |
| 3,000,000 | BBB-/Baa2 | Richardson Hospital Authority, 6.0%, 12/1/34 | 2,926,200 |
| 1,000,000 | BBB/NR | Seguin Higher Education Facilities Corp. Revenue, 5.0%, 9/1/23 | 956,700 |
| 1,500,000 | NR/Baa3 | Texas State Student Housing Revenue, 6.5%, 9/1/34 | 1,521,300 |
| 3,000,000 | NR/NR | Willacy County Local Government Corp. Revenue, 6.0%, 9/1/10 | 2,990,520 |
| 3,000,000 | NR/NR | Willacy County Local Government Corp. Revenue, 6.875%, 9/1/28 | 2,958,630 |
| | | | ----- |
| | | | \$ 17,556,917 |
| | | | ----- |
| 3,750,000 (a) | AA/NR | Vermont - 1.4% Lehman Brothers Municipal Trust Receipts, RIB, 12.392%, 10/31/46 (144A) | \$ 3,980,100 |
| 1,295,000 | AA/Aa3 | Vermont Educational & Health Buildings Financing Agency Revenue, 5.0%, 7/1/24 | 1,289,276 |
| | | | ----- |
| | | | \$ 5,269,376 |
| | | | ----- |

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| | | | |
|-----------|-------|--|--------------|
| 1,500,000 | NR/A3 | Virginia - 1.4% | |
| | | Prince William County Industrial Development | |
| | | Hospital Revenue, 5.2%, 10/1/26 | \$ 1,508,070 |
| 3,925,000 | NR/A3 | Prince William County Industrial Development | |
| | | Hospital Revenue, 5.35%, 10/1/36 | 3,868,362 |
| | | | ----- |
| | | | \$ 5,376,432 |
| | | | ----- |

20 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

| Principal Amount | S&P/Moody's Ratings (unaudited) | | Value |
|------------------|---------------------------------|--|----------------|
| \$3,000,000 | AA/A1 | Washington - 2.6% | |
| | | King County Washington Sewer Revenue, 5.0%, 1/1/35 | \$ 3,037,470 |
| 7,000,000 | BBB/Baa3 | Tobacco Settlement Authority Revenue, 6.625%, 6/1/32 | 7,039,830 |
| | | | ----- |
| | | | \$ 10,077,300 |
| | | | ----- |
| 3,500,000 | BBB+/NR | Wisconsin - 0.9% | |
| | | Wisconsin State Health & Educational Facilities Authority Revenue, 5.6%, 2/15/29 | \$ 3,382,365 |
| | | | ----- |
| | | TOTAL TAX-EXEMPT OBLIGATIONS | |
| | | (Cost \$294,041,774) (b) | \$ 296,269,714 |
| | | | ----- |

Shares

| | | |
|---------|---|--------------|
| | COMMON STOCKS - 39.2% of Net Assets | |
| | Energy - 1.7% | |
| | Oil & Gas Drilling - 0.7% | |
| 19,566 | Diamond Offshore Drilling, Inc. | \$ 2,669,585 |
| | | ----- |
| | Oil & Gas Storage & Transportation - 1.0% | |
| 142,876 | Spectra Energy Corp. | \$ 3,860,510 |
| | | ----- |
| | Total Energy | \$ 6,530,095 |
| | | ----- |
| | Materials - 0.5% | |
| | Diversified Chemicals - 0.5% | |
| 94,000 | Olin Corp. | \$ 2,115,000 |
| | | ----- |
| | Total Materials | \$ 2,115,000 |

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| | | | |
|--------|---------------------------------------|----|-----------|
| | Capital Goods - 0.5% | | |
| | Aerospace & Defense - 0.5% | | |
| 27,334 | Northrop Grumman Corp., 7.0% | \$ | 2,062,624 |
| | Total Capital Goods | \$ | 2,062,624 |
| | Commercial Services & Supplies - 0.8% | | |
| | Commercial Printing - 0.7% | | |
| 79,034 | R.R. Donnelley & Sons Co. | \$ | 2,594,686 |
| | Office Services & Supplies - 0.1% | | |
| 31,486 | Kimball International, Inc. | \$ | 332,177 |
| | Total Commercial Services & Supplies | \$ | 2,926,863 |
| | Consumer Durables & Apparel - 0.2% | | |
| | Home Furnishings - 0.2% | | |
| 50,000 | Bassett Furniture Industries, Inc. | \$ | 599,500 |
| | Total Consumer Durables & Apparel | \$ | 599,500 |

The accompanying notes are an integral part of these financial statements. 21

Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Shares | | | Value |
|---------|-----------------------------------|----|------------|
| | Media - 1.3% | | |
| | Movies & Entertainment - 1.0% | | |
| 206,487 | Regal Entertainment Group | \$ | 3,627,977 |
| | Publishing - 0.3% | | |
| 295,935 | Idearc, Inc. | \$ | 1,189,659 |
| | Total Media | \$ | 4,817,636 |
| | Food, Beverage & Tobacco - 8.5% | | |
| | Packaged Foods & Meats - 2.2% | | |
| 532,758 | B&G Foods, Inc. | \$ | 5,178,408 |
| 92,828 | Kraft Foods, Inc. | | 3,015,053 |
| | | \$ | 8,193,461 |
| | Tobacco - 6.3% | | |
| 134,140 | Altria Group, Inc. | \$ | 2,985,956 |
| 172,872 | Loews Corp. - Carolina Group | | 12,541,864 |
| 134,140 | Philip Morris International, Inc. | | 7,063,812 |
| 29,704 | Reynolds American, Inc. | | 1,631,344 |
| | | \$ | 24,222,976 |
| | Total Food, Beverage & Tobacco | \$ | 32,416,437 |

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| | | | |
|---------|---|----|------------|
| | Pharmaceuticals, Biotechnology & Life Sciences - 4.2% | | |
| | Pharmaceuticals - 4.2% | | |
| 329,758 | Bristol-Myers Squibb Co. | \$ | 7,515,185 |
| 216,536 | Merck & Co., Inc. | | 8,436,243 |
| | | | ----- |
| | Total Pharmaceuticals, Biotechnology & Life Sciences | \$ | 15,951,428 |
| | | | ----- |
| | Banks - 1.4% | | |
| | Diversified Banks - 0.2% | | |
| 28,642 | Wachovia Corp. | \$ | 681,680 |
| | | | ----- |
| | Regional Banks - 0.7% | | |
| 81,550 | KeyCorp | \$ | 1,587,778 |
| 67,800 | Regions Financial Corp. | | 1,208,196 |
| | | | ----- |
| | | \$ | 2,795,974 |
| | | | ----- |
| | Thrifts & Mortgage Finance - 0.5% | | |
| 222,700 | TrustCo Bank Corp., NY | \$ | 1,950,852 |
| | | | ----- |
| | Total Banks | \$ | 5,428,506 |
| | | | ----- |
| | Diversified Financials - 1.7% | | |
| | Other Diversified Financial Services - 0.4% | | |
| 42,500 | Bank of America Corp. | \$ | 1,445,425 |
| | | | ----- |
| | Investment Banking & Brokerage - 1.3% | | |
| 134,161 | Lazard, Ltd., 6.625% | \$ | 5,110,204 |
| | | | ----- |
| | Total Diversified Financials | \$ | 6,555,629 |
| | | | ----- |

22 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

| Shares | | Value |
|---------|---|---------------|
| | Telecommunication Services - 10.4% | |
| | Integrated Telecommunication Services - 10.4% | |
| 187,900 | AT&T, Inc. | \$ 7,497,210 |
| 529,946 | Citizens Communications Co. | 6,179,170 |
| 7,670 | FairPoint Communications, Inc. | 69,030 |
| 406,745 | Verizon Communications, Inc. | 15,647,480 |
| 790,184 | Windstream Corp. | 10,541,055 |
| | | ----- |
| | Total Telecommunication Services | \$ 39,933,945 |
| | | ----- |
| | Utilities - 8.0% | |
| | Electric Utilities - 0.8% | |
| 138,400 | Empire District Electric Co. | \$ 2,862,112 |
| | | ----- |

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| | | | |
|---------|--|----|-------------|
| | Gas Utilities - 3.6% | | |
| 81,249 | AGL Resources, Inc. | \$ | 2,900,589 |
| 395,466 | Atmos Energy Corp. | | 10,831,814 |
| | | | ----- |
| | | \$ | 13,732,403 |
| | | | ----- |
| | Multi-Utilities - 3.6% | | |
| 100,000 | Consolidated Edison, Inc. | \$ | 4,130,000 |
| 285,753 | Duke Energy Corp. | | 5,280,715 |
| 134,112 | NSTAR | | 4,496,775 |
| | | | ----- |
| | | \$ | 13,907,490 |
| | | | ----- |
| | Total Utilities | \$ | 30,502,005 |
| | | | ----- |
| | TOTAL COMMON STOCKS | | |
| | (Cost \$141,760,163) | \$ | 149,839,668 |
| | | | ----- |
| | NON-CONVERTIBLE PREFERRED STOCKS - 19.4% of Net Assets | | |
| | Energy - 1.1% | | |
| | Oil & Gas Exploration & Production- 1.1% | | |
| 49,300 | Apache Corp., Series B, 5.68% | \$ | 4,073,413 |
| | | | ----- |
| | Total Energy | \$ | 4,073,413 |
| | | | ----- |
| | Automobiles & Components - 1.1% | | |
| | Automobile Manufacturers - 1.1% | | |
| 126,542 | Ford Motor Co. Capital Trust II, 6.5% | \$ | 4,203,770 |
| | | | ----- |
| | Total Automobiles & Components | \$ | 4,203,770 |
| | | | ----- |
| | Banks - 5.0% | | |
| | Diversified Banks - 2.1% | | |
| 105,000 | Bank One Capital VI, 7.2% | \$ | 2,580,646 |
| 170,579 | Royal Bank of Scotland Group Plc, | | |
| | Series Q, 6.75% | | 3,880,672 |
| 71,000 | Wachovia Preferred Funding Corp., Series A, 7.25% | | 1,668,500 |
| | | | ----- |
| | | \$ | 8,129,818 |
| | | | ----- |

