

Proxy voting guidelines of The Putnam Funds

The proxy voting guidelines below summarize the funds' positions on various issues of concern to investors, and give a general indication of how fund portfolio securities will be voted on proposals dealing with particular issues. The funds' proxy voting service is instructed to vote all proxies relating to fund portfolio securities in accordance with these guidelines, except as otherwise instructed by the Director of Proxy Voting and Corporate Governance ("Proxy Voting Director"), a member of the Office of the Trustees who is appointed to assist in the coordination and voting of the funds' proxies.

The proxy voting guidelines are just that – guidelines. The guidelines are not exhaustive and do not address all potential voting issues. Because the circumstances of individual companies are so varied, there may be instances when the funds do not vote in strict adherence to these guidelines. For example, the proxy voting service is expected to bring to the Proxy Voting Director's attention proxy questions that are company-specific and of a non-routine nature and that, even if covered by the guidelines, may be more appropriately handled on a case-by-case basis. In addition, in interpreting the funds' proxy voting guidelines, the Trustees of The Putnam Funds are mindful of emerging best practices in the areas of corporate governance, environmental stewardship and sustainability, and social responsibility. Recognizing that these matters may, in some instances, bear on investment performance, they may from time to time be considerations in the funds' voting decisions.

Similarly, Putnam Management's investment professionals, as part of their ongoing review and analysis of all fund portfolio holdings, are responsible for monitoring significant corporate developments, including proxy proposals submitted to shareholders, and notifying the Proxy Voting Director of circumstances where the interests of fund shareholders may warrant a vote contrary to these guidelines. In such instances, the investment professionals submit a written recommendation to the Proxy Voting Director and the person or persons designated by Putnam Management's Legal and Compliance Department to assist in processing referral items under the funds' "Proxy Voting Procedures." The Proxy Voting Director, in consultation with a senior member of the Office of the Trustees and/or the Chair of the Board Policy and Nominating Committee, as appropriate, will determine how the funds' proxies will be voted. When indicated, the Chair of the Board Policy and Nominating Committee may consult with other members of the Committee or the full Board of Trustees.

The following guidelines are grouped according to the types of proposals generally presented to shareholders. Part I deals with proposals submitted by management and approved and recommended by a company's board of directors. Part II deals with proposals submitted by shareholders. Part III addresses unique considerations pertaining to non-U.S. issuers.

The Trustees of The Putnam Funds are committed to promoting strong corporate governance practices and encouraging corporate actions that enhance shareholder value through the judicious voting of the funds' proxies. It is the funds' policy to vote their proxies at all shareholder meetings where it is practicable to do so. In furtherance of this,

the funds' have requested that their securities lending agent recall each domestic issuer's voting securities that are on loan, in advance of the record date for the issuer's shareholder meetings, so that the funds may vote at the meetings.

The Putnam funds will disclose their proxy votes not later than August 31 of each year for the most recent 12-month period ended June 30, in accordance with the timetable established by SEC rules.

I. BOARD-APPROVED PROPOSALS¹

The vast majority of matters presented to shareholders for a vote involve proposals made by a company itself (sometimes referred to as "management proposals"), which have been approved and recommended by its board of directors. In view of the enhanced corporate governance practices currently being implemented in public companies and of the funds' intent to hold corporate boards accountable for their actions in promoting shareholder interests, the funds' proxies generally will be voted **for** the decisions reached by majority independent boards of directors, except as otherwise indicated in these guidelines. Accordingly, the funds' proxies will be voted **for** board-approved proposals, except as follows:

Matters relating to the Board of Directors

Uncontested Election of Directors

The funds' proxies will be voted **for** the election of a company's nominees for the board of directors, except as follows:

- The funds will **withhold votes** from the entire board of directors if
 - the board does not have a majority of independent directors,
 - the board has not established independent nominating, audit, and compensation committees,
 - the board has more than 19 members or fewer than five members, absent special circumstances,
 - the board has not acted to implement a policy requested in a shareholder proposal that received the support of a majority of the shares of the company cast at its previous two annual meetings, or

¹ The guidelines in this section apply to proposals at U.S. companies. Please refer to Section III, Voting Shares of Non-U.S. Issuers, for additional guidelines applicable to proposals at non-U.S. companies.

- the board has adopted or renewed a shareholder rights plan (commonly referred to as a “poison pill”) without shareholder approval during the current or prior calendar year.
- The funds will on a **case-by-case basis withhold votes** from the entire board of directors, or from particular directors as may be appropriate, if the board has approved compensation arrangements for one or more company executives that the funds determine are unreasonably excessive relative to the company’s performance or has otherwise failed to observe good corporate governance practices.
- The funds will **withhold votes** from any nominee for director:
- who is considered an independent director by the company and who has received compensation within the last three years from the company other than for service as a director (*e.g.*, investment banking, consulting, legal, or financial advisory fees),
 - who attends less than 75% of board and committee meetings without valid reasons for the absences (*e.g.*, illness, personal emergency, etc.),
 - of a public company (Company A) who is employed as a senior executive of another company (Company B), if a director of Company B serves as a senior executive of Company A (commonly referred to as an “interlocking directorate”),
 - who serves on more than five unaffiliated public company boards (for the purpose of this guideline, boards of affiliated registered investment companies will count as one board),
 - who serves as an executive officer of any company (“home company”) while serving on more than two other public company boards (votes for the nominee withheld at each company where the funds are shareholders; in addition, if the funds are shareholders of the executive’s home company, the funds will withhold votes from members of the home company’s governance committee), or
 - who is a member of the governance or other responsible committee, if the company has adopted without shareholder approval a bylaw provision shifting legal fees and costs to unsuccessful plaintiffs in intra-corporate litigation.

Commentary:

Board independence: Unless otherwise indicated, for the purposes of determining whether a board has a majority of independent directors and independent nominating, audit, and compensation committees, an “independent director” is a director who (1) meets all requirements to serve as an independent director of a company under the NYSE Corporate Governance Rules (*e.g.*, no material business relationships with the company

and no present or recent employment relationship with the company including employment of an immediate family member as an executive officer), and (2) has not within the last three years accepted directly or indirectly any consulting, advisory, or other compensatory fee from the company other than in his or her capacity as a member of the board of directors or any board committee. The funds' Trustees believe that the recent (*i.e.*, within the last three years) receipt of any amount of compensation for services other than service as a director raises significant independence issues.

