

The financial materiality of human capital

How employee knowledge, skills and engagement can drive long-term growth and efficiencies

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In brief

- Human capital plays a critical role in driving long-term growth and operational efficiencies at both the macroeconomic and the corporate level.
- Human capital factors, such as employee knowledge, skills and engagement, can materially impact a company's operational performance and economic value. As a result, analysis of human capital factors can provide insights relevant to investors.
- While the current availability of reliable human capital data is somewhat limited in certain jurisdictions, we expect upcoming regulations and frameworks to improve data quality and granularity in the near future.

Introduction

Intangible assets are accounting for an increasing share of corporate valuations, indicating a paradigm shift in how value is created and future growth potential is viewed. In contrast to tangible assets, such as buildings, machinery and inventory, a company's intangible assets have no physical substance. These non-monetary assets include intellectual property, brand recognition, customer satisfaction and human capital.

In this paper, the focus is on human capital, which refers to the knowledge and skills, engagement and motivation, and general wellbeing of a company's employees. All of these human capital factors can potentially have financially material impacts on a company's operational efficiency and risk profile.

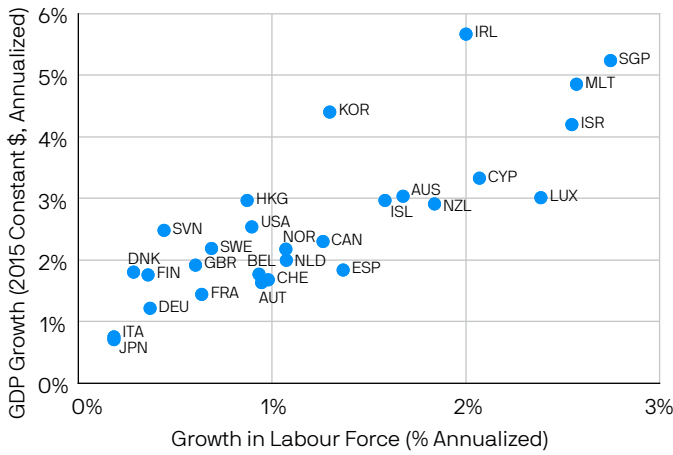
The ways in which human capital factors can materially affect company performance vary across different industries. For instance, technology companies rely heavily on the skills and creativity of their employees to remain innovative and competitive. High employee turnover and low employee engagement can have material effects on the development of new products and innovation cycles. Similarly, companies in the capital-intensive manufacturing sector rely on a skilled workforce for efficient operations, quality controls and innovation.

With investors and financial analysts placing greater emphasis on evaluating intangible assets, and a growing emphasis on social themes and disclosures within the regulatory space, this paper discusses the financial materiality of human capital in companies, and reflects on the implications of our findings for investors.

Human capital is closely linked to long-term economic growth

Human capital plays a pivotal role in shaping the macroeconomic landscape. Empirical evidence shown in **Exhibit 1** suggests a strong long-term positive correlation between the growth of the labour force in developed economies and real GDP growth.

Exhibit 1: Country labour force and GDP growth in developed economies 1991-2023



Source: World Bank Group, July 2024.

The labour force of a country can be influenced by several factors, including population growth, participation rates and social norms. Most developed countries have undergone demographic transitions that have left them with an ageing population and a shrinking workforce (for example, the US, Canada and most of Europe).¹ This demographic transition gives these developed countries a distinct outlook on future labour supply compared to countries with higher birth rates and younger demographics, which continue to experience growth in their labour force.

The ageing population in developed economies could pose challenges to future economic growth and social support structures (for example, healthcare and pension systems), as tax revenues may decline over time with the gradual erosion of the labour force.

Exhibit 2 shows the historical and projected share of the population above 65 years old in the largest economies. While individual countries have unique situations due to their current demographic structures, the upward trends are likely to continue into the next decades. In the US, this share of the population sees only a fairly limited increase, from 17% in 2023 to 23% in 2050. In China, where government policies have historically limited birth rates, the share of over 65 year olds could more than double from its current 14% to 31% in 2050.

The human capital regulatory landscape

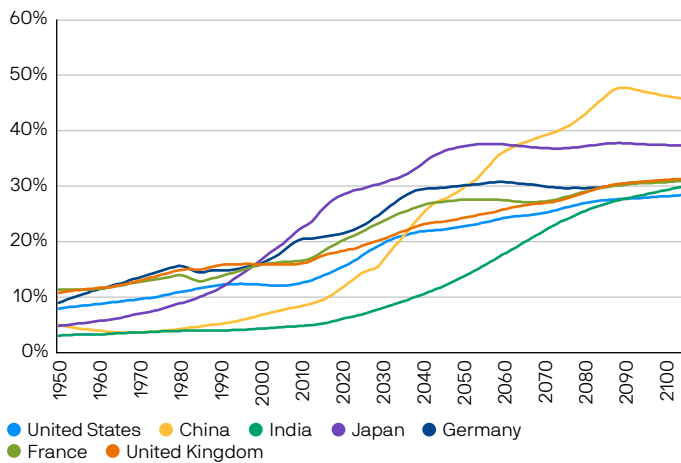
In the European Union, the Non-Financial Reporting Directive (NFRD), and the upcoming Corporate Sustainability Reporting Directive (CSRD) require large companies and listed companies to take a “double materiality” approach. This means companies must publish regular reports, both against a prescribed set of disclosure topics under the European Sustainability Reporting Standards (ESRS) on the material environmental and social risks, and opportunities, they face, and to show how their activities impact people and the environment. Companies will have to apply the new rules for the first time in the 2024 financial year, with reports published in 2025. The European Financial Reporting Advisory Group (EFRAG) provided technical advice to the European Commission on sustainability accounting and reporting standards, and helped guide the development of the ESRS. The standards are designed to provide detailed guidance on the disclosure of relevant environmental, social and governance (ESG) information, ensuring that investors, regulators, and the public have access to consistent and reliable sustainability data.

