HUMAN CAPITAL MANAGEMENT

Marketing material for professional investors and advisers only

Investment applications – a user guide

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Schroders

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INTRODUCTION

Investment applications – a user guide

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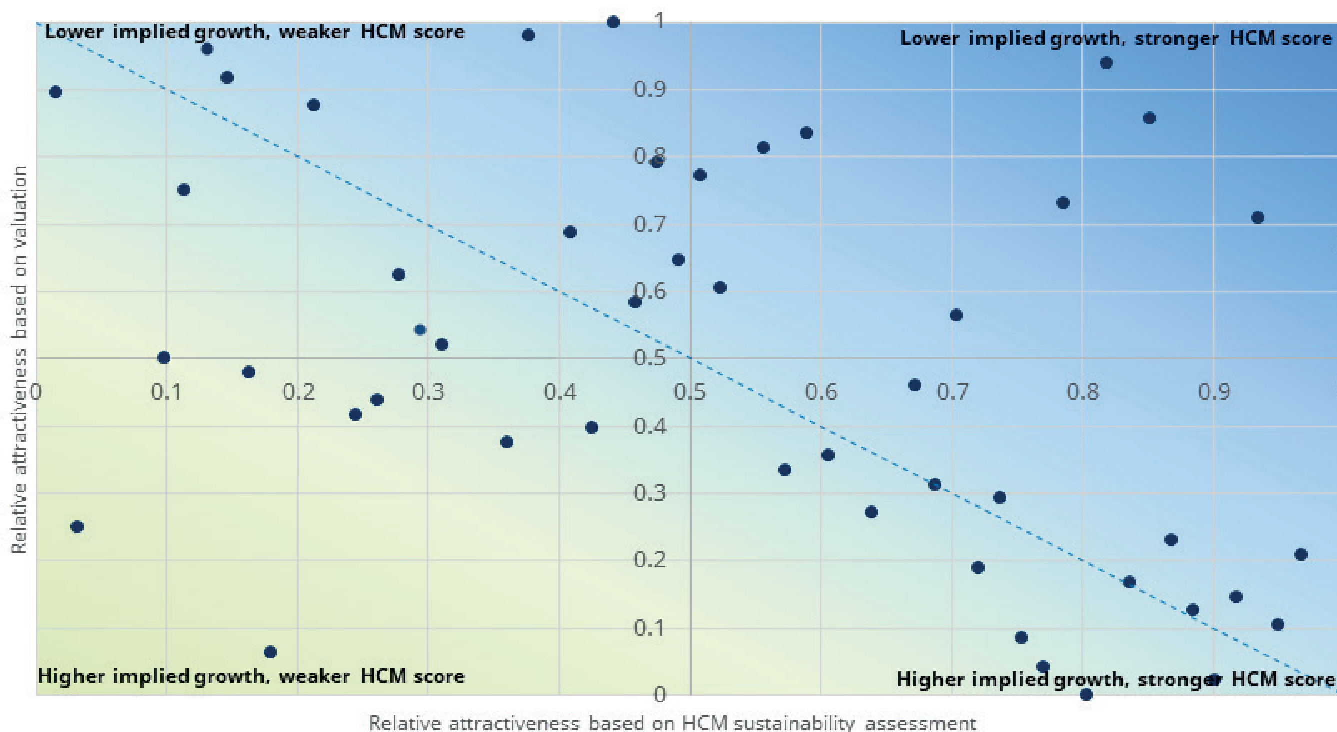
The idea of this report is to take the theory of our human capital research and set out how investors can incorporate human capital ideas into company analysis. The aim is to highlight how the integration of this can offer insight into the company-employee axis, to help understand where value is created and how it is shared among stakeholders. In the sections below, **we explain how to apply human capital analysis, how to interpret outputs, and provide a set of questions investors might ask as their analysis evolves**.

We believe that human capital analysis must be investment style agnostic. Industry dynamics, labor trends, asset intensity, and gross margin profiles (among others) can all have an effect on the relative importance of human capital to company returns. But to be clear, the empirical testing presented in the second report – "Sustainable Competitive Advantage" – found human capital return on investment (HCROI) is a statistically significant driver of forward returns for multiple sectors across multiple time frames when controlling for variables such as quality, valuation, momentum and labor intensity, among others.

As Figure 1 suggests, when incorporating HCROI into a range of quantitative metrics that assess a company's human capital management holistically, as well as seeking to include it in valuation by considering the 'equity market implied growth in returns', there are encouraging signals. With varying correlations across industries, it is directionally the case that the competitive advantage that can be generated through good human capital management is often rewarded with higher valuation multiples.

