

HOLT ESG

HOLT Sustainability Score Primer

**HOLT
Market Commentary**

The information provided herein is not intended to provide a sufficient basis on which to make an investment decision.

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Introduction

Sustainability represents the ability of an organization to adapt to change and maintain performance. The HOLT approach to evaluating Sustainability – the HOLT Sustainability Score (HSS) – allows investors to systematically assess a firm's financial and operational strength alongside key ESG issues to make a comprehensive assessment of a company's ability to maintain its performance over the long-term. Companies with higher (lower) HOLT Sustainability Scores demonstrate Financial and ESG risk profiles that could support (impair) future wealth creation.

The HOLT CFROI® Framework provides a firm foundation on which to build a sustainability assessment as it facilitates: (1) **global comparability** in metrics, (2) **linkage between ESG, corporate performance, and valuation**, (3) **broad coverage**, and (4) **objectivity** and full **transparency**.

The rigor applied to the metrics that underlie the HOLT Sustainability Score is a key benefit as it facilitates the linkage between ESG issues and financial materiality. In combination, the HOLT Corporate Performance & Valuation Framework, HOLT Sustainability Score, and detailed HOLT ESG Modules allow investors to leverage HOLT Lens® and HOLT data products to form objective and holistic evaluations of firms globally.

HOLT Sustainability Score

The HOLT Overall Sustainability Score combines the assessments of two key dimensions:

- The **Financial Sustainability** Score evaluates a firm's competitive position and the nature and strength of the drivers underpinning that position.
- The **ESG Sustainability** Score evaluates a firm's performance on environmental, social, and governance issues to gauge long-term business sustainability and determine if the firm offers prudent stewardship of investor capital.

The transparency and workflows available in [HOLT Lens](#)[®] offer investors the data and tools needed to identify targeted areas of opportunity and risk. The underlying metrics, composites, and pillars that drive the aggregate Sustainability Scores are exposed and provide the flexibility to focus on the aspects of Sustainability that are most relevant to each investment process. The aggregate Financial, ESG, and Overall Sustainability Scores represent a balanced summarization that can be used to quickly identify firms with overlapping areas of strength and weakness.

Key Benefits

- **Data quality:** The HOLT CFROI framework makes systematic adjustments to financial statement data that remove accounting and economic distortions and provide comparability across geographies, sectors, accounting standards, and time. Financial data that better represents each firm's economics allows the HSS to better connect ESG issues with corporate performance and valuation.
- **Transparency:** The Sustainability Dashboard in [HOLT Lens](#) offers full transparency into the metrics that drive the HOLT Sustainability Score and facilitates further analysis of the underlying drivers of each assessment.
- **Objectivity:** The HOLT Sustainability Score offers a 100% systematic approach to identifying areas of strength and concern within investors' portfolios.
- **Flexibility:** The modular construction of the HSS allows users to focus on pillars that are most relevant to their process or to benefit from the balanced view of firm sustainability offered by the HOLT Overall Sustainability Score. Users have the option of evaluating firms relative to Regional or Global peers.
- **Breadth of coverage:** HOLT provides sustainability data coverage for ~20,000 companies globally, with data availability varying by metric and region.

Design and Key Features

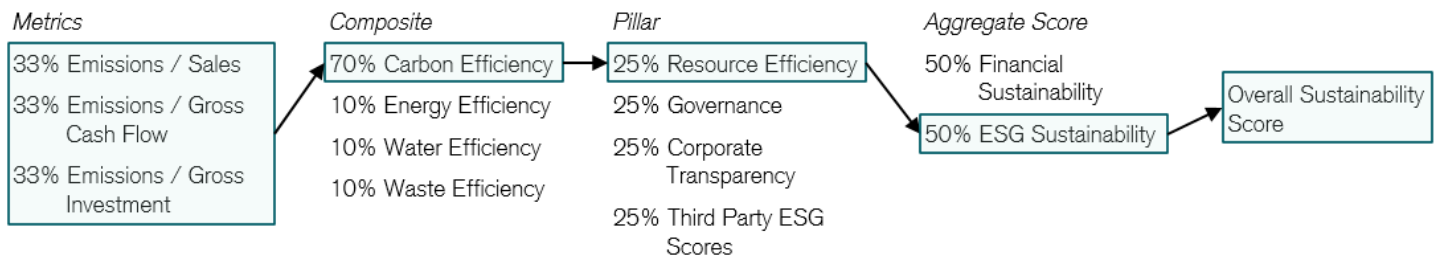
Underlying the Financial and ESG Sustainability scores are assessments across eight pillars that probe a firm's financial and ESG performance.

Financial Sustainability	ESG Sustainability
Competitive Strength: What is the profitability and growth profile of the firm?	Resource Efficiency: How reliant are the firm's operations on various forms of natural resources?
Accounting & Tax Policies: To what extent is the firm's profitability profile driven by accounting/tax policies that are unreliable or aggressive?	Governance: Are CEO incentives aligned with long-term wealth creation? Is compensation aligned with achieved wealth creation?
Financial Flexibility: Has the firm been financed such that economic shocks can be absorbed? Can value-creating growth be pursued by the firm?	Corporate Transparency: Is the firm forthcoming with investors in providing information critical to understanding and evaluating the business?
R&D Intensity: Is the firm's competitive strength anchored in innovation? Does it invest appropriately to maintain this innovative edge?	Third Party ESG Scores: Is the firm involved in controversies or other non-financial ESG issues that could disrupt operations, distract management, harm stakeholders, etc.?

In addition to providing the Overall Sustainability Score, which represents a summary of the identified strengths and risks, the design of the HOLT Sustainability Score allows users the flexibility to utilize the underlying metrics, composites, and pillars to accommodate differences in investment processes or to generate ideas with targeted characteristics.

Figure 1 demonstrates how three Carbon Efficiency metrics flow through the HOLT Sustainability Score to initially form a Carbon Efficiency composite, which contributes to the broader Resource Efficiency Pillar and ultimately the ESG Sustainability Score. The ESG and Financial Sustainability scores are then combined to form the Overall Sustainability Score.

Figure 1: HOLT Sustainability Score Construction



The metrics, composites, pillars, and overall scores underlying the HSS represent a Sustainability Framework that can be used by investors to navigate a portfolio or universe for opportunities and risks. For example, beyond identifying the most and least Sustainable firms based on the Overall Sustainability Scores, investors can use underlying metrics, composites and pillars to produce targeted ideas or screen for specific risks. For example:

- High Carbon Intensity, weak Competitive Strength, and low Financial Flexibility could isolate firms where operations are carbon dependent but the firms are not in a strong financial position to fund carbon mitigation efforts.
- Strong Competitive Positions with high R&D Intensity could produce a subset of firms with a track record of successful innovation.
- Weak Competitive Positions but recently improved Management Incentives could produce ideas that are well positioned for successful restructurings.
- High Financial Sustainability but weaker Governance and Corporate Transparency could offer a subset of firms where investors can engage with management to better align incentives and improve disclosure in order to drive a higher firm valuation.

See [page 46 in the appendix](#) for example screens in HOLT Lens.

Pillars

Each of the eight pillars comprising the HOLT Sustainability Score represents a key aspect of corporate sustainability. The pillars are designed to complement each other to build a balanced assessment of Sustainability while also independently representing sufficiently robust assessments of their areas of focus.

Each of the pillars is described in detail next on pages 5-30. For more information on the scoring methodology, please see the [Scoring Methodology Overview](#) section later in this document.

- [Competitive Strength](#) – p. 5
- [Accounting & Tax](#) – p. 8
- [Financial Flexibility](#) – p. 10
- [R&D Intensity](#) – p. 12
- [Resource Efficiency](#) – p. 15
- [Governance](#) – p. 21
- [Corporate Transparency](#) – p. 27
- [Third Party ESG Scores](#) – p. 29

Financial Sustainability

The **Financial Sustainability** Score evaluates a firm's competitive position and the nature and strength of the drivers underpinning that position by combining four equally weighted pillars: Competitive Strength, Accounting & Tax Policies, Financial Flexibility and R&D Intensity.

Competitive Strength Pillar

Components

- 75% Operational Quality Peer Rank
- 25% Growth Peer Rank

See more calculation details on [page 35](#).

The Competitive Strength pillar seeks to evaluate a firm's competitive position via two key drivers of wealth creation: profitability and growth. Firms with the highest Competitive Strength scores demonstrate profitability that suggests they have competitive advantages and growth profiles that suggest opportunities exist for them to compound wealth by expanding their businesses. Persistently uncompetitive profitability represents an impediment to long-term sustainability, even if the firm is otherwise conservatively financed with clean accounting and robust ESG credentials.

CFROI is used to represent the profitability of a company and offers substantial benefits to the HSS Framework. The calculation of CFROI includes a series of accounting and economic adjustments to accurately represent economic profitability and restore comparability across regions, sectors, accounting standards and time. The [HOLT Quality factor](#) evaluates firms based on their level and variability of CFROI. Firms with high and stable CFROI have high Quality ranks, reflecting their strong competitive positions.

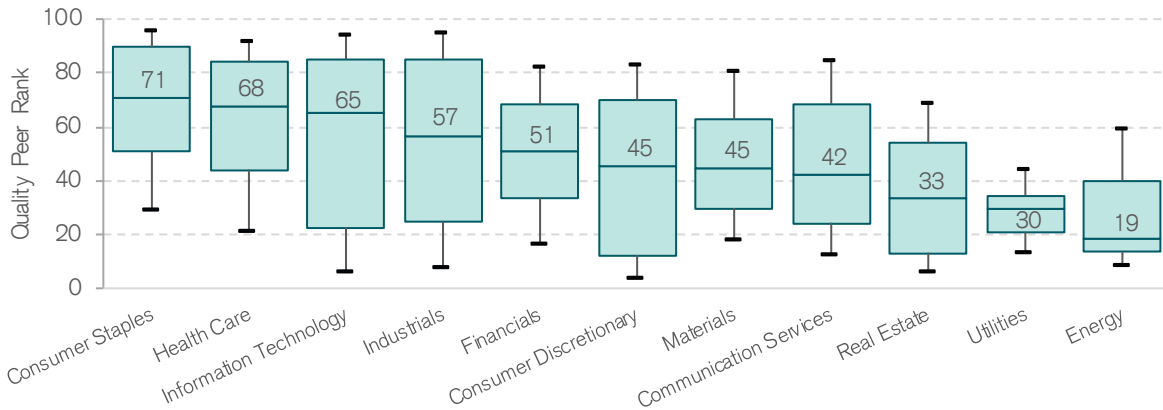
Complementing Quality is the [HOLT Growth Factor](#), which is a composite of factors that together measure the degree to which a company is likely to have higher or lower future cash flow growth than peers. The Growth factor incorporates historical cash flow growth and expected changes in the drivers of future cash flow to quantify a firm's ability to grow, its likelihood of pursuing growth, and the market's expectations for future growth.

Competitive Strength across Sectors

Within the HSS framework, both Quality and Growth are evaluated relative to the full universe of firms, resulting in the highest scores favoring sectors where firms demonstrate competitive advantages and have more growth opportunities while disfavoring sectors associated with less appealing economics and fewer opportunities for growth.

Figure 2 illustrates the level and range of quality profiles within each global large cap sector. Consumer Staples currently offers the highest quality profile – the result of high and stable CFROI in the sector driven by strong brands and stable demand. The Information Technology and Utilities sectors offer a sharp contrast in profiles. The median Tech firm offers a quality profile in the top third of the universe owing to the competitive advantages many firms have earned through successful innovation. However, within the sector, Tech offers the widest range of quality profiles as there is representation from across the different phases of the corporate life cycle. In contrast, Utilities offer lower-quality profiles and a far narrower range of outcomes due to the mature and highly regulated nature of the sector.

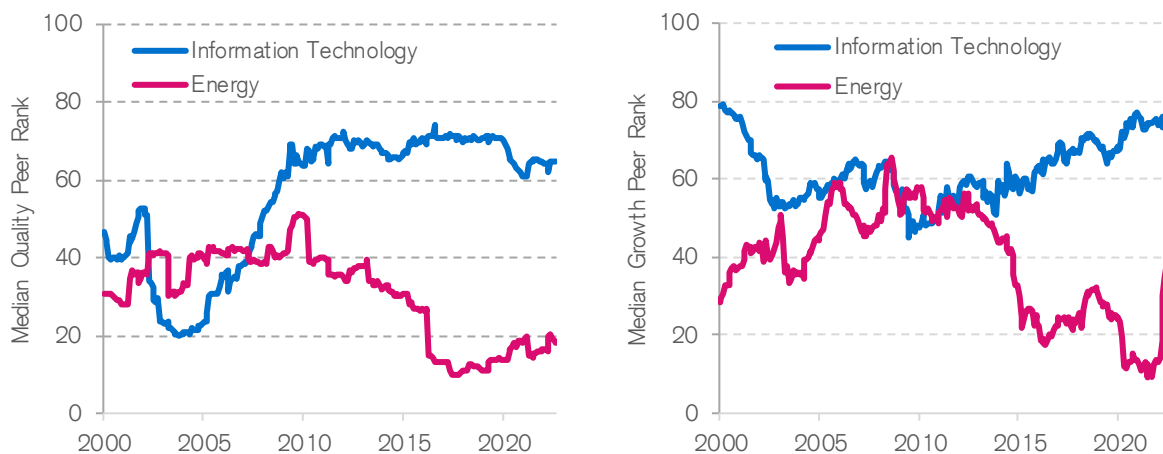
Figure 2: Global Top 2000 HOLT Quality Peer Ranks by Sector – August 2022



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 2000 global companies by USD market cap. Scoring: Global-Size relative. The central line and label show the sector median, the box represents the 75th and 25th percentiles, and the Whiskers represent the 90th and 10th percentiles.

Importantly, the quality and growth profiles dynamically adapt over time as firms and sectors progress through the corporate lifecycle and as market conditions change. Figure 3 tracks the quality and growth profiles of the global Tech and Energy sectors over time and demonstrates that Competitive Strength is not a static assessment.

Figure 3: Median HOLT Quality (left) and Growth (right) Peer Rank by Sector – 2000-2022



Source: Credit Suisse HOLT as of July 2022. Universe: Largest 2000 global companies by USD market cap. Scoring: Global-Size relative. Date Range: Jan 2000 – May 2022.

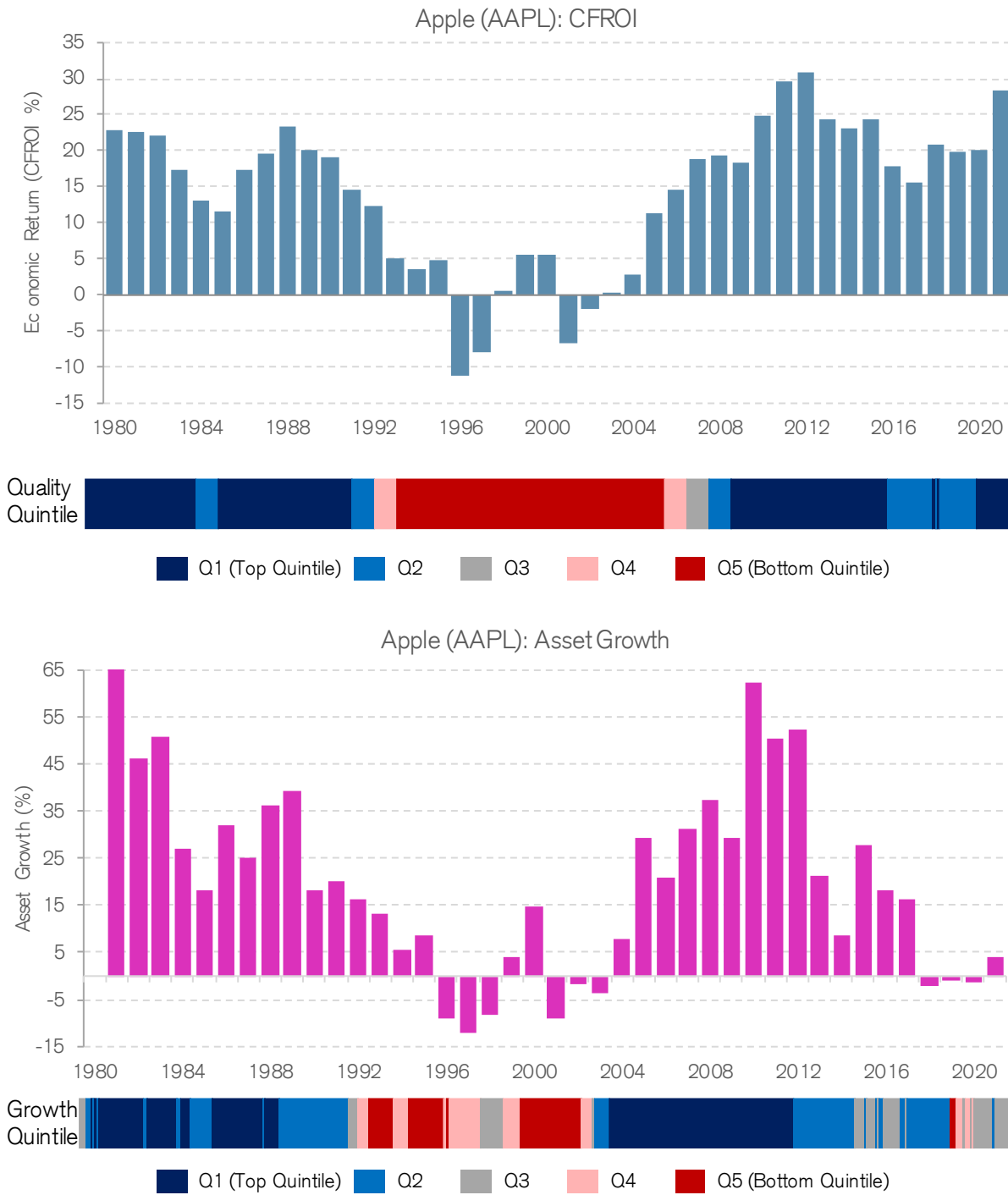
Competitive Strength profile of Apple Inc (AAPL)

An evaluation of AAPL over the last 40 years (Figure 4) further illustrates how the HOLT Quality and Growth factors dynamically reflect a firm’s competitive position over time. AAPL’s Quality and Growth factor profiles have broadly tracked each other historically, consistent with wealth creation principles (firms with higher profitability are best positioned to translate growth into value creation). However, the last 15 years offer notable divergences that are illustrative of how the two factors interact in the pillar.