Board size: The funds' Trustees believe that the size of the board of directors can have a direct impact on the ability of the board to govern effectively. Boards that have too many members can be unwieldy and ultimately inhibit their ability to oversee management performance. Boards that have too few members can stifle innovation and lead to excessive influence by management.

Time commitment: Being a director of a company requires a significant time commitment to adequately prepare for and attend the company's board and committee meetings. Directors must be able to commit the time and attention necessary to perform their fiduciary duties in proper fashion, particularly in times of crisis. The funds' Trustees are concerned about over-committed directors. In some cases, directors may serve on too many boards to make a meaningful contribution. This may be particularly true for senior executives of public companies (or other directors with substantially full-time employment) who serve on more than a few outside boards. Generally, the funds withhold support from directors serving on more than five unaffiliated public company boards, although an exception may be made in the case of a director who represents an investing firm with the sole purpose of managing a portfolio of investments that includes the company. The funds also withhold support from directors who serve as executive officers at a company and on the boards of more than two unaffiliated public companies (votes withheld at outside boards only). The funds may also withhold votes from such directors on a case-by-case basis where it appears that they may be unable to discharge their duties properly because of excessive commitments.

Interlocking directorships: The funds' Trustees believe that interlocking directorships are inconsistent with the degree of independence required for outside directors of public companies.

Corporate governance practices: Board independence depends not only on its members' individual relationships, but also on the board's overall attitude toward management and shareholders. Independent boards are committed to good corporate governance practices and, by providing objective independent judgment, enhancing shareholder value. The funds may withhold votes on a case-by-case basis from some or all directors who, through their lack of independence or otherwise, have failed to observe good corporate governance practices or, through specific corporate action, have demonstrated a disregard for the interests of shareholders. Such instances may include cases where a board of directors has approved compensation arrangements for one or more members of management that, in the judgment of the funds' Trustees, are excessive by reasonable corporate standards relative to the company's record of performance. It may also represent a disregard for the interests of shareholders if a board of directors fails

to register an appropriate response when a director who fails to win the support of a majority of shareholders in an election (sometimes referred to as a “rejected director”) continues to serve on the board, or if a board of directors permits an executive to serve on an excessive number of public company boards. While the Trustees recognize that it may in some circumstances be appropriate for a rejected director to continue his or her service on the board, steps should be taken to address the concerns reflected by the shareholders’ lack of support for the rejected director. Adopting a fee-shifting bylaw provision without shareholder approval, which may discourage legitimate shareholders lawsuits as well as frivolous ones, is another example of disregard for shareholder interests.

Contested Elections of Directors

- The funds will vote on a **case-by-case basis** in contested elections of directors.

Classified Boards

- The funds will vote **against** proposals to classify a board, absent special circumstances indicating that shareholder interests would be better served by this structure.

Commentary: Under a typical classified board structure, the directors are divided into three classes, with each class serving a three-year term. The classified board structure results in directors serving staggered terms, with usually only a third of the directors up for re-election at any given annual meeting. The funds’ Trustees generally believe that it is appropriate for directors to stand for election each year, but recognize that, in special circumstances, shareholder interests may be better served under a classified board structure.

Other Board-Related Proposals

The funds will generally vote **for** proposals that have been approved by a majority independent board, and on a **case-by-case basis** on proposals that have been approved by a board that fails to meet the guidelines’ basic independence standards (*i.e.*, majority of independent directors and independent nominating, audit, and compensation committees).

Executive Compensation

The funds generally favor compensation programs that relate executive compensation to a company’s long-term performance. The funds will vote on a **case-by-case basis** on board-approved proposals relating to executive compensation, except as follows:

- Except where the funds are otherwise withholding votes for the entire board of directors, the funds will vote **for** stock option and restricted stock plans that will result in an average **annual** dilution of 1.67% or less (based on the disclosed term of the plan and including all equity-based plans).

- The funds will vote **against** stock option and restricted stock plans that will result in an average annual dilution of greater than 1.67% (based on the disclosed term of the plan and including all equity-based plans).
- The funds will vote **against** any stock option or restricted stock plan where the company's actual grants of stock options and restricted stock under all equity-based compensation plans during the prior three (3) fiscal years have resulted in an average annual dilution of greater than 1.67%.
- The funds will vote **against** stock option plans that permit the replacing or repricing of underwater options (and against any proposal to authorize a replacement or repricing of underwater options).
- The funds will vote **against** stock option plans that permit issuance of options with an exercise price below the stock's current market price.
- Except where the funds are otherwise withholding votes for the entire board of directors, the funds will vote **for** an employee stock purchase plan that has the following features: (1) the shares purchased under the plan are acquired for no less than 85% of their market value; (2) the offering period under the plan is 27 months or less; and (3) dilution is 10% or less.
- The funds will vote **for** proposals to approve a company's executive compensation program (*i.e.*, "say on pay" proposals in which the company's board proposes that shareholders indicate their support for the company's compensation philosophy, policies, and practices), except that the funds will vote **against** the proposal if the company is assigned to the lowest category, through independent third party benchmarking performed by the funds' proxy voting service, for the correlation of the company's executive compensation program with its performance.
- The funds will vote **for** bonus plans under which payments are treated as performance-based compensation that is deductible under Section 162(m) of the Internal Revenue Code of 1986, as amended, except that the funds will vote on a **case-by-case basis** if any of the following circumstances exist:
 - the amount per employee under the plan is unlimited, or
 - the plan's performance criteria is undisclosed, or
 - the company is assigned to the lowest category, through independent third party benchmarking performed by the funds' proxy voting service, for the correlation of the company's executive compensation program with its performance.