In Japan, the Corporate Governance Code, revised in 2021, encourages listed companies to enhance their disclosures on policies relating to the development of human capital that promote diversity (such as gender diversity in the workforce and at management level), as well as the implementation status of such policies. Listed companies are also encouraged to set and disclose measurable goals in these aspects.

In the US, the Securities and Exchange Commission (SEC) Human Capital Disclosure Rule, which came into effect in 2021, requires public companies to disclose information about their human capital resources to the extent that it is material to understanding their business. Such disclosures can include (but are not limited to) details about the size and composition of the workforce, employee demographics, the use of part-time or contract workers, and any measures that are in place to manage human capital.

¹ The demographic transition describes the transformation of a country’s population structure as it progresses from high birth and death rates to low birth and death rates, which typically occurs in four stages: pre-industrial, transitional, industrial, and post-industrial.

Exhibit 2: Population share above 65 years old in major economies



Source: United Nations data, historical up to 2023 and median projection to 2100, July 2024.

As the working-age population declines, the need to maximise the productivity of the existing labour force becomes critical. These demographic pressures underscore the importance of human capital in sustaining long-term economic growth and indicate a need for a strategic approach to human capital management at the corporate level.

Companies are increasingly confronted with the challenges of maintaining a productive and innovative workforce, and are compelled to invest in the development and upskilling of their employees to ensure they remain competitive in a rapidly evolving market. By addressing these challenges through robust human capital management and workforce planning strategies, companies can sustain long-term growth and increase organisational resiliency.

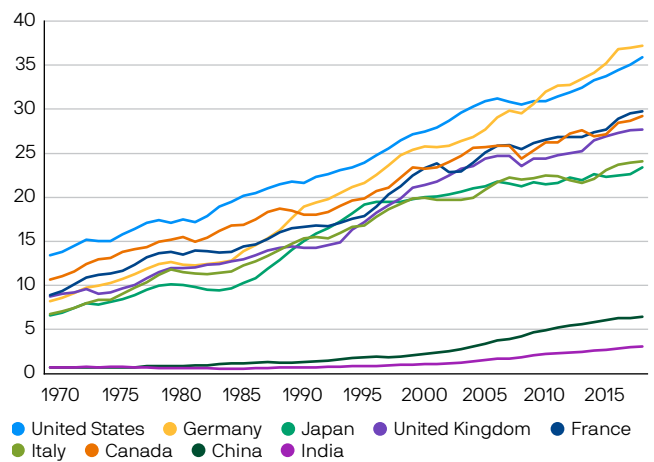
Rising productivity and the adoption of AI

Continuous investments in education and professional development are essential for equipping the labour force with the skills and competencies needed to adapt to evolving economic demands. Technological innovation is another key driver of long-term growth and can lead to profound economic transformations. The automation of labour and the adoption of new technologies have led historically to strong productivity gains and enabled more efficient production, thereby expanding economic opportunities.

Exhibit 3 shows the evolution of real GDP per hour worked in the largest economies. In the US, Japan, Canada and Europe, the upward trend in productivity reflects the adoption of new technologies and increased automation or offshoring of production. In China and India, where industrialisation happened more recently, the start of the upward trend in productivity is delayed but still pronounced. These trends could continue, as new technologies such as machine learning and artificial intelligence (AI) emerge with the potential to significantly reshape industries and labour markets.

However, this digital transformation also presents challenges to global economic actors. The rapid pace of technological change necessitates continuous upskilling and reskilling of the workforce to keep pace with evolving job requirements.

Exhibit 3: Real GDP per hour worked in major economies



Source: World Bank Group, Penn World Tables, July 2024.
 Note: Real GDP refers to the expenditure-side real GDP at chain purchasing power parity (USD, 2017)

Human capital data available to investors

The landscape of ESG data available to investors has evolved significantly over the past few years, driven by increased investor demand, developing frameworks and regulatory pressures. The availability and quality of ESG data has also improved significantly, although with notable differences between each ESG pillar and across regions.

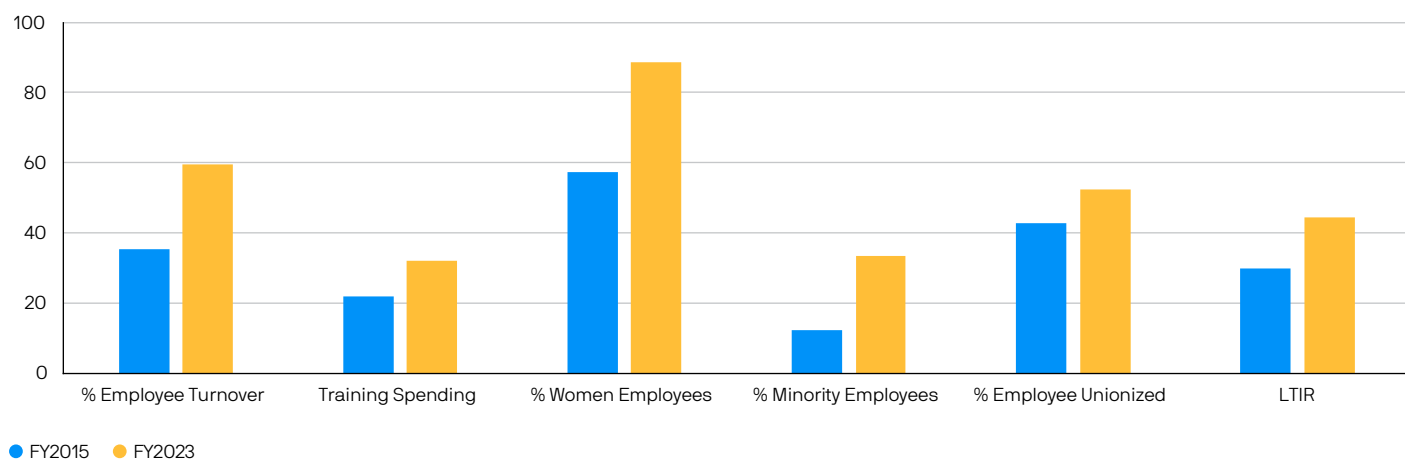
Governance data has traditionally been the most developed, given the historical investor interest in the financial materiality of corporate governance. Disclosures typically cover themes including board composition and structure, executive compensation and shareholder rights. The evolution in governance reporting has been towards greater transparency and accountability, with frameworks such as the Organisation for Economic Co-operation and Development’s Principles of Corporate Governance setting high standards.