The accompanying notes are an integral part of these financial statements. 23

Pioneer Municipal and Equity Income Trust

 SCHEDULE OF INVESTMENTS 5/31/08 (unaudited) (continued)

| Shares | | | Value |
|---------|------------------------------------|----|-----------|
| | Thrifths & Mortgage Finance - 2.9% | | |
| 56,980 | Countrywide Capital V, 7.0% | \$ | 1,025,787 |
| 171,677 | Fannie Mae, Series N, 6.75% | | 3,948,571 |
| 57,000 | Freddie Mac, 5.81% | | 2,257,200 |
| 39,000 | Freddie Mac, Series F, 5.0% | | 1,361,100 |
| 58,000 | Freddie Mac, Series K, 5.79% | | 2,279,400 |
| | | | ----- |

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| | | |
|---------|---|---------------|
| | | \$ 10,872,058 |
| | | ----- |
| | Total Banks | \$ 19,001,876 |
| | | ----- |
| | Diversified Financials - 5.6% | |
| | Other Diversified Financial Services - 1.6% | |
| 120,000 | Bank of America Corp., Series D, 6.204% | \$ 2,593,200 |
| 150,000 | JPMorgan Chase Capital Trust XVI, 6.35% | 3,582,000 |
| | | ----- |
| | | \$ 6,175,200 |
| | | ----- |
| | Consumer Finance - 0.9% | |
| 18,000 | MBNA Capital, Series D, 8.125% | \$ 446,033 |
| 71,300 | SLM Holdings Corp., Series A, 6.97% | 2,914,744 |
| | | ----- |
| | | \$ 3,360,777 |
| | | ----- |
| | Investment Banking & Brokerage - 3.1% | |
| 57,000 | Bear Stearns Companies, Inc., Series F, 5.72% | \$ 2,416,800 |
| 40,000 | Bear Stearns Companies, Inc., Series G, 5.49% | 1,560,000 |
| 100,000 | Lehman Brothers Holdings, Inc., 6.5% | 1,948,000 |
| 19,000 | Lehman Brothers Holdings, Inc., Series C, 5.94% | 684,000 |
| 50,800 | Lehman Brothers Holdings, Inc., Series D, 5.67% | 1,728,216 |
| 65,000 | Merrill Lynch Preferred Capital Trust IV, 7.12% | 1,438,793 |
| 87,000 | Merrill Lynch Preferred Capital Trust V, 7.28% | 1,970,413 |
| | | ----- |
| | | \$ 11,746,222 |
| | | ----- |
| | Total Diversified Financials | \$ 21,282,199 |
| | | ----- |
| | Insurance - 2.2% | |
| | Life & Health Insurance - 0.2% | |
| 159,000 | Scottish Re Group, Ltd., 7.25% | \$ 874,500 |
| | | ----- |
| | Property & Casualty Insurance - 2.0% | |
| 160,000 | ACE, Ltd., Series C, 7.8% | \$ 4,000,000 |
| 161,000 | Berkley W.R. Capital Trust II, 6.75% | 3,722,845 |
| | | ----- |
| | | \$ 7,722,845 |
| | | ----- |
| | Total Insurance | \$ 8,597,345 |
| | | ----- |
| | Real Estate - 1.4% | |
| | Industrial Real Estate Investment Trust - 0.2% | |
| 40,000 | Prologis Trust, Series G, 6.75% | \$ 931,600 |
| | | ----- |

24 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

Shares

Value

Office Real Estate Investment Trust - 0.3%

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| | | |
|---------|---|---------------|
| 15,000 | Brandywine Realty Trust, Series C, 7.5% | \$ 345,000 |
| 34,500 | Brandywine Realty Trust, Series D, 7.375% | 772,800 |
| | | ----- |
| | | \$ 1,117,800 |
| | | ----- |
| | Retail Real Estate Investment Trust - 0.9% | |
| 94,000 | Regency Centers Corp., Series C, 7.45% | \$ 2,231,560 |
| 53,500 | Regency Centers Corp., Series E, 6.7% | 1,166,835 |
| | | ----- |
| | | \$ 3,398,395 |
| | | ----- |
| | Total Real Estate | \$ 5,447,795 |
| | | ----- |
| | Utilities - 3.0% | |
| | Electric Utilities - 2.6% | |
| 98,000 | Alabama Power Co., 5.3% | \$ 2,190,300 |
| 113,000 | Alabama Power Co., 5.83% | 2,751,550 |
| 78,000 | Interstate Power and Light Co., Series B, 8.375% | 2,184,000 |
| 40,000 | Mississippi Power Co., 5.25% | 960,000 |
| 7,700 | PPL Electric Utilities Corp., 4.5% | 623,700 |
| 73,000 | Southern California Edison Co., 4.32% | 1,405,980 |
| | | ----- |
| | | \$ 10,115,530 |
| | | ----- |
| | Gas Utilities - 0.4% | |
| 62,000 | Southern Union Co., Series C, 7.55% | \$ 1,563,640 |
| | | ----- |
| | Total Utilities | \$ 11,679,170 |
| | | ----- |
| | TOTAL NON-CONVERTIBLE PREFERRED STOCKS (Cost \$88,994,758) | \$ 74,285,568 |
| | | ----- |
| | CONVERTIBLE PREFERRED STOCKS - 1.0% of Net Assets | |
| | Commercial Services & Supplies - 0.8% | |
| 60,000 | Office Services & Supplies - 0.8% | |
| | Avery Dennison Corp., 7.875% | \$ 3,000,000 |
| | | ----- |
| | Total Commercial Services & Supplies | \$ 3,000,000 |
| | | ----- |
| | Insurance - 0.2% | |
| | Property & Casualty Insurance - 0.2% | |
| 47,919 | XL Capital, Ltd., Class A, 7.0% | \$ 667,032 |
| | | ----- |
| | Total Insurance | \$ 667,032 |
| | | ----- |
| | TOTAL CONVERTIBLE PREFERRED STOCKS (Cost \$4,203,880) | \$ 3,667,032 |
| | | ----- |

The accompanying notes are an integral part of these financial statements. 25

Pioneer Municipal and Equity Income Trust

SCHEDULE OF INVESTMENTS 5/31/08 (unaudited)

(continued)

Shares

Value

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| | | |
|------------|--|------------------|
| 33,005,000 | TAX-EXEMPT MONEY MARKET MUTUAL FUND - 8.6% of Net Assets BlackRock Liquidity Funds MuniFund Portfolio | \$ 33,005,000 |
| | | ----- |
| | TOTAL TAX-EXEMPT MONEY MARKET MUTUAL FUND (Cost \$33,005,000) | \$ 33,005,000 |
| | | ----- |
| | TOTAL INVESTMENTS IN SECURITIES - 145.7% (Cost \$562,005,575) (c) | \$ 557,066,982 |
| | | ----- |
| | OTHER ASSETS AND LIABILITIES 0.5% | \$ 1,789,349 |
| | | ----- |
| | PREFERRED SHARES AT REDEMPTION VALUE, INCLUDING DIVIDENDS PAYABLE - (46.2%) | \$ (176,446,296) |
| | | ----- |
| | NET ASSETS APPLICABLE TO COMMON SHAREOWNERS - 100.0% | \$ 382,410,035 |
| | | ===== |

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 May 31, 2008, the value of these securities amounted \$42,995,429, or 11.2% of total net assets.

NR Security not rated by S&P or Moody's.

+ 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 coupon rate at May 31, 2008.

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

| | |
|---------------------|-------|
| Insured: | |
| FSA | 8.1% |
| Radian | 3.1 |
| MBIA | 1.7 |
| FGIC | 1.2 |
| AMBAC | 0.9 |
| | ----- |
| | 15.0% |
| General Obligation | 3.2 |
| Revenue Bonds: | |
| Health Revenue | 30.2 |
| Tobacco Revenue | 15.3 |
| Other Revenue | 10.0 |
| Development Revenue | 9.4 |
| Education Revenue | 7.1 |
| Housing Revenue | 3.5 |
| Facilities Revenue | 3.0 |

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| | |
|-------------------------|--------|
| Transportation Revenue | 1.6 |
| Gaming Revenue | 1.1 |
| School District Revenue | 0.6 |
| | ----- |
| | 100.0% |
| | ===== |

26 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

(c) At May 31, 2008, the net unrealized loss on investments based on cost for federal income tax purposes of \$561,737,943 was as follows:

| | |
|--|----------------|
| Aggregate gross unrealized gain for all investments in which there is an excess of value over tax cost | \$31,126,949 |
| Aggregate gross unrealized loss for all investments in which there is an excess of tax cost over value | (35,797,910) |
| | ----- |
| Net unrealized loss | \$ (4,670,961) |
| | ===== |

For financial reporting purposes net unrealized loss on investments was \$4,938,593 and cost of investments aggregated \$562,005,575.

