January 2022

Valuation Insights

Unlocking ESG Opportunities:
Explore How ESG Impacts Business Value

Introduction

The coronavirus pandemic accelerates the interconnectedness between sustainability and the financial market, with responsible investing being on the trajectory to the mainstream. Experiencing the high vulnerability of the economy to global crises and social unrest, investors are proactively incorporating Environment, Social and Governance (ESG) factors into their investment analysis to gain a more holistic view of companies' material risks, expected growth opportunities, and profit margin.

As reported by the CFA Institute, 85% of its members are now taking at least one of the E, S or G factors in investment decisions; meanwhile, 76% of institutional investors and 69% of retail investors have reflected an interest in ESG investing[1], demonstrating ESG considerations have become an integral part of the asset management framework.

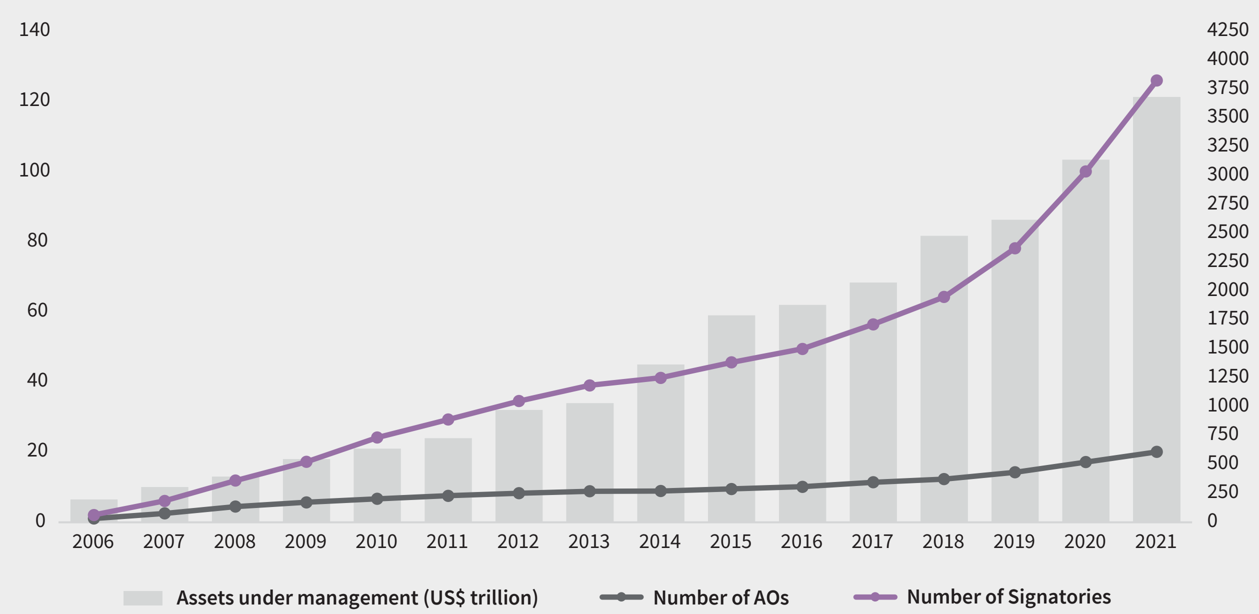
ESG factors represent one of the fundamental components in determining the long-term prospects and financial performance of a firm. For example, high-emitting companies may suffer from a higher operating cost in combating carbon emissions in the face of the tightened environmental regulations. In general, better ESG performing companies are associated with lower risks and higher returns, which can be reflected in the company's value. Hence, establishing a systematic approach to integrate ESG factors into fair value calculation is of paramount importance for optimizing investment strategy.

[1] CFA Institute (2020). Future of Sustainability Investment Management From Ideas to Reality. https://www.cfainstitute.org/-/media/documents/survey/future-of-sustainability.ashx

The Importance of ESG Valuation

Supported by the United Nations, the Principles for Responsible Investment (PRI) is dedicated to promoting the incorporation of ESG issues into investment practice and companies' ownership policies.

