Lazard Perspectives

A Sustainability Framework: **Societal Shifts as Investment Risks**

Successful long-term investing depends upon the identification of sustainable companies. We, the Lazard Global Thematic team, believe traditional investment analysis tends to underestimate the risks faced by companies today. In particular, we see rising risks to sustainability from the potential breakdown of relationships of industries and companies with the larger society. To address this issue, we have broadened our definition of business risk to refer to all aspects of sustainability-including Environmental, Social, and Governance (ESG) issues. We have integrated this view of risk into our investment process through a proprietary, forward-looking framework. This framework, in our view, offers a consistent way to evaluate sustainability and has the potential to generate positive differentiated long-term returns for the portfolio.



Lazard Global Thematic Perspectives on Sustainability

In this paper the Lazard Global Thematic team explains the importance sustainability can have to long-term investing and, specifically, to risk assessment. Our focus is on a risk that is often unaddressed in analysis today: relationships with society. Every company and industry operates under a "societal license" that, if damaged or revoked, can ultimately impact the bottom line. We detail several specific reasons why relationship risk is rising in today's market and social environment, including evolving consumer values, environmental issues, social media, technological disruption, and lack of reinvestment (Exhibit 1). We also discuss the role of ESG data, its opportunities and potential drawbacks. By using the example of technology, we illustrate how an industry is facing, and coping with, deterioration in its societal license. Finally, we describe our Sustainability Framework, a construct that we believe helps us identify what we view as true sustainability and to make better decisions in our Global Thematic investment portfolio.







Relationship Risk

Finding sustainable companies is an exercise in long-term risk analysis. Companies can fail for many reasons, including poor strategic decisions, excessive leverage, sloppy management, or a dramatic change in the competitive landscape. Today's political, technological, and financial environments contain new risks to sustainability. These challenges not only threaten the long-term status quo, requiring appropriate management response, but they also accelerate the impact of any risk that starts to materialize.

Rising Risks to Sustainability

Evolving Consumer Values

Consumers and employees increasingly expect companies to share their values on issues such as diversity and the environment. Failure to embrace evolving values can lead to an erosion of customer loyalty or of top talent retention. Changing social attitudes may also be reflected at the ballot box and via subsequent regulation.

Environmental Issues

Companies need to be prepared for the potential impact of climate change as well as increased regulation. Green initiatives are growing more ambitious and will impact individual firms and entire industries.

Social Media

In the social media era a photo can be instantly shared around the world. Negative online reviews never die. Politicians can mobilize supporters using tweets. Company reputations can be lost as scandals spiral out of control. Industries can quickly draw populist attention as more radical policies are considered by fringes of the political left and right.

Technological Disruption

Technological change has accelerated and sources of disruption multiplied. In the next few years companies and employees will have to adjust to the automation of repetitive manual labor and to the threat that artificial intelligence may replace certain traditional managerial tasks ranging from the board room to the hospital ward to the court room.

Lack of Reinvestment

In our view today's markets are dominated by short-termism, with behavior determined by near-term incentives throughout the value chain from analysts to company management. US corporations over the past decade have employed leverage at record levels—largely for financial engineering purposes such as share buybacks. Passive flows into ETFs have chased performance. Momentum-driven quantitative strategies have both benefited from, and exacerbated, this trend. We are wary of companies that have used short-term methods to artificially support earnings growth beyond sustainable levels.

In traditional risk analysis investment professionals compare companies to their peers and assess the health and prospects of their industry (Exhibit 2). This approach, however valid, would miss many of the risks we list above because it leaves out a critical third element—relationships with society. We believe that both industries and companies rely on a societal license to operate. This societal license while ever present is invisible. It becomes obvious by its absence when customers abandon brands, regulators punish bad practices, or governments introduce laws to cap (and trade) emissions. We believe that the breakdown of these relationships and the loss of this license—is the primary way sustainability risks may undermine company fundamentals and stock prices in the future. Our view reflects the growing importance of each company's stakeholder relationships, which encompass customers, employees, governments, shareholders, and the environment.

A full analysis of all of a company's relationships can result in a much broader and complete picture of investment risk (Exhibit 3). Consistently using a framework to evaluate these risks can help investors identify the most serious threats, uncover commonalities, build analytical skill, and avoid poor-performing companies.

Societal License to Operate – Industry

Industries are an important part of the fabric of society, providing goods, services, and employment. The role of an industry is often defined through social expectations and public opinion, which evolve (Exhibit 4).



