

Closed-End Funds

Tax Guide 2023

A guide to your year-end tax statements and forms

When it comes to investing, we at Nuveen work to help investors build and sustain the wealth of a lifetime.

Contents	
What Investors Should Know	4
A look at your 2023 Tax Forms	5-13
Frequently Asked Questions	14-21
If You Need More Information	23

For many, that philosophy makes Nuveen the first choice for quality investments.

Nuveen is also committed to making the tax preparation process as easy and efficient as possible. That's why we're pleased to present you with this tax guide. In the pages ahead, you'll find detailed information about the year-end tax forms you will receive from the transfer agent for Nuveen's closed-end funds.

Finally, please be aware that this guide isn't meant to replace the assistance or advice of a tax professional. We hope, though, that it will help you better organize and understand the portion of your income tax return that involves your Nuveen investments. If you need more assistance, we suggest that you speak with your tax advisor, refer to relevant IRS publications, or call a Nuveen representative at 1.800.257.8787.

Thank you for investing with Nuveen.

What Investors Should Know

Qualified dividend income (QDI)

The tax rate on certain ordinary dividends ranges from 0% to 20% depending on your adjusted gross income. This rate applies to dividends received from domestic corporations and certain foreign corporations ("qualified dividend income"). Your 1099-DIV will show the amount of "qualified dividend income" that may be eligible for the reduced tax rate.

Note: Although the 1099-DIV shows the amount of dividends that may be eligible for the reduced tax rate, you must meet the holding period requirements for the shares you own to qualify for the reduced rate. Generally, to qualify for the reduced rate, you must have held your shares for at least 61 days during the 121-day period beginning 60 days before the fund's ex-dividend date. Other special rules and considerations may apply. Refer to the instructions for line 3a "Qualified Dividends" on Form 1040 or Form 1040-SR and/or consult your tax advisor to determine the amount of dividends you received that qualify for the reduced rate.

Capital gains

The maximum tax rate on long-term capital gains is 15% for most taxpayers, zero-percent for taxpayers whose adjusted gross income is less than \$44,626 (\$89,251 for joint filers), and 20% for taxpayers whose adjusted gross income exceeds \$492,301 (\$553,851 for joint filers).

Net Investment Income Tax

Individuals, estates and trusts whose income exceeds certain thresholds are subject to the 3.8% net investment income tax on certain unearned income, including taxable distributions from closed-end funds. Please consult your tax advisor to determine how this additional tax applies to you.

Tax-Exempt Income

If you own a municipal bond fund, the exempt-interest dividends you've received during the year are exempt from regular federal individual income taxes. Although these dividends are tax-exempt, the amount you receive must be reported with any other tax-exempt income on line 2a of Form 1040/1040-SR.

In accordance with IRS requirements, your tax-exempt income will be reported to you on Form 1099-DIV.

State Tax Exemptions for State and National Funds

If you own a state-specific municipal bond fund and reside in that state, exempt-interest dividends paid by the fund may be exempt from both regular federal and state income taxes. In some states they may also be exempt from local income taxes.

If you own a national municipal bond fund, a portion of your exempt-interest dividends may be exempt from state income taxes depending on the state in which you reside (see your "2023 Tax Information Letter"). Please consult a tax advisor to determine whether your state allows a tax exemption for that portion of exemptinterest dividends attributable to your state.

A look at your 2023 Tax Forms

On the following pages, you will see samples of the forms you may receive. You will also find instructions on how to report the necessary information on your 2023 tax returns.

Please note that if you own more than one type of Nuveen investment, such as a Nuveen Mutual Fund, you will receive separate tax information for each type of investment.

Form 1099-DIV

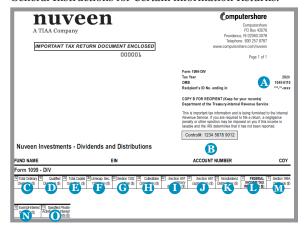
(see sample form on pages 8 and 9)

If your fund(s) paid either a taxable distribution of capital gains and/or ordinary income, a tax-exempt income distribution, or if federal income tax has been withheld from your account as required by the IRS, a combined Form 1099-DIV will be sent to you. The 1099-DIV details all of your Nuveen closed-end fund's taxable distributions and details all of your Nuveen closed-end fund's tax-exempt income distributions. All taxable and tax-exempt distributions paid in 2023 must be reported on your federal income tax return regardless of whether they were paid in cash or reinvested. These distributions are also listed on your year-end statement.