As of March 2021, the number of signatories increased 26% to an accumulation of over 3,800 entities, with the assets under management reached US$121.3 trillion, a growth rate of 17% that is expected to keep escalating.



Source: Principles for Responsible Investment[2]

In the *Perspective Paper: ESG and Business Valuation*[3], the International Valuation Standards Council (IVSC) has also shed light on the unprecedented-low interest rate witnessed in the wake of the 2020 economic crisis. As the interest rate is negatively related to the present value of future cash flows, and the longer-lasting period will further enhance the present value, one can expect that the low interest rate shall foster a long-term investment strategy, resulting in a greater importance of the ESG framework.

With multiple studies suggesting that ESG and corporate performance are intrinsically intertwined, a strong ESG proposition could be an indicator of safeguarding investors' long-term success.

However, from a valuation perspective, traditional business valuation approaches are more inclined to financial indicators and metrics, neglecting the ESG impacts on long-term value creation or degradation. Hence, an ESG-integrated valuation model which can systematically value a company by considering different scenarios and outcomes may benefit investors from developing a rounded-out investment and optimizing the risk-return characteristics.

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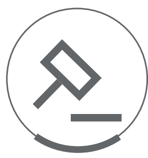
[2] UNPRI. About the PRI. https://www.unpri.org/pri/about-the-pri

[3] IVSC (2021). Perspectives Paper: ESG and Business Valuation



ESG on the Regulatory Front

The ESG reporting and investing landscape are evolving rapidly, with both social pressures and regulatory requirements fueling the integration of ESG matters into the valuation framework. To date, 60 over the 110 stock exchanges have already published ESG reporting guidance for their listed companies, according to UN Sustainable Stock Exchanges (SSE) Initiative[4].

With years of lagging behind the international standards, more stringent ESG disclosure requirements are imposed among Asian regulatory authorities for catching up. Starting from 2016, ESG reporting becomes mandatory for all listing companies in the Stock Exchange of Hong Kong Limited (HKEX), and the Singapore Exchange (SGX) also introduced sustainability reporting of ESG factors on a “comply or explain” basis in the same year. Meanwhile, the China Securities Regulatory Commission (CSRC) formulated new guidelines in 2018 to enforce publicly listed companies to disclose ESG performance for the first time.

The inclusion of China A-shares into the MSCI Emerging Markets Index represents the surging demand on ESG disclosure in an international standard, thus urging the need to unify ESG valuation systems and incorporate these factors into the traditional valuation model.

Relationship between ESG and Business Valuation

Selection of Material ESG Factors

Assessing the ESG materiality is the starting point for incorporating ESG factors into the valuation model. With the subjective nature of ESG considerations and adjustments, identifying material ESG factors is vital to justify the related adjustments and circumvent ambiguity. Meanwhile, the materiality of individual ESG factors could be both industry-specific and company-specific, which have to be assessed on a case-by-case basis. Materiality is measured according to the likelihood and magnitude of impact. According to the CFA Institute, non-material ESG factors do not impact financials and valuations. Some factors will have financial impact in long run, either positive or negative. Thus, materiality assessment is important for incorporating ESG factors into business valuation.

Take the MSCI's benchmarking pillars for the Real Estate Development industry and Oil and Gas Drilling industry as an illustration. Looking into their comparison, the two industries face distinct ESG issues in each pillar with different weighting on importance, benchmarking with industrial peers. For example, real estate developers emphasize the opportunities in green building while oil and gas drilling companies focus on curbing the carbon emissions issue.