In early 2004 the HOLT Growth factor ranked AAPL in the top 40% of Growth for the first time since 1992, where it remained for the following decade. Though the Growth profile of the firm had improved, Quality remained unproven, and it was only in 2009 that the firm entered the top 40% of Quality (where it has remained since).

Similarly, though the firm’s Quality profile has remained strong in recent years, the firm’s Growth profile has declined as AAPL’s markets have matured.

Figure 4: Apple Inc CFROI and Asset Growth Profile 1980 – 2021



Source: Credit Suisse HOLT. Date range: 1980-2021. Scoring: Region-size relative. AAPL used for illustrative purposes only.

Accounting & Tax Policies Pillar

Components

- 75% Accounting Quality Score
- 25% Effective Tax Rate (HOLT Normalized), Three-year median

See more calculation details on [page 36](#).

Accounting Quality Score

The [HOLT Accounting Quality Score](#) (HAQS) is a patented, quantitative methodology designed to screen for anomalies in financial statements. Accounting Quality, or often the narrower concept of Earnings Quality, is a well-established component of both fundamental and quantitative investment processes. However, the HAQS helps overcome several common limitations investors face when determining how to screen for accounting concerns:

- **Materiality:** Trends such as rising inventory days are often monitored by investors. However, the risks of accumulating inventories are far greater for firms where inventory is a significant portion of assets. The HAQS scales risk signals by materiality to help ensure warning flags are raised for the firms where the issue is most relevant.
- **Regional Differences:** Certain metrics such as deferred revenue, percentage of accounts receivable doubtful, and accrued expenses have different availability across regions. HAQS incorporates a regional weighting scheme to accommodate differences in data availability across geographies.
- **Scope:** Most earnings-quality assessments focus on a combined measure of accruals. HAQS expands the scope of Accounting Quality to assess cash flow and balance sheet issues, such as Special Items and Intangible Exposure, that are not included in traditional measures.
- **Transparency:** By evaluating four broad categories across 15 components using risk and materiality metrics, the HAQS workflow in HOLT Lens provides transparency into the assessment of Overall Accounting Quality and clear direction for investors looking to further investigate warning flags.

Sector Specifics: Accounting Quality Score

Accounting Quality Scores are available for all sectors except Utilities, Insurance, and Real Estate. Companies under \$100 million USD in market cap and firms that do not have EPS estimates are also excluded from the HAQS.

Banks are scored on a separate model that considers Cash Flow, Credit Quality, Capital Adequacy, and Funding.

An Overall Accounting Quality score is determined for each firm based on the combined assessment of the Revenue Recognition, Expense Recognition, Cash Flow, and Balance Sheet categories. The Overall Score is divided into quintiles representing Highest, Above Average, Average, Below Average and Lowest accounting quality, and the HOLT Sustainability Score is proportionally improved (worsened) consistent with the quintile assignment.

HOLT Accounting Quality Score			
Revenue Recognition	Expense Recognition	Cash Flows	Balance Sheet
Accounts Receivable	Depreciation	Special Items	Other Liability
Deferred Revenue	Accounts Payable	Net Income	HOLT Debt
% Accounts Receivable Doubtful	Accrued Expenses	Stock Compensation and Dilution	Other Assets
	Inventory	Payment Sustainability	Intangible Exposure

Tax Rate

Sector Specifics: Tax Rate

Sectors with unique tax circumstances such as Real Estate companies, REITs, and Custody Banks are excluded from this metric.

Low tax rates boost current profitability and, since CFROI is measured after tax, will improve the profile of a firm on the Competitive Strength pillar. Evaluating a firm's tax rate within the HSS serves to differentiate between firms whose profitability is driven by genuine competitive advantages versus firms whose profitability is flattered by a favorable current tax circumstance. The pillar flags firms with the lowest tax rates relative to country peers as the benefits from their current tax circumstance might prove unsustainable as domestic political policies change, tax policies are harmonized globally, or short-term incentives expire.

HSS leverages HOLT's proprietary Normalized Effective Tax Rate to compare tax rates across firms. To derive this clean measure of tax rate, HOLT removes special items that can distort pre-tax income as well as one-off tax items such as excess tax benefits associated with stock-based compensation or changes in deferred tax valuation allowances. The Income Statement Company Report in HOLT Lens provides transparency behind these adjustments. This adjusted tax rate is then compared to peers within the same domicile country, and those with the lowest tax rates are flagged as risks.

Financial Flexibility Pillar

Components

- 60% HOLT Leverage
- 20% Gross Cash Flow / HOLT Debt
- 10% HOLT Fixed Charge Ratio
- 10% HOLT Financing Fixed Charge Ratio

See more calculation details on [page 37](#).

Sector Specifics: Utilities and Real Estate

Utilities and Real Estate firms tend to have structurally higher debt profiles than other non-financial firms. To address this business model difference, Utilities and REITs are scored within their sector while all other non-financial firms are scored relative to each other.

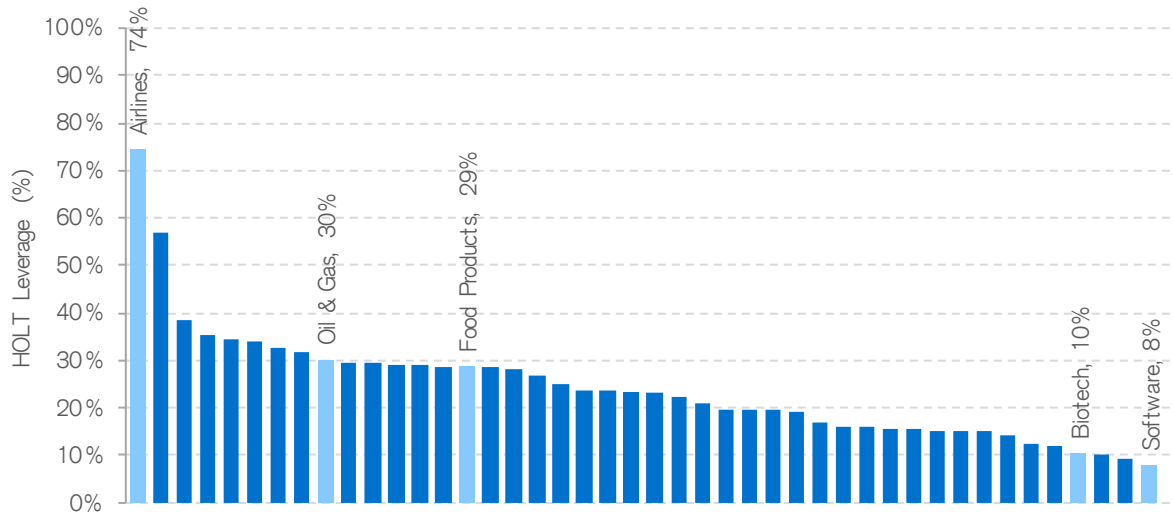
The Financial Flexibility pillar evaluates the financing of a firm's balance sheet and the weight of a firm's implicit and explicit spending obligations relative to its cash flows.

Firms with conservative levels of debt and healthy cash flow are better positioned to weather periods of economic weakness and can opportunistically pursue attractive growth opportunities. Firms with higher leverage, weaker cash flows, and higher spending needs could be unable to invest in initiatives that defend the firm's long-term competitive position, be reliant on the availability of equity capital, cut dividend payments, or face insolvency.

Firms with higher levels of debt or higher spending on dividend payments, capex or rent put into question the sustainability of a firm, primarily when financial flexibility metrics reach the weakest levels. As such, Financial Flexibility is implemented as a Demerit pillar, meaning only firms with the weakest observations will experience reductions in their Sustainability Scores and no differentiation is imposed amongst the firms with stronger metrics. It is not additive to the determination of sustainability to differentiate, for example, between firms with low leverage of, say, 4% versus 8% or high Fixed Charge Coverage Ratios of 12x versus 10x.

The foundation of the Financial Flexibility pillar is an evaluation of HOLT Leverage. HOLT Leverage represents the firm's HOLT debt relative to its HOLT Enterprise Value. Adjustments are made to include operating lease debt, pension obligations, preferred stock, stock option claims, and other long-term liabilities in a firm's debt, resulting in a more comprehensive assessment of total debt obligations than book debt alone.

Figure 5: Median HOLT Leverage, Select North America Top 1000 Industries



Source: Credit Suisse HOLT as of June 2022. Universe: Largest 1000 companies in North America by market cap, select industries displayed.

Sector Specifics: Banks and Insurance

Banks and Insurance companies are currently excluded from the Financial Flexibility pillar in HSS as the metrics currently used are not compatible with spread-earning financial business models.

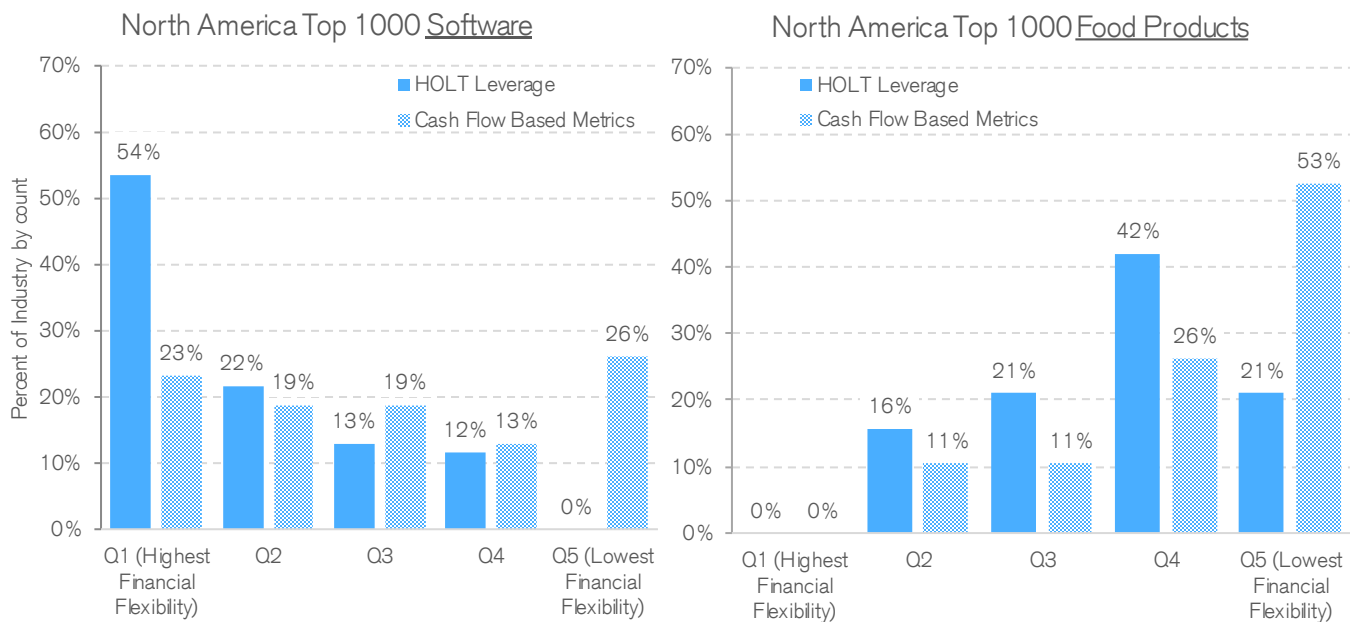
Capital structure, however, is incomplete as a measure of the sustainability of a firm's financial position. The remaining 40% of the pillar considers three cash flow-based metrics: Gross Cash Flow to HOLT Debt, HOLT Fixed Charge Coverage Ratio, and HOLT Financing Fixed Charge Coverage Ratio. These cash flow-based metrics address a notable challenge - differentiating between the many firms that have minimal or no debt financing. Early-life-cycle growth firms rarely have high levels of debt, but cash burn could leave them reliant on the availability of equity capital for funding. Similarly, a mature, conservatively financed firm with an aggressive dividend policy and high capital expenditure requirements could lack the flexibility needed to fund carbon mitigation efforts, the adoption of new technology, investment in brand, or other efforts needed to sustain the firm over the long term.

Figure 6 draws a contrast between two North American industries to illustrate how leverage and cash flow-based metrics interact within the Financial Flexibility pillar.

The North American Software industry has amongst the lowest levels of leverage in the universe – 76% of firms are in the lowest two quintiles of HOLT Leverage, and there are no firms in the highest-leverage quintile. However, many earlier life-cycle firms in the Software industry have lower levels of current cash flows and high levels of investment needed to continue to grow and scale their businesses, resulting in the cash flow-based metrics being more evenly distributed across the industry. The combination of leverage and cash flow metrics allows the pillar to differentiate between the mature, profitable Software firms with safe balance sheets and the earlier life-cycle firms that also use limited debt financing but could face constraints due to lower current cash flows and high levels of spending.

North American Food Products firms offer an industry where the leverage and cash flow metrics are broadly confirming. Firms in the industry tend to have modestly above average levels of leverage and, though they generate strong cash flows, they tend to pay out large dividends on top of interest and rent obligations, resulting in cash-flow metrics that confirm the industry's lower level of financial flexibility.

Figure 6: Leverage vs. Cash Flow-Based measures of Financial Flexibility by Industry



Source: Credit Suisse HOLT as of June 2022. Universe: Largest 1000 companies in North America by market cap, Software and Food Products industries displayed. Scoring: Region-size relative.

Components

- 37.5% Cap. R&D / Gross Investment
- 37.5% R&D Expense / Sales
- 12.5% Cap. R&D / Gross Investment (Sector Relative)
- 12.5% R&D Expense / Sales (Sector Relative)

See more calculation details on [page 38](#).

R&D Intensity Pillar

The R&D Intensity pillar seeks to identify firms that have more innovative cultures. The pillar credits firms where R&D is a larger proportion of the company's invested capital base, and where annual R&D spending is high as a proportion of sales. Though high levels of investment in R&D don't ensure successful innovation, the pillar provides a transparent and objective way to identify firms that seek to adapt to change and defend against competition through the merits of their ideas.

The measurement of R&D Intensity is distinct from R&D success, which is captured within the Competitive Strength pillar. For many investors, combining the Competitive Strength and R&D Intensity pillars will provide a useful way to screen for successful innovators – firms that have a proven track record of investing heavily in R&D to produce attractive profitability and growth. These successful innovators offer intuitive appeal to investors focused on sustainability as they are likely well positioned to adapt to change and defend against competition.

The pillar provides a holistic measure of the R&D intensity of a firm by evaluating two metrics: R&D as a percentage of Sales and R&D as a percentage of Gross Investment (GI).

R&D as a percentage of Sales provides a normalized way to evaluate recent levels of R&D investment. However, evaluation of any single year's spending is insufficient to determine if a firm is committed to a culture of innovation.

