

Research Article

Quantifying Sustainability-aligned Revenues: From Public to Private Market Approaches

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Abstract

Are more sustainable companies also more profitable? Against a backdrop of greater disclosure in sustainable finance regulation, particularly in the European Union, there has been considerable focus on indicators of environmental, social and governance performance in corporate operations. This focus on the systems and processes which companies have in place - which enable them to produce, manufacture, distribute or deliver a service in ways which limit negative sustainability outcomes - is about de-risking operations and value protection. The ‘other side’ of sustainability in markets is about opportunities and value creation. Public market research from banks and market data firms has analysed correlation between stock price performance and revenues derived earned from sustainability-aligned activities. This question is less easy to answer in private markets, where relevant data is not typically aggregated across firms. Thus, such analysis is largely missing in relation to companies held in the portfolios of private equity investors. This paper draws on a proprietary means of collating data for private equity investments, via which revenues are demarcated to 37 sustainability trends, and finds a relatively weak degree of positive correlation - that across 50 companies, those with revenues which experience greater support from sustainability-linked drivers are *slightly* more likely to also achieve greater EBIT (earnings before interest and taxes) margins. If the result of the research for this paper were to be replicated for a larger sample, and therefore at a more statistically significant scale, it is the author’s belief that this would demonstrate a high likelihood that companies which derive a greater share of revenues from products and services which are solutions to sustainability challenges, are also able to be more profitable. This would, in turn, be valuable to such companies and industries in attracting lower-cost capital, facilitating growth and accelerating the speed at which economies and societies can address environmental challenges and crisis.

Keywords

Sustainable Finance, Taxonomy, Sustainability-aligned Revenue

1. Introduction - From Operational to Strategic Sustainability as a Value Driver

The growth of sustainability has been a prominent feature in investment approaches and financial markets in recent years. Sustainability in finance is often measured and under-

stood through a broad range of ‘ESG’ (environmental, social and governance) metrics and ideas. A useful definition of ESG is offered by Harvard Law [12]. “ESG describes a set of fac-

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tors used to measure the non-financial impacts of particular investments and companies. At the same time, ESG also provides a range of business and investment opportunities.”

Within this growth of sustainability in finance, there has perhaps been a greater focus on how investee companies operate - what are the systems and processes they have in place which enable them to produce, manufacture, distribute or deliver a service in ways which limit negative sustainability outcomes. This is about de-risking operations.

Given that lower risks to a company's operations should mean lower risk to investor returns, then valuations can be positively impacted. Markets pay more for a return percentage with a lower risk profile, than for the same average return over time where there is more risk, usually represented by volatility. This is a standard feature of market valuation, captured in formulae such as the capital asset pricing model (CAPM), Sharpe ratio and the Sortino ratio¹. Discussion of the relevance of such measures to sustainability is not the purpose of this paper.

Instead, the purpose of this paper is to consider ‘the other side’ of sustainability in markets - the strategic use of sustainability concepts to seek upside, as opposed to the defensive focus on sustainability as a means of value protection.

This idea is not new - many investors have sought to make returns by investing in renewable energy companies, for instance, for many years. Blackrock [41] - the world's largest investor in terms of assets under management, talks about sustainable investing as involving the development of “*deeper insights about how value will be created going forward using ESG considerations*”. The definition is extended to include “*investing in progress, and recognizing that companies solving the world's biggest challenges can be best positioned to grow*”.

However, the paper posits that there is an increasing relevance to this now. This greater relevance is attributed to the codification of the EU Taxonomy and similar schemes, and given regulations such as the Corporate Sustainability Reporting Directive (CSRD), in particular, which legislates around the EU Taxonomy². Public market analyses have indeed considered the relevance of sustainability to returns, whether operationally or in terms of products/industries, and private market analyses, which are fewer in number, have analysed sustainability operationally³. This paper considers,

¹ Definitions for these financial market risk measures can be found in Fama and French [17], Sharpe [40] and Chaudhry and Johnson [10].