Figure 1: Importance of human capital management systems

The x-axis refers to the relative strength of human capital management when assessed across a range of quantitative indicators holistically, including HCROI. The further to the right, the stronger or more complete one might consider the human capital management of the organization. Meanwhile the y-axis refers to equity valuation as determined by implied growth in both return on capital employed (ROCE) and human capital (HCROI). Companies with high implied growth – i.e. high valuation multiples – are displayed toward the bottom of the y-axis. This sort approach can be viewed as the quantitative starting point for more detailed qualitative and fundamental analysis. Markers to the right of the dotted line are companies where human capital management is theoretically stronger than valuation implies.



Source: Refinitiv, MSCI, CDP, Worldscope, Factset, Schroders. Note that the scoring of HCM here comprises more than 50 different distinct metrics, each assessed quantitatively, with performance ranked within a given sector or industry. Implied growth numbers for each company are similarly ranked such that we can view a representative distribution on both axes. This is an illustrative example focused on a selection of sub-industries in the consumer discretionary sector

INTRODUCTION (CONT'D)

As we do more research into the drivers of change in human capital returns, we expect to be able to refine our views on the relative importance of the different human systems. But with current disclosures in certain sectors and regions yet to address even the basic components of HCROI, our ability to unpick the drivers of change as instigated by the different human systems is somewhat limited.

Combining the empirical evidence that we have been seeking to build in relation to HCROI with our qualitative view, Figure 2 highlights our assumptions for the materiality of human capital, and individual topics within it, when mapped to different sectors. This is very much a blend of art and science, and something we are seeking to refine.

While our quantitative assessments on HCROI inform the relative importance at summary level, represented on the far right column, conversations with a variety of stakeholders have helped us develop starting views on the salience of the individual systems, though we would stress the qualitative nature of this illustration, as alluded to above. At a high level, this approach is helping shape our interrogation of these topics going forward, with the specific aim of helping.

Figure 2: Illustrative importance of human capital management systems

The deeper the shade of green, the more our starting assumption is one of materiality for the topic and sector. VH denotes very high importance, H high, M is moderate and L is low.

	Strategic Workforce Planning	Culture & Inclusion	Incentive & Performance Management	Talent & Learning	Innovation	Summary
Healthcare	M	**VH**	**H**	**H**	**VH**	**VH**
Information Technology	**VH**	**VH**	**VH**	M	M	**VH**
Consumer Staples	**H**	**H**	M	**H**	**VH**	**VH**
Energy	**VH**	L	**H**	**VH**	L	**H**
Consumer Discretionary	**H**	**H**	M	M	M	**H**
Financials	**H**	M	**VH**	M	L	**H**
Industrials	**H**	M	L	M	**H**	**H**
Communication Services	L	M	L	M	**H**	M
Materials*	M	L	M	L	L	M
Utilities**	L	L	L	L	M	L
REITs***	Minimal	Minimal	L	Minimal	Minimal	L

