

Traditional or Roth IRA adoption agreement

**Return by mail:**

Putnam Investments
PO Box 219697
Kansas City, MO 64121-9697

Return by express delivery:

Putnam Investments
430 W 7th Street Suite 219697
Kansas City, MO 64105-1407

For more information:

Putnam Investments
1-800-225-1581
www.putnam.com

Please make checks payable to

Putnam Fiduciary Trust
Company, LLC



Use this form to open a new Putnam Traditional IRA or Putnam Roth IRA.

Section 1 Plan type

Select the account type you want to establish. Please complete a separate Traditional or Roth IRA adoption agreement to establish additional plan types.

- Traditional IRA Roth IRA Traditional IRA for a minor Roth IRA for a minor

Section 2 Complete your account owner information

Name of account owner

First	MI	Last	Suffix	Social security number (required)	Date of birth (mm/dd/yyyy; required)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Name of parent/guardian (required only if you are opening an IRA for a minor)

First	MI	Last	Suffix	Social security number (required)	Date of birth (mm/dd/yyyy; required)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Contact phone number

E-mail address

<input type="text"/>	<input type="text"/>
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Note: Providing an e-mail address and/or phone number above will replace the current contact information on file with Putnam (if applicable). No changes will be made for fields that are left blank. If you are enrolled in electronic delivery, all notifications will be sent to the e-mail address listed above.

Electronic delivery of account documents

- I want to “Go Green” and reduce paper, printing and mailing by receiving documents electronically.

By checking the “Go Green” box above, an e-mail will be sent to the e-mail address provided above with a link to Putnam’s secure Investor website, which will allow you to choose your eDelivery options. Documents available for eDelivery include transaction confirmations, quarterly statements, prospectuses, annual/semiannual fund reports, proxy statements, and tax forms. When a new document is available, instead of sending the document to you by U.S. mail, Putnam Investor Services will send you an e-mail notification that the document is available through Putnam’s website. Terms and Conditions related to eDelivery will be provided to you prior to confirmation of your elections.

Mailing address (required)

Street

City <input type="text"/>	State <input type="text"/>	ZIP code <input type="text"/>
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Residential address (Required if mailing address is a P.O. Box or c/o address)

Street

City <input type="text"/>	State <input type="text"/>	ZIP code <input type="text"/>
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Section 3 Investment instructions

Please indicate how you wish to fund your IRA. Select all that apply. Putnam will invest contributions as current year unless otherwise specified in Section 4.

- A check is enclosed / A check is en route** (make checks payable to Putnam Fiduciary Trust Company, LLC)
 - Invest as a contribution to my IRA
 - Invest as a rollover or a transfer of assets from an account that was held at another financial institution (You must indicate the type of plan held with your previous custodian)
 - Traditional IRA Rollover IRA Roth IRA Roth IRA Conversion
 - SEP/SIMPLE IRA Roth 401(k)/403(b) 401(k) 403(b)
 - Other qualified company plan (Government 457, Money Purchase Pension, Profit Sharing)

- Alternative investment instructions
 - Solicit my current trustee (please attach an Asset transfer/direct rollover authorization form, IR771/Form B)
 - Fund my IRA with a purchase from my existing non-retirement account (Investments will be made into the same share class as previously held. Some restrictions may apply.)

Fund number	Account number	\$	Dollar amount

- Fund my IRA with a purchase from an existing Putnam retirement account due to divorce (contact Putnam for additional requirements)
- Convert from a Putnam IRA to a Putnam Roth IRA (a Roth conversion authorization form is required)
- Draft a one-time debit from my checking or savings account for (limit of \$200,000 per fund-account):

\$ (indicate investment elections in Section 4 and bank account information in Section 6)

Note: The one-time debit will be initiated on the date the account is established.

- Draft systematic investments from my checking or savings account (complete Section 6)

Section 4 Select your funds

Please use the Putnam Fund Guide (<https://www.putnam.com/literature/pdf/FM103.pdf>) to select your investment. You must enter the fund name and number for the corresponding share class you wish to establish. For additional fund elections, please attach a separate sheet of paper with fund number, fund name, dollar amount or percentage, and contribution year.

- For new investments made to Putnam: If no class of shares is indicated, class A shares will be purchased and any unallocated assets will be invested into Money Market A.
- For assets moved from an existing Putnam registration: Fund allocations will remain consistent with the originating Putnam account(s) unless otherwise indicated. In addition, the share class must remain consistent with the originating Putnam account(s).

