

Net asset value (NAV) certification statement

**Return by standard delivery:**

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

Return by overnight delivery:

Putnam Investments
801 Pennsylvania Ave
Suite 219697
Kansas City, MO 64105-1307

For more information:

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

Please make check payable to:

The Putnam Funds



The net asset value (NAV) purchase privilege is a discount option that allows certain customers to invest in Putnam class A share funds without paying a sales charge. Complete this form to authorize future Putnam mutual fund purchases at NAV.

Section 1 Individual receiving NAV

Name of owner/trust/entity

Tax identification number

Contact phone number

Relationship to eligible individual below

Section 2 Individual eligible for NAV

Please complete only one section (A or B) below.

A. Financial Institution/Dealer Firm information

Financial institution ID

Branch office ID

Financial representative ID

Brokerage Identification Number

Financial intermediary

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

Financial representative's phone number

Branch office address

City

State

Zip code

Or

B. Putnam employee / Putnam trustee

Name

First

MI

Last

Suffix

Employee ID

Section 3 Certification and authorization by financial advisor or Putnam employee/trustee

I certify that I am (i) a registered representative or other employee of a broker-dealer that has a sales agreement with Franklin Distributors, LLC, (ii) an employee of a financial institution that has a sales agreement with Franklin Distributors, LLC or that otherwise has an arrangement with a broker-dealer or other financial institution with respect to the sale of shares of the Putnam funds, or (iii) a current or former Putnam employee, trustee of the Putnam funds, or employee of certain former corporate affiliates of Putnam.

I am, therefore, eligible to receive or extend this privilege to purchase class A shares of the Putnam funds at net asset value to the person named above and agree that any order to purchase any other share class may be converted to an order to purchase class A shares after Putnam receives this Certificate in good order. I understand that I may only extend this privilege as set forth in the Putnam funds' Statements of Additional Information.

I understand that Putnam has the right to revoke this privilege at any time, and that the intentional abuse of this privilege may result in the application of retroactive sales charges or other penalties at the discretion of the Fund or Putnam. I understand that a new certification statement will be required when I make a firm or institution change.

Signature of financial representative/Putnam employee/Putnam trustee

Current date (mm/dd/yyyy)

Print name of signer