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# Management incentive compensation

Trends, observations, and value to fundamental research

**The goal of our investment research is to identify companies whose excellence in sustainability is driving potential long-term outperformance.**

Our sustainable strategies rely on Putnam's well-established fundamental research strength to identify companies with attractive sustainability, fundamental, and valuation characteristics. We aim to utilize ESG data within the relevant context of each company and industry, and to incorporate more qualitative research in areas where new issues are emerging or data is not yet available or standardized.

Our forward-looking thematic research complements our fundamental work by asking the essential question: What promotes thriving? Our investment thesis is that companies contributing to thriving people, systems, society, and planet may also have the opportunity to create businesses that thrive over the long term.

We view incentive compensation as a foundational governance issue that can influence corporate strategy, culture, and business outcomes. In this report, we analyze how these structures have changed over time and how they vary across different business settings. Though it is hard to measure precise impact of incentive structures, it is clear that they have direct impact and influence on corporate priorities and activities, and are therefore relevant considerations for all investors.

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## Our thematic sustainability research focuses on three overarching categories



## Executive summary

- Understanding management incentives is an important tool in investors' and stakeholders' toolkits.
- Management incentive compensation has evolved over time. It is higher in terms of absolute dollars and relative to the median worker. It is more performance based. It involves more metrics today, beyond total shareholder return (TSR), and incorporates more ESG metrics.
- We look for thoughtful structure and composition of incentive plans that are long term, performance oriented, reasonable, relevant, transparent, and appropriately ambitious.
- We believe thoughtful incorporation of ESG metrics in incentive plans can be additive, especially when done in a way that emphasizes the key attributes noted above, namely: relevance, additionality, specificity, and ambition.
- Companies held in our sustainable funds are incorporating ESG more often in compensation plans. We highlight some examples that stand out to us here.
- We are paying attention to emerging governance and incentive data that can help us better understand incentives for executives and top-level management. There is growing data available on average CEO pay relative to median worker pay, on broader employee ownership models, and on the effectiveness of stock-based compensation models that we will be watching closely. We are interested in new ways of both assessing stakeholder alignment and fostering improved long-term performance, some of which we highlight here.
- With regard to our thematic map, incentive compensation links to themes such as stakeholder wellness and equity, business processes, and access and opportunity (see our Guide to thematic research on pages 16 and 17).

## “Show me the incentive, and I’ll show you the outcome.”

Charlie Munger

Charlie Munger’s famous quote encapsulates one of the main reasons for analyzing management incentive pay structures. Investors can use this analysis to understand how management compensation, and CEO compensation especially, is aligned with shareholder and other stakeholder interests, and the motivations that drive management decision-making. This type of analysis can help inform our view on future investment opportunities and the impact that management teams and compensation plans can have on company success.

As investors, we consider relevant, financially material ESG issues in our research, and management incentives represent an essential governance issue across all types of companies. Incentives, management compensation, and stakeholder alignment are material issues across all sectors. These topics also link to several themes on our thematic map, namely stakeholder wellness and equity. More specific elements connect with subthemes like productivity and quality tools, financial security, and meaningful and decent work. As with certain other governance issues, we view these topics as essential foundational issues that underpin many other themes. We believe that analysis of incentive compensation can help investors understand strategic priorities that impact long-term financial returns.

**Well-crafted incentive programs, in our view, can align management teams with the long-term performance interests of shareholders and relevant stakeholders.**

For the purposes of this research, we focus mostly on long-term incentive plans (LTIPs) and short-term incentive plans (annual bonus plans, or STIPs). Much of the data used for this analysis is from HOLT, Credit Suisse’s extensive database on CEO compensation plans, which is derived from company proxy statements. CEOs often earn a base salary, a short-term (1-year) incentive or bonus program (often paid in cash), and a long-term (multiyear) incentive program (often paid in shares).<sup>1</sup> We also look at CEO absolute pay and pay relative to median employees. In our research at Putnam, we consider these factors alongside many other elements of governance, such as a management team’s experience, track record, and diversity in addition to board independence, diversity and experience, board structure, and other company-specific elements.

We also consider incentive compensation and other governance factors within the relevant geographic context. For example, many boards in non-U.S. countries are required to have employee representation, while that is not the case in the U.S. Absolute pay for executives in the U.S. tends to be significantly higher than elsewhere, and a significant percentage of that pay tends to be tied to “at risk,” or variable, metrics.<sup>2</sup> Also, we note that CEO pay only looks at compensation of one (albeit important) individual at the organization. More publicly disclosed data about total employee compensation would further help contextualize CEO pay.

