

2023 Supply Chain ESG Risk Ratings

Rethinking risk in the West, audit transparency, and decoupling.

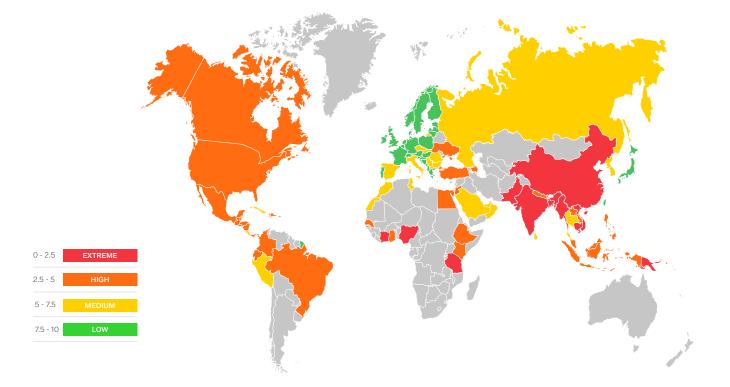
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Executive summary

The importance of managing environmental, social, and governance issues to business executives continues to rise and with it the challenges of ensuring resilient responsible sourcing programs. ELEVATE's 2023 update to its supply chain ESG risk ratings highlights the difficulties responsible sourcing managers now face in navigating changes to the inherent risk profiles of key sourcing regions.



We now rank nearly half of all production markets as high risk. A high risk designation indicates that a country is highly likely to experience risk events that contravene ESG governance frameworks, including those supported by local and international law. These violations could range from environmental degradation to the use of child labor within local supply chains. Our analysis spans 38 categories of supply chain ESG risk indexes which we compile through the 20,000+ audits we undertake annually.

This year, three themes are salient. Western markets, presumed by some to be excluded from the most damning ESG risk events, were revealed to be higher risk. The United States exhibited a decrease in every key labor index. Forced labor related violations became more prevalent across developed markets, in part due to increased reliance on foreign migrant workers. Among the most vulnerable labor cohorts, foreign migrant workers are especially at risk of becoming entrapped in forced labor arrangements. Complicating the ability of supply chain managers to govern around higher levels of risk has been a decline in audit transparency relative to pre-pandemic levels. China, Mexico, Vietnam, Thailand and Indonesia all became less transparent – characterised by an inability of auditors to access information and make conclusions from site visits. We predict that less robust audit programs in 2023 will lead to further declines in audit transparency.

Last, though supply chain managers now seek to decouple – or de-risk – from China, this has not meant that the risk management frameworks built into navigating new sourcing markets – be they in Mexico, India, or Vietnam – are adequate. Most instances of decoupling continue to be marked by a high degree of dependency on China for upstream production. Combined with the inherent risk associated with operating final stage production in a new sourcing region, an additional element of complexity has been now layered on risks that were already prevalent in single country of origin structures. The responsible sourcing manager, long familiar with the nuanced set of risks associated with operating in China, must now also contend with an additional set of risks that are specific to a new production environment.

Methodology

ELEVATE's 2023 update is compiled using the firm's data analytics solution, EiQ. The platform uses our 45+ million data audit points to make determinations on sources of inherent and managed risk across three levels: aggregate country scores, indexes that are specific to a category of findings – our Labor Index – and indexes that are specific to a sub-issue within that category – our Forced Labor Index. We build each index through balancing insight provided by findings from factory audits with civil society and adverse media disclosures. Adverse media disclosures are discovered by Sentinel, our adverse media screening tool. EiQ's risk ratings are updated biannually.

Risk Bands	Min Score	Max Score
EXTREME	0.00	2.49
HIGH	2.50	4.99
MEDIUM	5.00	7.49
LOW	7.50	10.0

ELEVATE's supply chain ESG ratings are evaluated on a scale of 0-10, with a score of 0 corresponding to "extreme risk" and a score of 10 corresponding to "low risk."

ELEVATE, an LRQA company, is the global market leader in ESG, sustainability and supply chain services. Our focus is on delivering ESG program effectiveness and impact to the world's leading companies and their supply chains. We design, build and manage data-driven sustainability linked programs that drive positive impact, with assessment, advisory, program management and analytics solutions. Key differentiators include curated customer programs, end-to-end service ecosystem, thought leadership, local on-the-ground site visits, worker-voice integration, unique country and product risk landscape and analytics platform, vendor and supplier ESG ratings, and investor-ready ESG reporting.

Risk Assessment



ised by investors and corporates for: Insight into supply chain operating context Restricted sourcing country lists and review

- + Vendor and supplier ESG risk assessment + Forced labor risk flags and due diligence
- + Responsible sourcing program design
- + Portfolio review and engagement strate



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Risk revealed in the West

Western countries are no longer low risk

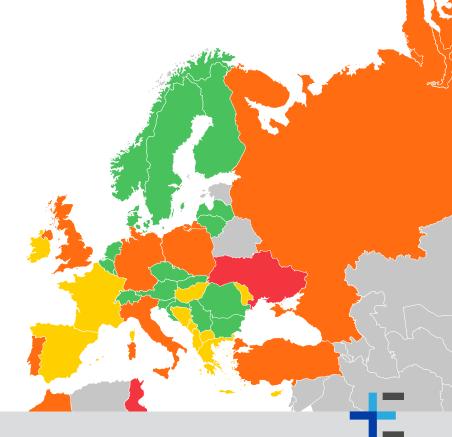
Of the many conclusions that can be drawn from our 2023 supply chain ESG risk ratings update, perhaps the most important one is that the West – long assumed to be a safe haven for its better production standards – is high risk. The United States' overall supply chain ESG risk rating fell this year. We now rate the US as high risk, placing it amongst a cohort of production markets that include most central and south American nations, much of western and sub-Saharan Africa, as well as India and China. Canada too, once low risk, became medium risk: a ranking shared with most eastern European production markets.