- A Recipient's identification number For your protection, this form may show only the last four digits of your social security number (SSN), individual taxpayer identification number (ITIN), or adoption taxpayer identification number (ATIN). However, the issuer has reported your complete identification number to the IRS and, where applicable, to state and/or local governments.
- Account number May show an account or other unique number the payer assigned to distinguish your account.
- Box 1a Shows total ordinary dividends that are taxable. Include this amount on line 3b of Form 1040/1040-SR. Also, report it on Schedule B (Form 1040/1040-SR), if required.
- Box 1b Shows the portion of the amount in Box 1a that may be eligible for reduced capital gains rates. See the Form 1040/1040-SR instructions for how to determine this amount. Report the eligible amount on line 3a, Form 1040/1040-SR. The amount shown may be dividends a corporation paid directly to you as a participant (or beneficiary of a participant) in an employee stock ownership plan (ESOP). Report it as a dividend on your Form 1040/1040-SR, but treat it as a plan distribution, not as investment income, for any other purpose.
- Box 2a Shows total capital gain distributions from a regulated investment company or real estate investment trust. Report the amounts shown in Box 2a on Schedule D (Form 1040/1040-SR), line 13. But, if no amount is shown in boxes 2b, 2c, 2d and 2f and your only capital gains and losses are capital gain distributions, you may be able to report the amounts shown in Box 2a on line 7, Form 1040/1040-SR rather than Schedule D. See the Form 1040/1040-SR instructions.
- Box 2b Shows the portion of the amount in Box 2a that is unrecaptured section 1250 gain from certain depreciable real property. Report this amount on the Unrecaptured Section 1250 Gain Worksheet Line 19 in the Schedule D instructions (Form 1040/1040-SR).
- Box 2c Shows the portion of the amount in Box 2a that is section 1202 gain from certain small business stock that may be subject an exclusion. See the Schedule D (Form 1040/1040-SR) instructions.
- Box 2d Shows 28% rate gain from sales or exchanges of collectibles. If required, use this amount when completing the 28% Rate Gain Worksheet Line 18 in the instructions for Schedule D (Form 1040/1040-SR).
- Box 2e Shows the portion of the amount in box 1a that is section 897 gain attributable to disposition of U.S. real property interests (USRPI).

- Box 2f Shows the portion of the amount in box 2a that is section 897 gain attributable to disposition of USRPI.
- Box 3 Shows the part of the distribution that is nontaxable because it is a return of your cost (or other basis). You must reduce your cost (or other basis) by this amount for figuring gain or loss when you sell your stock. But if you get back all your cost (or other basis), report future distributions as capital gains. See Pub. 550, Investment Income and Expenses.
- Box 4 Shows backup withholding. For example, a payer must backup withhold on certain payments if you did not give your taxpayer identification number to the payer. See Form W-9, Request for Taxpayer Identification Number and Certification, for information on backup withholding. Include this amount on your income tax return as tax withheld.
- Box 5 Shows dividends eligible for the 20% qualified business income deduction under Section 199A. See the Instructions for Form 1040/1040-SR, line 13.
- Box 12 Shows exempt-interest dividends from a mutual fund or other regulated investment company paid to you during the calendar year. Include this amount on line 2a of Form 1040/1040-SR as tax exempt interest. This amount may be subject to backup withholding. See Box 4.
- Box 13 Shows the amount of exempt-interest dividends subject to the alternative minimum tax. See the instructions for Form 6251.