Environmental data has evolved the most, driven by the global focus on climate change and environmental sustainability. Historically, disclosures were sparse and largely qualitative, with companies providing limited information on their environmental impact. However, frameworks such as the Global Reporting Initiative (GRI), and increased scrutiny from investors and regulators, have led to more comprehensive and quantitative disclosures.

Social data has historically been under-disclosed and harder to source for investors, compared to environmental and governance data. Social metrics available in the market were predominantly qualitative and focused on community engagement and philanthropic activities. However, frameworks such as the Sustainability Accounting Standards Board (SASB) and the International Integrated Reporting Council (IIRC) have been driving a shift towards more quantitative and standardised reporting, with key social metrics around labour practices, human rights and diversity now commonly disclosed. Examples include employee turnover rates, training, and gender diversity in the workforce, including at management and board level.²

Exhibit 4 shows the percentage of companies in the MSCI AC World Index that disclose key social metrics in their annual reporting. While disclosure levels have increased consistently in recent years, there is still room for further progress in social data reporting. Social metrics are highly dependent on the particular characteristics of each individual company, making them difficult to estimate reliably (unlike some environmental metrics, where estimations can be derived from production figures with reasonable accuracy). This estimation challenge increases the dependency and reliance that investors have on disclosures to serve their investment processes.

Exhibit 4: Percentage of MSCI AC World Index companies with social data disclosure in the previous three years



Source: Bloomberg ESG, MSCI, J.P. Morgan Asset Management, Based on financial year 2015 to financial year 2023 data, November 2024.

² In 2022, the Value Reporting Foundation consolidated into the IFRS Foundation. At that time, stewardship of the SASB Standards, including all active projects, passed from the SASB Standards Board to the International Sustainability Standards Board (ISSB).

It may also be unrealistic to expect complete disclosure of metrics across the entirety of the corporate universe, as the materiality of ESG themes varies significantly across industries and regions. Instead, materiality frameworks are a relevant tool that can guide corporate disclosures and investors towards material ESG issues that are likely to impact the financial performance of a company. The SASB Materiality Framework aims to address this need by identifying and standardising the disclosure of financially material sustainability information across distinct industries.

A closer look into human capital data

Much like traditional financial data, ESG data naturally varies across sectors and regions due to the differing nature of businesses leading to different scales and types of disclosures. Social data can vary widely between industries, as illustrated in **Exhibit 5**, which shows the median values by industry group³ and region of two key metrics, employee turnover and percentage of women employees in the workforce.

As might be expected based on existing knowledge, we empirically observe that gender diversity in the workforce tends to be lower for companies in industries such as materials, utilities, transportation and energy. We also observe that employee turnover tends to be higher across all regions in industries such as retail and consumer services, where companies often rely on part-time and seasonal workers, which naturally translates into higher turnover rates.

Exhibit 5: Employee turnover and percentage of women employees across sectors and regions, median

