

BLACKROCK MASSACHUSETTS TAX-EXEMPT TRUST  
Form N-Q  
July 27, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

**FORM N-Q**

**QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED  
MANAGEMENT INVESTMENT COMPANY**

Investment Company Act file number: 811-07660

Name of Fund: BlackRock Massachusetts Tax-Exempt Trust (MHE)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock Massachusetts  
Tax-Exempt Trust, 55 East 52<sup>nd</sup> Street, New York, NY 10055

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 08/31/2016

Date of reporting period: 05/31/2016

Item 1 Schedule of Investments

## Schedule of Investments May 31, 2016 (Unaudited)

## BlackRock Massachusetts Tax-Exempt Trust (MHE)

(Percentages shown are based on Net Assets)

|   | Par          |              |
|---|--------------|--------------|
|   | (000)        | Value        |
| <b>Municipal Bonds</b>  |              |              |
| <b>Massachusetts 149.9%</b>   |              |              |
| <b>County/City/Special District/School District 3.5%</b>  |              |              |
| Town of Holyoke Massachusetts, GO, Refunding,<br>5.00%, 9/01/26                                 | \$ 1,000     | \$ 1,192,240 |
| <b>Education 62.7%</b>  |              |              |
| Massachusetts Development Finance Agency, RB:   |              |              |
| Foxborough Regional Charter School, Series A, 7.00%, 7/01/42                                    | 250          | 285,365      |
| Mount Holyoke College, Series B, 5.00%, 7/01/41   | 500          | 572,680      |
| Wellesley College, Series J, 5.00%, 7/01/42   | 1,950        | 2,288,364    |
| WGBH Educational Foundation, Series A (AMBAC), 5.75%, 1/01/42                                   | 650          | 860,405      |
| Massachusetts Development Finance Agency, Refunding RB:   |              |              |
| Boston University, Series P, 5.45%, 5/15/59   | 1,500        | 1,878,255    |
| Emerson College, 5.00%, 1/01/41   | 500          | 567,470      |
| Emerson College, Series A, 5.00%, 1/01/40   | 200          | 216,246      |
| International Charter School, 5.00%, 4/15/40  | 1,000        | 1,100,690    |
| Trustees of Deerfield Academy, 5.00%, 10/01/40  | 1,675        | 1,932,598    |
| Wheelock College, Series C, 5.25%, 10/01/37   | 1,000        | 1,048,280    |
| Worcester Polytechnic Institute (NPFGC),<br>5.00%, 9/01/27                                      | 1,985        | 2,075,992    |
| Massachusetts Educational Financing Authority, RB, Education Loan, Issue I, AMT, 5.00%, 1/01/27 | 1,000        | 1,167,630    |
| Massachusetts Educational Financing Authority, Refunding RB, Issue J, AMT, 3.50%, 7/01/33 (a)   | 250          | 247,148      |
| Massachusetts Health & Educational Facilities Authority, RB:                                    |              |              |
| Northeastern University, Series R, 5.00%, 10/01/33  | 225          | 244,096      |
| Tufts University, Series O, 5.38%, 8/15/18 (b)  | 1,000        | 1,099,990    |
| Massachusetts Health & Educational Facilities Authority, Refunding RB:                          |              |              |
| Berklee College of Music, Series A, 5.00%, 10/01/37   | 1,000        | 1,053,040    |
|   | <b>Par</b>   |              |
|   | <b>(000)</b> | <b>Value</b> |
| <b>Municipal Bonds</b>  |              |              |
| <b>Massachusetts (continued)</b>  |              |              |
| <b>Education (continued)</b>  |              |              |
| Massachusetts Health & Educational Facilities Authority, Refunding RB (continued):              |              |              |
| Harvard University, Series A, 5.50%, 11/15/36   | \$ 100       | \$ 111,685   |
| Harvard University, Series B, 5.00%, 10/01/38   | 400          | 423,032      |
| Northeastern University, Series T-2, 5.00%, 10/01/32  | 500          | 583,615      |
| Springfield College, 5.63%, 10/15/40  | 500          | 550,100      |
| Tufts University, Series M, 5.50%, 2/15/27  | 1,000        | 1,310,980    |
| University of Massachusetts Building Authority, RB, Senior-Series 2, 5.00%, 11/01/39            | 500          | 592,210      |
| University of Massachusetts Building Authority, Refunding RB, Series 1, 5.00%, 11/01/40         | 1,000        | 1,203,000    |
|   |              | 21,412,871   |
| <b>Health 23.1%</b>   |              |              |
| Massachusetts Development Finance Agency, Refunding RB:   |              |              |
| Carleton-Willard Village, 5.63%, 12/01/30   | 500          | 562,795      |
| Partners Healthcare System, Series L, 5.00%, 7/01/36  | 1,000        | 1,158,980    |
| South Shore Hospital Issue, Series I, 4.00%, 7/01/36  | 500          | 537,805      |
| Massachusetts Health & Educational Facilities Authority, RB:                                    |              |              |
| Cape Cod Healthcare Obligated Group, Series D (AGC), 5.00%, 11/15/31                            | 1,000        | 1,126,790    |
| Caregroup, Series E-1, 5.00%, 7/01/18 (b)   | 500          | 542,645      |
| Children s Hospital, Series M, 5.25%, 12/01/39  | 600          | 675,762      |
| Children s Hospital, Series M, 5.50%, 12/01/39  | 500          | 566,465      |
| Lahey Clinic Medical Center, Series D, 5.25%, 8/15/17 (b)                                       | 1,000        | 1,055,050    |