	Real Estate Development		Oil & Gas Drilling	
Pillars	**Issues**	**Average Weight**	**Issues**	**Average Weight**
Environmental	Opportunities in Green Building	29.8%	Carbon Emissions	14.1%
	Water Stress	0.3%	Biodiversity & Land Use	13.2%
			Toxic Emissions & Waste	9.8%
Social	Health & Safety	18.3%	Health & Safety	16.7%
	Product Safety & Quality	0.2%	Community Relations	13.2%
Governance	Governance	42.5%	Governance	33%

Sources: MSCI[5]

[4] Sustainable Stock Exchanges Initiative. ESG Disclosure. https://sseinitiative.org/esg-disclosure/
[5] MSCI. ESG Industry Materiality Map. https://www.msci.com/our-solutions/esg-investing/esg-ratings/materiality-map

"Pre-Financial" or "Non-Financial" Information

While ESG has become the central tenet of many corporations, asset managers, and investors, the fundamental sticking point remains that there are no universally standardized rules for ESG performance valuation. The discrepancy between ESG disclosures and financial performance gets widened, especially when most companies separate their ESG reports from financial reports, resulting in a prevailing view that ESG considerations are non-financial in nature. Thus, companies and valuation practitioners struggle to articulate the value proposition of ESG investments and assess the ESG data in long-term value creation.

In the Perspective Paper: ESG and Business Valuation, IVSC highlighted the importance of recognizing ESG as "Pre-financial" information rather than "Non-financial" information. Given the intertwined linkage between ESG factors and enterprises' long-term financial resiliency, the analysis shall be set aside from the traditional valuation metrics, such as typical cash flows, price-to-earnings, and EBITDA measurements, but comprising a multitude of factors instead.

Factors	Pre-financial Impacts
Environmental	Consumers' preference for sustainable products changing the demand for a product of a company Additional costs and risks in the face of the tightening environmental regulation
Social	Consumers' preference for fair trade products changing the demand for a product of a company Costs on training and development for talent retention, compensations on employee injuries
Governance	Extra tax payments due to the fines imposed by regulation violation

ESG does have a positive financial impact and affects the intrinsic value of the business. Failure in recognizing the ESG impact might create a gap between financial performance and the market value, resulting in the accumulation of unrecorded intangible assets and disproportionate long-term value prospects.

Adjusting the Business Valuation Approach

Incorporating ESG factors into business valuation can be either in form of qualitative or quantitative. ESG analysis is based on company-specific research and fundamental analysis. Valuers analyze ESG data to form their qualitative opinion on the ability of the firm to manage certain ESG issues. Then, the opinion is combined with quantitative financial analysis by considering company's ESG risk management strategy to different value drivers, including revenues, costs, capital expenditure or etc.

Traditionally, there are three generally accepted valuation methodologies: the income approach, the market approach, and the cost approach. The income approach determines the fair value by converting the expected future cash flow into a present value; the market approach compares with companies of similar assets or liabilities for which prices are available; the cost approach is to value a business from the balance sheet perspective.

The growing appetite for ESG highlighted the importance of the incorporation of ESG factors into the valuation process to give out a more integrative view for investors. However, in the traditional valuation model, ESG factors are not under consideration. Without a universal guideline or standard, the prevailing practice is to include ESG in the market and income approaches.

Market Approach

- Comparable companies
- Price multiples

Income Approach

- Expected future cash flow
- Discount rate
- Terminal value
- Market risks
- Firm-specific risks

Incorporating ESG in the Market Approach

What is a Market Approach Valuation?

The market-approach valuation ascertains the fair value by referencing comparable public companies or precedent transactions, determining the value relative to other actual valuation transactions. Price multiples such as price-to-earnings, price-to-book, and Enterprise Value to EBITDA ratios are some of the most commonly adopted ratios as a benchmark for arriving at the valuation estimate.

For a successful market approach valuation, the selection process of rightly similar comparables from a range of financial metrics and non-financial parameters would be the most fundamental, in which proper adjustments are also required in exercising valuation.

