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The Debt Discount: A study evaluating the financial track record of companies with transition plans

DEVELOPED IN PARTNERSHIP WITH SCS CONSULTING SERVICES

ITPN International Transition Plan Network

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Summary for decision makers

What is this report about?

A private sector transition plan is "an aspect of an entity's overall strategy that lays out the entity's targets, actions, or resources for its transition towards a lower-carbon economy, including actions such as reducing its greenhouse gas emissions".[1] This definition comes from the International Financial Reporting Standards (IFRS) Foundation's S2 standard on climate-related disclosures, which includes both physical and transition risks. This report covers transition plans from a large global sample of publicly-listed companies which includes financial institutions and real-economy corporates (hereafter noted as "companies").

The ability of companies to maintain value, withstand shocks, and remain future proof is especially critical in the current global economic context, where energy security concerns and financial stability sit at the top of the policy agenda. Transition plans are therefore increasingly relevant not only as climate roadmaps, but as indicators of long-term business resilience.[2] The evidence presented in this report reinforces this. The research presented here is, to the best of our knowledge, the most comprehensive analysis undertaken to date of the financial implications of private sector climate transition plans.

We find that companies that develop and disclose transition plans experience a lower cost of debt, and that investors appear to reward companies that implement their transition plans. We also find that disclosing a transition plan does not negatively impact profits or stock outperformance over the long run, addressing one of the key concerns for companies weighing the decision to publish.

1) IFRS Foundation, IFRS S2 Climate-related Disclosures, 2023.
2) The IFRS Foundation's supplementary guidance also makes it clear that adaptation responses and climate resilience should be included in a transition plan, and there is growing behaviour from firms to include physical risk and business resilience as part of their transition planning. See IFRS Foundation, Disclosing information about an entity's climate-related transition, including information about transition plans, in accordance with IFRS S2: Guidance document, 2025.

More and more companies have begun developing transition plans to position themselves for the transition to a low-emissions and climate-resilient economy. Based on a comprehensive analysis of CDP climate reports issued between 2016 and 2024,[3] we identify over 3,300 publicly traded companies that have developed one or more components of a transition plan. It is worth noting that this study includes a period that predates the mainstream adoption of transition plans: prior to 2021, standalone transition plans rarely existed in their current form, nor had companies typically undergone a transition planning process as it is understood today. The use of CDP data allows us to examine the impact of disclosing individual transition plan indicators across this earlier period, and to draw on results from companies that did publish transition plans during this time. Using matching combined with causal forest and fixed effects models,[4] our study evaluates the long-run (eight year) and short-run (one year) effects of having developed and released components of a transition plan on a public company's profits, stock performance, and cost of debt.

Specifically, this study asks:

- What is the long-run effect of developing and disclosing one or more components of a transition plan over the eight-year 2016-2023 period on a public company's profits, stock performance, and cost of debt?
- Do characteristics of transition plan implementation influence these effects?

To answer these questions, we undertake an econometric study using all climate disclosure and transition planning activities as reported to CDP over 2016-2024, and the financial information and characteristics[5] of nearly 8,000 public companies across all GICS sectors (Financials, Real Estate, Materials, Information Technology, Consumer Staples, Industrials, Health Care, Utilities, Consumer Discretionary, Communication Services, Energy) and nine regions (three developed market (DM) regions: US, DM Europe, Other DM; six emerging market (EM) regions: China, India, EM Asia, Latin America, Middle East and Africa, EM Europe).

We evaluate transition plan implementation characteristics by looking not just at how many transition plan components[6] companies disclose, but the content of their disclosures. Although there are many actions a company could take to implement its transition plan, and by the nature of the transition planning process many actions are likely to be highly specific to each company, for the purpose of this report we have sought to standardise the concept to broad implementation indicators disclosed to CDP that could be applicable across all companies. For example, we look at how many times the company's board discusses climate change each year, whether the company is on track with their emissions reduction targets, the level (high/medium/low) of their disclosed transition-related risks and opportunities, and the magnitude of their transition-aligned revenue or spending (see Figure 1). For clarity, the measure of whether the company is on track to meet their emissions reduction targets does not require alignment with a particular temperature outcome (e.g. 1.5°C).

3) In this study we include CDP climate reports released through the end of 2024, which primarily reflect company characteristics in 2023. Therefore, the econometric analysis covers the 2016-2023 period.
4) See 'Methodology' chapter and Technical Appendix for more information on econometric techniques.
5) Data on financial information and characteristics was obtained from various sources including Financial Modeling Prep, see Technical Appendix for more information.
6) See 'Methodology' chapter for more information, including Figure 1.

We test three different indicators of each company's transition planning status:

- **Indicator 1a:** Did the company disclose every transition plan component at least once between 2016 and 2024? (yes/no)
- **Indicator 1b:** Did the company disclose individual transition plan component *x* at least once between 2016 and 2024? (yes/no)
- **Indicator 2:** How many transition plan components did the company disclose at least once between 2016 and 2024? (percent components disclosed)
- **Indicator 3:** How many transition plan components did the company disclose in a single year at any time between 2016 and 2024? (percent components disclosed in a single year)

We use these more flexible measures of transition plan completeness to allow a larger, more diverse sample. Looking only at companies that disclosed all transition plan components in a single year would limit the sample to 40 companies, while 1,540 companies have disclosed all transition plan components at some point between 2016 and 2024. Nearly every company in the sample of 1,540 companies (>99%) disclosed over 70% of transition plan components within a consecutive 24-month period.

We complement the quantitative analysis by interviewing 15 companies who have developed or are developing transition plans. These interviews help to interpret the quantitative results and identify more intangible transition plan effects, such as enabling coordination within companies, building relationships with clients, and positioning for future markets.

Key findings

1. Transition planning supports lower cost of debt

In this study, we measure cost of debt for each company as total interest expense divided by total outstanding debt in a given year, giving the average annual interest rate a company paid on its debt during the year. Analysing the relationship between the completeness of companies' transition plan disclosures and their cost of debt, **we find that for every additional 1% increase in transition plan completeness, companies reduce cost of debt (i.e. their average annual interest rate) by 0.15%, on average** (Indicators 2 and 3, $p < 1\%$, highly statistically significant). This effect is consistent across companies with different levels of transition plan completeness, suggesting a cumulative benefit to more thorough transition plan disclosure.

Similarly, **companies that disclosed all assessed transition plan components have lower cost of debt by 2023 than companies with incomplete disclosure, equivalent to an 11.7% relative reduction in the average annual interest rate paid on outstanding cost of debt** (Indicator 1a, $p < 10\%$, weakly statistically significant). This translates to savings of a little less than US$0.01 (-0.008 US$) per dollar of outstanding debt, or 80 basis points (bps) reduction in effective interest rates paid on all debt. For example, the company with the median level of debt in our sample (~US$1.25 billion) has an average interest rate across all debt payments of 6.84%. An 80 bps reduction in average interest rate is an 11.7% percentage reduction in cost of debt, resulting in a new interest rate of 6.04%. Therefore, for the median debt-holding company, the 80 bps reduction equates to a saving of roughly US$10 million per year. The analysis controls for company size, sector, region, and many other financial and corporate characteristics (see 'Methodology' for more details) and the finding is reiterated across many regions, sectors, and sensitivities. We also see consistencies with the economic literature on the effects of environmental, social, and governance (ESG) activities on financial performance (see page 14 for discussion of the economic literature).

At the level of individual sectors and regions, the direction of the cost of debt effect is consistent across markets and sectors, and statistically significant for DM Financial Services (-0.0005 US$ or 5 bps, Indicator 2, $p < 5\%$, statistically significant), DM Real Estate (-0.0002 US$ or 2 bps, Indicator 2, $p < 10\%$, weakly statistically significant), and EM Health Care (-0.0004 US$ or 4 bps, Indicator 2, $p < 5\%$, statistically significant).

Given strong correlation in reporting across individual transition plan components, we lack reliable impact magnitude estimates, but we can say that the components that contribute most materially to the cost of debt effect are "Scenario Analysis", "Governance 2" (management incentives for climate), and "Financial alignment with the transition" (Indicator 1b).

These results suggest that lenders view transition plan disclosure favourably as a sign of resilience, consistent with growing recognition that transition plans help lenders price climate-related financial risk.

2. Investors place value on transition plan follow-through

We see several indicators that equity and debt investors care about whether companies are making progress towards their transition plan commitments.

Across the global sample, companies that disclose having an 'on track' emissions target tend to outperform the stock market (i.e. 58.2 basis point (bps) higher stock alpha) in the year after disclosure as compared to companies that have no targets on track (p < 10%, weakly statistically significant). In emerging markets, having an 'on track' emissions target is associated with even stronger stock performance (157.7 bps higher stock alpha) (p < 10%, weakly statistically significant). Having an emissions target on track is also a strong contributor to lower one-year-ahead cost of debt in DM Europe (-0.005 US$ or 50 bps, p < 1%, highly statistically significant).

Companies that have the highest transition-aligned financial metrics in the market also show stronger share price growth relative to the broader market in the following year globally (i.e. one-year-ahead alpha bump of 153.4 bps, p < 5%, statistically significant), and even stronger effects in Other DM (321.9 bps, p < 5%, statistically significant) and emerging markets (203.6 bps, p<1%, highly statistically significant).

We hypothesise that these effects are driven by investor sentiment, particularly preferences for companies that are implementing their transition plans. This is because, out of two of the primary reasons for higher alpha, (1) the company reporting higher profits than expected, or (2) increasing investor demand for that stock, we do not see evidence that transition plan impacts next-year profits. This suggests that equity investors find transition plan implementation an attractive indicator of future longer-term profitability.

3. Despite potential upfront costs, transition planning does not negatively impact profits or expected stock performance over the long run

We see limited evidence of financial trade-offs associated with disclosure of transition plans. Specifically, **we see no statistically significant effect on profits, return on assets, or cumulative stock alpha across Indicators 1a, 1b, 2, or 3.** Cumulative stock alpha is a measure of how much a stock outperformed or underperformed compared to what an investor would expect given the issuing company's characteristics, like profitability and size, as well as market-wide returns. This finding holds globally, for EM and DM companies, and nearly all sectors.

There are two sectors in which Indicator 2 has a statistically significant effect on cumulative stock alpha, but the direction of the effect is inconsistent (the effect is negative for the DM Consumer Cyclical sector, and positive for EM Information Technology sector).

These results suggest that transition plans have not, to date and on average, created a drag on fundamentals. That is, any upfront costs of transition plans, such as new capital expenditure, have had minimal impact on profitability, or are being balanced out by new revenue or savings associated with the plan. Furthermore, we see no impact, on average, to cumulative stock alpha, consistent with insignificant impacts to fundamentals.

Because transition plans and CDP disclosures remain voluntary for most companies, investors could be concerned about reporting bias – for example, perhaps only the companies with the most significant transition risks feel compelled to disclose those risks or, conversely, that only companies with low transition risks report transition plans because companies with higher risk want to avoid negative market reactions. However, given the lack of impact to alpha, markets do not appear to assume that transition plan-disclosing companies are more or less likely to face transition risks. If such risk pricing is present, our results suggest it is offset by the market's recognition of transition plans as risk mitigation tools.

An important note on causal interpretation

Readers of economic research should always question "is this effect truly causal"? That is, are the financial outcomes identified in this study directly attributable to the transition planning process, or could they be driven by some mediating or confounding factor? For example, we could be identifying an effect wherein companies that have reduced their cost of debt due to better financial performance also decide to issue a transition plan. We acknowledge that possible confounding factors could undermine our ability to interpret these results as causal.

For example, a common "confounder" in sustainable finance research is the potential for companies with more (or less) capable management to both improve (or degrade) financial outcomes and increase (or decrease) sustainability-related activities. Lack of data on management quality makes it difficult to control for quantitatively. This could be a factor in our analysis, but there are two reasons why we think it is not a primary driver of results.

Firstly, we see minimal impacts to fundamentals. If the management quality confounder were at play, we might expect to see consistent impacts to fundamentals, like higher profitability and return on assets (ROA), to justify the lower cost of debt results. We see very few impacts to fundamentals in our analysis.