In 2023, few Western countries can claim that their production standards do not expose their buyers to a level of supply chain ESG risk that is equivalent – if not worse – than that of many historically high risk production markets. While western and northern European nations upheld their ratings as medium risk for supply chain ESG risk, for ESG violations associated with several of the most critical forms of ESG violations – forced labor, child labor, freedom of association, and wage related violations – the United Kingdom, Germany, Portugal, and Italy are now ranked as high risk as well. Our update to our global supply chain ESG risk ratings coincides with a number of recent media exposes that showcase the connection between American suppliers and supply chain ESG risk. These findings are unlikely to abate: a reflection that the causes behind many of these issues are systemic, unlikely to change within the course of any given year. But growing awareness is likely to lead to greater levels of scrutiny. In the past year alone, Sentinel has tracked more than 500 labor related ESG risk events within the US. In seeking to investigate the causes of these events – to focus on prevention, rather than just measurement and response – we suggest a deeper evaluation of the context in which they occur.

Many forms of supply chain ESG risk have long been visible in the US. Since 2021, a majority of US states have been ranked as high risk for the most critical forms of supply chain ESG risk. But in 2023, the United States showed a drop in nearly every single major metric of risk that we track. Especially concerning were declines exhibited for the most severe forms of ESG risk events: forced labor, child labor, wage violations, exposure to risks associated with migrant workers, and inhumane treatment in the workplace.



Western Europe: Forced Labor Index

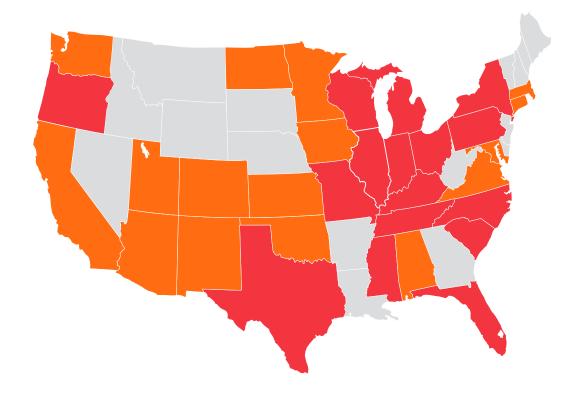


Forced labor

Our Forced Labor Index is based on instances of noncompliances detected in audits associated with forced labor, travel documents kept, and deductions or deposits; findings from the government disclosures on instances of forced labor; and disclosures aggregated through our adverse media scanning tool.

Risk Bands	Min Score	Max Score
EXTREME	0.00	2.49
HIGH	2.50	4.99
MEDIUM		
LOW	7.50	10.0

Forced Labor Risk in the US by State



Risks associated with forced labor among American suppliers are now pronounced. In 2023, we rated 14 American states as extreme risk for risks associated with forced labor. Our evaluation of forced labor risk is based on instances of non-compliance found in factory audits as a part of our Forced Labor Index. This index tracks audit violations including the retention of travel documents and deductions or deposits, practices associated with forced labor arrangements.

Regions with the most extreme exposure to risk of forced labor include much of the American South. Texas, Florida and New York saw a significant deterioration in their exposure to the risk of forced labour in local supply chains. Each of these states we now rank as having a higher degree of exposure to forced labor risk than Pakistan, India, Thailand and Indonesia.

The high degree of exposure the US now faces to forced labor risk could in part be due to the high volume of migrants the country hosts. Foreign migrant workers are often subject to higher risk of forced labor. In 2020, the International Organization for Migration (IOM) noted the migration of people from Mexico to the United States was the highest migration corridor worldwide.¹

¹ International Organization for Migration (IOM), 2022: World Migration Report 2022



Other Western nations experiencing a high degree of exposure to forced labor practices include the United Kingdom, Canada, and Australia. Spain, Italy, and Greece have seen increases in risk associated with forced labor as well, particularly in sectors such as agriculture, construction, and domestic work. These countries often serve as entry points for migrants and refugees from Africa and the Middle East, who are highly vulnerable to exploitation due to their irregular status and limited access to social and legal protection.

Forced labor risk in the US Compared against India, Pakistan, Myanmar and Thailand

The causes of forced labor are multiple, making it amongst the most difficult forms of supply chain ESG risks to mitigate. Despite heightened rhetoric on combatting forced labor worldwide, the International Labor Organization (ILO) notes the number of people in forced labor arrangements continues to grow, increasing by at least 2.7 million from 2016 to 2021.² While countries like the UK have enacted the Modern Slavery Act, the effectiveness of such laws remains questionable due to limited resources, lack of awareness, and the challenges associated with identifying and prosecuting cases of forced labor.

