

Please complete the Putnam mutual fund account application to establish one of the registration types below. A separate application is required for each additional registration. To establish an account registered to a legal entity such as a corporation, partnership, limited liability company, or non-profit foundation, please contact Putnam Investor Services for the correct form(s).

Available registration types and considerations

Individual/Joint Registrations

Individual: An account registered in the legal name of one owner

Joint tenants with rights of survivorship: An account with two or more parties (not an entity) with equal interest in the account

- Upon the death of a tenant, the account goes to the surviving tenants. Upon the death of all tenants, the account goes to the estate of the last surviving tenant.
- This type of registration is **not** available for residents of **Louisiana**.

Tenants in common: An account registered to two or more parties (individuals or entities); all entity types are eligible

- Equal divisible interest in the account is determined by the number of tenants. Upon death, the deceased tenant's interest is distributed per the terms of his or her estate; the surviving tenants must transfer their remaining interest to a new registration.

Community property: An account registered between spouses where each spouse has one-half interest

- Upon death, the deceased spouse's half is distributed per the terms of his or her estate and is taxable; the surviving spouse must transfer his or her remaining interest to a new registration.
- Joint community property registrations are **only** available in the following states: Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington, and Wisconsin.

Custodial/Fiduciary Registrations

Conservator/Guardian: An account for a court-appointed individual who is responsible for, or administers the property of, a minor or incapacitated adult

- You must provide a copy of the Letter of Appointment of conservator or guardian (**certified by the clerk of the issuing court within 120 days**) which lists the powers of the appointed party as well as any and all restrictions.

Uniform Transfers to Minors Act (UTMA)/Uniform Gifts to Minors Act (UGMA): An account that represents an irrevocable gift that belongs solely to a minor

- Complete Section 1B to provide a donor state (**required**) and to designate a successor custodian in the event of the custodian's resignation, disability or death.

Trust/Estate Registrations

Trust: An account set up as a legal entity managed by a trustee for the benefit of a beneficiary

- The trustor (creator of the trust, also called a grantor or settlor) appoints the trustee via a trust agreement to manage and distribute funds while the trustor is still alive or after his death.
- You must provide an excerpt of the trust, including the first page, all signed pages, and the designation of trustees, **certified within 120 days**. Please provide a copy of IRS Employee Identification Number (EIN) assignment letter, if applicable.

Estate: An account set up by the court appointed fiduciary that consists of the testamentary assets attributable to a deceased individual

- You must provide a copy of the appointment of the executor, administrator, or personal representative (**certified by the clerk of the issuing court within 120 days**). Please provide a copy of IRS Employee Identification Number (EIN) assignment letter, if applicable.

Additional notes

- If you wish to make beneficiary designations on an individual or joint with rights of survivorship registration then Putnam's Transfer on death designation form is also required.
- Additional joint registration options may be available depending on your state of residence. Speak to your financial advisor to determine eligibility rules and requirements.

Putnam mutual fund account application

**Return by mail:**

Putnam Investor Services, Inc.
P. O. Box 8383
Boston, MA 02266-8383

Return by express delivery:

Putnam Investor Services, Inc.
30 Dan Road
Canton, MA 02021-2809

For more information:

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

Please make checks
payable to The Putnam
Funds



Section 1 Select your registration type

Please complete only one registration type subsection below (1A, 1B or 1C). **All informations within that subsection is required.** If you need space for additional owner/trustees/authorized signers, please use Section 3.

Section 1A - Individual/Joint registrations (if more than one account owner is indicated and no boxes have been checked off below, your account will default to joint tenants with rights of survivorship for all states except for Louisiana which will default to tenants in common)

- Individual Tenants in common
 Joint tenants with rights of survivorship Community property

Name of account owner

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

Name of joint account owner

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

Section 1B - Custodial/Fiduciary registrations (review the Putnam mutual fund account application guide for additional requirements)

- UTMA/UGMA account from the donor state of _____ (required) Guardian Conservator

Name of custodian or fiduciary

<input type="text"/>	Social Security/Tax ID number	Date of birth (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Name of minor or beneficial owner

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

Successor UTMA/UGMA custodian designation

<input type="text"/>	Social Security/Tax ID number	Date of birth (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Section 1C- Trust/Estate registrations (review the Putnam mutual fund account application guide for additional requirements)

- Trust Estate

Name of trust or estate

<input type="text"/>	Tax identification number	Date of trust (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Name of trustee or authorized signer

<input type="text"/>	Social Security/TaxID number	Date of birth (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>	<input type="text"/>

Name of co-trustee or co-authorized signer

<input type="text"/>	Social Security/Tax ID number	Date of birth (mm/dd/yyyy)
<input type="text"/>	<input type="text"/>	<input type="text"/>

For the benefit of (if applicable)

First	MI	Last	Suffix
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Section 2 Provide your address and contact information

Provide the address and contact information for the individuals/entities listed in Section 1. Providing an e-mail address and/or phone number below 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 below.