## Schedule of Investments (continued)

BlackRock Massachusetts Tax-Exempt Trust  
(MHE)

|  | Par        |            |
|--|------------|------------|
|  | (000)      | Value      |
| <b>Municipal Bonds</b>   |            |            |
| <b>Massachusetts (continued)</b>   |            |            |
| <b>Health (continued)</b>  |            |            |
| Massachusetts Health & Educational Facilities Authority, RB (continued):   |            |            |
| Southcoast Health Obligation Group, Series D, 5.00%, 7/01/39   | \$ 500     | \$ 539,795 |
| Massachusetts Health & Educational Facilities Authority, Refunding RB, Winchester Hospital, Series H, 5.25%, 7/01/38 | 1,000      | 1,125,130  |
|  |            | 7,891,217  |
| <b>Housing 10.9%</b>   |            |            |
| Massachusetts HFA, RB, M/F Housing, Series A (FHA), 5.25%, 12/01/35  | 185        | 203,707    |
| Massachusetts HFA, Refunding RB, AMT:  |            |            |
| Series C, 5.00%, 12/01/30  | 490        | 517,229    |
| Series C, 5.35%, 12/01/42  | 2,000      | 2,107,720  |
| Series F, 5.70%, 6/01/40   | 870        | 916,928    |
|  |            | 3,745,584  |
| <b>State 24.8%</b>   |            |            |
| Commonwealth of Massachusetts, GO, Series C, 5.00%, 7/01/45  | 1,000      | 1,198,410  |
| Massachusetts Bay Transportation Authority, RB, Series A, 5.00%, 7/01/45   | 500        | 597,860    |
| Massachusetts Bay Transportation Authority, Refunding RB, Senior Series A, 5.25%, 7/01/29                            | 730        | 979,463    |
| Massachusetts School Building Authority, RB:   |            |            |
| Dedicated Sales Tax, Senior Series A, 5.00%, 5/15/43   | 500        | 588,070    |
| Senior Series B, 5.00%, 10/15/41   | 1,000      | 1,174,170  |
| Massachusetts State College Building Authority, RB, Series A, 5.50%, 5/01/19 (b)                                     | 2,500      | 2,831,075  |
| Massachusetts State College Building Authority, Refunding RB, Series B (Syncora), 5.50%, 5/01/39                     | 825        | 1,120,837  |
|  |            | 8,489,885  |
| <b>Transportation 24.9%</b>  |            |            |
| Commonwealth of Massachusetts, RB, Series A, 5.00%, 6/15/27  | 1,000      | 1,201,170  |
|  | <b>Par</b> |            |
|  | (000)      | Value      |
| <b>Municipal Bonds</b>   |            |            |
| <b>Massachusetts (continued)</b>   |            |            |
| <b>Transportation (continued)</b>  |            |            |
| Commonwealth of Massachusetts, Refunding RB, Series A, 5.00%, 6/01/38  | \$ 500     | \$ 582,080 |
| Massachusetts Department of Transportation, Refunding RB, Senior Series B:   |            |            |
| 5.00%, 1/01/32   | 1,120      | 1,264,614  |
| 5.00%, 1/01/37   | 1,000      | 1,119,420  |
| Massachusetts Port Authority, RB, AMT:   |            |            |
| Series A, 5.00%, 7/01/42   | 1,000      | 1,132,410  |
| Series B, 5.00%, 7/01/45   | 1,750      | 2,029,458  |
| Metropolitan Boston Transit Parking Corp., Refunding RB, 5.25%, 7/01/36  | 1,000      | 1,171,110  |
|  |            | 8,500,262  |
| <b>Total Municipal Bonds in Massachusetts</b>  |            | 51,232,059 |
| <b>Puerto Rico 1.4%</b>  |            |            |
| <b>Tobacco 1.4%</b>  |            |            |
| Children's Trust Fund Tobacco Settlement, Refunding RB, Asset-Backed:  |            |            |
| 5.50%, 5/15/39   | 95         | 94,850     |
| 5.63%, 5/15/43   | 380        | 379,046    |
| <b>Total Municipal Bonds in Puerto Rico</b>  |            | 473,896    |
| <b>Total Municipal Bonds 151.3%</b>  |            | 51,705,955 |