²International Labor Organization (ILO), Walk Free, IOM, 2022: Global Estimates of Modern Slavery Forced Labour and Forced Marriage

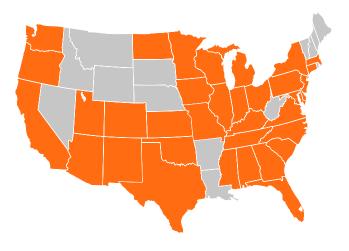
Western Europe: Forced Labor Index

Child labor

Our Child Labor Index is based on instances of non-compliances detected in audits associated with children below the age of 15 or in breach of local minimum age for work or mandatory schooling being employed in a site, excessive hours for juvenile workers, health examination for juvenile workers, inadequate work for juvenile workers and juvenile workers registration. We additionally evaluate school enrollment rates, government disclosures on instances of child labor, and disclosures on child labor aggregated through our adverse media screening tool.

Risk Bands	Min Score	Max Score
EXTREME	0.00	2.49
HIGH	2.50	4.99
MEDIUM		
LOW	7.50	10.0

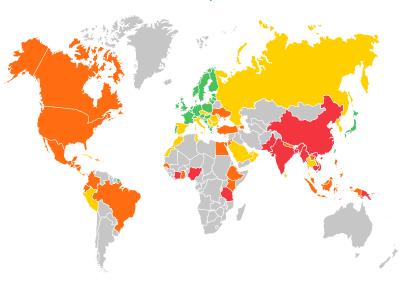
US Child Labor Risk by State



Of equal concern to the state of forced labor within Western supply chain practices are current risks associated with the use of child labor within Western supply chains: a risk long assumed to be out of the scope of developed nations. In the past year, child labor has been highlighted by a number of reports that have focused on its prevalence in Western economies. In the US alone, there have been numerous investigations that have revealed the use of child labor in the agricultural sector and directly implicated many of the West's largest consumer product brands.³ Our risk rating for child labor, built on our Child Labor Index, tracks instances of employment of children below the age of 15, or in breach of local minimum age laws, as well as instances of excessive hours or work deemed to be inappropriate for adolescents. Our risk ratings corroborate these findings.

The risk of child labor within developed nations' supply chains is prevalent. As an aggregate, the United States was ranked only slightly above Mexico in 2023: both countries we deem to be at high risk of child labor related violations. 33 American states were ranked as high risk – a ranking held by most since last year. No American state received a rating of low, or even medium, risk. Canada was also ranked as high risk on our Child Labor Index.

Child Labor Risk on Global Map



Like with forced labor, the causes of child labor are many: a result of policy, policy enforcement, and labor market dynamics. In the United States, children as young as 12 can legally work in agriculture.⁴ Exemptions in the Fair Labor Standards Act allow for family farms to employ children of any age, even in hazardous occupation and at the expense of education. In Europe, instances of child labor are also often linked to the agriculture sector, where children, often migrants or refugees, are employed. Child labor is often also complicated by the prevalence of undocumented workers. Undocumented or migrant families may have limited access to social services. Families may also depend on income generated by their children for support. That much of this work can come from positions within the informal economy - jobs like street vending or domestic work - or is facilitated by subcontracting, also lessens oversight.

³New York Times, 2023: Alone and Exploited, Migrant Children Work Brutal Jobs Across the U.S. ⁴United States Government, Fair Labor Standards Act (FLSA), 2023.

Wage gaps

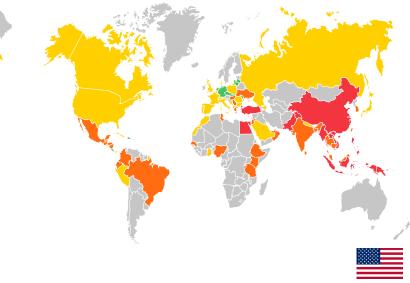
Changes we have seen to the prevalence of wage related supply chain ESG risks – tracked through our Wages Index – also touch on the disconnect between policy measures and enforcement. Even in jurisdictions with stronger regulatory frameworks such as California investigations this year by the Department of Labor revealed just how common wage gaps can be. Our Wages Index, which measures audit violations associated with payment inconsistencies – be they from discrepancies in payments between factory payments and minimum wage laws, illegal wage deductions, or delayed payments to workers – highlight the scale of this problem.

Risk Bands	Min Score	Max Score
EXTREME	0.00	2.49
HIGH	2.50	4.99
MEDIUM		
LOW	7.50	10.0

This year we found that few developed nations are low risk for their exposure to wage gaps. While the US as a whole was ranked as medium risk – a rating shared by most American states – two American states were ranked as extreme risk, and one as high risk. California, which we rate as high risk, was noted in a report published by the Economic Policy Institute to have lost an estimated \$2bn associated with instances of wage theft.⁵ Collectively this led the US to be ranked as having greater exposure to these risks than most of Western Europe, excepting Italy but behind Russia and Saudi Arabia. Other developed nations to receive a medium risk rating included Japan and much of Western Europe.

