Lazard
Perspectives

Global Fixed Income: Investing for a Sustainable Future

At a time when growing concern about climate change is putting pressure on corporate and sovereign issuers to reduce their carbon footprints, we believe a thematic approach to investing with sustainability in mind will add value over time from both an opportunistic and defensive perspective.

The Global Fixed Income team is vigilant about whom we lend money to, and our disciplined security selection process considers environmental, social, and governance (ESG) factors in an effort to avoid impairment and earn attractive risk-adjusted returns. Evaluating environmental factors is, in our view, just as critical as assessing social and governance factors. We feel that some investors are underestimating the implications of a dramatic transition toward renewable energy that will undermine the demand for fossil fuels, creating new winners and losers. The losers will likely include stranded fossil fuel assets, while many of the winners will provide not only environmental benefits, but positive social impacts as well.

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Introduction

Fixed income investors would do well to focus on how much attention the environment has been getting lately from consumers, regulators, corporations, and investors. Young people in 150 countries, led by 17-year-old Swedish activist Greta Thunberg, took to the streets in September 2019 to demand that businesses and governments take action to mitigate climate change. Major cities are passing plastic bag bans, congestion taxes, and replacing car-clogged streets with pedestrian zones. Seven of the United Nations' 17 Sustainable Development Goals explicitly call on corporations and communities to take some sort of environmental action, and 197 countries have submitted goals for reducing carbon emissions under the Paris Agreement.

As public interest rises, corporations are also increasingly eager to tout their environmental credentials. The Business Roundtable, comprised of an influential group of US CEOs, recently set aside its own decades-old dogma that corporations exist primarily to maximize shareholder value, and called upon its members to serve a broader range of stakeholders, including those of the environment. Furthermore, according to RE100, some 230 global businesses have committed to sourcing 100% of their power from renewable sources by 2050 at the latest.

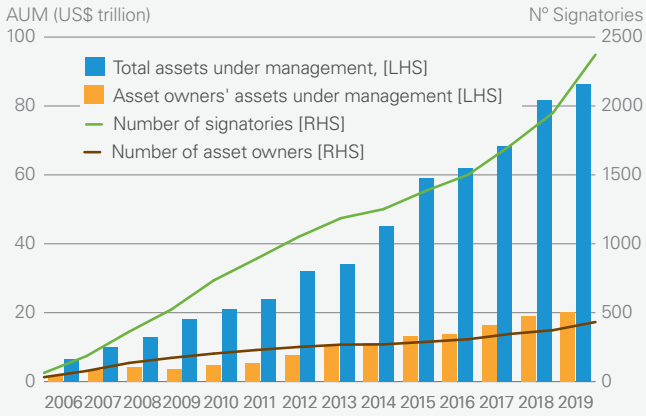
Investors are clearly concerned about sustainability, as noted by a 2018 survey showing that 85%[1] of individual investors, including 95% of Millennials, were interested in sustainable investing. The number of institutional investors who consider ESG in their decision-making process nearly doubled from 22% in 2013 to 42% in 2019.[2] More than 2,300 investors and asset managers in all regions of the world have signed on to the Principles for Responsible Investment, which in turn has encouraged asset allocators to follow the UN's Sustainable Development Goals as a globally agreed sustainability framework. All told, the amount of money committed to sustainable strategies rose from less than $10 trillion in 2006 to more than $86 trillion in 2019 (Exhibit 1).

"Sustainable investing" means different things to different people, but it typically starts by investing with environmental, social and governance (ESG) considerations in mind. Historically, governance has dominated these considerations. Investors have long accepted that it's difficult for any corporate or sovereign issuer to achieve strong long-term performance if they are being dishonest with their customers or investors, flouting laws, or have weak internal controls. As a result, governance factors have often been considered an integral part of fundamental research processes, while environmental and social practices were often viewed as lesser concerns.

As pollution and climate change become more pressing public issues, the E in ESG is taking up a larger share of the sustainability discussion. Global institutions have pledged to divest some $11 trillion from coal, gas, and oil assets, up from just $54 billion in 2014, for example.[3] Environmental concerns top individual investors' list of sustainable investment priorities, too, with 46% of investors in the 2018 survey choosing climate change and reducing the use of plastic as the top issues they care about with respect to corporate ESG efforts.