Secondly, we see different effect magnitudes and directions for different transition plan components and levels of implementation. Given that the choice to implement a transition plan is often bundled across components, the effects are more likely to be market reactions to the individual components themselves rather than to the leadership, which is common to all the components.

Even if leadership quality does partially confound the effects, our results would then suggest that the decision to begin transition planning and disclose the transition plan is indicative of competent corporate leadership.

Another possible confounder is that we are uncertain about the direction of causality. In other words, companies may have achieved better financial outcomes first, which then made it more likely that they would develop transition plans. Our long-run effects (2016-2023) are particularly at risk of this confounder, since the long-run model cannot isolate which of these factors come first. However, there are two reasons we do not believe this confounder invalidates our results:

1. Companies included in our sample that experience larger market capital growth over 2016-2023 exhibit smaller improvements to cost of debt or even increases in cost of debt. If size were driving a company's decision to create a transition plan, we would have expected the opposite result.

2. We test the effect of transition planning on one-year-ahead financial outcomes using a fixed effects model and find consistent results with the long-run model. The results of this test suggest that a large portion of the long-run cost of debt effect from transition planning accrues the year following disclosure.

We explore these issues more fully in the Discussion section. **While no economic study can claim to definitively prove a causal effect, we feel the above evidence is sufficiently robust to use causal language for our statistically significant results**. We look forward to future research that further evaluates the impact of transition planning on financial outcomes to continue to build the evidence based through varied research approaches.

Recommendations

For companies

Start disclosing: Our results suggest early and iterative disclosure has potential to carry real financial value, with observed cost of debt improvements even for incomplete transition plans. A 'start now, build over time' approach will also support dialogue and iteration with investors and lenders leveraging transition plan data.

Demonstrate implementation: The transition plan implementation analysis suggests that companies that demonstrate to investors and lenders they are implementing their transition plans experience financially material effects. Corporates should focus on translating transition plan ambition into action and demonstrate to investors they are implementing their transition plan.

Get the board involved: To support the financial interests of the company, boards should commission and formally approve transition plans, set expectations for completeness and implementation, and review progress through annual reporting. Where boards wish to reinforce executive accountability, transition plan progress can also be integrated into C-suite and senior executive remuneration frameworks.

For policymakers and regulators

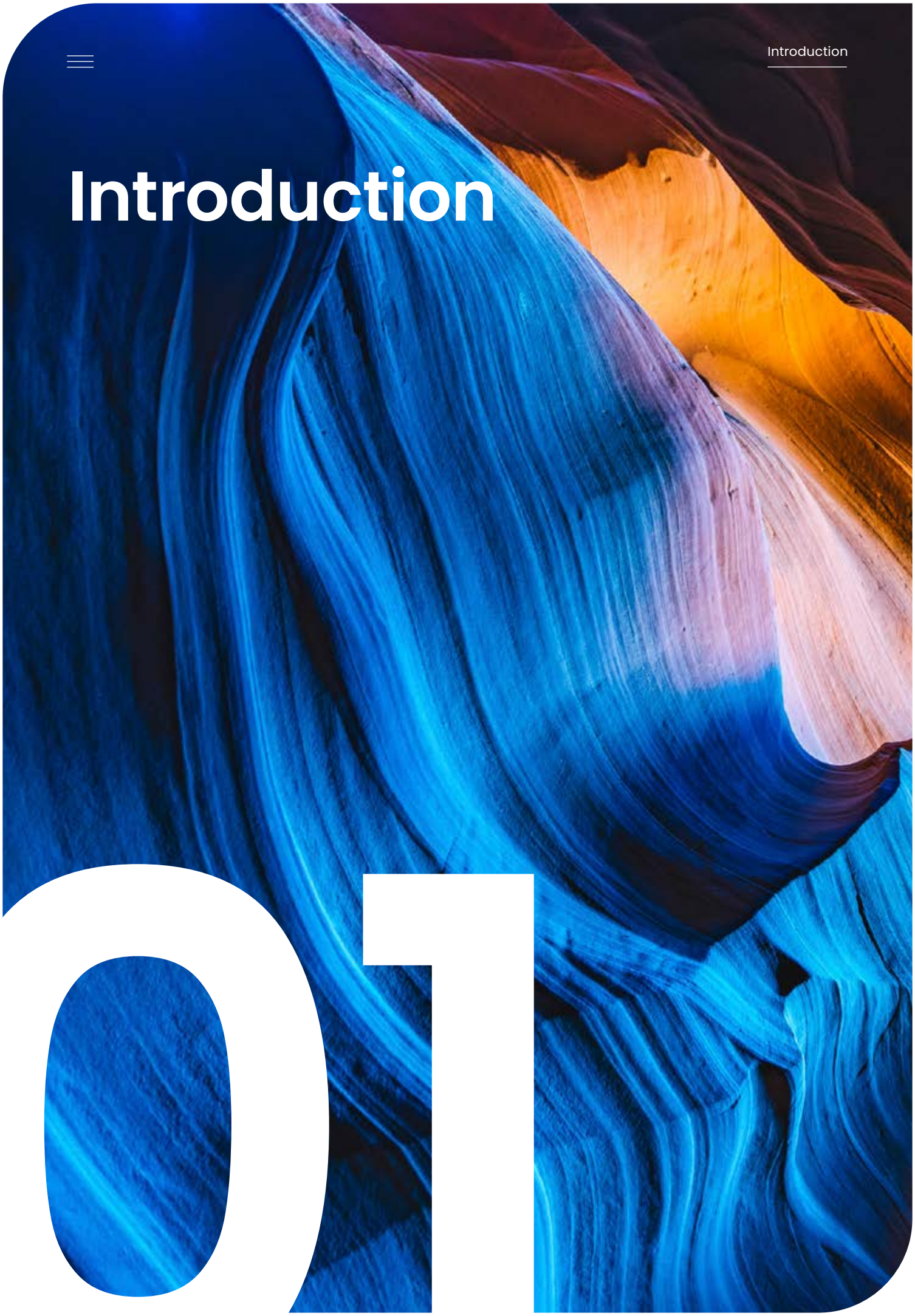
Encourage transition plan development and disclosure: Regulators and standard setters can support companies in developing transition plans by simplifying and aligning approaches across markets. IFRS S2 and GRI 102 enable entities to disclose information about their transition plans although they do not mandate the development or implementation of transition plans. IFRS S2 is being adopted in more than 40 jurisdictions globally. Policymakers and regulators could build on this global baseline by introducing guidance and requirements on transition plan development and disclosure. This may include jurisdiction-specific transition planning guidance, or mandatory transition plan disclosures in some circumstances, such as for large companies.

Sector Transition Plans (STPs): Policymakers can provide clear signals about the direction of the transition in a jurisdiction, including through STPs that identify the financial incentives and policy levers that government will take in key sectors.[7] A better understanding of local transition pathways coupled with supportive industrial policy will enable companies to plan their transition and confidently allocate capital. Separate research has also shown that combining net zero legislation with climate-related disclosure mandates can amplify investment in clean energy.[8] Policymakers can combine transition plan disclosure requirements with clarity on policy direction to help drive clean growth in strategic sectors.

Capacity building: Policymakers and regulators can consider how they can support the market to build technical expertise and capacity, both as users and preparers of transition plans. This will be particularly important for small and medium enterprises (SMEs) and firms in emerging markets and developing economies. This might involve working with the market to develop transition planning guidance tailored to that context, support for capacity-building initiatives such as transition planning pilots, or support for development of new tools and training programmes.

7) International Transition Plan Network (ITPN), Sector Transition Plans: A bridge between national ambition and company transition plans, 2025.
8) Zhou et al., National Net-Zero Legislation and Corporate Asset Allocations, 2025.

Introduction



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Policy context

The increasing awareness of climate-related impacts, risks, and opportunities has led to a growing interest in private sector transition plans as a crucial component of a firm's climate-related financial disclosures and business strategy. One common definition of transition plans is provided by the IFRS Foundation's S2 standard on climate-related disclosures, which is being adopted in more than 40 jurisdictions globally. Transition plans are defined as "an aspect of an entity's overall strategy that lays out the entity's targets, actions or resources for its transition towards a lower-carbon economy, including actions such as reducing its greenhouse gas emissions".[9]

Financial regulators have shown a strong interest in transition plans, as a tool to provide decision-useful information to investors and for their potential to reduce climate transition and physical risks to the financial system. The International Organization of Securities Commission (IOSCO) has identified that "inaccurate, inadequate, incomparable or unreliable" transition plan disclosures could harm investors through leading to mispricing and misallocation of capital.[10] The value of transition plans for financial stability has been explored by both the Financial Stability Board (FSB) and Network for Greening the Financial System (NGFS).[11] Use in micro-prudential supervision is emerging, with the European Central Bank including transition plan supervision in its 2026-2028 priorities.[12]

There is also growing investor, bank, and insurer interest in using transition plans. An NGFS survey of global banks and insurers identifies clients' transition plans are being used to fulfil decarbonisation commitments, in risk management processes, and to identify investment opportunities.[13] Recent ITPN research reveals that transition plans are being used by investors in engagement, portfolio monitoring, and risk management, with emerging practice in fundamental analysis, passive investment, and labelled transition instruments.[14] Developing transition plans may be particularly important for high-emitting companies to access finance to decarbonise, as they enhance financial institutions' confidence in their strategies to manage transition-related impacts, risks, and opportunities.[15] The International Energy Agency (IEA) estimates the market opportunity for transition finance is substantial, with the potential to deploy US$4-5 trillion between 2026 and 2035.[16]

Following the global endorsement of the Paris Agreement in 2015, companies have increasingly analysed climate impacts and risks, set targets, and disclosed their climate strategies. This was driven by investor scrutiny, including through initiatives such as Climate Action 100+ through which investors engage high-emitting companies, and increased regulatory focus on climate disclosures, notably through adoption of the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations. From 2021 onwards, guidance, standards, and frameworks began to coalesce around information about transition plans, notably the European Sustainability Reporting Standards, the IFRS Sustainability Related Disclosure Standard on climate-related disclosures (IFRS S2), the GRI 102 Climate Change Standard, and the Transition Plan Taskforce (TPT) Disclosure Framework.[17] This means that while some leading companies have adopted key components of a transition plan since 2016, more widespread development of standardised transition plans has only emerged in the 2020s.

9) IFRS Foundation, IFRS S2 Climate-related Disclosures, 2023.
10) IOSCO, IOSCO Report on Transition Plans, 2024.
11) Financial Stability Board, The relevance of transition plans for financial stability, 2025; NGFS, Stocktake on Financial Institutions' Transition Plans and their Relevance to Financial Stability, 2023.
12) ECB, Supervisory priorities 2026-28, 2026.
13) NGFS, Connecting Transition Plans: Financial and non-financial firms, 2024.
14) ITPN, Enhancing Long-Term Value and Resilience: A study of how global investors are using transition plans, 2026.
15) ITPN, Private Sector Transition Plans: A Critical Tool for Mobilising Finance, 2025.
16) International Energy Agency (IEA), Scaling Up Transition Finance, 2025.
17) European Financial Reporting Advisory Group (EFRAG), First set of draft ESRS, webpage accessed February 2026; International Financial Reporting Standards (IFRS) Foundation, IFRS S2 Climate-related Disclosures, 2023; Transition Plan Taskforce (TPT), Disclosure Framework, 2023.