Only prior year and current year contributions are permitted. If no contribution year is indicated, all contributions will always be coded for the current year in which your paperwork is received at Putnam per IRS regulations. For prior year contributions, the envelope must be postmarked on or before the tax filing deadline.

Fund number	Fund name	Dollar amount	or	Percentage	Contribution year
		\$	or	%	
		\$	or	%	
		\$	or	%	
		\$	or	%	
		\$	or	%	
				100%	

Section 5 Designate your beneficiary(ies)

Complete Sections 5A and 5B to designate primary and contingent beneficiaries respectively for assets payable upon your death. To update beneficiaries on existing accounts, please use the IRA/403(b) beneficiary designation form.

For each beneficiary, Putnam Fiduciary Trust Company, LLC (PFTC) requires the full name, tax identification number, and date of birth. If you name multiple primary or contingent beneficiaries, please specify the percentage each is to receive. If no percentage is specified, your account will be divided among your surviving primary beneficiaries in substantially equal amounts. If no primary beneficiaries survive you, your account will be divided among your surviving contingent beneficiaries. If none of your designated beneficiaries survive you, your account will be distributed according to the provisions of the IRA plan and disclosure statement.

Important:

- PFTC does not accept customized beneficiary designations (for example, designations which involve multiple contingencies within a primary or contingent beneficiary category) or "per stirpes" designations. All beneficiaries must be designated as either primary or contingent and must include all identifying information referenced above. PFTC generally cannot accept beneficiary designations from attorneys-in-fact, conservators, or guardians. PFTC will not accept beneficiary designations from a parent/guardian on the minor's behalf. If the designated beneficiaries are not accepted by PFTC the provisions of the IRA plan disclosure statement will be in effect.
- Do not list both primary and contingent beneficiary designations on the same page.** If you wish to designate more than four primary beneficiaries and/or more than four contingent beneficiaries, you must include a separate sheet of paper with the additional designation. The separate sheet of paper must be signed, dated, indicate whether the designation is for a **primary** or **contingent** beneficiary, and include all required beneficiary information (full name, Social Security/Tax ID number, date of birth/date of trust, and allocated percentage).

Section 5A - Primary beneficiary(ies)

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
Residential address (street, city, state, ZIP code)		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
Residential address (street, city, state, ZIP code)		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
Residential address (street, city, state, ZIP code)		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
Residential address (street, city, state, ZIP code)		

Total primary allocations must equal 100%

100.00%

Section 5 Designate your beneficiary(ies) (continued)

Section 5B - Contingent beneficiary(ies)

Percentages for **contingent** beneficiaries **must equal 100%**.

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
<input type="text"/>		
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Residential address (street, city, state, ZIP code) <input type="text"/>		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
<input type="text"/>		
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Residential address (street, city, state, ZIP code) <input type="text"/>		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
<input type="text"/>		
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Residential address (street, city, state, ZIP code) <input type="text"/>		

Name of individual (First, MI, Last, Suffix)/Full name of entity/trust (required)	Relationship <input type="checkbox"/> Spouse <input type="checkbox"/> Other <input type="checkbox"/> Entity/Trust	Percentage _ _ _ _ . _ _ %
<input type="text"/>		
Social Security/Tax ID number (required)	Date of birth (mm/dd/yyyy; required for an individual)	Date of trust (mm/dd/yyyy; required for a trust)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Residential address (street, city, state, ZIP code) <input type="text"/>		

Total contingent allocations must equal 100%

100.00%

Section 5C - Signature of IRA owner's spouse (if applicable)

If you are married to the IRA owner and they have designated a beneficiary(ies) other than you, please consult your financial representative about the state law and tax law implications of this beneficiary designation, including the need for your consent. By signing below you indicate that you are the spouse of the individual named in Section 2 and that you consent to the designated beneficiary(ies). PFTC is not responsible for determining whether an account owner is married and is a resident of a jurisdiction in which community property rules apply.

Signature of spouse	Current date (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>
Print name of signature above <input type="text"/>	

Section 6 Select your account features (if applicable)

Section 6A - Bank account information (You must provide a voided check or deposit slip; please do not staple)

Note: Starter checks, brokerage checks, and checkwriting checks will not be accepted.

Please provide your bank information below to purchase shares by phone, web, or systematic investment plan. All individuals named on the bank account registration must authorize the use of the bank account to purchase shares by signing in Section 8. If you wish to add telephone redemption options via Federal bank wire and/or ACH to a bank within the United States, please complete Putnam's Add or change bank account information form with the applicable signature authentication stamp.