Exhibit 1
Growing Investor Interest in Sustainability Creates Incentives for Issuers

Over $86 Trillion in AUM is Committed to Responsible Investing



As of 31 December 2019

The Principles for Responsible Investing (PRI) is the world's leading proponent of responsible investment. Asset owners and investment manager signatures are required to report on their responsible investment activities annually through the PRI Reporting Framework.

Source: PRI

It all adds up to a world in which corporate and sovereign issuers who ignore environmental issues risk alienating customers and investors or finding themselves flat-footed by new regulations. Environmental concerns, particularly exposure to fossil fuels, are material factors to consider in fundamental credit analysis for any type of issuer. While some issuers will feel the effects of environmental factors (and the public's increasing awareness of those factors) sooner than others, our team takes a long-term view.

Our investment process has for years considered the environmental portion of ESG investing very seriously, just as we have traditionally considered governance factors in our efforts to avoid impairment and earn attractive risk-adjusted returns. The price of oil is a significant component in our macro assessment, and we believe investors are underestimating the implications of a dramatic transition to renewable energy. That shift is fueled by technological breakthroughs, a drastic fall in the price of renewable energy, and growing environmental awareness. We believe the shift will undermine the demand for fossil fuels and create new winners and losers, including stranded fossil fuel assets. We also recognize that sovereigns and corporates positioned to perform well in a renewable future can also potentially deliver positive social impacts, including improving public health through lower pollution, providing access to new, clean sources of energy and water, adding new employment opportunities to local economies, and improving housing conditions and food security.

We have been closely following developments in renewable energy since 2015, which is the same year we purchased our first green bond, a standard fixed-income instrument that finances environmentally friendly projects. More than 20% of our portfolio is now invested in labeled green, social, and sustainable bonds. Social bonds, as the name implies, finance projects with positive social outcomes, while sustainable bonds finance projects with a combination of environmental and social benefits.

The Renewable Energy Revolution Is Here

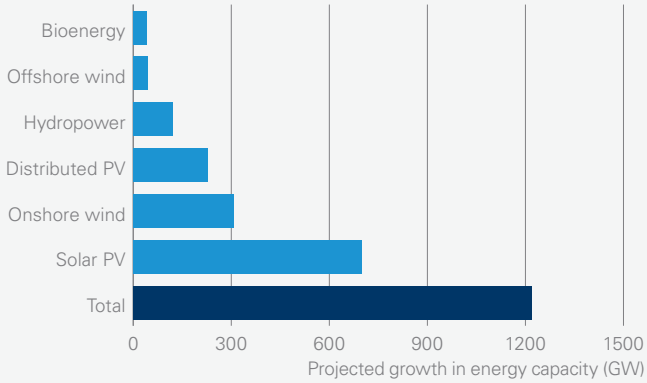
Climate change is undoubtedly the environmental issue that attracts the most attention lately. There is broad scientific consensus on the dominant role of human activity in driving global warming. "The Global Warming of 1.5°C," a special report by the Intergovernmental Panel on Climate Change compiled by over 90 authors from more than 40 countries, with over 6,000 cited references, reveals how anthropogenic carbon emissions have resulted in global temperatures rising by an average of 1 degree Celsius since the Industrial Revolution. The report goes on to describe the dangers which will occur before the end of the century if business continues as usual. Limiting global warming to 1.5 degrees Celsius is expected to substantially reduce the probability of extreme drought, precipitation deficits, and risks associated with water availability.

Nearly every country has made commitments under the Paris Agreement to reduce greenhouse gas emissions in an effort to keep Earth's temperature from rising less than 2 degrees Celsius above pre-industrial levels. (The United States, which has served formal notice that it will withdraw from the treaty, is a notable exception.) It's also worth reiterating that 230 of the world's largest companies have committed to sourcing all of their power from renewable sources as soon as possible, but by 2050 at the latest.[4]

The International Energy Agency (IEA) forecasts that global renewable energy power capacity will grow by 50% over the next five years, a 1,200 GW increase, with solar driving most of the increase (Exhibit 2).(For perspective, 1,200 GW is roughly equivalent to the total installed power capacity of the United States.) The IEA projects that renewable energy will power some 30% of electricity production by 2024, up from 26% in 2019, though some believe that even these estimates are understating the case.[5]In the United States, renewable energy already accounts for more than 19% of the nation's power generation, including 20% in oil-producing Texas, according to the US Energy Information Administration, or EIA.