⁵Economic Policy Institue, 2021: More than \$3 billion in stolen wages recovered for workers between 2017 and 2020





Sentinel scans for US suppliers

Jan 2022 - current

500+

Labor-related instances detected in media channels

70 Were classified "Extreme Risk" instances A poor risk rating for wage related practices can occur for a number of reasons: weak labor law enforcement, lack of resources for monitoring, or the prevalence of low-wage and informal work within a country. Sectors such as agriculture, construction, and hospitality are known to be more susceptible to labor rights abuses – reflected in the ratings of individual states that performed poorly. Within these industries workers often have limited bargaining power and face difficulties in accessing legal protection or remedies when their rights are violated.

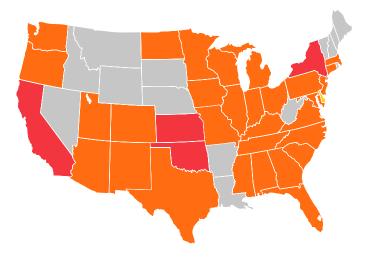


Inhumane treatment on the rise

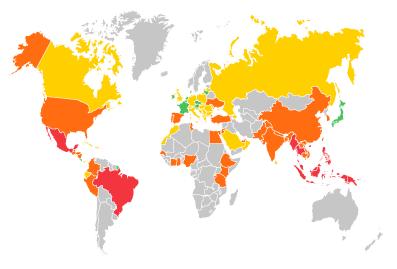
Our Humane treatment Index is based on instances of non-compliances detected in audits associated with disciplinary practices, discrimination, excessive hours for pregnant workers, inadequate work for pregnant workers, harassment or abuse, workers with disabilities, and pregnancy testing. This is then blended with disclosures from civil society organizations.

Risk Bands	Min Score	Max Score
EXTREME	0.00	2.49
HIGH	2.50	4.99
MEDIUM		
LOW	7.50	10.0

Humane treatment in the US



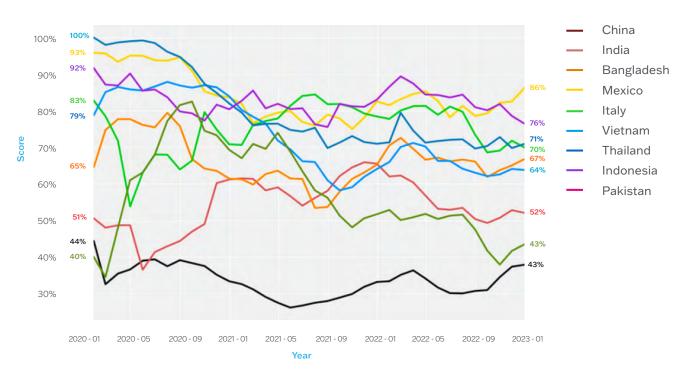
Humane treatment globally



An additional factor contributing to the position of the United States and many other Western markets' rankings in 2023 was their performance on our Humane Treatment Index. Our Humane Treatment Index is based on instances of non-compliances associated with disciplinary practices, discrimination, excessive hours and harassment or abuse.

Issues associated with inhumane treatment in the developed nations are long-standing. In the United States, four American states were ranked as extreme risk – Kansas, New York, and California – while 30 other states were ranked as high risk. Most of these states' ratings are consistent with measurements taken in 2021. Other Western production markets to receive a high risk rating include Portugal and Spain. This places the level of risk associated with humane treatment as equivalent, if not worse, than China, India, Indonesia, Malaysia and Thailand. Issues underscoring inhumane treatment in the West are often concentrated by sector. The rapid growth of e-commerce has led to increased demand for warehouse and delivery workers, who often work in precarious conditions with little job security. There have been numerous reports of inhumane working conditions in warehouses of major e-commerce companies, with workers subjected to unrealistic productivity targets, excessive surveillance, and a lack of adequate breaks. Additionally, COVID-19 exposed systemic weaknesses in occupational health and safety regulations, as workers across various sectors were forced to work in unsafe conditions, often without adequate protective equipment or access to healthcare.

Declining supplier transparency amid increased scrutiny



Transparency rates across key sourcing regions

A risk-based approach to supply chain ESG due diligence and a rigorous audit program are critical for managing supply chains in higher risk jurisdiction: be they in the West or otherwise. But often complicating the ability for risk mitigation tools to effectively assess supplier performance is the extent to which audit standards transparently reflect site conditions. Audit transparency – defined as the ability of auditors to access information during risk assessment processes – has not yet recovered to pre-pandemic levels in spite of improvements made in recent months.

Despite the passage of numerous supply chain due diligence regulations – each of which has been predicated on the ability for brands to access information that is a transparent reflection of their supply chain practices – access to information is still a critical concern across most production markets in developing economies. In 2023, China continues to be the least transparent major sourcing market. Just 38% of all audits undertaken in the second half of 2022 were an accurate representation of factory conditions. In India, just over half of all audits were transparent.

A contributing factor to declining levels of transparency has been audit deception: a situation in which suppliers intentionally withhold information or provide falsified data to auditors. This may include coaching employees for interviews or other attempts at concealing malpractices. While countries such as China and India have historically exhibited lower levels of transparency, the pandemic complicated the ability of auditors to accurately assess the factory conditions and instances of audit deception as access to sites were complicated. Poor access to production sites led responsible sourcing mangers to switch instead to audit protocols such as remote audits, desktop assessments and self-assessment questionnaires, each of which preclude auditors from assessing audit deception and offer lower degree of rigor. This led to lower levels of transparency in even regions that have historically been more transparent: like Vietnam, Thailand, Indonesia and even Italy.