Commentary: Companies should have compensation programs that are reasonable and that align shareholder and management interests over the longer term. Further, disclosure of compensation programs should provide absolute transparency to shareholders regarding the sources and amounts of, and the factors influencing, executive compensation. Appropriately designed equity-based compensation plans can be an

effective way to align the interests of long-term shareholders with the interests of management. However, the funds may vote against these or other executive compensation proposals on a case-by-case basis where compensation is excessive by reasonable corporate standards, where a company fails to provide transparent disclosure of executive compensation, or, in some instances, where independent third-party benchmarking indicates that compensation is inadequately correlated with performance, relative to peer companies. (Examples of excessive executive compensation may include, but are not limited to, equity incentive plans that exceed the dilution criteria noted above, excessive perquisites, performance-based compensation programs that do not properly correlate reward and performance, “golden parachutes” or other severance arrangements that present conflicts between management’s interests and the interests of shareholders, and “golden coffins” or unearned death benefits.) In voting on a proposal relating to executive compensation, the funds will consider whether the proposal has been approved by an independent compensation committee of the board.

Capitalization

Many proxy proposals involve changes in a company’s capitalization, including the authorization of additional stock, the issuance of stock, the repurchase of outstanding stock, or the approval of a stock split. The management of a company’s capital structure involves a number of important issues, including cash flow, financing needs, and market conditions that are unique to the circumstances of the company. As a result, the funds will vote on a **case-by-case basis** on board-approved proposals involving changes to a company’s capitalization, except that where the funds are not otherwise withholding votes from the entire board of directors:

- The funds will vote **for** proposals relating to the authorization and issuance of additional common stock (except where such proposals relate to a specific transaction).
- The funds will vote **for** proposals to effect stock splits (excluding reverse stock splits).
- The funds will vote **for** proposals authorizing share repurchase programs.

Commentary: A company may decide to authorize additional shares of common stock for reasons relating to executive compensation or for routine business purposes. For the most part, these decisions are best left to the board of directors and senior management. The funds will vote on a case-by-case basis, however, on other proposals to change a company’s capitalization, including the authorization of common stock with special voting rights, the authorization or issuance of common stock in connection with a specific transaction (*e.g.*, an acquisition, merger or reorganization), or the authorization or issuance of preferred stock. Actions such as these involve a number of considerations that may affect a shareholder’s investment and that warrant a case-by-case determination.

Acquisitions, Mergers, Reincorporations, Reorganizations and Other Transactions

Shareholders may be confronted with a number of different types of transactions, including acquisitions, mergers, reorganizations involving business combinations, liquidations, and the sale of all or substantially all of a company's assets, which may require their consent. Voting on such proposals involves considerations unique to each transaction. As a result, the funds will vote on a **case-by-case basis** on board-approved proposals to effect these types of transactions, except as follows:

- The funds will vote **for** mergers and reorganizations involving business combinations designed solely to reincorporate a company in Delaware.

Commentary: A company may reincorporate into another state through a merger or reorganization by setting up a "shell" company in a different state and then merging the company into the new company. While reincorporation into states with extensive and established corporate laws – notably Delaware – provides companies and shareholders with a more well-defined legal framework, shareholders must carefully consider the reasons for a reincorporation into another jurisdiction, including especially an offshore jurisdiction.

Anti-Takeover Measures

Some proxy proposals involve efforts by management to make it more difficult for an outside party to take control of the company without the approval of the company's board of directors. These include the adoption of a shareholder rights plan, requiring supermajority voting on particular issues, the adoption of fair price provisions, the issuance of blank check preferred stock, and the creation of a separate class of stock with disparate voting rights. Such proposals may adversely affect shareholder rights, lead to management entrenchment, or create conflicts of interest. As a result, the funds will vote **against** board-approved proposals to adopt such anti-takeover measures, except as follows:

- The funds will vote on a **case-by-case basis** on proposals to ratify or approve shareholder rights plans; and
- The funds will vote on a **case-by-case basis** on proposals to adopt fair price provisions.

Commentary: The funds' Trustees recognize that poison pills and fair price provisions may enhance or protect shareholder value under certain circumstances. For instance, where a company has incurred significant operating losses, a shareholder rights plan may be appropriately tailored to protect shareholder value by preserving a company's net operating losses. Thus, the funds will consider proposals to approve such matters on a case-by-case basis.

Other Business Matters

Many proxies involve approval of routine business matters, such as changing a company's name, ratifying the appointment of auditors, and procedural matters relating to the shareholder meeting. For the most part, these routine matters do not materially affect shareholder interests and are best left to the board of directors and senior management of the company. The funds will vote **for** board-approved proposals approving such matters, except as follows:

- The funds will vote on a **case-by-case basis** on proposals to amend a company's charter or bylaws (except for charter amendments necessary to effect stock splits, to change a company's name or to authorize additional shares of common stock).
- The funds will vote **against** authorization to transact other unidentified, substantive business at the meeting.
- The funds will vote on a **case-by-case basis** on proposals to ratify the selection of independent auditors if there is evidence that the audit firm's independence or the integrity of an audit is compromised.
- The funds will vote on a **case-by-case basis** on other business matters where the funds are otherwise withholding votes for the entire board of directors.

Commentary: Charter and bylaw amendments (for example, amendments implementing proxy access proposals) and the transaction of other unidentified, substantive business at a shareholder meeting may directly affect shareholder rights and have a significant impact on shareholder value. As a result, the funds do not view these items as routine business matters. Putnam Management's investment professionals and the funds' proxy voting service may also bring to the Proxy Voting Director's attention company-specific items that they believe to be non-routine and warranting special consideration. Under these circumstances, the funds will vote on a case-by-case basis.