Primary mailing address (street, city, state, ZIP code; **required**)

Primary residential address (street, city, state, ZIP code; **required if the mailing address is a P.O. Box or c/o address**)

Joint/minor/co-trustee/co-authorized signer residential address (street, city, state, ZIP code; **required if different from the primary address**)

Primary contact phone number

E-mail address

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 via Putnam’s website. Terms and Conditions related to eDelivery will be provided to you prior to confirmation of your elections.

Section 3 Additional account owners

All information is **required** for each additional joint account owner, co-trustee, or co-authorized signer.

Name of joint owner/co-trustee/co-authorized signer

First MI Last Suffix Social Security number (required) Date of birth (mm/dd/yyyy)

Joint owner/co-trustee/co-authorized signer residential address (street, city, state, ZIP code; **required if different from the primary address**)

Name of joint owner/co-trustee/co-authorized signer

First MI Last Suffix Social Security number (required) Date of birth (mm/dd/yyyy)

Joint owner/co-trustee/co-authorized signer residential address (street, city, state, ZIP code; **required if different from the primary address**)

Section 4 Provide information about your financial advisor

Dealer number Branch office number Financial advisor number Central Registration Depository (CRD) number

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Financial advisor name(s) exactly as it appears on firm's registration

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Financial advisor's firm

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Financial advisor's contact phone number

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Branch office street address

--

City State ZIP code

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Note: If you do not designate a financial advisor, or if the broker-dealer firm you designate does not have a selling agreement with the distributor, Putnam Retail Management Limited Partnership ("PRM") will be designated as the default broker-dealer firm of record on your account and will retain all applicable sales charges. You may designate another broker-dealer firm at any time by returning a signed Change of financial advisor form to Putnam Investor Services.

Section 5 Investment instructions

Please indicate how you wish to fund your account. Select all that apply.

- A check is enclosed** / **A check is en route** (make checks payable to Putnam Investments)
- Draft a one-time debit from my checking or savings account for:

\$ (indicate investment elections in Section 6 and bank account information in Section 7)

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 7)
- Transfer assets from an existing Putnam account (additional documentation must be included)

Section 6 Select your funds

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. If no class of shares is indicated, class A shares will be purchased. Indicate the amount of your initial investment in each fund. For additional fund elections, please attach a separate sheet of paper with fund number, fund name, and dollar amount or percentage. Please make checks payable to The Putnam Funds. If you are moving assets held in Putnam funds to a new registration with Putnam, 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).

Fund number	Fund name	Dollar amount		Percentage
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
_ _ _ _		\$ _ _ _ _	or	_ _ _ %
				100%

Section 7 Select your account features (optional)

Section 7A — 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 to allow subsequent purchases to be sent from your bank account. If the Putnam account owner's name is listed in the bank account registration, you will then be eligible for ACH on-demand purchasing via phone or web.

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.

Check the 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

Name Address City, State, ZIP	DATE _____
PAY TO THE ORDER OF _____	\$ <input style="width: 50px;" type="text"/>
_____ DOLLARS	
memo: _____	
: 123456789	: 000123456789
: 101	

ABA routing number of financial institution

Bank account number

Section 7B — Systematic investment plan

Complete this section to establish a new systematic investment plan using the bank account information provided in Section 7A. 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 6 unless otherwise indicated. 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
_ _ _ _		\$ _ _ _ _ _ _ _
_ _ _ _		\$ _ _ _ _ _ _ _
_ _ _ _		\$ _ _ _ _ _ _ _
_ _ _ _		\$ _ _ _ _ _ _ _

Step 2: Option frequency

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

Frequency: Invest every month or Invest in the month(s) chosen below:

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

Indicate draft date(s):

Investment date:
(MM/DD)

Additional investment date: (use if you wish to invest multiple times within a month)
(DD)

Section 7C — 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 money market, government money market, and short duration income funds 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.