Purchases and sales of securities (excluding temporary cash investments) for the six months ended May 31, 2008, aggregated \$37,122,225 and \$71,899,278, respectively.

FAS 157 Footnote Disclosures

Various inputs are used in determining the value of the Trust'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 Trust's own assumptions in determining fair value of investments)

The following is a summary of the inputs used as of May 31, 2008, in valuing the Trust's assets:

| | | |
|------------------|------------------------------|---------------------------------|
| Valuation Inputs | Investments in Securities | Other Financial Instruments* |
|------------------|------------------------------|---------------------------------|

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| | | |
|---|---------------|--------------|
| Level 1 - Quoted Prices | \$223,718,855 | \$ - |
| Level 2 - Other Significant Observable Inputs | 333,348,127 | (906,708) |
| Level 3 - Significant Unobservable Inputs | - | - |
| Total | \$557,066,982 | \$ (906,708) |

* Other financial instruments include, interest rate swaps.

The accompanying notes are an integral part of these financial statements. 27

Pioneer Municipal and Equity Income Trust

STATEMENT OF ASSETS AND LIABILITIES 5/31/08 (unaudited)

ASSETS:

| | |
|--|---------------|
| Investments in securities, at value (cost \$562,005,575) | \$557,066,982 |
| Receivables - | |
| Dividends and interest | 6,173,665 |
| Prepaid expenses | 21,525 |
| Total assets | \$563,262,172 |

LIABILITIES:

| | |
|--|--------------|
| Due to custodian | \$ 3,143,472 |
| Due to affiliates | 292,163 |
| Administration fee payable | 31,134 |
| Unrealized depreciation on interest rate swaps | 906,708 |
| Accrued other expenses | 32,364 |
| Total liabilities | \$ 4,405,841 |

PREFERRED SHARES AT REDEMPTION VALUE:

| | |
|---|---------------|
| \$25,000 liquidation value per share applicable to 7,050 shares, including dividends payable of \$196,296 | \$176,446,296 |
|---|---------------|

NET ASSETS APPLICABLE TO COMMON SHAREOWNERS:

| | |
|--|---------------|
| Paid-in capital | \$406,036,048 |
| Distribution in excess of net investment income | (9,312,273) |
| Accumulated net realized loss on investments and interest rate swaps | (8,468,439) |
| Net unrealized loss on investments | (4,938,593) |
| Net unrealized loss on interest rate swaps | (906,708) |
| Net assets applicable to common shareowners | \$382,410,035 |

NET ASSET VALUE PER SHARE:

| | |
|---|----------|
| No par value, (unlimited number of shares authorized) | |
| Based on \$382,410,035/28,706,981 common shares | \$ 13.32 |

28 The accompanying notes are an integral part of these financial statements.

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Pioneer Municipal and Equity Income Trust

 STATEMENT OF OPERATIONS (unaudited)

For the Six Months Ended 5/31/08

INVESTMENT INCOME:

| | | |
|-----------|--------------|---------------|
| Dividends | \$ 6,438,103 | |
| Interest | 10,154,571 | |
| | ----- | \$ 16,592,674 |
| | | ----- |

EXPENSES:

| | | |
|----------------------------------|--------------|---------------|
| Management fees | \$ 1,713,148 | |
| Administration fees | 235,624 | |
| Transfer agent fees and expenses | 65,680 | |
| Auction agent fees | 234,182 | |
| Custodian fees | 17,173 | |
| Registration fees | 13,143 | |
| Professional fees | 222,423 | |
| Printing expense | 15,590 | |
| Trustees' fees | 16,147 | |
| Pricing fees | 7,249 | |
| Insurance fees | 9,111 | |
| Miscellaneous | 23,478 | |
| | ----- | |
| Total expenses | | \$ 2,572,948 |
| Less fees paid indirectly | | (50) |
| | | ----- |
| Net expenses | | \$ 2,572,898 |
| | | ----- |
| Net investment income | | \$ 14,019,776 |
| | | ----- |

REALIZED AND UNREALIZED GAIN (LOSS) ON
 INVESTMENTS AND INTEREST RATE SWAPS:

| | | |
|--|-----------------|-----------------|
| Net realized loss from: | | |
| Investments | \$ (8,397,381) | |
| Interest rate swaps | (71,058) | \$ (8,468,439) |
| | ----- | ----- |
| Change in net unrealized gain (loss) from: | | |
| Investments | \$ (24,149,426) | |
| Interest rate swaps | (995,071) | \$ (25,144,497) |
| | ----- | ----- |
| Net loss on investments and interest rate swaps | | \$ (33,612,936) |
| | | ----- |

DISTRIBUTIONS TO PREFERRED SHAREOWNERS
 FROM NET INVESTMENT INCOME:

| | | |
|--|--|-----------------|
| | | \$ (4,064,010) |
| | | ----- |
| Net decrease in net assets applicable to common shareowners resulting from operations | | \$ (23,657,170) |
| | | ===== |

The accompanying notes are an integral part of these financial statements. 29

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Pioneer Municipal and Equity Income Trust

 STATEMENTS OF CHANGES IN NET ASSETS

For the Six Months Ended 5/31/08 and Year Ended 11/30/07, respectively

| | Six Months Ended 5/31/08 (unaudited) | Year Ended 11/30/07 |
|---|---|---------------------------|
| FROM OPERATIONS: | | |
| Net investment income | \$ 14,019,776 | \$ 27,937,587 |
| Net realized gain (loss) on investments and interest rate swaps | (8,468,439) | 4,083,359 |
| Change in net unrealized gain on investments and interest rate swaps | (25,144,497) | (35,033,973) |
| Dividends and distributions to preferred shareowners from: | | |
| Net investment income | (4,064,010) | (7,768,522) |
| Net realized gains | - | (908,387) |
| | ----- | ----- |
| Net decrease in net assets applicable to common shareowners | \$ (23,657,170) | \$ (11,689,936) |
| | ----- | ----- |
| DIVIDENDS AND DISTRIBUTIONS TO COMMON SHAREOWNERS: | | |
| Net investment income (\$0.67 and \$0.85 per share, respectively) | \$ (19,291,091) | \$ (24,511,851) |
| Net realized gains (\$0.00 and \$0.10 per share, respectively) | - | (2,731,074) |
| | ----- | ----- |
| Total distributions to common shareowners | \$ (19,291,091) | \$ (27,242,925) |
| | ----- | ----- |
| Net decrease in net assets applicable to common shareowners | \$ (42,948,261) | \$ (38,932,861) |
| NET ASSETS APPLICABLE TO COMMON SHAREOWNERS: | | |
| Beginning of period | \$ 425,358,296 | \$ 464,291,157 |
| | ----- | ----- |
| End of period | \$ 382,410,035 | \$ 425,358,296 |
| | ===== | ===== |
| Undistributed (distribution in excess of) net investment income | \$ (9,312,273) | \$ 23,052 |
| | ===== | ===== |

30 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

 FINANCIAL HIGHLIGHTS

For the
Six Months

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| | Ended 5/31/08 (unaudited) | Year Ended 11/30/07 |
|--|---------------------------------|---------------------------|
| Per Common Share Operating Performance | | |
| Net asset value, beginning of period | \$ 14.82 | \$ 16.1 |
| ----- | | |
| Increase (decrease) from investment operations:(a) | | |
| Net investment income | \$ 0.49 | \$ 0.9 |
| Net realized and unrealized gain (loss) on investments and interest rate swaps | (1.18) | (1.0 |
| Dividends and distributions to preferred shareowners from: | | |
| Net Investment income | (0.14) | (0.2 |
| Net realized gain | - | (0.0 |
| ----- | | |
| Net increase (decrease) from investment operations | \$ (0.83) | \$ (0.4 |
| Dividends and distributions to common shareowners from: | | |
| Net investment income | (0.67) | (0.8 |
| Net realized gain | - | (0.1 |
| Capital charge with respect to issuance of: | | |
| Common shares | - | |
| Preferred shares | - | |
| ----- | | |
| Net increase (decrease) in net asset value | \$ (1.50) | \$ (1.3 |
| ----- | | |
| Net asset value, end of period(e) | \$ 13.32 | \$ 14.8 |
| ===== | | |
| Market value, end of period(e) | \$ 12.93 | \$ 13.4 |
| ===== | | |
| Total return at market value(f) | 1.56% | 2.3 |
| Ratios to average net assets of common shareowners | | |
| Net expenses(g) | 1.30% (h) | 1.2 |
| Net investment income before preferred share dividends | 7.10% (h) | 6.1 |
| Preferred share dividends | 2.06% (h) | 1.7 |
| Net investment income available to common shareowners | 5.04% (h) | 4.4 |
| Portfolio turnover | 7% | 2 |
| Net assets of common shareowners, end of period (in thousands) | \$382,410 | \$425,35 |
| Preferred shares outstanding (in thousands) | \$176,250 | \$176,25 |
| Asset coverage per preferred share, end of period | \$ 79,270 | \$ 85,35 |
| Average market value per preferred share(i) | \$ 25,000 | \$ 25,00 |
| Liquidation value, including dividends payable, per preferred share | \$ 25,028 | \$ 25,01 |

| | Year Ended 11/30/06 | Year Ended 11/30/05 |
|--|---------------------------|---------------------------|
| Per Common Share Operating Performance | | |
| Net asset value, beginning of period | \$ 14.65 | \$ 14.5 |
| ----- | | |
| Increase (decrease) from investment operations:(a) | | |
| Net investment income | \$ 0.98 | \$ 0.9 |
| Net realized and unrealized gain (loss) on investments and interest rate swaps | 1.57 | 0.1 |
| Dividends and distributions to preferred shareowners from: | | |
| Net Investment income | (0.26) | (0.1 |
| Net realized gain | (0.02) | |
| ----- | | |
| Net increase (decrease) from investment operations | \$ 2.27 | \$ 0.8 |
| Dividends and distributions to common shareowners from: | | |
| Net investment income | (0.67) | (0.7 |
| Net realized gain | (0.08) | |