The rise in renewables owes a great deal to a large drop in the cost of these technologies—approximately 89% for solar and 70% for wind since 2009[6] —making these power sources cheaper than coal, nuclear, and in some cases, liquefied natural gas. Renewables are now cheaper than new coal and gas plants across two-thirds of the world, and they may undercut most existing coal and gas plants around the world in less than 10 years.[7]

Exhibit 2
Projected Increase in Renewable Energy Capacity (2019-2024)



As of October 2019

Forecasted or estimated results do not represent a promise or guarantee of future results and are subject to change

Source: International Energy Agency

Companies on the Winning Side of the Renewables Revolution

Companies that make renewable energy infrastructure and electric vehicles, as well as those that make the products and services that accompany those technologies, are the most obvious beneficiaries of the renewables revolution. Companies that depend on the extraction, processing and sale of coal and oil are the most likely to suffer.

The corporations that make and install renewable energy capacity—solar panel manufacturers, wind turbine makers, and infrastructure companies that build dams—are likely to see demand for their products rise in response to government mandates and demand for clean energy from corporations and consumers. The same is true for companies that offer technology and services that make it practical to use renewable energy, including those that produce:

- Batteries that store solar and wind energy
- Solar inverters that convert power from a solar panel into a usable form for homes, businesses, or electrical grids
- Electric vehicle (EV) charging infrastructure
- Technologies that help homeowners with solar panels manage and monitor their energy usage
- Consulting services that help utilities integrate renewable energy sources into the mix

Coal companies, on the other hand, are already under stress. Global growth in demand for coal slowed to 0.7% in 2018 compared to the 4.5% annual growth rate that prevailed from 2000-2010,[8] and demand has outright declined for the past several years in both Europe and the United States. Financing is also becoming more difficult. Some 100 financial institutions

worldwide have restricted investments in either coal miners or coal-fired power plants, including at least 16 of the top 40 global banks and 20 large insurers.[9]

A combination of environmental concerns and the continued rise of the sharing economy should also benefit both companies that manufacture EVs and those that make parts and technology for them, while creating new risks for oil companies. There were only 5 million electric vehicles on the road in 2018,[10] but numbers are growing fast due to consumer demand and government incentives in places such as Norway. BloombergNEF estimates that electric vehicles will comprise 57% of global passenger car sales and 81% of municipal bus sales by 2040 (Exhibit 3).

Many traditional automakers are investing heavily to transform their manufacturing processes to accommodate large-scale EV production. Late movers risk being unable to catch up when demand takes flight.

The rise of electric vehicles likely means a gradual hit for the price of oil, and therefore, oil companies. In the United States, for example, transportation accounts for 69% of petroleum use, with gasoline used in motor vehicles responsible for 45% of overall petroleum use.[11] A sustained drop in oil prices due to decreased demand could be disastrous for marginal producers. During a multi-year supply glut starting in 2014, oil prices sank below $30 a barrel, and more than 100 North American oil and gas companies filed for bankruptcy in 2015 and 2016.[12] Energy-sector defaults also spiked during this period and peaked at close to 20% in 2017, while the global corporate default rate remained below 5% (Exhibit 4). A drop in long-term oil demand could create a lengthy list of stranded assets.

Furthermore, the price of oil has been an important macro barometer in recent decades. The two latest collapses in oil prices occurred in the wake of the global financial crisis during 2008-2009 and in 2014 on the back of tremendous new supply related to U.S. fracking production. These meltdowns had significant impacts on inflation and currencies (Exhibit 5).