Poor audit transparency compounds the effect of inherent risk factors on exposing supply chains to ESG risks. If suppliers in high risk countries engage in falsifying or concealing data, the likelihood of businesses unwittingly producing through high risk practices increases significantly. Although the pandemic has subsided and transparency has improved due to the return of traditional assessment techniques, levels of transparency have not rebounded sufficiently to reverse the decline that took place during the pandemic.

Decoupling from China: implications for responsible sourcing managers

Last year, many consumer goods companies expressed loud desires to decouple from China: an ambition dating to the onset of the US-China Trade War, later strengthened by the passage of recent supply chain due diligence laws. Alternate sourcing markets – nearshored, friend-shored, or in-country – are now being evaluated for their viability. This shift in focus has highlighted the necessity of understanding sources of inherent risk associated with producing in these markets. So too has it required an evaluation of the interconnected nature of China with other production markets. Though many public declarations have been made, few companies have yet to fully decouple from China, in part because upstream value chains remain so tightly tied to China for raw material production. This requires an understanding of sources of inherent risk for production markets – both new and old, China and otherwise – in 2023.

Risks persist in China

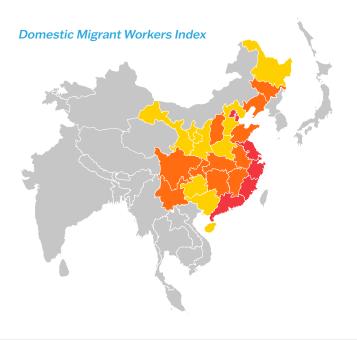
China remains the world's most important sourcing market. No country is yet able to emulate the scale of industrial clustering and production – both for raw materials and final goods – China offers. China also remains controversial for its exposure to several sources of supply chain ESG risk.

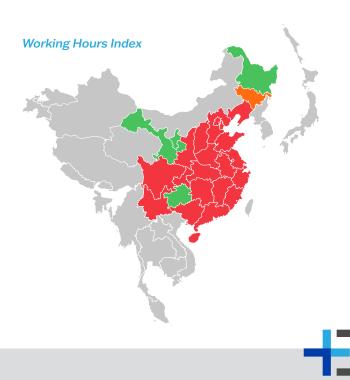
In 2023, we rated China's inherent supply chain ESG risk as high risk: a status shared by each of the 28 production jurisdictions which we assessed, which excluded Xinjiang.⁶ The single most important driver for these ratings was our assessment of labor conditions, chief among them the country's exposure to risks associated with the use of domestic migrant workers and working hour violations. Concerns associated with the use of domestic migrant workers were most extreme in provinces across China's Eastern seaboard – Guangdong, Fujian, Jiangsu, and Zhejiang – as well as in Hebei, Tianjin and Beijing. Concerns over our working hours, captured by our Working Hours Index, exhibited heterogeneity. While most Chinese provinces were rated as extreme risk, there were several exceptions: Jilin was rated as high risk, whereas Guizhou, Gansu, Ningxia, and Heilongjiang were all rated as low risk.

One of the single largest changes in China's individual labor ratings in 2023 was in its exposure to the risk of child labor. China was rated as extreme for its exposure to child labor. All Chinese provinces evaluated were deemed to be at extreme risk of child labor: most were rated as high risk or medium risk in our previous assessments. With an estimated 160 million children involved in child labor globally, child labor remains one of the most pernicious problems for those operating supply chains that have exposure to China.⁷

⁶Risk events in Xinjiang are tracked separately by Elevate. For more information, please contact us directly.

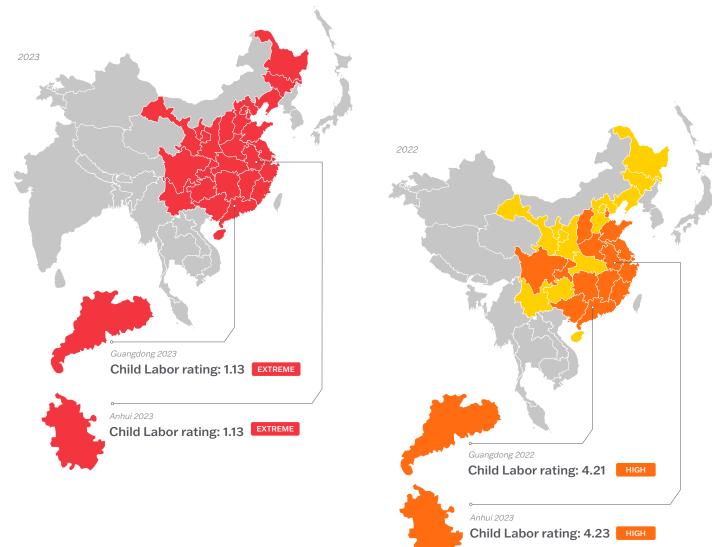
⁷Child Labour: Global estimates 2020, trends and the road forward, ILO and UNICEF, New York, 2021.





Several factors explain this change in China's position. Economic disruptions caused by the pandemic as well as regional lockdowns have placed factory workers in increasingly vulnerable positions. Order backlogs, inconsistent access to inventory, as well as requirements from the West of faster turnaround times have heightened the level of pressure faced by Chinese factory workers, resulting in greater risk of excessive working hours under poor operating conditions.