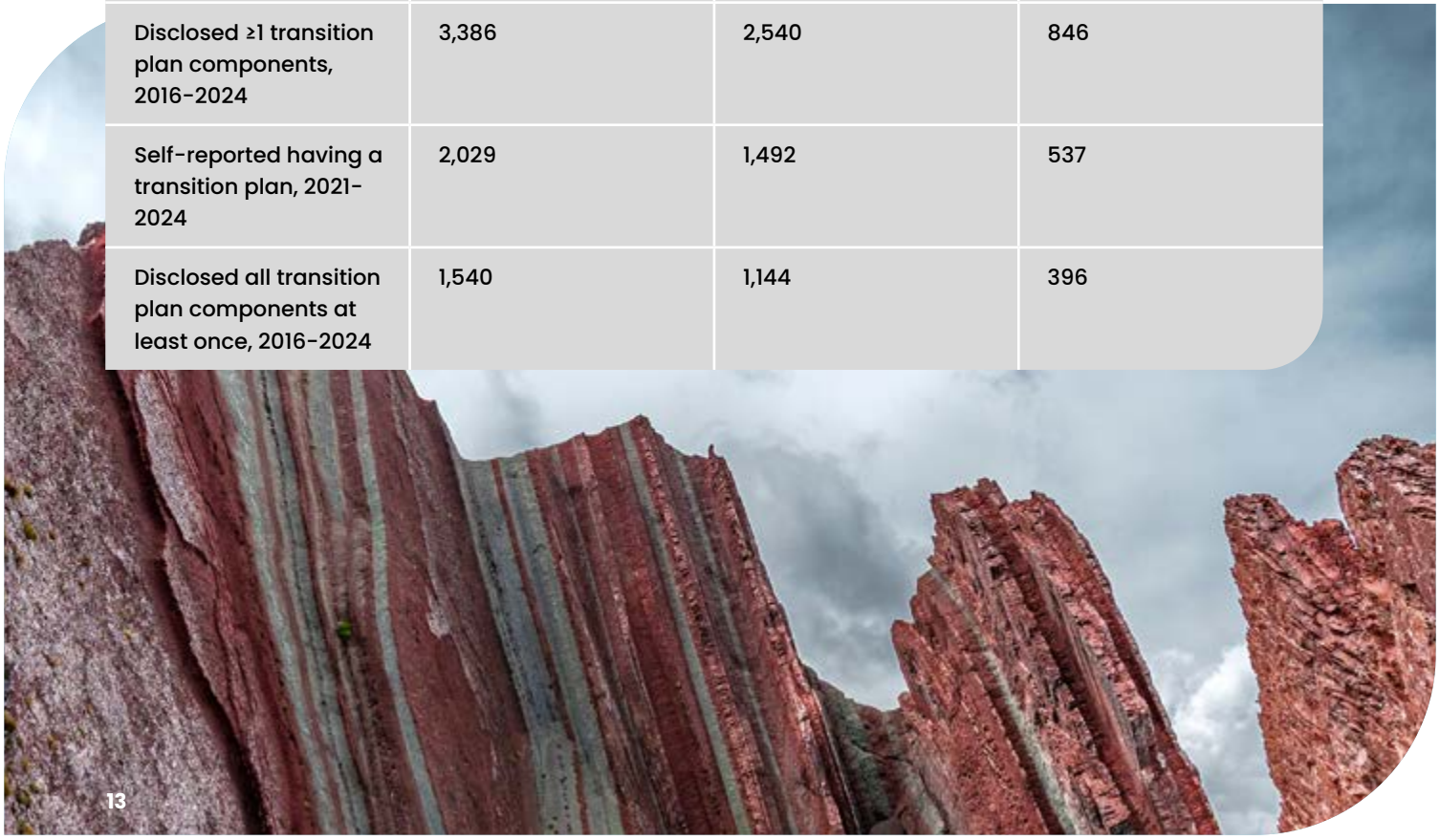
Purpose of this study

The growing use of transition plans in recent years presents an opportunity to evaluate whether they are having their expected effect on corporate financial performance, ostensibly by reducing exposures to transition and physical risks, and on financial systems as a whole by helping to price firms' climate risk exposures.

Our study looks to address these questions. Specifically, we evaluate the long-run (eight year) and short-run (one year) effects of having developed and released components of a transition plan on a public company's profits, stock performance, and cost of debt, as well as the impact of transition plan implementation. This study looked at a global sample of 7,697 companies who are part of the MSCI ACWI IMI. At the core of this study are 3,386 publicly traded companies that disclosed at least one transition plan component over 2016-2024 and 1,540 companies that disclosed all transition plan components at least once, based on detailed analysis of all CDP climate reports issued between 2016 and 2024 (Table 1).

Table 1: Publicly traded companies used in this study

SAMPLE SET	TOTAL COMPANY COUNT	DEVELOPED MARKET	EMERGING MARKET
Global sample (>97% MSCI ACWI IMI)	7,967	5,177	2,783
Disclosed to CDP at least once, 2016- 2024	3,408	2,554	854
Disclosed ≥1 transition plan components, 2016-2024	3,386	2,540	846
Self-reported having a transition plan, 2021-2024	2,029	1,492	537
Disclosed all transition plan components at least once, 2016-2024	1,540	1,144	396



Contribution to the economic literature

Our findings join the empirical literature on the relationship between climate, environment, and sustainability-related disclosures and corporate financial performance, which is large, growing, and heterogeneous in its findings. The balance of evidence suggests that sustainable or ESG investing generates similar returns to conventional investing, with some evidence of sustainable outperformance over longer time horizons and during periods of market stress.

For example, Atz et al. showed through a broad literature meta-analysis that, while financial performance of ESG-themed investing has on average been indistinguishable from conventional investing, research focused on company-specific ESG performance has a higher rate of showing positive financial effects.[18] They find that ESG investing is more likely to exhibit financial resilience in times of higher risk, like market downturns, while more emissions-intensive companies exhibit a "carbon risk" premium, or higher stock performance in exchange for higher climate policy and market risk.

Similarly, Engle et al. show that companies with higher aggregate ESG scores exhibit more resilient stock performance when climate news turns negative, for example around extreme weather events or policy shocks. This suggests that information about companies' climate risk exposure is asymmetrically priced, providing limited financial upside but helping to avoid downside risks.[19]

Eccles et al. use a sample of "high" and "low" sustainability companies (as defined by governance, stakeholder engagement, decision-making time frames, and non-financial disclosures criteria), found to be similar based on pre-1993 characteristics, to evaluate the long-run effects of sustainability on financial performance.[20] They track corporate performance over 18 years, using a four-factor model to account for differences in company risk profile.

Our study follows a similar structure to the Eccles et al. analysis, evaluating the differences in financial performance for companies with similar characteristics prior to 2016 but different levels of transition plan completeness and implementation over 2016-2023. We do not benefit from as long a timeline as Eccles et al., and so we expect our findings are only an initial indication of the full financial impact of transition plans.[21] In addition to long-run analysis we also evaluate the short-run, year-on-year effects of transition planning on financial performance.

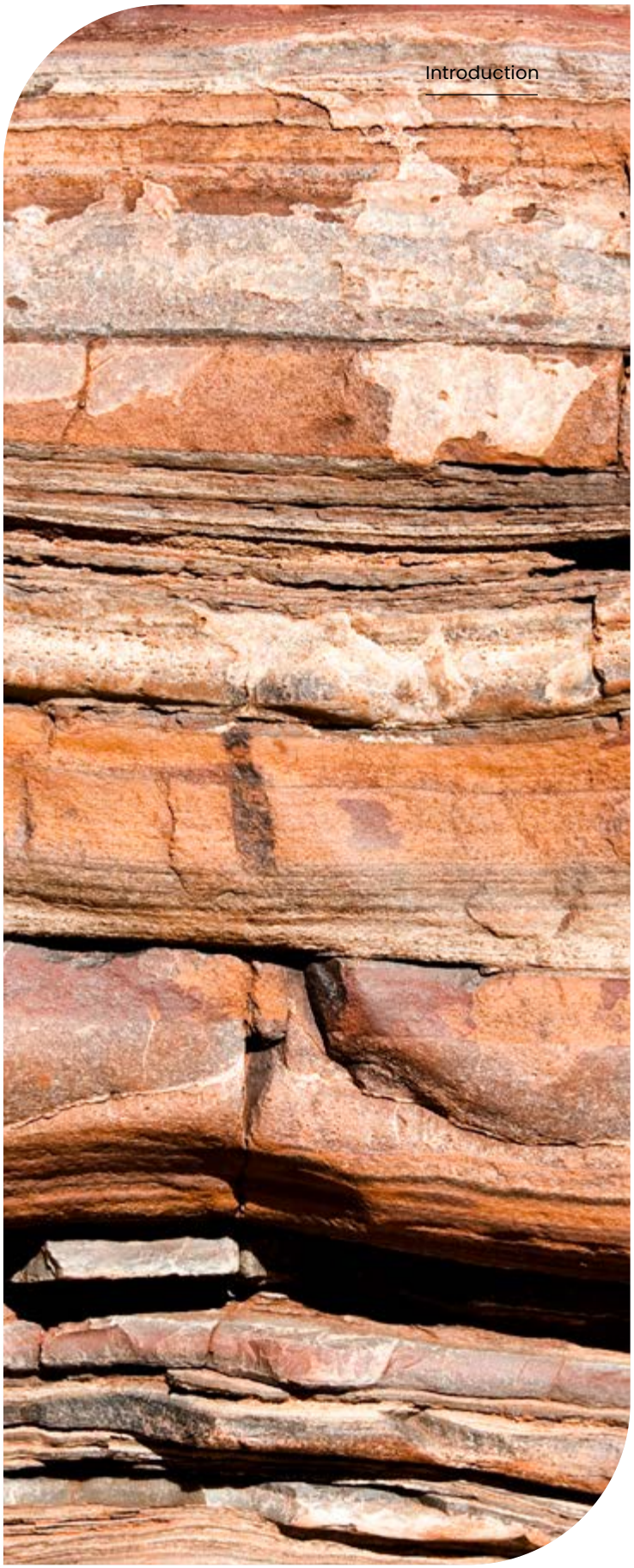
Our findings join the empirical literature on the relationship between climate, environment, and sustainability-related disclosures and corporate financial performance, which is large, growing, and diverse in its findings.

18) Atz, Van Holt, Liu and Bruno, Does sustainability generate better financial performance? review, meta-analysis, and propositions, 2023.
19) Engle, Giglio, Kelly, Lee and Stroebel, Hedging Climate Change News, 2020.
20) Eccles, Ioannou and Serafeim, The Impact of Corporate Sustainability on Organizational Processes and Performance, 2014.
21) Eccles et al. (2014) is a seminal paper in sustainable finance research, cited over 7,000 times to date. The paper's methods have also come under heavy and ongoing scrutiny. The methods used in this report are inspired by the overall causal strategy in Eccles et al. (2014), but we also sought to avoid the concerns highlighted by King (2025), including using clear matching and sample construction methods and standard measures of financial performance. See the Technical Appendix for full methods details. King, Andrew A. "Do sustainable companies have better financial performance? Revisiting a seminal study." Journal of Management Scientific Reports 3.2 (2025): 88-118.

One criticism of sustainable finance research by Burato et al. is that measurement typically focuses on disclosure and compliance metrics, and therefore reward indicators that are easy to audit such as commitments or disclosure rather than strategic and behavioural change.[22] Evaluating transition plans allows for evolving the research frontier in this direction. Using a large dataset of 18,000 companies, Burato et al. find that more difficult to measure transformation actions – innovation-driven strategic change embedded in products, processes, governance, and value chains – delivered an average +2.52% annual alpha.

Transition planning is a transformative process of business model change, but as a relatively new exercise much focus to date has remained on encouraging adoption and disclosure of transition plans. However, financial institutions are increasingly shifting their focus to assessing the credibility and implementation of transition plans.[23] By looking at implementation indicators, this study provides an initial view of the impact on financial outcomes of transition plan implementation and associated transformation.

Transition planning is still a developing area of corporate strategy and disclosure, so empirical literature on the financial impacts of transition plans is limited but growing. For example, Zhou et al. have recently shown that firms with transition plan disclosures in the energy and utilities sectors tend to receive lower interest rates in the loan market.[24] Transition plans have also been shown to generate non-financial benefits that are not captured in this study, with some emerging evidence suggesting that companies with strong transition plans decarbonise faster and invest more in clean energy.[25]



22) Burato, Nouri, Pellegrino, Scalvini, Wu and Zollo, A behavioural revolution: Sustainability actions that create alpha, Imperial Business School Leonardo Centre, 2025.
23) See ITPN, Enhancing Long-Term Value and Resilience: A study of how global investors are using transition plans, 2026; NatWest, Unlocking transition finance, 2026.
24) Zhou, Williams and Shrimali, Corporate Net Zero Transition and Financing Cost: Evidence of Impact from Global Energy and Utilities Sector, 2025.
25) See: Bain & CDP, Accelerating UK Corporate Decarbonisation, 2024; CPI, State of OECD Pension Funds' Climate Transition, 2025; FTSE Russell, Still tracking: analysing corporate decarbonisation intentions with TPI MQ scores, 2025; Zhou et al., National Net-Zero Legislation and Corporate Asset Allocations, 2025.