<i>Fund number</i>	<i>Account number</i>

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 7D — Dividends and capital gains

Complete this section to select your dividend and capital gains option. If no option is selected, Putnam will default to reinvest all dividends and capital gains. Please refer to Putnam’s distribution payment options authorization form to view an expanded selection of distribution options.

- | | | |
|--|---|---|
| <input type="checkbox"/> Reinvest dividends and capital gains | <input type="checkbox"/> Reinvest dividends; pay capital gains by check to my mailing address | <input type="checkbox"/> Pay dividends and capital gains by check to my mailing address |
| <input type="checkbox"/> Reinvest dividends and capital gains in another Putnam Fund of the same share class (specify below) | <input type="checkbox"/> Pay dividends by check to my mailing address; reinvest capital gains | |

From: fund name or fund number/account number

To: fund name or fund number/account number

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Section 7E — Checkwriting

Checkwriting is an option for select Putnam funds, see the fund list included with this application for availability (please note that funds may be unavailable for 10 calendar days following a purchase). Please complete Putnam’s Checkwriting privilege form if you would like to utilize this option.

Section 7F — Cost basis accounting method

Please elect a cost basis accounting method for your Putnam accounts. If you do not elect a method, Putnam will default to Average Cost. For the Specific Lot ID method, you must elect a secondary accounting method to be used as an alternate in the event that Specific Lot depletion information is not provided. If no secondary accounting method is elected, Putnam will default to First-In First-Out.

- | | | | |
|--|---|------------------------------------|---|
| <input type="checkbox"/> Average Cost | <input type="checkbox"/> First-In First-Out | <input type="checkbox"/> High Cost | <input type="checkbox"/> Specific Lot ID: Secondary accounting method |
| <input type="checkbox"/> Loss/Gain Utilization | <input type="checkbox"/> Last-In First-Out | <input type="checkbox"/> Low Cost | |

Putnam will carry forward your cost basis election to any new accounts established within your registration. If you would like to use different cost basis accounting methods for different accounts, you must complete the Cost basis accounting method election form.

Section 8 Authorize Putnam to open your account

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

Unless I have checked the box above, Putnam Investor Services is authorized to act upon redemption instructions up to \$100,000 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. For eligible redemptions without a medallion guarantee, the address on record must be maintained at Putnam for a minimum of 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 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 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/>

Federal law requires the Putnam funds to obtain the name, residential or business address, Social Security or tax identification number, and date of birth for each registered owner, including trustees, opening a new account in order to verify their identities. For certain entities such as trusts, estates, or other non-corporate 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. The information you provide may be shared with third parties for the purpose of verification subject to the terms of Putnam's privacy policy.

If I have completed the bank account information in Section 7A, I authorize my bank/credit union to accept debit/credit entries initiated by Putnam Investor Services to my account and to debit/credit, as requested, the same to my account, without responsibility for correctness thereof or for the existence of any further authorization relating thereto. I authorize Putnam to make a follow-up attempt in retrieving any monies that are denied due to insufficient funds (i.e., systematic purchase bounce). I 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 also agree to waive any right under the NACHA Rules to rescind any instruction for ACH transactions that 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 at any time by written notification to Putnam Investor Services, with reasonable time given to implement my/our request.

For bank account information (Section 7A), 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 7C, 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.

By signing below, I/we 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.

Section 8 **Authorize Putnam to open your account (continued)**

My/Our signature(s) below indicates that I/we have read the fund prospectus(es) and agree to the terms therein and herein, and agree to receive a copy of Putnam's privacy notice with the confirmation of my/our investment.

Signature of Owner/Custodian/Trustee/Authorized Signer

Date (mm/dd/yyyy)

Print name of signature above

Signature of Joint Owner/Co-Trustee/Co-Authorized Signer

Date (mm/dd/yyyy)

Print name of signature above

Signature of Joint Owner/Co-Trustee/Co-Authorized Signer

Date (mm/dd/yyyy)

Print name of signature above

Signature of Joint Owner/Co-Trustee/Co-Authorized Signer

Date (mm/dd/yyyy)

Print name of signature above

Signature of bank account owner

If the checking or savings account indicated in Section 7A is not that of the Putnam account owner, an individual whose name appears on the bank account registration must sign below (only one bank account owner must sign). By signing below the bank account owner authorizes purchases to be made from the bank account.

Signature of bank account owner (if different from Putnam account owner, only one bank account owner must sign)

Date (mm/dd/yyyy)

Print name of signature above