² It is worth noting here the November 2024 comments by Ursula von der Leyen, president of the European Commission, from a press conference in which she floated the idea of putting the “triangle” of the EU Taxonomy, the CSRD and Corporate Sustainability Due Diligence Directive (CSDDD) “in one omnibus” in order to simplify and reduce the burden of the rules (as reported in media including Azizuddin [28]). So more change may indeed be forthcoming in the developing arena of European Union sustainable finance regulation.

³ Zara [47] offers an example of an earlier study of how sustainability can affect performance at a sample of 126 private equity funds. This study relies on a definition of ‘ESG-compliant’ for funds which rests on their asset management companies/general partners being signatories of the UN PRI. The paper found that ESG funds generated more stable returns, in terms of net IRR standard deviation, in comparison with non-ESG vehicles, even if the latter showed a superior net internal rate of return (IRR). This evidence was considered to support the idea that

via one private equity firm example, a means of understanding the value (via profit margins) in sustainability-aligned products and services.

2. EU Taxonomy, Associated Regulation and Comparable Schemes

There are several environmental taxonomies globally, each designed to classify and standardize sustainable activities and investments. Some of the key taxonomies include:

The EU taxonomy for sustainable activities is a classification system established by the European Union to determine whether an economic activity is environmentally sustainable⁴. The European Commission [15] describes it as being “a cornerstone of the EU's sustainable finance framework and an important market transparency tool”. As sustainable finance has grown as a concept and in scale in the markets, this codification brings a more robust approach to classifications, engendering confidence in the market and providing a framework to avoid false claims. It includes criteria for various sectors and activities, in order to determine those that substantially contribute to the objectives of:

- 1) Climate change mitigation
- 2) Climate change adaptation
- 3) Sustainable use and protection of water and marine resources
- 4) Transition to a circular economy
- 5) Pollution prevention and control
- 6) Protection and restoration of biodiversity and ecosystems

The EU taxonomy helps investors and other stakeholders understand the extent to which a company's activities align with the EU's sustainability goals, specifically by considering the proportion of a company's: [1] total revenue derived from products or services [2] total capital expenditures, and [3] total operational expenditures - that are related to assets or processes associated with activities outlined in the Taxonomy.

The CSRD is legislation aligned with the broader EU push on sustainable finance, which is aimed at enhancing and standardizing sustainability reporting across companies operating within the EU. It requires companies to report on their sustainability impacts, including in relation to the EU Taxonomy. Companies falling under the scope of the CSRD are required to disclose in their annual reports the extent to which their activities are covered by the EU Taxonomy (described as *eligibility* with the taxonomy). They then must comply with the criteria set in the Taxonomy delegated acts (essentially de-

ESG funds are a more stable asset class in the medium-long term. The analysis also found that ESG funds contributed to a better portfolio diversification inside large institutional investors - their average Treynor Ratio is better than that figured out for non-ESG funds. The Sharpe Ratio was lower, with a weaker dependence on systematic risk as well as on a lower value for the total risk ratio. Finally, the paper found that ESG funds were able to pursue a better risk hedging against sources of operating volatility, through a superior stability of their portfolios' composition.

⁴ ‘Taxonomy’ is a relatively seldom-used term, away from natural sciences. The Cambridge Dictionary [8] defines it as “‘A system for naming and organizing things, especially plants and animals, into groups that share similar qualities.”

signed to ensure that companies which carry out eligible activities do not do so in such a way that is harmful to people or other aspects of the environment). The CSRD should drive companies towards analysis of their activities against the EU taxonomy.