% Employee Turnover					% Women Employees				
Median by Industry Group and Region	North America	Europe	Asia DM	EM	Median by Industry Group and Region	North America	Europe	Asia DM	EM
Retailing	43.0	26.0	15.1	29.6	Health Care Equipment & Services	51.0	53.0	52.4	69.1
Food & Staples Retailing	N/A	26.0	10.3	32.9	Insurance	55.0	51.1	55.5	54.4
Consumer Services	28.3	21.7	16.0	26.1	Banks	63.7	53.0	51.8	47.4
Consumer Durables & Apparel	23.2	20.8	16.5	27.7	Household & Personal Products	54.0	46.0	53.1	N/A
Commercial & Professional Services	22.0	18.6	12.3	23.8	Food & Staples Retailing	49.4	52.0	47.7	51.8
Real Estate Management & Development	N/A	13.9	23.6	16.8	Retailing	53.4	51.0	49.4	47.0
Health Care Equipment & Services	15.0	15.4	16.1	20.1	Consumer Services	49.3	49.0	50.5	49.7
Food, Beverage & Tobacco	22.5	16.1	11.8	14.5	Real Estate	47.0	50.5	51.0	48.0
Real Estate	16.1	14.0	20.9	13.0	Real Estate Management & Development	40.8	47.0	41.2	39.2
Media & Entertainment	N/A	17.2	15.1	15.0	Pharmaceuticals, Biotechnology & Life Sciences	52.0	52.8	45.9	13.0
Technology Hardware & Equipment	16.3	11.5	17.7	N/A	Diversified Financials	43.0	43.0	45.0	30.6
Software & Services	13.7	12.8	13.6	19.9	Media & Entertainment	43.0	44.0	40.6	32.2
Pharmaceuticals, Biotechnology & Life Sciences	12.1	12.1	13.7	20.0	Technology Hardware & Equipment	35.3	30.9	38.0	55.1
Insurance	15.0	13.2	11.4	17.6	Consumer Durables & Apparel	50.4	44.9	42.0	21.5
Transportation	19.5	15.0	6.2	14.3	Commercial & Professional Services	43.0	38.2	31.9	31.6
Capital Goods	17.0	13.7	9.0	13.6	Telecommunication Services	34.4	35.1	34.8	33.3
Diversified Financials	14.2	11.2	12.1	15.0	Food, Beverage & Tobacco	37.0	36.9	32.1	25.1
Automobiles & Components	N/A	12.3	13.0	13.1	Software & Services	33.2	30.0	30.0	31.5
Telecommunication Services	16.5	9.4	9.0	13.4	Transportation	30.5	33.5	28.5	27.3
Household & Personal Products	N/A	N/A	11.7	N/A	Semiconductors & Semiconductor Equipment	23.9	20.8	29.5	31.6
Banks	16.2	10.8	5.7	12.0	Utilities	26.4	26.4	21.9	21.1
Materials	13.0	10.0	8.6	12.1	Energy	24.5	24.0	18.0	18.2
Semiconductors & Semiconductor Equipment	9.0	8.8	10.3	N/A	Capital Goods	25.6	22.1	20.0	15.9
Energy	9.0	10.2	4.1	7.7	Automobiles & Components	29.1	22.9	18.6	7.6
Utilities	8.8	9.0	3.6	7.5	Materials	18.3	21.2	18.8	9.6

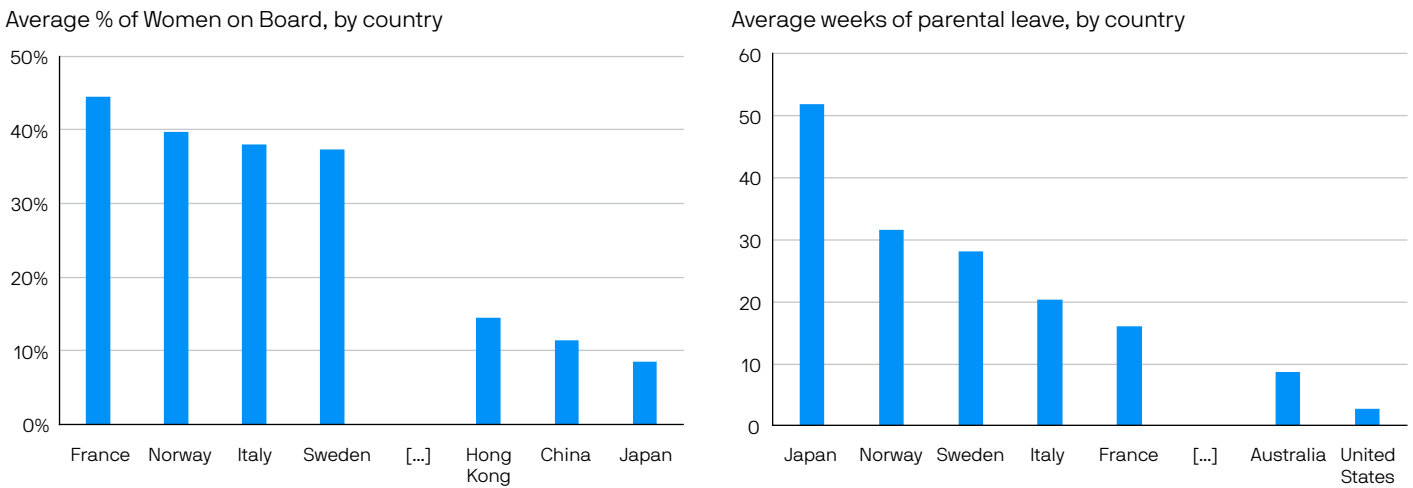
Source: Bloomberg ESG, Equileap, J.P. Morgan Asset Management, November 2024. Note: Industry groups and regions where data availability is too limited to derive meaningful estimates are shown as N/A.

³ The industry taxonomy used refers to industry groups under the Global Industry Classification Standard (GICS). The GICS structure consists of 11 sectors, 25 industry groups, 74 industries and 163 sub-industries.

The local regulatory landscape where companies operate can also influence self-reported data. **Exhibit 6** shows two examples of metrics heavily influenced by local regulation, female representation at the board level and number of offered weeks of parental leave. We observe that France is the country where the average female board representation is highest, which is driven by one of the most stringent regulatory requirements for female representation at the board level in the world. Similarly, we observe that Japan is the country where the length of parental leave offered to employees is the longest, which is also a reflection of local policies.

Such regulatory disparities across regions can influence the performance of individual companies on particular metrics. It is important, therefore, to understand these differences when using this data to compare companies operating in different jurisdictions.