Municipal Bonds Transferred to

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**Tender Option Bond Trusts (c)**

|   |        |       |            |
|---|--------|-------|------------|
| Massachusetts   | 3.4%   |       |            |
| Housing   | 3.4%   |       |            |
| Commonwealth of Massachusetts, GO, Series A, 5.00%, 3/01/46 |        | 1,001 | 1,185,405  |
| <b>Total Long-Term Investments</b>                          |        |       |            |
| (Cost \$47,685,171)   | 154.7% |       | 52,891,360 |

## Schedule of Investments (continued)

BlackRock Massachusetts Tax-Exempt Trust  
(MHE)

| Short-Term Securities   | Shares  | Value         |
|---|---------|---------------|
| BIF Massachusetts Municipal Money Fund, 0.00% (d)(e)            | 3       | \$ 3          |
| BlackRock Liquidity Funds, MuniCash, 0.21% (d)(e)               | 160,549 | 160,549       |
| <b>Total Short-Term Securities</b>                              |         |               |
| (Cost \$160,552) 0.5%   |         | 160,552       |
| <b>Total Investments (Cost \$47,845,723*) 155.2%</b>            |         | 53,051,912    |
| <b>Other Assets Less Liabilities 1.1%</b>                       |         | 376,475       |
| <b>Liability for TOB Trust Certificates, Including Interest</b> |         |               |
| <b>Expense and Fees Payable (2.2)%</b>                          |         | (751,478)     |
| <b>VRDP Shares, at Liquidation Value (54.1)%</b>                |         | (18,500,000)  |
| <b>Net Assets Applicable to Common Shares 100.0%</b>            |         | \$ 34,176,909 |

\* As of May 31, 2016, gross unrealized appreciation and depreciation based on cost for federal income tax purposes were as follows:

|                               |               |
|-------------------------------|---------------|
| Tax cost                      | \$ 47,085,297 |
| Gross unrealized appreciation | \$ 5,206,879  |
| Gross unrealized depreciation | (8,878)       |
| Net unrealized appreciation   | \$ 5,215,757  |