R&D as a percentage of GI tells investors the proportion of the cumulative investments a firm has made that are represented by R&D. Firms with higher R&D share of GI tend to be more knowledge intensive than those with higher proportions of physical or monetary assets.

The R&D Intensity pillar is implemented as a Merit pillar – meaning firms that have the highest R&D intensity receive a benefit to their HOLT Sustainability Score, but no differentiation is imposed on the many firms that do not materially invest in R&D.

Challenges to Measuring R&D Intensity

Accounting standards introduce challenges for investors looking to compare the R&D intensity of firms.

First, an economic distortion is introduced when a firm's R&D spending is recognized as an expense on the income statement rather than as an asset on the balance sheet. This treatment removes comparability when evaluating the financial performance of knowledge-intensive and capital-intensive firms.

Second, the treatment of R&D for financial reporting differs globally according to accounting regime. Under IFRS rules, Research spending is treated as an expense to be recognized on the income statement, but Development costs are required to be capitalized onto the balance sheet if the company can prove that the asset in development will become commercially viable. Under U.S. GAAP, both Research and Development are treated as expenses. This inconsistency results in a lack of comparability in metrics like R&D percentage of Sales across accounting standards.

The treatment of [R&D within the HOLT CFROI framework](#) resolves these issues of interpretation and consistency. The framework considers both Research and Development spending to be investments that provide value beyond the period in which the spending occurred. As such, in calculating CFROI, Research and Development spending are capitalized for all firms and included in their invested capital bases. This treatment allows CFROI to capture the true economic rate of return on all invested capital and allows for the comparability of R&D percentage of Gross Investment across sectors and geographies.

Sector Specifics: Banks and Insurance

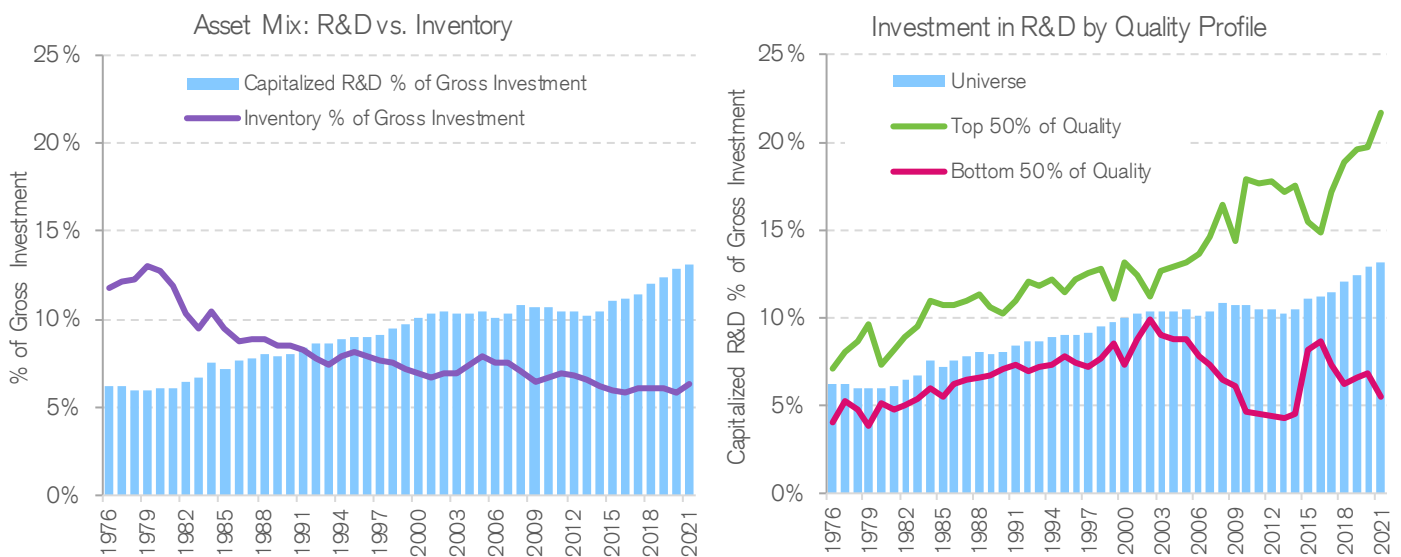
Banks and Insurance companies do not report R&D in the same way as Industrial firms; therefore, these sectors will not be scored on the R&D Intensity pillar in HSS.

Similarly, HOLT restores comparability for the R&D percentage of Sales metric used in HSS by adding annual development costs capitalized on the balance sheets of firms reporting under IFRS back to R&D expense.

Increasing Importance of R&D

R&D has become an increasingly critical component of investment as the economy has become more knowledge intensive. Figure 7 shows that the proportion of U.S. gross investment represented by R&D has more than doubled over the last 50 years, displacing on-balance-sheet assets like Inventories. Importantly, for firms that have the highest profitability (top half of HOLT Quality factor), R&D is an even larger portion of invested capital. These observations highlight both the increasingly critical role of innovation in earning attractive profitability as well as the growing importance of the HOLT treatment of R&D to accurately measure invested capital and profitability within the CFROI framework.

Figure 7: R&D is growing as a proportion of Gross Investment, particularly for high Quality firms

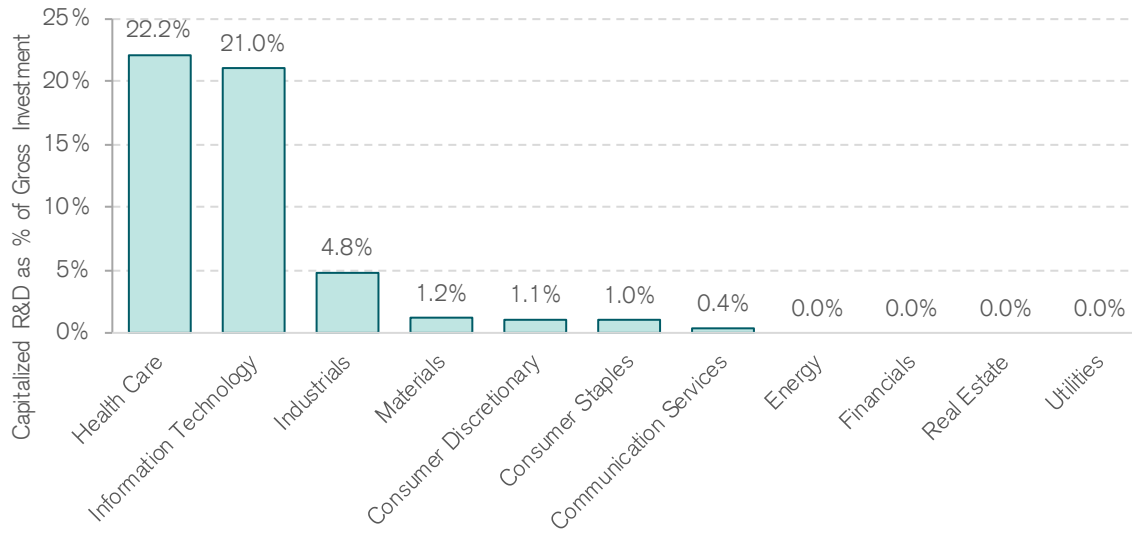


Source: Credit Suisse HOLT. Universe: Largest 1000 US companies by market cap, industrial firms only. Date Range: 1976 – 2021.

Sector-Relative R&D Intensity

Because overall R&D spending tends to be concentrated in certain sectors like Information Technology and Health Care (see Figure 8), a portion of the weight in the pillar is assigned to the sector-relative assessments of the R&D intensity metrics. In R&D intensive sectors like IT and Health Care, the inclusion of sector-relative assessments allows the pillar to distinguish between firms that have high R&D intensity relative to the market but underinvest relative to peers. Similarly, the sector-relative assessment allows a small benefit to firms that operate in less innovative sectors, but that stand out relative to peers for their R&D intensity.

Figure 8: Median Capitalized R&D as a percentage of Gross Investment by Sector



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 2000 global companies by USD market cap.

ESG Sustainability

The **ESG Sustainability** Score evaluates a firm's performance on environmental, social, and governance issues to gauge long-term business sustainability and determine if the firm offers prudent stewardship of investor capital. ESG issues are assessed systematically, focusing on issues where data is publicly disclosed, coverage is reasonably comprehensive, and a relationship between the ESG issue and corporate performance and valuation can be drawn. As the availability of ESG data with these characteristics expands over time, new elements will be added.

Components

- 70% Carbon Efficiency
 - 33% Emissions / Sales
 - 33% Emissions / Gross Cash Flow
 - 33% Emissions / Gross Investment
- 10% Energy Efficiency
 - 33% Energy / Sales
 - 33% Energy / Gross Cash Flow
 - 33% Energy / Gross Investment
- 10% Water Efficiency
 - 33% Water / Sales
 - 33% Water / Gross Cash Flow
 - 33% Water / Gross Investment
- 10% Waste Efficiency
 - 33% Waste / Sales
 - 33% Waste / Gross Cash Flow
 - 33% Waste / Gross Investment

See more calculation details on [page 39](#).

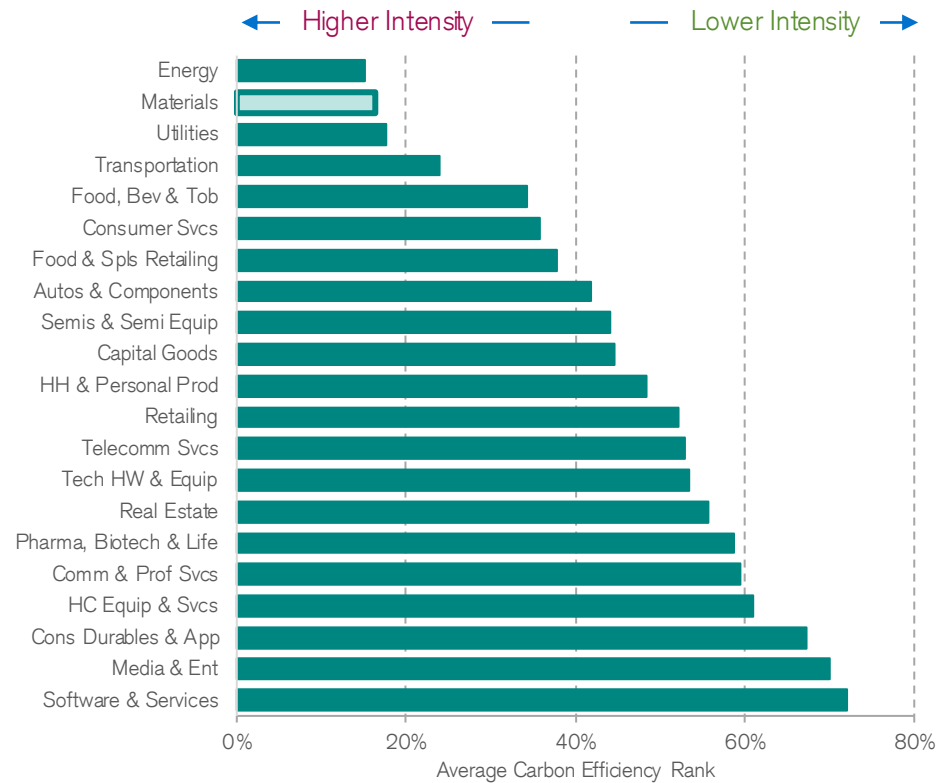
Resource Efficiency Pillar

Understanding a firm's reliance on natural capital is a key component of sustainability. The Resource Efficiency pillar assesses each firm's consumption of carbon, energy, water, and waste relative to their fundamentals to determine resource intensity. The more resource intensive a firm's operations are, the more susceptible the firm might be to the price and/or availability of that resource.

Because consumption of a resource might be heavy for some companies and trivial for others, the Resource Efficiency pillar is implemented as a Demerit pillar, meaning that the most resource-intensive readings will reduce a firm's Sustainability Score and no differentiation is imposed amongst the firms with the lowest resource intensity. This serves to highlight those firms where resource consumption presents a material risk to the business, without imposing subjective assessments of materiality by sector or firm.

To best represent the level of risk posed by a firm's reliance on natural capital, resource intensity is determined relative to the full universe of firms. Though this approach will result in lower Sustainability Scores for some industries relative to others, it allows for maximum flexibility in the use of the output. Whereas an industry-relative assessment cannot be repurposed to determine the most resource-intensive firms within a universe, the unconstrained approach allows investors looking to compare firms within an industry to simply isolate the subset and sort by the unconstrained value. For example, though the average Materials firm is more carbon-intensive than all but one industry group (Figure 9), the most and least carbon-intensive parts of the industry group are easily observable by comparing each underlying sub-industry's resource intensity with the average for the sector (Figure 10).

Figure 9: Carbon Efficiency Rank by Industry (0 = Most Carbon Intensive)



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 2000 global companies by market cap, select industries shown. Scoring: Global-size relative. Carbon Efficiency Rank is the re-ranked average of Emissions to Sales Rank, Emissions to Gross Investment Rank and Emissions to Gross Cash Flow Rank. In all cases, a rank of 0 represents the most carbon-intensive company while a rank of 100 represents the least carbon-intensive company.

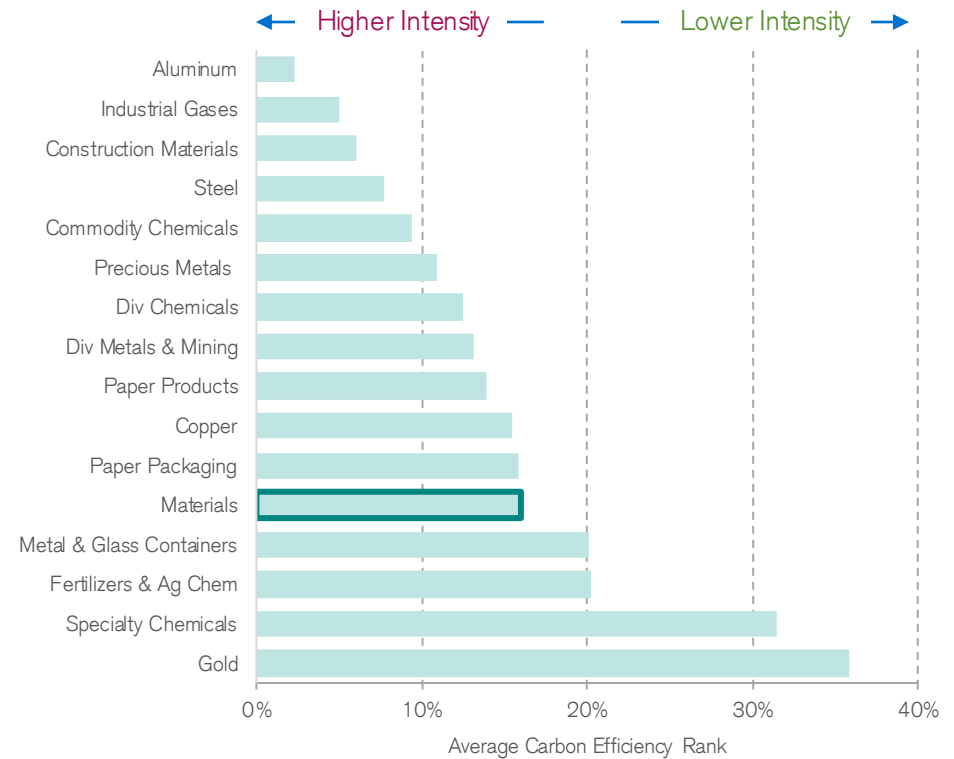
Missing Resource Data

Because Resource Efficiency is a Demerit pillar, the maximum score a company can receive is 0, meaning it does not score in the bottom 40% on any of the resource-intensity metrics. However, companies with missing data will also receive a neutral score of 0 as the data are not available to suggest they are in the bottom 40% on any given metric.

Though this treatment could offer a benefit to resource-intensive firms that choose not to provide data, the benefit is offset in the Corporate Transparency pillar where companies will receive a full demerit for each resource they do not report.

For more details on scoring methodology see [page 31](#).

Figure 10: Carbon Efficiency Rank by Materials Sub-industry



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 2000 global companies by market cap, Materials companies. Scoring: Global-size relative. Carbon Efficiency Rank is the re-ranked average of Emissions to Sales Rank, Emissions to Gross Investment Rank and Emissions to Gross Cash Flow Rank. In all cases, a rank of 0 represents the most carbon-intensive company while a rank of 100 represents the least carbon-intensive company.