Methodology

Using financial data on company-level stock returns, cost of debt, fundamentals, and non-transition plan controls (Fama-French factors, region, industry, and news sentiment) and a complete dataset of CDP climate disclosures for 2016-2024, we evaluate a global panel of 7,967 public companies that provide varying degrees of transition plan disclosure completeness, covering over 97% of companies in the MSCI ACWI IMI (23 Developed Market and 22 Emerging Market countries) as of October 2025 (see Table 1 for sample details). We note that CDP data provides broad coverage across publicly-traded companies, but its voluntary nature means there may be some bias towards data availability from companies with lower downside risk from disclosing environmental impacts, such as lower emissions-intensity companies.

We utilise and build on a rubric of transition plan components and implementation indicators, informed by existing research and policy frameworks, to evaluate the varying effects of transition plan components. While leading frameworks and standards such as the TPT, GFANZ, IFRS S2, and GRI 102 each have their own structure and emphasis, their core elements converge around three broad themes: ambition (the targets and goals a company sets for its transition), action (the implementation strategies and engagement activities that will deliver them), and accountability (the governance structures and metrics used to track and verify progress).

The rubric used in this study, which draws on these themes and is operationalised through the components in Figure 1, is aligned to the CDP data available (see Technical Appendix for more detail). It should not be read as a proposed assessment framework or disclosure framework, but rather an approach for evaluating and quantifying existing corporate disclosures for the purpose of this study. We endorse use of existing frameworks and guidance, especially those developed by governments and regulators for specific jurisdictions, as well as international standards and frameworks like the IFRS S2 Standard and the TPT Disclosure Framework, among many others.

Figure 1: Transition plan evaluation rubric disclosure criteria

RUBRIC THEME	RUBRIC ELEMENT	DISCLOSURE CRITERIA *Each bullet evaluated on 0/1 basis, aggregated to element scores using weights in parentheses – see Technical Appendix for more detail*
Governance	Governance 1	• The frequency with which transition plan-related issues are a scheduled agenda item in meetings, including board meetings
	Governance 2	• Management role incentivised with transition-related metrics (1) • Transition-related metric (1) • Details on incentives (1)
Targets	Absolute targets	• Science-based status (Abs: 6, Int: 5) • Scopes (2) • Base year end date (1) • Total base year emissions (absolute only) (1) • Target end date (1) • Targeted reduction from base year (%) (1)
	Intensity targets	

RUBRIC THEME	RUBRIC ELEMENT	DISCLOSURE CRITERIA *Each bullet evaluated on 0/1 basis, aggregated to element scores using weights in parentheses – see Technical Appendix for more detail*
Targets	Net zero targets	• Science-based status (3) • Target coverage (1) • Target(s) linked (1) • Target end date (1)
Scenario analysis	Scenario	• Scenario used (1) • Scenario coverage (1) • Temperature alignment (1) • Relevant scenario details (1)
Risks and opportunities	Risks	Either explanation for absence of risks/opportunities, or, for each: • Primary driver of risks/opportunities (1) • Time horizon (1) • Likelihood (1) • Magnitude (1) • Financial effect (1) • Risk response, opportunities realisation costs (1)
	Opportunities	
Strategy to achieve net zero	Transition plan	• Explicit transition plan existence[26]
	Strategy	• Whether climate-related risks and opportunities influenced organisation's strategy (1) • Description of the influence (1)
Finance	Finance 1	• Description of how environmental risks and/or opportunities affected financial planning elements
	Finance 2	• Financial metric used to determine the alignment of organisation with climate transition (1) • Percent financial metric aligned with organisation's climate transition, in the year of reporting (1), in 2025 (1) and in 2030 (1)
Scope 1/2/3 emissions accounting with verification	Scope 1	• Scope 1 emissions (1)
	Scope 2	• Scope 2 emissions location-based (1) • Scope 2 emissions market-based (1)
	Scope 3	• Scope 3 status (1) • Scope 3 emissions (2)
	Scope verification	• Verification status overall (1) • Scope 1 verification (1) • Scope 2 verification (1) • Scope 3 verification (1)

26) Note that this CDP indicator is a 'yes/no' question that allows a company to self-report whether it has a transition plan. For the purposes of this study, existence of a 'complete' transition plan does not refer to companies that have answered 'yes' for this indicator, it instead refers to companies that have disclosed against all CDP transition plan indicators.

RUBRIC THEME	RUBRIC ELEMENT	DISCLOSURE CRITERIA *Each bullet evaluated on 0/1 basis, aggregated to element scores using weights in parentheses – see Technical Appendix for more detail*
Value chain actions	Value chain 1	• Supplier engagement details (1) • Percent of tier 1 supplier scope 3 emissions covered by engagement (1) • Supplier engagement description (1)
	Value chain 2	• Low-carbon products or services (1) • Percent revenue from low-carbon products or services (1) • Taxonomy used to classify products or services as low-carbon (1) • Methodology used to calculate avoided emissions (1)
Policy	Policy	• External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment

We are interested in the effects of the rubric components in Figure 1 on the change in four financial outcome variables.

- **Profits:** bottom-line net income, or corporate profits attributable to common shareholders for a given year after interest and taxes
- **Stock alpha:** excess return of a single stock with respect to the return predicted by the Fama-French five-factor asset pricing model
- **Return on assets:** profit divided by total assets
- **Cost of debt:** total interest expense divided by total interest-bearing debt

We use a causal forests model[26] for evaluating long-run (2016-2023) effects, a flexible approach that can accommodate multiple treatments and many interacting effects across transition plan components and controls. It is also designed to generate observation-level treatment effects, which we can use to evaluate how transition plan impacts change across different subsets of the global company sample. To ensure comparability between reporting and non-reporting companies we match companies on a suite of control variables (listed below) and remove companies from the sample that fail control variable overlap tests. We use the R-based grf package to implement.[27]

For the short-run (one-year-ahead) evaluation, we use a two-way fixed effects model using company-level and year-by-market (EM, DM) fixed effects and standard error clustering at region-sector. The rubric components in Figure 1 are lagged by one year from the financial outcome variables.

26) See the Technical Appendix for more details on causal forests.
27) Tibshirani et al., grf: Generalized Random Forests, 2025.

Additional controls used in the causal forests and fixed effects models are:

Carbon prices

- Implicit carbon price[28]
- ETS and carbon tax[29]

Fama-French factor values[30]

- Size
- Book to market
- Total investments
- Profitability

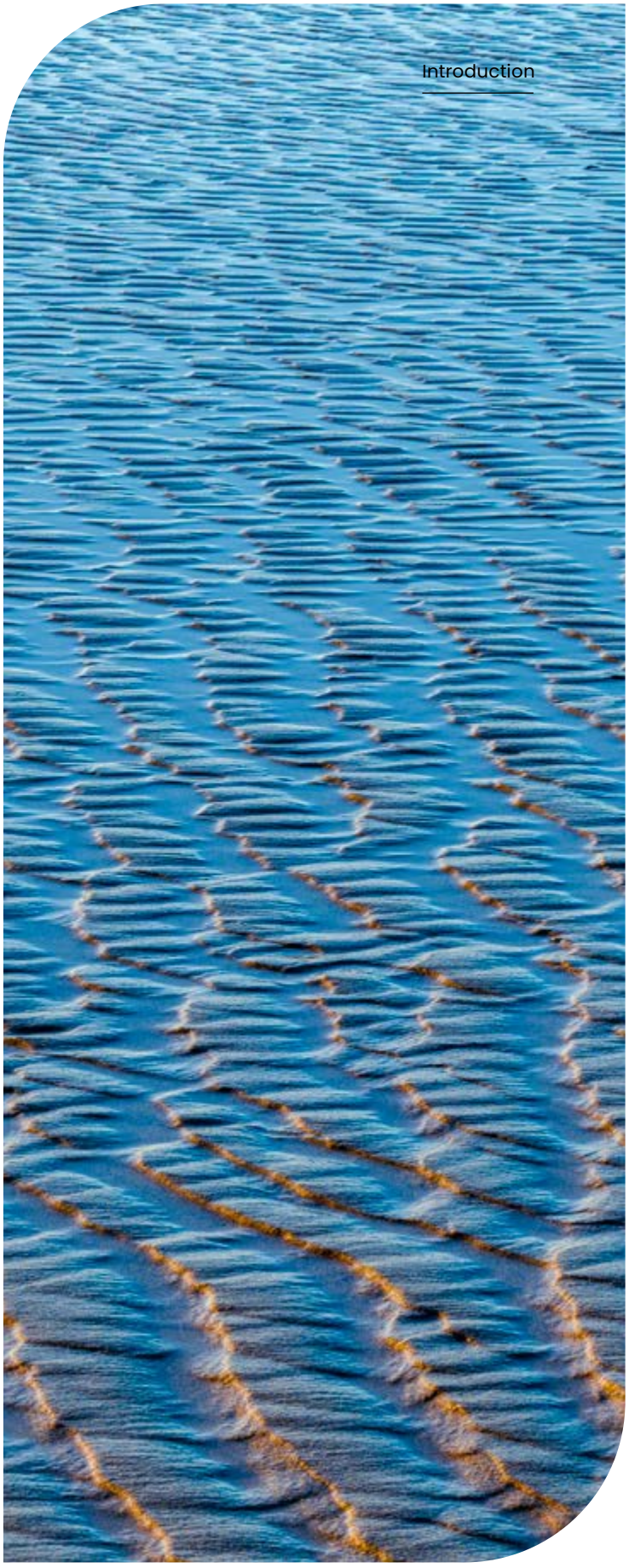
Other financial metrics[31]

- R&D expenses
- Return on assets
- Cost of debt

News sentiment[32]

- Percent positive news mentions out of total news mentions
- Percent negative news mentions out of total news mentions

For the causal forests model, only pre-2016 financial metrics and Fama-French factors are used to avoid bad controls. For more details on data methods, model specification, causal strategy, and inference, see the Technical Appendix.



28) Organisation for Economic Cooperation and Development (OECD), Effective Carbon Rates 2025, 2025. Implicit carbon price is not used in the fixed effects model due to lack of a continuous time series.
29) Resources for the Future (RFF), World Carbon Pricing Database, 2022.
30) All derived from Financial Modelling Prep (FMP), see Technical Appendix for details.
31) Ibid.
32) Ibid.

A note on credibility of transition plans

Financial institutions and data providers are increasingly assessing the credibility of transition plans. Although credibility assessments may consider the completeness of a transition plan, as in this study, they also typically include elements beyond the scope of this study, such as assessments of the ambition and feasibility of plans to understand the likelihood of meeting targets.[33] Assessing ambition usually involves assessing company emissions targets or clean technology deployment plans against science-based or policy-derived pathways. Feasibility assessments may involve assessing whether plans are realistically achievable within technology, market, and policy context, as well as understanding a company's financing and delivery capabilities.[34] While this study's measure of transition plan completeness (based on the number of components disclosed to CDP) accounts for the effects of existence and disclosure of transition planning, it does not assess credibility, which is best interpreted with more context-specific analysis of ambition and feasibility.

Qualitative interviews

To complement the quantitative analysis, we carried out 15 interviews with companies that have issued transition plans. We reached out to a targeted sub-sample of companies included in the economic analysis above, spanning all sectors of the Global Industry Classification Standard (GICS) and a representative regional distribution, and the final interviews were carried out with all companies that agreed to participate. The final interview sample covers all GICS sectors except for Consumer Cyclical, Technology, and Real Estate, with 12 firms headquartered in Developed Markets (DM) and 3 in Emerging Markets (EM).

Interviews were conducted with senior executives responsible for climate and sustainability strategies, including Chief Sustainability Officers, Climate and Net Zero Leads, and equivalent roles. These individuals were positioned across Sustainability, Strategy, Risk, and Finance functions within their organisations. Some companies were represented by multiple interview participants (see Table C in the Technical Appendix).

Interviews proceeded in "semi-structured" format, using a pre-defined list of questions while leaving flexibility for interviewees to introduce new concepts and priorities for conversation (see Table D in the Technical Appendix). We draw on these interviews in the interpretation of results and discussion around key takeaways below.