ESG in choosing Comparable Companies

When ESG integration in the mainstream investment is on a meteoric rise, valuers have to incorporate and assess the relevant ESG factors in selecting comparable companies. Renowned credit rating agencies S&P Global Ratings (S&P), Moody's, and Fitch Ratings have integrated ESG considerations into their rating methodologies. Meanwhile, financial data providers like MSCI, Bloomberg and Refinitiv have also established their own ESG scoring system, serving as a great indicator and reference in performing the market comparison.

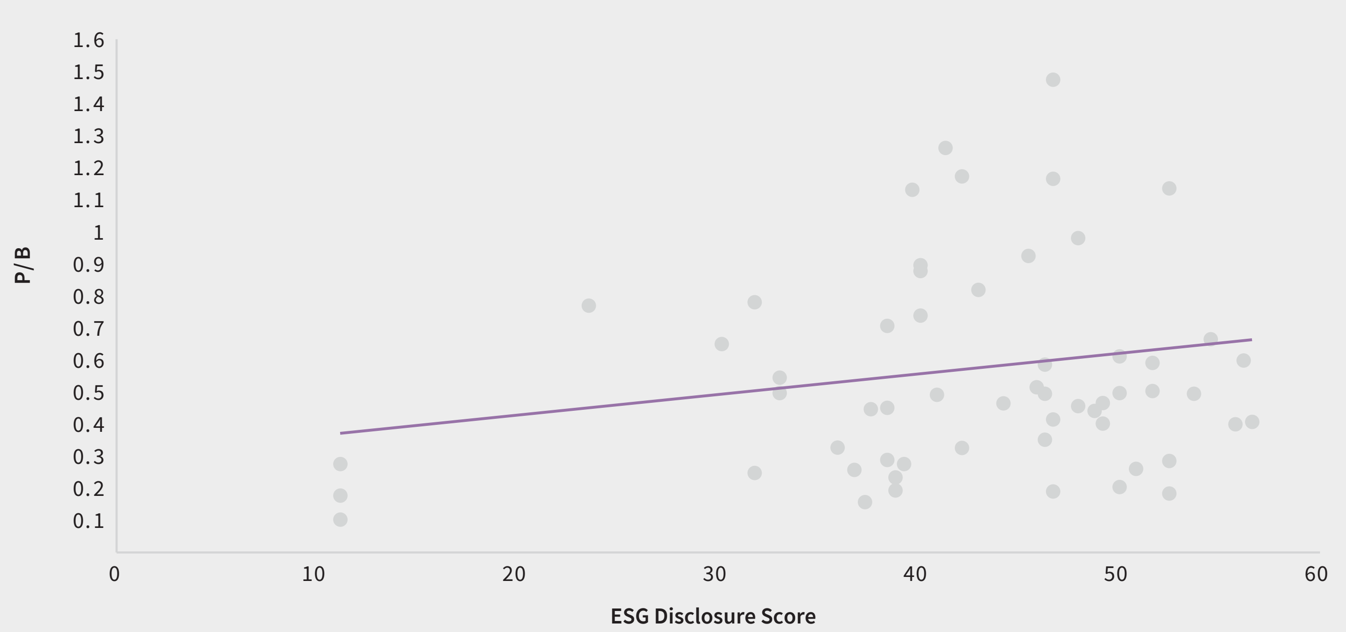
Integrating ESG score into the credit rating analysis could be a way to assess companies' risk levels and the comparability. Companies with lower ESG credentials are subject to a higher risk, given that the company might perform less efficiently in resource management or talent retention than its peers. Like credit risks, the ESG risk severity could also impact a company's enterprise value and hence the spread yield and expected returns. Therefore, by assessing the performance of the comparable companies with ESG criteria, price multiples will change alongside.