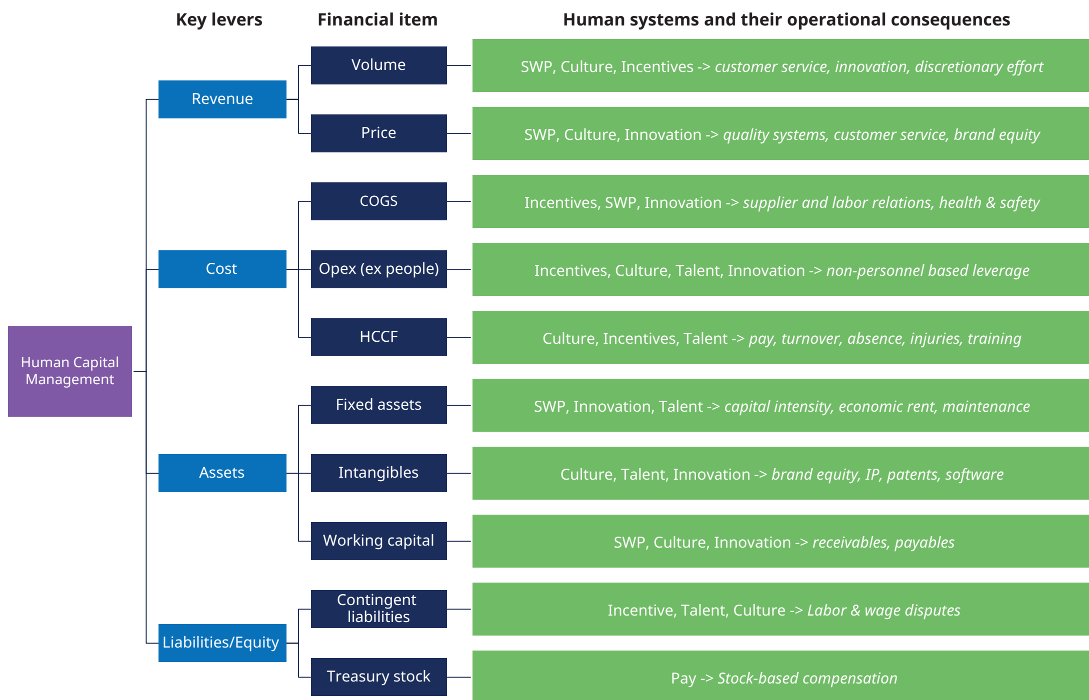
*Given the broad range of activities in the materials sector, and wide variation in things like labor intensity across sub-industries, the categorizations here represent a generalized approach that may underplay certain of the nuances. Among real estate sectors, for example, housebuilding and construction companies are heavily reliant on human capital for the generation of competitive advantage through relational capital, workforce planning and networks. ** In Utilities, regulated asset base and returns structures may be seen to limit the materiality of human capital, but aside from innovation, one might argue that better human capital management is one of the few levers at management's disposal for beating regulated returns. *** The qualitative view represented for REITs is reflective both of the relative importance of human capital within this space compared to others, and limited data. As with our views across the sectors, this is subject to change.

Source: Schroders. Note: this is a qualitative assessment, though we have sought to ensure the sum total of the combined systems is similar to the materiality implied by the empirical testing we did with various adjustments. We have assigned relatively higher values to the Energy sector here, than would be implied by characteristics such as labor intensity and the dominance of commodity inputs in P&L, cash flows and returns. We believe SWP and Talent systems are critical to the Just Transition, while Incentive structures must be in focus given the significance of accountability in a sector where asset lives and decarbonization outcomes are so much longer than CEO and worker tenures. We have upweighted IT given its prolific use of stock based compensation. As stressed above, we believe a whole systems approach is important to managing human capital, so we do not consider any of these to be unimportant in an absolute sense. We also recognize the relevance of these can change depending on where companies are in their own business and life-cycles.

INTRODUCTION (CONT'D)

We also need to consider the translation mechanism, whereby human capital features affect different line items on a company P&L and balance sheet. Our working view of how this transpires is represented in Figure 3 below. The analysis of these may be best done on a sector-adjusted basis. Scrutinizing the individual line items where we would be most likely to see the manifestation of good or bad human capital management can not only help frame our understanding of the importance of this topic to company returns (past and future), but also help shed light on possible misalignment of interests; instances where pressures cause management to extract economic rent from employees, who can go the extra mile, but cannot be run at >100% utilization in the same way fixed assets may be 'sweated' when commercial drivers dictate.

Figure 3: Translation mechanism – the paths affecting financial returns



Source: Oxford Rethinking Performance initiative (ORP), Schroders. Note: SWP refers to strategic workforce planning.

The building blocks – what do we need to assess human capital?

The basic data we need from companies in order to do an assessment of its human capital returns are[1]:

- **Number of employees**
- **Total salaries**

Figure 4 below has the metrics we think are most important to human capital analysis in a financial context. For completeness, these metrics can be complemented by a number of additional disclosures:

- Turnover (voluntary and involuntary)
- Lost time injury frequency and lost days as a percentage of total
- Absenteeism (number of days as percentage of total)
- Training cost
- Benefits and other non-salary related benefits
- Stock-based compensation

To supplement our view of the company's human capital management based on these outcomes metrics, we look for the following additional quantitative data:

- Diversity (at board, exco, senior management and workforce level)
- Engagement data (surveys, eNPS or equivalent)
- Age, geographic and divisional segmentation of workforce

