

Integrated insights

Equity Research at Putnam Investments



A research team aligned with diversified strategies, focused on alpha

Putnam's differentiated in-house research, conducted by a team of investment experts, targets above-benchmark investment returns. Our analysts leverage deep sector knowledge to seek compelling investment opportunities that are alpha generative. At the same time, our research culture prizes collaboration. We encourage continuous formal and informal communication, teamwork, and active debate. Our team is accomplished, tenured, and diverse.

Leveraging experience and teamwork to deliver insights

Putnam's equity organization strives for index-beating, net-of-fee performance in a variety of market environments. To support this effort, we have structured a research team to provide compelling investment insights. Our tenured and talented equity analysts, based in Boston, London, and Singapore, are critical to delivering alpha across our portfolios.

Many of our analysts have years, in some cases decades, of work experience in the sectors they cover. They are intensely driven risk takers who are willing to "learn out loud." The open-ended nature of the job means our analysts are both flexible and self directed. These are all essential ingredients to the team's success.

We believe our flat organizational structure sets us apart. Our meritocratic compensation process reflects the contributions of each individual as well as the full team, providing clarity and encouraging collaboration. Our analysts' experience, combined with our assets under management, leads to strong relationships with company management teams. And our equity group is small enough to allow for effective communication and impactful collaboration across the team.

Working with this team is rewarding, fulfilling, and always interesting. I am so proud of the investment acumen of these tenured experts who think differently. We are always looking for ways for our team to grow and improve. Together, we've built a strong culture, with a goal of growing increasingly diverse. I am proud of the alpha generation this team has created year in and year out, particularly in their roles as sleeve managers of Putnam Research Fund and George Putnam Balanced Fund.

KATHRYN B. LAKIN
Director of Equity Research



We believe our hybrid model is the best of both worlds

Our model has evolved to a hybrid approach to research, which we also believe is a best-of-both structure. Some of our analysts are focused on specific sectors, while others are aligned with a specific equity product (or two). We believe this combination of product analysts and sector analysts is critical to generating alpha. It has also driven more effective collaboration — both across portfolio teams and between sector analysts.

33%

of our team works on portfolios, researching companies and stocks as well as contributing to portfolio construction and investment decisions.



The hybrid model at work



Lauren B. DeMore, CFA, Portfolio Manager

Lauren has been in the investment industry since 2002. She began her Putnam career as an analyst covering the non-U.S. financials, telecommunications, and utilities sectors. In 2019, she was named Assistant Portfolio Manager on Putnam's large-cap value strategies, and in 2022 she was promoted to Portfolio Manager. In this product-focused role, she works closely with Portfolio Manager Darren Jaroch.

“This hybrid model provides a path for an analyst to be on the portfolio management team of any strategy,” says Lauren. “Before taking on this role, I was focused on emerging market financials. This new role gave me the opportunity to learn the dynamics of U.S. and international large-cap equities. At the same time, I gained hands-on experience managing a portfolio.”

“Working with Darren provides additional insight, especially when it comes to stock selection. Together, we analyze businesses and debate potential opportunities. I might provide information or insights to Darren that he may not have considered, which helps us better interpret analysts' signals and recommendations.”

“I can also help analysts understand our decisions as portfolio managers. For example, why Darren and I might not take action on a stock even if we've had a productive conversation with an analyst about it. Analysts feel close to the process because I can explain that while we might agree with a stock thesis, there may be portfolio construction challenges to buying it. Knowing the complexities of portfolio construction, I can communicate the nuances of our decisions to the analysts.”



Teamwork across sectors and borders

One example of cross-sector collaboration is a biweekly cyclical meeting led by Josh Fillman, analyst and portfolio manager. The cyclical meetings are informal, open-ended discussions. Analysts cover different industries, but they tend to overlap, so the meetings help all analysts gain deeper insights on the companies they are following. For example, industrials and materials companies sell products to energy companies. Ryan Kauppila, a natural resources sector analyst, can share his outlook for energy capital expenditures, providing a more robust view of prospects for companies other analysts are assessing.