33) Climateworks Centre, Guide to credibility for corporate climate transition plans, 2025.
34) RMI, Creating Transition Intelligence: Enhancing Corporate Transition Assessment for Financial Decision-making, 2025.

Results

We present the results in three sections, organised by transition plan impacts on cost of debt, stock alpha, and fundamentals (profits and return on assets).

02

Cost of debt

This section primarily covers Key finding 1, go to page 35 to read more about the implications of these results.

Companies that disclosed all components of a transition plan at any point throughout 2016-2024 (Indicator 1a) have significantly lower cost of debt than companies that did not disclose all components, a reduction of 80 bps in average interest rate across all outstanding debt. For the company with the median level of debt in our sample (~US1.25 billion), this equates to a saving of a little less than US$0.01 per dollar of debt, or roughly US$10 million per year (Table 2). Compared to the sample average cost of debt in 2023, this is equivalent to an 11.7% relative reduction in the average annual interest rate paid on outstanding cost of debt ($p < 10\%$, weakly statistically significant).

We find consistent and statistically stronger results for Indicator 2 and 3: for every 1% of increasing transition plan completeness, on average companies exhibit a statistically significant reduction in cost of debt equivalent to 0.15%. In the Technical Appendix, we show that this marginal effect is virtually constant, on average, across levels of transition plan completeness in the sample, implying that an increase of 0 to 100% of transition plan completeness would allow a 15% lower cost of debt (i.e. 15% relative reduction in average annual interest rate) in 2023 for the average company in our sample.

Table 2: Transition plan impacts to cost of debt, long-run results

TRANSITION PLAN INDICATOR		AVG. TREATMENT EFFECT (USD) †	AVG. TREATMENT EFFECT (%, 2023) ‡	ST. ERROR	*p*
1a: Complete transition plan		-0.0077	-11.67	0.0047	0.08*
2: % transition plan complete		-0.0002	-0.16	0.0000	0.00***
3: % transition plan complete, all one year		-0.0001	-0.15	0.0000	0.00***
1b: Transition plan components	Gov. 1	-0.0071	-9.71	0.0031	0.06*
	Gov. 2	-0.0083	-11.40	0.0028	0.05**
	All targets	-0.0046	-6.36	0.0029	0.20
	Scenario analysis	-0.0084	-11.54	0.0026	0.05**
	Risks	-0.0064	-8.77	0.0038	0.17 (o)
	Opportunities	-0.0048	-6.56	0.0037	0.24
	Transition plan	-0.0075	-10.29	0.0025	0.05**
	Strategy	-0.0090	-12.36	0.0039	0.06*
	All finance	-0.0086	-11.88	0.0030	0.05**
	Any scopes	-0.0035	-4.79	0.0033	0.30
	All value chain	-0.0034	-4.68	0.0029	0.27
	Policy	-0.0043	-5.84	0.0031	0.24

N = 5,464. † Average treatment effect (ATE) units are the same as cost of debt variable, US$ total interest expense per US$ total outstanding debt. ‡ ATE as a percentage of the sample average 2023 cost of debt. ***1% significance, **5% significance, *10% significance; (~) 5% significance pre-FDR, (o) 10% significance pre-FDR. Given the number of tests performed across transition plan components, we correct Indicator 1b p values for false discovery rate (FDR) using Benjamini & Hochberg (1995). Pre-treatment matching uses nearest neighbour k = 4. Standard errors and p values estimated using bootstrap (500 iterations) over matching, covariate overlap filter, and causal forest estimation.

Evaluating the effect of individual transition plan components on cost of debt is difficult because disclosure decisions are often made jointly, creating strong correlation across different components. This inflates the estimated effect of each individual component, as seen in Table 2, where the Indicator 1b effects reach the same order of magnitude as the entire Indicator 1a effect. Therefore, we recommend using the Indicator 1b effects to rank the importance of individual components rather than accurately quantifying their impacts on cost of debt. The "Strategy" component has the largest impact (-0.009 US$, $p < 10\%$, weakly statistically significant), followed by "Finance" (-0.0086 US$, $p < 5\%$, statistically significant), "Scenario Analysis" (-0.0084 US$, $p < 5\%$, statistically significant), and "Governance 2" (an indicator of whether management incentives include climate considerations) (-0.0083 US$, $p < 5\%$, statistically significant). We also find the company's indication that they have a "Transition Plan" has a large effect (-0.0075 US$, $p < 5\%$, statistically significant). Again, this indicator is strongly correlated with the rest of the transition plan components, so we would not suggest that claiming to have a transition plan alone could significantly impact cost of debt.

We zoom in on individual sectors and markets in Figure 2, below. The reduction in the number of companies assessed (on average, about 250 companies per market-sector) reduces statistical power, so the significance of impacts on cost of debt is weaker than for the global average results. However, across all except three EM sectors, we continue to find that transition planning has a downward effect on the cost of debt. The largest and most significant effects are found in DM Financial Services (-0.0005 US$, Indicator 2, $p < 5\%$, statistically significant), DM Real Estate (-0.0002 US$, Indicator 2, $p < 10\%$, weakly statistically significant), and EM Health Care (-0.0004 US$, Indicator 2, $p < 5\%$, statistically significant). For the three EM sectors with higher cost of debt (Consumer Discretionary, Industrials, IT), the results are not significant and the sectors are quite different in terms of emissions intensity and degree of transition risk exposure, so we defer to future research to evaluate any potential drivers of these results.

Figure 2: Cost of debt effects in DM and EM sectors

N = 5,464. Average treatment effect (ATE) units are the same as cost of debt variable, US$ total interest expense per US$ total outstanding debt. ***1% significance, **5% significance, *10% significance; (~) 5% significance pre-FDR, (o) 10% significance pre-FDR. Given the number of tests performed across all sectors and markets, we correct p values for false discovery rate (FDR) using Benjamini & Hochberg (1995). Pre-treatment matching uses nearest neighbour k = 4. Standard errors and p values estimated using bootstrap (500 iterations) over matching, covariate overlap filter, and causal forest estimation. DM Industrials companies do not have results for Indicators 2 and 3 because the sector fails covariate overlap tests for these model specifications.

Impact of transition plan implementation

This section primarily covers Key finding 2, go to page 36 to read more about the implications of these results.

To evaluate transition plan implementation, we focus the analysis solely on companies that have disclosed at least one transition plan component since 2016. We do not see any statistically significant effects of transition plan implementation on financial outcomes over the long run (2016-2023).

However, the benefit of focusing only on CDP-disclosing companies is that we can exploit the full annual time series of climate disclosures. Using a two-way fixed effects model, we do identify short-run, one-year-ahead effects on financial outcomes from changes in transition plan implementation characteristics.

We show select results from this analysis in Table 3. Given the quantity of results generated across regions and robustness tests, we only report results here that are at least weakly statistically significant ($p < 10\%$) and that are consistent across multiple options for matching similar companies. We describe these sensitivities and provide a more complete set of results in the Technical Appendix.

Table 3: Impacts of transition plan implementation criteria

FINANCIAL OUTCOME	IMPLEMENTATION CRITERIA	EFFECT EST.	ST. ERROR	*p*	N
Global					
Alpha (bps)	Target on track	58.2	0.328	0.08*	13,625
	High % transition-aligned financial metric	153.4	0.67	0.02**	5,498
ROA (%)		0.5	0.003	0.06*	5,710
Developed markets					
US only					
Cost of debt (US$)	Carbon price use	-0.004	0.002	0.08*	1,250
Other DM only					
Alpha (bps)	High % transition-aligned financial metric	321.9	1.476	0.03**	1,528
DM Europe only					
Cost of debt (US$)	Target on track	-0.005	0.001	0.00***	3,665

FINANCIAL OUTCOME	IMPLEMENTATION CRITERIA	EFFECT EST.	ST. ERROR	*p*	N
Emerging markets					
Cost of debt (US$)	High climate risk	0.008	0.003	0.02**	2,081
Alpha (bps)	Target on track	157.7	0.899	0.08*	2,775
	High % transition-aligned financial metric	203.6	0.686	0.00***	1,098

***1% significance, **5% significance, *10% significance.

For the **global sample as a whole**, transition plan implementation strongly and positively impacts one-year-ahead stock alpha and ROA. Companies that disclose having an emissions target linearly on track tend to outperform the stock market (i.e. 58.2 bps higher stock alpha) in the following year as compared to companies that have no targets on track ($p < 10\%$, weakly statistically significant). Companies that go furthest in aligning their financial planning with the transition (i.e. disclose having the highest quantile of transition-aligned financial metrics) show stronger share price growth relative to the broader market (i.e. a large and statistically significant alpha bump of 153.4 bps, $p < 5\%$, statistically significant) and generate higher profits from their assets (i.e. 0.5% higher ROA) the following year ($p < 10\%$, weakly statistically significant).

In **developed markets**, we see three further points of evidence that investors and lenders are paying attention to transition plan implementation:

- US companies that announce using an internal carbon price have lower cost of debt the following year (-0.004 US$, $p < 10\%$, weakly statistically significant).
- Other significant effects are found in DM Europe and other developed countries outside the United States. "Other DM" companies, including those headquartered in Canada, Japan, and Australia, see a large and significant bump to alpha from disclosing the highest quantile of transition-aligned revenues ($p < 1\%$, highly statistically significant).
- In DM Europe, having an emissions target on track results in significantly lower one-year-ahead cost of debt (-0.005 US$, $p < 1\%$, highly statistically significant).

In **emerging markets**, companies that report the highest climate risk exposure see short-run increases to cost of debt relative to companies reporting lower levels of climate risk exposure (0.008 US$ cost of debt, $p < 5\%$, statistically significant). This finding could be explained by a higher correlation between EM companies that disclose climate risks and that experience climate risks rather than a market response to transition planning itself. It is important to note that this is not a negative impact from transition planning more generally: these results only reflect differences across companies that disclose one or more transition plan components in a given year. Furthermore, we do not see any negative impacts from transition plan implementation indicators in the long run analysis (see Technical Appendix for results, which are not statistically significant).

In **emerging markets**, we also see some signals that transition plan implementation is being rewarded. Companies that disclose having an emissions target on track have a large 157.7 bps higher stock alpha the following year ($p < 10\%$, weakly statistically significant), and those in the highest quantile of transition-aligned financial metrics see an even larger and highly significant 203.6 bps alpha bump ($p < 1\%$, highly statistically significant).

Stock alpha and fundamentals

This section primarily covers Key finding 3, go to page 38, to read more about the implications of these results.

On average, there are no significant impacts of transition planning as a whole to long-run stock alpha, profits, and return on assets (Indicators 1a, 2, 3, Table 4).

For individual transition plan components, we see two significant results: "Governance 2" disclosure decreases stock alpha ($p < 5\%$, statistically significant), and "Scenario Analysis" increases stock alpha ($p < 10\%$, weakly statistically significant). Both alpha effects are quite small in the context of long-run stock returns, roughly a third of a percentage point accumulated over eight years.

Table 4: Transition plan impacts to stock alpha and fundamentals, long-run results

TRANSITION PLAN INDICATOR		STOCK ALPHA		PROFITS		RETURN ON ASSETS	
		ATE (BPS)	*p*	ATE (USD)	*p*	ATE (%)	*p*
1a: Complete transition plan		-36.99	0.92	0.54	0.62	0.03	0.95
2: % transition plan complete		-0.07	0.71	0.00	0.78	0.00	0.56
3: % transition plan complete, all one year		-0.21	0.33	0.00	0.90	0.01	0.87
1b: Transition plan components	Gov. 1	-3.05	0.85	0.11	0.90	-0.16	0.77
	Gov. 2	-33.69	0.05**	-0.07	0.90	-0.24	0.77
	All targets	-12.93	0.53	-0.22	0.90	0.01	0.97
	Scenario analysis	29.83	0.10*	0.45	0.82	-0.16	0.77
	Risks	-12.78	0.53	1.96	0.77	0.19	0.77
	Opportunities	24.09	0.43	-0.43	0.90	-0.40	0.77(o)
	Transition plan	9.16	0.53	0.79	0.77	0.11	0.77
	Strategy	-12.00	0.53	0.09	0.90	-0.09	0.77
	All finance	-15.81	0.43	0.54	0.82	0.07	0.77
	Any scopes	0.38	0.97	0.57	0.82	-0.13	0.77
	All value chain	-11.66	0.53	0.21	0.90	-0.02	0.97
	Policy	-19.55	0.43	-0.22	0.90	0.12	0.77

N = 5,464. † Average treatment effect (ATE) units are the same as cost of debt variable, US$ total interest expense per US$ total outstanding debt. ‡ ATE as a percentage of the sample average 2023 cost of debt. ***1% significance, **5% significance, *10% significance; (~) 5% significance pre-FDR, (o) 10% significance pre-FDR. Given the number of tests performed across transition plan components, we correct Indicator 1b p values for false discovery rate (FDR) using Benjamini & Hochberg (1995). Pre-treatment matching uses nearest neighbour k = 4. Standard errors and p values estimated using bootstrap (500 iterations) over matching, covariate overlap filter, and causal forest estimation.