Attach a preprinted or web-generated voided check/deposit slip or a signed letter from the bank on bank letterhead below. Each of these documents must include: bank name, name(s) as registered on the bank account, routing number and account number.

Indicate the type of bank account you would like to use: Checking account Savings account

Please use my enclosed investment check to establish bank account options on my account in lieu of other acceptable documents named above.

tape your document here

VOID

Name _____
 Address _____
 City, State, ZIP _____ DATE _____

PAY TO THE ORDER OF _____ \$ _____
 _____ DOLLARS

memo: _____

|: 123456789 |: 000123456789 |: 101

Bank ABA routing number Bank account number

Name(s) of all bank account owner(s)

Section 6B - Systematic investment plan

Complete this section to establish a new systematic investment plan using the bank account information provided above. Please indicate the fund number, fund name, dollar amount, frequency and date for your investments below. Investments will be made into the same share class selected in Section 4 unless otherwise indicated (systematic investments will always be coded for the current contribution year). Putnam requests the draft from your bank account on the business day prior to the investment date. If no date is selected, Putnam will default to the 15th. If the investment date falls on a weekend or a holiday, the investment will be made the next business day. If the investment date falls on a date that does not occur within a particular month (29th-31st), the investment will be made the prior day, unless this day falls on a weekend or holiday then the investment will be made the next business day.

Step 1: Investment allocation

Fund number	Fund name	Dollar amount
<input type="text"/>	<input type="text"/>	\$ <input type="text"/>
<input type="text"/>	<input type="text"/>	\$ <input type="text"/>
<input type="text"/>	<input type="text"/>	\$ <input type="text"/>
<input type="text"/>	<input type="text"/>	\$ <input type="text"/>

Step 2: Option frequency

Choose a frequency below. Putnam will default to once per month if no option is selected:

Frequency: Invest every month (enter investment date(s) below) or Invest only in the month(s) chosen below:

Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec

Additional investment date(s) within each month (if applicable)

(MM/DD/YYYY) (DD) (DD) (DD)

Begin scheduled investments on

Section 6 Select your account features (if applicable)(continued)

Section 6C - Reduced sales charge

If you already own shares of another Putnam fund, or if you agree to invest a certain amount, you may be able to reduce the sales charge you pay. Shares that have not been assessed a sales charge will not count towards your Cumulative Discount or Letter of Intent. This includes commissionable shares of the Putnam Money Market Fund, the Putnam Government Money Market Fund, and the Ultra Short Duration Income Fund, as well as closed end funds and Putnam class Y shares.

CUMULATIVE DISCOUNT

To qualify for sales charge discounts on class A and M shares, list the account number(s) of other Putnam fund(s) that you or your family (spouse and/or children under age 21) own.

Fund number	-	Account number
	-	
	-	

LETTER OF INTENT

By checking an amount below, I agree to the terms and conditions for a Letter of Intent as set forth in the Statement of Additional Information (including the escrowing of shares). Although I am not obligated to complete a Letter of Intent, I plan to invest in one or more Putnam funds over a 13-month period an aggregate amount equal to at least the amount of the box checked below. I am aware that if I do not invest at least this amount over a 13-month period any purchases made pursuant to this Letter of Intent will be adjusted to the commission rate that otherwise would apply.

- | | | |
|------------------------------------|--------------------------------------|------------------------------------|
| <input type="checkbox"/> \$50,000 | <input type="checkbox"/> \$100,000 | <input type="checkbox"/> \$250,000 |
| <input type="checkbox"/> \$500,000 | <input type="checkbox"/> \$1,000,000 | |

Section 7 Financial intermediary information

Please use this section to designate financial intermediary and financial representative information on your Putnam account. A financial intermediary is the broker-dealer, bank, or other financial institution through which you purchase shares of the Putnam Funds. The financial representative is the person associated with the financial intermediary who is assisting you with your investments. You may designate a financial intermediary at any time by returning a signed Financial intermediary change request to Putnam Investor Services. Putnam Retail Management Limited Partnership (PRM) will be designated as the default broker-dealer of record on your account(s) and will retain all applicable sales charges if any of the following apply:

- You do not designate a financial intermediary below.
- The financial intermediary you designate does not have a selling agreement with PRM.

Please note that PRM is not a full service broker-dealer and does not provide investment advice. As default broker-dealer, PRM cannot assist you with financial planning or provide recommendations, services that are provided by a financial intermediary. If you wish to receive such services, you must designate a financial intermediary.