Recently, there has been growth in the number of companies incorporating ESG metrics into their compensation plan. This is potentially a positive trend for investors, so long as the ESG metrics incorporated are relevant to business fundamentals. We consider all of these context-specific elements when considering a company's incentive compensation plan. Ultimately, our goal as researchers is not to classify some incentive plans as "good" and others as "bad" but, rather, to gain a greater understanding of what drives corporate leadership, with an objective of better assessing long-term risks and opportunities.

## Key elements of incentive plan analysis



### Structure of plans

#### Longer time horizon

Typically, longer-term plans (for example, 3 years versus 1 year) have greater potential to align with strategic success and shareholder interests.

#### Performance based

A significant portion of pay at risk can indicate a true focus on performance, as opposed to just another form of compensation. Relevant peer group selection — choosing logical peer groups — is essential for comparability analysis.

#### Reasonable compensation levels

This involves assessing how absolute dollar amounts are justified, and how CEO pay relates to that of peers, other executives, and the overall employee population of the company.

#### Clear structure

Plans that are well constructed should not require much discretion to change terms without notice or justification.



### Composition of metrics

#### Business relevant

Measures referenced in incentive plans should be relevant to the specific business sector and company strategy. For example, a plan might include a combination of TSR (aligning management and shareholders) plus operating metrics that are context specific, such as return on invested capital (ROIC) for a capital-intensive business or growth and profitability for growth-oriented businesses.

#### Appropriately ambitious

Incentive plans require targets that are sufficiently ambitious, without encouraging excessive risk-taking.

#### Financially material ESG metrics

When ESG metrics are incorporated into incentive plans, they should align with financially material environmental, social, or governance issues.

## Incentive trends over time for the S&P 500

Incentive plan structures in the S&P 500 have shifted notably in recent decades. Performance-based incentive plans generally have become more prevalent over time. In 2020, 94% of the S&P 500 utilized performance-based share plans, up from 88% in 2018.<sup>3</sup> The use of total shareholder return as a metric has also evolved. Increasingly, TSR is not the sole long-term metric used, as companies have added other financial metrics alongside TSR.<sup>4</sup> Overall, CEO compensation has grown significantly. According to the Economic Policy Institute, average realized pay for CEOs of the top 350 U.S. firms was just under \$11 million in 2000, growing to \$25 million in 2020. This represents an 8% compound annual growth rate (CAGR) over 11 years, compared with 1% CAGR for total private sector worker pay and 10.5% annualized return of the S&P 500 over the same period.<sup>5</sup>

The Economic Policy Institute has measured an estimated ratio of CEO pay to total worker pay over time. It compares average annual compensation for CEOs at the top 350 U.S. firms ranked by sales with typical worker compensation (wages + benefits) of nonsupervisory workers in the same industries. This ratio had peaked in 2000 at approximately 372:1 (realized pay) and only in recent years surpassed that level, reaching 399:1.<sup>6</sup> This metric varies greatly by sector and company type, and can help provide clues on disparity among a workforce, how aligned management teams are with their employee base, and the potential risk of dissatisfaction or frustration on behalf of employees that could lead to relevant business outcomes like higher turnover or employee-related costs.

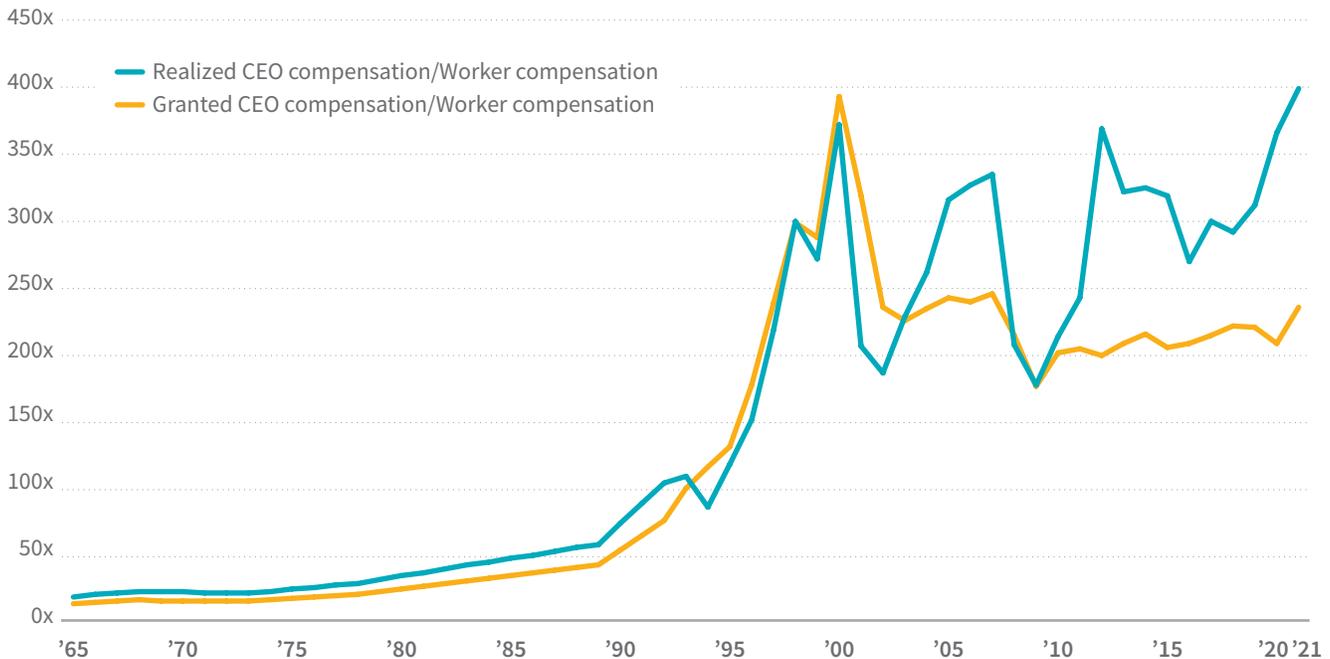
**Analyzing CEO pay relative to median worker pay can also provide important insights to researchers, and the data on this topic is improving.**