Adjusting the Target Multiples with ESG factors

In addition to adjusting comparable company selection, valuers might also integrate ESG factors by modifying the target multiple. When looking at commonly used multiples like price-to-earnings (P/E) ratios and price-to-book (P/B) ratios, one can add a price premium for good ESG-performing companies or in opposite apply a discount. Adjustments can be converted into premium/discount on price multiples versus its peers due to ESG factors. This approach attempts to integrate ESG factors in a simple, direct way but also evokes a fundamental question: how should valuers calibrate the degree of premium or discount?

To better illustrate the impact of ESG factors on target multiples, 60 Hong Kong-listed real estate developers are examined. ESG performance is generally assessed based on the ESG disclosure score, comparing with peers in same industry sector. The result reveals a positive relationship between the ESG disclosure score and companies' P/B ratios. A better ESG performance company is inclined to have a higher P/B ratio, which can be attributed to the positive prospect and long-term sustainable growth with lower volatility in earnings, hence supporting the firm's valuation.

Relationship between ESG disclosure scores and price-to-book ratios of Hong Kong-listed property developers



Source: Bloomberg (data extracted in October 2021)

With the surging interest in ESG performance, investors are more willing to pay a price premium for companies with high ESG scores. Assuming other factors are constant, when ESG disclosure score increases by 20 units, P/B ratios approximately rise 0.13 accordingly, within the real estate developer sector. An empirical study highlighted that there was a significant alpha return for companies with above-average performance on material ESG factors, supporting the inclination for investors to pay a price premium. As a result, to account for the ESG consideration, a premium should be applied to the target multiple in valuing companies with high ESG scores.

Next, the discount for lack of marketability (DLOM) can also be altered in response to ESG considerations. DLOM is usually applied when valuing a private company, which does not have a centralized market, with a lower fair value than a public company, keeping

other variables constant. The ESG disclosures for private companies are less regulated and not compulsory, indicating that investors bear higher ESG-related risks due to greater information asymmetry. Given the higher credit risk, private companies with lower ESG credentials are associated with a smaller set of potential investors, or otherwise asking for a higher required return as compensation. Accordingly, valuers may pick a higher DLOM in private company valuation to address the ESG concerns.

In the traditional approach in valuing private company, comparatively, governance factors affect the value of private company the most. A private company with poor governance indictors such as a board with limited relevant skills, lack of independence for board of directors or lack of considerations of diversity and inclusion, etc., poses greater risk of negative capital allocation decision, lower future cash flows or difficulty to access to capital markets, or in extreme case, higher bankruptcy risk. Thus, governance factors in private company valuation are influential and should be taken into account for adjustment on multiples. However, with increasing concerns over environmental and social issues, valuers should also incorporate these factors into the valuation.

Overall, the process of selecting, adjusting, and implementing ESG data in valuation is considered complex and requires significant experience and valuer's technical skills.

Incorporating ESG in the Income Approach

What is an Income Approach Valuation?

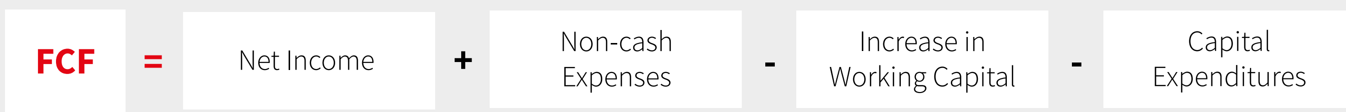
The Income approach, best known as the discounted cash flow (DCF) model, values a business by determining the present value of its expected future cash flows. Different from the market approach, which focuses on precedent financial metrics, the DCF model is about the projected earnings until perpetuity, hence exposing to a higher degree of uncertainty and subjectivity.

The determination of future cash flows is the cornerstone of the DCF model, and that the discount rate reflects the firm's long-term cost of capital. The high reliance on future expectations entails a greater demand for ESG calibrations to the company's performance.

ESG and the Expected Future Cash Flow

When integrating ESG factors into the financial forecasting under the DCF model, there is a surging need to quantify the financial impacts, in alignment with other valuation drivers. An explicit way to account for the materiality of ESG factors is through the free cash flow adjustments.