Note: Please refer to <https://www.finra.org> for assistance in locating the Central Registration Depository (CRD) number for the financial intermediary.

<i>Financial institution ID</i>	<i>Branch office ID</i>	<i>Financial representative ID</i>	<i>CRD number</i>
<i>Financial intermediary</i>			
<i>Financial representative's name exactly as it appears on the financial intermediary's registration</i>		<i>Financial representative's contact phone number</i>	
<i>Branch office street address</i>			
<i>City</i>	<i>State</i>	<i>ZIP code</i>	

Section 8 Traditional or Roth IRA agreement

I do not authorize telephone redemptions. Accept only written instructions signed by me.

Unless I have checked the box above, Putnam Investor Services, Inc. is authorized to act upon redemption instructions received by telephone from me or any other person claiming to act as my representative who can provide Putnam with my account registration and address as it appears on Putnam's records. Redemption proceeds of up to \$100,000 will be sent to me at an address on record with Putnam for at least 15 days. Putnam will not be liable for unauthorized transactions if it employs reasonable procedures to confirm that instructions received by telephone are genuine. I agree to indemnify and hold harmless Putnam Investor Services, Inc. and any Putnam funds that may be involved in transactions authorized by telephone against any claim or loss in connection with any telephone transaction effected on my account.

I do not authorize the mailing of only one shareholder report, one prospectus, or one set of proxy materials if there are multiple accounts in a Putnam fund at my address. Send a separate copy for every account.

Unless I have checked the box above, Putnam Investor Services, Inc. is authorized to send only one shareholder report, one prospectus, or one set of proxy materials for **all** accounts in any Putnam fund at my address.

Important notice regarding Putnam's privacy policy: By signing this application, I acknowledge that Putnam's privacy policy is available for viewing and printing via Putnam's website at <https://www.putnam.com/policies/>

If I/we have completed the bank account information in Section 6, I/we authorize my/our bank/credit union to accept debit/credit entries initiated by Putnam Investor Services to my/our account and to debit/credit, as requested, the same to my/our account, without responsibility for correctness thereof or for the existence of any further authorization relating thereto. I/we hereby acknowledge that the initiation of an ACH transaction through Putnam is to purchase securities, and accordingly any transaction requested by me/us through the ACH system is irrevocable. I/we authorize Putnam to make a follow-up attempt in retrieving those monies which are denied due to insufficient funds (i.e. systematic purchase bounce). I/we agree to indemnify and hold harmless my/our bank/credit union, the Putnam funds, and Putnam Investor Services for any loss, liability, or expense incurred from acting on these instructions. I/we also agree to waive any right under the NACHA Rules to rescind any instruction for ACH transactions which have already occurred at the time of the attempt to rescind. This waiver of the rescission right applies to both ACH investments in and ACH redemptions from the Putnam Funds. This authorization may be terminated by me/us at any time by written notification to Putnam Investor Services, with reasonable time given to implement my/our request. Putnam Investor Services may amend or terminate this agreement at any time. You will be notified before any such changes go into effect. For bank account information (Section 6), Putnam does not assess a fee for federal bank wire and/or ACH transactions on your account(s). Some banks/credit unions may not offer ACH transactions or may charge a fee to conduct such transactions. Please check with your financial institution for information regarding eligibility, fees and applicable routing number(s) for federal bank wire and/or ACH transactions.

If I have completed a Letter of Intent (LOI) in Section 6, I agree that the minimum initial investment, which will be held in escrow until the full LOI amount is purchased, is 5% of the amount checked. If I invest less than the LOI amount, shares may be redeemed from my account to cover the higher sales charge. If I invest more, the sales charge will only be adjusted when and if my dealer refunds Putnam its portion of the adjustment. I will not receive LOI credit for shares purchased by dividend reinvestment.