### Long-term incentive vehicle prevalence for S&P 500 CEOs

Year	Performance plan	Stock options	Restricted stock
2009	50%	70%	46%
2013	76%	61%	50%
2018	94%	52%	68%

Source: Harvard Law School Forum on Corporate Governance, “S&P 500 CEO Compensation Increase Trends,” February 11, 2020. Most recent data available.

### CEO-to-worker compensation ratio, 1965–2021



Notes: Average annual compensation for CEOs is for CEOs at the top 350 U.S. firms ranked by sales. Typical worker compensation is the average annual compensation wages and benefits of full-time, full-year production/nonsupervisory workers in the industries that the top 350 firms operate in.

Source: Economic Policy Institute, “CEO pay has skyrocketed 1,460% since 1978,” October 4, 2022. Authors’ [Josh Bivens and Jori Kandra] analysis of data from Compustat’s ExecuComp database, the Bureau of Labor Statistics Current Employment Statistics data series, and the Bureau of Economic Analysis NIPA tables.

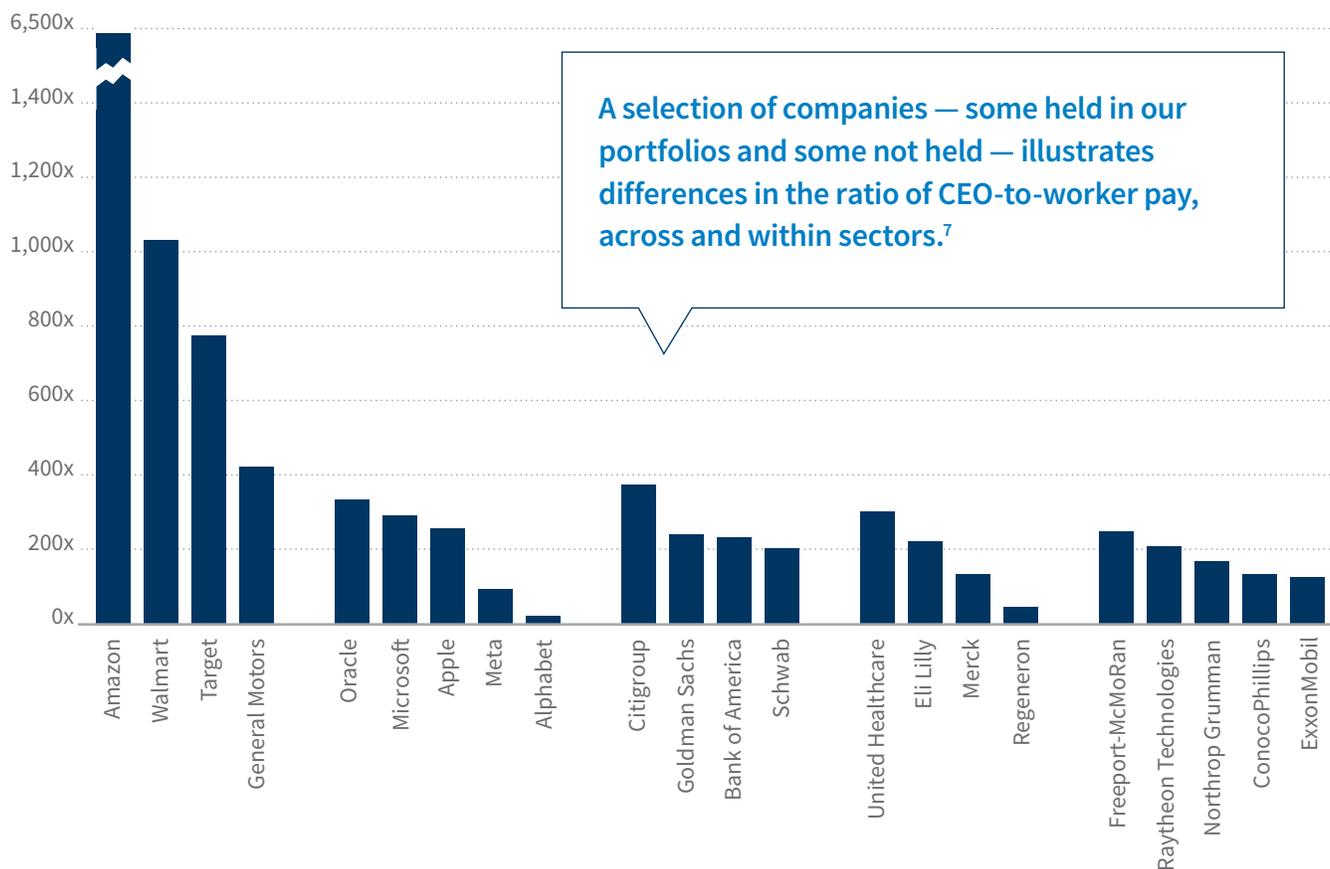
### CEO pay: Sector and company-level insights