The working formula for the free cash flow is:



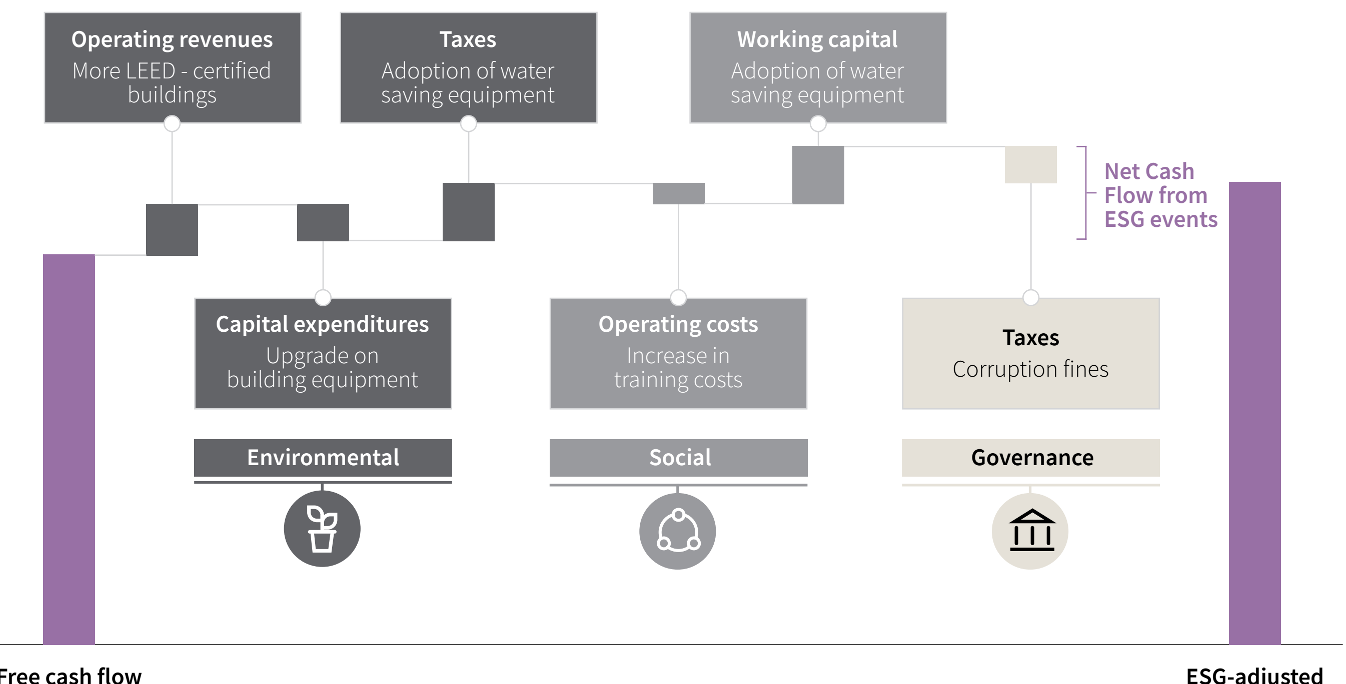
Depending on different industries and company performances, the translation of ESG factors to cash flow adjustments varies. For example, the oil and gas industry is more inclined to adjust the environmental pillar, such as additional costs and investments in carbon reduction to curb global warming. In contrast, the manufacturing industry might emphasize labor welfares and responsible sourcing. So, there is no one-size-fits-all solution in ESG integration and adopting individual value drivers could avoid the ambiguity of cash flow adjustments.