Figure 4: Human capital metrics

	1 Human Capital Cost Factor (HCCF)	2 Human Capital Return on Investment (HCROI)	3 Employee Economic Value Added (EEVA)	4 Return on People-Adjusted Capital Employed (ROPACE)
Purpose	Provides the cost of human capital, both immediately and over the long run on a fully-loaded basis. This gives us an understanding of the total investment cost of a firm's human capital.	Explains the fully costed return on monies spent investing in people. This represents the leverage on pay and benefits used to identify the benefits of human capital management.	Estimates the value employees derive from working at a given organization, adjusted for approximate corporation tax. Used to compare against economic value added to proxy gain-sharing between labor and capital.	Allows for the adjustment of balance sheet, P&L and cash flows to reflect human capital as an asset. Allows us to see a fully loaded return on all types of human capital cost, including carving out employee 'expense' versus 'investment'.
Calculation	Calculation*: Salaries + benefits + stock comp + contingents + lost days + churn + training	Calculation**: $\frac{\text{Nopat+HCCF}}{\text{HCCF}}$	Calculation: [(Employee average pay – market average pay) × 0.75] × total number of employees	Calculation***: $\frac{\text{Adj. Nopat}}{\text{Adj. fixed assets + NWC}}$

Source: Human Capital ROI, Jac Fitz-Entz; O'Byrne and Rajgopal, 2022; Schroders. *It is important to note that the calculation for HCCF may require an estimate for cost of contingent or contract workers if undisclosed. **This fraction is consistent with the revenue-based version used in human resources management. In Figure 5 we show how it fits into ROCE-based value creation. ***While we do not have disclosures on the splits between employee investment and employee costs (akin to growth or maintenance capex on fixed assets, for example), we can apply Pareto or Price's Law to reported numbers or our HCCF assumptions, or as noted below, we can consider stock-based compensation as the proxy for investment in future capabilities.

1 See our fourth report – "Codifying Best Practice" for more detail on a full list of basic and best practice disclosures.

HUMAN CAPITAL RETURNS

Outlining the simple HCROI metric

We have tested the HCROI metric empirically and found that it is an incremental predictor of share price performance across multiple sectors and time frames. As presented in Figure 5 below the leverage metric used in the HR industry today is focused on leverage on employee costs. Our NOPAT derived alternative on the table in Figure 4 above provides the same alternative, but allows us to unpack the contribution of employee management to returns on capital employed.

For fundamental analysis, the introduction of labor intensity is helpful when assessing HCROI. One of the most practical applications of this quantitative human capital framework is to interrogate companies that, for a given level of labor intensity, are under- or overperforming on HCROI. This matters because **for most industries, labor is one of the largest single cost items on the P&L, and human capital is a large off-balance sheet asset.**

Figure 5: HCROI metric

$$\textit{Human capital return on investment} = \frac{\textit{Revenue - non-employee related cost}}{\textit{Employee related cost}}$$

Source: Human Capital ROI (Jac Fitz-Entz), Schroders.

It is also important to **assess HCROI relative to Sales per Employee**. Companies may generate a premium in top line but see that eaten away due to the costs of poor human capital management – manifest in lower leverage on employee related investments. The opposite can also be true.

This boils down to the economic rent that people allow a company to extract from other parts of its cost base – people are malleable and 'go the extra mile', or get lazy and reduce discretionary effort. Employee related costs comprise direct and indirect costs.

Check: is a company delivering better or worse HCROI than sector peers with similar labor intensity?
Simple mapping of sector level HCROI can highlight relative leaders and laggards quickly to spotlight opportunity.

Check: is low leverage on employee related costs undermining company gross margin profile?
Pricing power, or brand equity, may have worse drop through if company has poor employee leverage.

Check: is a company over-earning at operating profit relative to HCROI-implied profitability?
Map sector level HCROI to sector-relevant margin profiles to flag whether economic rent comes from people or other cost.

Check: if a company presents a favorable view of its human capital management, or reports on very strong engagement scores, cultural initiatives or other positives about its people, is HCROI also rising?
We need to treat social data, specifically company engagement scores, carefully. These often have undisclosed, or poorly disclosed, limitations meaning they are less than representative samples.

Check: is HCROI offering an inflation hedge?
Reducing cost waste – absenteeism, eg. – has high drop through.

Adjusted HCROI and ROPACE metric

In sectors where disclosure is strong or weak, we **can flex the employee related cost term. For large cap US tech firms and other industries that have a superstar or 'rain maker' mentality, we can use stock-based compensation,** to identify the leverage a firm generates on the people it considers value creators. When firms in a given sector disclose absence, turnover or injury rates, we can factor these into the cost term too[2].

Voluntary, and regretted, turnover is an intriguing outcomes metric but is best interpreted with the help of qualitative context. It can have a significant monetary consequence – the cost of replacement, including temporarily lower productivity – and it also represents the employee-centric view of whether a company's human capital management is benefiting employee stakeholders. People are a productive asset, whose value all too often goes un-priced. They also leave, which is why accounting standards do not allow them to be capitalized. We can do so, however, to gauge productivity.