As noted above, analyzing CEO pay relative to median worker pay can also provide important insights to researchers, and this is particularly true on an individual company level. The data on this topic is improving, and though there is more information available now than in the past, some important caveats to the data and analytics remain. For example, reporting is only required every three years, several different methodologies are allowed, non-U.S. workers are often excluded, and any single year of executive compensation can be influenced by timing of stock awards, shorter-term stock performance trends, and other factors.

Despite these complications, some clear patterns are evident: First, as is intuitive, the ratio of CEO to median worker pay is partly determined by the nature of the business and its workers. For example, at a retail company with a very large workforce, the ratio would tend to be much higher than in a software company with a small number of highly specialized technical workers. Second, even between businesses that are similar, like major financial institutions or large pharmaceutical companies, a wide range of ratios can be observed. Overall, factors like the type of company, its size, and the proportion of the workforce outside the U.S. are important influences on these ratios, in addition to the issues noted above.

For investors, it would be shortsighted to use CEO-to-median-worker-pay ratios in an overly conclusive way. This data can help to identify outliers within a relevant peer set, to illuminate differences in workforce composition that might not be apparent in other analysis, and to highlight idiosyncratic issues like the timing and magnitude of CEO stock awards. Analysis of these issues provides especially helpful insight in a competitive labor market like the U.S. has recently experienced, where employers are particularly focused on cultivating a strong culture, attracting new hires, and retaining valued employees. All of this information is most useful when combined with a fundamental understanding of how employees contribute to company success, and how other elements like employee ownership might influence both the analysis and business outcomes over the long term.

### 2021 ratio of CEO pay to median worker pay



Source: Proxy statement data.

Specific securities mentioned are for illustrative purposes and not investment recommendations.

## ESG metrics in compensation plans

Amid these broader trends, environmental, social, and governance metrics have become more common in incentive compensation structures. Topics reflected in these metrics are wide-ranging, including environmental performance, health and safety records, human capital data, regulatory activity, and more.

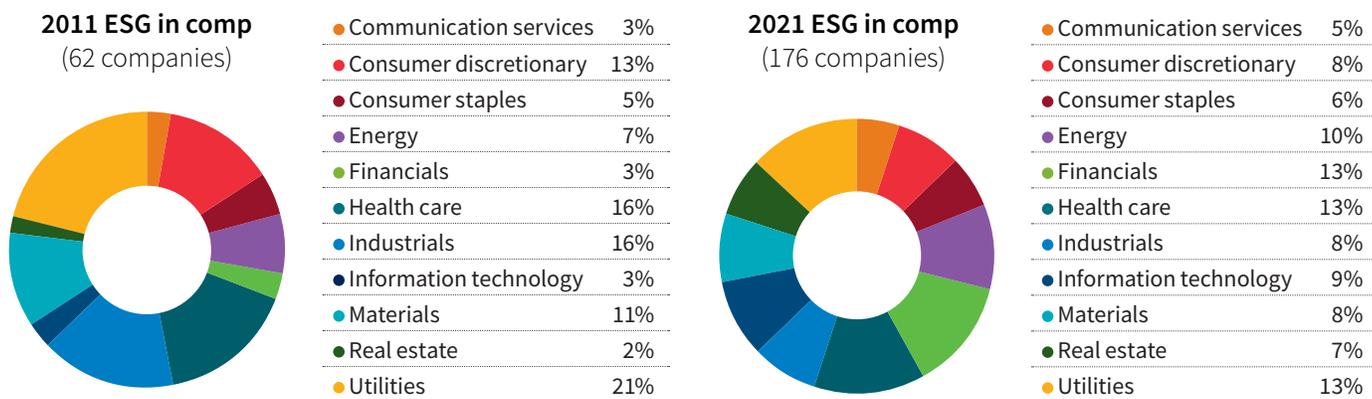
**In 2011, 73 companies in the S&P 500 Index incorporated ESG metrics in their incentive compensation plans. In 2022, this number was 179.<sup>8</sup>**