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| | | |
|---|-----------|----------|
| Capital charge with respect to issuance of: | | |
| Common shares | - | |
| Preferred shares | - | |
| | ----- | ----- |
| Net increase (decrease) in net asset value | \$ 1.52 | \$ 0.1 |
| | ----- | ----- |
| Net asset value, end of period(e) | \$ 16.17 | \$ 14.6 |
| | ===== | ===== |
| Market value, end of period(e) | \$ 14.00 | \$ 12.1 |
| | ===== | ===== |
| Total return at market value(f) | 21.79% | 1.5 |
| Ratios to average net assets of common shareowners | | |
| Net expenses(g) | 1.12% | 1.1 |
| Net investment income before preferred share dividends | 6.43% | 6.3 |
| Preferred share dividends | 1.69% | 1.2 |
| Net investment income available to common shareowners | 4.74% | 5.0 |
| Portfolio turnover | 16% | 2 |
| Net assets of common shareowners, end of period (in thousands) | \$464,291 | \$420,47 |
| Preferred shares outstanding (in thousands) | \$176,250 | \$176,25 |
| Asset coverage per preferred share, end of period | \$ 90,870 | \$84,65 |
| Average market value per preferred share(i) | \$ 25,000 | \$25,00 |
| Liquidation value, including dividends payable, per preferred share | \$ 25,015 | \$25,00 |

The accompanying notes are an integral part of these financial statements. 31

Pioneer Municipal and Equity Income Trust

----- FINANCIAL HIGHLIGHTS -----

Ratios to average net assets of common shareowners before
waivers and reimbursements of expenses

| | | | |
|--|-----------|-------|---|
| Net expenses(g) | 1.30% (h) | 1.26% | 1 |
| Net investment income before preferred share dividends | 7.10% (h) | 6.12% | 6 |
| Preferred share dividends | 2.06% (h) | 1.70% | 1 |
| Net investment income available to common shareowners | 5.04% (h) | 4.42% | 4 |

- (a) The per common share data presented above is based upon the average common shares outstanding for the periods presented.
- (b) The Trust shares were first publicly offered on January 28, 2004.
- (c) Net asset value immediately after the closing of the first public offering was \$14.30.
- (d) Amount is less than \$0.01 per common share.
- (e) Net asset value and market value are published in Barron's on Saturday, The Wall Street Journal on Monday and The New York Times on Monday and Saturday.
- (f) Total investment return is calculated assuming a purchase of common shares at the current market value on the first day and a sale at the current market value on the last day of the periods reported. Dividends and distributions, if any, are assumed for purposes of this calculation to be reinvested at prices obtained under the Trust's dividend reinvestment plan. Total investment return does not reflect brokerage commissions. Total investment return less than a full period is not annualized. Past performance is not a guarantee of future results.
- (g) Expense ratios do not reflect the effect of dividend payments to preferred shareowners.
- (h) Annualized.

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(i) Market value is redemption without an active market.

The information above represents the operating performance data for a share of common stock outstanding, total investment return, ratios to average net assets of common shareowners and other supplemental data for the periods indicated. This information has been determined based upon financial information provided in the financial statements and market value data for the Trust's common shares.

32 The accompanying notes are an integral part of these financial statements.

Pioneer Municipal and Equity Income Trust

NOTES TO FINANCIAL STATEMENTS (unaudited)

1. Organization and Significant Accounting Policies

Pioneer Municipal and Equity Income Trust (the "Trust") was organized as a Delaware statutory trust and registered as a diversified, closed-end management investment company under the Investment Company Act of 1940. The Trust changed its name from Pioneer Tax Advantaged Balanced Trust effective November 7, 2007. The Trust's investment objective is to provide a high level of total after-tax return, including attractive tax-advantaged income.

The Trust may invest in municipal securities with a broad range of maturities and credit ratings, including both investment grade and below investment grade municipal securities. By concentrating in municipal securities, the portfolio is more susceptible to adverse economic, political or regulatory developments than is a portfolio that invests more broadly. Investments in the Trust are subject to possible loss due to the financial failure of underlying securities and their inability to meet their debt obligations. The Trust may also invest in common stocks and preferred securities that pay tax-qualified dividends. In addition, the Trust may invest in other securities, including debt instruments, real estate investment trusts ("REITs") and equity securities, that generate income taxable at ordinary income rates, rather than long-term capital gain rates.

There can be no assurance as to the portion of the Trust's dividends that will be tax-exempt or tax-qualified.

A portion of income may be subject to state, federal, and/or alternative minimum tax. Capital gains, if any, are subject to a capital gains tax. When interest rates rise, the prices of fixed income securities in the Trust will generally fall. Conversely, when interest rates fall the prices of fixed-income securities in the Trust will generally rise.

The Trust may invest in derivative securities, which may include futures and options. These types of instruments can increase price fluctuation.

Information regarding the Trust's principal risks is contained in the Trust's original offering prospectus, with additional information included in the Trust's shareowner reports from time to time. Please refer to those documents when considering the Trust's risks. At times, the Trust's investments may represent industries or industry sectors that are interrelated or have common risks, making it more

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Pioneer Municipal and Equity Income Trust

susceptible to any economic, political, or regulatory developments or other risks affecting those industries and sectors.

The Trust's financial statements have been prepared in conformity with U.S. generally accepted accounting principles that require the management of the Trust to, among other things, make estimates and assumptions that affect the reported amounts of assets and liabilities, and the reported amounts of income, expenses and gains and losses on investments during the reporting period. Actual results could differ from those estimates.

The following is a summary of significant accounting policies followed by the Trust in preparation of its financial statements, which are consistent with those policies generally accepted in the investment company industry:

A. Security Valuation

Security transactions are recorded as of trade date. Fixed-income securities are valued at prices supplied by independent pricing services, which consider such factors as Treasury spreads, yields, maturities and ratings. Valuations may be supplemented by values obtained from dealers and other sources, as required. Equity securities are valued at the last sale price on the principal exchange where they are traded. The values of interest rate swaps are determined by obtaining dealer quotations. Securities for which market quotations are not readily available are valued using fair value methods pursuant to procedures adopted by the Board of Trustees. The Trust may also use the fair value of a security, including a non U.S. security, when the closing market price on the principal exchange where the security is traded no longer accurately reflects the value of the security as of the close of the exchange. At May 31, 2008, there were no securities fair valued. Temporary cash investments are valued at cost which approximates market value.

Dividend income is recorded on the ex-dividend date, except that certain dividends from foreign securities where the ex-dividend date may have passed are recorded as soon as the Trust becomes aware of the ex-dividend data in the exercise of reasonable diligence. Discount and premium on debt securities are accreted or amortized, respectively, daily, on an effective yield to maturity basis and are included in interest income. Interest income,

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Pioneer Municipal and Equity Income Trust

including income on interest bearing cash accounts, is recorded on an accrual basis.

Gains and losses on sales of investments are calculated on the identified cost method for both financial reporting and federal income tax purposes.

B. Federal Income Taxes

It is the Trust's policy to comply with the requirements of the Internal

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Revenue Code applicable to regulated investment companies and to distribute all of its taxable income and net realized capital gains, if any, to its shareowners. Therefore, no federal income tax provision is required. All tax returns filed thus far are subject to examination by tax authorities.

The amounts and characterizations of distributions to shareowners for financial reporting purposes are determined in accordance with federal income tax rules. Therefore, the source of the Trust's distributions may be shown in the accompanying financial statements as either from or in excess of net investment income or net realized gain (loss) on investment transactions, or from paid-in capital, depending on the type of book/tax differences that may exist.

The tax character of current year distributions paid to common and preferred shareowners will be determined at the end of the fiscal year. Distributions during the year ended November 30, 2007 were as follows:

| | 2007 |
|--------------------------|--------------|
| ----- | |
| Distributions paid from: | |
| Tax-Exempt income | \$15,264,954 |
| Ordinary income* | 17,015,419 |
| Long-term capital gain | 3,639,461 |
| | ----- |
| | \$35,919,834 |
| | ===== |

* Included in the Trust's distributions from 2007 ordinary income is \$2,324,009 (\$0.08 per common share) in excess of investment company taxable income, which, in accordance with applicable U.S. tax law, is taxable to shareowners as ordinary income distributions.