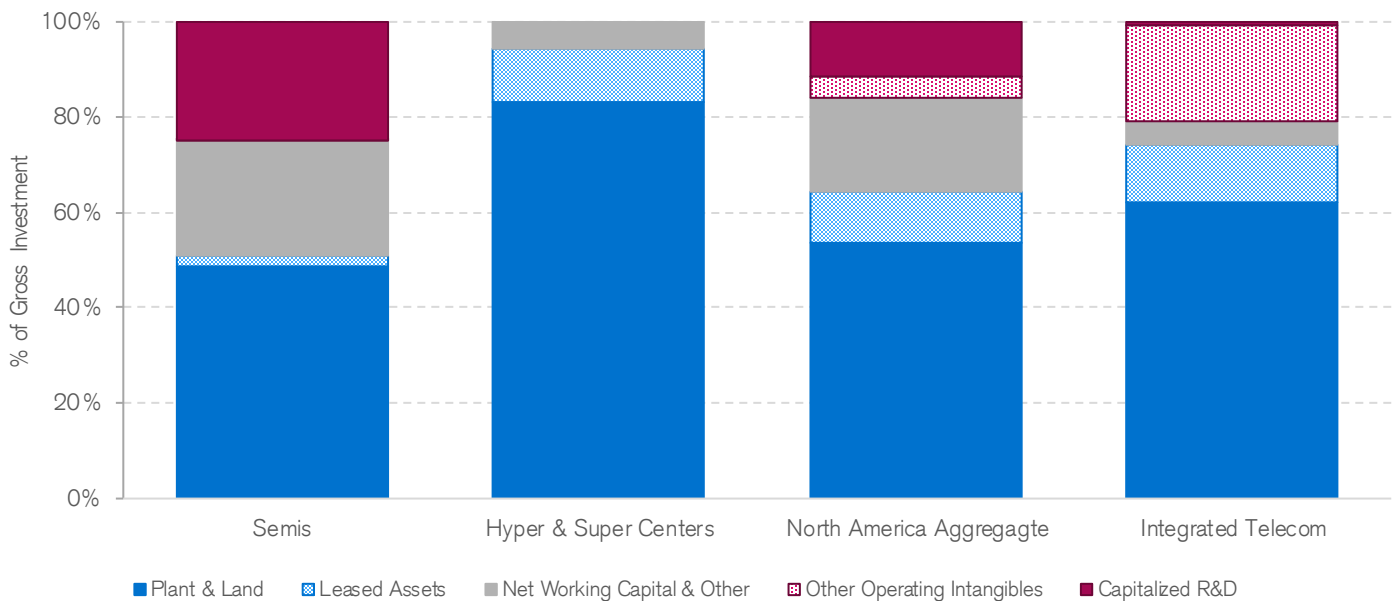
Translating Resource Consumption into Resource Intensity

Resource intensity is more appropriate to compare across firms than raw resource consumption, as businesses tend to consume more resources as they grow. However, two key issues make translating resource consumption into intensity difficult:

(1) measures of fundamentals used to normalize resource consumption often lack comparability across regions, sectors, business models, or accounting standards; and (2) the method used to normalize resource consumption can favor (disfavor) firms with certain business models.

To produce fundamentals suitable to scale resource consumption into an intensity metric, adjustments need to be made to financial statement data to improve comparability. To illustrate this, consider the three North American sub-industries: Semiconductors, Hyper-Markets & Super Centers, and Integrated Telecommunication Services (Figure 11).

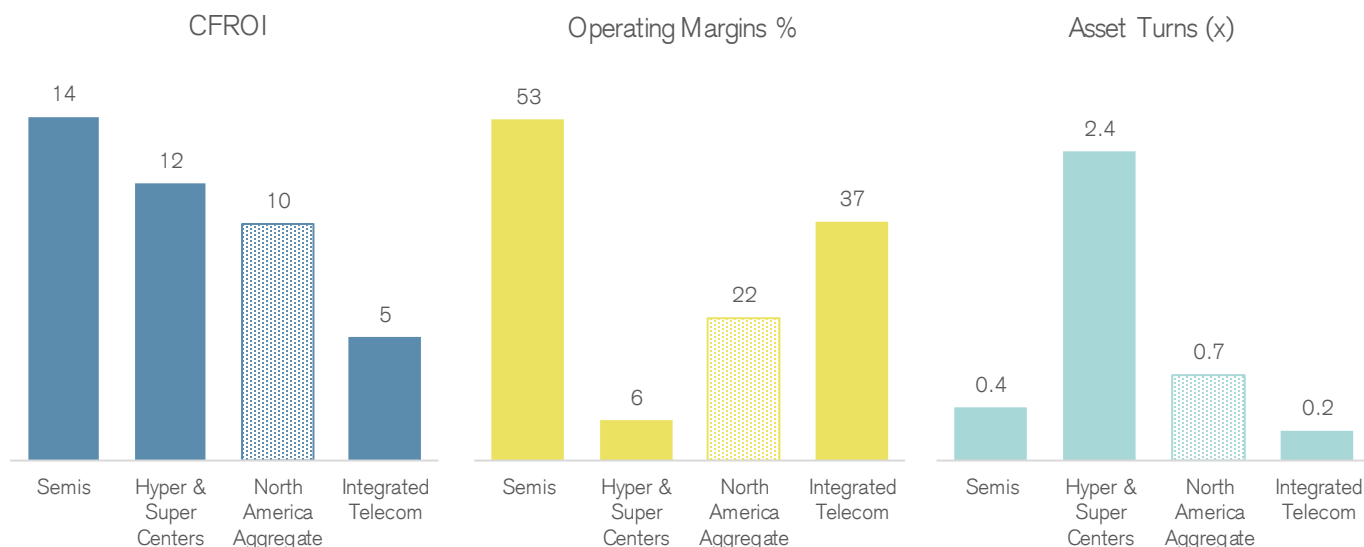
Figure 11: Industry Aggregate Gross Investment Composition



Source: CreditSuisse HOLT as of August 2022. Universe: North American Industrial companies.

While the Hypemarkets & Super Center sub-industry has a gross investment base that is mainly composed of on-balance-sheet assets like plant and leased assets, the Semiconductor sub-industry requires the capitalization of Research & Development (representing on average more than 25% of gross investment) and the Integrated Telecommunications sub-industry requires proper distinction between large operating intangibles (typically spectrum rights) and non-operating intangibles (typically goodwill). Similarly, each sub-industry has a different profitability level (CFROI) and economic-driver profile (balance between Operating Margins and Asset Turns, Figure 12). Both issues introduce challenges when translating resource consumption into resource intensity.

Figure 12: Industry Aggregate Profitability Profile



Source: Credit Suisse HOLT as of August 2022. Universe: North American Industrial companies.

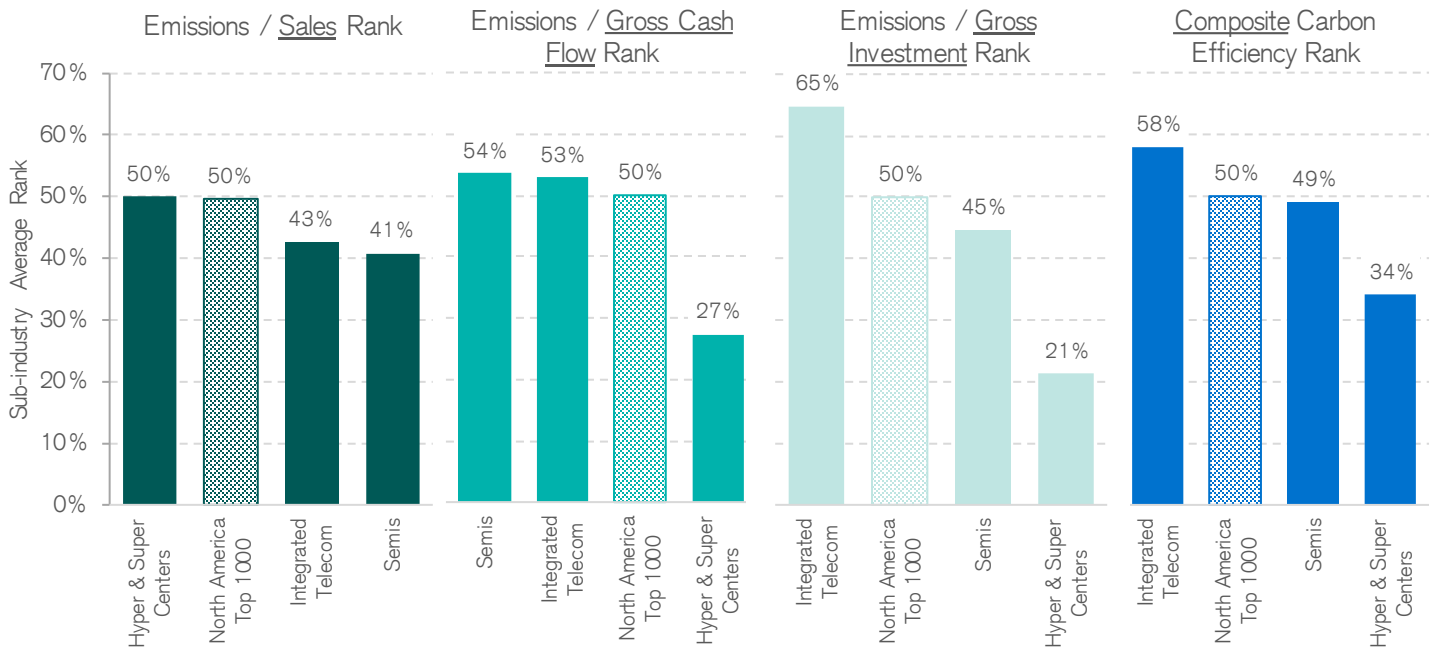
Figure 13 makes clear the limitations of relying on any single metric to translate resource consumption into intensity. The HSS addresses these difficulties. For example, to estimate Carbon Efficiency, each firm's emissions are scaled by three measures of company fundamentals: sales, gross cash flow, and gross investment. The average Carbon Efficiency rank for firms in each sub-industry is displayed (100 = Highest Carbon Efficiency) for each measure in Figure 13, as is a composite of all three measures. If a single metric were used to fully represent Carbon Efficiency, the selection of the metric would determine the least carbon-intensive sub-industry (highest rank) as each sub-industry ranks best on one of the three measures.

Figure 13 illustrates the benefits and limitations of each measure of resource intensity. The Resource Efficiency pillar in the HSS surveys all three intensity metrics to produce a comprehensive and stable assessment. To illustrate, Hyper-Markets & Super Centers deliver 12% CFROI via ultra-low margins scaled by very high asset turnover – an operating profile that produces favorable carbon intensity when evaluated on Emissions / Sales. However, seen through the lens of Emissions / Gross Cash Flow and Emissions / Gross Investment, Hyper Markets & Super Centers rank as the most carbon intensive of the three sub-industries.

The Integrated Telecommunication Services industry ranks comparatively carbon intensive on Emissions / Sales as it drives profitability through higher margins. On the other hand, the large capital base for the industry advantages it on Emissions / Gross Investment, even though low asset turnover is a drag on the group's overall profitability.

Semiconductors, which produce lower sales at higher margin, are disadvantaged when scaling emissions by sales but screen well when emissions are scaled by gross cash flow. However, investors concerned that the cyclical nature of Semiconductor firms' sales and cash flows might produce a more volatile assessment of resource intensity than desired might prefer Emissions / Gross Investment, which will offer more consistency through the cycle.

Figure 13: Carbon Efficiency Profile by Financial Metric



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 1000 companies in North America by market cap. Scoring: Region-size relative. Composite Carbon Efficiency Rank is the re-ranked average of Emissions to Sales Rank, Emissions to Gross Investment Rank and Emissions to Gross Cash Flow Rank. In all cases a rank of 0 represents the most carbon-intensive company while a rank of 100 represents the least carbon-intensive company.

Table 1 summarizes the benefits and limitations of each measure of resource intensity. In its use of all three measures, the pillar offers a comprehensive assessment of resource efficiency that will be more persistent and comparable than any of the individual measures.

Table 1: Financial Metrics used to calculate Resource Efficiency

Financial Metric	Explanation
Sales	<p>How much of a resource does a firm emit / consume to generate one million USD of Sales?</p> <p>Details: Sales is the top-line revenue generated by the firm.</p> <p>Benefits: Normalizing resource consumption by sales offers a simple approach to measuring resource intensity that is less exposed to potential distortions embedded in more detailed financial measures.</p> <p>Limitations: The measure can favor high-volume businesses with low margins relative to similarly profitable businesses with lower volume but higher margins. Also, for firms with sales linked to commodity prices such as oil or copper, scaling by sales can give the illusion of rising/falling resource intensity as commodity prices fall/rise.</p>
Gross Cash Flow (GCF)	<p>How much of a resource does a firm emit / consume to generate one million USD of HOLT Gross Cash Flow?</p> <p>Details: HOLT Gross Cash Flow (GCF) is used in the CFROI calculation to represent the annual cash flow generated to all capital owners. GCF includes net income adjusted for special items, depreciation & amortization, interest expense, rental expense, R&D, minority interest, and other accounting and economic adjustments that improve comparability.</p> <p>Benefits: Normalizing by GCF provides a close link between resource consumption and the key driver of firm value.</p> <p>Limitations: Because of the operating leverage embedded in most businesses, scaling by GCF can produce lower (higher) resource intensity at cyclical peaks (troughs), particularly for highly cyclical firms. Scaling by Gross Cash Flow also offers limitations for early-life-cycle firms with negative cash generation.</p>
Gross Investment (GI)	<p>How much of a resource does a firm emit / consume relative to its asset footprint?</p> <p>Details: Gross Investment (GI) is used in the CFROI calculation to represent the total capital base of the firm. Like Gross Cash Flow, the calculation of Gross Investment includes important accounting and economic adjustments that are critical to ensuring comparability across firms.</p> <p>Benefits: Scaling by GI offers a measure of efficiency that is more stable throughout the cycle and can be useful in evaluating firms that are earlier in the corporate lifecycle.</p> <p>Limitations: The measure can favor firms with higher levels of asset intensity relative to similarly profitable businesses that operate asset-light business models.</p>

Governance Pillar

Components

- 40% Management Incentive Score
- 60% Pay for Performance Alignment - Overall

See more calculation details on [page 42](#).

Agency risk – the risk that the interests of the owners and the management of a firm are not aligned – is the key focus of the Governance pillar within the HSS. Well-aligned executive compensation packages can help to mitigate agency risk. The Governance pillar seeks to identify the extent to which CEO incentives are aligned with long-term wealth creation and the extent to which CEO pay is aligned with both achieved financial performance and industry norms.

Management Incentive Score

Evaluating CEO incentives is challenging for investors because of the complex nature of proxy filings, the lack of standardized data, and the need to incorporate context when determining if certain incentives are appropriate for a firm.

The HOLT Management Incentive Score (MIS) provides a systematic and efficient approach to analyzing the extent to which CEO incentives are aligned with long-term wealth creation principles. The MIS organizes thousands of discrete measures used in CEO incentive plans into 14 metric groups and 48 metric categories. The standardized data are then used to drive a Management Incentive Score, which evaluates CEO incentives across four key areas: Transparency & Focus, Total Shareholder Return, Short-Termism, and Incentive Plan Design.

The MIS introduces logic that puts incentives into the context needed to determine if they effectively encourage long-term wealth creation for the firm. For example:

- **Earnings** metrics like Net Income, EPS, EBIT, etc., are widely followed by investors and are the most frequently used category of metrics used in CEO incentive plans. However, for firms that use them, it is important to assess the relationship between earnings and cash flow.
- **Total Shareholder Return (TSR)** incentive metrics explicitly link the success of shareholders and management and are the second most used category of metrics. However, it is important to determine if TSR is evaluated in absolute terms or relative to a narrowly defined universe of peers, and if TSR is measured over an appropriate time horizon.
- Incentive metrics focused on **Growth** are intuitive; however, the appropriateness of Growth metrics depends on the firm's return on capital (i.e., CFROI) relative to the firm's cost of capital (growth is wealth destructive for firms that earn returns on capital less than their cost of capital).
- **Return on Capital** incentive metrics are generally desirable; however, certain metrics such as ROE can be driven by non-operational factors such as changes in capital structure.

The MIS produces a 0-10 output with scores of 6-10 designated as Above Average, 4-5 as Average and 0-3 as Below Average. Firms classified as Above Average, typically about one-third of firms, receive a benefit in the Governance Pillar, while firms classified as Below Average receive reductions.