Exhibit 2 Traditional Risk Analysis Focuses on the Relationship between a Company and Its Industry

Exhibit 3 Adding Society Creates Two Further Relationships for Analysis



Consumers change their behavior as they adopt new values or are influenced by events. Purchasing patterns may change along with these values, and talented workers may shun certain industries. Values become campaign issues, influencing voters and the governments they elect. Governments are granted mandates to regulate industries and companies. Behavior that might have been acceptable for generations can suddenly be viewed negatively—one only has to think about changes in civil rights, women's suffrage, and employment conditions in the twentieth century. These types of changes can take a long time to materialize but can quickly become a potent threat to companies and their prospects.

Industries with high impact on the environment, health, or vulnerable populations are particularly susceptible to a change in their societal license, especially through regulation. For other industries, the societal license depends on the particular industry's costs and benefits to society. For example, extractive industries face scrutiny over the environmental consequences of their methods (e.g., strip mining, fracking) to monetize natural resources. In many of these cases, tax revenues and energy supply are offset by the environmental consequences. Choice is critical—for example, society is beginning to reject coal given viable alternatives. Pharmaceutical executives are lauded for life-saving innovations but pilloried for raising drug prices. Monopolizing markets and price gouging vulnerable populations (e.g., predatory lending) is, in most cases, not socially acceptable. Manufacturers are praised for low prices but criticized for sending factory jobs to other countries. Will consumers act with their wallets to buy domestic products or via the ballot box to encourage trade tariffs? A sea change in private and public perception of an industry can effectively remove its societal license.

Societal License to Operate - Company

Like industries, individual companies can have a societal contract (Exhibit 5), which is based on their relationships with all external and internal stakeholders—their human capital.



These stakeholders ultimately define the company, and any breakdown in their relationship can have a significant impact on fundamentals. Consumers may reject a brand, talented employees may leave for a competitor, production may be crippled through accidents, governments may impose fines or remove licenses to operate.

The strength of these relationships is determined by company behavior, which is a function of the strategic and tactical decisions made by senior managers and the corporate culture. Analysis of board and incentive structures can provide insight to management priorities. Given the incentives, senior managers may maximize short-term profits by cutting back on innovation, investment, and risk-taking, boosting near-term earnings per share and management's short-term personal returns. Benchmarking financial and non-financial criteria can help reveal corporate culture. Management's response to serious problems can reveal their true views, values, and ability.

Companies in industries with deteriorating societal licenses are particularly vulnerable to pressure. If an industry is regularly portrayed negatively in the media, any company misbehavior will likely draw swift public condemnation and government regulation.

The Potential, and Problem, of Data

At the same time that risks are rising, the amount of data for analysis is growing as corporate disclosure increases and new data sources open up. Examples include informal data that measures public perceptions of companies from social networks, such as Facebook likes, Google trends, and Glassdoor reviews. Another is ESG data, where providers now aggregate controversies globally from newsfeeds, enabling analysis of an individual company's response as well as general patterns of failure.

This analysis is particularly relevant to industries with a high social or environmental impact.

Corporate disclosure is increasing across a number of areas, enabling peer benchmarking and trend analysis on measures such as water or carbon usage. The challenge for investors is translating this incredible volume of data into usable information and genuine insight.

Screens can be a good starting point but are problematic due to data quality and materiality. By definition, since data is by its nature backward looking, so are the screens applied to it. If one assumes ESG data does impact stock prices, the implication is that historical data is already reflected in today's prices.

The Value of Fundamental Research

We believe analysis should focus not only on the state of risk today but also on its direction of change. Companies are not static, and the need for restructuring for the future is constant. After all, today's winners are often tomorrow's losers. A highly priced, strong company in a deteriorating trend may be a poor investment while a cheap, weak company on an improving trend may be a good investment.

These potential blind spots in sustainability analysis lead us to believe an integrated approach—grounded in investment judgment and forward-looking fundamental analysis, carried out by investment professionals, and encompassing the direction of change—is most effective. The Global Thematic team's Sustainability Framework, detailed later in this paper, utilizes this integrated approach.

Example: Technology—Navigating Societal Challenges

A select group of "tech titans" increasingly govern our lives and lead the stock markets. Traditional company analysis reveals dominant market positions within industries, entrenched network effects, high margins and returns, fortress balance sheets and, in many cases, reasonable long-term valuations (given high consensus growth expectations). Collectively, these companies can be considered the Standard Oil of our digital age. However, this approach overlooks a number of challenges that emerge through a wider framework of analysis—one that considers how society is responding to these industries, and how the companies are behaving with respect to their societal license.