Be this as it may, China remains less exposed to several sources of inherent risk associated with operating in new production markets. China's production infrastructure is mature. Sources of supply chain ESG risk common to new sourcing markets – risks associated with health and safety, environment, business ethics, and management systems – are less pronounced in China than in many other regions. This is reflected in the risk profile of many markets that are now being highlighted as viable alternatives, covered in the following section. We implore responsible sourcing managers considering decoupling to understand both – those risks associated with operating in China, as well as those associated with new production destinations. Alternating your final country of production will invariably necessitate continuing to understand China's supply chain ESG risk landscape for its outsized importance in all forms of consumer good production and trade.



Child labor index, by province: 2023 vs 2022

Previous Next

Navigating decoupling: country risk profiles

Decoupling has required both a reevaluation of traditional production markets and consideration for regions in which many buyers have never historically had operations. A global view on the inherent sources of risk specific to your regions of operations has never been more important. The following production market snapshots highlight several of the dynamics at play in regions that are now considered at the frontier of new production: be it for reshoring, nearshoring, or friendshoring. They are part of a much broader framework used for understanding specific sources of inherent sources of risk associated with each country now available on EiQ.

Production spotlight : Bangladesh



Bangladesh has become one of the world's leading apparel exporters, with its ready-made garments (RMG) sector being a major contributor to its economy. It also plays a significant role in the manufacturing industry. However, this has brought with it a myriad of challenges. The infamous Rana Plaza disaster of 2013, which claimed over a thousand lives, stands as a stark reminder of the potential consequences of failing to address these issues. Extreme risk indices for Bangladesh include our Air Emissions Index, Building Safety Index, Freedom of Association Index, Machine Safety Index, and Working Hours Index. At greatest exposure to this are top exports from the country, which include clothing, footwear, and seafood.





Sentinel's recent news stories from Bangladesh have highlighted various incidents that raise concerns about the country's management of health, safety, and labor standards within the manufacturing sector. Numerous fires in garment factories have resulted in significant loss of life, injuries, and damage to property, pointing to the urgent need for improved fire safety measures and building standards. Another story specifically highlights the lack of support for women with children in the garment industry, shedding light on the struggles faced by working mothers in Bangladesh. This issue calls for greater attention to the needs of this vulnerable group and the implementation of policies that promote gender equality and work-life balance.



Production spotlight : Brazil



Brazil is a major producer of agricultural commodities and is rich in natural resources, but it has been noted for many challenges that impact both citizens and supply chains. Our data shows extreme risk levels in various indices, including Air Emissions, Freedom of Association, Humane Treatment, Policy, and Unauthorized Sub-contracting. At greatest exposure to this are top exports from the country, which include fuels, minerals and ores and metals, soya beans, meat and poultry products, and gemstones. The country is grappling with issues like forced labor, sexual exploitation, child labor, debt servitude, exploitation of migrant workers, forced marriage, and organ removal. Reports of forced labor continue to surface, with allegations of slave labor in the São Paulo region,⁸ and the rescue of workers from sugarcane farms in MG.⁹



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Recent news from Sentinel exposes several alarming situations in Brazil. Unions have protested against companies in São Paulo due to insufficient health and safety guarantees. Strikes have also been called at various companies with workers demanding increased food subsidies. Companies have also been noted in Sentinel as having been associated with slave labor, deforestation, land grabs, tax fraud, invasion of indigenous lands, environmental pollution.

[®]Global Policy Journal, Binka Le Breton, 2021. Modern Day Slavery in Brazil: A Report from the Field [®]Thomson Reuters Foundation, 2021. Brazil: Sugarcane plantations which export to the US and Europe keep workers in slavery-like and unhealthy conditions, reveals investigation

Production spotlight : Egypt



Egypt plays a crucial role given the country's proximity to major markets in Europe, the Middle East, and Asia, which makes it an attractive location for businesses seeking to optimize their supply chain networks and minimize transit times. Egypt has a large and relatively low cost skilled labor force, which is attractive to international companies looking to establish manufacturing or service operations in the country. The availability of skilled labor can help businesses reduce costs and improve the efficiency of their supply chains. However, Egypt has extreme risk for its exposure to forced labor and freedom of association, while facing high risks for wages and working hours related violations. At greatest exposure to this are top exports from the country, including gemstones, fabricated pipe assemblies, plastics, consumer electronics, and electronic hardware and component parts and accessories.





Sentinel's news stories provide insights into some of the issues faced by Egyptian workers. Reports of workers allegedly being forced to sign resignation letters each year to manipulate their employment duration in social insurance documentation exemplifies the extreme risk of forced labor within the country.

¹⁰ Amnesty International, 2021. Egypt: Authorities fail to protect striking workers from reprisals

Production spotlight : India



India, recognized as the world's fifth largest economy, has made substantial progress in recent years. However, the country continues to show extreme risk in several critical indices. India's extreme risk indices include our Air Emissions Index, Building Safety Index, Child Labor Index, Domestic Migrant Workers Index, and Freedom of Association Index. At greatest exposure to this are top exports from the country, including gemstones, drugs and pharmaceutical products, industrial process machinery and equipment, consumer electronics, and electronic hardware and components.