Management Incentives in the U.S. Energy Sector

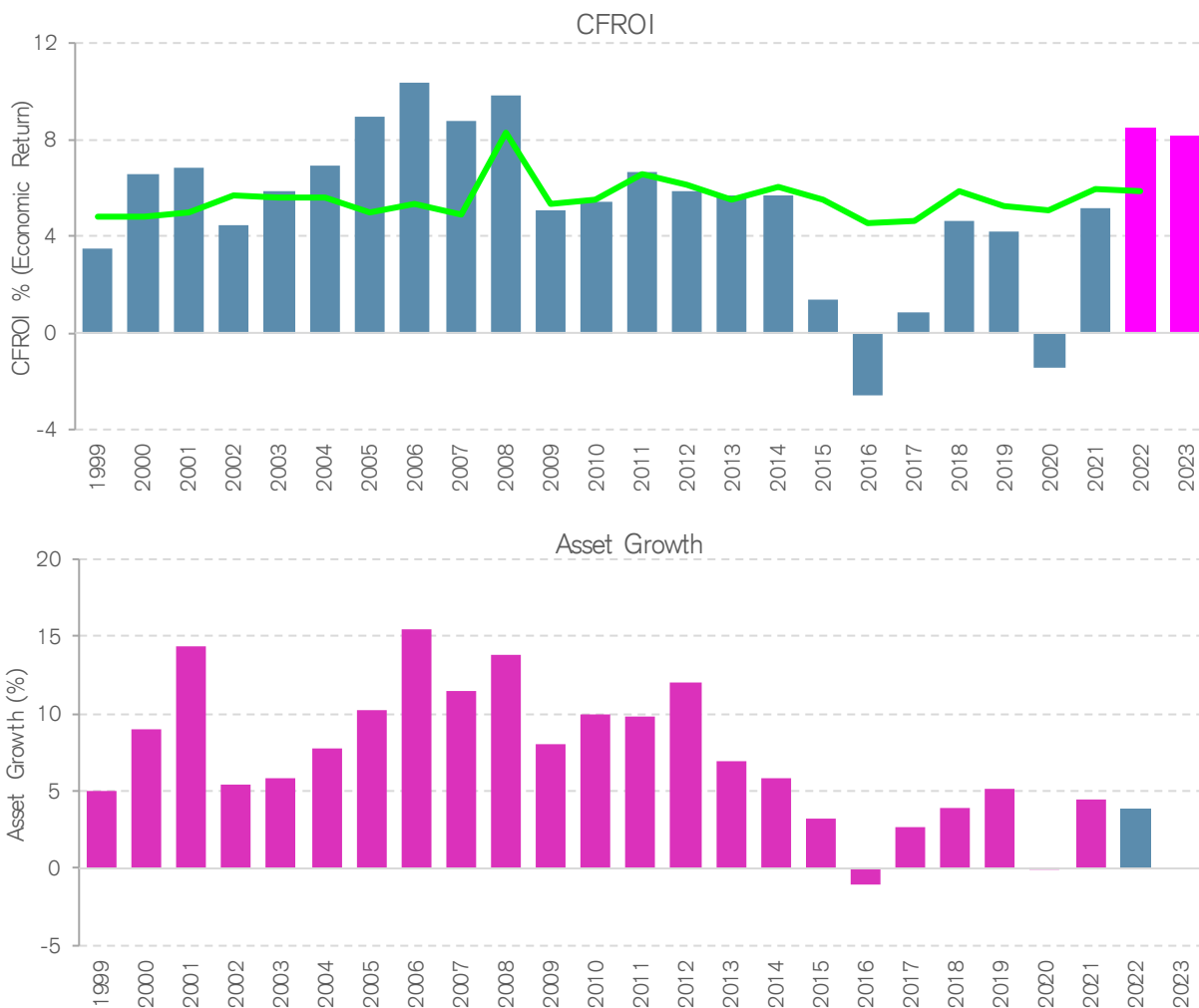
By categorizing thousands of metrics used in CEO incentive plans into standardized groupings, the HOLT Management Incentives data set allows investors to relate a firm's operating decisions to the incentives that were in place at the time. The U.S. Energy sector offers a good illustration of the linkage between incentives, corporate performance, and wealth creation principles.

After earning CFROI above the cost of capital for most of the prior decade, the U.S. Energy sector saw profitability plummet alongside commodity prices following the Global Financial Crisis (Figure 14). Though CFROI for the sector remained below the cost of capital, the sector continued to grow its invested capital base at a relatively fast pace through 2015, suppressing its ability to improve CFROI.

As illustrated in Figure 15, the period from 2010-2016 saw the usage of “Growth” metrics such as Sales, Reserves, or Production growth in Energy CEO incentives more than triple to 36% of firms. In fact, the usage of Growth metrics briefly exceeded that of ROIC metrics in 2016. Growth incentives are appropriate for firms that earn their cost of capital, but wealth creation principles suggest firms with low CFROI should focus on improving profitability before pursuing growth. This distinction is one of the many pieces of context incorporated into the HOLT Management Incentive Score when evaluating the alignment of CEO incentives with long-term shareholder wealth creation. Through this lens, the Energy sector should have been focusing on improving profitability rather than pursuing growth during that period.

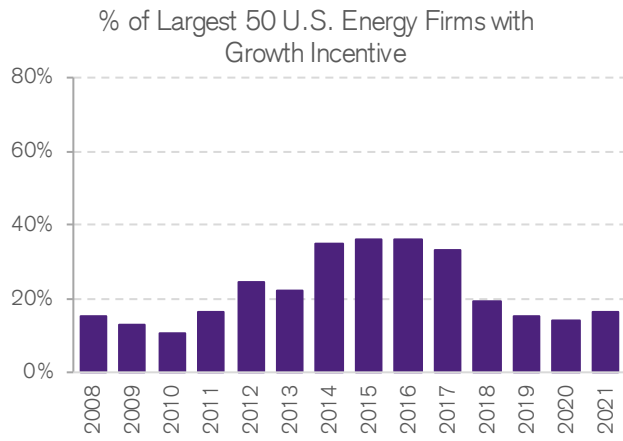
Over the last five years, incentives have become more appropriate for the sector. The usage of Growth metrics has substantially declined while the usage of incentives that consider capital discipline such as ROIC and Cash Flow (particularly Free Cash Flow) metrics has increased; the asset growth rates within the Energy sector have slowed considerably in recent years.

Figure 14: U.S. Aggregate Energy Sector CFROI & Asset Growth

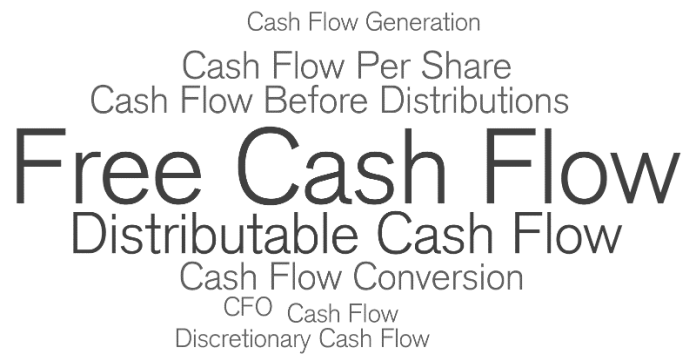
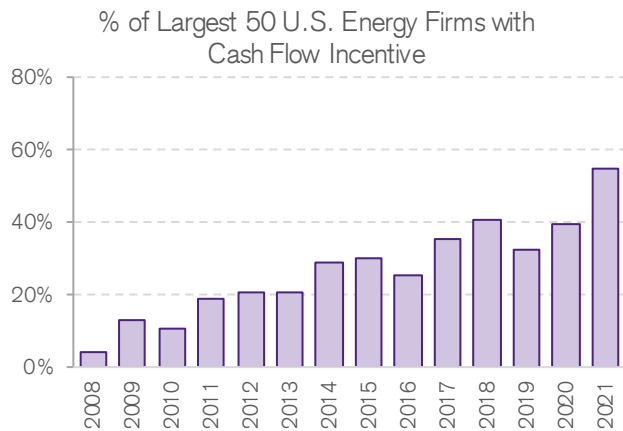
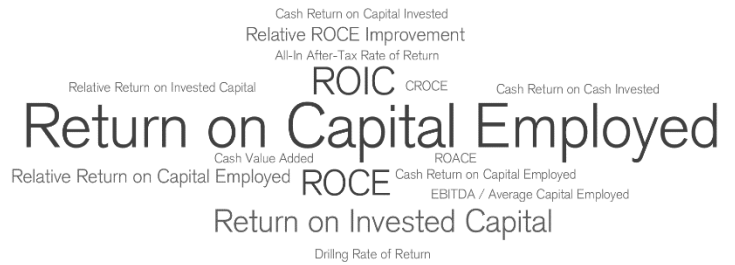
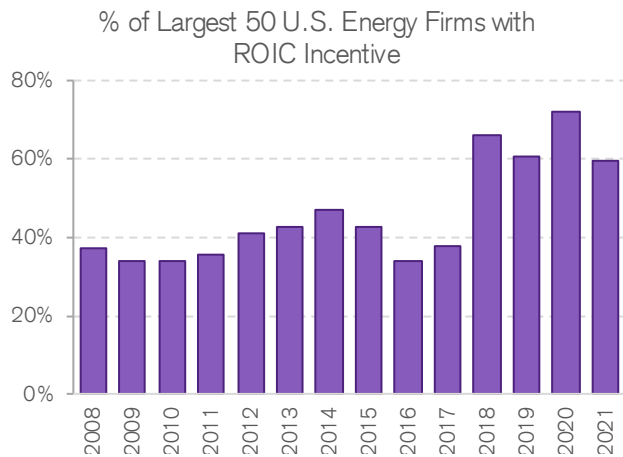


Source: Credit Suisse HOLT as of August 2022. Universe: Largest 50 Energy companies in the US. Aggregates show median levels for the sector.

Figure 15: Largest 50 U.S. Energy Firms, Usage Frequency of Select Incentive Groups



Incentives used by Largest 50 U.S. Energy Firms by Category, sized by frequency of use



Source: Credit Suisse HOLT as of August 2022. Universe: Largest 50 Energy companies in the US.

Pay for Performance Alignment – Overall

Pay for Performance offers a critical compliment to the Management Incentive Score within the Governance pillar. While the Management Incentive Score measures the alignment of CEO incentives with wealth creation principles, Pay for Performance gauges the extent to which pay is aligned with the achieved corporate performance delivered by management.

The HOLT Pay for Performance Alignment metric measures each firm's delivered performance, its [Transaction Economic Profit](#) (EP), relative to CEO pay. Once pay is evaluated in relation to EP, pay practices can be compared to relevant peers to determine the extent to which they align to or diverge from norms.

The HOLT Pay for Performance evaluation considers both the level and trend of the Economic Profit to Pay Ratio as well as the Industry Alignment of the level and trend of the ratio. These four components (see table below) are combined to produce the Pay for Performance Alignment – Overall Score for each firm that is used in the HSS. Full transparency into the drivers of the overall score are offered in HOLT Lens.

Pay for Performance Overall	
Level – Economic Profit to Pay Ratio (25%)	Level – Industry Alignment (25%)
Trend – Economic Profit to Pay Ratio (25%)	Trend – Industry Alignment (25%)

Economic Profit to Pay Ratio – Level (25%) and Trend (25%)

Ideally a firm's CEO pay package will be commensurate to the achieved wealth creation (EP) of the firm. To evaluate this over a time-horizon that reasonably relates management decisions to firm results, three-year pay and economic profit levels are used. Firms with the highest level of economic profit relative to pay receive the highest assessment on this metric.

EP to Pay Ratio Level offers limitations when evaluating CEO pay at firms with rapidly changing profitability such as early-life-cycle firms or firms that are undergoing restructuring. To accommodate these circumstances, the three-year trend in EP to Pay is evaluated, with firms offering the greatest improvement in Economic Profit relative to Pay receiving the highest assessment.

Industry Alignment – Level (25%) and Trend (25%)

A firm where high or improving EP is being delivered relative to CEO pay might initially indicate additional value that is accrued to shareholders. However, if pay policies are not competitive with peers, it could reveal a risk that either the CEO could leave in favor of a firm more willing to pay for achieved results, or the compensation scheme has not adequately defined achieved performance. To incorporate these risks, Industry Alignment scores evaluate the alignment of pay practices to peers, with firms that have pay practices that are most misaligned from industry peers offering the lowest scores.

In combining these four metrics, the Pay for Performance Overall Score will favor those firms where CEOs are delivering high levels and rates of change of Economic Profit relative to their pay, but where pay practices don't materially diverge from industry norms. Firms that rank the lowest will be those offering high levels of CEO compensation relative to the level and change in firm EP, and where those practices diverge from those of peers.

Economic Profit to Pay Ratio & Industry Alignment Illustrated

To understand the interaction between Pay for Performance levels and industry alignment, consider the sample of four hypothetical firms provided in Figure 16.

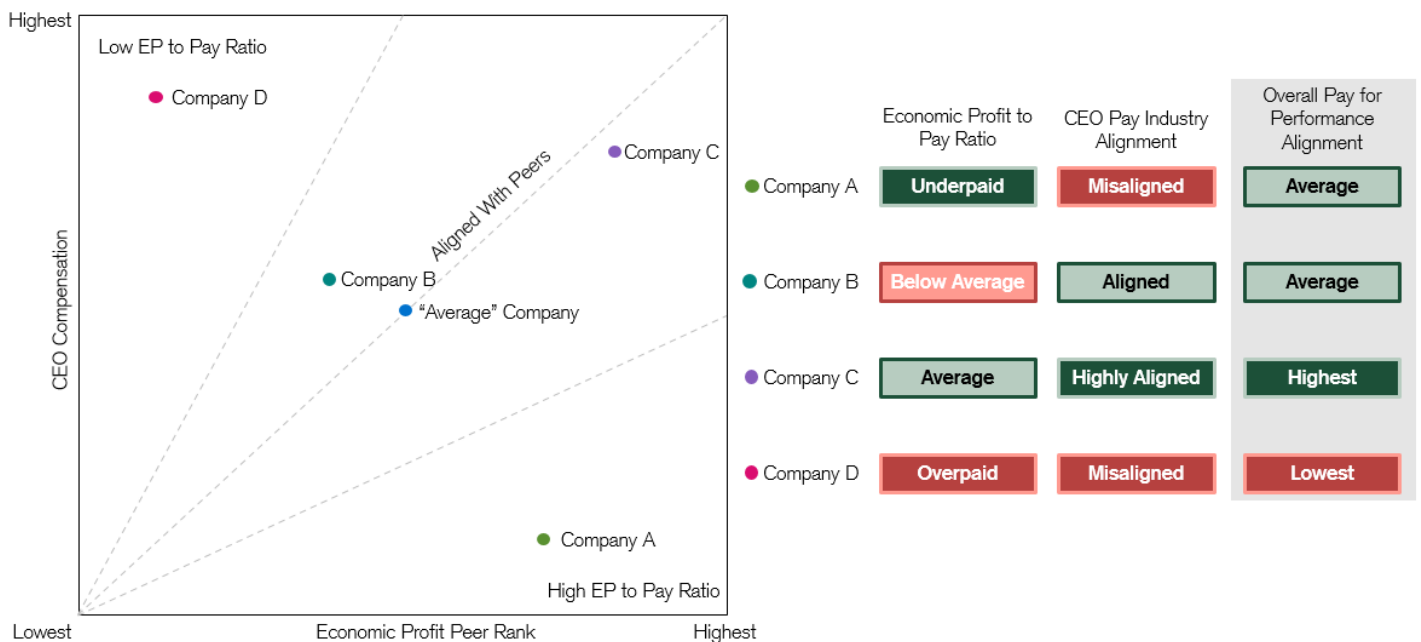
Company A generates high levels of economic profit and yet pays its CEO relatively little. Its high Economic Profit to Pay Ratio is favorable relative to its peer group; however, its compensation package is not aligned to the industry standard and, as such, the company's Industry Alignment assessment is among the most misaligned. On balance, Company A screens as average; however, the low pay may warrant further investigation.

Company B has slightly below average Economic Profit and slightly above average CEO pay. On the Economic Profit to Pay ratio the company screens as worse than average, however EP to Pay is relatively aligned with the industry. Company B's Overall score would be Average and close to that of Company A because the lower Economic Profit to Pay ratio is offset by higher Industry Alignment.

Company C is highly profitable and has high CEO pay. The company looks favorable on its Economic Profit to Pay Ratio and is relatively aligned to the industry standard, resulting in a favorable Industry Alignment. Firm C will have likely had the highest Overall Alignment score of the four examples.

Company D has relatively low Economic Profit, but its CEO pay is high. The company looks unfavorable on its Economic Profit to Pay Ratio and the relationship is misaligned to the industry standard. Screening less favorably across both dimensions, Firm D will likely represent the highest Pay for Performance risk of the four peers.