Exhibit 6: Average percentage of women on boards and average weeks of parental leave, by country

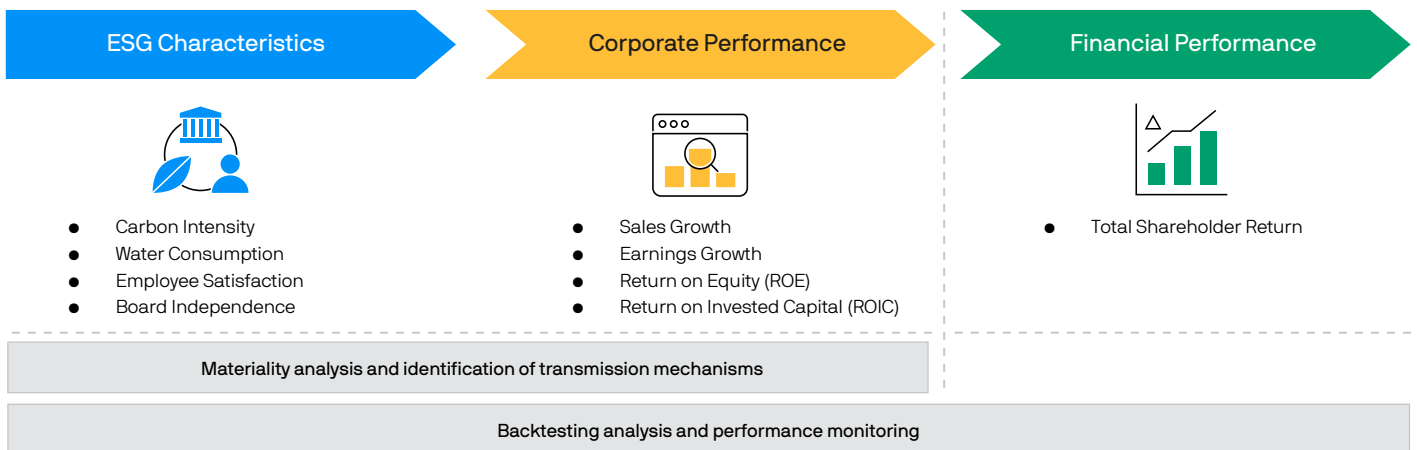


Source: Bloomberg ESG, Equileap, J.P. Morgan Asset Management, November 2024.

Identifying transmission mechanisms

When assessing the financial materiality of ESG issues, it is helpful to identify and understand the “transmission mechanisms”, which are the economic processes through which sustainability themes affect the operations of a company (see **Exhibit 7**). ESG data encompasses a wide range of metrics, which can increase the risk of identifying spurious correlation when linked with financial performance indicators. Investors can more effectively reduce their exposure to these risks by developing a sound economic theory to explain the potential links between ESG metrics and financial indicators.

Exhibit 7: ESG transmission mechanisms



Source: J.P. Morgan Asset Management, November 2024.

Existing research suggests that there is a link between human capital metrics and corporate performance, underscoring the financial materiality of workforce-related ESG issues. For instance, a study in 2011 found that firms listed in the “100 Best Companies to Work For in America” generated higher stock returns per year compared to their peers.⁴ Similarly, research by the Harvard Business Review (HBR) indicates that companies with high employee engagement report higher profitability and productivity.⁵

In our analysis of the links between human capital metrics and measures of financial performance, we specifically examined the relationships between return on equity (ROE), return on assets (ROA), and key human capital indicators, such as employee turnover and employee training. Our initial findings presented in **Exhibit 8A** and **8B** did not reveal a clear link between these aggregated financial metrics and human capital measures. This result can be attributed to the fact that ROE and ROA are composite ratios that aggregate various financial components into a single number, potentially masking the impact of better human capital management and specific elements of their financial performance.

However, a deeper analysis uncovered strong correlations between human capital metrics and key efficiency ratios. In particular, we found that employee turnover and investment in employee training are significantly associated with labour productivity and operational expenses.

In **Exhibit 9A**, we present the results of a double sorting analysis where we partition our sample of companies by quintiles of employee turnover and training spending, against labour productivity (measured as revenues per employee). We find that within groups of companies with similar levels of employee turnover, those with higher training spending have higher labour productivity. Similarly, we also observe that within groups of companies with similar levels of training spending, those with lower employee turnover also have higher labour productivity.

While interesting, these results must be taken with a measured perspective. In **Exhibit 9B**, we present the results of a similar analysis where we observe employee turnover and training spending in relation to operating expenses. We find that expenses tend to decrease when employee turnover increases, and increase when training spending increases.

Exhibit 8A: Human capital and return on equity

		ROE (Industry Group / Region neutral z-score)				
		Highest	High	Mid	Low	Lowest
Training / Employee	Highest	0.07	-0.02	0.15	0.08	0.04
	High	0.05	-0.08	0.02	0.05	-0.05
	Mid	0.04	-0.01	0.11	0.09	-0.13
	Low	-0.14	-0.04	-0.03	0.10	0.02
	Lowest	-0.08	-0.08	-0.21	-0.03	-0.02
		Lowest	Low	Mid	High	Highest
		Employee Turnover				

Exhibit 9A: Human capital and labour productivity

		Labour Productivity (Industry Group / Region neutral z-score)				
		Highest	High	Mid	Low	Lowest
Training / Employee	Highest	0.57	0.52	0.42	0.43	0.34
	High	0.30	0.26	0.12	0.13	0.05
	Mid	0.10	0.09	-0.03	-0.22	-0.13
	Low	-0.14	-0.22	-0.25	-0.27	-0.34
	Lowest	-0.30	-0.26	-0.39	-0.42	-0.44
		Lowest	Low	Mid	High	Highest
		Employee Turnover				

Exhibit 8B: Human capital and return on assets

		ROA (Industry Group / Region neutral z-score)				
		Highest	High	Mid	Low	Lowest
Training / Employee	Highest	0.09	0.05	0.02	0.00	-0.01
	High	0.07	-0.08	0.02	-0.04	-0.17
	Mid	0.08	-0.02	0.00	0.14	-0.10
	Low	-0.03	-0.01	0.00	0.08	0.00
	Lowest	-0.05	-0.04	-0.17	-0.06	0.02
		Lowest	Low	Mid	High	Highest
		Employee Turnover				