Using the real estate industry as an example, some adjustments on cash flow items in each ESG pillar are demonstrated as below:

Pillars	Cash Flow Items	Adjustments
Environmental	Operating Revenues	A green building certification indicates a high-quality and energy-efficient asset, adding value to the property. For example, a LEED-certified building results in a higher rental and sales revenue on average.
	Capital Expenditures	Additional expenses and investments are required to upgrade existing machinery and implement carbon capture technology to reduce the carbon emission level.
	Taxes	Tax payable can be reduced with the adoption of energy-saving and water-saving equipment. For example, in China, when a company purchases and uses the state-regulated equipment for environmental protection and water conservation purposes, 10% of the investment can be offset against the tax payable of the enterprise income tax in the current year[7].
Social	Operating Costs	In mitigation of the risk of work injuries and fatal incidents, companies might offer more training programs for employees and launch workplace safety measures and inspections, increasing the operating cost.
	Working Capital	Companies with better ESG performance are associated with a higher creditability and viability for credit sales, hence operating with lower working capital requirements and a shorter cash conversion cycle[8].
Goverance	Taxes	Additional tax payment arose from violation of regulations or fines imposed by confirmed incidents of bribery and corruption.

[7] State Taxation Administration. http://www.chinatax.gov.cn/n810341/n810765/n812171/n812685/c1191206/content.html
[8] Are more sustainable firms able to operate with lower working capital requirements? https://www.sciencedirect.com/science/article/abs/pii/S1544612321004025

Illustration on ESG impacts on Expected Free Cash Flow



ESG and the Discount Rate

Apart from adjusting the forecasted free cash flows in the income approach valuation, another typical attempt is to include ESG-related risks in the discount rate. When applying the DCF model, projected cash flows are discounted to the present value. In most circumstances, the discount rate utilized, such as the weighted average cost of capital (WACC), is risk-adjusted to account for the uncertainty arising from future market conditions.

According to the risk-return theory, a higher return associates with a higher risk, which can be reflected in the risk-adjusted discount rate. Thus, a generally practice to incorporate ESG factors into the discount rate is by adding a risk premium when companies score poorly in ESG metrics, resulting in a lower present value and valuation. The opposite holds when a discount is applied for companies with good ESG performance.

Example – Green bonds and the cost of capital

Issuing green bonds would be a common attempt for companies to finance sustainable and environmental projects. In recent years, there shows an exponential growth of the green bond market. According to the Climate Bonds Initiative, the green bond issuance in 2020 reached a record-breaking high of USD270 billion, in which the cumulative market size has shown an average annual growth rate of 60% since 2015[9].

Placing a "green" label on bonds symbolizes and signals companies' strong commitment towards environmental protection initiatives, which usually come together with tax incentives like tax exemption or tax credits. For example, Hong Kong Government has launched The Government Green Bond Programme (GGBP) since 2018 to finance the green bond issuance in support of the green finance ecosystem. As announced in the 2021-22 Budget, the borrowing ceiling of the GGBP increased up to HK$200 billion for bond issuers and loan borrowers to cover bond issuance expenses and external review costs, hence lowering the cost of capital in returns. Not only does the issuance of green bonds enjoys government subsidies, but it also has a relatively lower yield and coupon rate as compared to conventional bonds.

According to MSCI[10], corporate green bonds tend to offer yields approximately 0 to 2 basis points lower than conventional non-green bonds, driven by the high demand for green bonds. In addition, the bond issuers' ESG performance also matters the yield difference in which high-ESG-scored issuers demonstrate a more consistent positive yield difference over traditional bonds than low-scoring issuers.

The green bond's lower yield and coupon rate indicate a lower cost of debt, resulting in a lower cost of capital on average. Under the DCF model, the cost of capital is negatively related to the fair value. Thus, companies might enhance the firm value by investing in sustainable projects through green bonds issued by high-ESG-scored companies while uplifting the ESG performance.

