



DIVISION OF
INVESTMENT MANAGEMENT

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

June 25, 2021

VIA E-mail

Jeremy B. Kantrowitz, Esq.
Morgan, Lewis & Bockius LLP
One Federal Street
Boston, MA 02110

Re: Pioneer Municipal High Income Opportunities Fund, Inc.
File Nos. 333-256506 and 811-23699

Dear Mr. Kantrowitz:

On May 26, 2021, Pioneer Municipal High Income Opportunities Fund, Inc. (the "Fund") filed a registration statement on Form N-2 under the Securities Act of 1933 ("Securities Act") and the Investment Company Act of 1940. We have reviewed the registration statement and have provided our comments below. Where a comment is made in one location, it is applicable to all similar disclosure appearing elsewhere in the registration statement. All capitalized terms not otherwise defined herein have the meaning given to them in the registration statement.

Preliminary Prospectus

Principal Investment Strategies

1. The first sentence states that "the Fund invests at least 80% of its net assets (plus the amount of borrowings, if any, for investment purposes) in debt securities and other obligations..." Please disclose and describe what is meant by "other obligations" in this context. (page 2)
2. Please include in this section that the Fund can invest in below investment grade debt securities, loans, or preferred stock that could include credit obligations and related instruments of issuers that are insolvent or of issuers that either are in default or are likely to default. (page 9)
3. The first sentence says, "The Adviser focuses on municipal securities funding projects that it believes support positive social and environmental outcomes." Principal risk disclosure on page 20 states that "The Adviser also considers certain environmental, social, and governance ("ESG") factors in making investment decisions, including the

opportunity for positive social and environmental outcomes." This disclosure also discussed excluding certain issuers from investment based on ESG factors. We have the following comments relating to the Adviser's ESG research process. (page 10)

- a. ESG refers to a broad range of potential investments and issues. Please disclose, in addition to the discussion of social and environmental outcomes, how the Fund incorporates ESG as part of its own investment process and whether it intends to focus on any particular additional factor or factors. Please disclose how the Adviser weights different ESG factors and if the Adviser employs ESG exclusions that would screen out securities as ineligible for investment (if exclusions are not used, please delete the exclusion language in the risk factor discussed above);
 - b. Since ESG analysis is not applied to every potential investment, please disclose the types of investments to which the Adviser applies ESG analysis; and
 - c. If ESG analysis will be applied to securities issued by the U.S. government and its related agencies, please explain how the Fund's ESG definition and methodology applies to these types of investments. If applicable, please also explain the Adviser's ESG evaluation of non-U.S. investments (foreign government and corporate issuers).
4. The fifth paragraph on this page says that the Fund may invest in "subordinated securities." Please disclose that subordinated securities rank below other loans or securities. (page 11)
 5. The seventh paragraph of this section indicates that the Fund may use derivative instruments for a variety of purposes. Please disclose that the Fund will value such derivatives at mark-to-market value rather than notional value. (page 11)

Market Price of Common Shares

6. The first sentence says, "Common Shares of closed-end investment companies frequently trade at prices lower than their net asset value. This characteristic is separate and distinct from the risk that net asset value could decrease as a result of the Fund's investment activities and may be a greater risk to investors expecting to sell their shares in a relatively short period of time following the completion of this offering." Please disclose what the Fund considers to be "a short period of time." (page 14)

Risk Considerations

7. In the section titled, "High yield or "junk" bond risk," disclosure says, "risks are more pronounced for securities that are already in default." Please describe applicable risks of investing in securities that are in default. (page 19)

8. In the section titled, "Interest rate risk," there is a discussion of duration and maturity. Please disclose the Fund's estimated duration strategy in the "Principal investment strategies" section. (page 19)
9. In the section titled, "Municipal securities risk," please explain or delete the "7" in the following sentence: "Municipal issuers may be adversely affected by rising health care costs, increasing unfunded pension liabilities, and by the phasing out of federal programs 7 providing financial support." (page 19)
10. In the section titled, "Mortgage-related and asset-backed securities risk," disclosure says, "Mortgage related and asset-backed securities risks" include sub-prime mortgages as a principal risk of investing in the Fund. Please summarize the Fund's strategy with respect to investing in sub-prime mortgages in the "Principal investment strategies" section. (page 21)
11. In the section titled, "Risks of investing in collateralized debt obligations:"
 - a. Please include additional disclosure discussing risks related to investments in CDOs. Please highlight the special risks associated with investing in such instruments; *e.g.*, that such investments are highly leveraged, that they may be riskier and less transparent than direct investments in underlying loans, that they may be illiquid, that the Fund will have limited control over the investment vehicles, etc.
 - b. If the Fund's investments include "covenant-lite" CDOs, please include applicable disclosure describing "covenant-lite" investments and the heightened risks of investing in these types of investments. (page 21)
12. We note the Fund includes "Portfolio turnover risk" in the principal risk section. Please include applicable disclosure in the "Principal investment strategy" section indicating that the Fund intends to engage in active and frequent trading of portfolio securities. (page 23)

Summary of Fund expenses

13. If the Fund may borrow in its first year of operations, please estimate the amount of interest expense and add a line item "Interest Payments on Borrowed Funds" to the Annual Fund Operating Expenses table. *See* General Instruction 8 for Item 3 of Form N-2. (page 25)

Use of Proceeds

14. The last sentence in this section states, "The Adviser will pay the Adviser the full amount of its management fee during the initial investment period." Please explain how the Adviser will pay itself or amend this disclosure. (page 27)

Statement of Additional Information

15. Please provide updated information relating to the section titled “Investment in Puerto Rico municipal securities.” If Puerto Rico municipal securities are a principal investment, please include in the “Principal investment strategies” section in the prospectus. (page 4)

Lending of Portfolio Securities

16. The last sentence of this section states that the Fund did not engage in securities lending activity during its most recent fiscal year. Please remove this sentence as the Fund is new and has not yet launched. In addition, if Fund intends that securities lending will be a principal investment, please disclose in the “Principal investment strategies” section in the prospectus. (page 22)

General Comments

17. Please complete or update all information that is currently in brackets or missing in the registration statement (*e.g.*, fee table, expense example, sub-adviser, portfolio managers, purchase and sale of Fund shares, information in the statement of additional information, and exhibits). We may have additional comments on such portions when you complete them in pre-effective amendments, on disclosures made in response to this letter, on information supplied supplementally, or on exhibits added in any pre-effective amendment.
18. Please advise us if you have submitted or expect to submit any exemptive applications or no-action requests in connection with your registration statement. Please also tell us whether the registrant is relying on no-action relief. The staff may have additional comments.
19. Response to this letter should be in the form of a pre-effective amendment filed pursuant to Rule 472 under the Securities Act. Where no change will be made in the filing in response to a comment, please indicate this fact in a supplemental letter and briefly state the basis for your position. Where changes are made in response to our comments, provide information regarding the nature of the change and, if appropriate, the location of such new or revised disclosure in the amended filing. As required by the rule, please insure that you mark new or revised disclosure to indicate the change.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

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Jeremy B. Kantrowitz, Esq.
June 25, 2021
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If you have any questions prior to filing a pre-effective amendment, please call me at (202) 551-6478.

Sincerely,

/s/ Ashley Vroman-Lee

Ashley Vroman-Lee
Senior Counsel

cc: Michael J. Spratt, Assistant Director
Michael J. Shaffer, Branch Chief