Adjacent initiatives

Beyond the EU, other taxonomies are emerging, designed to address local environmental and sustainability goals. The UK has developed its own Green Taxonomy, which aligns with the EU Taxonomy, but is described by HM Treasury as being tailored to the UK's specific environmental and economic context [26]. Canada is developing its own taxonomy to support sustainable finance, designed to reflect the country's environmental and economic priorities, including its significant natural resource sectors [24]. In parallel, several countries in Asia have introduced green bond standards which define activities supportive of broader environmental and sustainability agendas. China has established the China Green Bond Endorsed Project Catalogue, which outlines eligible projects for green bond issuance, and focuses on areas such as renewable energy, energy efficiency, pollution prevention and ecological protection (People's Bank of China et al, 2021). Japan's Green Bond Guidelines are part of Japan's broader efforts to promote sustainable finance and support the transition to a low-carbon economy (Ministry of the Environment, Japan [34]). The Association of Southeast Asian Nations (ASEAN) Green Bond Standards are based on the International Capital Market Association's Green Bond Principles [1].

The purpose of this paper is not to critique the EU Taxonomy in terms of its coverage or scope. Other papers have done this, including for its complexity and difficulty in implementation (Ahlstrom and Sjaafjell [25]), for concerns around greenwashing (Anlar [2] and Svålas [44]), for its sectoral and technological biases (Atici [3]), the dangers it poses to small and medium-sized enterprises (Goodall [23] and Leempoel [32]), and other factors.

Instead, this paper simply seeks to describe a model, in usage at a single private markets investment firm, for revenue categorisation which is in line with sustainability trends and underlying themes, where these go beyond environmental themes. The framework developed seeks to categorise and classify revenues also in line with social and governance trends and themes, as described in Table 1.

3. Extant Environmental Revenue Classification Frameworks

Several existing framework tools have been developed which measure sustainability-aligned revenues. Some prominent examples, which pre-date the EU taxonomy, include the following:

1) The *HSBC Climate Solutions Database* is a proprietary tool developed by HSBC Global Research, based within its investment bank, to screen and analyze global com-

panies that offer solutions to mitigate and adapt to the impacts of climate change. The database comprises over 3,000 global companies with varying levels of climate-related revenue exposure, across four climate sectors (renewable energy, energy efficiency, pollution prevention, and ecological protection) and 21 climate themes. The HSBC Database is subsequently used to create dynamic baskets of stocks around specific ideas, such as climate-smart cities, emerging market climate stocks and green dividend income.

- 2) Similar to the HSBC Database is the *FTSE Russell Green Revenues Classification System*, which is described as being “designed to measure the revenue exposure of public companies to green goods, products and services that contribute to the transition to a green economy”. It covers a wide range of sectors and activities, including renewable energy, energy efficiency, water technology, waste management, pollution control, and sustainable agriculture, among others. The FTSE product can also be used for constructing green investment portfolios, benchmarking and reporting.
- 3) A third such product is the *Bloomberg Industry Classification Standard (BICS) Environmental, Social, and Governance (ESG) Data Service*, which includes a comprehensive set of data and analytics to help investors assess ESG performance of companies, including providing detailed data on companies' revenue exposure to various green and sustainable activities (including renewable energy, energy efficiency, sustainable water, green building, pollution prevention, and other environmentally beneficial products and services).

However, these frameworks are focussed only on public companies. There is no comparable system readily available to a private market investor seeking to understand revenues for companies within existing portfolios, or for companies being analysed for potential investment or acquisition. This is due to a lack of available data flowing from a financial services industry which has historically faced lower disclosure requirements, both in terms of financial and accounting rules and sustainability-focused regulation.

From public to private markets

In private markets, tools which classify revenues against sustainability themes could drive multiple benefits, including:

First, from a regulatory perspective, analysing and tracking sustainability-aligned revenues can assist with Article-8 or Article-9 alignment of Funds⁵.

Second, such tools can be used in investor relations, where

⁵ Article 8 and Article 9 funds are defined within the European Union's Sustainable Finance Disclosure Regulation (SFDR) [16], a core part of the EU's promotion of sustainable finance and greater transparency in financial markets regarding sustainability. The SFDR aims to ensure that financial market participants, including investment funds, disclose how they integrate sustainability risks and consider adverse sustainability impacts in their processes. In brief, Article 8 of the SFDR describes financial products that promote environmental or social characteristics, and requires good governance practices at investee companies. Article 9 pertains to financial products that have sustainable investment as their objective and aim to make a positive impact on the environment and/or society.

existing or new investors can be shown evidence of how fund capital is being deployed into companies with sustainability tailwinds for their products or services.