Figure 16: Economic Profit to Pay Ratio and Industry Alignment may Confirm or Contradict



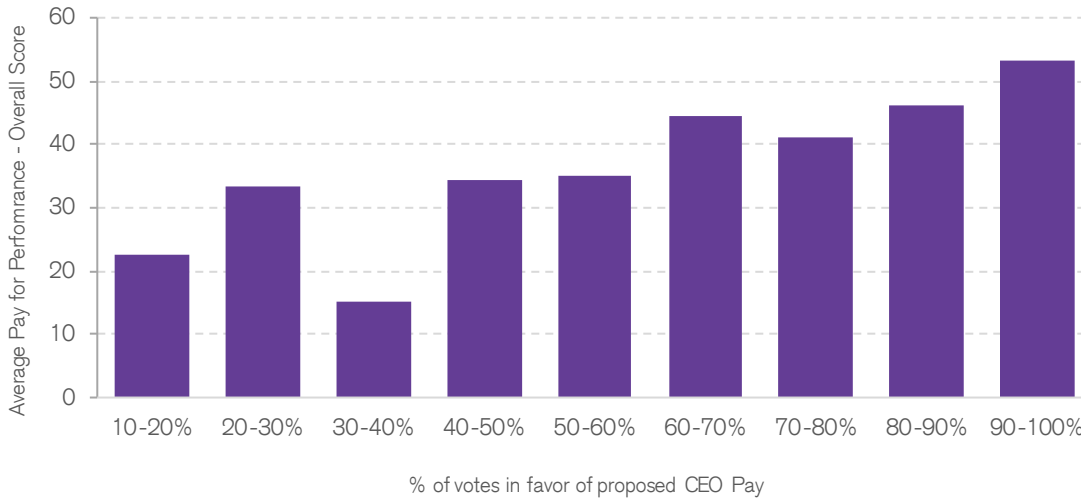
Source: Credit Suisse HOLT.

Comparing the Pay for Performance Score with Say on Pay Results

In the U.S., Say on Pay results offer an opportunity to compare the results of the HOLT Pay for Performance Alignment – Overall Score with investor views about executive compensation.

Figure 17 reveals that firms with a greater percentage of “no” votes, on average, have pay practices that align poorly with their peers on the HOLT Pay for Performance – Overall Score.

Figure 17: Average Alignment Scores for at various levels of shareholder approvals



Source: Credit Suisse HOLT, Factset 2022. Universe: US Companies with HOLT Sustainability Score Data. Data: Votes between Aug 2021 and Aug 2022, Pay for Performance – Overall Alignment Score as of Aug 2022.

Corporate Transparency Pillar

Components

- 75% Resource Transparency
 - 50% Carbon Data Reported
 - 10% Energy Data Reported
 - 10% Water Data Reported
 - 10% Waste Data Reported
 - 10% Science Based Targets Status
 - 10% Science Based Targets Scenario
- 25% Governance & Reporting Transparency
 - 20% Segment Data Quality Score
 - 20% Management Incentive Transparency & Focus Score
 - 20% Accounting Quality Special Items Score
 - 20% Accounting Quality Other Liabilities Score
 - 20% Accounting Quality Other Assets Score

See more calculation details on [page 43](#).

Investors rely heavily on publicly available information to assess both the operational and ESG profile of a firm. To a large extent, the ability to make these assessments, and confidence in them, is driven by the level of transparency provided by companies. The Corporate Transparency pillar seeks to identify the risk associated with firms that are the least forthcoming in providing the information shareholders need to gauge the strength and risks associated with their businesses.

Resource Transparency

To illustrate the role of Corporate Transparency within the HSS, consider a firm that has operations that are water intensive but that chooses not to disclose water usage. The Resource Efficiency pillar is designed to flag risk associated with the firms that have the highest natural resource intensity; however, for firms that do not disclose the data needed to make this assessment a flag is not raised. The Corporate Transparency pillar serves as a check on this behavior by flagging and reducing the Sustainability Score of firms for which this information is not available. As shown in Table 2, as of May 2022 Carbon emissions are the most widely disclosed resource, though disclosure varies by region and resource.

Table 2: Percent of Companies Disclosing Resource Data

	Global	North America	Europe	Japan	Developed Non-Japan Asia	Emerging Markets
Carbon Data	66%	63%	91%	88%	89%	48%
Energy Data	60%	51%	82%	79%	80%	52%
Water Data	55%	45%	70%	79%	74%	50%
Waste Data	48%	36%	69%	78%	67%	41%
Science Based Targets	23%	21%	50%	36%	22%	9%

Source: Credit Suisse HOLT, ISS, Refinitiv ESG, SBTi as of May 2022. Universe: Global companies larger than 5B USD by market cap.

Beyond disclosure of carbon emissions, the pillar evaluates transparency around carbon by highlighting whether companies have disclosed emissions targets. Public reporting from Science Based Targets initiative (SBTi), a partnership between CDP, the UN Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF), is used to independently validate emissions targets for companies. Participation in the initiative is voluntary, but companies that choose to get their emissions targets verified as aligned with the latest climate science by an independent third party should be considered more transparent. As shown in Table 2, Europe currently has the widest adoption of Science Based Targets. Also, emissions target disclosure is meaningfully lower than emissions disclosure globally.

The Resource Transparency Pillar measures both the SBTi Status – whether a company has committed to setting targets or has had its targets approved – and to which SBTi Scenario the firm has aligned its targets. In line with the Paris Agreement, companies which have aligned their targets with a 1.5C warming scenario are given the highest score, followed by companies aligned to a well-below 2C scenario and finally a 2C scenario.

Governance & Reporting Transparency

The Governance & Reporting Transparency sub-pillar includes metrics from across the HOLT platform that measure disclosure and reporting transparency. Areas where companies are less transparent can offer opportunities for investors to engage with management teams to encourage more disclosure.

Segment Data Quality Score

For firms with multiple operating segments, segment-level data can provide investors with valuable information about the drivers of firm-level results. The HOLT Segment Data Quality Score indicates the level of robustness and consistency of the firm's reported segment data across 17 parameters such as the consistency of the segmental reporting structure, the completeness of the segmental data, the extent to which segments reconcile with consolidated numbers, etc. The score ranges from 0 (lowest) to 10 (highest). Firms that operate multiple segments and provide lower-quality segmental data receive a reduction in their Sustainability Scores reflecting the risk that capital could be misallocated across segments.

Management Incentive Transparency & Focus

Similar to the way in which the Resource Transparency Pillar complements the Resource Efficiency Pillar, the Management Incentive Transparency & Focus score can provide a gauge of confidence in a company's transparency around compensation. The score assesses aspects of CEO incentives such as the consistency and measurability of metrics used and the level of disclosure of targets for those metrics.

Accounting Quality Items

Three subcategories in the Accounting Quality Score – Special Items, Other Liabilities, and Other Assets – speak to the transparency of a firm's financial reporting. While often these categories are used to disclose immaterial balances, large or growing balances classified as "other" can be a warning sign. Similarly, Special Items that are material and recurring could indicate a warning flag about the ongoing operational performance of the firm.

Third Party ESG Scores Pillar

Components

- 50% Sustainalytics ESG Risk Score
- 50% Sustainalytics Highest Controversy Level

See more calculation details on [page 45](#).

The first seven pillars of the HSS focus on HOLT measures of the Financial, Environmental, and Governance aspects of Sustainability that can be quantified, compared, and linked to firm value. The final pillar, Third Party ESG Scores, allows users to objectively incorporate data from third-party providers of ESG data. Initially, the pillar incorporates two data items from Sustainalytics, but the providers and scope of data included will be expanded over time.

The incorporation of Third Party ESG data into the HSS provides several benefits to users.

First, users benefit from the convenience of independent, third-party data directly integrated with the HOLT Lens Sustainability workflows and screening capabilities.

Second, Social aspects of ESG are outside of the scope of the HOLT measures provided in the first seven pillars as they tend to be difficult to measure, compare, and relate to firm value. The incorporation of third-party ESG data that include social considerations within their overall assessments provides a first step toward incorporating Social Risk into the HSS, while the small weight in the Overall Sustainability Score leaves it well anchored by HOLT financial metrics.

Third, the Third Party ESG Scores pillar adds valuable flexibility to the use of the HOLT Sustainability Dashboard. Users can use the perspectives from the Third Party ESG pillar to both complement the existing seven pillars in the HSS as well as contrast the HOLT Sustainability assessment with that of other processes. The use of third-party ESG data in the HSS allows the Overall score to benefit from the incorporation of independent perspectives and consideration of risks outside the scope of HOLT data. Similarly, users might find equally helpful the ability to quickly screen for firms where the HSS and third-party ESG data conflict.

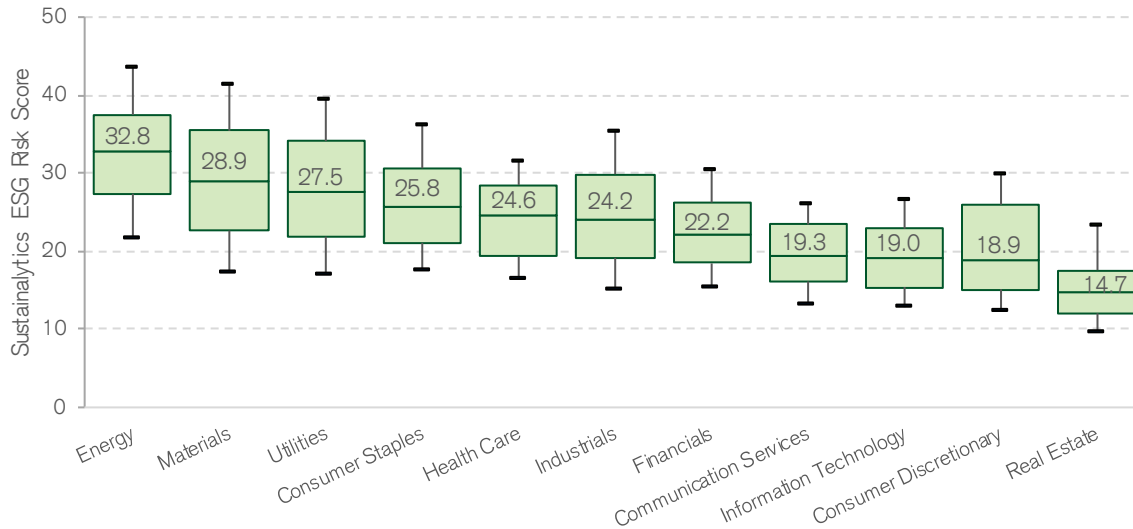
Third-party data is used systematically without interpretation or qualification from HOLT, and therefore reflects the process and conclusions of the providers. The incorporation of data from third-party vendors into the HSS is similar to metrics in other pillars, see [page 45](#) for implementation details.

Sustainalytics ESG Risk Score

Sustainalytics provides overall [ESG Risk Scores](#) which measure the magnitude of a company's unmanaged ESG risks. A lower score represents less risk and is favorable.

Sustainalytics ESG Risk Scores are measured on an absolute basis, producing natural sector differences. As shown in Figure 18, Energy companies receive higher (worse) Sustainalytics scores than other sectors while Real Estate companies receive lower (better) scores.

Figure 18: Sustainalytics ESG Risk Scores by Sector



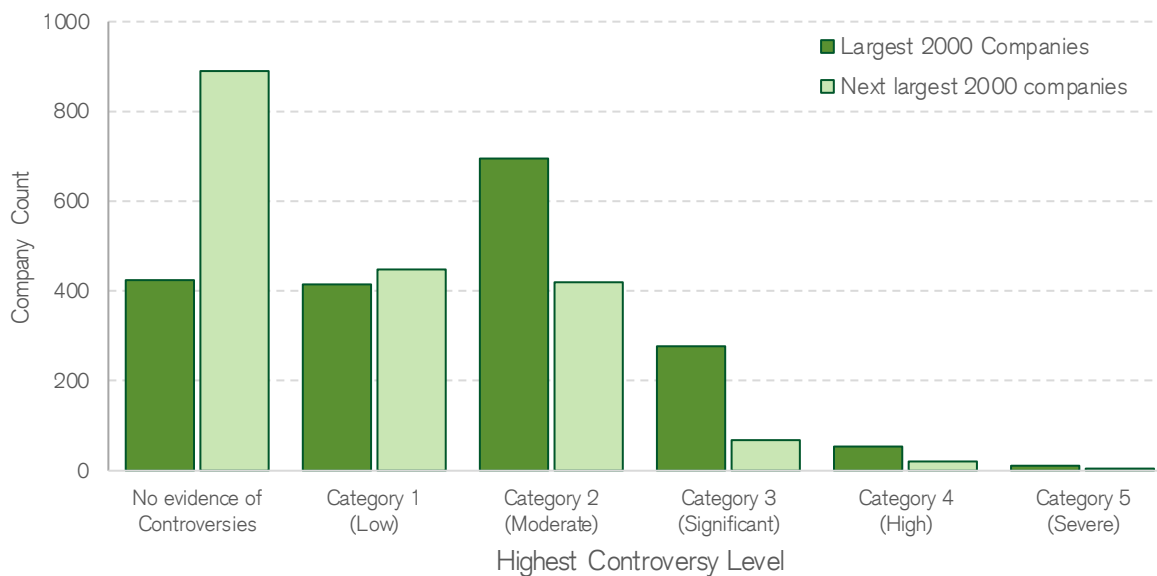
Source: Credit Suisse HOLT, Sustainalytics as of August 2022. Universe: Largest 2000 global companies by USD market cap. The central line and label show the sector median, the box represents the 75th and 25th percentiles, and the Whiskers represent the 90th and 10th percentiles.

Sustainalytics Highest Controversy Level

Controversial activity can have a meaningful economic impact on a firm as it deals with legal and reputational repercussions. Sustainalytics evaluates the severity of the controversies on a scale ranging from No evidence of Controversies up to Category 5 (Severe). The [Highest Controversy Level](#) is used in the HSS, which simply takes the highest level a company has received on any individual controversy.

Sustainalytics Controversy Levels, like their ESG Risk Scores, are assessed on an absolute basis. As shown in Figure 19, many companies have No evidence of Controversies and very few have Category 4 or 5 controversies. Larger companies tend to have higher controversies than smaller companies.

Figure 19: Highest Controversy Level Distribution by Size



Source: Credit Suisse HOLT, Sustainalytics as of August 2022. Universe: Largest 4000 global companies by USD market cap.

Scoring Methodology Overview

The HOLT Sustainability Score and its underlying metrics, composites, and pillars are presented as a unified dashboard enabling investors to quickly observe a firm's relative Sustainability while also providing the transparency and flexibility to allow investors to focus on the aspects of Sustainability that are most relevant to each investment process.

The melding of ESG data alongside financial metrics introduces several challenges to building a systematic scoring methodology such as coverage gaps, incomplete data, and an increased need to consider materiality. The scoring methodology used for the HSS is constructed to accommodate these challenges and produce a coherent and comprehensive assessment of relative sustainability.

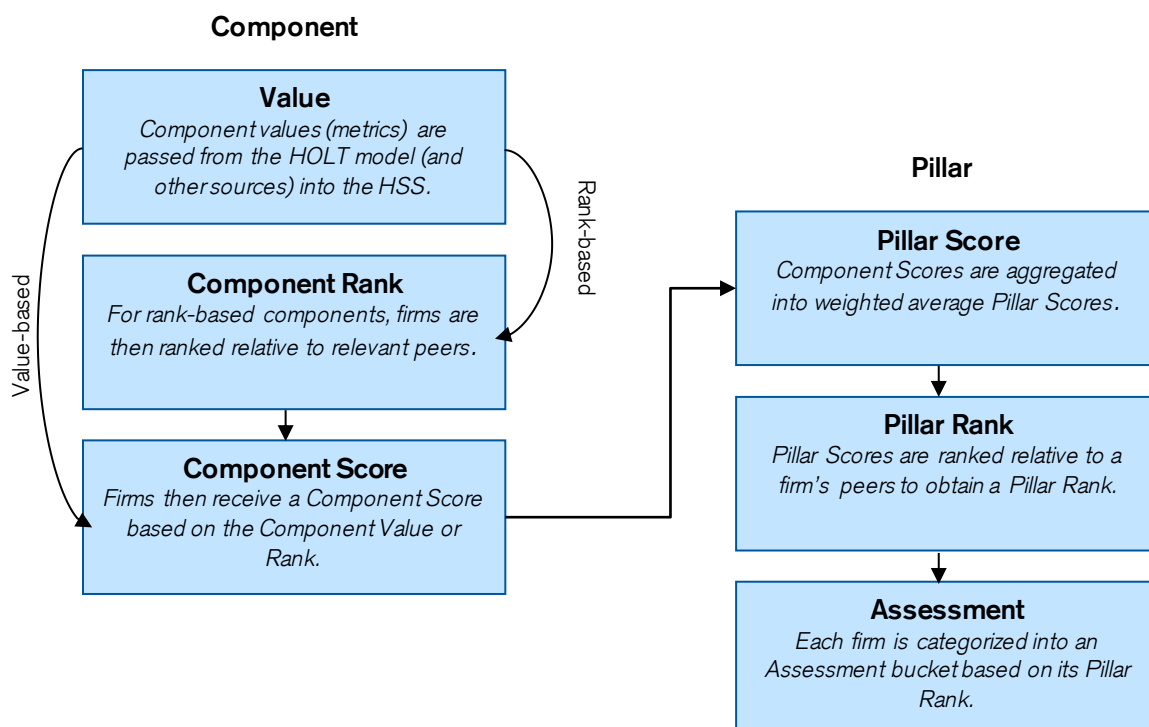
Rank-based versus Value-based Components

The individual metrics that drive the HOLT Sustainability Score are diverse and complex including some, such as the HOLT Accounting Quality Score, which themselves are the output of robust scoring systems. To allow for optimal incorporation of each component, the HSS has bifurcated the scoring process between rank-based and value-based components.