Exhibit 9B: Human capital and operating expenses

		Operational Expenses (as a % of revenues) (Industry Group / Region neutral z-score)				
		Highest	High	Mid	Low	Lowest
Training / Employee	Highest	0.51	0.45	0.39	0.38	0.41
	High	0.27	0.28	0.12	0.15	0.07
	Mid	0.12	0.10	0.00	-0.21	-0.11
	Low	-0.13	-0.23	-0.23	-0.27	-0.31
	Lowest	-0.25	-0.27	-0.38	-0.41	-0.44
		Lowest	Low	Mid	High	Highest
		Employee Turnover				

Source: Bloomberg ESG, J.P. Morgan Asset Management, November 2024. Note: Sample of companies ranked by quintiles based on employee turnover and training spending.

Source: Bloomberg ESG, J.P. Morgan Asset Management, November 2024. Note: Sample of companies ranked by quintiles based on employee turnover and training spending.

⁴ Edmans, A., “Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices”, Journal of Financial Economics (2011), 101(3), 621-640.

⁵ Gallup. (2017). State of the American Workplace. Gallup, Inc.

Our findings align well with economic theory, which suggests that the transmission mechanisms could be formulated as follows: if employee turnover increases sharply, the remaining employees will see their individual workload increase and might struggle to maintain the same output level, thereby decreasing labour productivity; while at the same time, providing training to employees might increase efficiencies and increase productivity, but the cost of training increases operational expenses.⁶

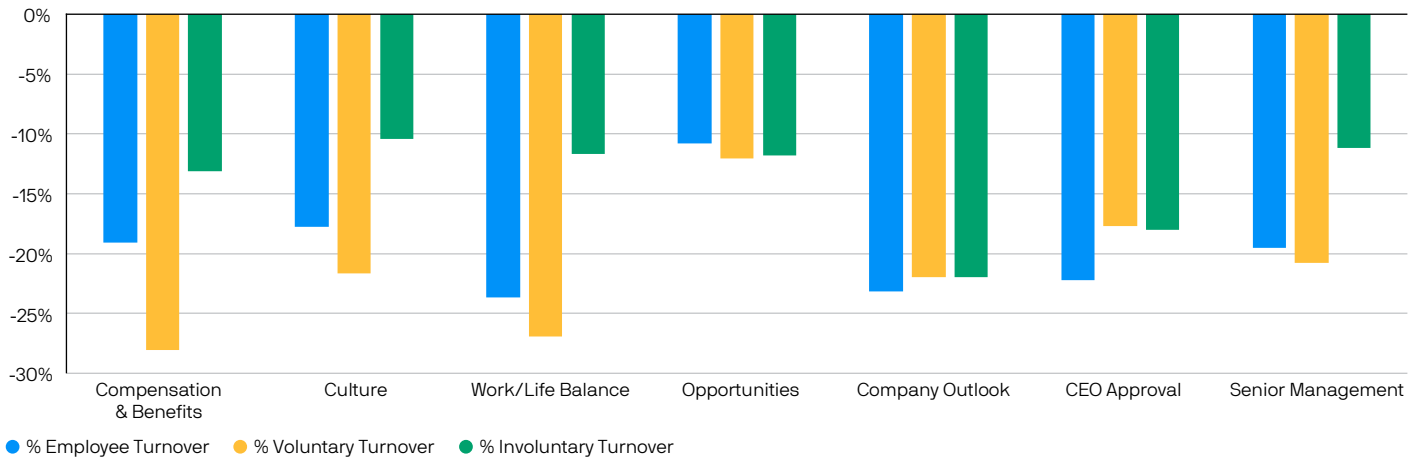
Forward-looking signals

While these findings primarily provide insights into current transmission mechanisms, we also consider forward-looking human capital signals. Employee sentiment is an example of a future-oriented signal that measures the overall perception that employees

hold towards their roles, workplace environment, management and organisational culture. This measure encompasses a wide range of factors including job satisfaction, engagement, morale, trust in leadership and work-life balance, and is typically measured through surveys and feedback tools. It is a useful tool that investors can leverage as an early warning signal to identify potential blocking points with company operations and processes.

We observe, empirically, that companies where employee sentiment is the highest also experience higher levels of productivity and lower rates of employee turnover. In particular, we observe strong correlations between employee turnover rates and the employee sentiment for work/life balance, company outlook (confidence in the future of the company) and approval of management (**Exhibit 10**).

Exhibit 10: Correlation between measures of employee sentiment and measures of employee turnover



Source: Bloomberg ESG, Thinknum, J.P. Morgan Asset Management, November 2024. Note: Rank correlation between different measures of employee sentiment and measures of employee turnover, lower values indicate a stronger negative link between employee sentiment and employee turnover.

⁶ Our analysis is z-score based, with scores computed within industry groups (25 levels) and regions (4 levels) to account for regional and sectoral biases. A z-score measures how many standard deviations a data point is from the mean of its distribution. If a data distribution has a mean value of m and a standard deviation of s, the z-score for an observation of value x would be expressed as (x - m)/s. To reduce the influence of outliers, we trim 5% of our data by excluding the top and bottom 2.5% of extreme values for dependent variables before computing z-scores.