Nominees: If this form includes amounts belonging to another person(s), you are considered a nominee recipient. You must file Form 1099-DIV (with a Form 1096) with the IRS for each of the other owners to show their share of the income, and you must furnish a Form 1099-DIV to each. A spouse is not required to file a nominee return to show amounts owned by the other. See the current tax year General Instructions for Certain information Returns.



nuveen

A TIAA Company

IMPORTANT TAX RETURN DOCUMENT ENCLOSE

Nuveen Investments - Dividends and Distributions

FUND NAME	EIN
Form 1099 - DIV	
Total Ordinary Dividends (\$) Dividends (\$)	
12 Exempt-interest 13 Specified	
Dividend (\$) Activity Bond I	nterest nds (\$)

Computershare

Computershare PO Box 43078 Providence, RI 02940-3078 Telephone 800 257 8787 www.computershare.com/nuveen

Page 1 of 1

Form 1099-DIV Tax Year OMB

2023 1545-0110 ***-**-xxxx

Recipient's ID No. ending in

COPY B FOR RECIPIENT (Keep for your records)
Department of the Treasury-Internal Revenue Service

This is important tax information and is being furnished to the Internal Revenue Service. If you are required to file a return, a negligence penalty or other sanction may be imposed on you if this income is taxable and the IRS determines that it has not been reported.

Control#: 1234 5678 9012

ACCOUNT NUMBER

COY

	tibles ain (\$)	2e Section 897 ordinary dividends (\$)	2f Section 897 capital gain (\$)	Nondividend Distributions (\$)	FEDERAL INCOME TAX WITHHELD (\$)	5 Section 199A Dividends (\$)
--	--------------------	--	----------------------------------	--------------------------------	----------------------------------	----------------------------------

Form 1099-B (see sample form on pages 12 and 13)

If you sold shares in your fund(s) through Nuveen, a Form 1099-B will be sent to you with your proceeds at the time of sale. Form 1099-B is used to report gross proceeds from the sale of shares of Nuveen closed-end funds. If a financial institution other than Nuveen sold the shares for you, that firm will provide the Form 1099-B. A Form 1099-B is not issued for certain accounts, including those registered in the names of corporations, nonresident aliens, certain tax-exempt organizations and certain financial institutions. The following information will assist you in completing your 2023 Income Tax Return.

Instructions for Recipient

Brokers must report proceeds from transactions to you and the IRS on Form 1099-B. Reporting is also required when your broker knows or has reason to know that a corporation in which you own stock has had a reportable change in control or capital structure. You may be required to recognize gain from the receipt of cash, stock, or other property that was exchanged for the corporation's stock. If your broker reported this type of transaction to you, the corporation is identified in Box 1a.

CUSIP Number: For broker transactions, this form may show the CUSIP (Committee on Uniform Security Identification Procedures) number of the item reported.

Recipient's Identification Number: For your protection, this form may show only the last four digits of your taxpayer identification number. However, the issuer has reported your complete identification number to the IRS and, where applicable, to state and/or local governments.

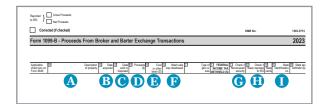
Account Number: May show an account or other unique number the payer assigned to distinguish your account.

- A Box 1a: Shows a brief description of the item or service for which the proceeds or bartering income is being reported.
- **Box 1b:** This box may be blank if Box 5 is checked. If the securities sold were acquired on a variety of dates, it may show "MULTIPLE".
- Box 1c: Shows the trade date of the sale or exchange.
- Box 1d: Shows the aggregate cash proceeds from transactions involving stocks, bonds, other debt obligations, commodities, or forward contracts.

 May show the proceeds from the disposition of your interest(s) in a widely held fixed investment trust.

May also show the aggregate amount of cash and the fair market value of any stock or other property received in a reportable change in control or capital structure arising from the corporate transfer of property to a foreign corporation. Losses on forward contracts are shown in parentheses. This box does not include proceeds from regulated futures contracts. The broker must indicate whether the sales price or the sales price less commissions (including transfer taxes) and option premiums was reported to the IRS. Report this amount as explained in the instructions for Schedule D (Form 1040/1040-SR).