Rank-based components, including the metrics contributing to the Financial Flexibility and Resource Efficiency pillars, need to be standardized relative to a group of peers before they can be incorporated into HSS. For example, the absolute value of a firm's Emissions to Sales metric is difficult to interpret without knowing how it compares with peers. Knowing that a company is more resource intensive than 80% of its peers is much easier to contextualize. In the example displayed in Figure 21, Effective Tax Rate is a rank-based metric.

Value-based components are those which can be used in their raw value form. These include components that represent the output of scoring systems that are applied outside of the HSS and those that are easily interpreted on an absolute basis, such as whether a company discloses resource data (a binary outcome). In the example displayed in Figure 21, Accounting Quality Score is a value-based metric.

Figure 20: HOLT Sustainability Scoring Process



Scoring Process

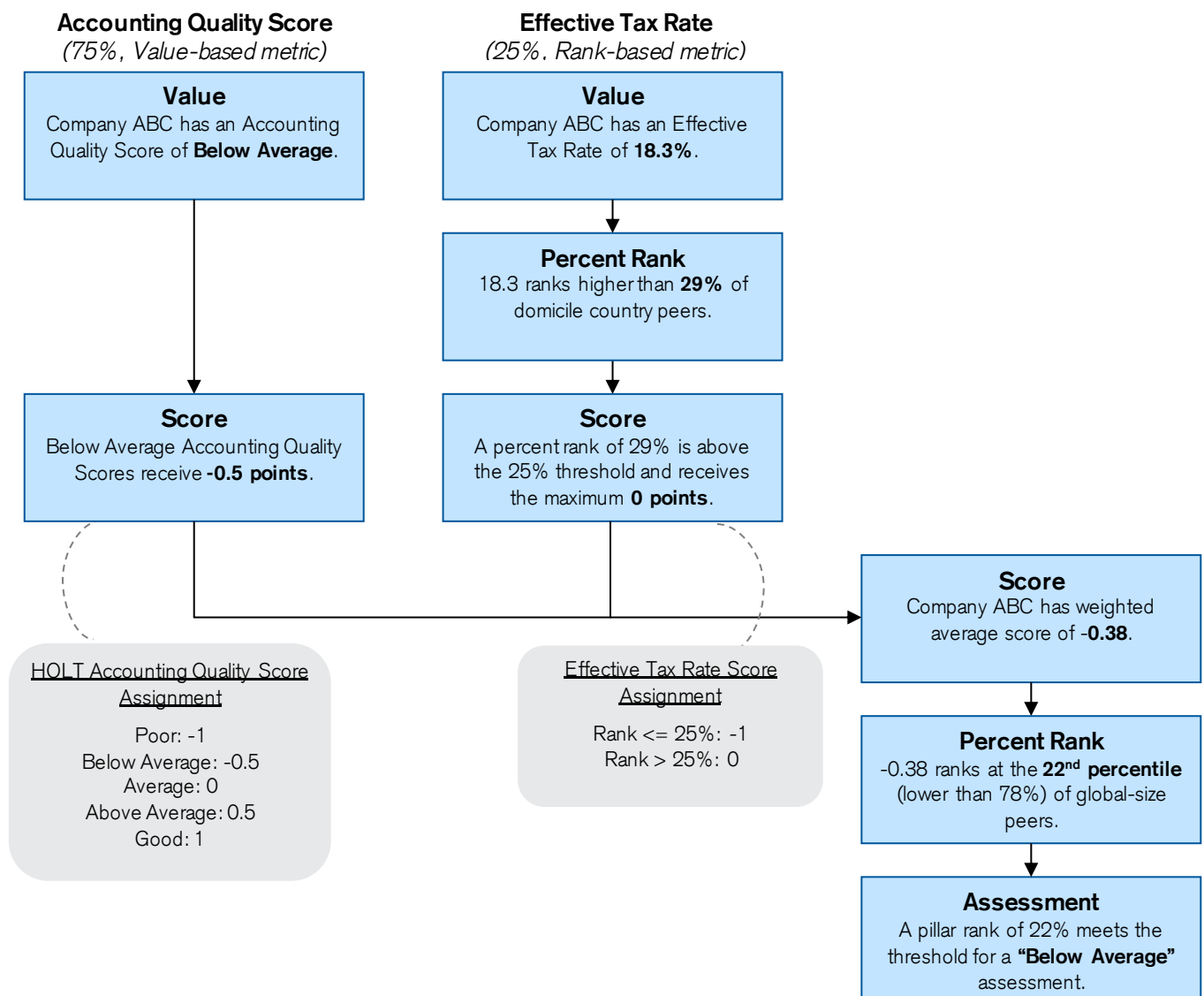
The scoring process starts at the component, or individual metric, level. For rank-based metrics, such as Emissions to Sales, the component is first ranked relative to the peer facet (more detail in the [Facets](#) section below). These component ranks are then converted to a -1 to +1 points scale. For value-based metrics, such as HOLT Accounting Quality Score, the component value itself is converted to the -1 to +1 points.

Conversion to the points scale is conducted using systematic rules that capture the nuances involved in evaluating each metric. For each component the Value (raw input), Rank (peer relative percent rank, where relevant), and Score (points conversion) are displayed in Lens for transparency.

Pillar Scores are the weighted average of the underlying Component Scores. Because Component Scores have been normalized on a -1 to +1 points scale, Pillar Scores operate on the same scale.

Aggregate Scores are the equal-weighted average of the underlying Pillar Scores. Aggregate Scores, like Pillar Scores and Component Scores, range from -1 to +1. However, as further aggregation occurs the distribution of the scores tends to narrow, making it difficult to tell how a company compares to its peers. For ease of interpretability, Pillar and Aggregate Scores are re-ranked relative to the facet.

Figure 21: Accounting & Tax Policies Pillar Example



Merit / Demerit

To accommodate the different role each metric plays in evaluating sustainability, the HSS uses a Merit-Demerit methodology for certain metrics and pillars. This approach enables only the best, only the worst, or the full spectrum of observations to influence HSS as makes sense for each metric.

For most of the HSS metrics it makes sense to differentiate between firms across the entire spectrum of values. For example, incremental improvement across the full range of HOLT Quality Factor Peer Ranks represents information that is valuable in determining a firm's Competitive Position. Metrics like HOLT Quality Peer Rank that are evaluated continuously will have scores that span the full range between -1 and +1, with an average Quality firm receiving a score of zero.

However, for some metrics the targeting of outlier values in one direction provides the signal needed to inform sustainability. For example, Resource Efficiency metrics pose risk to sustainability for firms with the weakest observations but distinguishing amongst the many firms with minimal resource intensity is less additive. On these Demerit metrics, firms earn scores ranging between -1 and 0, leaving only the firms with the most unfavorable characteristics with a negative contribution to their HSS and all firms with above average metrics with uniform scores of zero.

Alternatively, R&D Intensity metrics provide a benefit to the Sustainability Scores of firms that invest the most heavily in innovation, but it is not useful (or possible) to differentiate between the many firms that do not invest at all in R&D. On these Merit metrics, scores will range from 0 to +1, with benefits only accruing to the sustainability of the firms with the best metrics.

Pillars which contain exclusively Merit or exclusively Demerit metrics have the same range of scores as their underlying components.

The Pillar and Aggregate Ranks are used to determine the Assessment ("Highest," "Average," etc.) depending on whether the pillar is Merit, Demerit, or Both. The Assessment is a systematic interpretation based on the Rank. Additionally, firms that have no data available on any of the underlying metrics for a Pillar will display "No Data" rather than an Assessment. Table 3 shows how the Assessments are awarded.

Table 3: Assessment Logic for Pillar and Aggregate Ranks

Percent Rank	Merit	Demerit	Both (Merit-Demerit)
100% - 80%	Highest	No Demerit	Highest
80% - 60%	Above Average	No Demerit	Above Average
60% - 40%	Average	Average	Average
40% - 20%	No Merit	Below Average	Below Average
20% - 0%	No Merit	Lowest	Lowest
No available data	No Data	No Data	No Data

Facets

No Faceting by Sector

Some sectors may be more (or less) sustainable than others. The HSS does not enforce sector-relative scoring, so firms in these sectors will tend to receive higher (or lower) scores than firms in other sectors.

By not constraining on sector, users are better able to compare companies across sectors using the HSS. An investor looking for the best (or worst) scoring companies in a particular sector will find tools available in HOLT Lens® to sort companies within a sector on any pillar of interest.

The HSS is available in two variations – Region-Size Relative and Global-Size Relative – to accommodate investors with different benchmarks. Investors with a Global mandate are likely to prefer the Global-Size Relative version while investors with a regional focus may prefer the Region-Size Relative version. Because availability of ESG metrics varies greatly by size, the HSS is always size constrained.

The two variations affect the peer group against which metrics, pillars, and aggregate scores are ranked. Value-based metrics and any pillars comprised only of value-based metrics will not change between the two versions.

The facets leverage the rigorous definitions designed for the [HOLT Factor Library](#) in which Region classification is based on domicile country and Size classification is based on market capitalization.

Table 4 shows the Global-Size and Region-Size facets as of August 2022.

Table 4: Global-Size and Region-Size facets (August 2022)

Global	North America	Japan	Developed Asia ex Japan	Europe	Emerging and Frontier
Top 2,000	Top 1,000	Top 1,000	Top 1,000	Top 1,000	Top 1,000
Between 2,001 – 4,000	Between 1,001 – 3,000	Low or no Analyst Coverage	Low or no Analyst Coverage	Between 1,001 – 3,000	Between 1,001 – 3,000
Between 4,001 – 6,000	All others			Low or no Analyst Coverage	All others
Between 6,001 – 8,000	Low or no Analyst Coverage				Low or no Analyst Coverage
Between 8,001 – 10,000					
All others					
Low or no Analyst Coverage					

List as of August 2022. Facets may be subject to change upon reclassification of the regions and / or when sufficient companies exist to sub-divide a region.

Missing Data

On any metric for which a firm does not have data, a neutral score of 0 will be assigned, meaning in the absence of information to the contrary a firm will not receive a merit or a demerit. Companies which are missing data are not included in the rank calculations. When a firm does not have data for any metrics in a pillar, it will receive a Pillar Score of 0 (the weighted average of 100% zeros is zero) and an Assessment of “No Data.”

Appendix I: Summary of HOLT Sustainability Score Components

The following tables provide the implementation details for the metrics and pillars that contribute to the HOLT Sustainability Score including definitions, weights, Merit/Demerit status, peer-rank facet used (for rank-based metrics), and each component's scoring logic.

HOLT Financial Sustainability Score

The below tables detail the components of the four pillars that make up the HOLT Financial Sustainability Score. The HOLT Financial Sustainability Score is 50% of the Overall Sustainability Score.

Competitive Strength (25%)

The Competitive Strength pillar is 25% of the HOLT Financial Sustainability Score. See more details about this pillar on [page 5](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
75%	Operational Quality Peer Rank	Both	<ul style="list-style-type: none"> The HOLT Quality factor assesses the relative attractiveness of a company based on level and variability of CFROI. The factor incorporates the most recently achieved CFROI level, five-year median CFROI, and the five-year range in CFROI. 	<u>Regional Scorecard:</u> Region-Size Relative	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> (Rank x 2) - 1
				<u>Global Scorecard:</u> Global-Size Relative	
25%	Growth Peer Rank	Both	<ul style="list-style-type: none"> The HOLT Growth Factor gauges the degree to which a company is likely to have higher or lower future cash flow growth relative to its peers. The factor incorporates change in Historical Cash Flow, Forecast CFROI Change, Normalized Growth Rate, and Market Implied Normalized Growth Rate. 	<u>Regional Scorecard:</u> Region-Size Relative	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> (Rank x 2) - 1
				<u>Global Scorecard:</u> Global-Size Relative	

The Operational Quality Peer Rank has been allocated a higher weight given its more persistent and predictive nature. Quality tends to be a more persistent attribute than Growth.

Accounting & Tax Policies (25%)

The Accounting & Tax Policies pillar is 25% of the HOLT Financial Sustainability Score. See more details about this pillar on [page 8](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
75%	Accounting Quality Score	Both	<ul style="list-style-type: none"> HOLT's Accounting Quality Score systematically identifies accounting anomalies in corporate financial statements to help investors better assess the investment risks. The overall score places companies into quintiles based on region-size relative groups defined by the HOLT Accounting Quality process. Insurance, Utilities, and Real Estate firms do not receive an Accounting Quality Score. Companies under \$100 million USD in market cap and firms that do not have EPS estimates also do not receive an Accounting Quality Score. 	<u>Regional & Global Scorecards:</u> Region-Size Relative Quintiles	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Quintile = Lowest (Bottom Quintile): -1 Quintile = Below Average: -0.5 Quintile = Average: 0 Quintile = Above Average: 0.5 Quintile = Highest (Top Quintile): 1
25%	Effective Tax Rate (HOLT Normalized), three-year median	Demerit	<ul style="list-style-type: none"> The HOLT Effective Tax Rate is the ratio of HOLT Adjusted Tax Expense / HOLT Adjusted Pre-Tax Income. HOLT removes special items that can distort pre-tax income and one-off tax items to derive a normalized effective tax rate with a corresponding adjustment to its cash flows. The three-year median only includes years where the firm's HOLT Adjusted Pre-Tax Income is positive. Real Estate firms, REITs, and Custody Banks are not scored on tax rate. 	<u>Regional & Global Scorecards:</u> Domicile Country Relative	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 25%: -1 Otherwise: 0

Given the breadth of issues underlying the score, the Accounting Quality Score is given a higher weight in the pillar than tax rate.

Financial Flexibility (25%)

The Financial Flexibility pillar is 25% of the HOLT Financial Sustainability Score. See more details about this pillar on [page 10](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
60%	HOLT Leverage	Demerit	<ul style="list-style-type: none"> HOLT Leverage is the market value of debt divided by the sum of the market values of debt and equity. The market value of debt includes debt attributed to leased property but excludes the net economic pension and post-retirement liabilities. HOLT Leverage is not calculated for financial firms. Utilities and Real Estate firms are scored within their sectors. All Industrials are scored sector unconstrained. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size	
20%	Gross Cash Flow / HOLT Debt	Demerit	<ul style="list-style-type: none"> Gross Cash Flow / HOLT Debt is calculated as the ratio of gross cash flow to HOLT debt. Gross Cash Flow / HOLT Debt is not calculated for financial firms. Utilities and Real Estate firms are scored within their sectors. Industrials are scored sector unconstrained. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 40%: -1 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size	
10%	HOLT Fixed Charge Coverage Ratio	Demerit	<ul style="list-style-type: none"> HOLT Fixed Charge Coverage Ratio is calculated by taking Gross Cash Flow divided by fixed charges: rent, research and development expenses, adjusted interest expense, common dividends, and capital expenditures. The Fixed Charge Coverage Ratio is not calculated for financial firms. Utilities and Real Estate firms are scored within their sectors. Industrials are scored sector unconstrained. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 40%: -1 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size	
10%	HOLT Financing Fixed Charge Coverage Ratio	Demerit	<ul style="list-style-type: none"> HOLT Financing Fixed Charge Coverage Ratio is calculated by taking Gross Cash Flow divided by financing fixed charges: dividends, interest expense, and rental expense. The Financing Fixed Charge Coverage Ratio is not calculated for financial firms. Utilities and Real Estate firms are scored within their sectors. All Industrials are scored sector unconstrained. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 40%: -1 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size	

The pillar is split such that 60% of the weight is attributed to leverage and 40% is attributed to cash flow-based coverage metrics. The cash flow-based weight is distributed evenly between Gross Cash Flow / HOLT Debt and HOLT Fixed Charge Coverage Ratios.