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Pioneer Municipal and Equity Income Trust

NOTES TO FINANCIAL STATEMENTS (unaudited) (continued)

The following shows the components of distributable earnings on a federal income tax basis at November 30, 2007.

| | 2007 |
|-------------------------------|------------|
| ----- | |
| Undistributed ordinary income | \$ - |
| Undistributed long-term gains | - |
| Dividends payable | (134,031) |
| Unrealized appreciation | 19,456,279 |
| | ----- |

Total

\$19,322,248

=====

The difference between book basis and tax basis unrealized appreciation is primarily attributable to the difference between book and tax amortization methods for premiums and discounts on fixed income securities and the accounting treatment for swap agreements.

C. Automatic Dividend Reinvestment Plan

All common shareowners automatically participate in the Automatic Dividend Reinvestment Plan (the "Plan"), under which participants receive all dividends and capital gain distributions (collectively, "dividends") in full and fractional common shares of the Trust in lieu of cash. Shareowners may elect not to participate in the Plan. Shareowners not participating in the Plan receive all dividends and capital gain distributions in cash. Participation in the Plan is completely voluntary and may be terminated or resumed at any time without penalty by notifying American Stock Transfer & Trust Company, the agent for shareowners in administering the Plan (the "Plan Agent"), in writing prior to any dividend record date; otherwise such termination or resumption will be effective with respect to any subsequently declared dividend or other distribution.

Whenever the Trust declares a dividend on common shares payable in cash, participants in the Plan will receive the equivalent in common shares acquired by the Plan Agent either (i) through receipt of additional unissued but authorized common shares from the Trust or (ii) by purchase of outstanding common shares on the New York Stock Exchange or elsewhere. If, on the payment date for any dividend, the net asset value per common share is equal to or less than the market price per share plus estimated brokerage trading fees ("market premium"), the Plan Agent will invest the

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Pioneer Municipal and Equity Income Trust

dividend amount in newly issued common shares. The number of newly issued common shares to be credited to each account will be determined by dividing the dollar amount of the dividend by the net asset value per common share on the date the shares are issued, provided that the maximum discount from the then current market price per share on the date of issuance does not exceed 5%. If, on the payment date for any dividend, the net asset value per common share is greater than the market value ("market discount"), the Plan Agent will invest the dividend amount in common shares acquired in open-market purchases. There are no brokerage charges with respect to newly issued common shares. However, each participant will pay a pro rata share of brokerage trading fees incurred with respect to the Plan Agent's open-market purchases. Participating in the Plan does not relieve shareowners from any federal, state or local taxes which may be due on dividends paid in any taxable year. Shareowners holding Plan shares in a brokerage account may not be able to transfer the shares to another broker and continue to participate in the Plan.

2. Management Agreement

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Pioneer Investment Management, Inc. ("PIM"), a wholly owned indirect subsidiary of UniCredit S.p.A. ("UniCredit"), manages the Trust's portfolio. Management fees payable under the Trust's Management Agreement with PIM are calculated daily at the annual rate of 0.60% of the Trust's average daily managed assets. "Managed assets" is the average daily value of the Trust's total assets minus the sum of the Trust's liabilities, which liabilities exclude debt related to leverage, short-term debt and the aggregate liquidation preference of any outstanding preferred shares. For the six months ended, May 31, 2008, the net management fee was equivalent to 0.60% of the Trust's average daily managed assets, which was equivalent to 0.87% of the Trust's average daily net assets attributable to common shareowners.

In addition, under PIM's management and administration agreements, certain other services and costs are paid by PIM and reimbursed by the Trust. Included in "Due to affiliates" reflected on the Statement of Assets and Liabilities is \$292,163 in management costs, administrative costs and certain other fees payable to PIM at May 31, 2008.

The Trust has retained Princeton Administrators, LLC, ("Princeton") to provide certain administrative and accounting services to the Trust on

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Pioneer Municipal and Equity Income Trust

NOTES TO FINANCIAL STATEMENTS (unaudited)

(continued)

its behalf. The Trust pays Princeton a monthly fee at an annual rate of 0.07% of the average daily value of the Trust's managed assets up to \$500 million and 0.03% for average daily managed assets in excess of \$500 million, subject to a minimum monthly fee of \$10,000.

3. Transfer Agents

Pioneer Investment Management Shareholder Services, Inc. ("PIMSS"), a wholly owned indirect subsidiary of UniCredit, through a sub-transfer agency agreement with American Stock Transfer & Trust Company, provides substantially all transfer agent and shareowner services related to the Trust's common shares at negotiated rates. Deutsche Bank Trust Company Americas ("Deutsche Bank") is the transfer agent, registrar, dividend paying agent and auction agent with respect to the Trust's Auction Market Preferred Shares ("AMPS"). The Trust pays Deutsche Bank an annual fee, as is agreed to from time to time by the Trust and Deutsche Bank, for providing such services.

4. Expense Offset Arrangements

The Trust has entered into an arrangement with its custodian whereby credits realized as a result of uninvested cash balances are used to reduce a portion of the Trust's custodian expenses. For the six months ended May 31, 2008, the Trust expenses were reduced by \$50 under such arrangements.

5. Interest Rate Swaps

The Trust may enter into interest rate swap transactions to attempt to protect itself from increasing dividend or interest expense on its leverage resulting from increasing short-term interest rates. The cost of leverage may rise with an increase in interest rates, generally having the effect of lower yields and potentially lower dividends to common shareowners. Interest rate swaps can be

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used to "lock in" the cost of leverage and reduce the negative impact that rising short-term interest rates would have on the Trust's leveraging costs.

An interest rate swap is an agreement between two parties, which involves exchanging floating rate and fixed rate interest payments for a specified period of time. Interest rate swaps involve the accrual of the net interest payments between the parties on a daily basis, with the net amount recorded within the unrealized appreciation/depreciation of interest rate swaps on the Statement of Assets and Liabilities. Once the interim payments are settled in cash, at the

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Pioneer Municipal and Equity Income Trust

pre-determined dates specified in the agreement, the net amount is recorded as realized gain or loss from interest rate swaps on the Statement of Operations. During the term of the swap, changes in the value of the swap are recognized as unrealized gains and losses by "marking-to market" the value of the swap based on values obtained from dealer quotations. When the swap is terminated, the Trust will record a realized gain or loss equal to the difference, if any, between the proceeds from (or cost of) closing the contract and the cost basis of the contract. The Trust is exposed to credit risk in the event of non-performance by the other party to the interest rate swap. However, at May 31, 2008 the Trust does not anticipate non-performance by any counterparty. Risk may also arise with regard to market movements in the value of the swap arrangement that do not exactly offset the changes in the related dividend requirement or interest expense on the Trust's leverage.

Under the terms of the agreement entered into by the Trust, the Trust receives a floating rate of interest and pays a fixed rate of interest for the term. Details of the swap agreement outstanding as of May 31, 2008 were as follows:

| Counterparty | Termination Date | Notional Amount (000) | Fixed Rate | Floating Rate | Unrealized Depreciation |
|--------------|------------------|-----------------------|------------|---------------|-------------------------|
| UBS AG | Sept. 1, 2009 | \$106,000 | 2.855% | 1 month BMA | \$ (906,708) |

6. Trust Shares

There are an unlimited number of common shares of beneficial interest authorized.

During the six months ended May 31, 2008 and year ended November 30, 2007, there were no share transactions by the Trust. All reinvested distributions were satisfied with previously issued shares purchased in the open market by the Plan Agent and credited to shareowner accounts.

The Trust may classify and reclassify any unissued common shares of beneficial interest into one or more series of preferred shares of beneficial interest. As of May 31, 2008, there were 7,050 AMPS as follows: Series T7-2,350, Series F7-2,350 and Series TH28-2,350.

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Dividends on Series T7 and Series F7 are cumulative at a rate which is reset every seven days based on the results of an auction.

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Pioneer Municipal and Equity Income Trust

NOTES TO FINANCIAL STATEMENTS (unaudited)

(continued)

Dividends on Series TH28 are also cumulative at a rate reset every 28 days based on the results of an auction. An auction fails if there are more AMPS offered than there are buyers. When an auction fails, the dividend rate for the period will be the maximum rate on the auction dates described in the prospectus for the AMPS. You will not be able to sell your AMPS at an auction if the auction fails. Since February 13, 2008, the Trust's auctions related to the AMPS have failed. The maximum rate for the 7-Day Series is 1.25% spread, over, or 125% of (the greater of) the one week LIBOR rate. The maximum rate for the 28 day Series is 1.25% spread, over, or 125% of (the greater of) of the one month LIBOR rate. Dividend rates ranged from 3.54% to 6.15% during the six months ended May 31, 2008.

The Trust may not declare dividends or make other distributions on its common shares or purchase any such shares if, at the time of the declaration, distribution or purchase, asset coverage with respect to the outstanding preferred shares would be less than 200%.

The AMPS are redeemable at the option of the Trust, in whole or in part, on any dividend payment date at \$25,000 per share plus any accumulated or unpaid dividends, whether or not declared. The AMPS are also subject to mandatory redemption at \$25,000 per share plus any accumulated or unpaid dividends, whether or not declared, if certain requirements relating to the composition of the assets and liabilities of the Trust as set forth in the Agreement and Declaration of Trust are not satisfied.

The holders of AMPS have voting rights equal to the holders of the Trust's common shares (one vote per share) and will vote together with holders of the common shares as a single class. However, holders of AMPS are also entitled to elect two of the Trust's Trustees. In addition, the Investment Company Act of 1940, as amended, requires that along with approval by shareowners that might otherwise be required, the approval of the holders of a majority of any outstanding preferred shares, voting separately as a class, would be required to (a) adopt any plan of reorganization that would adversely affect the preferred shares and (b) take any action requiring a vote of security holders, including, among other things, changes in the Trust's subclassification as a closed-end investment company or changes in its fundamental investment restrictions.