- Box 1e: Shows the cost or other basis of securities sold. If Box 5 is checked, Box 1e may be blank. See the Form 8949 instructions, Schedule D instructions or Pub. 550 for details about basis.
- **Box 1g:** Shows the amount of nondeductible loss in a wash sale transaction. For details on wash sales, see the Schedule D (Form 1040/1040-SR) instructions and Pub. 550.
- **Box 4:** Shows backup withholding. Generally, a payer must backup withhold if you did not furnish your taxpayer identification number to the payer. See Form W-9 for information on backup withholding. Include this amount on your income tax return as tax withheld.
- Box 5: If this Box is checked, the securities sold were noncovered securities and Boxes 1b, 1e, 1f, 1g, and 2 may be blank. Generally, a noncovered security is a security other than stock; stock purchased before 2011; stock in most mutual funds and other regulated investment companies purchased before 2012; and stock purchased in or transferred to a dividend reinvestment plan before 2012.
- Boxes 14-16: Shows state income tax withheld.



nuveen

A TIAA Company

I	Reported to IRS Net Proceeds	
I	Corrected (if checked)	
I	Form 1099-B - Proceeds From Broker and Barter Exchange Tra	r
I		
I	Applicable ta Description 12 Date tc Date tc Proceeds to Cost of property acquired sold or (\$) or of them Parm 8949 acquired slopesed basis (\$)	g
I		
I		
I		
I		
I		
I		
I		
I		
I		
I		

NOTE: The Payer will report the amount in column 1d to the IRS. The difference between the reportable proceeds in column 1d and the r Copy B - For Recipient (Keep for your records)

This is important tax information and is being furnished to the Internal Revenue Service (except as indicated). If you are redetermines that it has not been reported.

Computershare PO Box 505000 Louisville, KY 40233-5000 Telephone 800 257 8787 www.computershare.com/investor

OMB No.

1545-0715

Wash sale	2 Type of 4 F	EDERAL 5	Check if	12 Check if	14	15 State	16 State tax
disallowed	gain or INC	OME TAX No	oncovered	Basis reported	State	identification	withheld (\$)
	loss WITH		security		name	no.	

et proceeds you received represents withholding taxes and nonstandard service fees or charges you may have paid.

Department of the Treasury - Internal Revenue Service

quired to file a return, a negligence penalty or other sanction may be imposed on you if this income is taxable and the IRS

101UTX_01CM5E_01

Frequently Asked Questions

Here are some of the most frequently asked shareholder tax questions, and their answers.

General

What forms and other tax information might I receive and when can I expect them?

Type of Communication	What It Reports
Form 1099-DIV	Distributions of capital gains, ordinary income, tax-exempt income and/or any federal income tax withheld
Form 1099-B	Gross proceeds from the sale of Nuveen closed-end funds and any federal income tax withheld
2023 Tax Information Letter	Important federal and state tax information

^{*} Form 1099-DIV and Form 1099-B are not issued for certain accounts, including those registered in the names of corporations, nonresident aliens, certain tax-exempt organizations and certain financial institutions.

Who Receives It	Mail Date
All Nuveen fund shareholders* who are paid taxable distributions	Late January**
All Nuveen fund shareholders* who sold shares in 2023. The investment advisor who sold the shares for you will provide the Form 1099-B	At the time of your redemption
All Nuveen closed-end fund shareholders	Early February

 $\star\star$ Some taxable funds that need to reclassify dividends will mail their 1099-DIVs in late February.

I misplaced my 1099 forms. Can I get duplicates?

Yes. Duplicate forms are available online. In order to access your forms you will need the Social Security Number (of the first person listed on the account) and PIN. Then simply follow the steps below.

Note: If you do not have a PIN, you can immediately obtain one online at Step 4 below or by calling our automated line at 1.800.257.8787.

- 1. Go to www.nuveen.com/accountaccess
- **2.** Click on "Closed-End Account Access" in the center column of the page.
- **3.** Enter the USER ID associated with the account and the corresponding password.
- **4.** Click on "Tax Information" in the left column of the page.

You should now see a list of items (including forms) available for your account. You can also request duplicates by calling a Nuveen Investor Services Representative at 1.800.257.8787.

If a financial advisor other than Nuveen issued the 1099, you must call that financial advisor directly.