At the sector-region level, most effects are small and not significant (Figure 3). Outliers are DM Consumer Cyclical (e.g., retail, auto, and apparel companies), which exhibits a very small but statistically significant negative impact to stock alpha (-1.6 bps, p < 10%, weakly statistically significant, Indicator 3) and EM IT, which has a very small positive alpha impact (1.2 bps, p < 10%, weakly statistically significant, Indicator 3). Again, neither effect would be considered financially material over an eight-year period.

Figure 3: Stock alpha effects in DM and EM sectors

N = 5,464. ***1% significance, **5% significance, *10% significance; (~) 5% significance pre-FDR, (o) 10% significance pre-FDR. Given the number of tests performed across all sectors and markets, we correct p values for false discovery rate (FDR) using Benjamini & Hochberg (1995). Pre-treatment matching uses nearest neighbour k = 4. Standard errors and p values estimated using bootstrap (500 iterations) over matching, covariate overlap filter, and causal forest estimation. DM Industrials companies do not have results for Indicators 2 and 3 because the sector fails covariate overlap tests for these model specifications.

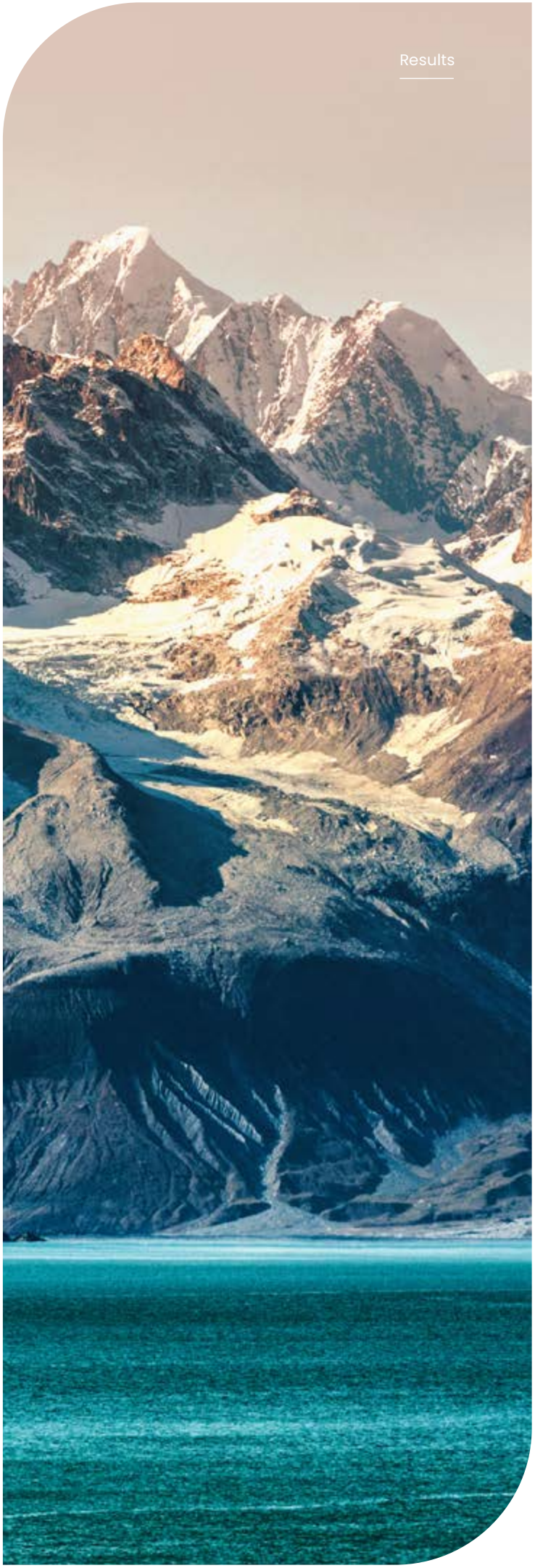
Exploring causal confounders

In economic research, it is important to acknowledge possible confounding factors that would undermine our ability to attribute these financial outcomes directly to transition planning. In other words, *to what extent did transition planning itself drive the financial impacts we estimated?*

For example, a common "confounder" in sustainable finance research is the potential for companies with more (or less) capable leaders to both improve financial outcomes and increase (or decrease) sustainability-related activities. This could be a factor in our analysis, but there are two reasons why we think it is not a primary driver of the above results:

- **Minimal impacts to fundamentals:** If the leadership confounder were at play, we might expect to see consistent impacts to fundamentals, like higher profitability and ROA, to justify the lower cost of debt and higher alpha results. We see very few impacts to fundamentals in our analysis (see Table 3 and Table 4).
- **Dispersed levels of effect:** We see different magnitudes and directions of effect for different transition plan components and levels of implementation. Given that the choice to implement a transition plan is often bundled across components, the effects are more likely to be market reactions to the individual components themselves rather than to the leadership, which is common to all components (see Indicator 1b in Table 2, Table 3, and Table 4).

Finally, even if the leadership quality confounds our results, our results suggest that the decision to begin transition planning and disclose the transition plan is indicative of competent corporate leadership.



We also have uncertainty around the direction of causality - that is, companies may have achieved better financial outcomes first, which then made it more likely that they would develop transition plans. Our long-run effects (2016-2023) are particularly at risk of this confounder, since the long-run model cannot isolate which of these factors come first. To evaluate this risk, we regress the company-level Indicator 1a cost of debt effects (average results shown in Table 2) on changes in financial variables over 2016-2023, which were not included in the long-run model. The results are shown in Figure 4.

- **Relationship with market capitalisation is unlikely to be confounding:** Companies included in our sample that experience larger market capital growth over 2016-2023 exhibit smaller improvements to cost of debt or even increases in cost of debt (see Figure 4 below). If size or market capitalisation were driving improvements to a company's cost of debt as well as a company's propensity to develop a transition plan, we would have expected the opposite result, that companies with larger market capital growth exhibited larger, more negative changes to cost of debt.

- **Relationship with revenue unlikely to be confounding:** We do not see a statistically significant relationship between the cost of debt effect and a company's increase in revenue over 2016-2023. Furthermore, if increases in revenue were driving improvements in cost of debt, we would have expected to see a negative rather than positive relationship.

We also see a statistically significant and intuitive relationship between the cost of debt and alpha: companies with larger, more negative cost of debt changes are more likely to exhibit positive changes in alpha. We interpret this as evidence of consistency between how different types of investors or financial institutions (lenders and equity investors) react to transition planning, though on average we do not see a statistically significant effect of transition planning on alpha.

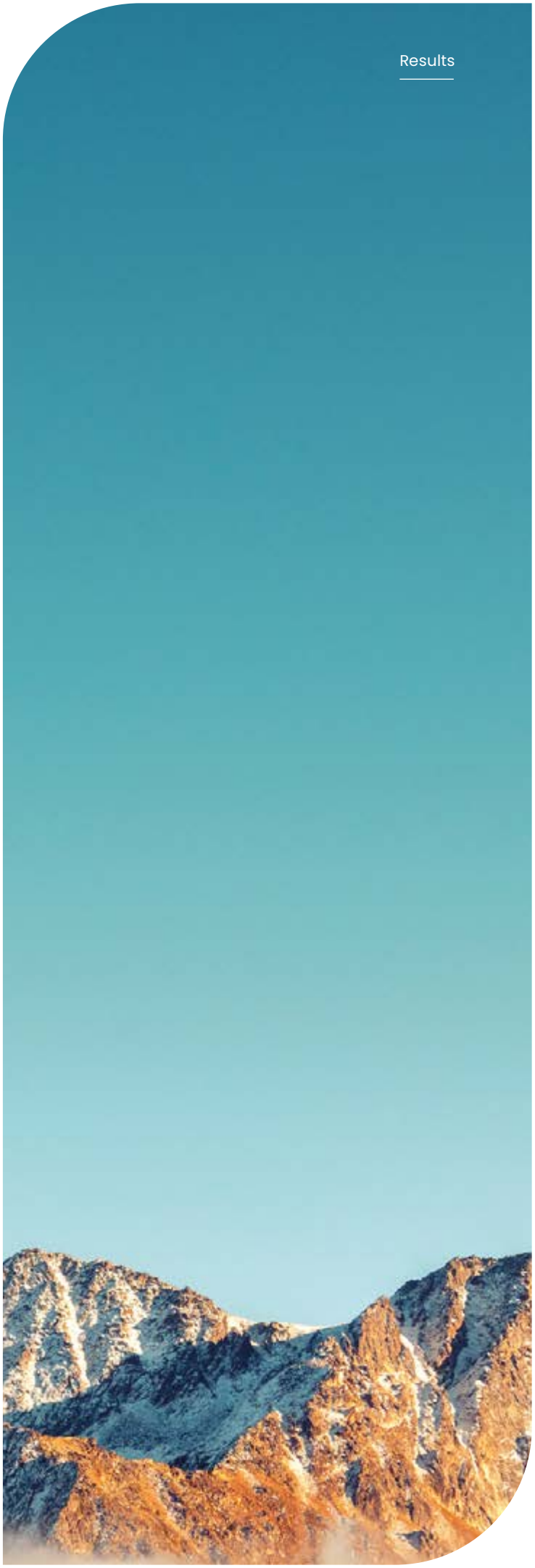
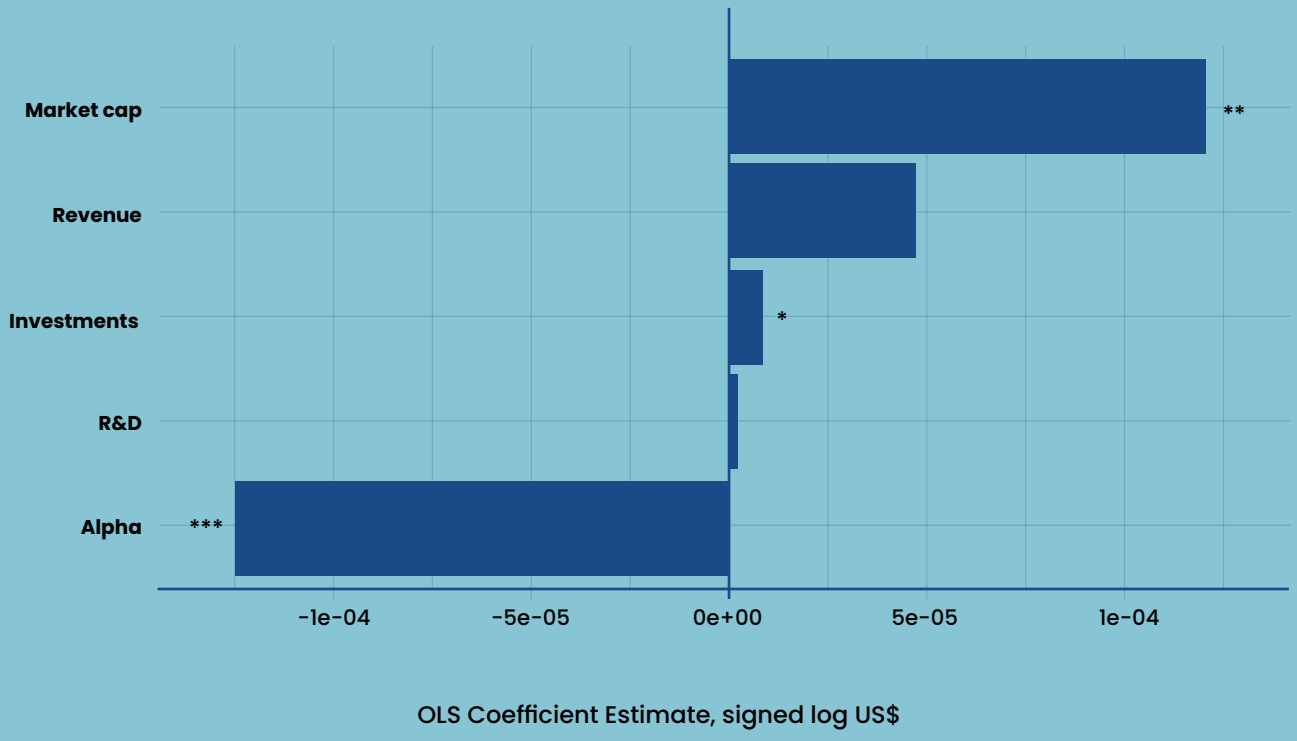