India is a global leader in IT and IT-enabled services, with a well-established reputation for outsourcing and offshoring.





Sentinel's news stories reveal various labor-related challenges in India. Many international brands operating in the country have been reported for not taking adequate steps to address wage theft in the garment industry. Brands have been found in breach of local minimum wage rules, underpaying workers, and promising to pay overdue allowances. Other headlines highlight the plight of migrant workers during the Covid-19 pandemic, facing non-payment of wages and restrictions on movement. This situation demonstrates the vulnerability of these workers and the need for stronger protections. Additionally, reports of abuse and exploitation in various industries, such as garment and sugar production, underscore the importance of addressing labor rights and fair treatment.

Production spotlight : Indonesia

Indonesia is known for its rapidly growing manufacturing sector. Despite its economic progress, the nation faces ongoing ESG risks. Our risk indices for Indonesia indicate extreme risk levels in several areas, including for air emissions, building safety, freedom of association, issued of humane treatment in the workplace, and injuries. At greatest exposure to this are top exports from the country, including edible oils and fats, palm oil, coal, fabricated bar stock assemblies, and structural materials. The production of these goods can contribute to various environmental and social issues. For example, palm oil production has been linked to deforestation, while coal extraction contributes to air pollution and greenhouse gas emissions.¹¹ These findings suggest that businesses operating in the country face considerable challenges in maintaining ethical and sustainable operations.

Risk indices	2023	2022	YoY	
Labor	• 2.80	• 3.22	▼ 13.24%	
Child labor	• 2.67	• 3.44	▼ 22.52%	Overall
Domestic migrant workers	• 4.94	• 5.06	▼ 2.30%	3.22
Forced labor	• 2.21	• 3.61	▼ 38.76%	
Freedom of association	• 1.37	• 1.95	▼ 29.67%	▲ 1.84% HIGH
Humane treatment	• 1.97	• 2.55	▼ 22.70%	Ranking 152/202 High Confidence



Sentinel's news stories provide further context for the ESG risks in Indonesia. Several audit violations have been reported, relating to inadequate emergency exit access, non-payment of overtime, and companies violating maximum working hours regulations. Some businesses have faced worker unrest, with employees complaining about excessive working hours without compensation. Instances of worker exploitation have been documented, including cases of human trafficking and forced labor among migrant workers. In some instances, workers have experienced discrimination, particularly women facing wage cuts and other forms of harassment. Meanwhile, safety concerns have arisen in various industries, with reports of accidents, fatalities, and fires in factories across the country.

"European Geosciences Union, 2017. Deforestation linked to palm oil production is making Indonesia warmer workers from reprisals



Production spotlight : Malaysia



Malaysia is a major manufacturing hub for various industries, including electronics, electrical products, automotive, chemicals, and machinery. The country has attracted significant foreign direct investment (FDI) in these sectors, leading to the establishment of many multinational corporations' production facilities. Malaysia is also one of the world's largest producers and exporters of palm oil. The country shows extreme risk levels in several indices, including our Air Emissions Index, Forced Labor Index, Humane Treatment Index, Migrant Workers Index, and Worker Contracts Index. The country's top manufactured products include consumer electronics, electronic hardware and component parts and accessories, apparel accessories, fabricated pipe assemblies, and plastics. These industries are subject to various ESG risks that warrant closer examination. with companies coming under intense scrutiny for sourcing products from a Malaysian factory suspected of engaging in forced labor practices. Indonesia has imposed a temporary freeze on sending migrant workers to Malaysia as authorities continue using an online recruitment system linked to allegations of trafficking and forced labor.¹²

¹²Thomson Reuters Foundation, 2022: Indonesia imposes temporary freeze on sending migrant workers to Malaysia





Recent news from Sentinel sheds light on numerous concerning situations in Malaysia. with companies coming under intense scrutiny for sourcing products from a Malaysian factory suspected of engaging in forced labor practices. Indonesia has imposed a temporary freeze on sending migrant workers to Malaysia as authorities continue using an online recruitment system linked to allegations of trafficking and forced labor.

Production spotlight : Myanmar



Myanmar has been grappling with significant challenges in its labor market and manufacturing sector. The country's turmoil has been exacerbated by the military coup in February 2021, leading to civil disobedience and a range of issues in the workforce. Myanmar faces extreme risks in its labor market and is ranked as such on our Forced Labor Index, Freedom of Association Index, Humane Treatment Index, Wages Index, and Working Hours Index, underscoring the severity of the labor issues in the country. While Myanmar had a history of human rights abuses under previous military regimes, the coup led to a further deterioration of the situation. The armed conflict has lead to mass displacements and increased vulnerability of minority groups, such as the Rohingya.¹³ Since the military coup, garment workers have taken a prominent role in Myanmar's civil disobedience movement. The Myanmar Allegations Tracker has documented more than 100 cases of alleged labor and human rights abuse against at least 100,000 workers. These individuals are employed in more than 100 factories producing for at least 42 global fashion brands and retailers.¹⁴

¹³United Nations, 2022: Myanmar: Cycle of 'human rights violations and abuses' continues, warns Bachelet
¹⁴Business & Human Rights Resource Centre, 2023: Myanmar garment



Production spotlight : Pakistan



Pakistan plays a modest but growing role in global supply chains, mainly due to its strategic location, agricultural output, and textile industry. Its top manufactured products include clothing, home textiles, bedclothes and table and kitchen linen and towels, rice, and food and beverage industries. The 2012 factory fire in Karachi, which claimed over 250 lives is a tragic example of the historical inadequacies of risk management frameworks in the country. Pakistan was ranked as extreme risk on several indices: Child Labor Index, Food and Sanitation Index, Freedom of Association Index, Machine Safety Index, and Occupational Safety Index. Pakistan is known for complex regulations and corruption, which can make it challenging for businesses to operate in the country and participate effectively in responsible sourcing. Brands have been found in breach of local minimum wage rules. Sentinel's news stories highlight various challenges faced by workers in Pakistan.