2 See our second report – "Sustainable Competitive Advantage" – for guidance on how to calculate the costs of these features and our third report - "Performance Levers" – for details on how companies can affect change in these outcomes.

ROCE CONTRIBUTION

The drivers of returns

Decomposing ROCE into people-centric constituent parts allows us to understand the potential drivers of firm level value creation, isolating the benefits of human capital management in ways that have – to our knowledge – not been widely adopted to date in the investment industry. See Figure 6.

Figure 6: Understanding how people contribute to financial returns[3]

$$ROCE = \frac{\#Employees}{Capital\ Employed} \times \frac{HCCF}{\#Employees} \times \left(\frac{NOPAT + HCCF}{HCCF} - 1\right)$$

ROCE = Business Model × Cost Structure × Human Capital ROI

Source: Schroders.

Capital intensity and balance sheet productivity tend to be the characteristics that are reached for by people when confronted with the idea of HCROI. However, in our decomposition of ROCE, the first component – Business Model – is what deals with this topic, allowing us to think about leverage, or return on human capital management in a way that is somewhat decoupled from the confines of the 'quality' debate.

The HCCF component – the cost factor – can be adjusted depending on disclosures, as noted above. This is a control variable for considering HCROI and so should be treated in a similar way to labor intensity.

As it pertains to HCROI, through-cycle-economics mean base levels of pay could guarantee a base level of effort and output at employee level: one does just enough to keep one's job. However, the degree to which an individual or their collective team outperforms can be subsequently affected by a variety of issues over and above base pay. Variable compensation matters but can be wrapped up in cost structure.

Ask: what does a dollar invested in human capital generate in terms of value creation to the firm and what does the incremental return on human capital look like vs the cost?
The leverage holds the key.

As noted above, part of HCROI is explained by objective, dollar denominated factors. The residual, which we should seek to isolate in our understanding of the strength of a firm's human capital, relates to the 'soft' features and the human systems that are often labeled intangible[4].

Given that the product of the three components in Figure 6 equates to company return on capital, it is logical that changes in any of the three can have equal impacts on returns. However, that is not to say that each element is equally important in explaining difference in returns. **Analysis of the interdependencies within ROCE can help identify the source of company competitive advantage and human capital strength – see Figure 7**.

Figure 7: Human capital dependencies in ROCE – illustrative scenarios[5]

Component	Return on capital	Business model	Cost structure	Culture
Metric (2021)	**ROCE (post tax)**	**Employees per million of capital employed (EUR)**	**Salaries per employee (EUR)**	**HCROI**
Company A	7.6%	2.8	36,200*	75%
Company B	6.5%	2.3	42,400	68%
Company C	12%	1.2	67,380	172%
Company D	15%	3	41,295	121%

Source: Refinitiv, Schroders. *Translated at 2021 average exchange rates, for illustrative purposes.

3 For more details, please see our second report – "Sustainable Competitive Advantage".
4 Per the definitions we set out in our first report – "Margin of Safety" – these systems include: workforce strategy, culture & inclusion, performance management, talent and innovation. They are also mapped in Figure 1 above.
5 For more details, please see our second report – "Sustainable Competitive Advantage".

GAIN SHARING BETWEEN LABOR AND CAPITAL

Employee economic value added

EEVA is an important addition to HCROI analysis. In so far as it offers a view on the value created for people by their employer, it provides an additional lens through which to consider the sustainability of a firm's human capital[6]. It does this because it takes account of the opportunity cost of working at one's own organization, relative to the market.

For firms looking to boost the leverage on their employee related costs – be that through enhanced output, or cost cuts – it is important to keep an eye on the EEVA equation – per Figure 8 – as employee turnover is the pressure valve that opens when a company sweats its human capital asset too much.

Figure 8: Employee economic value added definitions[7]

EEVA = Total # employees × Average pay increment × 0.75

Average pay increment = employee average pay at company - average industry pay

Source: O'Byrne, Rajgopal, 2022.

Check: is there a clear trend in the company's sector between EEVA and HCROI?
Simple mapping of sector level HCROI to EEVA allows us to identify outliers, where there may be an inflection in either returns or churn.