What is qualified dividend income (QDI) and how do I find out how much qualified dividend income I received from my fund in 2023?

Generally, these are dividends your fund received in 2023 from domestic and certain foreign corporations. These dividends are eligible for a lower tax rate than other ordinary income and are generally reported in box 1b of form 1099-DIV.

Note: The amount reported in box 1b represents the amount of dividends that may be eligible for the lower tax rate. To qualify for the lower tax rate you must have held your shares for at least 61 days during the 121-day period beginning 60 days before the fund's ex-dividend date. In addition, other special rules and considerations may apply. Refer to the instructions for line 3a "Qualified Dividends" on Form 1040/1040-SR and/or consult your tax advisor to determine the amount of dividends you received that qualify for the reduced rate.

Form 1099-DIV reports ordinary dividends and capital gains in separate boxes. What do these amounts represent and where should they be reported?

Ordinary dividends may result from taxable income earned from securities as well as amounts realized upon the sale of securities held by your fund for one year or less (short-term capital gains) and/or from market discount realized upon the sale or maturity of certain bonds. These amounts should be reported on Form 1040/1040-SR, on line 3b (and Schedule B of Form 1040/1040-SR, if required). Long-term capital gain distributions result from the sale or maturity of securities held by your fund for more than one year and may need to be reported on Schedule D of Form 1040/1040-SR.

I received capital gain distributions from several funds in 2023. Do I need to report these distributions on Schedule D of Form 1040/1040-SR?

If the only capital gains or losses you realized in 2023 resulted from capital gain distributions paid by closedend funds, you may qualify for a more simplified method of reporting these capital gain distributions on your 2023 tax return. To qualify for simplified reporting, both of the following must apply:

- The only capital gains or losses you have to report are the capital gain distributions reported in Box 2a of all Forms 1099-DIV or substitute statements.
- No amounts are reported in Boxes
 2b, 2c, 2d, 2e or 2f of any Form 1099-DIV or substitute statements.

If both of the above apply, enter your total capital gain distributions (from box 2a of Form(s) 1099-DIV) on line 7, Form 1040/1040-SR and check the box on that line. Also, use the Qualified Dividends and Capital Gain Tax Worksheet in the Form 1040/1040-SR instructions to figure your tax.

If any of the conditions listed above do not apply, you will need to report the total of all capital gain distributions on line 13 of Schedule D, Form 1040/1040-SR.

My Form 1099 indicates that federal income tax was withheld from my fund's distribution. WHY? How can I avoid this in the future?

Under federal law, we are required to withhold 24% of federally taxable dividends, tax-exempt dividends, capital gain distributions and proceeds from the sale of shares if you have not provided us with a correct and certified Social Security or Taxpayer Identification Number, or the IRS has notified us that you are subject to backup withholding for other reasons.

To register your correct Social Security or Taxpayer Identification Number, please call Nuveen Investor Services at 1.800.257.8787 and request a W-9 form. Complete, sign and return the form to us.

We will then register your account with the correct information.

I sold shares in 2023. How do I determine the amount of a capital gain or loss?

The amount of gain or loss is the difference between the amount you "realize" and your "cost basis." If you realize more than your cost basis, you have a capital gain. If you realize less than your cost basis, you have a capital loss. The amount you realize is usually the money you receive for the shares, minus any expenses paid on the sale. It is reported on your Form 1099-B.

For shares acquired on or after January 1, 2012, you may elect a cost basis method to apply to all existing and future accounts you may establish. The cost basis method you select will determine the order in which shares are redeemed and how your cost basis information is calculated and subsequently reported to you and to the Internal Revenue Service. Please consult your tax advisor to determine which cost basis method best suits your specific situation. If you hold your account directly with the funds, please contact Nuveen Investor Services at 1.800.257.8787 for instructions on how to make your election. If you hold your account with a financial intermediary, please contact that financial intermediary for instructions on how to make your election.

If you hold your account directly with the funds and do not elect a cost basis method, your account will default to the first-in, first-out (FIFO) basis method.