“These meetings make it easy for us to gather thoughts, opinions, and new information from other analysts, especially those who research companies that compete with those we analyze. We believe collaboration like this gives us an edge over the competition, where many analysts conduct research in a siloed or isolated fashion.”



JOSH FILLMAN
Portfolio Manager, Analyst



“Adam Krajewski and I each analyze various parts of industrials, aerospace, and transportation,” says Josh, who covers parts of the U.S. consumer and industrials sectors. “It is difficult to remember a day when we didn’t talk to each other about data we’re gathering, what we’ve heard from individual companies, and what implications it might have for our coverage. Adam is a specialist on airlines, and passenger jets historically carried about half of all parcels bound for international destinations. The Covid-19-driven decline in airline travel created enormous benefits for parcel carriers. It was essential to monitor the situation. Being in constant discussion with Adam on airline capacity and route planning helps me understand the magnitude of the shift and how long it might last.”

Based in Putnam’s London office, David Morgan collaborates regularly with his Boston-based colleagues, including Megan Craigen. “David recently gave me some valuable background information based on his comprehensive research on the international shipping

industry,” says Megan. “His insights on demand and capacity trends as well as potential increases in shipping costs helped us in our discussions with the management of a key player in the U.S. retail industry. And it ultimately led to a better investment decision.”

Will Rives, analyst and portfolio manager, benefits from his collaboration with Will Downing, an analyst in the London office. “Will covers medical devices in Europe, while I cover them here in the U.S. One area where our coverage overlaps is bioprocessing, a segment of the life science market. This exciting, fast-growth area is focused on providing equipment and materials to produce biological drugs. The market is global, and the leaders span across the U.S. and Europe. Will and I connect often to share the supply-and-demand data points we are gathering and how they will impact the companies in this space. This helps us stay close to the global fundamental trends.”

We focus on names that matter

We encourage Putnam research analysts to pursue a best-ideas approach. Rather than following every name in a sector, we want them to concentrate on their high-conviction, high-impact ideas. We support independent views and reward analysts for bringing unique perspectives to the stocks they analyze. We encourage them to spend more time developing insights on companies they believe will have the greatest impact on Putnam portfolios. This model empowers them to look outside the list of stocks in their benchmark if they believe it may uncover new opportunities.



“Our process encourages collaboration. One of our colleagues observed that we have a ‘root for’ culture. While the management of an individual sleeve is critical to our performance reviews, the performance of the fund and the entire equity division is also part of our score. It’s in our best interests to help others do well, so we share information and provide input on one another’s ideas and recommendations.”

WALTER D. SCULLY, CPA
Portfolio Manager, Analyst

Sleeve managers: Hands-on experience for analysts

Another differentiator for our organization is the opportunity for analysts to work as sleeve managers. Analysts manage money in two funds: Putnam Research Fund, a largely sector-neutral S&P 500 fund, and George Putnam Balanced Fund, a portfolio of 60% equities and 40% bonds.

“In addition to the opportunity to manage money directly, many analysts like the transparency of the sleeve manager role,” says Walter Scully, an investment industry veteran and a sleeve manager of three portfolios. “They have a daily objective scorecard of how they are performing, and they can see how it evolves over an entire year.”

“Our compensation is directly tied to the performance of our portfolio sleeve, so analysts are very motivated to get their stock selections right for shareholders,” says Megan Craigen, an 18-year industry veteran and analyst who specializes in the U.S. consumer sector. “From an early point in their careers, analysts are required to rank their favorite names and think about appropriate sizing, time horizon, and correlation with other holdings. They’ve done a deep dive on their recommendations, spending dozens of hours poring over filings, conducting due diligence, talking to management teams, and having conversations with customers and suppliers.”

Putnam Research Fund: Analysts in action

This fund represents the best ideas from analysts in Putnam’s U.S. equity research organization. As sleeve managers, sector experts own their highest-conviction picks in their sleeve of the fund, based on the sectors they research within the S&P 500.