Figure 4: Correlation between cost of debt effect and post-2016 financial outcomes

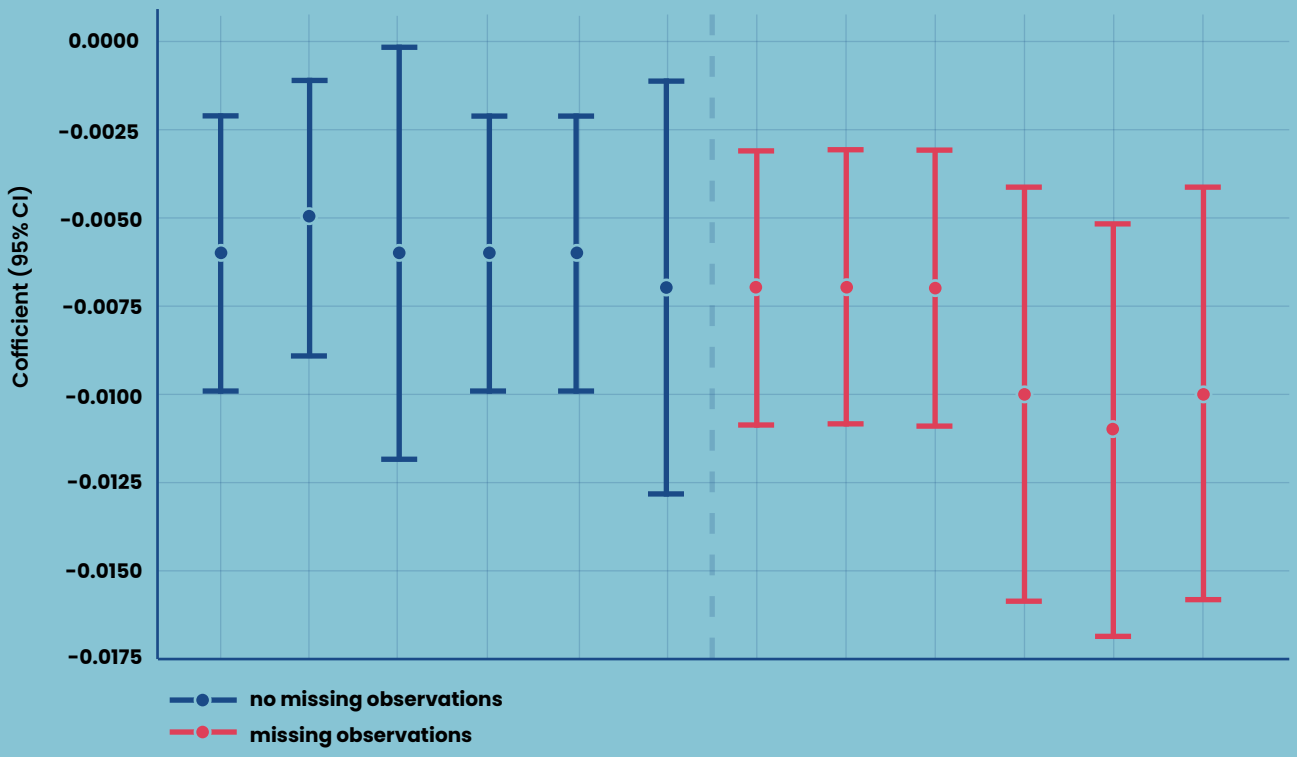


N = 3,456. ***1% significance, **5% significance, *10% significance. We run an ordinary least squares (OLS) regression of observation-level cost of debt effects from Indicator 1a (average results shown Table 2) on sector and market fixed effects as well as the change in signed log values between 2016-2023 of market capital, revenue, total investments, total R&D expenditures, and signed log cumulative stock alpha over 2016-2023. The OLS coefficient estimates and significance are shown in the figure.

To further evaluate the risk of reverse causality, we test the effect of having high levels of transition planning completeness (as compared to the rest of a company's market and sector) on one-year-ahead financial outcomes using a similar fixed effects model as used for evaluating transition plan implementation. We find statistically significant and consistent results with the long-run model for cost of debt effects (Figure 5), ranging from 0.5-1 US cents per dollar of debt in savings. **Since this model requires that the transition planning occurs prior to the changes in financial outcomes, it is a strong piece of evidence for causal interpretation.** The fixed effects model controls for a broader range of company-level characteristics, which has the benefit of partially addressing the management quality confounder. These results suggest that a large portion of the long-run cost of debt effect from transition planning accrues the year following disclosure. We provide additional results from this sensitivity in the Technical Appendix.

While no economic study can definitively prove a causal effect, we feel the above evidence is sufficiently robust to use causal language for the statistically significant results presented in this report. We look forward to future research that further evaluates the impact of transition planning on financial outcomes to continue to build the evidence based through varied research approaches.

Figure 5: Effect of high transition plan completeness on one-year-ahead cost of debt



N = 8,100–14,632. All coefficient estimates shown are significant at p < 5% level. High transition plan completeness is defined for each company as having a transition plan completeness value of at least 95th percentile within the company's market-sector. The range of coefficient estimates reflect all possible combinations of three matching-design choices: (1) length of the pre-treatment covariate history used for matching (two versus three lags); (2) the caliper imposed on the propensity-score distance (0.25, 0.5, or 0.75), with tighter calipers enforcing closer matches; and (3) the treatment of missing observations in the transition plan completeness measure (pink estimates retain missing values, while blue intervals impute missing values using the most recent transition plan completeness value for each firm).

Discussion of key findings

03

With the above findings, a picture starts to emerge of the ways transition plans can influence financial outcomes, including the impact of different transition plan components. We summarise these key findings here and use insights from the interviews to help interpret the quantitative results.

Key finding 1: Transition planning supports lower cost of debt

We repeatedly find evidence that transition plans enable lower cost of debt, with companies reducing their cost of debt by 0.15% for every additional 1% increase in transition plan completeness, on average (Indicators 2 and 3, $p < 1\%$, highly statistically significant). Further to this, we observe a global average effect equivalent to a 11.7% decrease in cost of debt between 2016 and 2023 for companies that disclose all transition plan components (Indicator 1a, $p < 10\%$, weakly statistically significant). The cost of debt effect is directionally consistent across nearly all sectors and both EM and DM companies. This suggests that lenders view transition plan disclosure favourably, as a sign of confidence that companies with transition plans will be less risky investments and therefore more financially resilient. This is consistent with growing recognition that transition plans can interact with climate-related financial risk both by improving firms' own climate-related risk management and by supporting lenders in pricing that risk.[35]

We expect that this finding is driven by the fact that debt lenders are often concerned about a longer time frame of financial performance than, for example, equity investors, because bonds and loans can have tenors of up to 30 years, though the average tenor is around 10 years and short-term corporate bonds have a maturity of 3-5 years. Equity investors have become increasingly more short-term oriented, with the average holding period of international equity investment in 2024 being around one year.[36] Even so, climate policy can change significantly over a five-year period, so companies prepared for higher carbon prices with emissions reduction strategies are likely to be more resilient to downside market and policy risk. Companies that plan for the long term are a safer investment in debt markets, earning them lower interest rates and therefore lower interest payments over time.

Our qualitative interviews corroborate the role of transition plans as a corporate de-risking tool. Interviewees indicated that one of the primary motivations for developing their transition plans was to understand their financial exposure under future policy scenarios, protect existing revenue streams, ensure access to capital and license to operate. Some representative responses include:

- *"[The transition plan] was about… protecting the business and making sure that our transition was managed rather than reactive, and being on the front foot with it."* (DM Communication Services company)
- *"We need a climate transition plan… not because it's a commitment, but because that's what keeps us safe."* (DM Industrials company)
- *"It's just a license to operate… It's avoiding the loss of customers that could cost us loss of revenue and profit, and consequently could drive our share price down."* (DM Consumer Defensive company)
- *"[A transition plan is a] super powerful tool to understand the risk… Return will come sometime later in terms of actually de-risking us."* (DM Consumer Defensive company)

35) Financial Stability Board, The Relevance of Transition Plans for Financial Stability, 2025; International Organization of Securities Commissions, IOSCO Report on Transition Plans, 2024.
36) CIBC Asset Management, Short-term orientation of equity market creates time arbitrage opportunity for long-term investors, 2025.

However, we also heard scepticism that this de-risking translates into financial benefits, contrary to the findings in this study. For example, two interviewees stated:

- *"Today, it's not giving you access to cheaper financing."* (DM Financial Services company)
- *"[Some stakeholders] think that we're doing a moral journey and I think what needs to happen is the finance community needs to turn around and say no, you need to do de-risking… The people who are signing up to this target need to de-risk their business and you need to set the rules in place that incentivise de-risking."* (DM Consumer Defensive company)

While this sentiment diverges from our findings on cost of debt, it may be driven more by recent political tension around sustainability criteria, which has contributed to a decline in equity investor ESG sentiment in the United States, though this decline has not been observed strongly elsewhere.[37] These recent market changes make it hard to predict how the market could value transition plan disclosures into the future. A more discerning response may be expected as transition plans become widespread, as investors and lenders focus on the quality and implementation of plans as discussed in Key finding 2.

Key finding 2: Investors value transition plan follow-through

We find three points of evidence that investors and lenders pay attention to transition plan implementation, especially in the short run.

- **Target on track:** Across our global sample, having a target on track has a positive impact on one-year-ahead alpha globally (58.2 bps, p < 10%, weakly statistically significant) and in emerging markets (157.5 bps, p<10%, weakly statistically significant). It also significantly reduces one-year-ahead cost of debt for DM European companies (50 bps, p < 1%, highly statistically significant), roughly two-thirds of the total cost of debt savings we find in the global sample for the full time frame (2016-2023).
- **Internal carbon price:** Having an internal carbon price reduces one-year-ahead cost of debt on average across US companies (40 bps, p < 10%, weakly statistically significant), another sizeable effect compared to global cost of debt savings as a whole.
- **High percent transition-aligned finances:** For the global sample, having the highest level of transition-aligned finances supports an increase in next-year alpha (153.4 bps, p < 10%, weakly statistically significant), an effect that is even larger and more statistically significant in EMs (203.6 bps, p < 1%, highly statistically significant) and Other DM countries like Canada, Japan, and Australia (321.bps, p < 5%, statistically significant).

37) Curtis, Quinn, The ESG Backlash and the Demand for ESG Mutual Funds, 2025; Harvard Law School Forum on Corporate Governance, Regulatory Shifts in ESG: What Comes Next for Companies?, 2025; Latham & Watkins, EU Sustainability: State of Play — The Conclusion of the Sustainability Omnibus Process, 2026; Liu, L., & Hu, Y., Green Bond Pricing: A Comprehensive Review of the Empirical Literature, 2025; Morningstar, ESG Funds: 2025 Closes With Continued Outflows Amid Persistent Headwinds, 2026,

Two possible reasons for higher alpha include (1) the company reporting higher profits than expected or (2) increasing investor demand for that stock. We see little evidence that these variables impact company fundamentals, either in the short or long run, so we expect that investor preferences and beliefs are largely driving these outcomes.