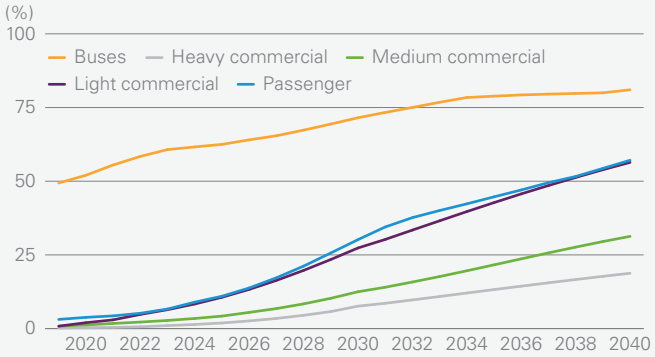
Developing Economies Can Leapfrog Their Way Into a Renewable Future

Among sovereign issuers, the shifting environmental landscape has the greatest potential impact in select emerging and frontier markets that on one hand lack sufficient energy capacity, but on the other, are not constrained by energy infrastructure built around fossil fuels. These developing countries have a unique opportunity to build infrastructure in a more sustainable (and economical) way than their developed-world peers did, and also insulate themselves from any future repercussions related to fossil fuels.

Morocco, which currently ranks third after Sweden and Denmark on the Climate Change Performance Index, demonstrates what is

Exhibit 3
EVs Expected to Gradually Gain Market Share

EV Share of Global New Vehicles by Segment (%)

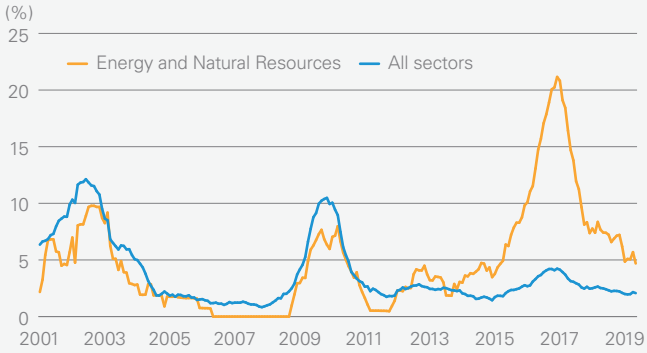


As of 15 May 2019

Forecasted or estimated results do not represent a promise or guarantee of future results and are subject to change

Source: BloombergNEF

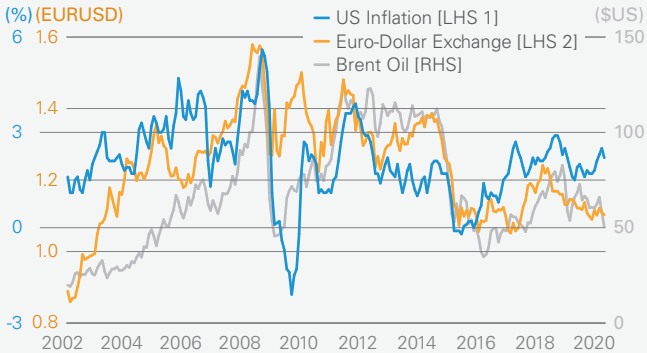
Exhibit 4
Energy Drove Global Spike in Defaults During Last Oil Price Collapse



As of May 31, 2019

Sources: Standard & Poor's

Exhibit 5
The Price of Oil Has Far-Reaching Economic Ripples



As of 10 March 2020

Source: Bloomberg

possible. In 2017, the country relied on fossil fuels to generate more than 80% of its electricity.[13] By 2020, renewable energy should account for 42% of power generation as several large solar and wind farms come online. By 2030, the number should rise to 52%. New renewable energy resources are likely to not only reduce Morocco's bill for imported fossil fuels, a positive fiscal development, but also boost the economy by creating new employment opportunities in a country where unemployment tops 9%.

Renewable energy isn't the only way developing countries can turn green development to their advantage. Agriculture is crucial to the Kenyan economy, but 98% of it depends on rainwater.[14] At a time when seasonal rainfall has become less predictable and extreme weather events such as droughts and floods more frequent, Kenyan farmers are using digital tools and new farming techniques to develop more sustainable agricultural methods that are better suited to highly variable conditions.