Prudent risk management is a key component of the fund’s investment process. It is designed to ensure that the majority of fund performance is driven by stock selection. “I oversee the risk management sleeve, working closely with our Risk and Portfolio Analysis team,” says Matt LaPlant, a quantitative analyst who has been with Putnam for over 20 years. “Our goal is to help the analysts maximize performance potential with their top ideas while limiting unintended factor risk. The sleeve uses a small portion of the fund’s capital and an optimization process to help offset factor exposures for the fund overall.”



OUR BEST-IDEAS FUND

Putnam Research Fund invests in stocks that represent the highest-conviction ideas from our Equity Research team.

A mosaic approach to equity analysis

We believe our multidimensional approach leads to differentiated and productive outcomes for our team. To form a view on a company, our analysts use a variety of tools. They include everything from public filings to meetings with corporate management teams to discussions with customers and suppliers. Our approach is robust and iterative. The research process does not stop once we've invested in a company. On the contrary, it intensifies as we dig in, again and again. We continue to apply multiple layers of analysis, evaluate key drivers and risks, and adjust for changing conditions.



“Our equity portfolios are fueled by a collaborative culture and the talents of our sector and product analysts.”

SHEP PERKINS, CFA

Chief Investment Officer, Equities

Our investment in BJ's Wholesale Club, a long-held position in several Putnam portfolios, illustrates the mosaic concept. Our research team launched its coverage of BJ's when the company filed for its initial public offering in 2018. At the time, the analysts already had extensive industry insight, having covered Costco — a BJ's competitor — for 15 years. This familiarity with the retail membership business model provided a solid foundation for analysis of BJ's.

Initial due diligence included meeting with BJ's CEO and CFO, and studying the company's long-term business strategy, including membership growth and retention, merchandise SKU consolidation, technology investments, curbside pickup offerings, and debt paydown. Ongoing analysis includes regular communication with Putnam portfolio managers to develop conviction in tandem.

The multidimensional research behind BJ's Wholesale Club



LONG-TERM COVERAGE

Analyst with knowledge of retail membership business model from 15 years' experience covering Costco launches covering of BJ's at IPO in 2018



INITIAL DUE DILIGENCE

Read filing documents, meet with CEO and CFO, gather details on long-term strategy, build income statement, balance sheet, and cash flow forecasts



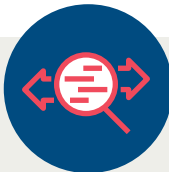
COMPETITIVE ANALYSIS

Interview customers; analyze history of membership fee increases, merchandise mix, and private label penetration; compare productivity and profitability metrics to Costco



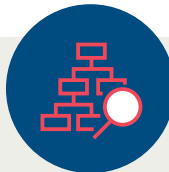
CHANNEL CHECKS

Analyst visits clubs, assesses traffic levels, merchandising, pricing, marketing/membership offers, locations, and gasoline offering; tests new fulfillment offerings, such as curbside pickup; has conversations with vendors



EARNINGS ANALYSIS

Following quarterly earnings report, reexamine theses, update forecasts; price target was raised when pandemic sales, earnings, and membership growth transformed balance sheet and accelerated management's merchandising strategy



VALUATION

Continually assess appropriate multiples to apply to EBITDA, earnings, and cash flow based on environment and competitor multiples; combine with a sum-of-the-parts analysis, separating out the value of the membership fee income stream

An active commitment to sustainability

We believe incorporating environmental, social, and governance (ESG) factors into our research process makes us better investors. This is based on our belief that material sustainability issues have the potential to impact company fundamentals. For the research team, analysis of material ESG factors is an essential component of our work.



The sustainability lens

Putnam's Sustainable Equity team is part of the core equity team, not separate from it. Putnam analysts across all industries and asset classes include sustainability analysis as part of their fundamental research. They partner regularly with Katherine Collins and Stephanie Dobson, the portfolio managers on the sustainable team.