Third, to enable consistency in analysis of tailwinds and headwinds during ‘sourcing’ - i.e. identifying investment targets for funds that partially or only invest in companies where sustainability-alignment is required or desirable, in meeting mandates and financial goals - and due diligence of potential investments.

Fourth, throughout ownership of a portfolio company (PC), transition in business models to gain greater alignment with sustainability themes over time, or indeed to transition to lower alignment.

Fifth, such tools can enable internal analysis, including of which funds have greater sustainability-aligned revenue or are transitioning in that direction, and similarly for comparison between investments in different sectors.

Sixth, when it comes to exiting from an investment, the data collected in such tools can form part of marketing of the portfolio company to potential buyers.

A private market sustainable-revenue tool

A private equity investment firm has built a system for

categorising portfolio company revenue streams where they are catalysed, positively or negatively, by a range of sustainability trends (see Exhibit 1). Triton Partners, where the author is employed as Head of Sustainable Investing, has developed the Sustainability Alignment Tool (SAT).

This framework was developed taking into account multiple other existing categorisations of sustainability drivers, including from the Sustainable Accounting Standards Board (Korney [31]) and World Economic Forum (Walter, 2021). Meanwhile, there are global initiatives and standards which influence environmental taxonomies, such as the United Nations Sustainable Development Goals (SDGs) and the Global Reporting Initiative (GRI). Overall, these initiatives push progress towards a unified approach to sustainability reporting and investment.

The SAT also seeks to classify a broader range of sustainability themes, rather than focus only on environmental themes, as do most public market frameworks. The SAT maps revenues against the high-level sustainability trends and underlying themes shown in Exhibit 1. (To illustrate, Climate change is a trend, with two underlying themes - Decarbonisation & energy transition and Climate change adaptation.)

Table 1. Triton’s Sustainability Alignment Framework - Eight overarching trends, with 37 underlying themes.

Climate change	Healthy people
<ul style="list-style-type: none"> 1) Decarbonisation and energy transition 2) Climate change adaptation 	<ul style="list-style-type: none"> 1) Medtech 2) Emergent disease and risk 3) Workplace and Traffic safety 4) Healthy working environment 5) Healthcare provision 6) Sport & wellbeing 7) Food & nutrition
Natural resources	Demographic change
<ul style="list-style-type: none"> 1) Water resilience 2) Soil improvement 3) Clean air 4) Resource efficiency 5) Circular economy 	<ul style="list-style-type: none"> 1) Urbanisation 2) Rise of EM middle class 3) Ageing populations 4) Diversity & inclusion 5) Social mobility & equality 6) More education
Biodiversity loss	Fairness & good governance
<ul style="list-style-type: none"> 1) Forest protection 2) Healthy ecosystems 3) Intact marine and aquatic systems 	<ul style="list-style-type: none"> 1) Data privacy and security 2) Human rights 3) Anti-corruption 4) Ethics 5) Fair corporate governance

Biodiversity loss	Fairness & good governance
	6) Executive pay
	7) Tax Integrity
Housing & construction	Transparency & accountability
1) Green buildings	1) Digital transparency
2) Affordability	2) Corporate accountability
3) Rapid response building and repurposing	3) Supply chain management
4) Home working and design focus	

In 2024, Triton conducted a full analysis of the PE portfolio, to understand how PC revenue is aligned to these sustainability trends and themes. In analysing the existing portfolio, 50 portfolio companies were analysed. This required consideration of over 400 revenue streams, with 158 of these subsequently categorised per the SAT's sustainability themes. 104 revenue streams were considered to have a sustainability tailwind.