The fund's proxy voting service may identify circumstances that call into question an audit firm's independence or the integrity of an audit. These circumstances may include recent material restatements of financials, unusual audit fees, egregious contractual relationships, and aggressive accounting policies. The funds will consider proposals to ratify the selection of auditors in these circumstances on a case-by-case basis. In all other cases, given the existence of rules that enhance the independence of audit committees and auditors by, for example, prohibiting auditors from performing a range of non-audit services for audit clients, the funds will vote for the ratification of independent auditors

II. SHAREHOLDER PROPOSALS

SEC regulations permit shareholders to submit proposals for inclusion in a company's proxy statement. These proposals generally seek to change some aspect of the company's corporate governance structure or to change some aspect of its business

operations. The funds generally will vote **in accordance with the recommendation of the company's board of directors** on all shareholder proposals, except as follows:

- The funds will vote on a **case-by-case basis** on shareholder proposals requiring that the chairman's position be filled by someone other than the chief executive officer.
- The funds will vote **for** shareholder proposals asking that director nominees receive support from holders of a majority of votes cast or a majority of shares outstanding in order to be (re)elected.
- The funds will vote **for** shareholder proposals to declassify a board, absent special circumstances which would indicate that shareholder interests are better served by a classified board structure.
- The funds will vote **for** shareholder proposals to eliminate supermajority vote requirements in the company's charter documents.
- The funds will vote **for** shareholder proposals to require shareholder approval of shareholder rights plans.
- The funds will vote **for** shareholder proposals to amend a company's charter documents to permit shareholders to call special meetings, but only if both of the following conditions are met:
 - the proposed amendment limits the right to call special meetings to shareholders holding at least 15% of the company's outstanding shares, and
 - applicable state law does not otherwise provide shareholders with the right to call special meetings.
- The funds will vote on a **case-by-case basis** on shareholder proposals relating to proxy access.
- The funds will vote **for** shareholder proposals requiring companies to make cash payments under management severance agreements only if both of the following conditions are met:
 - the company undergoes a change in control, and
 - the change in control results in the termination of employment for the person receiving the severance payment.
- The funds will vote **for** shareholder proposals requiring companies to accelerate vesting of equity awards under management severance agreements only if both of the following conditions are met:
 - the company undergoes a change in control, and

- the change in control results in the termination of employment for the person receiving the severance payment.
- The funds will vote **on a case-by-case basis** on shareholder proposals to limit a company's ability to make excise tax gross-up payments under management severance agreements.
- The funds will vote **on a case-by-case basis** on shareholder proposals requesting that the board adopt a policy to recoup, in the event of a significant restatement of financial results or significant extraordinary write-off, to the fullest extent practicable, for the benefit of the company, all performance-based bonuses or awards that were paid to senior executives based on the company having met or exceeded specific performance targets to the extent that the specific performance targets were not, in fact, met.
- The funds will vote **for** shareholder proposals calling for the company to obtain shareholder approval for any future golden coffins or unearned death benefits (payments or awards of unearned salary or bonus, accelerated vesting or the continuation of unvested equity awards, perquisites or other payments or awards in respect of an executive following his or her death), and **for** shareholder proposals calling for the company to cease providing golden coffins or unearned death benefits.
- The funds will vote **for** shareholder proposals requiring a company to report on its executive retirement benefits (*e.g.*, deferred compensation, split-dollar life insurance, SERPs and pension benefits).
- The funds will vote **for** shareholder proposals requiring a company to disclose its relationships with executive compensation consultants (*e.g.*, whether the company, the board or the compensation committee retained the consultant, the types of services provided by the consultant over the past five years, and a list of the consultant's clients on which any of the company's executives serve as a director).
- The funds will vote **for** shareholder proposals that are consistent with the funds' proxy voting guidelines for board-approved proposals.
- The funds will vote on a **case-by-case basis** on other shareholder proposals where the funds are otherwise withholding votes for the entire board of directors.

Commentary: The funds' Trustees believe that effective corporate reforms should be promoted by holding boards of directors – and in particular their independent directors – accountable for their actions, rather than by imposing additional legal restrictions on board governance through piecemeal proposals. As stated above, the funds' Trustees believe that boards of directors and management are responsible for ensuring that their businesses are operating in accordance with high legal and ethical standards and should be held accountable for resulting corporate behavior. Accordingly, the funds will generally support the recommendations of boards that meet the basic independence and governance standards established in these guidelines. Where boards fail to meet these

standards, the funds will generally evaluate shareholder proposals on a case-by-case basis. The funds will also consider proposals requiring that the chairman's position be filled by someone other than the company's chief executive officer on a case-by-case basis, recognizing that in some cases this separation may advance the company's corporate governance while in other cases it may be less necessary to the sound governance of the company. The funds will take into account the level of independent leadership on a company's board in evaluating these proposals.

However, the funds generally support shareholder proposals to implement majority voting for directors, observing that majority voting is an emerging standard intended to encourage directors to be attentive to shareholders' interests. The funds also generally support shareholder proposals to declassify a board, to eliminate supermajority vote requirements, or to require shareholder approval of shareholder rights plans. The funds' Trustees believe that these shareholder proposals further the goals of reducing management entrenchment and conflicts of interest, and aligning management's interests with shareholders' interests in evaluating proposed acquisitions of the company. The Trustees also believe that shareholder proposals to limit severance payments may further these goals in some instances. In general, the funds favor arrangements in which severance payments are made to an executive only when there is a change in control and the executive loses his or her job as a result. Arrangements in which an executive receives a payment upon a change of control even if the executive retains employment introduce potential conflicts of interest and may distract management focus from the long term success of the company.

In evaluating shareholder proposals that address severance payments, the funds distinguish between cash and equity payments. The funds generally do not favor cash payments to executives upon a change in control transaction if the executive retains employment. However, the funds recognize that accelerated vesting of equity incentives, even without termination of employment, may help to align management and shareholder interests in some instances, and will evaluate shareholder proposals addressing accelerated vesting of equity incentive payments on a case-by-case basis.

When severance payments exceed a certain amount based on the executive's previous compensation, the payments may be subject to an excise tax. Some compensation arrangements provide for full excise tax gross-ups, which means that the company pays the executive sufficient additional amounts to cover the cost of the excise tax. The funds are concerned that the benefits of providing full excise tax gross-ups to executives may be outweighed by the cost to the company of the gross-up payments. Accordingly, the funds will vote on a case-by-case basis on shareholder proposals to curtail excise tax gross-up payments. The funds generally favor arrangements in which severance payments do not trigger an excise tax or in which the company's obligations with respect to gross-up payments are limited in a reasonable manner.