Weaving sustainability into research

Will Rives, who specializes in utilities research, recognizes the importance of the sustainability lens. "One of the biggest themes across utilities today is the energy transition — moving from coal and gas power plants to solar, wind, and nuclear power," says Will. "This transition creates opportunities for utilities, not only in terms of building solar and wind plants, but also in building transmission lines to connect these new generation resources to demand centers. It also includes modernizing the distribution grid to handle these intermittent resources. I spend a lot of time thinking through which utilities have the most latent opportunity to transition and improve their overall environmental profiles, because that often leads to more investment and more earnings growth.

"Also, as the economy increasingly electrifies, utilities will be key enablers. Every two to three electric cars on the road represent an entire house's worth of electricity consumption. This means utilities will need to invest more into the grid to meet this demand. This includes improving existing infrastructure and building new transmission and distribution systems — the wires and poles. Further down the road, utilities could play a key role in clean hydrogen production. Overall, the energy transition means more investment in this country's electrical grid, which will help drive earnings growth for the sector over time."

Conversations with companies enhance research

We believe Putnam's relationships with corporate management teams — even for businesses in which we have no investments — are valuable and can enhance collaboration. For example, through our conversations with large global energy companies, we have developed unique insights on a range of industries and sectors.

"Learning where large energy companies are spending capital to support the transition to renewables helps us identify where there is already proven technology and momentum, and also where there may be gaps that smaller companies could fill," says Stephanie Dobson, Portfolio Manager of Putnam's Sustainable Leaders and Sustainable Future strategies.

Insight from such conversations often makes its way across many areas of the analyst team. "My work on the pace of global electric vehicle adoption helps Will Rives project electricity demand," says Stan Furman, a Singapore-based analyst focused on the European and Asian industrials industries. "Similarly, Will's insights on electricity pricing help my research on the total cost of electric vehicle ownership." Will agrees on the benefits of collaboration: "Stan's knowledge of electric vehicle adoption helps me determine potential investment opportunities in required grid investments, such as EV charging stations, which can drive incremental earnings growth."



PUTNAM'S ACTIVE SUSTAINABILITY APPROACH

Learn more in the "How we invest" section at [Putnam.com](https://www.putnam.com).

An active commitment to diversity

A key driver of compelling investment ideas is a mixture of perspectives and people. We pride ourselves on our inclusive culture that emphasizes trust, flexibility, and ongoing development. We have built diverse teams in order to invest more effectively, collaborate in innovative ways, and better meet our clients' needs. We expect to become steadily more diverse over time.



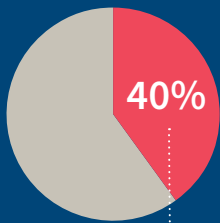
PUTNAM'S DIVERSITY ADVISORY COUNCIL

was established over 15 years ago, is made up of associates from all levels across Putnam, and is overseen by the Office of Diversity and Inclusion.

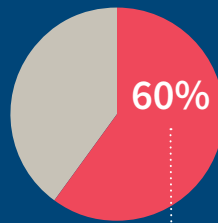


Improving research with greater diversity

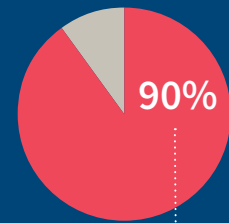
■ Women and racially or ethnically diverse team members



PORTFOLIO MANAGERS



ANALYSTS



ASSOCIATES



Christina Mellinger, Director of Human Resources

A strong relationship with Christina and her team leads to effective recruiting, training, and development. She has partnered with the investment organization to ensure a diverse and collaborative culture and deep relationships across groups. “Over eight years of building a team together, we’ve developed a strong partnership,” says Christina. “We’ve had great success recruiting and growing a rich blend of talent and experience. And we’re aligned in the areas that matter most — culture, diversity of thought, and a passion for investing.”

Communication matters: Equity insights meeting, stock pitches, and more

We strive to ensure that communication across our organization is streamlined, informative, and effective. We have developed a framework that allows us to communicate our research early and often. This is in the form of our online proprietary research publishing system and, most importantly, through regular dialogue between analysts and portfolio managers.