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Pioneer Municipal and Equity Income Trust

7. New Pronouncements

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In March 2008, Statement of Financial Accounting Standards No. 161, Disclosures about Derivative Instruments and Hedging Activities ("SFAS 161"), was issued and is effective for fiscal years beginning after November 15, 2008. SFAS 161 requires enhanced disclosures about an entity's derivative and hedging activities. Management is currently evaluating the impact the adoption of SFAS 161 will have on the Trust's financial statement disclosures.

8. Subsequent Events

Subsequent to May 31, 2008, the Board of Trustees of the Trust declared a dividend from undistributed net investment income of \$0.112 per common share payable June 30, 2008 to common shareowners of record on June 16, 2008.

Subsequent to May 31, 2008, dividends declared and paid on preferred shares totaled \$524,262 in aggregate for the three outstanding preferred share series through July 7, 2008.

ADDITIONAL INFORMATION (unaudited)

On May 23, 2008, the Trust and Pioneer Tax Free Income Fund announced that each fund's Board of Trustees approved a plan to merge the Trust, a closed-end fund, into Pioneer Tax Free Income Fund, an open-end fund.

The proposed merger is subject to the approval of shareowners of the Trust. A shareowner meeting is anticipated to be held in September 2008. If approved by shareowners of the Trust, the merger is expected to take place in September 2008. The Trustees believe that the proposed merger is in the best interests of shareowners. Details of the rationale for this merger will be contained in the proxy materials to be sent to shareowners of the Trust. There can be no assurance that the merger will be approved or, if approved, completed.

Under the terms of the proposed merger, all of the assets and liabilities of the Trust attributable to its common shares would become the assets and liabilities of Pioneer Tax Free Income Fund, and the Trust would cease to exist. The outstanding common shares of the Trust would be converted into a number of whole or fractional Class A shares of Pioneer Tax Free Income Fund with an aggregate net asset value equal to the aggregate net asset value of the common shares of the Trust immediately prior to the merger. The merger

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Pioneer Municipal and Equity Income Trust

NOTES TO FINANCIAL STATEMENTS (unaudited)

(continued)

is expected to qualify as a tax-free transaction. In connection with the proposed merger, the Trust would call for redemption and redeem all of its outstanding Auction Market Preferred Shares.

In connection with the proposed merger, the Trust and Pioneer Tax Free Income Fund have filed relevant materials with the Securities and Exchange Commission ("SEC"), including a combined proxy statement for the Trust and prospectus for Pioneer Tax Free Income Fund. The information in these materials is not complete and may be changed. Any solicitation of proxies by the Trust in connection with the shareowner meeting will be made only pursuant to such proxy materials. Investors should consider the investment objectives, risks and expenses of Pioneer Tax Free Income Fund before investing or voting with respect to the merger. Because the final proxy statement/prospectus will contain this and other important information, the Trust's shareowners are

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urged to read it carefully when it becomes available and before voting with respect to the reorganization. The preliminary materials filed with the SEC are available, and when filed with the SEC, the final proxy statement/prospectus will be available free of charge at the SEC's website, www.sec.gov, under filings for Pioneer Tax Free Income Fund. The Trust's shareowners also will be able to obtain copies of the final documents, when available, by calling Pioneer Investments at 1-800-622-3265. This is not an offer to buy shares of any fund, nor is it a solicitation of any proxy.

During the period ended May 31, 2008, there were no material changes in the Trust's investment objective or fundamental policies that have not been approved by the shareowners. There were no changes in the Trust's Charter or By-Laws that would delay or prevent a change in control of the Trust which has not been approved by the shareowners. There were no changes in the principal risk factors associated with investment in the Trust. Day-to-day management of the Trust's portfolio of municipal securities is the responsibility of David Eurkus. Mr. Eurkus is supported by the fixed income team. Members of this team manage other Pioneer funds investing primarily in fixed income securities. Mr. Eurkus joined Pioneer as a senior vice president in January 2000 and has been an investment professional since 1969. Day-to-day management of the Trust's portfolio of equity securities is the responsibility of Walter Hunnewell, Jr. Mr. Hunnewell is supported by the domestic equity team. Members of this team manage other Pioneer funds investing primarily in U.S. equity securities. Mr. Hunnewell, a vice president, joined Pioneer in August 2001

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Pioneer Municipal and Equity Income Trust

and has been an investment professional since 1985. The portfolio managers and each team also may draw upon the research and investment management expertise of the global research teams, which provide quantitative and fundamental research on companies and include members from Pioneer's affiliate, Pioneer Investment Management Limited ("PIML").

Notice is hereby given in accordance with Section 23(c) of the Investment Company Act of 1940 that the Trust may purchase, from time to time, its common shares in the open market.

CEO CERTIFICATION DISCLOSURE (unaudited)

The Trust's Chief Executive Officer has submitted to the New York Stock Exchange the annual CEO certification as required by Section 303A.12(a) of the NYSE Listed Company Manual. In addition, the Trust has filed with the Securities and Exchange Commission the certification of its Chief Executive Officer and Chief Financial Officer required by Section 302 of the Sarbanes-Oxley Act.

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Pioneer Municipal and Equity Income Trust

TRUSTEES, OFFICERS AND SERVICE PROVIDERS

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Trustees

John F. Cogan, Jr., Chairman
Mary K. Bush
Robert Ferguson
Margaret B.W. Graham
Daniel K. Kingsbury
Arthur D. Lipson
Thomas J. Perna
Marguerite A. Piret
John Winthrop

Officers

John F. Cogan, Jr., President
Daniel K. Kingsbury, Executive
Vice President
Mark E. Bradley, Treasurer
Dorothy E. Bourassa, Secretary

Investment Adviser

Pioneer Investment Management, Inc.

Custodian

Brown Brothers Harriman & Co.

Legal Counsel

Bingham McCutchen LLP

Transfer Agent

Pioneer Investment Management Shareholder Services, Inc.

Shareowner Services and Sub-Transfer Agent

American Stock Transfer & Trust Company

Preferred Share Auction/Transfer Agent and Registrar

Deutsche Bank Trust Company Americas

Sub-Administrator

Princeton Administrators, LLC

Proxy Voting Policies and Procedures of the Trust are available without charge, upon request, by calling our toll free number (1-800-225-6292). Information regarding how the Trust voted proxies relating to portfolio securities during the most recent 12-month period ended June 30 is publicly available to shareowners at www.pioneerinvestments.com. This information is also available on the Securities and Exchange Commission's web site at <http://www.sec.gov>.

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HOW TO CONTACT PIONEER

We are pleased to offer a variety of convenient ways for you to contact us for assistance or information.

You can call American Stock Transfer & Trust Company (AST) for:

Account Information 1-800-710-0935

Or write to AST:

For Write to
General inquiries, lost dividend checks, American Stock

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| | |
|---|--|
| change of address, lost stock certificates, stock transfer | Transfer & Trust Operations Center 6201 15th Ave. Brooklyn, NY 11219 |
| Dividend reinvestment plan (DRIP) | American Stock Transfer & Trust Company Wall Street Station P.O. Box 922 New York, NY 10269-0560 |
| Website | www.amstock.com |

For additional information, please contact your investment advisor or visit our web site www.pioneerinvestments.com.

The Trust files a complete statement of investments with the Securities and Exchange Commission for the first and third quarters for each fiscal year on Form N-Q. Shareowners may view the filed Form N-Q by visiting the Commission's web site at <http://www.sec.gov>. The filed form may also be viewed and copied at the Commission's Public Reference Room in Washington, DC. Information regarding the operations of the Public Reference Room may be obtained by calling 1-800-SEC-0330.

The Trust's Chief Executive Officer is required by the New York Stock Exchange's Listing Standards to file annually with the Exchange a certification that he is not aware of any violation by the Trust of the Exchange's Corporate Governance Standards applicable to the Trust. The Trust has filed such certification.

ITEM 2. CODE OF ETHICS.

(a) Disclose whether, as of the end of the period covered by the report, the registrant has adopted a code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party. If the registrant has not adopted such a code of ethics, explain why it has not done so.

The registrant has adopted, as of the end of the period covered by this report, a code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer and controller.

(b) For purposes of this Item, the term "code of ethics" means written standards that are reasonably designed to deter wrongdoing and to promote:

- (1) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- (2) Full, fair, accurate, timely, and understandable disclosure in reports and documents that a registrant files with, or submits to, the Commission and in other public communications made by the registrant;
- (3) Compliance with applicable governmental laws, rules, and regulations;
- (4) The prompt internal reporting of violations of the code to an appropriate person or persons identified in the code; and

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(5) Accountability for adherence to the code.

(c) The registrant must briefly describe the nature of any amendment, during the period covered by the report, to a provision of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party, and that relates to any element of the code of ethics definition enumerated in paragraph (b) of this Item. The registrant must file a copy of any such amendment as an exhibit pursuant to Item 10(a), unless the registrant has elected to satisfy paragraph (f) of this Item by posting its code of ethics on its website pursuant to paragraph (f)(2) of this Item, or by undertaking to provide its code of ethics to any person without charge, upon request, pursuant to paragraph (f)(3) of this Item.