Indeed, several interviewees noted that they expected some equity investors to be interested in companies implementing transition plans, or that shareholders actively requested that they develop a transition plan:

- *"The benefits are access to a certain pool of capital… in terms of who is willing to buy our shares."* (DM Financial Services company)
- *"Because the more you don't do anything, the less access to capital you will have over time, right?"* (EM Financial Services company)
- *"Our ESG shareholders have increased substantially as a proportion of our book and really appreciate what we've done."* (DM Financial Services company)

However, some respondents noticed that shareholders have asked less frequently about transition topics outside of a compliance context:

- *"[Shareholders] want to be kept in the loop and make sure we're doing the right things, we're compliant and so on, but it's not a big driver."* (DM Communication Services company)

This finding that investors are starting to value transition plan implementation is consistent with separate ITPN research based on interviews and a survey with 35 institutional investors, which found investors are assessing transition plans to understand how companies are ensuring their long-term financial viability through the transition, to inform stewardship, risk management, and other decision-making. The research found that investors were particularly interested in implementation strategy, governance, and financial metrics, suggesting evidence that plans are being implemented may give investors confidence that plans are appropriately resourced and will be delivered.

Key finding 3: Despite potential upfront costs, transition planning does not negatively impact profits or expected stock performance over the long run

We see effectively no statistically significant effects of the disclosure of transition plans as a whole on profits, return on assets, or cumulative stock alpha over the long run (2016-2023). This finding holds globally and for nearly all EM and DM sectors. There are two sectors in which transition planning has a statistically significant effect on cumulative stock alpha, but the effect is inconsistent (negative for DM Consumer Cyclical, positive for EM Information Technology).

There are reasons to think that transition plans could have a negative impact on profits, particularly if the longer-term objectives to reduce emissions and position the company for a low-carbon economy conflict with near-term profit maximising opportunities. Conversely, there are also reasons to think that transition plans may have a positive effect on profits, perhaps due to new transition revenues or better risk management. Overall, there is no observed effect, on average, which may imply that investors do not expect companies disclosing a transition plan to experience negative effects. Interviewees provide some insight into why this may be the case. To date, the implementation of companies' transition plans has been constrained by what the market is willing to pay for:

- *"The market sees the efforts. The issue is the market has no capacity to pay a premium and that's a big issue for everybody."* (DM Industrials company)
- *"We move in the market where they say: Hey, if it's five cents more, we don't do it."* (DM Industrials company)

However, other interviewees have seen potential for profit upside from transition planning, particularly as a way to increase market share:

- *"Often one of the questions we have is do you have a net zero programme, do you have a transition plan out there. So that enables us to get more business."* (DM Financial Services company)
- *"If we are… significantly impacting their carbon footprint, then they are asking us to provide them with a plan, but sometimes it's really a key differentiation factor for us versus the competition."* (DM Materials company)

The lack of observed impact to profits may also be explained by the "option value" created by transition plans, which may not be completely captured in fundamentals yet. By mapping technologies, scenarios, policy trends, and value chain dependencies, transition plans help companies keep strategic options open (such as having projects ready to advance if carbon taxes or other price signals shift project economics). Interviewees described their transition plans as "living documents" that evolve alongside the organisation's strategy and external circumstances:

- *"We need to really adjust the plan. The objective is really to be flexible, and so to have this pipeline of projects to be ready."* (DM Materials company)

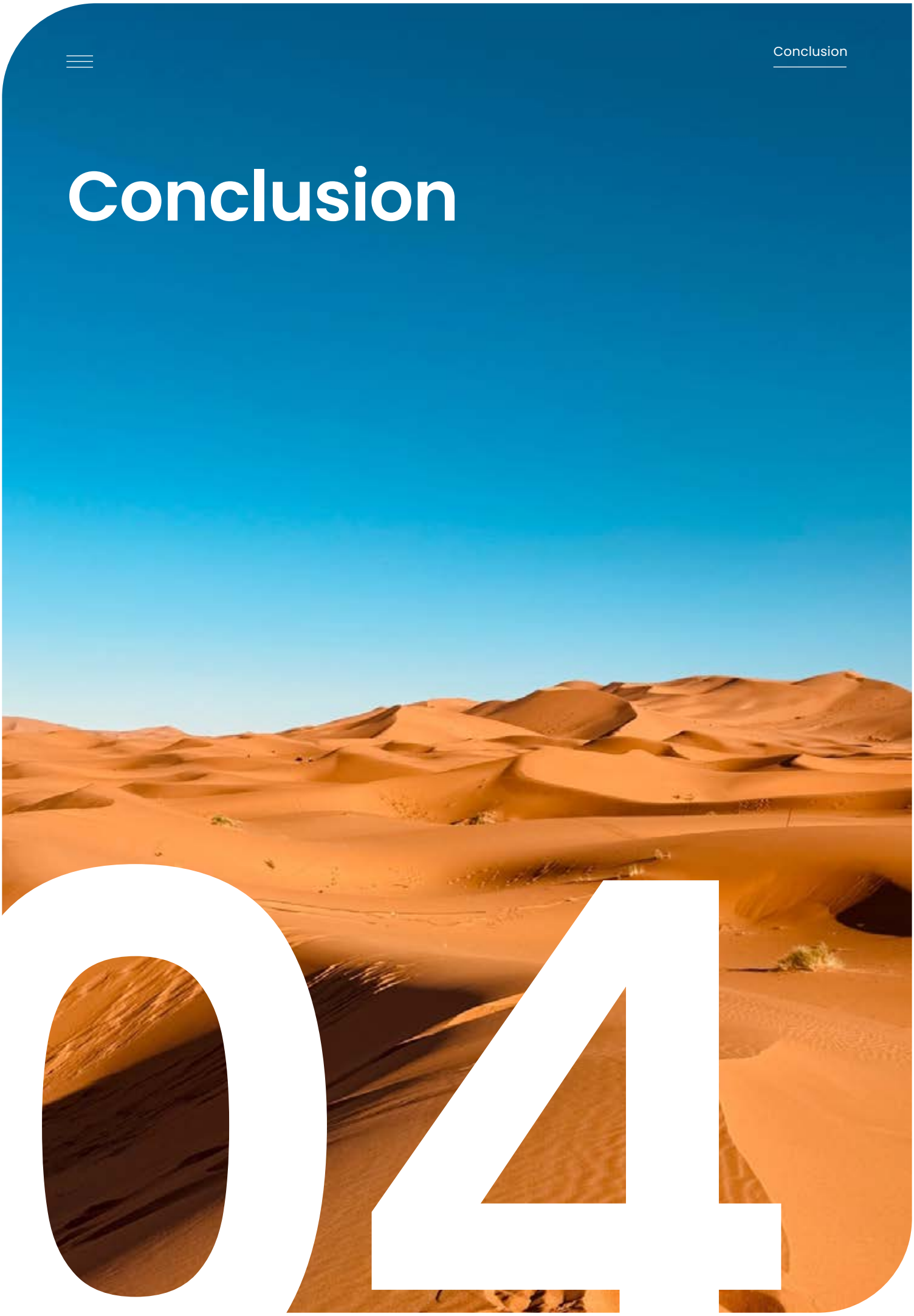
- *"[We] plan to revise our transition plan every three years, or more frequently if necessary, to take account of developments in technology and markets and so on."* (DM Utility company)
- *"It provided this kind of framework of documented commitments internally and externally to actually manage and guide various stakeholders."* (DM Financial Services company)

Investors could also have concerns that transition plan-driven impacts to profitability would cause stock values to suffer, or that transition plan disclosures would alert the market to more risks than companies that do not disclose. Given the lack of impact to alpha identified in this study, markets do not appear to assume that transition plan-disclosing companies are more likely to face transition risks or profit impacts. If such risk pricing is present, our results suggest it is offset by the market's recognition of transition plans as risk mitigation tools, consistent with our cost of debt results.

The results may also be attributed to the currently limited integration of transition plan information by investors in equity markets, with separate ITPN investor research identifying challenges related to coverage, decision-usefulness, and comparability of transition plan information limits integration by certain types of investors, particularly institutional or passive investors (though solutions such as transition-weighted indexes are emerging).[38]

38) ITPN, Enhancing Long-Term Value and Resilience: A study of how global investors are using transition plans, 2026.

Conclusion



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Conclusion

This study provides compelling evidence that developing and disclosing transition plan information supports a lower cost of debt. This evidence suggests that, in the context of the transition to a lower emissions and climate-resilient economy, lenders are pricing transition plans as an indicator of better climate risk management. Policymakers and companies considering the value of transition plans can also be further reassured that, on average, transition planning does not negatively impact long-term profits or stock performance.

The evidence also suggests that investors care about whether companies follow through on their transition plan commitments. Being on track to meet targets and having higher transition-aligned finances has a positive impact on next-year alpha. This suggests that companies should maintain focus on developing feasible and credible transition plans, then following through on implementation actions. Similarly, policymakers should consider how they can support transition plan implementation, such as through capacity building, guidance, and mandatory disclosure requirements. Further examination of the impact of implementing transition plans by systematic, fundamental, and sustainable investors would be valuable.

Transition planning and disclosure continues to be nascent in many markets, with disclosure regimes in the process of being introduced and company practice evolving. As noted in the Introduction, it may take several decades for the fundamentals and system-wide benefits of sustainability or ESG-related activities to become apparent, because they often operate by shielding companies from severe downside risks. Further research could continue to explore the impact of transition planning on financial outcomes, with varied research methods as more empirical data emerges. While the results we summarise here are very clear for the overall sample, our study identified some variation at the level of sector and geography. As transition planning becomes more established at greater scale around the world and more large-scale time series data becomes available, future research could investigate whether our sectoral and geographical findings are replicated. The interviews conducted also help identify several other intangible transition plan effects that warrant further investigation, including enabling coordination within companies around the transition, building relationships with clients, and positioning for future markets.

While this study has considered the implementation of transition plans in a limited way based on CDP data structure, future research could focus on the impact of implementation on financial outcomes. Robust data on transition plan implementation, and particularly on credible, decision-useful implementation metrics, is still very limited. As this data becomes more available, future research could focus on the financial impact of transition plan credibility, including assessment of the ambition and feasibility of plans. Relatedly, further research could seek to separate the effect of disclosing transition plan components from the effect of the underlying planning and internal systems that disclosure may proxy for, i.e. whether companies that disclose are inherently more likely to have already undertaken the planning and built the internal resilience that drives the financial outcomes observed, rather than the act of disclosure itself driving these outcomes.

Beyond the effects on companies, further research could explore benefits at the economy level of transition planning. For example, the lower cost of debt result suggests that transition plans are already being used in risk mitigation by lenders. To further explore the usefulness of transition plans as risk mitigation tools, research could stress test how firms with and without transition plans perform under transition- and physical-related risks. The contribution of transition plans to both micro- and macro-financial stability warrants further investigation, to bring empirical evidence to the extensive work already done on this by central banks and the NGFS.[39]

39) To date, this has mostly been to support the safety and soundness of individual institutions, with some supervisors also considering use of transition plans for macroprudential stability. See for example, European Banking Authority (EBA), The EBA publishes its final Guidelines on the management of ESG risks, 2025; European Central Bank (ECB), ECB advances climate and nature work after delivering on 2024-25 plan, 2026; Monetary Authority of Singapore (MAS), MAS sets supervisory expectations on financial institutions for transition planning practices in addressing environmental risk, 2026; Network for Greening the Financial System (NGFS), Notes relating to transition plans on climate target setting and climate scenario analysis, 2025.

About the ITPN

The International Transition Plan Network (ITPN) was launched at COP29 to support the development of global norms for private sector climate transition plans and drive climate policies that leverage the full potential of these plans.

As a growing network, ITPN brings together leaders from over 40 public sector organisations including finance ministries, central banks, and regulators from across Africa, Asia-Pacific, Europe, North America, and Latin America. It is bolstered by a wider global community of practice that includes a large range of stakeholders.

The network supports global consistency in approaches to policies and regulations on transition plans. It is a platform for coordination, thought leadership, and capacity building.

The ITPN is hosted by E3G. E3G is an independent think tank working to deliver a safe climate for all.

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