Our daily global equity insights meeting is the primary method of sharing ideas broadly. We meet before the U.S. markets open, and investment colleagues from the fixed income and asset allocation groups also may attend. All of our analysts and portfolio managers, who collectively represent a wide variety of investment styles, gather to discuss company-specific research, critical market developments, and key risks that may affect specific companies, industries, economies, or regions.

We also carve out a designated time each day for stock pitches. This is an opportunity for analysts to present investment ideas, solicit feedback, and learn whether others at the firm may have relevant views. It helps the analysts examine the risk/reward potential of new ideas by inviting the group to share its knowledge and experience. It is a valuable way to encourage open discussion, cross-asset-class communication, and sharing of different viewpoints.

How we collaborate



PUBLISHED RESEARCH

Initiations

Action-oriented documents providing a thesis, price target, supporting data, financial analysis, valuation, and risk profile

Notes

Synopses of timely information such as earnings news, events, or actions that may affect a company, industry, or stock

Deep dives

In-depth insights on topics and sectors



MEETINGS

Global equity insights

Daily trading overview, quick-hit stock updates, and Q&A

Daily stock pitch

In-depth discussions with global attendees

Weekly sessions

Portfolio manager positioning and insights, sector team discussions

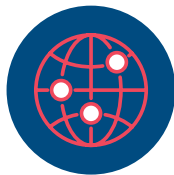
Sector team meetings

Quarterly meetings where teams share industry and stock-specific views

Partnering across time zones

Di Yao and Andy O'Brien have established a productive partnership despite geographic and time zone differences. Working from Singapore, Di is a technology sector analyst and Portfolio Manager of Putnam Global Technology Fund. He has degrees in computer science and biochemistry and has been in the investment industry since 2005. Andy O'Brien, based in Boston, specializes in the semiconductor, hardware, and software industries. He is also a portfolio manager of Putnam Research Fund and Assistant Director of Equity Research.

Di and Andy communicate regularly, along with the rest of the technology team. Their experiences from two distinct market environments can give them an edge in finding investment opportunities. The global semiconductor market, for example, is complex and cyclical, with changing global demand dynamics. Newer market segments such as autonomous vehicles and 5G smartphones have profoundly affected semiconductor demand.



GLOBAL PRESENCE

Putnam has investment research based in Boston, London, and Singapore.

A multiyear history of collaboration

Consumer sector analysts Megan Craigen and Walter Scully have worked together for many years and find great value in Putnam's collaborative culture.

"Walter and I regularly share data points, interesting research, news stories, or information we learn from company meetings," says Megan. "We bounce ideas off of each other, share proprietary analyses for a gut check, and ask each other questions. We are both passionately interested in companies, their strategies, competitive positions, and financial statements, so we really enjoy these conversations. Our consumer team has a special culture as we have worked together for a long time. We truly root for, help, respect, and trust one another."

"Many of the companies we analyze have similar business models, and trends at one company may overlap with another," says Walter. "Megan and I are able to share our experiences and knowledge, providing information that may be important for one another's investment recommendations. A recent situation was related to strategic rationalizations from a company's management and how they had changed over time. Discussing this scenario with Megan helped me make my decision. We are very fortunate to have this valuable partnership."



“The global context of our discussions can lead to new insights. It helps spark ideas that we would not have discovered, or felt as strongly about, if we had worked on our own.”

DI YAO

Portfolio Manager, Analyst



Equity Associate Program

For this program, we recruit recent college graduates as well as professionals who are further into their careers and looking to transition to the buy side. The program is a key tool for building the future ranks of our research team. It also provides a solid career foundation for the equity associates, who eventually assume coverage of stocks within several subgroups of the market. Responsibilities include written research and engaging in dialogue with senior analysts and portfolio managers.