Any gain or loss will generally be considered short-term if the shares were held for a year or less and long-term if the shares were held for longer than a year. For all shares held for six months or less, any loss realized must be treated as long-term to the extent of any long-term capital gain distributions received on those shares. Any remaining portion will be considered a short-term capital loss.

Am I taxed on reinvested amounts of income and/or capital gain dividends?

Yes. All ordinary income and capital gain distributions are taxable, regardless of whether you receive them in cash or reinvest them in additional fund shares. You should keep a record of the amount of ordinary income and capital gain dividends reinvested which will increase your cost basis in the fund's shares.

With different rates applying to both dividend income and capital gains, how do I compute my total tax liability?

The worksheet in the Form 1040/1040-SR, Schedule D Instructions, will take you through a series of steps to determine your tax liability regardless of whether a portion of the dividend income received was derived from qualifying or non-qualifying sources and if capital gains were recognized. In addition, we encourage you to refer to the 1040/1040-SR instructions and/or consult your tax advisor to determine the portion of your dividend income that qualifies for the reduced tax rate and to determine your total tax liability.

What is the Federal Alternative Minimum Tax (AMT)?

The Federal AMT is designed to ensure that certain taxpayers who take advantage of certain deductions will pay at least a minimum amount of taxes. Taxpayers who receive income from "tax preference items" may be subject to the AMT. If your fund contains securities that generate tax-exempt income subject to the Federal AMT, your share of these amounts will be reported on Form 1099-DIV, box 13.

Am I entitled to any state tax exemptions for any of the tax exempt dividends I received?

Certain states have special exemptions for income derived from tax-exempt municipal securities issued in that state. Your "2023 Tax Information Letter" or tax advisor will help you identify the income that may be exempt from your state income tax.

What is an "Intangibles Tax" and am I subject to such a tax?

An intangibles tax is imposed by some states generally on the market value of intangible assets such as closedend fund holdings. This tax is usually based on the value of your closed-end fund assets at a particular point in time.

Generally the value of your fund shares in Nuveen's state-specific municipal bond funds are exempt from the intangibles tax in that state (see your "2023 Tax Information Letter"). For more information on your state's intangibles tax, consult your tax advisor or your state department of taxation.

If I call your phone center, will they be able to give me tax advice?

No. Our phone representatives are not qualified to provide tax advice. They can, however, answer any questions that you may have about the information that we mailed to you. We suggest consulting your tax advisor or the Internal Revenue Service at 1.800.829.1040 for any specific questions that you may have about how you should report these numbers on your tax return.

I own shares in a fund in which the character of the distributions I have received may have changed (i.e. ordinary income dividend reclassified as either a capital gain and/or a return of capital). Why does this occur and what does this mean for tax reporting purposes?

Due to the nature of the securities in the portfolio and/or the distribution policy of the fund, certain funds cannot determine the final character of their distributions until after their fiscal year end. This may cause a change in character for the amount reported on your 1099-DIV and the character that was reported to you at time of the distribution. For tax return preparation purposes, you should always use the amounts reported on your 1099-DIV.

Note: Depending on when the information is available, you may not receive your 1099-DIV (which will include any reclassifications) until late February.

If You Need More Information

We hope this guide has answered many of your questions about the enclosed tax information. If you need further assistance, consider the following sources of information:

Nuveen

Representatives are available to answer questions about your Nuveen account Monday through Friday from 9:00 a.m. to 7:00 p.m. ET at 1.800.257.8787. We also encourage you to visit the Account Access section of our web site at www.nuveen.com.

Internal Revenue Service

IRS representatives are available year-round to answer your questions. Call 1.800.829.1040 during normal business hours in your time zone to speak with an IRS representative. If you prefer to speak with someone in person, you can visit your local IRS office.

The IRS publishes free pamphlets on various subjects including Publication 550, Investment Income and Expenses. You can access current and prior year IRS publications at www.irs.gov or have hard copies mailed by calling 1.800.829.3676. In addition, many public libraries have copies of most IRS forms and publications.

Nuveen 333 West Wacker Drive Chicago, IL 60606

Nuveen Securities, LLC, member FINRA and SIPC.

nuveen.com