The funds' Trustees believe that performance-based compensation can be an effective tool for aligning management and shareholder interests. However, to fulfill its purpose, performance compensation should only be paid to executives if the performance targets are actually met. A significant restatement of financial results or a significant

extraordinary write-off may reveal that executives who were previously paid performance compensation did not actually deliver the required business performance to earn that compensation. In these circumstances, it may be appropriate for the company to recoup this performance compensation. The funds will consider on a case-by-case basis shareholder proposals requesting that the board adopt a policy to recoup, in the event of a significant restatement of financial results or significant extraordinary write-off, performance-based bonuses or awards paid to senior executives based on the company having met or exceeded specific performance targets to the extent that the specific performance targets were not, in fact, met. The funds do not believe that such a policy should necessarily disadvantage a company in recruiting executives, as executives should understand that they are only entitled to performance compensation based on the actual performance they deliver.

The funds' Trustees disfavor golden coffins or unearned death benefits, and the funds will generally support shareholder proposals to restrict or terminate these practices. The Trustees will also consider whether a company's overall compensation arrangements, taking all of the pertinent circumstances into account, constitute excessive compensation or otherwise reflect poorly on the corporate governance practices of the company. As the Trustees evaluate these matters, they will be mindful of evolving practices and legislation relevant to executive compensation and corporate governance.

The funds' Trustees also believe that shareholder proposals that are intended to increase transparency, particularly with respect to executive compensation, without establishing rigid restrictions upon a company's ability to attract and motivate talented executives, are generally beneficial to sound corporate governance without imposing undue burdens. The funds will generally support shareholder proposals calling for reasonable disclosure.

III. VOTING SHARES OF NON-U.S. ISSUERS

Many of the Putnam funds invest on a global basis, and, as a result, they may hold, and have an opportunity to vote, shares in non-U.S. issuers – i.e., issuers that are incorporated under the laws of foreign jurisdictions and whose shares are not listed on a U.S. securities exchange or the NASDAQ stock market.

In many non-U.S. markets, shareholders who vote proxies of a non-U.S. issuer are not able to trade in that company's stock on or around the shareholder meeting date. This practice is known as "share blocking." In countries where share blocking is practiced, the funds will vote proxies only with direction from Putnam Management's investment professionals.

In addition, some non-U.S. markets require that a company's shares be re-registered out of the name of the local custodian or nominee into the name of the shareholder for the shareholder to be able to vote at the meeting. This practice is known as "share re-registration." As a result, shareholders, including the funds, are not able to trade in that company's stock until the shares are re-registered back in the name of the local custodian

or nominee following the meeting. In countries where share re-registration is practiced, the funds will generally not vote proxies.

Protection for shareholders of non-U.S. issuers may vary significantly from jurisdiction to jurisdiction. Laws governing non-U.S. issuers may, in some cases, provide substantially less protection for shareholders than do U.S. laws. As a result, the guidelines applicable to U.S. issuers, which are premised on the existence of a sound corporate governance and disclosure framework, may not be appropriate under some circumstances for non-U.S. issuers. However, the funds will vote proxies of non-U.S. issuers **in accordance with the guidelines applicable to U.S. issuers** except as follows:

Uncontested Board Elections

China, India, Indonesia, Philippines, Taiwan and Thailand

- The funds will **withhold votes** from the entire board of directors if
 - fewer than one-third of the directors are independent directors, or
 - the board has not established audit, compensation and nominating committees each composed of a majority of independent directors.

Commentary: Whether a director is considered “independent” or not will be determined by reference to local corporate law or listing standards.

Europe ex-United Kingdom

- The funds will **withhold votes** from the entire board of directors if
 - the board has not established audit and compensation committees each composed of a majority of independent, non-executive directors, or
 - the board has not established a nominating committee composed of a majority of independent directors.

Commentary: An “independent director” under the European Commission’s guidelines is one who is free of any business, family or other relationship, with the company, its controlling shareholder or the management of either, that creates a conflict of interest such as to impair his judgment. A “non-executive director” is one who is not engaged in the daily management of the company.

Germany

- For companies subject to “co-determination,” the funds will vote **for** the election of nominees to the supervisory board, except that the funds will vote on a **case-by-case basis** for any nominee who is either an employee of the company or who is otherwise affiliated with the company (as determined by the funds’ proxy voting service).

- The funds will **withhold votes** for the election of a former member of the company’s managerial board to chair of the supervisory board.

Commentary: German corporate governance is characterized by a two-tier board system—a managerial board composed of the company’s executive officers, and a supervisory board. The supervisory board appoints the members of the managerial board. Shareholders elect members of the supervisory board, except that in the case of companies with a large number of employees, company employees are allowed to elect some of the supervisory board members (one-half of supervisory board members are elected by company employees at companies with more than 2,000 employees; one-third of the supervisory board members are elected by company employees at companies with more than 500 employees but fewer than 2,000). This “co-determination” practice may increase the chances that the supervisory board of a large German company does not contain a majority of independent members. In this situation, under the Fund’s proxy voting guidelines applicable to U.S. issuers, the funds would vote against all nominees. However, in the case of companies subject to “co-determination” and with the goal of supporting independent nominees, the Funds will vote for supervisory board members who are neither employees of the company nor otherwise affiliated with the company.

Consistent with the funds’ belief that the interests of shareholders are best protected by boards with strong, independent leadership, the funds will withhold votes for the election of former chairs of the managerial board to chair of the supervisory board.

Hong Kong

- The funds will **withhold votes** from the entire board of directors if
 - fewer than one-third of the directors are independent directors, or
 - the board has not established audit, compensation and nominating committees each with at least a majority of its members being independent directors, or
 - the chair of the audit, compensation or nominating committee is not an independent director.

Commentary. For purposes of these guidelines, an “independent director” is a director that has no material, financial or other current relationships with the company. In determining whether a director is independent, the funds will apply the standards included in the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited Section 3.13.

Italy

- The funds will **withhold votes** from any director not identified in the proxy materials.

Commentary: In Italy, companies have the right to nominate co-opted directors² for election to the board at the next annual general meeting, but do not have to indicate, until the day of the annual meeting, whether or not they are nominating a co-opted director for election. When a company does not explicitly state in its proxy materials that co-opted directors are standing for election, shareholders will not know for sure who the board nominees are until the actual meeting occurs. The funds will withhold support from any such co-opted director on the grounds that there was insufficient information for evaluation before the meeting.