Today, based on observations from proxy filings, we typically see ESG metrics incorporated into annual bonus plans (or STIPs), while inclusion in LTIPs is rarer. This is an interesting dynamic, especially since progress or performance regarding many environmental, social, and governance issues is often best assessed over a longer time period.

The types of companies (by sector) that incorporate ESG metrics into compensation plans have also changed over time. For example, utilities were the most common users of environmental and human capital metrics in 2011, whereas today we see much more diverse sector representation, with a notable increase in financial companies incorporating human capital metrics in their compensation plans.<sup>9</sup>

One challenge with the incorporation of ESG metrics in compensation is the fact that there is sometimes a mismatch between easy-to-quantify data and the most important issues for company success. For example, it is easy to count numbers of employees in different demographic categories, but it is harder to assess team engagement or a corporate culture where diverse expertise and experience are valued. This runs the risk of either less-relevant metrics or lower transparency for shareholders. With that said, we believe that thoughtful approaches to the incorporation of ESG metrics and to the balance between quantitative and qualitative metrics can be additive to compensation plan effectiveness.

## A more diverse set of companies incorporate ESG considerations in compensation today



Source: HOLT.

Looking specifically at **environmental metrics**, in 2011, only 10 companies in the S&P 500 incorporated environmental metrics in their incentive compensation; in 2021, that number was 46.<sup>10</sup>

A meaningful percentage of that increase has occurred in energy companies. In 2011, one energy company had environmental metrics in its compensation plan. By 2021, 13 energy companies had incorporated environmental metrics.<sup>11</sup> Today, these metrics often reference energy transition planning, including greenhouse gas emissions reduction or recapture, investments in renewable energy, and carbon offset purchases. Environmental safety is a recurring theme, with mitigating pollution and environmental hazards a priority. In several cases, these types of targets have long been priorities for companies; however, including them under an ESG-related heading is a newer trend. Some plans give credit for the development of road maps toward commitments in line with science-based targets (SBTs) or the Paris Agreement or the achievement of interim targets.<sup>12</sup>

**Human capital metrics** have also increased in prevalence in incentive plans. In 2011, 46 companies in the S&P 500 incorporated some type of human capital metrics in compensation. In 2021, 112 companies had some type of human capital metric in compensation plans.<sup>13</sup>

A range of different issues and metrics are referenced in this area, reflecting the variety of business types involved. For example, incentive plans at financial services companies often include employee diversity, employee retention, and references to culture (sometimes measured by employee surveys). For utility companies, notable human capital metrics include targets for increasing supplier diversity, increasing gender diversity within the corporate leadership pipeline, and reducing or eliminating serious safety incidents. For healthcare companies, these targets often emphasize improvements in employee-reported engagement, safety, or health; levels of employee retention; progress toward reaching gender parity; and improvements in training and development programs for existing employees.<sup>14</sup>

## Markers of well-crafted ESG compensation factors

We believe that ESG metrics in compensation plans have the potential to be additive to investors' understanding of management motivations and for incentivizing long-term performance. Putnam's approach to ESG integration within our fundamental research process is rooted in materiality, recognizing that different issues are relevant for different types of businesses. We focus our research on those environmental, social, and governance issues that have the greatest potential to impact long-term financial performance. Aligned with this materiality-based approach, when we analyze ESG performance indicators within compensation plans, we assess these attributes:

### Relevance

Are the indicators linked to material business issues?

### Additionality

Do these metrics enhance understanding of overall performance in a way that is not already reflected in financial indicators?

### Specificity

Are the criteria detailed, clear, and quantifiable to the extent quantification is possible?

### Appropriately ambitious

Do the goals incentivize progress without encouraging extreme risk-taking?

As companies incorporate more ESG metrics into compensation plans, and researchers assess the elements noted above, we highlight some key challenges or considerations. In particular, selecting ESG factors for compensation plans that are both additive and specific can be challenging. ESG metrics, especially with incomplete data and disclosure today, can be less precise and/or quantifiable than financial metrics like TSR versus peers or sales growth. We believe there are many qualitative elements that deserve to be focused on and potentially included in compensation plans, and yet, if not rigorously assessed, qualitative metrics run the risk of leading to elevated payouts without commensurate performance improvements.