The registrant has made no amendments to the code of ethics during the period covered by this report.

(d) If the registrant has, during the period covered by the report, granted a waiver, including an implicit waiver, from a provision of the code of ethics to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, regardless of whether these individuals are employed by the registrant or a third party, that relates to one or more of the items set forth in paragraph (b) of this Item, the registrant must briefly describe the nature of the waiver, the name of the person to whom the waiver was granted, and the date of the waiver.

Not applicable.

(e) If the registrant intends to satisfy the disclosure requirement under paragraph (c) or (d) of this Item regarding an amendment to, or a waiver from, a provision of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions and that relates to any element of the code of ethics definition enumerated in paragraph (b) of this Item by posting such information on its Internet website, disclose the registrant's Internet address and such intention.

Not applicable.

(f) The registrant must:

(1) File with the Commission, pursuant to Item 10(a), a copy of its code of ethics that applies to the registrant's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, as an exhibit to its annual report on this Form N-CSR;

(2) Post the text of such code of ethics on its Internet website and disclose, in its most recent report on this Form N-CSR, its Internet address and the fact that it has posted such code of ethics on its Internet website; or

(3) Undertake in its most recent report on this Form N-CSR to provide to any person without charge, upon request, a copy of such code of ethics and explain the manner in which such request may be made.
See Item 10(2)

ITEM 3. AUDIT COMMITTEE FINANCIAL EXPERT.

(a) (1) Disclose that the registrant's board of trustees has determined that

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the registrant either:

- (i) Has at least one audit committee financial expert serving on its audit committee; or
- (ii) Does not have an audit committee financial expert serving on its audit committee.

The registrant's Board of Trustees has determined that the registrant has at least one audit committee financial expert.

(2) If the registrant provides the disclosure required by paragraph (a)(1)(i) of this Item, it must disclose the name of the audit committee financial expert and whether that person is "independent." In order to be considered "independent" for purposes of this Item, a member of an audit committee may not, other than in his or her capacity as a member of the audit committee, the board of trustees, or any other board committee:

- (i) Accept directly or indirectly any consulting, advisory, or other compensatory fee from the issuer; or
- (ii) Be an "interested person" of the investment company as defined in Section 2(a)(19) of the Act (15 U.S.C. 80a-2(a)(19)).

Ms. Marguerite A. Piret, an independent trustee, is such an audit committee financial expert.

(3) If the registrant provides the disclosure required by paragraph (a)(1)(ii) of this Item, it must explain why it does not have an audit committee financial expert.

Not applicable.

ITEM 4. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

(a) Disclose, under the caption AUDIT FEES, the aggregate fees billed for each of the last two fiscal years for professional services rendered by the principal accountant for the audit of the registrant's annual financial statements or services that are normally provided by the accountant in connection with statutory and regulatory filings or engagements for those fiscal years.

N/A

(b) Disclose, under the caption AUDIT-RELATED FEES, the aggregate fees billed in each of the last two fiscal years for assurance and related services by the principal accountant that are reasonably related to the performance of the audit of the registrant's financial statements and are not reported under paragraph (a) of this Item. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

(c) Disclose, under the caption TAX FEES, the aggregate fees billed in each of the last two fiscal years for professional services rendered by the principal accountant for tax compliance, tax advice, and tax planning. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

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(d) Disclose, under the caption ALL OTHER FEES, the aggregate fees billed in each of the last two fiscal years for products and services provided by the principal accountant, other than the services reported in paragraphs (a) through (c) of this Item. Registrants shall describe the nature of the services comprising the fees disclosed under this category.

N/A

(e) (1) Disclose the audit committee's pre-approval policies and procedures described in paragraph (c) (7) of Rule 2-01 of Regulation S-X.

PIONEER FUNDS

APPROVAL OF AUDIT, AUDIT-RELATED, TAX AND OTHER SERVICES PROVIDED BY THE INDEPENDENT AUDITOR

SECTION I - POLICY PURPOSE AND APPLICABILITY

The Pioneer Funds recognize the importance of maintaining the independence of their outside auditors. Maintaining independence is a shared responsibility involving Pioneer Investment Management, Inc ("PIM"), the audit committee and the independent auditors.

The Funds recognize that a Fund's independent auditors: 1) possess knowledge of the Funds, 2) are able to incorporate certain services into the scope of the audit, thereby avoiding redundant work, cost and disruption of Fund personnel and processes, and 3) have expertise that has value to the Funds. As a result, there are situations where it is desirable to use the Fund's independent auditors for services in addition to the annual audit and where the potential for conflicts of interests are minimal. Consequently, this policy, which is intended to comply with Rule 210.2-01(C)(7), sets forth guidelines and procedures to be followed by the Funds when retaining the independent audit firm to perform audit, audit-related tax and other services under those circumstances, while also maintaining independence.

Approval of a service in accordance with this policy for a Fund shall also constitute approval for any other Fund whose pre-approval is required pursuant to Rule 210.2-01(c)(7)(ii).

In addition to the procedures set forth in this policy, any non-audit services that may be provided consistently with Rule 210.2-01 may be approved by the Audit Committee itself and any pre-approval that may be waived in accordance with Rule 210.2-01(c)(7)(i)(C) is hereby waived.

Selection of a Fund's independent auditors and their compensation shall be determined by the Audit Committee and shall not be subject to this policy.

SECTION II - POLICY

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|-------------------|---|--|
| I. AUDIT SERVICES | Services that are directly related to performing the independent audit of the Funds | <ul style="list-style-type: none">o Accounting research assistanceo SEC consultation, registration statements, and reportingo Tax accrual related matterso Implementation of new accounting standards |

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- o Compliance letters (e.g. rating agency letters)
- o Regulatory reviews and assistance regarding financial matters
- o Semi-annual reviews (if requested)
- o Comfort letters for closed end offerings

II.
AUDIT-RELATED
SERVICES

Services which are not prohibited under Rule 210.2-01(C)(4) (the "Rule") and are related extensions of the audit services support the audit, or use the knowledge/expertise gained from the audit procedures as a foundation to complete the project. In most cases, if the Audit-Related Services are not performed by the Audit firm, the scope of the Audit Services would likely increase. The Services are typically well-defined and governed by accounting professional standards (AICPA, SEC, etc.)

- o AICPA attest and agreed-upon procedures
- o Technology control assessments
- o Financial reporting control assessments
- o Enterprise security architecture assessment

AUDIT COMMITTEE APPROVAL POLICY

AUDIT COMMITTEE
REPORTING POLICY

- o "One-time" pre-approval for the audit period for all pre-approved specific service subcategories. Approval of the independent auditors as auditors for a Fund shall constitute pre approval for these services.

- o A summary of all such services and related fees reported at each regularly scheduled Audit Committee meeting.

- o "One-time" pre-approval for the fund fiscal year within a specified dollar limit for all pre-approved specific service subcategories

- o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly.

- o Specific approval is needed to exceed the pre-approved dollar limit for these services (see general Audit Committee approval policy below for details on obtaining specific approvals)

- o Specific approval is needed to use the Fund's auditors for Audit-Related Services not denoted as

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"pre-approved", or
to add a specific service
subcategory as "pre-approved"

SECTION III - POLICY DETAIL, CONTINUED

| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|-------------------|---|---|
| III. TAX SERVICES | Services which are not prohibited by the Rule, if an officer of the Fund determines that using the Fund's auditor to provide these services creates significant synergy in the form of efficiency, minimized disruption, or the ability to maintain a desired level of confidentiality. | <ul style="list-style-type: none"> o Tax planning and support o Tax controversy assistance o Tax compliance, tax returns, excise tax returns and support o Tax opinions |

| AUDIT COMMITTEE APPROVAL POLICY | AUDIT COMMITTEE REPORTING POLICY |
|---|---|
| o "One-time" pre-approval for the fund fiscal year within a specified dollar limit | o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly. |
| o Specific approval is needed to exceed the pre-approved dollar limits for these services (see general Audit Committee approval policy below for details on obtaining specific approvals) | |
| o Specific approval is needed to use the Fund's auditors for tax services not denoted as pre-approved, or to add a specific service subcategory as "pre-approved" | |

SECTION III - POLICY DETAIL, CONTINUED

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| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PRE-APPROVED SERVICE SUBCATEGORIES |
|--|--|--|
| IV. OTHER SERVICES A. SYNERGISTIC, UNIQUE QUALIFICATIONS | Services which are not prohibited by the Rule, if an officer of the Fund determines that using the Fund's auditor to provide these services creates significant synergy in the form of efficiency, minimized disruption, the ability to maintain a desired level of confidentiality, or where the Fund's auditors possess unique or superior qualifications to provide these services, resulting in superior value and results for the Fund. | <ul style="list-style-type: none"> o Business Risk Management support o Other control and regulatory compliance projects |

| AUDIT COMMITTEE APPROVAL POLICY | AUDIT COMMITTEE REPORTING POLICY |
|---|---|
| <ul style="list-style-type: none"> o "One-time" pre-approval for the fund fiscal year within a specified dollar limit o Specific approval is needed to exceed the pre-approved dollar limits for these services (see general Audit Committee approval policy below for details on obtaining specific approvals) o Specific approval is needed to use the Fund's auditors for "Synergistic" or "Unique Qualifications" Other Services not denoted as pre-approved to the left, or to add a specific service subcategory as "pre-approved" | <ul style="list-style-type: none"> o A summary of all such services and related fees (including comparison to specified dollar limits) reported quarterly. |

SECTION III - POLICY DETAIL, CONTINUED

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| SERVICE CATEGORY | SERVICE CATEGORY DESCRIPTION | SPECIFIC PROHIBITED SERVICE SUBCATEGORIES |
|---------------------|--|---|
| PROHIBITED SERVICES | Services which result in the auditors losing independence status under the Rule. | <ol style="list-style-type: none"> 1. Bookkeeping or other services related to the accounting records or financial statements of the audit client* 2. Financial information systems design and implementation* 3. Appraisal or valuation services, fairness* opinions, or contribution-in-kind reports 4. Actuarial services (i.e., setting actuarial reserves versus actuarial audit work)* 5. Internal audit outsourcing services* 6. Management functions or human resources 7. Broker or dealer, investment advisor, or investment banking services 8. Legal services and expert services unrelated to the audit 9. Any other service that the Public Company Accounting Oversight Board determines, by regulation, is impermissible |

AUDIT COMMITTEE APPROVAL POLICY

- o These services are not to be performed with the exception of the(*) services that may be permitted if they would not be subject to audit procedures at the audit client (as defined in rule 2-01(f)(4)) level the firm providing the service.