Japan

- For companies that have established a U.S.-style corporate governance structure, the funds will **withhold votes** from the entire board of directors if
 - the board does not have a majority of outside directors,
 - the board has not established nominating and compensation committees composed of a majority of outside directors, or
 - the board has not established an audit committee composed of a majority of independent directors.
- The funds will **withhold votes** for the appointment of members of a company's board of statutory auditors if a majority of the members of the board of statutory auditors is not independent.

Commentary:

Board structure: Recent amendments to the Japanese Commercial Code give companies the option to adopt a U.S.-style corporate governance structure (*i.e.*, a board of directors and audit, nominating, and compensation committees). The funds will vote **for** proposals to amend a company's articles of incorporation to adopt the U.S.-style corporate structure.

Definition of outside director and independent director: Corporate governance principles in Japan focus on the distinction between outside directors and independent directors. Under these principles, an outside director is a director who is not and has never been a director, executive, or employee of the company or its parent company, subsidiaries or affiliates. An outside director is "independent" if that person can make decisions completely independent from the managers of the company, its parent, subsidiaries, or affiliates and does not have a material relationship with the company (*i.e.*, major client, trading partner, or other business relationship; familial relationship with

² A co-opted director is an individual appointed to the board by incumbent directors to replace a director who was elected by directors but who leaves the board (through resignation or death) before the end of his or her term.

current director or executive; etc.). The guidelines have incorporated these definitions in applying the board independence standards above.

Korea

- The funds will **withhold votes** from the entire board of directors if
 - fewer than half of the directors are outside directors,
 - the board has not established a nominating committee with at least half of the members being outside directors, or
 - the board has not established an audit committee composed of at least three members and in which at least two-thirds of its members are outside directors.
- The funds will vote **withhold votes** from nominees to the audit committee if the board has not established an audit committee composed of (or proposed to be composed of) at least three members, and of which at least two-thirds of its members are (or will be) outside directors.

Commentary: For purposes of these guidelines, an “outside director” is a director that is independent from the management or controlling shareholders of the company, and holds no interests that might impair the performance his or her duties impartially with respect to the company, management or controlling shareholder. In determining whether a director is an outside director, the funds will also apply the standards included in Article 415-2(2) of the Korean Commercial Code (*i.e.*, no employment relationship with the company for a period of two years before serving on the committee, no director or employment relationship with the company’s largest shareholder, etc.) and may consider other business relationships that would affect the independence of an outside director.

Malaysia

- The funds will **withhold votes** from the entire board of directors if
 - in the case of a board with an independent director serving as chair, fewer than one-third of the directors are independent directors; or, in the case of a board not chaired by an independent director, less than a majority of the directors are independent directors,
 - the board has not established audit and nominating committees with at least a majority of the members being independent directors and all of the members being non-executive directors, or
 - the board has not established a compensation committee with at least a majority of the members being non-executive directors.

Commentary. For purposes of these guidelines, an “independent director” is a director who has no material, financial or other current relationships with the company. In determining whether a director is independent, the funds will apply the standards included in the Malaysia Code of Corporate Governance, Commentary to Recommendation 3.1. A “non-executive director” is a director who does not take on primary responsibility for leadership of the company.

Russia

- The funds will vote on a **case-by-case basis** for the election of nominees to the board of directors.

Commentary: In Russia, director elections are typically handled through a cumulative voting process. Cumulative voting allows shareholders to cast all of their votes for a single nominee for the board of directors, or to allocate their votes among nominees in any other way. In contrast, in “regular” voting, shareholders may not give more than one vote per share to any single nominee. Cumulative voting can help to strengthen the ability of minority shareholders to elect a director.

In Russia, as in some other emerging markets, standards of corporate governance are usually behind those in developed markets. Rather than vote against the entire board of directors, as the funds generally would in the case of a company whose board fails to meet the funds’ standards for independence, the funds may, on a case by case basis, cast all of their votes for one or more independent director nominees. The funds believe that it is important to increase the number of independent directors on the boards of Russian companies to mitigate the risks associated with dominant shareholders.

Singapore

- The funds will **withhold votes** from the entire board of directors if
 - in the case of a board with an independent director serving as chair, fewer than one-third of the directors are independent directors; or, in the case of a board not chaired by an independent director, fewer than half of the directors are independent directors,
 - the board has not established audit and compensation committees, each with an independent director serving as chair, with at least a majority of the members being independent directors, and with all of the directors being non-executive directors, or
 - the board has not established a nominating committee, with an independent director serving as chair, and with at least a majority of the members being independent directors.

Commentary: For purposes of these guidelines, an “independent director” is a director that has no material, financial or other current relationships with the company. In determining whether a director is independent, the funds will apply the standards

included in the Singapore Code of Corporate Governance, Guideline 2.3. A “non-executive director” is a director who is not employed with the company.

United Kingdom

- The funds will **withhold votes** from the entire board of directors if
 - fewer than half of the directors are independent non-executive directors,
 - the board has not established a nomination committee composed of a majority of independent non-executive directors, or
 - the board has not established compensation and audit committees composed of (1) at least three directors (in the case of smaller companies, two directors) and (2) solely independent non-executive directors, provided that, to the extent permitted under the United Kingdom’s Combined Code on Corporate Governance, the company chairman may serve on (but not serve as chairman of) the compensation and audit committees if the chairman was considered independent upon his or her appointment as chairman.
- The funds will **withhold votes** from any nominee for director who is considered an independent director by the company and who has received compensation within the last three years from the company other than for service as a director, such as investment banking, consulting, legal, or financial advisory fees.
- The funds will vote **for** proposals to amend a company’s articles of association to authorize boards to approve situations that might be interpreted to present potential conflicts of interest affecting a director.

Commentary:

Application of guidelines: Although the United Kingdom’s Combined Code on Corporate Governance (“Combined Code”) has adopted the “comply and explain” approach to corporate governance, the funds’ Trustees believe that the guidelines discussed above with respect to board independence standards are integral to the protection of investors in U.K. companies. As a result, these guidelines will generally be applied in a prescriptive manner.