If applicable, the Parent/Guardian named in Section 2 represents that they are the parent or legal guardian of the property of the Owner/Minor indicated above. Notwithstanding any provision of the Adoption Agreement or Plan, PFTC may rely on instructions of the Parent/Guardian with respect to the administration, investment and distribution of the Account until the Owner/Minor reaches the age of majority in his or her State of residence. The Parent/Guardian agrees that they shall cease to have any authority or control with respect to the Account upon attainment of the age of majority by the Owner/Minor. Thereafter, the Owner/Minor shall be treated as the Owner for all purposes under the Adoption Agreement and Plan. Notwithstanding the foregoing, the Parent/Guardian agrees that PFTC shall have no responsibility or obligation to determine whether the Owner/Minor has attained the age of majority. Prior to executing any direction or request made by the Parent/Guardian or the Owner/Minor, PFTC may require the Parent/Guardian or the Owner/Minor to demonstrate in a manner satisfactory to PFTC whether the Owner/Minor has attained the age of majority. The Parent/Guardian hereby agrees to indemnify and hold harmless PFTC, Putnam Investor Services, and their respective affiliates, agents, directors, officers, and employees (collectively, "Putnam"), from and against any loss, damage, liability, claim, cost or expense, including legal fees, which Putnam incurs as a result of, or in connection with, any actual or attempted disaffirmance, voiding, reversal, unenforceability, cancellation or limitation of any purchase, exchange, transfer or redemption of assets held in the Account by reason of, or in connection with, the Owner/Minor's status as a minor or the Parent/Guardian's status as a person other than the Owner/Minor's parent or legal guardian. This agreement is binding on the Parent/Guardian and his or her executors, beneficiaries, heirs, administrators, legal representatives and assigns, and will inure to the benefit of Putnam and its successors and assigns. This agreement shall survive termination of the Adoption Agreement.

I hereby (I) adopt The Putnam Traditional IRA Plan or The Putnam Roth IRA Plan (the "Plans"), as indicated in Section 1 of this form, as an individual retirement account under Section 408(a) or 408A of the Internal Revenue Code of 1986, as amended; (II) acknowledge receipt of the Plan and Disclosure Statement; (III) have received and have read a current prospectus of any fund; (IV) appoint PFTC as Trustee; (V) acknowledge that the terms in this agreement mean the same as in the Plan; and (VI) agree that an annual maintenance fee of \$25 will automatically be deducted from the account in accordance with Putnam's annual maintenance fee policy for all accounts with a balance below \$50,000 on the day the fee is scheduled to be taken. I also acknowledge that Putnam's annual maintenance fee policy is subject to change. I also certify under the penalties of perjury that the taxpayer identification number (Social Security number) set forth in Section 2 is true, correct, and complete.

In accordance with federal law, the Putnam funds are required to obtain the name, residential or business address, Social Security or tax identification number, and date of birth for each registered owner in order to verify their identities. For certain entities such as trusts, estates, corporations, partnerships, or other organizations, additional documentation may be required (see the following terms and conditions or call Putnam at 1-800-225-1581). The funds are unable to accept new accounts if any required information is not provided. If the funds are unable to verify your identity, your account will be closed at the then-current NAV, which may be more or less than your original investment, and the proceeds will be sent to you, net of any applicable sales charges. With respect to any such distribution, I elect that no amount be withheld for federal income taxes due on the taxable part of any such distribution, and I acknowledge that I can incur penalties if my withholding or estimated tax payments for the year are not sufficient. I further understand that under federal tax law I will have 60 days from date of receipt by me to roll over such distribution to another IRA or eligible plan that will accept it. I will consult my professional tax advisor if I have any questions about the tax consequences of any such distribution.

Section 8 Traditional or Roth IRA agreement (continued)

By signing below, I certify under penalties of perjury that:

- 1. The number shown on this form is my correct taxpayer identification number
- 2. I am not subject to backup withholding because:
 - a. I am exempt from backup withholding or
 - b. I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends (cross out (b) if you have been notified by the IRS that you are currently subject to backup withholding), or
 - c. The IRS has notified me that I am no longer subject to backup withholding
- 3. I am a U.S. citizen or other U.S. person. For federal tax purposes, you are considered a U.S. person if you are:
 - a. An individual who is a U. S. citizen or a U.S. resident alien
 - b. An estate (other than a foreign estate), or
 - c. A domestic trust (as defined in Treasury Regulation 301.7701-7)
- 4. I am exempt from FATCA reporting

The Internal Revenue Service does not require your consent to any provision of this document other than the certifications required to avoid backup withholding.

The information you provide may be shared with third parties for the purpose of verification subject to the terms of Putnam's privacy policy.

Signature of owner/parent/guardian/authorized signer (required)

Current date (mm/dd/yyyy)

Print name of signature above

Signature of bank account owner(s)

All individuals named on the bank account registration in Section 6 who did not already sign above as a Putnam account owner must sign below to authorize the use of the bank account to purchase shares. By signing below, each bank account owner authorizes purchases to be made from their bank account.

Signature of bank account owner (required if different from Putnam account owner)

Current date (mm/dd/yyyy)

Print name of signature above

Signature of bank account owner (required if different from Putnam account owner)

Current date (mm/dd/yyyy)

Print name of signature above