As ESG data improves and as more companies include ESG metrics in incentive plans, we will increasingly look for clear goal setting and targets, the same way we do for financial targets, where practical and possible. For example, it is possible to quantify diversity, equity, and inclusion (DEI) metrics and goals that go beyond a simple counting exercise, yet many companies still do not. In this area, we might look for thoughtful, quantifiable targets around overall company diversity, or pipeline diversity, or diversity improvement metrics. Some companies have begun to design scorecards that measure progress on issues such as DEI to be incorporated into performance assessment frameworks, including hiring and representation. In sum, over time we look for more ESG metrics to be clear and quantified when possible and relevant.

**Ultimately, our expectation is that the incorporation of relevant ESG metrics into compensation plans can drive better performance toward appropriate environmental, social, and governance goals, contributing to enhanced financial performance and investment returns.**

## Examples of companies embracing ESG metrics in compensation

Below we offer brief discussions of companies that are leading the way in embracing ESG metrics. Their thoughtful approaches to incentive compensation exhibit several of the markers we have described. While representing only a small set of examples, they illustrate how ESG metrics can be applied to a wide range of each company's distinctive objectives.

**AES Corporation (AES)** is a power generation company. In 2021, AES's performance-based incentive plan included a 20% weighting tied to the achievement of growth in renewable energy generation. New in 2021 was a performance condition in the long-term RSUs (this is rare, as we often see ESG metrics incorporated only in annual bonus plans), which measures the company's performance on ESG-specific goals (the reduction of gigawatt hours from coal, and diversity and inclusion improvements). AES's annual incentive plan also has performance goals related to safety and other strategic objectives.<sup>16</sup>

**Palo Alto Networks (PANW)** is a cybersecurity software company. In 2022, Palo Alto added an "ESG modifier" to its STIP. The change incorporates a 10% modifier to the annual cash bonus based on performance relative to an ESG scorecard with climate, inclusion, and human capital metrics. The specific targets/metrics within these categories are mostly unspecified, and in 2022, no executives benefited or were negatively impacted by the modifier (that is, it was not exercised).<sup>17</sup>

**Apple (AAPL)** produces consumer electronic devices and software services. In 2021, it introduced an "ESG modifier" to its annual cash incentive program. This 10% modifier is based on accomplishments and progress toward Apple's values: accessibility, education, environment, inclusion and diversity, privacy, supplier responsibility, and key community initiatives. Environmental metrics were not quantitatively specified and were related to progress toward reaching the company's 2030 carbon neutral goal across the business, manufacturing supply chain, and product lifecycle. In 2022, no executives benefited or were negatively impacted by the ESG modifier (that is, it was not exercised).

**Advanced Micro Devices (AMD)** produces semiconductor products and devices. In 2022, AMD added workforce diversity, equity, and inclusion objectives to the strategic milestones for annual cash bonuses (STIP). These strategic goals make up 20% of annual performance goals (80% is performance against financial goals), and diversity is one of three goals in this category. AMD keeps targets confidential, as they believe disclosure would cause competitive harm, and aims for targets to be "challenging yet reasonably achievable."<sup>18</sup>

**Quanta Services (PWR)** provides contracting, engineering, and construction services to electric utilities, telco, government, and other customers. In 2021, safety performance was 20% of Quanta's overall assessment criteria for short-term compensation, and a composite driver safety rating was 10% of the long-term incentive. In 2021, Quanta adjusted the short-term safety performance metric to focus on the measurement and targeted reduction of significant safety (life-altering) events. In 2021, the company reduced significant safety events by 31%, resulting in a 200% payout. The long-term metric on composite safety measures how average idle time and average composite driver safety improves over the three-year period.<sup>19</sup>

**Specific investment examples:** Stock examples are intended to help illustrate Putnam's research process and should not be considered a recommendation or solicitation to purchase or sell the securities. Current investment themes and stock examples were selected without regard to whether such themes, or relevant securities, were profitable and are intended to help demonstrate the investment process. The securities mentioned are not necessarily held by Putnam for all client portfolios. 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. As with any investment, there is a potential for profit as well as the possibility of loss.

## Other incentive considerations

This analysis has focused on CEO incentive plans because they can be relevant to long-term corporate financial performance, and because there is more data on CEO pay than on compensation practices for broader management teams and all employees. As noted above, we believe a deeper understanding of management compensation incentives can help investors understand how a company's strategy aligns with shareholder and stakeholder outcomes as well as personal rewards for the leadership team. Additionally, it can offer indications of how the allocation of time, attention, and financial resources might be prioritized.

There are several other indicators of incentive alignment that we investigate for the companies researched within Putnam's Sustainable Equity group. While the data on some of these topics is currently incomplete, over time we expect to see added information and disclosure that will facilitate more precise analysis. For now, we incorporate these elements into our company-specific research in both a qualitative and quantitative manner.