Definition of independence: For the purposes of these guidelines, a non-executive director shall be considered independent if the director meets the independence standards in section A.3.1 of the Combined Code (*i.e.*, no material business or employment relationships with the company, no remuneration from the company for non-board services, no close family ties with senior employees or directors of the company, etc.), except that the funds do not view service on the board for more than nine years as affecting a director’s independence. Company chairmen in the U.K. are generally considered affiliated upon appointment as chairman due to the nature of the position of chairman. Consistent with the Combined Code, a company chairman who was

considered independent upon appointment as chairman: may serve as a member of, but not as the chairman of, the compensation (remuneration) committee; and, in the case of smaller companies, may serve as a member of, but not as the chairman of, the audit committee.

Smaller companies: A smaller company is one that is below the FTSE 350 throughout the year immediately prior to the reporting year.

Conflicts of interest: The Companies Act 2006 requires a director to avoid a situation in which he or she has, or can have, a direct or indirect interest that conflicts, or possibly may conflict, with the interests of the company. This broadly written requirement could be construed to prevent a director from becoming a trustee or director of another organization. Provided there are reasonable safeguards, such as the exclusion of the relevant director from deliberations, the funds believe that the board may approve this type of potential conflict of interest in its discretion.

All other jurisdictions

- The funds will vote **for** supervisory board nominees when the supervisory board meets the funds' independence standards, otherwise the funds will vote **against** supervisory board nominees.

Commentary: Companies in many jurisdictions operate under the oversight of supervisory boards. In the absence of jurisdiction-specific guidelines, the funds will generally hold supervisory boards to the same standards of independence as it applies to boards of directors in the United States.

Contested Board Elections

Italy

- The funds will vote **for** the management- or board-sponsored slate of nominees if the board meets the funds' independence standards, and **against** the management- or board-sponsored slate of nominees if the board does not meet the funds' independence standards; the funds will not vote on shareholder-proposed slates of nominees.

Commentary: Contested elections in Italy may involve a variety of competing slates of nominees. In these circumstances, the funds will focus their analysis on the board- or management-sponsored slate.

Corporate Governance

- The funds will vote **for** proposals to change the size of a board if the board meets the funds' independence standards, and **against** proposals to change the size of a board if the board does not meet the funds' independence standards.

- The funds will vote **for** shareholder proposals calling for a majority of a company’s directors to be independent of management.
- The funds will vote **for** shareholder proposals seeking to increase the independence of board nominating, audit, and compensation committees.
- The funds will vote **for** shareholder proposals that implement corporate governance standards similar to those established under U.S. federal law and the listing requirements of U.S. stock exchanges, and that do not otherwise violate the laws of the jurisdiction under which the company is incorporated.

Australia

- The funds will vote on a **case-by-case basis** on board spill resolutions.

Commentary: The *Corporations Amendment (Improving Accountability on Director and Executive Compensation) Bill 2011* provides that, if a company’s remuneration report receives a “no” vote of 25% or more of all votes cast at two consecutive annual general meetings, at the second annual general meeting, a spill resolution must be proposed. If the spill resolution is approved (by simple majority), then a further meeting to elect a new board (excluding the managing director) must be held within 90 days. The funds will consider board spill resolutions on a case-by-case basis.

Europe

- The funds will vote **for** proposals to ratify board acts, except that the funds will consider these proposals on a **case-by-case basis** if the funds’ proxy voting service has recommended a vote against the proposal.

Taiwan

- The funds will vote **against** proposals to release directors from their non-competition obligations (their obligations not to engage in any business that is competitive with the company), unless the proposal is narrowly drafted to permit directors to engage in a business that is competitive with the company only on behalf of a wholly-owned subsidiary of the company.

Compensation

- The funds will vote **for** proposals to approve annual directors’ fees, except that the funds will consider these proposals on a **case-by-case basis** in each case in which the funds’ proxy voting service has recommended a vote against such a proposal.
- The funds will vote **for** non-binding proposals to approve remuneration reports, except that the funds will vote **against** proposals to approve remuneration reports that indicate that awards under a long-term incentive plan are not linked to performance targets.

Commentary: Since proposals relating to directors' fees for non-U.S. issuers generally address relatively modest fees paid to non-executive directors, the funds generally support these proposals, provided that the fees are consistent with directors' fees paid by the company's peers and do not otherwise appear unwarranted. Consistent with the approach taken for U.S. issuers, the funds generally favor compensation programs that relate executive compensation to a company's long-term performance and will support non-binding remuneration reports unless such a correlation is not made.

Europe and Asia ex-Japan

- In the case of proposals that do not include sufficient information for determining average annual dilution, the funds will vote **for** stock option and restricted stock plans that will result in an average gross potential dilution of 5% or less.

Commentary: Asia ex-Japan means China, Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand. In these markets, companies may not disclose the life of the plan and there may not be a specific number of shares requested; therefore, it may not be possible to determine the average annual dilution related to the plan and apply the funds' standard dilution test.

France

- The funds will vote **for** an employee stock purchase plan or share save scheme that has the following features: (1) the shares purchased under the plan are acquired for no less than 70% of their market value; (2) the vesting period is greater than or equal to 10 years; (3) the offering period under the plan is 27 months or less; and (4) dilution is 10% or less.

Commentary: To conform to local market practice, the funds support plans or schemes at French issuers that permit the purchase of shares at up to a 30% discount (*i.e.*, shares may be purchased for no less than 70% of their market value). By comparison, for U.S. issuers, the funds do not support employee stock purchase plans that permit shares to be acquired at more than a 15% discount (*i.e.*, for less than 85% of their market value); in the United Kingdom, up to a 20% discount is permitted.

United Kingdom

- The funds will vote **for** an employee stock purchase plan or share save scheme that has the following features: (1) the shares purchased under the plan are acquired for no less than 80% of their market value; (2) the offering period under the plan is 27 months or less; and (3) dilution is 10% or less.

Commentary: These are the same features that the funds require of employee stock purchase plans proposed by U.S. issuers, except that, to conform to local market practice, the funds support plans or schemes at United Kingdom issuers that permit the purchase of shares at up to a 20% discount (*i.e.*, shares may be purchased for no less than 80% of their market value). By comparison, for U.S. issuers, the funds do not support employee

stock purchase plans that permit shares to be acquired at more than a 15% discount (*i.e.*, for less than 85% of their market value).