R&D Intensity (25%)

The R&D Intensity pillar is 25% of the HOLT Financial Sustainability Score. See more details about this pillar on [page 12](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
37.5%	Capitalized R&D / Gross Investment	Merit	<ul style="list-style-type: none"> The Capitalized R&D / Gross Investment ratio identifies companies that are investing a portion of their asset base into R&D over time. Research and development expenditures are uniformly capitalized in HOLT's Gross Investment base across accounting regimes. This ratio is ranked once using the normal Region-Size & Global-Size Facets (37.5% weight), and again using Region-Sector-Size & Global-Sector-Size facets (12.5% weight). Capitalized R&D / Gross Investment ratio is not calculated for financial firms. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 60%: 0 Rank <= 80%: 0.5 Otherwise: 1
12.5%	Capitalized R&D / Gross Investment (Sector Relative)			<u>Global Scorecard:</u> Global-Size	
37.5%	R&D Expense / Sales	<ul style="list-style-type: none"> The R&D Expense / Sales ratio identifies companies that are reinvesting a portion of their sales into R&D. For companies reporting under IFRS, the annual development cost capitalized onto the balance sheet is included in the R&D to Sales calculation. This ratio is ranked once using the normal Region-Size & Global-Size Facets (37.5% weight), and again using Region-Sector & Global-Sector facets (12.5% weight). R&D Expense / Sales ratio is not calculated for financial firms. 	<u>Regional Scorecard:</u> Region-Size		
12.5%	R&D Expense / Sales (Sector Relative)		<u>Global Scorecard:</u> Global-Sector-Size		

The weights for this pillar are such that there is an equal split between the two metrics – Capitalized R&D as a percentage of Gross Investment and R&D Expense to Sales. Most of the weight, 75%, is allocated to universe-relative metrics while the remaining 25% is allocated to sector relative-metrics. This allows the pillar to flag innovative companies as well as innovators relative to their peer set.

HOLT ESG Sustainability Score

The below tables detail the components of the four pillars that make up the HOLT ESG Sustainability Score. The HOLT ESG Sustainability Score is 50% of the Sustainability Score.

Resource Efficiency (25%)

The Resource Efficiency pillar is 25% of the HOLT ESG Sustainability Score. See more details about this pillar on [page 15](#).

Sub pillar	Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
Carbon Efficiency (70%)	33%	Emissions / Sales	Demerit	<ul style="list-style-type: none"> Emissions / Sales is an intensity metric showing the amount of carbon emitted (Scope 1+2 t CO2e) per million USD of sales. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Emissions / Gross Cash Flow	Demerit	<ul style="list-style-type: none"> Emissions / Gross Cash Flow is an intensity metric showing the amount of carbon emitted (Scope 1+2 t CO2e) per million USD of Gross Cash Flow. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size		
	33%	Emissions / Gross Investment	Demerit	<ul style="list-style-type: none"> Emissions / Gross Investment is an efficiency metric comparing the amount of carbon emitted (scope 1+2 t CO2e) to the USD amount of inflation-adjusted Gross Investment (capital investment). 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size		
Energy Efficiency (10%)	33%	Energy / Sales	Demerit	<ul style="list-style-type: none"> Energy / Sales is an intensity metric showing the amount of energy consumed (GJ) per million USD of sales. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Energy / Gross Cash Flow	Demerit	<ul style="list-style-type: none"> Energy / Gross Cash Flow is an intensity metric showing the amount of energy consumed (GJ) per million USD of Gross Cash Flow. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
				<u>Global Scorecard:</u> Global-Size		

Sub pillar	Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
Energy Efficiency cont.	33%	Energy / Gross Investment	Demerit	<ul style="list-style-type: none"> Energy / Gross Investment is an efficiency metric comparing the amount of energy consumed (GJ) to the USD amount of inflation adjusted Gross Investment (capital investment). 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
Water Efficiency (10%)	33%	Water / Sales	Demerit	<ul style="list-style-type: none"> Water / Sales is an intensity metric showing the amount of water withdrawn (cubic meters) per million USD of sales. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Water / Gross Cash Flow	Demerit	<ul style="list-style-type: none"> Water / Gross Cash Flow is an intensity metric showing the amount of water withdrawn (cubic meters) per million USD of Gross Cash Flow. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Water / Gross Investment	Demerit	<ul style="list-style-type: none"> Water / Gross Investment is an efficiency metric comparing the amount of water withdrawn (cubic meters) to the USD amount of inflation adjusted Gross Investment (capital investment). 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
Waste Efficiency (10%)	33%	Waste / Sales	Demerit	<ul style="list-style-type: none"> Waste / Sales is an intensity metric showing the amount of waste produced (tonnes) per million USD of sales. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Waste / Gross Cash Flow	Demerit	<ul style="list-style-type: none"> Waste / Gross Cash Flow is an intensity metric showing the amount of waste produced (tonnes) per million USD of Gross Cash Flow. 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	
	33%	Waste / Gross Investment	Demerit	<ul style="list-style-type: none"> Waste / Gross Investment is an efficiency metric comparing the amount of waste produced (tonnes) to the USD amount of inflation-adjusted Gross Investment (capital investment). 	<u>Regional Scorecard:</u> Region-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 10%: -1 Rank <= 20%: -0.8 Rank <= 30%: -0.6 Rank <= 40%: -0.4 Otherwise: 0
					<u>Global Scorecard:</u> Global-Size	

The largest weight in the pillar is allocated to Carbon Efficiency due to relevance to our investor base and data availability. HOLT Carbon data includes both data reported by companies in their sustainability reports and CDP disclosures as well as estimates from our vendor, ISS. This expands our carbon coverage to ~15k companies globally as of July 2022. Energy, Water, and Waste data is collected solely from company disclosures with more limited availability of ~3k-4k as of July 2022.

Governance (25%)

The Governance pillar is 25% of the HOLT ESG Sustainability Score. See more details about this pillar on [page 21](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
40%	Management Incentive Score	Both	<ul style="list-style-type: none"> The Management Incentive Scorecard systematically analyzes how well the CEOs' performance-based incentives are aligned with long-term shareholder value-creation principles. The score ranges between 0 and 10 (highest). 	No peer data used	<ul style="list-style-type: none"> Value Based <p><u>Score Assignment:</u> Score < 4 (Below Average): -1 Score < 6 (Average): 0 Otherwise (Above Average): 1</p>
60%	Pay for Performance Alignment – Overall	Both	<ul style="list-style-type: none"> The HOLT Pay for Performance Score evaluates the alignment of Net Economic Profit and total CEO Compensation over three years, for both average and trend. Alignment is assessed relative to region-industry peers and considers both how much Economic Profit a company generates per unit of CEO compensation (where the most underpaid CEO scores highest) and how close the ratio is to the median peer (where the most aligned pay scores highest). 	<u>Regional & Global Scorecards:</u> Region-Industry Relative	<ul style="list-style-type: none"> Rank Based <p><u>Score Assignment:</u> (Rank x 2) -1</p>

Pay for Performance receives a higher weight in the pillar because CEO compensation data has more coverage, especially in Asia and Emerging Markets.

Corporate Transparency (25%)

The Corporate Transparency pillar is 25% of the HOLT ESG Sustainability Score. See more details about this pillar on [page 27](#).

Sub pillar	Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
Resource Transparency (75%)	50%	Carbon Data Reported	Both	<ul style="list-style-type: none"> Indicates whether the company reports carbon emissions data. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> No: -1 Yes: 1
	10%	Energy Data Reported	Both	<ul style="list-style-type: none"> Indicates whether the company reports energy consumption data. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> No: -1 Yes: 1
	10%	Water Data Reported	Both	<ul style="list-style-type: none"> Indicates whether the company reports water withdrawal data. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> No: -1 Yes: 1
	10%	Waste Data Reported	Both	<ul style="list-style-type: none"> Indicates whether the company reports waste production data. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> No: -1 Yes: 1
	10%	Science Based Targets Status	Both	<ul style="list-style-type: none"> Indicates whether the company has signed up to Science Based Targets initiative, a voluntary step to ensure their carbon reduction targets are based on science and third-party reviewed. Committed indicates a company which has committed to setting targets but has not yet had its targets approved. Targets Set indicates a company which has had its targets reviewed and approved by SBTi. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Not Involved: -1 Committed: 0 Targets Set: 1
	10%	Science Based Targets Scenario	Both	<ul style="list-style-type: none"> For companies which have set targets with Science Based Targets initiative, this metric indicates which science-based warming scenario they are aligned with. 1.5C is the most ambitious target followed by Well-below 2C and finally 2C. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> No Targets Set: -1 2C Aligned: -0.5 Well-below 2C Aligned: 0 1.5C Aligned: 1

Sub pillar	Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
Governance & Reporting Transparency (25%)	20%	Segment Data Quality Score	Both	<ul style="list-style-type: none"> The Segment Data Quality Score indicates the level of robustness and consistency of the firm's reported segment data. The score ranges from 0-10 (highest). 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Score <= 3: -1 Score <= 5: 0 otherwise: 1
	20%	Management Incentive Transparency & Focus Score	Both	<ul style="list-style-type: none"> A part of the overall Management Incentive Score calculation, this component ranges from -10 to 0 (highest) with a point deducted for each missing component of HOLT's Transparency and Focus requirements. Requirements include whether performance incentives are granted, incentive targets are disclosed, etc. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Score = -10: -1 Score between -3 & -5: 0.5 Score = -2: 0 Score = -1: 0.5 Score = 0: 1
	20%	Accounting Quality Special Items Score	Both	<ul style="list-style-type: none"> A part of the Accounting Quality Score, the Special Items quintile is based on the materiality and recurrence of special items. The score places companies into quintiles based on region-size-relative groups defined by the HOLT Accounting Quality process. Utilities and Real Estate firms do not receive an Accounting Quality Special Items Score. 	<u>Regional & Global Scorecards:</u> Region-Size Relative Quintiles	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Quintile = Lowest (Bottom Quintile): -1 Quintile = Below Average: 0.5 Quintile = Average: 0 Quintile = Above Average: 0.5 Quintile = Highest (Top Quintile): 1
	20%	Accounting Quality Other Liabilities Score	Both	<ul style="list-style-type: none"> A part of the Accounting Quality Score, Other Liabilities is based on the significance and volatility of other liabilities as well as whether they are at peak levels. The score places companies into quintiles based on region-size-relative groups defined by the HOLT Accounting Quality process. Banks, Utilities, and Real Estate firms do not receive an Accounting Quality Other Liabilities Score. 	<u>Regional & Global Scorecards:</u> Region-Size Relative Quintiles	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Quintile = Lowest (Bottom Quintile): -1 Quintile = Below Average: 0.5 Quintile = Average: 0 Quintile = Above Average: 0.5 Quintile = Highest (Top Quintile): 1
	20%	Accounting Quality Other Assets Score	Both	<ul style="list-style-type: none"> A part of the Accounting Quality Score, Other Assets is based on the significance and volatility of other assets as well as whether they are at peak levels. The score places companies into quintiles based on region-size-relative groups defined by the HOLT Accounting Quality process. Banks, Utilities, and Real Estate firms do not receive an Accounting Quality Other Assets Score. 	<u>Regional & Global Scorecard:</u> Region-Size Relative Quintiles	<ul style="list-style-type: none"> Value Based <u>Score Assignment</u> Quintile = Lowest (Bottom Quintile): -1 Quintile = Below Average: 0.5 Quintile = Average: 0 Quintile = Above Average: 0.5 Quintile = Highest (Top Quintile): 1

The majority of the Corporate Transparency Pillar is comprised of Resource Transparency to serve its role in offsetting the Resource Efficiency Pillar where companies do not disclose data. To best serve this role, the weighting scheme within Resource Transparency – 70% Carbon (emissions + targets), 10% Energy, 10% Water, 10% Waste – is consistent with the weighting scheme applied in the Resource Efficiency pillar.

Third Party ESG Scores (25%)

The Third Party ESG Scores pillar is 25% of the HOLT ESG Sustainability Score. See more details about this pillar on [page 29](#).

Weight	Component Name	Merit / Demerit	Component Details	Peer Facet Used	Scoring Logic
50%	Sustainalytics ESG Risk Score	Both	<ul style="list-style-type: none"> Sustainalytics' ESG Risk Score measures material ESG risk that has not been managed by a company with lower scores representing less unmanaged risk. Their two-dimensional materiality framework measures a company's exposure to industry-specific material risks and how well a company is managing those risks. 	<u>Regional Scorecard:</u> Region-Size <u>Global Scorecard:</u> Global-Size	<ul style="list-style-type: none"> Rank Based <u>Score Assignment:</u> Rank <= 20%: -1.0 Rank <= 40%: -0.5 Rank <= 60%: 0 Rank <= 80%: 0.5 Rank <= 100: 1
50%	Sustainalytics Highest Controversy Level	Demerit	<ul style="list-style-type: none"> Sustainalytics' Controversies Research uses smart technologies to monitor more than 60,000 media sources and 700,000 news items on a daily basis to identify companies involved in ESG-related incidents. The ESG Controversies Level operates on a scale of Category 1 to 5 with 5 representing the most severe controversy. 	No peer data used	<ul style="list-style-type: none"> Value Based <u>Score Assignment:</u> Category 5 – Severe: -1 Category 4 – High: -0.8 Category 3 – Significant: 0.6 Category 2 – Moderate: 0.4 Category 1 – Low: -0.2 No Evidence of Controversies: 0

Sustainalytics ESG Risk Score and Highest Controversy Level are allocated equal weights in the Third Party ESG Scores Pillar.

Appendix II: Sample Screens

Screen 1: High Carbon Intensity, weak Competitive Strength, and low Financial Flexibility could isolate firms where operations are carbon dependent but the firms are not in a strong financial position to fund carbon mitigation efforts.

						Results					
☰	Scorecard - Global Size	🔍	is in	▼	Top 2000 Stocks by Market Cap 🔍	2000 📄 ×					
☰	Carbon Efficiency	🔍	Rank	▼	Global Size Relative	▼	is less than	▼	40	▼	828 📄 ×
☰	Competitive Strength	🔍	Rank	▼	Global Size Relative	▼	is less than	▼	40	▼	453 📄 ×
☰	Financial Flexibility	🔍	Rank	▼	Global Size Relative	▼	is less than	▼	40	▼	284 📄 ×

Source: CreditSuisse HOLT as of September 2022

Screen 2: Strong Competitive Positions with high R&D Intensity could produce a subset of firms with a track record of successful innovation.

						Results					
☰	Scorecard - Global Size	🔍	is in	▼	Top 2000 Stocks by Market Cap 🔍	2000 📄 ×					
☰	Competitive Strength	🔍	Rank	▼	Global Size Relative	▼	is greater than	▼	60	▼	798 📄 ×
☰	R&D Intensity	🔍	Rank	▼	Global Size Relative	▼	is greater than	▼	60	▼	327 📄 ×

Source: CreditSuisse HOLT as of September 2022

Screen 3: Weak Competitive Positions but recently improved Management Incentives could produce ideas potentially well positioned for successful restructurings.

						Results					
☰	Scorecard - Global Size	🔍	is in	▼	Top 2000 Stocks by Market Cap 🔍	2000 📄 ×					
☰	Competitive Strength	🔍	Rank	▼	Global Size Relative	▼	is less than	▼	40	▼	803 📄 ×
☰	Governance	🔍	Rank	▼	Global Size Relative	▼	is greater than	▼	60	▼	104 📄 ×

Source: CreditSuisse HOLT as of September 2022

Screen 4: High Financial Sustainability but weaker Governance and Corporate Transparency could offer a subset of firms where investors can engage with management to better align incentives and improve investor communication in order to drive the firm's valuation.

							Results	
☰	Scorecard - Global Size	🔍	is in	▼	Top 2000 Stocks by Market Cap 🔍		2000 📄 ×	
☰	Financial Sustainability Score	🔍	Rank	▼	Global Size Relative	▼	is greater than ▼ 60 ▼	799 📄 ×
☰	Governance	🔍	Rank	▼	Global Size Relative	▼	is less than ▼ 40 ▼	347 📄 ×
☰	Corporate Transparency	🔍	Rank	▼	Global Size Relative	▼	is less than ▼ 40 ▼	199 📄 ×

Source: CreditSuisse HOLTas of September 2022

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