We believe evaluating tech's relationships with society today starts with an assessment of consumer attitudes and pending regulation. There are many examples, but we cite three:

- The use and abuse of consumer data. Individuals share intimate details about themselves on social media newsfeeds, providing advertisers with a wealth of information. However, consumers may not be aware they have agreed to share their data and can be easily alienated through ads that appear too specifically targeted.
- Social media's role in elections, which has drawn the ire of politicians, officials, and citizens across the political spectrum, has forced tech executives to testify before Congress. In a hyper-partisan environment, a misstep by a tech company could have severe consequences. Newsfeeds are also a minefield of data verification issues (e.g., "fake news") that may be insurmountable and represent a potentially high cost burden on companies.
- Security. Users of social media and internet commerce are becoming increasingly aware that their information is vulnerable to hacking. While security breaches so far have had few longterm impacts on affected companies, it is important to note that users and regulators may not always be so patient.

We believe a framework is needed to select tech companies whose relationships with society are strong enough to withstand these pressures. For example, we believe when analysts consider the societal license of companies and consumer data, they should ask: are consumers deriving sufficient value from sharing their data with the provider? Selling personal data to third parties without consent does not bring any utility to consumers. On the other hand, sharing data with a search engine is generally considered fair if the engine effectively answers user search queries.

Our research suggests business models that share data "business to business" enjoy many of the investment benefits of utilizing data but with much less risk than a "business to consumer" relationship. "Business to business" contracts for sharing data are explicit in contrast to "business to consumer" contracts, which are implicit in usage and buried in often unread terms and conditions. Regional attitudes should be incorporated into analysis of consumers. Emerging markets consumers, for example, appear more comfortable with full surveillance in exchange for security and access to services.

Societal attitudes to taxation and treatment of employees also matter. E-commerce companies pay low taxes and often low wages, which consumers appear willing to tolerate because the companies offer convenience, selection, and competitive prices. As long as society considers that an acceptable tradeoff, then politicians and regulators will likely be cautious. If, however, consumers see tax avoidance as locally harmful or are upset by company treatment of its employees, then regulators could be emboldened. Going forward, as the tech giants transform into providers of artificial intelligence as a service, the societal issues are only going to increase as more and more industries are disrupted.

In fact, patterns of regulatory attack are emerging, with a focus on the potential abuse of tech's monopoly positions when expanding into adjacent industries—Given tech dominance of personal data, every industry today appears to be adjacent. Analysts can develop insights into which companies are abusing their monopoly positions (e.g., they can research a company's value chain to determine if it is gouging prices) and risking long-term shareholder interests.

Lazard Global Thematic Sustainability Framework

The Lazard Global Thematic team seeks insights into longterm structural change. These insights are grouped together into "themes" that we believe represent long-term investment opportunities. Our themes are also a mechanism that helps us manage portfolio risk, providing diversification among themes and within themes through stock selection.

To enhance our approach to risk management, we have developed and implemented our Sustainability Framework. This framework is differentiated from other managers because it does not consider risk solely on a company-by-company, industry, or even on a thematic basis. Rather, it focuses on the relationships and interplay between a company, its industry, and society in general. We believe this framework captures the primary threats to each company's long-term fundamentals and sustainability as a successful business.

Lazard Global Thematic Sustainability Framework—Key Features

Relationship Analysis

We believe the structure/nature of industry and company relationships with society will be the key mechanism through which sustainability risks impact company fundamentals and stock prices in the future. Our framework assesses the strength of relationships among a company, industry, and society.

Formal Rating System

The framework offers a consistent, disciplined approach to complex issues. It also provides a formal context for discussions between the portfolio team, Lazard analysts, and Lazard's ESG resources.

Threshold Test

Sustainability risks represent "fat-tail" events: avoidance of the risk of ruin and capital impairment is key. For this reason we have set a threshold level of risk. If a stock fails to pass the threshold test it is not added to the portfolio.

Direction of Change

We acknowledge that a good company or industry on a deteriorating trend can be a bad investment and a bad company or industry on an improving trend can be a good investment.

Dynamic and Integrated

The framework combines data and judgment over time. It is not dependent on any one external data source. Decisions are ultimately based on qualitative investment judgment.

Fundamental

A process entirely based on what we believe are drivers of long-term company performance.

Process

Every stock under consideration for the portfolio is subject to our Sustainability Framework. In addition, all portfolio holdings are continually assessed. In practice, as a fully integrated component of our investment process, we are constantly evaluating relevant sustainability issues.