Associate profile



Chelsea Agyiri, Analyst

In the summer of 2016, following her sophomore year at Amherst College, Chelsea Agyiri participated in the inaugural class of Putnam’s Equity Associate Externship Program. The program gives rising juniors the opportunity to learn more about equity research. Chelsea returned to Putnam the following summer as an Equity Associate intern and started as a full-time Equity Associate in 2018. In 2022, Chelsea was promoted to Equity Analyst.



How has your role evolved since starting as a college student?

I am now an Equity Analyst and an industry specialist on packaged food and other consumer companies, assessing high-level themes and their impact on companies. I spend most of my time researching companies and initiating coverage on new stocks within my investment universe. This includes attending industry conferences, speaking with experts, and modeling the sales, profits, and cash flows of businesses to discover compelling investment opportunities.

What are some key opportunities offered by the program?

I’ve been able to build expertise in industries and business models thanks to a multitude of resources. I’ve developed relationships with company management teams. I have access to industry insights through a network of experts. And I’ve learned a great deal by observing the styles and approaches of other analysts on our team. One of my most valuable skills is being able to tie observed trends to quantitative projections for sales and profitability — which can ultimately determine the value of a business or stock.

What has been your most interesting on-the-job experience?

It has been working alongside the Sustainable Equity team. Specifically, expanding our discussions of the “business case for diversity” to include “why racial equity is important for businesses and investing.”

What is the most rewarding part of the program?

It is so gratifying to see stocks outperform the market, driven by what we laid out in our investment theses. It’s always great to know that our hard research work has helped portfolio managers. Being part of the program has been such a formative experience for me. I am grateful for the emphasis that the equity team puts on mentorship — both formal and informal. I wouldn’t be as far along in my learning curve without the time, effort, and patience of my mentors across the team.

Associate profile



Sam Alpert, Analyst

Sam Alpert began as a summer intern with the healthcare team before his senior year of college. He returned to Putnam as a full-time Equity Associate after graduating from Amherst College in 2018. In 2019, he joined the Sustainable Equity team, analyzing healthcare companies currently held, and others for consideration, in Putnam's sustainable portfolios. In 2022, Sam was promoted to Equity Analyst.



What is your biggest challenge in the role?

Time management is a challenge because there are so many interesting companies in the investable universe and endless ways to explore their potential. We need to constantly think through how to best spend our time to ensure that our research provides value to portfolio positioning and ultimately to our shareholders. Being focused and deliberate is vital.

What is the most valuable skill you've gained?

It is the ability to quickly identify what matters most for an investment. We need to distill a large amount of information into a recommendation that is clear and action oriented. I've learned that a stock's outperformance is generally driven by a few key factors. In healthcare, for example, a stock price may be driven by how many patients can gain access to a treatment or whether the treatment will receive broader insurance coverage. Or perhaps a stock could move on the approval of a novel treatment that addresses an unmet need. Being able to efficiently sift through a multitude of data points to get at what matters is a valuable skill.

What has been your most interesting on-the-job experience?

Attending a medical conference where late-breaking trial results were announced for a novel, minimally invasive heart procedure. Being there for the release of the groundbreaking study and witnessing the live reaction of medical professionals was an incredible experience. I was able to ask key opinion leaders how these results might change practice patterns across the country. It also gave me a better understanding of an emerging class of medical devices. And I was able to share all the relevant information with our team.

IMPORTANT DISCLOSURES

Alpha is a measure of performance on a risk-adjusted basis. Alpha takes the volatility of a mutual fund and compares its risk-adjusted performance with a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

The inclusion of holdings information in this piece should not be interpreted as a recommendation to buy or sell or hold any security. It should not be assumed that an investment in the securities mentioned was or will be profitable. Holdings are subject to change.

Consider these risks before investing: The value of investments in the fund's portfolio may fall or fail to rise over extended periods of time for a variety of reasons, including general economic, political, or financial market conditions; investor sentiment and market perceptions; government actions; geopolitical events or changes; and factors related to a specific issuer, geography, industry, or sector. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings.