## Notes to Schedule of Investments

- (a) When-issued security.
- (b) U.S. Government securities, held in escrow, are used to pay interest on this security, as well as to retire the bond in full at the date indicated, typically at a premium to par.
- (c) Represent bonds transferred to a TOB Trust in exchange of cash and residual certificates received by the Trust. These bonds serve as collateral in a secured borrowing.
- (d) During the period ended May 31, 2016, investments in issuers considered to be affiliates of the Trust for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

| Affiliate                              | Shares Held<br>at August 31,<br>2015 | Net<br>Activity | Shares Held<br>at May 31,<br>2016 | Value at<br>May 31,<br>2016 | Income |
|--|--------------------------------------|-----------------|-----------------------------------|-----------------------------|--------|
| BIF Massachusetts Municipal Money Fund | 254,118                              | (254,115)       | 3                                 | \$ 3                        |        |
| BlackRock Liquidity Funds, MuniCash    |                                      | 160,549         | 160,549                           | 160,549                     | \$ 13  |
| <b>Total</b>                           |                                      |                 |                                   | \$ 160,552                  | \$ 13  |

- (e) Current yield as of period end.



## Schedule of Investments (continued)

BlackRock Massachusetts Tax-Exempt Trust  
(MHE)

For Trust compliance purposes, the Trust's sector classifications refer to any one or more of the sector sub-classifications used by one or more widely recognized market indexes or rating group indexes, and/or as defined by the investment advisor. These definitions may not apply for purposes of this report, which may combine such sector sub-classifications for reporting ease.

## Derivative Financial Instruments Outstanding as of Period End

## Futures Contracts

| Contracts<br>Short | Issue                      | Expiration     | Notional<br>Value | Unrealized<br>Depreciation |
|--------------------|----------------------------|----------------|-------------------|----------------------------|
| (5)                | 5-Year U.S. Treasury Note  | September 2016 | \$600,586         | \$ (553)                   |
| (7)                | 10-Year U.S. Treasury Note | September 2016 | \$907,813         | (886)                      |
| (3)                | Long U.S. Treasury Bond    | September 2016 | \$489,937         | (4,317)                    |
| (1)                | Ultra U.S. Treasury Bond   | September 2016 | \$175,125         | (798)                      |
| <b>Total</b>       |                            |                |                   | \$ (6,554)                 |

## Portfolio Abbreviations

|                |   |
|----------------|---|
| <b>AGC</b>     | Assured Guarantee Corp.                 |
| <b>AMBAC</b>   | American Municipal Bond Assurance Corp. |
| <b>AMT</b>     | Alternative Minimum Tax (subject to)    |
| <b>FHA</b>     | Federal Housing Administration          |
| <b>GO</b>      | General Obligation Bonds                |
| <b>HFA</b>     | Housing Finance Agency                  |
| <b>M/F</b>     | Multi-Family                            |
| <b>NPFGC</b>   | National Public Finance Guarantee Corp. |
| <b>RB</b>      | Revenue Bonds                           |
| <b>Syncora</b> | Syncora Guarantee                       |



## Schedule of Investments (continued)

BlackRock Massachusetts Tax-Exempt Trust  
(MHE)**Fair Value Hierarchy as of Period End**

Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs to valuation techniques are categorized into a fair value hierarchy consisting of three broad levels for financial reporting purposes as follows:

Level 1 unadjusted price quotations in active markets/exchanges for identical assets or liabilities that the Trust has the ability to access

Level 2 other observable inputs (including, but not limited to, quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market-corroborated inputs)

Level 3 unobservable inputs based on the best information available in the circumstances, to the extent observable inputs are not available (including the Trust's own assumptions used in determining the fair value of investments and derivative financial instruments)

The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). Accordingly, the degree of judgment exercised in determining fair value is greatest for instruments categorized in Level 3. The inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, for disclosure purposes, the fair value hierarchy classification is determined based on the lowest level input that is significant to the fair value measurement in its entirety. The significant unobservable inputs used by the Global Valuation Committee in determining the price for Fair Valued Investments are typically categorized as level 3.