Even in certain petrostates, such as the United Arab Emirates (UAE), the installed capacity of renewable energy is growing quickly, and sustainability is at the center of economic planning. One-third of the country's economy depends directly on the production of oil and natural gas, which is a liability in the scenario that we have a world of eventual lower demand for oil.[15] When oil and gas prices dropped in 2014, the country's 13.5% budget surplus subsequently dropped by almost 10% in 2015 and 2016. While the UAE has a plan to increase electrical capacity in the coming decade, a quarter of the new energy resources will come from the nation's abundant—and free—sunshine.

The manner in which a sovereign issuer is preparing or not for the public crescendo of demand for environmental action is only one of a complex mix of factors that determine creditworthiness. Those that wean themselves off fossil fuels, or never develop a taste for them to begin with, and aim for green development that simultaneously promotes social and economic goals are more likely to prosper and enjoy superior fiscal positions in the long run compared to those that do not.

Green-Conscious Investing Requires Skilled Active Management

Given the potential changes in the investment landscape due to environmental concerns, investors should look to partner with active managers who have fully integrated environmental risk factors into their processes. Only an engaged active manager with extensive fundamental and thematic research credentials can capitalize on successful ESG integration.

The composition of the green bond universe offers a helpful example of how interest rate exposure, for instance, can impact passive ESG strategies. Focusing only on labeled green bond issues may overexpose an investor to unintended interest rate risk, and passive investors could end up more exposed than they bargained for to Europe's low and negative prevailing interest rates. European issuers account for almost 40% of the value of green bond issuance since 2007 (Exhibit 6), according to the Climate Bond Initiative, and 64% of the bonds in the Barclays MSCI Green Bond Index are issued in euros.

Exhibit 6
Euro-Denominated Issues Dominate Green Bond Issuance

Geographic Distribution Since 2007 (%)	
Europe	40
North America	25
Asia Pacific	22
Supranational	10
Latin America	2
Africa	1

Currency Distribution of MSCI Green Bond Index (%)	
EUR	64
USD	24
CAD	3
GBP	3
SEK	2
AUD	2
JPY	1
Other	1

As of 22 January 2020

Forecasted or estimated results do not represent a promise or guarantee of future results and are subject to change

Source: Climate Bonds Initiative, HSBC, Unicredit

Passive green bond investors also miss out on unlabeled bonds—fixed-income investments that serve environmental and social purposes, but are not officially labeled as green or social bonds. These bonds provide more options for achieving diversification, sourcing yield, and managing duration within a sustainability-conscious portfolio.

Finally, active managers can also help untangle the "greenwashing" challenge. Many issuers, both corporate and sovereign, sometimes pay lip service to environmental consciousness without meaningful results. Oil majors or utilities that tout their investments in renewable energy, for example, may still be vulnerable to the stranded asset problem as the world transitions toward cleaner sources of energy. The best active managers tap into in-depth fundamental research to determine which issuers are serious about sustainability and which are merely riding the wave of pro-environment sentiment.

Lazard's Global Fixed Income: Investing In and For the Future

At Lazard, we believe we are well positioned to take advantage of the changing investment landscape. We believe strongly that ESG considerations can have a material impact on the valuation and financial performance of a fixed-income security, and we screen for and evaluate a number of ESG factors as part of our day-to-day investment process for both corporate and sovereign credits. We also engage actively with these issuers to better understand the associated risks and opportunities. We have been investing in labeled green, sustainable, and social bonds since 2015, and these

