Control/pledge agreement - mutual fund



Return by mail: Putnam Investments PO Box 219697 Kansas City, MO 64121-9697 Return by express 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



Use this form to pledge Putnam mutual fund shares.

Section 1 Date	and parties				
Date of Control Agreement ((mm/dd/yyyy)				
The parties and their add	dresses are:				
Secured party's address Street		City	/	State	ZIP code
Registered owner ("Debtor"	")				
Registered owner's addresstreet	ess	City	/	State	ZIP code
Transfer Agent for the Putnam Funds:	Putnam Investor Services, Inc./PSER PO Box 219697 Kansas City MO 64121-9697	V			
The Account (defined belo owner. The Account is mai	unt information w) being pledged represents shares of ntained by the Transfer Agent for the Pocash or other securities are held in the	utnam Funds, Putnam In			
CONTROL: PSERV agrees to by the Debtor. The Debtor the Putnam family of mututhe Secured Party's prior w	to comply with instructions originated agrees that PSERV is not liable for comulal funds without prior consent of the Swritten consent. PSERV will not permit to cribed below, except as may be required.	by the Secured Party dire plying with instructions is Secured Party, but is not p the Debtor or any other in	ssued by the Secured Pa permitted to redeem or t dividual or entity to obta	rty. The Debtor may excha ransfer any shares from the	nge shares among e Account without
ACCOUNT DESCRIPTION: accounts, including accrue account number and share a specific number of share	The "Account" subject to this agreemed and/or reinvested dividends and cape amount. Putnam can only acknowleds, all shares in an account will be consiounts, guardian accounts, and network	ent includes the following pital gains distributions. P Ige share amounts; specif idered pledged. Retireme	described mutual fund lease note that the pled fic dollar amounts canno nt accounts, Putnam 529	ged assets must be referer ot be pledged. If the Debtor	nced by fund name, r does not specify
Fund name		Fund number A	ccount number	Share am	ount
		_			
		_			
		_			

Section 3 Authorization

WARRANTIES: PSERV warrants that the Debtor owns the Account described in the ACCOUNT DESCRIPTION section. The Debtor has full and exclusive right to access the Account, and the Account is not evidenced by issued shares. PSERV is aware of no other claims to the Account. PSERV has no agreement with the Debtor that would render this Agreement ineffective.

ADDITIONAL TERMS: Except as noted above, this Agreement does not waive, amend or supercede the terms of the prospectuses for the Putnam mutual funds or the Account Application.

APPLICABLE LAW: The laws of the Commonwealth of Massachusetts govern this Agreement.

AMENDMENT, SEVERABILITY, and TERMINATION: This Agreement may not be amended or modified. This Agreement is the complete and final expression of the understanding between all parties. If any provision of this Agreement is unenforceable, then the unenforceable provision will be severed and the remaining provisions will still be enforceable. This agreement may be terminated by the Secured Party at any time upon written notice to PSERV, signature guaranteed, of the Debtor's default or satisfaction, or by PSERV upon 30 days written notice to the Secured Party and the Debtor.

INTERPRETATION: Whenever used, the singular includes the plural and the plural includes the singular. As used in this Agreement, the term "Account" refers to all Putnam fund accounts listed in the ACCOUNT DESCRIPTION section. Section headings are for convenience only and are not to be used to interpret or define the terms of this Agreement.

NOTICE: Unless otherwise required by law, any notice will be given by delivering it via first class mail to the appropriate party's address listed in the DATE AND PARTIES section above, or to any other address subsequently designated in writing by such party.

Each party agrees to the terms of this Agreement and acknowledges receipt of a copy of the Agreement.

3A: Secured party authorization				
Signature of secured party	Current date (mm/dd/yyyy)			
Print name of signer	Title of secured party			
3B: Debtor authorization				
Signature of debtor		Signature of co-debtor		
Print name of signer		Print name of signer		
Current date (mm/dd/yyyy)		Current date (mm/dd/yyyy)		
PLACE SIGNATURE/MEDALLION GUARANTEI THE GUARANTEE SHOULD NOT BE	E STAMP BELOW DATED	PLACE SIGNATURE/MEDALLION GUARANTEE STAMP BELOW THE GUARANTEE SHOULD NOT BE DATED		
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• • • •	• • • •	• • • •		
3C: Transfer Agent authorization				
Transfer Agent: Putnam Investor Services, Inc	•			
Signature of Transfer Agent authorized signer	Current date (mm/dd/yyyy)			
Print name of signer			 Title of authorized signer	