Growth stocks may be more susceptible to earnings disappointments, technological obsolescence, falling prices, and profits, and the market may not favor growth-style investing. Investments in small and midsize companies increase the risk of greater price fluctuations. International investing involves currency, economic, and political risks. Emerging market securities have illiquidity and volatility risks.

Bond investments are subject to interest-rate risk (the risk of bond prices falling if interest rates rise) and credit risk (the risk of an issuer defaulting on interest or principal payments). Interest-rate risk is generally greater for longer-term bonds, and credit risk is generally greater for below-investment-grade bonds. Risks associated with derivatives include increased investment exposure (which may be considered leverage) and, in the case of over-the-counter instruments, the potential inability to terminate or sell derivatives positions and the potential failure of the other party to the instrument to meet its obligations.

Investing with a focus on companies that exhibit a commitment to sustainable business practices may result in the fund investing in certain types of companies, industries, or sectors that underperform the market as a whole. In evaluating an investment opportunity, we may make investment decisions based on information and data that is incomplete or inaccurate. In addition, a company's business practices, products, or services may change over time. As a result of these possibilities, among others, the fund may temporarily hold securities that are inconsistent with the fund's sustainable investment criteria.

The technology industries may be affected by technological obsolescence, short product cycles, falling prices and profits, competitive pressures, and general market conditions.

From time to time, the fund may invest a significant portion of its assets in companies in one or more related industries or sectors, which would make the fund more vulnerable to adverse developments affecting those industries or sectors. Our investment techniques, analyses, and judgments may not produce the outcome we intend. The investments we select for the fund may not perform as well as other securities that we do not select for the fund. We, or the fund's other service providers, may experience disruptions or operating errors that could have a negative effect on the fund. You can lose money by investing in the fund.

The S&P 500® Index is an unmanaged index of common stock performance. You cannot invest directly in an index.

The companies discussed as investment examples are intended to demonstrate our collaborative fundamental research culture and our analytical framework and mosaic approach to equity analysis. Specific techniques, metrics, analysis, and relevant investment examples are developed and determined by the Putnam Equity Research team. Putnam's specific research process and investment approach are subject to change. Investment examples are intended to help illustrate the investment process, including how a position may be initiated, and should not be considered a recommendation to purchase or sell any security. Investment examples are not intended to forecast or predict future events and were selected without regard to whether the relevant security was profitable. It should not be assumed that any investment in these securities was, or will prove to be, profitable, or that the investment decisions we make in the future will be profitable or equal to the investment performance of securities referenced herein. A security may be selected for a portfolio based on factors other than the fundamental research characteristics highlighted herein, and the analysis is not intended to be relied upon as a forecast or investment advice, and is not a recommendation, offer, or solicitation to buy or sell any securities or to adopt any investment strategy.

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The views and strategies described herein may not be suitable for all investors. Prior to making any investment or financial decisions, any recipients of this material should seek individualized advice from their personal financial, legal, tax, and other professional advisors that takes into account all of the particular facts and circumstances of their situation.

Predictions, opinions, and other information contained in this material are subject to change. Actual results could differ materially from those anticipated. All investments involve risk, and investment recommendations will not always be profitable. Putnam Investments does not guarantee any minimum level of investment performance or the success of any investment strategy.

As part of our investment analysis, we may integrate environmental, social, or governance (ESG) issues or considerations into our research and/or investment decision-making. In our view, analysis of ESG issues is part of good investing, as these issues, like other, more traditional areas of investment analysis, such as market position, growth prospects, and business strategy, have the potential to impact risk and returns. The relevance and materiality of other ESG issues in our process will differ from strategy to strategy, from sector to sector, and from portfolio manager to portfolio manager, and for some strategies, most notably those where we lack relevant ESG data, ESG considerations are not a material part of our process.

A world of investing.®



Investors should carefully consider the investment objectives, risks, charges, and expenses of a fund before investing. For a prospectus, or a summary prospectus if available, containing this and other information for any Putnam fund or product, call your financial representative or call Putnam at 1-800-225-1581. Please read the prospectus carefully before investing.