Ask: Does the company seek to pay above a local or industry median, or living wage and how does it monitor the importance of this on employee retention?
In a fluid labor market changes in EEVA would be likely to be mirrored by a change in churn, absent any other human capital feature contributing to employee satisfaction. We know that culture, career development, trust, purpose all contribute. It is worth testing companies on their views of this too, as it allows us to build a view on the sustainability of the human capital asset.

Check: Does the trend in EEVA contradict other metrics?
A company may boost HCROI and wages and its own economic profit but still see EEVA fall if it fails to keep up with changes in the market.

Our industry is comfortable with the idea of economic profit. When assessing the value added for employees using EEVA, it is instructive to consider the ratio between that and a traditional measure of economic profit. This effectively speaks to the distribution of growth in capital between owners of capital (company or shareholders) and creators of the growth in that capital (workers). From a sustainable investment perspective, that ratio matters. For the sake of understanding the employee experience, we can simplify and monitor trends in EEVA, as highlighted in Figure 9 below.

Figure 9: Pharma company gain sharing breakdown

	2015	2016	2017	2018	2019	2020	CAGR
Wages / Employee ($)	110,111	111,241	94,965	124,651	127,261	125,503	2.7%
HCROI (%)	64%	57%	64%	66%	65%	72%	2.6%
ROCE (%)	11.5%	10.4%	9.7%	11.3%	14.4%	15.8%	6.6%
Economic Profit ($, bn)	3.7	2.7	2.6	2.4	4.8	5.4	7.8%
Employee economic value added ($, bn)	4.3	4.3	1.8	3.7	3.7	3.4	-4.4%
Number of employees	122,966	122,985	126,457	108,422	108,776	110,738	-2%

Source: Refinitiv, Schroders.

6 See our first paper "Margin of Safety" for the structural and cyclical explanation for why this matters.
7 For more details, please see our second report – "Sustainable Competitive Advantage".

What's priced in?

The fact that we have derived HCROI from a ROCE formula means we can integrate it into equity valuation frameworks relatively easily. It requires us to build on the premise that for a moderately capital intensive business, the ratio of enterprise value to capital employed should approximate to the ratio of return on capital employed versus cost of capital, plus implied growth. Following the rearrangement in Fig 10 below, we can arrive at an understanding of what current market pricing of an enterprise implies in terms of HCROI growth.

Figure 10: Integrating human capital into valuation

$$\frac{EV}{CE} = \frac{ROCE}{WACC}$$

$$\frac{EV}{CE} \times WACC = \frac{\#Employees}{CE} \times \left(\frac{HCCF}{\#Employees}\right) \times (HCROI)$$

$$\frac{EV}{CE} \times WACC = \frac{HCCF}{CE} \times HCROI$$

$$\frac{EV}{HCCF} \times WACC = \text{Market Implied HCROI}$$

Source: Schroders.

Exploring this avenue further may help shed light on the sustainability of valuations, particularly in labor intensive, or knowledge centric sectors. It shows us the **market implied return on human capital.** It is of course possible that valuations can price in exorbitant growth rates or contractions for years without them being delivered by companies. However, growth delivered by capital employed is achieved in a very different way to growth driven by leverage on investment in people. **Fixed assets or even pay can change from one capital allocation decision to the next. Human capital systems – culture, or talent management for example – adapt slowly.** Further, as noted above, people are the asset that you can only sweat so much before they never come back. Investment implications could be meaningful[8].

Check: What is the implied growth in HCROI into perpetuity?
Companies that are pricing in material near term growth in HCROI may be vulnerable if other employee related components are moving the wrong way. In particular, it may be worthwhile checking how market implied HCROI has changed vs churn or EEVA.

Check: Are there outliers within the sector in terms of their implied growth in HCROI?
Note that in our empirical testing we found encouraging indications on the pace of mean reversion of net margins for strong or weak human capital managers. One might expect instances where high starting profit margins are combined with low HCROI – which tend to have materially faster fade rates to the mean – to have particularly pernicious outcomes for investors if they are coupled with valuations that reflect an expectation of major growth in HCROI; and vice versa.

As we have highlighted throughout this research series, our understanding of human capital management is evolving. Applying human capital analysis in investment in the ways described in this document knocks on the door of a different approach to understanding the creation of value. It requires balance and nuance; and will not suit all companies or analysts. But we believe it helps refine and improve the questions we ask of companies, and will help improve our understanding of the persistence and sustainability of different business models. It should thus be taken into account where possible, both in terms of sustainability and valuation assessment.

8 For more details on the mean reversion discussed in the blue box here, please see our second report – "Sustainable Competitive Advantage".

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