We implement the Sustainability Framework via a three-stage process (Exhibit 6).



Lazard's investment process is presented here in sequential steps for illustrative purposes only. In practice, the process is not sequential but iterative and will, as needed, weigh certain criteria over others. Source: Lazard

Stage 1: Research Checklist

For each stock under review, we first identify and research key issues facing society, industry, and company (Exhibit 7). For society, these issues can include regulation, changing public attitudes, and demographics. For industry, we consider issues such as disruption risk. At the company level, we consider a range of factors, including the firm's management, market position, strategy, and ESG data. This process is carried out by the analyst and portfolio management team.

Exhibit 7 Stage 1: Inputs – Research Checklist			
Society	Industry	Company	

Regulation	□ Industry Structure	Governance
Changing Attitudes	Secular Growth	Management
Geopolitics	□ Disruption Risk	Market Position +
Demographics	□ Externalities	Strategy
	(e.g., Environmental)	Balance Sheet
		ESG Data

Stage 2: Outputs - Assessments

We then assess the strength of these relationships between society, industry, and company. The team makes this qualitative judgment in conjunction with the analyst, after consideration of all the information gathered in the research checklist. Key questions asked in making our judgments are outlined in (Exhibit 8).

We score each of the three relationships as either Good, Neutral, or Weak. We also consider the direction of change and score this as Improving (+), Stable (=), or Deteriorating (-).



Stage 3: Conclusions — Threshold Test

In the final stage of the framework, we test our conclusions from the previous stage against our threshold for sustainability risks. Companies must pass the test to be viable candidates for our portfolio. As holdings, they are subject to continuous reassessment.

The intention here is to avoid compounding risks across multiple relationships. For example, industries with negative or weak relationships with society are lightning rods for regulation and media attention. To succeed in this type of industry, companies must have strong relationships with society and within their industry. Any company misbehavior will likely be punished and strong management will be needed to navigate change. We use a matrix (Exhibit 9) as a visual representation of our relationship assessments and their cumulative impact. Relationships that are good or neutral, and improving or steady, do not represent risks and hence are evaluated in the matrix as Green.

Direction of change becomes relevant in two instances. Firstly, strong companies on a deteriorating trend can become poor investments. Relationships that are good or neutral today but are potentially deteriorating are therefore evaluated as Amber.

Secondly, companies that have historically had a weak relationship with society but are adapting to become more aligned with societal expectations are potentially very interesting investments. Therefore weak relationships that are improving are evaluated as Green.

Finally, weak relationships that are steady represent a latent risk and are marked as Amber. An already weak relationship on a deteriorating trend is marked as Red.

We are now in a position to evaluate the investment against our threshold. Two or more Amber evaluations represent a compounding of risks that fails our framework's threshold. For existing holdings, this prompts further review and unless we have reason to believe the situation is temporary, elimination from the portfolio. For proposed holdings, this eliminates the name from further consideration.

A single Red evaluation prompts a similar review or elimination from consideration. Weak and deteriorating relationships are the very definition of unsustainable.

Exhibit 9



	Good		Neutral		Weak				
	+	=	-	+	=	-	+	=	-
Society/Industry									
Society/Company									
Industry/Company									
x2 = Fail	Existing holdings Placed "Under Review" for maximum 6 months								
x1 = Fail	Proposed holdings Excluded from selection								

We believe a good company on a deteriorating trend can be a bad investment while a weak company on an improving trend can be a good investment. Source: Lazard

Example: The Sustainability Framework Applied to a Tech Company

To illustrate our application of the Sustainability Framework, we describe our analysis of a major internet search, video, advertising, and smartphone software company. The company's revenues are driven primarily by advertising, which are geographically diversified with 45% from outside the United States. Structured as a holding company, other holdings are focused on autonomous driving, voice-based artificial intelligence, cloud computing, as well as smart home and medical applications.

Stage 1: Inputs — Research Checklist Society



The firm's size and reach have drawn the attention of government regulators, who have focused on three areas: 1) data transparency and ownership (e.g., GDPR in Europe) - the current regulation focuses on the right of the consumer to view, withhold, and delete personal data; potential for explicit pricing of consumer data; 2) taxation - national and global (e.g., OECD BEPS) efforts have focused on the arbitrage of global IP law to reduce national tax burden; 3) antitrust - given the monopolistic nature of data networks, how to prevent abuse of this power? There is potential for mandated breakups over time, but the challenge pits national regulation against global businesses. There has also been a shift in consumer attitudes about the responsibility for policing fake or inappropriate content posted on platforms. Recent election controversy has raised the issue's profile because it has justified the fear that data and behavioral techniques can influence realworld outcomes. In addition, the capability to construct and monitor "digital identity" from online behavior has advanced significantly-potentially far beyond what society originally expected. The company is also pursuing ambitious technologies that have the potential to change society radically in areas that have yet to be regulated, such as autonomous driving (safety-versusemployment debate). Rapidly expanding cloud infrastructure across the world and the increasing application of artificial intelligence (AI) to the implementation of military power place certain technology companies in critical and highly sensitive roles in the world of geopolitics.