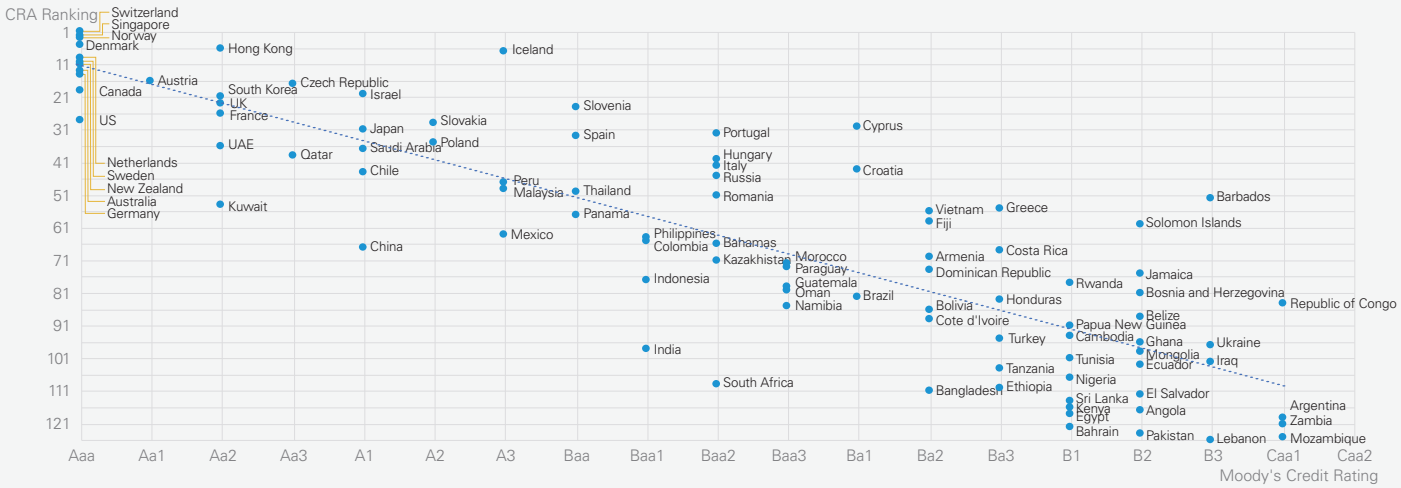
bonds comprise more than 20% of our holdings, but we also invest in unlabeled bonds from issuers focused on sustainable initiatives to further diversify our holdings and express thematic views. The team closely monitors new developments through internal and external discussions, research, and attendance at relevant conferences. We are also focused on incorporating the SDGs into our analysis of corporations and sovereigns.

> The environment plays a key role in our ESG analysis. We believe the transition from oil to renewable energy is a powerful megatrend that will create stranded assets and possibly stranded (or slow-growth) economies. As a result, we've eliminated fossil fuel corporate issuers from our portfolio and made green bonds, along with social and sustainability bonds, a cornerstone of our investment strategy.

We believe that ignoring environmental issues can pose an existential threat to corporate issuers. We screen corporate issuers for problematic ESG practices using a quarterly watch list produced by our equity colleagues and the global risk group, which includes ratings for more than 8,000 companies. We utilize these metrics to assess environmental performance for companies and sectors, as well as social and governance factors. We seek to avoid existing bonds or new issuance from companies with the lowest environmental, social, or corporate governance ratings, but we may perform additional screening for companies with a discrete ESG issue. Furthermore, we leverage in-house research and analysis from various Lazard equity colleagues, who have developed sector-based proprietary materiality mapping frameworks under the guidance of our Co-Heads of Sustainable Investment & ESG. The frameworks detail the greatest ESG risks in specific industries and how those risks affect the long term financial success of the companies they cover. Finally, we conduct additional screening to check our corporate holdings against exclusion lists such as the Norwegian Sovereign Fund list or inclusion lists such as the Global 100 Most Sustainable Corporations list.

To evaluate sovereign issuers, we've created a country risk assessment (CRA) model which allows our team to incorporate select metrics and proprietary weightings to derive a comparative scoring system for country analysis and comparison. The model provides our team with an efficient method of collecting and synthesizing the vast amount of relevant data in the global fixed income space. We monitor current statistics and historical trends for 31 indicators across 127 countries in order to quantify the risks of investing in countries within our investment universe. The indicators we review include economic risks, external metrics, and ESG factors, and each piece of information helps us determine sovereign issuers' willingness and ability to repay their debt in the future. We also monitor sovereign progress via the Climate Change Performance Index, an independent monitor of government climate action, and the SDG Index, which assesses where each country stands with regard to achieving the SDGs. Some of the countries we monitor are not investable, but we include them to provide additional information and context.