Capitalization

Unless a proposal is directly addressed by a country-specific guideline:

- The funds will vote **for** proposals
 - to issue additional common stock representing up to 20% of the company's outstanding common stock, where shareholders *do not* have preemptive rights, or
 - to issue additional common stock representing up to 100% of the company's outstanding common stock, where shareholders *do have* preemptive rights.
- The funds will vote **for** proposals to authorize share repurchase programs that are recommended for approval by the funds' proxy voting service; otherwise, the funds will vote **against** such proposals.

Australia

- The funds will vote **for** proposals to carve out, from the general cap on non-*pro rata* share issues of 15% of total equity in a rolling 12-month period, a particular proposed issue of shares or a particular issue of shares made previously within the 12-month period, if the company's board meets the funds' independence standards; if the company's board does not meet the funds' independence standards, then the funds will vote **against** these proposals.
- The funds will vote **for** proposals to approve the grant of equity awards to directors, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.

China

- The funds will vote **for** proposals to issue and/or to trade in non-convertible, convertible and/or exchangeable debt obligations, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.

Hong Kong

- The funds will vote **for** proposals to approve a general mandate permitting the company to engage in non-*pro rata* share issues of up to 20% of total equity in a year if the company's board meets the funds' independence standards; if the

company's board does not meet the funds' independence standards, then the funds will vote **against** these proposals.

- The funds will **for** proposals to approve the reissuance of shares acquired by the company under a share repurchase program, provided that: (1) the funds supported (or would have supported, in accordance with these guidelines) the share repurchase program, (2) the reissued shares represent no more than 10% of the company's outstanding shares (measured immediately before the reissuance), and (3) the reissued shares are sold for no less than 85% of current market value.

France

- The funds will vote **for** proposals to increase authorized shares, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.
- The funds will vote **against** proposals to authorize the issuance of common stock or convertible debt instruments and against proposals to authorize the repurchase and/or reissuance of shares where those authorizations may be used, without further shareholder approval, as anti-takeover measures.

New Zealand

- The funds will vote **for** proposals to approve the grant of equity awards to directors, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.

Commentary: In light of the prevalence of certain types of capitalization proposals in Australia, China, Hong Kong, France and New Zealand, the funds have adopted guidelines specific to those jurisdictions.

Other Business Matters

- The funds will vote **for** proposals permitting companies to deliver reports and other materials electronically (*e.g.*, via website posting).
- The funds will vote **for** proposals permitting companies to issue regulatory reports in English.
- The funds will vote **against** proposals to shorten shareholder meeting notice periods to fourteen days.

Commentary: Under Directive 2007/36/EC of the European Parliament and the Council of the European Union, companies have the option to request shareholder approval to set the notice period for special meetings at 14 days provided that certain electronic voting and communication requirements are met. The funds believe that the 14 day notice period is too short to provide overseas shareholders with sufficient time to analyze

proposals and to participate meaningfully at special meetings and, as a result, have determined to vote against such proposals.

- The funds will vote **for** proposals to amend a company's charter or bylaws, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.

Commentary: If the substance of any proposed amendment is covered by a specific guideline included herein, then that guideline will govern.

France

- The funds will vote **for** proposals to approve a company's related party transactions, except that the funds will consider these proposals on a **case-by-case basis** if the funds' proxy voting service has recommended a vote against the proposal.
- If a company has not proposed an opt-out clause in its articles of association and the implementation of double-voting rights has not been approved by shareholders, the funds will vote **against** the ratification of board acts for the previous fiscal year, will **withhold votes** from the re-election of members of the board's governance committee (or in the absence of a governance committee, against the chair of the board or the next session board member up for re-election) and, if there is no opportunity to vote against ratification of board acts or to withhold votes from directors, will vote **against** the approval of the company's accounts and reports.

Commentary: In France, shareholders are generally requested to approve any agreement between the company and: (i) its directors, chair of the board, CEO and deputy CEOs; (ii) the members of the supervisory board and management board, for companies with a dual structure; and (iii) a shareholder who directly or indirectly owns at least 10% of the company's voting rights. This includes agreements under which compensation may be paid to executive officers after the end of their employment, such as severance payments, supplementary retirement plans and non-competition agreements. The funds will generally support these proposals unless the funds' proxy voting service recommends a vote against, in which case the funds will consider the proposal on a case-by-case basis.

Under French law, shareholders of French companies with shares held in registered form under the same name for at least two years will automatically be granted double-voting rights, unless a company has amended its articles of association to opt out of the double-voting rights regime. Awarding double-voting rights in this manner is likely to disadvantage non-French institutional shareholders. Accordingly, the funds will take actions to signal disapproval of double-voting rights at companies that have not opted-out from the double-voting rights regime and that have not obtained shareholder approval of the double-voting rights regime.

Germany

- The funds will vote **in accordance with the recommendation of the company's board of directors** on shareholder counter motions added to a company's meeting agenda, unless the counter motion is directly addressed by one of the funds' other guidelines.

Commentary: In Germany, shareholders are able to add both proposals and counter motions to a meeting agenda. Counter motions, which must correspond to a proposal on the agenda, generally call for shareholders to oppose the existing proposal, although they may also propose separate voting decisions. Counter motions may be proposed by any shareholder and they are typically added throughout the period between the publication of the meeting agenda and the meeting date. This guideline reflects the funds' intention to focus on the original proposal, which is expected to be presented a reasonable period of time before the shareholder meeting so that the funds will have an appropriate opportunity to evaluate it.

- The funds will vote **for** proposals to approve profit-and-loss transfer agreements between a controlling company and its subsidiaries.

Commentary: These agreements are customary in Germany and are typically entered into for tax purposes. In light of this and the prevalence of these proposals, the funds have adopted a guideline to vote for this type of proposal.

Taiwan

- The funds will vote **for** proposals to amend a Taiwanese company's procedural rules.

Commentary: Since procedural rules, which address such matters as a company's policies with respect to capital loans, endorsements and guarantees, and acquisitions and disposal of assets, are generally adopted or amended to conform to changes in local regulations governing these transactions, the funds have adopted a guideline to vote for these transactions.

As adopted January 26, 2018