[9] Climate Bonds Initiative (2021). Record $269.5bn green issuance for 2020: Late surge sees pandemic year pip 2019 total by $3bn. https://www.climatebonds.net/2021/01/record-2695bn-green-issuance-2020-late-surge-sees-pandemic-year-pip-2019-total-3bn

[10] MSCI. Have corporate green bonds offered lower yields? https://www.msci.com/www/blog-posts/have-corporate-green-bonds/01738309960

Meanwhile, the challenges remain that the magnitude of adjustments is not universal and relied heavily on subjectivity and valuers' determination yet leaving an arbitrary opportunity. Depending on the industry's nature, ESG scores will also vary significantly. For instance, oil and gas enterprises generally received a lower ESG rating and allied with greater ESG risks than renewable energy companies. Again, in such a case, valuers face the same obstacle of determining the magnitude of adjustment for the discount rate. Should it be 20 bps or 50 bps? It remains controversial while further internationalize standards and guidelines are required to avoid over-extrapolation and confusion.

Aside from directly adjusting the discount rate by adding a premium or discount, adjustments may also be applied on other valuation parameters:

Sensitivity to Market Risks (Beta)

Under the Capital Asset Pricing Model (CAPM) and given the current low interest rate, the required rate of return for equity is predominantly determined by the asset's sensitivity to the market risk represented by the beta. From MSCI research[11], high ESG-scored companies are less vulnerable to market-changing conditions and have a relatively low beta with a lower expected rate of returns. Consequently, the required rate of return for equity under the WACC will also be reduced, resulting in a lower cost of capital and higher valuation.

[11] Guido, G., & Linda-Eling, L. (2019. MSCI. WEIGHING THE EVIDENCE: ESG AND EQUITY RETURNS.

Firm-specific Risks (Alpha)

Firms with poor ESG performance are more likely to be subject to additional risks imposed by material ESG issues, including regulatory violation, high employee turnover rate, resources mismanagement, and volatile supply chain. All of these scenarios contribute to higher firm-specific risks as compared with peers.

Terminal Value

When applying the DCF model, the terminal value calculation and inclusion assume that the company will operate perpetually in generating future cash flows. High ESG-risk bearing industries like coal mining are expected to be stranded and declined with the growing appetite for renewable energy sources, thus reducing the terminal value or even reached zero, which turns out with a low fair value. It is also worth noting that with more countries announced pledges to achieve net zero emissions by 2050, corresponding adjustments should be considered carefully in the terminal value calculation.

When integrating ESG-related risks into the discount rate, extra attention is needed to prevent the issue of double counting. Due to the possibility of overlapping ESG factors with other pre-financial information, valuers might have already addressed some ESG-related risks implicitly in calculating the risk-adjusted discount rate. Again, taking the oil and gas industry as an example, the ESG risks within this high-polluting industry might already be incorporated into the beta determination. Double counting might result in exceptionally and unreasonably low or high fair value in valuation. Therefore, the direct incorporation of premium or discount to the discount rate shall be handled carefully in consideration of the systematic and firm-specific characteristics.

Conclusion

With the growing appetite for sustainable investing and more stringent regulatory requirements, the demand for incorporating material ESG factors into the business valuation framework is of unprecedented importance. It is detrimental for practitioners to revise the traditional valuation model from viewing ESG factors as non-financial information with a primary focus on corporate governance to pre-financial information while emphasizing the environmental and social value creation or degradation.

Given the intertwined relationship between ESG proposition and corporate performance, companies with higher ESG credentials are usually associated with comparative advantages, to name a few, less volatile to systematic risks, greater future free cash flow, premium in price multiples and lower discount rate, all serving as strong incentives for ESG integration, and it is foreseeable that the trend will continue in upcoming years.

Yet, the translation of ESG factors into the company's value is still at the preliminary stage and remains challenging without standardized and regulated approach and guidelines. In the light of this, valuation users should pay attention to a valuer's credentials and track record in assessing ESG's impact on business valuation. For the betterment of ESG and business valuation integration, we suggest industry leaders should make concerted efforts together with the regulators in expediting the progress to develop a more comprehensive and internationalized valuation model.

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