The process of categorising the revenue streams of PCs against themes involved a discussion between members of the internal ESG team, and the sector investment analysts responsible for working with each portfolio company. Portfolio companies could be adjudged to be deriving different revenue streams which separately and simultaneously experience headwinds or tailwinds. Additionally, individual revenue streams were, in some instances, also identified with multiple headwinds or tailwinds, and this would influence the overall categorisation⁶.

4. Performance

A key question for those engaging in sustainable investing activities is - does it lead to outperformance? Evidence from public markets suggests this can be the case.

Firstly, for companies with higher *operational* ESG performance, numerous studies have found a positive relation-

ship with financial performance⁷. Several meta-studies have also concluded the same⁸. 'Grey literature' or non-academic studies, in this case by market participants, also described research showing outperformance by those companies with higher ESG ratings or performance⁹.

Of greater relevance to this research paper, however, is the research which studied financial performance for companies providing sustainability-aligned solutions to market.

In terms of green revenues at listed companies, several studies have found a positive relationship. HSBC Global Research has been a frontrunner in this area, with numerous studies drawing on data from its Climate Solutions Database finding outperformance of companies with environ-

⁶ Further differentiation into five categories was achieved, in relation to this categorisation: [1] Tailwind – where a revenue stream benefits from a sustainability theme [2] Strong tailwind – where a revenue stream benefits substantially [3] Neutral – where a revenue stream is potentially affected by a sustainability theme, but this exposure is currently neither considered negative nor positive [4] Headwind – where a revenue stream is negatively affected by a sustainability theme [5] Strong Headwind – where a revenue stream is considered to experience a substantial negative affect from a sustainability theme. The analysis of a PC's revenue is broken down into a score between -2 and +2, where -2 indicates 100% revenue with a strong headwind, and +2 indicates 100% revenue with a strong tailwind. Scores in between will represent a balance of revenue streams with headwinds and tailwinds of varying strength. To illustrate, a company could have 50% of its revenue categorised as having a strong tailwind, and 50% a headwind. This would give a score of $(+2*50\%) + (-1*50\%) = 1 + -0.5 = 0.5$. Indeed, several PCs analysed do have different business lines which are categorised as having headwinds and tailwinds.

⁷ Academic research (Konar and Cohen [30]) found that, for the market value of companies in the S&P 500, after controlling for variables traditionally thought to explain performance, bad environmental performance is negatively correlated with their intangible asset value of firms. The paper also found that the magnitude of these effects varies across industries, with larger losses accruing to the traditionally polluting industries. Khan et al [29] examined the sustainability reports of 180 companies and used return on assets (ROA) and return on equity (ROE). Specifically, the study found that companies with high ESG performance had an average ROA that was 1.8% higher than companies with low ESG performance, and an average ROE that was 4.8% higher than companies with low ESG performance.. Further research also found a relationship suggesting specific stock markets place a higher value on companies that care for their environment (Wahba, [45], Stefan and Paul [43] and Miralles-Quiros [35]). Flammer [18] took a different approach, linking shareholder proposals related to corporate social responsibility to some value enhancement. However, this is not the case everywhere, with one US study (Endo [14]) finding "that the stock market does not reward either greenness or toxicity", perhaps because institutions may shun green stocks due to a belief that corporate investment in positive environmental performance detracts from shareholder value.

⁸ A meta-study by Friede et al [19] considered over 2,200 pieces of academic work over recent decades, all of which analysed the relationship between environmental, social and governance factors and corporate, financial performance – the research found that more than 90% of the works considered showed that ESG factors have a positive or neutral impact on financial returns, concluding: "The results show that the business case for ESG investing is empirically very well founded."

