

The SEC has provided broad guidance regarding the determination of illiquid securities. This guidance may be implemented differently across mutual fund providers in the industry. Additionally, the SEC is implementing new liquidity disclosure requirements in 2018.

Under current SEC rules, for a security to be considered liquid it must be capable of being sold or disposed of in the ordinary course of business within 7 days for a price approximately equal to its carrying value.

An open-end mutual fund must have no more than 15% of net assets in illiquid securities; a money market fund has a maximum limitation of 5%.

The factors taken into account by Putnam portfolio managers include, but are not limited to, the following factors:

- The frequency of trades and quotations for the security;
- The number of dealers making quotations to purchase or sell the security;
- The number of other potential purchasers of the security;
- The nature of the security (registered or unregistered) and the nature of the marketplace for the security; and
- Any applicable regulatory interpretation or position with respect to such type of securities.

Based on SEC guidance and the criteria outlined above, the fund's illiquid assets are approximately: 1.05% (as of 12/31/17)

Putnam can make no guarantees regarding the results of actual trading activity in any market environment.