Industry

Society	Industry	Company
Regulation	☑Industry Structure	Governance
Changing Attitudes	Secular Growth	Management
Geopolitics	✓Disruption Risk ✓Externalities	Market Position + Strategy
Domographico	(e.g., Environmental)	Balance Sheet
		ESG Data

The company is part of a highly consolidated industry, where network effects tend to result in a monopoly. Growth is high, driven by the secular shift to digitization of commerce and advertising. Major disruption threats to this growth can come from a platform transition. However, the company's transition from PC to mobile was successful, and the company appears well positioned for shifts to voice, virtual reality, or AI. Potential competition from Chinese companies is largely dependent on global regulation. We also note that industry data centers use high levels of energy.

Company

Society	Industry	Company
Regulation	Industry Structure	Governance
Changing Attitudes	Secular Growth	Management
Geopolitics	Disruption Risk	Market Position +
Demographics	Externalities (e.g. Environmental)	Strategy Balance Sheet
		ESG Data
		Controversies

The company's dual share class structure gives inferior minority rights to shareholders. Management is highly regarded with a good history of execution and evidence of improved capital allocation in recent years. The firm's market position is dominant, with an effective strategy to combat visible disruption risk (e.g., platform shift to voice). Its fortress balance sheet is inefficient but positive for its financial risk profile. ESG benchmarking reveals strong policies around data security and human capital management, albeit with recent well-publicized concerns about female pay. Its controversies have also included local regulator challenges, anticompetitive behavior, responsibility for content on site, taxation, and misuse of private data.

Stage 2: Outputs-Assessments

Society/Industry Assessment

Neutral with a deteriorating trend. The technology industry has had a significant impact on society and is a driver of change. The tradeoff for society is universal access to information and a high degree of utility versus a surrender of privacy, potential for behavioral influence, cybersecurity risks, and the entrenchment of global technology monopolies. We view the industry trend as negative because of rising regulation and a growing understanding by consumers of risks. It is a highly complex area for resolution given the sophistication of technology and global corporations versus national regulators.

Society/Company Assessment

Neutral with a stable trend. The company's behavior has been increasingly challenged, but it has also been responsive (e.g., ad blocking and constructive response to fake news content). Its societal license to operate is strong because consumers get significant benefits from its services. Consumers continue to vote with their actions and have adopted more of the company's ecosystem. The company's human capital is excellent, with high levels of innovation. Its business mix has reduced its role in key industry controversies such as fake news, but the company's behavior around antitrust and use of data and data protection bear close monitoring. The active role of users in providing data for search is a positive.

Industry/Company Assessment

Good with an improving trend. The company is dominant in core markets and protected by strong network effects. It occupies a leading position in nascent high potential markets and appears well positioned for platform shifts to voice, augmented reality, virtual reality, and artificial intelligence. Its capability to change is currently high due to its holding company structure and strong balance sheet.

Stage 3: Conclusions — Threshold Test



The company passes our threshold test when processed through the matrix. The company scores one Amber color in the Society/ Industry row due to the deteriorating trend, but its strength in other relationships gives us confidence for now in the long-term sustainability of its businesses. We will subject the Society/ Industry relationship to extra monitoring given current societal attitudes. We will also monitor the stability of the company's relationship with society on an ongoing basis.

Conclusion

The Lazard Global Thematic team seeks to identify long-term structural investment opportunities. To enhance our approach we have developed and implemented our Sustainability Framework. This framework focuses on the relationships between companies, industries, and society. We believe the breakdown of these relationships represent a threat to long-term fundamentals and ultimately returns.

We believe sustainability analysis is a necessary part of any longterm investment process. The risks described above are real, appear to be rising, and may fall outside the scope of traditional financial analysis. Our framework is designed as a fully integrated approach, based on investment judgment and forward-looking research. We believe that the systematic application of this framework will help identify risks early and contribute to long-term returns. Materiality and the direction of change matter. Investment judgment is key. 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.

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