⁹ Index provider MSCI found that companies with high ESG ratings outperformed those with low ratings by an average of 2.7% per year from 2007 to 2018 [21]. Deutsche Bank [20] found that companies with strong ESG performance had higher profitability and lower share price volatility compared to companies with weak ESG performance. Arabesque Partners [11] found that companies with strong ESG performance had higher long-term stock returns and lower risk of bankruptcy compared to companies with weak ESG performance.. State Street Global Advisors (2019) found that companies with diverse boards had better financial performance than companies with less diverse boards.

ment-aligned revenue streams relative to their benchmarks. In its recent Climate Solutions Playbook 2024 - Investing in the transition, HSBC analysts found that stocks in the bank's Climate Solutions Database, which are those earning more than 10% of revenue from climate and environment themes, have outperformed its benchmark, the FTSE All World Index (AWI) over most timeframes. The Database has delivered an annualised total return of 17% over 10 years, 23% over five years, 14% over three years and 20% over the past year. This compares with the AWI returning 7%, 9%, 5% and 23%, over the same timeframes. Style screen strategies drawing from the index have also seen outperformance. The report noted that companies transitioning in the direction of green revenues have outperformed over five years (the longest timeframe for which the research was carried out) by 189% vs the AWI.

FTSE Russell, in its Green Revenues Index Series, tracks the performance of companies generating green revenues [9]. Their reports and index performance data can be accessed on their website. A recent analysis by the London Stock Exchange Group (LSEG [33]) showed outperformance over a period of five years for the Russell 1000 Green Revenues 50 Index, which measures the performance of large-cap companies in the US engaged in the transition to a green economy, when compared with the Russell 1000 benchmark. The former experienced a 20.7% AGR vs 15.6% for the benchmark. However, over the past three years, the Green Revenues 50 underperformed, registering 5.4% vs 10.9%.

In relation to the EU taxonomy, Bassen et al [6] looked at revenue alignment with the EU taxonomy regulation in developed public markets, publishing results which offer support for a significant estimated taxonomy-alignment premium, which the authors describe as compatible with the interpretation that investors already apply the taxonomy regulation and allocate capital to taxonomy-aligned companies", and concluding that traditional ESG ratings cannot explain the taxonomy premium.

S&P Global publishes research on ESG factors and their impact on financial performance. One research project looked for a relationship between EU Taxonomy-aligned revenue share and any outperformance/ underperformance (Hynes and Horak [27]). The Trucost division at S&P ran a 10-Year back test on the green basket, taken from a universe of over 15,000 listed companies, bucketed into five quintiles, which were country and sector neutral. The study shows outperformance over time, quintile on quintile. Quintile 1, which contains the companies that have the highest exposure to green revenue from the Green Basket, outperformed Quintile 5 (lowest exposure) on average by 22 bps/month, or an average Top/Bottom Spread of 2.59% annually.

Some research was less conclusive. Dimitriadis et al (2024), investigate the impact, of what the paper terms the 'environmentally-friendly' character of stocks, on the market price of risk. To do so, fifty-two highly capitalized stocks, across the major economic sectors, are analysed through the prism of green bond issuance, as a proxy for the issuing

company being 'environmentally-friendly'. The paper concludes that the 'green character' of companies lowers the market price of stocks in those sectors which experience greater volatility, namely Financials and Real Estate, and increases risk premia due to higher probability for downwards movements¹⁰.

Private Market Analysis

The market valuation of public companies can be tracked via their share price and therefore market capitalisation and enterprise value, private companies cannot be tracked easily in the same way. For private companies, value may be estimated during ownership, but live price discovery is not empirically practicable, and the true value can only truly be identified at the point of realisation, i.e. when exiting an investment, which can typically come in private equity strategies after a holding period of typically 4-7 years¹¹. Price achieved on exit can then be compared with price paid for an asset, to give a multiple on invested capital (MOIC). The MOIC can effectively be annualised to give an internal rate of return (IRR), which can serve as a more useful comparator with public market investments, including in terms of correlation with sustainability-aligned revenues.