### Share-based compensation

Using share-based compensation (SBC) for a subset of the employee base has become more common in recent years, especially for technology companies. In the latest fiscal year, share-based compensation expense as a percentage of revenues for S&P 500 companies was 1.6%, but the highest levels of use were over 10%, and 35 of the top 50 users were in technology companies (information technology or communication services).<sup>20</sup> For example, SBC was approximately 19% of revenues at ServiceNow (NOW), 11% at Ceridian (CDAY) and Autodesk (ADSK), and 10% at Meta (META).<sup>21</sup>

### In 2022, the highest use of share-based compensation was among technology companies, which accounted for 35 of the top 50 companies using this tool.

High SBC in and of itself is not necessarily negative, but it warrants particular attention in financial analysis, as it requires adjustments in valuation analysis, is often excluded from adjusted profit calculations, and yet can lead to ongoing dilution for other shareholders. Additionally, qualitative assessment is needed to determine whether SBC is doing what it's intended to do — incentivizing and aligning employees with the company's success. Often tech companies use this tool as a key recruiting and retention mechanism for competitive roles like engineers.

In theory, issuing SBC to employees helps to better align their interests with the company's and with other stakeholders'. In practice, sometimes SBC is a substitute for cash compensation instead of an incentive for strong performance and aligned interests. There are good reasons for potential disconnects. For example, unlike the presumed direct impacts of senior management roles on corporate success, the day-to-day work of many employees might only indirectly influence corporate success and/or share performance, especially in the shorter term.

## Employee ownership models

Some companies and investors, especially in private markets, are advocating for even broader share ownership, beyond groups like engineers, software developers, and sales representatives and beyond typical SBC-focused industries like technology. One model that has unique merits is the employee ownership model, which has been advanced by companies like KKR and TPG, and is supported by nonprofit organizations like Ownership Works.<sup>22</sup>

Employee ownership approaches allow public and private organizations to create a broad equity ownership model that includes all employees. The theoretical benefit of broader ownership like this is twofold: broader incentive alignment across all workers that has the potential to positively impact performance and wealth creation for employees historically left out of most equity-like structures (which, in turn, can drive better retention and talent attraction).

### **Employee ownership links directly to several areas of our equity team's thematic map, such as stakeholder wellness and equity, business processes, and access and opportunity.**

An example of this approach is the model that Ingersoll Rand (IR) created before going public, which included 6,100 employees as co-owners of the company. The equity grant given to those employees represented approximately 40% of base salary levels. In December 2020, IR, by this time a much larger company, made additional grants to all 16,000 employees at a level of approximately 20% of average base salaries, one of the largest equity grants made by an industrial company.<sup>23</sup>

Ingersoll's management team notes the importance of creating a share ownership model that is thoughtful about the specific metrics tied to performance (in its case, net working capital and cash flow) and subsequently emphasizes ongoing training and education. (IR trained all employees to understand net working capital and has strong ongoing efforts to treat and include all employees as true owners.) Programs like this have the potential to improve operating results.

After implementing this program, Ingersoll Rand saw employee engagement scores improve from under 20% to over 90%, experienced a 70% reduction in safety issues, and lowered attrition rates from 19% to about 3%. The company has also lowered working capital as a percentage of sales from around 30% to 20%, and the stock rose 165% from the 2017 IPO through March 2023, roughly double the performance of the S&P 500 Index over that time frame. All told, the company estimates it has created about \$3 billion in value from this \$250 million investment in equity.<sup>24</sup>

**As researchers and shareholders, we are impressed by effective models like these, emphasizing alignment, performance, and transparency, and supported by communication and training to enhance success. Over time, we look forward to seeing more examples of employee ownership models that are tailored to different sectors and individual business models of public companies. These models have the potential to have a positive impact on employees and on business performance over time.**

## In summary, we offer these takeaways about incentive compensation information for investors.

- Growing data on absolute pay, CEO pay relative to median worker, and the composition of management incentive plans can be useful tools for investors.
- We look for thoughtful structure and composition of management incentive plans reflecting a long-term focus, performance-based metrics, reasonable absolute pay levels, business-relevant metrics, and clear and transparent structures.
- ESG-related goals are increasingly incorporated into management incentive compensation plans across the broader market and for the companies we hold in our portfolios. Thoughtful incorporation of ESG performance can be additive to investor understanding and can help to drive long-term performance benefits, especially when plans consider ESG metrics that are relevant, additive, specific, clear, and appropriately ambitious.
- Other alignment tools that we pay attention to include the use of stock-based compensation and broader equity ownership models. We are particularly interested in the latter and hopeful that more (public) companies work to develop thoughtful equity ownership models that can align incentives, drive operational performance, and create wealth for workers who are otherwise often left out of equity-like structures.