We find that voluntary turnover (employees leaving companies of their own volition) correlates with a lower sentiment towards total pay (compensation and benefits), work/life balance, culture and company outlook. By contrast, this link is weaker when employees are laid off (i.e. involuntary turnover), which tends to indicate a strong link between total pay, work/life balance, company culture and outlook and the reasons driving employees to leave a company.

We also observe that employee sentiment towards a company's outlook is a strong predictor of a company's future revenue growth (Exhibit 11). This thematic sentiment signal provides additional information that increases our ability to identify companies likely to experience superior revenue growth. We observe that companies with the lowest rate of realised revenue growth and the lowest contemporary company outlook sentiment have the lowest average forward revenue growth rate. And vice versa, companies with the highest rate of realised revenue growth and the highest contemporary company outlook sentiment have the highest average forward revenue growth rate. Conversely, we also observe that within groups of companies that experienced similar realised revenue growth, the companies with the highest company outlook sentiment exhibit a higher forward revenue growth rate.

Exhibit 11: Employee sentiment and revenue growth

		Forward 3Y Revenue Growth (Industry Group / Region neutral z-score)				
		Highest	High	Mid	Low	Lowest
Realized Revenue Growth 3Y	Highest	-0.06	0.38	0.22	0.42	0.70
	High	-0.12	-0.08	0.09	0.07	0.17
	Mid	-0.20	-0.15	-0.07	-0.04	-0.02
	Low	-0.28	-0.12	-0.18	-0.08	-0.05
	Lowest	-0.35	-0.24	-0.14	0.02	0.05
		Lowest	Low	Mid	High	Highest
		Employee sentiment on company outlook				

Source: Factset, Thinknum, J.P. Morgan Asset Management, November 2024. Note: Sample of companies ranked by quintiles based on realised three-year revenue growth and contemporary employee outlook sentiment.

The strong link between employee sentiment and future revenue growth also makes sense from an economic transmission mechanism perspective, as employees are uniquely positioned to gauge the company's growth potential. By being directly involved in day-to-day operations, employees have first-hand insights into customer satisfaction and market trends. Positive sentiment also often reflects a motivated and engaged workforce, which can drive innovation, productivity and superior customer service, all of which are key drivers of growth. Conversely, negative sentiment may signal underlying issues that could hinder performance. Employee sentiment thus serves as a valuable forward-looking indicator of a company's potential growth prospects.

We observe, empirically, that our results are consistent in most sectors, presenting a perspective that differs from mainstream materiality frameworks. For example, the SASB materiality framework does not currently identify human capital as material for banks and insurance companies, while our analysis suggests statistically significant links between human capital metrics and operational performance in these industries.

We anticipate that materiality frameworks will evolve as more data becomes available (driven in part by regulatory initiatives) and more research is conducted on the financial materiality of sustainability issues. Notably, the International Sustainability Standards Board (ISSB) has initiated a dedicated project to develop an evidence-based assessment of the scope and prevalence of various human capital management themes, with the objective to provide a more comprehensive view of the financial materiality of human capital across sectors and industries. We expect that updated guidance will emerge from this process, reflecting the growing recognition of human capital's importance for corporate performance.

Human capital and stewardship at J.P. Morgan Asset Management

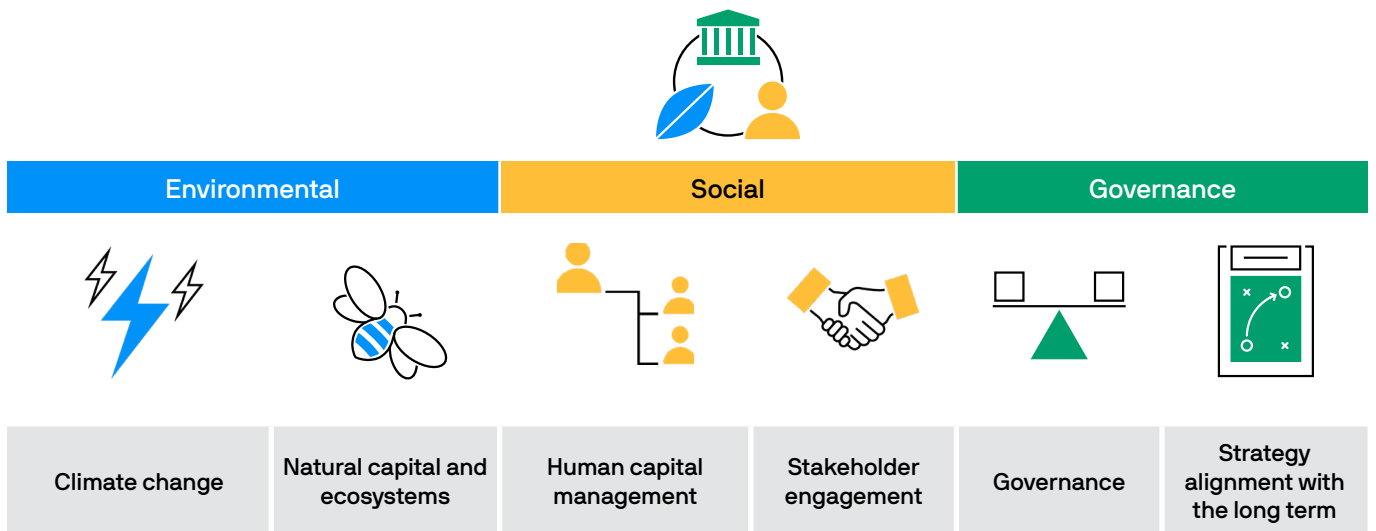
Human capital management is one of our six Investment Stewardship Priorities, which we believe can be broadly applied in our engagement effort and will remain relevant through market cycles (Exhibit 12). This priority reflects our belief that an engaged and diverse workforce is integral to corporate success, enabling companies to innovate and more effectively respond to a broad array of customer interests and needs across the diverse communities in which they operate, thus delivering stronger shareholder returns.