At the time of writing this paper, no such data is available for exit multiples for companies for which green revenue data is also available. Therefore, valuation correlation cannot be drawn from this. However, profitability of companies is also interesting as a proxy (higher margins are more likely to draw higher valuations REFS). Therefore, this paper moves into its final section by considering a profit margin metric - Earnings before interest and tax (EBIT) - for the 50 companies invested in by Triton and analysed within the Sustainability Alignment Tool.

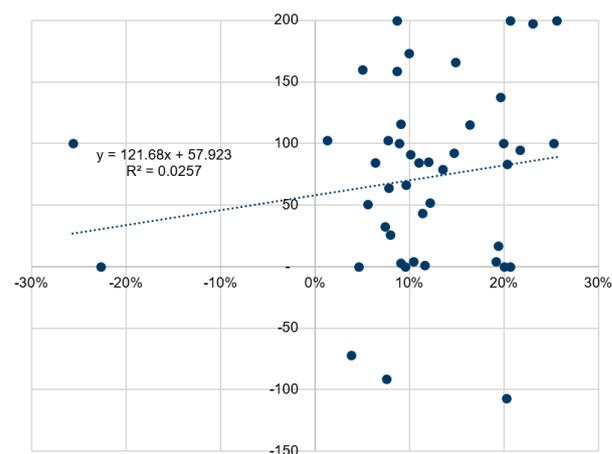


Figure 1. EBIT margin in 2023 (x-axis) and sustainability-aligned revenue factor (y-axis).

¹⁰ The authors note, however, that this impact only reflects the initial period of green innovation with high anti-polluting costs as the green label could prove to be greatly beneficial in the future.

¹¹ This range is derived from academic papers, including Schoar et al [39] and Gompers et al [22], as well as market research by Prequin (2022), Bain & Company [4] and Pitchbook [37].

Exhibit 2 shows, on the Y or vertical axis, the overall sustainability aligned revenue factor, between -200 and +200, with the 50 PCs measured against this. The X axis, meanwhile, captures the EBIT margin for the 50 PCs. These are taken in each instance for the most recent reporting year, typically 2023. EBIT margin was chosen as a measure of profitability. The aim of this subsequent analysis is to see whether sustainability-aligned revenues (as measured by the SAT) are positively correlated with the profitability of the companies.

The chart could be seen as showing that, overall, the best-fit line generated in Microsoft Excel suggested a relatively weak degree of positive correlation - that across 50 companies, those with revenues which experience greater support from sustainability-linked drivers are *slightly* more likely to also achieve greater EBIT margins. However, this is a statistically insignificant sample set size, and is further challenged by the distribution of the companies in terms of sector, activity, size, geography. To obtain more meaningful results, the author posits that the methodology has relevance but a much larger data set, in terms of the number of companies analysed, would be necessary. This would likely require cooperation between multiple investment firms. If the result of the research for this paper were to be replicated at statistically significant scale, it is the author's belief that this would demonstrate a high likelihood that companies which derive a greater share of revenues from products and services which are solutions to sustainability challenges, are also able to be more profitable. This would, in turn, be valuable to such companies and industries in attracting lower-cost capital, facilitating growth and accelerating the speed at which economies and societies can address environmental challenges and crisis.

5. Conclusion

This paper has sought to show a method for carrying out an analysis which has, so far, been largely lacking in private markets.

Overall, the results suggested a relatively weak degree of positive correlation - that across 50 companies, those with revenues which experience greater support from sustainability-linked drivers are *slightly* more likely to also achieve greater EBIT margins.

This analysis responds to themes which the author believes business journals have been exploring in greater detail in recent years, including portfolio management, profit drivers and risk management within private equity strategies, as well as links between sustainability and better financial outcomes. This article, the author contends, is relevant to these themes.