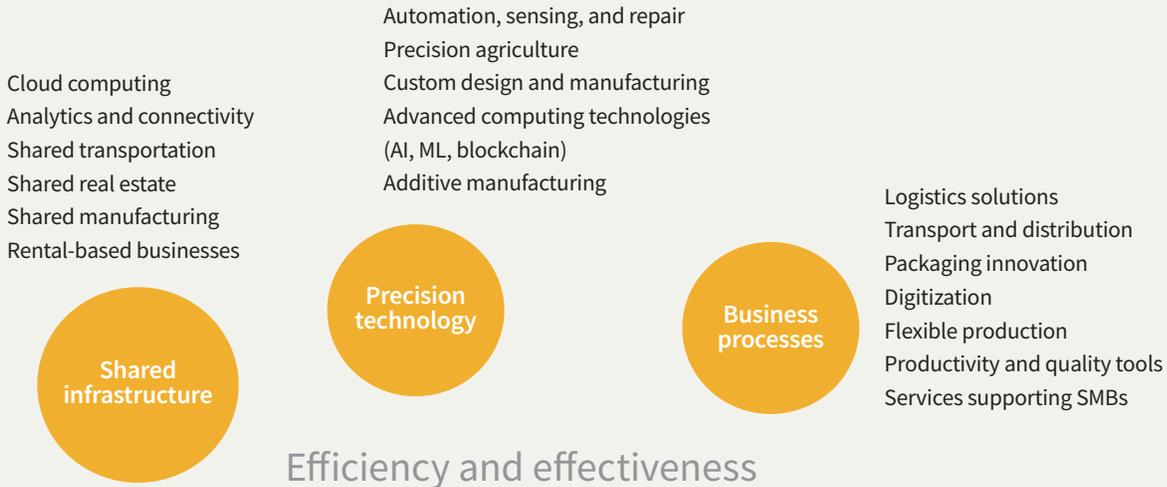
## Endnotes

- 1 Based on HOLT data and Putnam analysis.
- 2 Statista Research Department, "Average annual CEO compensation worldwide in 2017, by country," August 5, 2022, <https://www.statista.com/statistics/424154/average-annual-ceo-compensation-worldwide/>; Economic Policy Institute, "CEO pay has skyrocketed 1,460% since 1978," October 4, 2022, <https://www.epi.org/publication/ceo-pay-in-2021/>.
- 3 Harvard Law School Forum on Corporate Governance, "S&P 500 CEO Compensation Increase Trends," February 11, 2020. <https://corpgov.law.harvard.edu/2020/02/11/sp-500-ceo-compensation-increase-trends-3/>.
- 4 Based on HOLT data and Putnam analysis.
- 5 Economic Policy Institute, "CEO pay has skyrocketed 1,460% since 1978," October 4, 2022, <https://www.epi.org/publication/ceo-pay-in-2021/>.
- 6 Economic Policy Institute, "CEO pay has skyrocketed 1,460% since 1978," October 4, 2022, <https://www.epi.org/publication/ceo-pay-in-2021/>.
- 7 Based on proxy statement data and Putnam analysis.
- 8 Based on HOLT data and Putnam analysis.
- 9 Based on HOLT data and Putnam analysis.
- 10 Based on HOLT data and Putnam analysis.
- 11 Based on HOLT data and Putnam analysis.
- 12 Based on proxy statement data and Putnam analysis.
- 13 Based on HOLT data and Putnam analysis.
- 14 Based on proxy statement data and Putnam analysis.
- 15 Based on HOLT data and Putnam analysis.
- 16 AES 2021 proxy statement; <https://www.aes.com/investors/reports-filings/financial-reports-summary>.
- 17 PANW 2022 proxy statement; <https://investors.paloaltonetworks.com/financial-information/annual-reports>.
- 18 AMD 2022 proxy statement; <https://ir.amd.com/sec-filings/filter/proxy-filings>.
- 19 PWR 2021 proxy statement; [https://investors.quantaservices.com/sec-filings/all-sec-filings?form\\_type=DEF+14A&year=2021](https://investors.quantaservices.com/sec-filings/all-sec-filings?form_type=DEF+14A&year=2021).
- 20 Based on Bloomberg data and Putnam analysis.
- 21 Based on Bloomberg data and Putnam analysis.
- 22 Ownership Works, <http://www.ownershipworks.org>.
- 23 Ownership Works, <http://www.ownershipworks.org/companies-and-case-studies>.
- 24 Ownership Works, <http://www.ownershipworks.org/companies-and-case-studies>.

### Guide to thematic research

Below is a map of our sustainable equity themes across three overarching categories, Thriving People, Thriving Planet, and Thriving Public. It continues to evolve as our research unlocks new ideas.





# Thriving Public<sup>®</sup>

## Equity and access



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