Changes in valuation techniques may result in transfers into or out of an assigned level within the hierarchy. In accordance with the Trust's policy, transfers between different levels of the fair value hierarchy are deemed to have occurred as of the beginning of the reporting period. The categorization of a value determined for investments and derivative financial instruments is based on the pricing transparency of the investments and derivative financial instruments and is not necessarily an indication of the risks associated with investing in those securities. For information about the Trust's policy regarding valuation of investments and derivative financial instruments, refer to the Trust's most recent financial statements as contained in its semi-annual report.

The following tables summarize the Trust's investments and derivative financial instruments categorized in the disclosure hierarchy:

|   | Level 1    | Level 2       | Level 3 | Total         |
|---|------------|---------------|---------|---------------|
| <b>Assets:</b>                                      |            |               |         |               |
| Investments:  |            |               |         |               |
| Long-Term Investments <sup>1</sup>                  |            | \$ 52,891,360 |         | \$ 52,891,360 |
| Short-Term Securities                               | \$ 160,552 |               |         | 160,552       |
| <b>Total</b>  | \$ 160,552 | \$ 52,891,360 |         | \$ 53,051,912 |
| <b>Derivative Financial Instruments<sup>2</sup></b> |            |               |         |               |
| <b>Liabilities:</b>                                 |            |               |         |               |
| Interest rate contracts                             | \$ (6,554) |               |         | \$ (6,554)    |

<sup>1</sup> See above Schedule of Investments for values in each sector.

<sup>2</sup> Derivative financial instruments are futures contracts, which are valued at the unrealized appreciation (depreciation) on the instrument.

## Schedule of Investments (concluded)

BlackRock Massachusetts Tax-Exempt Trust  
(MHE)

The Trust may hold assets and/or liabilities in which the fair value approximates the carrying amount for financial reporting purposes. As of period end, such assets and/or liabilities are categorized within the disclosure hierarchy as follows:

|                                    | Level 1   | Level 2         | Level 3 | Total           |
|------------------------------------|-----------|-----------------|---------|-----------------|
| <b>Assets:</b>                     |           |                 |         |                 |
| Cash pledged for futures contracts | \$ 29,050 |                 |         | \$ 29,050       |
| <b>Liabilities:</b>                |           |                 |         |                 |
| TOB Trust Certificates             |           | \$ (750,858)    |         | (750,858)       |
| VRDP Shares                        |           | (18,500,000)    |         | (18,500,000)    |
| <b>Total</b>                       | \$ 29,050 | \$ (19,250,858) |         | \$ (19,221,808) |

During the period ended May 31, 2016, there were no transfers between levels.

Item 2 Controls and Procedures

- 2(a) The registrant's principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant's disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the 1940 Act )) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended.
- 2(b) There were no changes in the registrant's internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant's internal control over financial reporting.

Item 3 Exhibits

Certifications Attached hereto

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.

BlackRock Massachusetts Tax-Exempt Trust

By: /s/ John M. Perlowski  
John M. Perlowski  
Chief Executive Officer (principal executive officer) of

BlackRock Massachusetts Tax-Exempt Trust

Date: July 22, 2016

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ John M. Perlowski  
John M. Perlowski  
Chief Executive Officer (principal executive officer) of

BlackRock Massachusetts Tax-Exempt Trust

Date: July 22, 2016

By: /s/ Neal J. Andrews  
Neal J. Andrews  
Chief Financial Officer (principal financial officer) of

BlackRock Massachusetts Tax-Exempt Trust

Date: July 22, 2016