Nevertheless, there is considerable further research that can be done, to better understand the relationship between sustainability-aligned revenue and financial performance, in private equity. Examples ideas for where greater understanding would be of interest, include:

- 1) whether there is a positive relationship between the *change* over time in sustainability-aligned revenues and

change in profit margin

- 2) relationship between identification of sustainability-aligned revenues and the decision to invest
- 3) relationship between profit margin, sustainability-aligned revenue and operational ESG performance scores
- 4) sectoral breakdown - showing whether sustainability-aligned revenues are more correlated with financial metrics in some industries than others
- 5) geographic breakdown - showing whether sustainability-aligned revenues are more correlated with financial metrics in some industries than others
- 6) which sustainability themes have a greater correlation with improved financial metrics
- 7) broadening the research from sustainability-aligned revenue to sustainability-aligned capital expenditure, operational expenditure and other metrics¹²

In all cases, gathering large enough datasets from which to draw meaningful conclusions would be a challenge, given the relatively small number and disparate range of companies invested in by individual private equity houses.

In conclusion, this avenue of research - namely, analysis of sustainability-linked revenues - has real-world applications, beyond regulation-driven catalysts. In November 2024 alone (the month this paper was being written), there were several developments in this area, including: [1] Ursula von der Leyen announcing that the taxonomy may be combined with other European regulations, namely the CSRD and CSDDD. This may again redefine the role of green revenues, or broader sustainability-aligned revenues, in corporate activity and investment behaviour [2] the California Public Employees' Retirement System (CALPERS [7]) stated decision to change its definition of climate solutions, tightening it and removing patents as an inclusion mechanism in its own right, leading to some companies being removed from the portfolio of climate solutions [3x] the second iteration of the Private Markets Decarbonisation Roadmap (PMDR) has also been expanded to include whether a company enables a net zero transition through its activities, which commentators are taking to include climate solutions being provided (Bain & Co [5]).

Therefore, the author concludes that more research into the performance of sustainability-aligned business activities, in both public *and* private markets, can be beneficial. This is because it has the potential to provide confidence in markets around decision-making on directing capital flows towards products, services and solutions which address sustainability challenges. Private companies, with their longer investment horizons and less emphasis on short-term market-to-market performance, are uniquely positioned to focus on the development and offering of sustainable solutions to environmental and societal problems. This may be particularly relevant in some regions, Europe and Asia, where the demand for sus-

¹² Studies by Zhang et al [48, 49] investigate the relationship between green innovation and financial performance amongst Chinese manufacturing firms, and find a positive correlation.

tainable solutions is high and often backed by governments.

Key takeaways

- 1) Several existing framework tools have been developed which measure sustainability-aligned revenues of listed companies. There has been no comparable system readily available for private market investors seeking to understand revenues for companies within existing portfolios, or being analysed for potential investment.
- 2) Such a framework can facilitate regulatory compliance, investor reporting, analysis of thematic tailwinds during sourcing of investments, tracking of portfolio company transition over time, and other benefits.
- 3) Triton Partners, a private equity investment firm, has developed a system for categorising revenue streams of 50 portfolio companies, where these are catalysed by a range of sustainability trends. The analysis suggested that those with revenues which experience support from sustainability-linked drivers are *slightly* more likely to achieve greater EBIT margins.

Abbreviations

ASEAN	The Association of Southeast Asian Nations
BICS	Bloomberg Industry Classification Standard
CALPERS	California Public Employees Retirement Scheme
CAPM	Capital Asset Pricing Model
CSDDD	Corporate Sustainability Due Diligence Directive
CSRD	Corporate Sustainability Reporting Directive
EBIT	Earnings Before Interest and Tax
ESG	Environmental, Social and Governance
EU	European Union
FTSE	Financial Times Stock Exchange
GRI	Global Reporting Initiative
HM	Her Majesty's
IRR	Internal rate of return
MOIC	Multiple on invested capital
PE	Private equity
PMDR	Private Markets Decarbonisation Roadmap
ROA	Return on Assets
ROE	Return on Equity
SAT	Sustainability Alignment Tool
SDGs	Sustainable Development Goals
SFDR	Sustainable Finance Disclosure Regulation
UN PRI	United Nations Principles for Responsible Investment

Author Contributions

Ashim Paun is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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