AUDIT COMMITTEE REPORTING POLICY

- o A summary of all services and related fees reported at each regularly scheduled Audit Committee meeting will serve as continual confirmation that has not provided any restricted services.

GENERAL AUDIT COMMITTEE APPROVAL POLICY:

- o For all projects, the officers of the Funds and the Fund's auditors will each make an assessment to determine that any proposed projects will not impair independence.
- o Potential services will be classified into the four non-restricted service categories and the "Approval of Audit, Audit-Related, Tax and Other Services" Policy above will be applied. Any services outside the specific pre-approved service subcategories set forth above must be specifically approved by the Audit Committee.
- o At least quarterly, the Audit Committee shall review a report summarizing the services by service category, including fees, provided by the Audit firm as set forth in the above policy.

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(2) Disclose the percentage of services described in each of paragraphs (b) through (d) of this Item that were approved by the audit committee pursuant to paragraph (c) (7) (i) (C) of Rule 2-01 of Regulation S-X.

N/A

(f) If greater than 50 percent, disclose the percentage of hours expended on the principal accountant's engagement to audit the registrant's financial statements for the most recent fiscal year that were attributed to work performed by persons other than the principal accountant's full-time, permanent employees.

N/A

(g) Disclose the aggregate non-audit fees billed by the registrant's accountant for services rendered to the registrant, and rendered to the registrant's investment adviser (not including any sub-adviser whose role is primarily portfolio management and is subcontracted with or overseen by another investment adviser), and any entity controlling, controlled by, or under common control with the adviser that provides ongoing services to the registrant for each of the last two fiscal years of the registrant.

N/A

(h) Disclose whether the registrant's audit committee of the board of trustees has considered whether the provision of non-audit services that were rendered to the registrant's investment adviser (not including any subadviser whose role is primarily portfolio management and is subcontracted with or overseen by another investment adviser), and any entity controlling, controlled by, or under common control with the investment adviser that provides ongoing services to the registrant that were not pre-approved pursuant to paragraph (c) (7) (ii) of Rule 2-01 of Regulation S-X is compatible with maintaining the principal accountant's independence.

The Fund's audit committee of the Board of Trustees has considered whether the provision of non-audit services that were rendered to the Affiliates (as defined) that were not pre-approved pursuant to paragraph (c) (7) (ii) of Rule 2-01 of Regulation S-X is compatible with maintaining the principal accountant's independence.

Item 5. Audit Committee of Listed Registrants

(a) If the registrant is a listed issuer as defined in Rule 10A-3 under the Exchange Act (17 CFR 240.10A-3), state whether or not the registrant has a separately-designated standing audit committee established in accordance with Section 3(a) (58) (A) of the Exchange Act (15 U.S.C. 78c(a) (58) (A)). If the registrant has such a committee, however designated, identify each committee member. If the entire board of directors is acting as the registrants audit committee as specified in Section 3(a) (58) (B) of the Exchange Act (15 U.S.C. 78c(a) (58) (B)), so state.

N/A

(b) If applicable, provide the disclosure required by Rule 10A-3(d) under the Exchange Act (17 CFR 240.10A-3(d)) regarding an exemption from the listing standards for audit committees.

N/A

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Item 6. Schedule of Investments.

File Schedule I Investments in securities of unaffiliated issuers as of the close of the reporting period as set forth in 210.12-12 of Regulation S-X [17 CFR 210.12-12], unless the schedule is included as part of the report to shareholders filed under Item 1 of this Form.

Included in Item 1

ITEM 7. DISCLOSURE OF PROXY VOTING POLICIES AND PROCEDURES FOR CLOSED-END MANAGEMENT INVESTMENT COMPANIES.

A closed-end management investment company that is filing an annual report on this Form N-CSR must, unless it invests exclusively in non-voting securities, describe the policies and procedures that it uses to determine how to vote proxies relating to portfolio securities, including the procedures that the company uses when a vote presents a conflict between the interests of its shareholders, on the one hand, and those of the company's investment adviser; principal underwriter; or any affiliated person (as defined in Section 2(a)(3) of the Investment Company Act of 1940 (15 U.S.C. 80a-2(a)(3)) and the rules thereunder) of the company, its investment adviser, or its principal underwriter, on the other. Include any policies and procedures of the company's investment adviser, or any other third party, that the company uses, or that are used on the company's behalf, to determine how to vote proxies relating to portfolio securities.

Information not required in semi annual reports on form NCSR.

Item 8. Portfolio Managers of Closed-End Management Investment Companies.

(a) If the registrant is a closed-end management investment company that is filing an annual report on this Form N-CSR, provide the following information:

(1) State the name, title, and length of service of the person or persons employed by or associated with the registrant or an investment adviser of the registrant who are primarily responsible for the day-to-day management of the registrants portfolio (Portfolio Manager). Also state each Portfolio Managers business experience during the past 5 years.

Information not required in semi annual reports on form NCSR.

Item 9. Purchases of Equity Securities by Closed-End Management Investment Company and Affiliated Purchasers.

(a) If the registrant is a closed-end management investment company, in the following tabular format, provide the information specified in paragraph (b) of this Item with respect to any purchase made by or on behalf of the registrant or any affiliated purchaser, as defined in Rule 10b-18(a)(3) under the Exchange Act (17 CFR 240.10b-18(a)(3)), of shares or other units of any class of the registrants equity securities that is registered by the registrant pursuant to Section 12 of the Exchange Act (15 U.S.C. 781). Instruction to paragraph (a). Disclose all purchases covered by this Item, including purchases that do not satisfy the conditions of the safe harbor of Rule 10b-18 under the

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Exchange Act (17 CFR 240.10b-18), made in the period covered by the report. Provide disclosures covering repurchases made on a monthly basis. For example, if the reporting period began on January 16 and ended on July 15, the chart would show repurchases for the months from January 16 through February 15, February 16 through March 15, March 16 through April 15, April 16 through May 15, May 16 through June 15, and June 16 through July 15.

During the period covered by this report, there were no purchases made by or on behalf of the registrant or any affiliated purchaser as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934 (the Exchange Act), of shares of the registrants equity securities that are registered by the registrant pursuant to Section 12 of the Exchange Act.

Item 10. Submission of Matters to a Vote of Security Holders.

Describe any material changes to the procedures by which shareholders may recommend nominees to the registrants board of directors, where those changes were implemented after the registrant last provided disclosure in response to the requirements of Item 7(d)(2)(ii)(G) of Schedule 14A (17 CFR 240.14a-101), or this Item.

There have been no material changes to the procedures by which the shareholders may recommend nominees to the registrants board of directors since the registrant last provided disclosure in response to the requirements of Item 7(d)(2)(ii)(G) of Schedule 14(A) in its definitive proxy statement, or this Item.

ITEM 11. 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-2(c) under the Act (17 CFR 270.30a-2(c))) based on their evaluation of these controls and procedures as of a date within 90 days of the filing date of the report that includes the disclosure required by this paragraph.

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 whether or not there were significant changes in the registrant's internal controls or in other factors that could significantly affect these controls subsequent to the date of their evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

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

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registrant's internal control over financial reporting.

The registrant's principal executive officer and principal financial officer, however, voluntarily are reporting the following information:

In August of 2006 the registrant's investment adviser enhanced its internal procedures for reporting performance information required to be included in prospectuses. Those enhancements involved additional internal controls over the appropriateness of performance data generated for this purpose. Such enhancements were made following an internal review which identified prospectuses relating to certain classes of shares of a limited number of registrants where, inadvertently, performance information not reflecting the deduction of applicable sales charges was included. Those prospectuses were revised, and the revised prospectuses were distributed to shareholders.

ITEM 12. EXHIBITS.

File the exhibits listed below as part of this Form. Letter or number the exhibits in the sequence indicated.

(a) Any code of ethics, or amendment thereto, that is the subject of the disclosure required by Item 2, to the extent that the registrant intends to satisfy the Item 2 requirements through filing of an exhibit.

(b) 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 July 30, 2008

Pursuant to the requirements of the Securities Exchange Act of 1934 and the

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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 July 30, 2008

By (Signature and Title)* /s/ Mark Bradley
Mark Bradley, Treasurer

Date July 30, 2008

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