Exhibit 7
Lazard Country Risk Assessment Points to Potential Risks and Opportunities Versus Credit Ratings



As of 31 December 2019
Information and opinions are subject to change.
Source: Bloomberg, Lazard, Moody's

The ESG considerations within the CRA are crucial to our evaluation of sovereign bonds. Governance indicators provide insight into the effectiveness of government, political risks, and the willingness of a country to repay debt and function within the global markets. Social factors are linked to political stability, governance, and a country's ability to raise taxes or make reforms. Environmental factors are important in their own right, but also often dovetail with social issues. Countries that focus on increasing renewable energy usage, for instance, are also reducing pollution emissions, improving air quality, and potentially improving their fiscal balance by reducing fossil fuel imports. Other environmentally-friendly projects and initiatives may provide affordable housing, food security, water purification, and socioeconomic advancement. The holistic picture is important. An economy cannot function at its highest potential when large portions of its potential labor force are worried about where they will find their next meal, glass of clean water, or place to sleep at night. Such countries are built on shakier economic foundations and more vulnerable to sudden shocks, a characteristic of great and obvious interest to credit investors.

The CRA model is best used for comparative purposes—determining, for example, whether Country A is more likely to repay its debt than Country B—and for highlighting potential areas of concern, risks, or opportunities in each country. We can also gain valuable information by tracking the trends in these indicators over time and overlaying country rankings against the spread of a generic 10-year hard-currency bond, credit default swaps or credit ratings to determine which securities are undervalued or overvalued (Exhibit 7).

The CRA model, including the ESG analysis, is a key driver for our investment decisions. We seek to avoid investments in sovereign credits in the bottom quartile of the ESG and overall CRA rankings, but may conduct further research to determine whether an extenuating circumstance contributes to a low score.

Conclusion

As the environment becomes a bigger focus of public concern, consumers, regulators, and policymakers are likely to demand changes to the way companies and countries invest and plan for the future. A corporate issuer whose customers walk away from its products in favor of greener ones or a country that relies too much on fossil fuels both pose risks that fixed income investors should take seriously.

Yet investing with the environment in mind is not a simple task that can be outsourced to passive management, in our view. Determining which issuers are serious about adapting to a more environmentally aware world and which are merely greenwashing requires extensive research. Countries and companies that can reduce emissions and adapt to or mitigate climate change will likely have an edge to prosper in the future, with the associated positive credit implications. Controlling for other fixed income factors such as interest rate or currency risk requires an experienced investment hand.

Environmentally-minded investments aren't just about mitigating risk, however. We believe they also offer investors an opportunity. The demand for green bonds should support valuations for a long time to come, while investment in sustainable infrastructure and industries is likely to experience enormous growth in the coming years. Labeled green, sustainable, and social bonds, as well as unlabeled bonds used for environmental purposes, offer an attractive way to do well while doing good.

About the Team

The Lazard Global Fixed Income Team employs a relative value approach driven by its macroeconomic view of global interest rates, yield curves, sector spreads, and currencies, combined with an opportunistic, but disciplined, security selection process. The Team seeks to maintain a diversified portfolio and enhance total return by rotating investments through global bond and credit markets, while tactically managing exposure to foreign currencies. ESG analysis is fully integrated into the investment process, and the team has been investing in Green, Social, and Sustainable bonds since 2015.

The Team consists of 8 investment professionals with more than 19 years of industry experience, on average, and has been managing a range of benchmark-aware and customized global fixed income strategies for clients around the world at Lazard since 2002. As part of their process, they leverage Lazard's global research platform and are fully supported by over 300 investment professionals.

This content represents the views of the author(s), and its conclusions may vary from those held elsewhere within Lazard Asset Management. Lazard is committed to giving our investment professionals the autonomy to develop their own investment views, which are informed by a robust exchange of ideas throughout the firm.

Notes

1 "Sustainable Signals: Individual Investor Interest Driven By Impact, Conviction, and Choice." Morgan Stanley Institute for Sustainable Investing, 11 September 2019.

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3 "A New Fossil-Free Milestone: $11 Trillion Has Been Committed to Divest from Fossil Fuels." 350.org. 8 September 2019.

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Important Information

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