In 2023, our engagement in the US and Europe focused on labour practices at technology and consumer-facing services companies, while in Asia, the focus was on global supply chains. For example, in late 2022 we initiated an engagement with Mundys Spa, an Italian infrastructure company that operates motorway and airport assets. As the company is responsible for infrastructure maintenance, its long-term value is highly reliant on human capital, and employee health and safety is highly material. The company’s incident rate for its workforce continued to deteriorate during 2020-2021, including seven fatalities in 2021.

The objective of our engagement with Mundys was to better understand the measures the company is putting in place to prevent incidents and ensure employee safety. We asked for the company’s comment on the number of fatalities and the measures in place to prevent these from occurring. In 2023, we discussed occupational health and safety with the chief sustainability and innovation officer who was appointed in 2021. The board recognised occupational health and safety as a key business risk and the company disclosed the most significant factor for fatal accidents in its latest integrated annual report. The company also continues to encourage safer practices by offering best-practice onsite safety training for workers. We will continue to monitor the progress and scope of its health and safety initiatives.

For more details on our engagement and voting approach, please see our [2023 Investment Stewardship Report](#).

Exhibit 12: J.P. Morgan Asset Management stewardship priorities

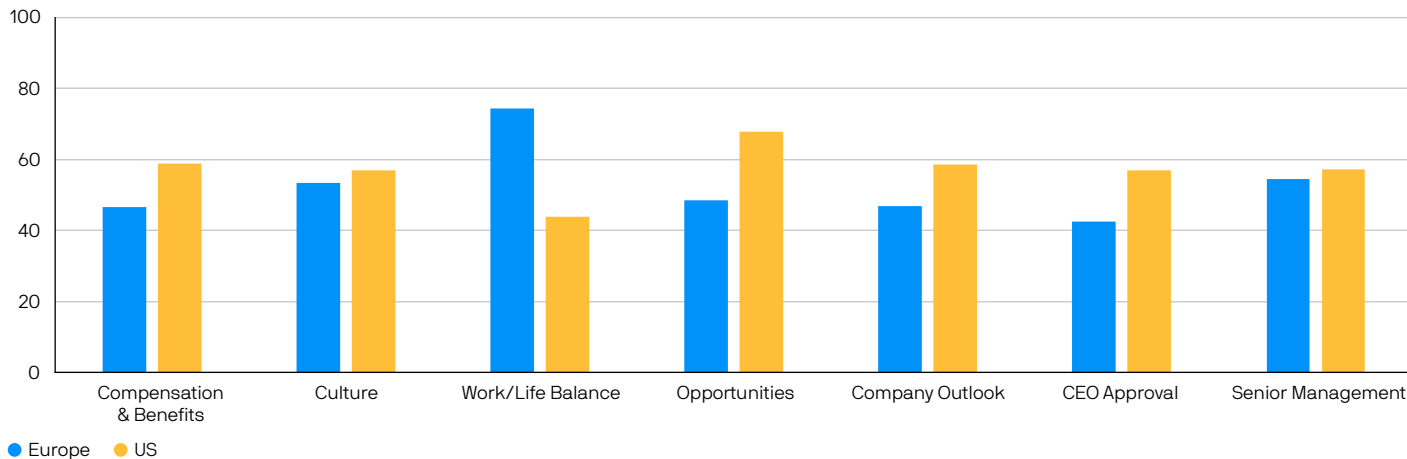


Source: J.P. Morgan Asset Management, April 2024.

Case Study: Employee sentiment in the banking sector

To illustrate the material impact of human capital on corporate performance, we analysed employee sentiment in the banking sector in the US and Europe. The results are shown in **Exhibit 13**, which shows the average employee sentiment in US and European banks across different themes.

Exhibit 13: Employee satisfaction in European and US banks



Source: Thinknum, J.P. Morgan Asset Management, November 2024.

We observe strong differences in sentiment between the two regions. For example, employees at US banks tend to have a better sentiment towards total pay (compensation and benefits), opportunities and general company outlook compared to their European counterparts. By contrast, European banking employees display better sentiment towards work/life balance. Employees in both regions tend to have equivalent sentiment on company culture and confidence in senior management, where the differences in average sentiment are statistically insignificant.

We also observe that employee sentiment regarding CEO (chief executive officer) approval is higher in US banks. This result could be explained by cultural factors, where CEOs in the US are often regarded as prominent public figures, which contrasts with the more understated leadership style typically observed in Europe. As previously mentioned, accounting for regional and sectoral biases is key to interpreting these alternative signals.

Conclusion

Our research underscores the importance of human capital as a financially material factor, highlighting its essential role in sustaining long-term growth at both the macroeconomic and corporate levels. Despite the current limitations in the availability of human capital data, the rapidly evolving regulatory landscape points to significant future improvements in data disclosure. Consequently, we anticipate that the quality and granularity of human capital data will improve, providing deeper and more comprehensive insights into the financial materiality of human capital.

As empirical research on the financial materiality of human capital continues to expand, we expect materiality frameworks to evolve accordingly and better reflect the growing recognition of human capital’s pivotal role in influencing corporate performance. Our findings advocate for an active integration of human capital metrics into financial analysis, ensuring that both investors and companies are well-positioned to capitalise on the long-term benefits of a well-developed workforce.

For more information on our approach to Sustainable investing, contact your J.P. Morgan Asset Management representative.

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