Sentinel has picked up instances of alleged abuse and child labor in some Pakistan factories. While the country's Supreme Court has prohibited child labor, the issue is still prominent.

Production spotlight : Portugal

Portugal was ranked as high risk on several indexes: for issues associated with business integrity, but also health and safety policy. Unauthorized sub-contracting is also common. At greatest exposure to this are top exports from the country, including motor vehicles, vehicle bodies and trailers, consumer electronics, electronic hardware and component parts, industrial process machinery and equipment, and machinery and transport equipment manufacturing.





Sentinel's news stories further highlight Portugal's risks, such as an instance of a fire at a textile company, resulting in injuries and property damage. Other stories report on labor exploitation, human trafficking, and forced labor, affecting both local and migrant workers in various sectors. Protests have taken place in Famalicão, with textile workers demanding wage increases. In Beja, the city has been identified as a center of modern slavery, with numerous foreign workers experiencing inhumane conditions.¹⁵ Investigations into labor exploitation and hiring practices have been launched, and farmers are being questioned about the abuse suffered by migrant workers on their farms.

¹⁵Portugal Resident, Natasha Donn, 2022. Immigrant slavery in Alentejo has no end in sight

Production spotlight : South Africa



South Africa is the largest and most industrialized economy in Africa, and it contributes to global supply chains in various sectors. However, events like the Marikana Massacre of 2012, which resulted in numerous deaths and injuries, exposed the gaps in the country's ESG governance. Infrastructure restraints, social inequality and political corruption all contribute to rising risk in the country. Several risk indices categorize South Africa as high risk. These indices include our Building Safety Index, Environment Management Index, Injuries Index, Policy Index, and Worker Contracts Index. At greatest exposure to this are top exports from the country, including gemstones, minerals and ores, metals, platinum, motor vehicles, and vehicle bodies and trailers.



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Sentinel's recent news stories from South Africa highlight labor-related challenges in the country. One story highlights a \$650,000 settlement that was reached between a medical staffing company and 150 traveling healthcare workers who sought unpaid overtime under the Fair Labor Standards, illustrating the need for companies to uphold fair labor practices and provide adequate compensation for their employees.¹⁶ Other headlines highlight the plight of migrant workers during the Covid-19 pandemic, facing non-payment of wages and restrictions on movement. This situation demonstrates the vulnerability of these workers and the need for stronger protections. Additionally, reports of abuse and exploitation in various industries, such as garment and sugar production, underscore the importance of addressing labor rights and fair treatment.

Production spotlight : Turkey



Turkey, a bridge between Europe and Asia, is wellpositioned to be a logistics hub for global trade across various sectors. The country's well-developed infrastructure, enhances its connectivity with global markets and enables efficient transportation of goods. Fluctuations in the Turkish economy, currency volatility, and political instability can undermine investor confidence and hinder the country's ability to attract foreign investment and participate effectively in global supply chains. Turkey ranked as extreme risk on several indexes: our Building Safety Index, Freedom of Association Index, Wages Index, and Working Hours Index. At greatest exposure to this are top exports from the country, including motor vehicles, vehicle bodies and trailers, industrial process machinery and equipment, machinery and transport equipment manufacture, and clothing.





Sentinel has detected multiple incidents of worker injuries reported at a textile factory, emphasizing the extreme risks in building safety and working hours. Workers at the same factory went on strike in response to a wage offer they deemed insufficient, demonstrating the extreme risks in freedom of association and wages.

Production spotlight : Vietnam



Vietnam has seen rapid economic growth and offers a low-cost labor force, making it an attractive destination for multinational companies seeking to reduce production costs. Vietnam has become a key player in the global market, particularly in the manufacturing, textiles, and electronics industries. The manufacturing industry in Vietnam is primarily focused on the production of consumer electronics, electronic hardware, component parts and accessories, communications devices, data voice or multimedia network equipment or platforms, and clothing. As the nation continues to establish itself as a global manufacturing hub, it is crucial to address these ESG risks to ensure long-term growth. Our risk ratings show a series of extreme risk indices for Vietnam. These indices include our Air Emissions Index, Child Labor Index, Domestic Migrant Workers Index, Freedom of Association Index, and Working Hours Index. These rankings highlight the urgent need for action to mitigate the potential negative impact on the country's environment and workforce.





In recent news, Sentinel has reported multiple audit violations in Vietnam, which have raised concerns over the management of health, safety, and labor standards within the country's manufacturing sector. Issues such as improper fire detection and alarm systems, inadequate emergency exits, non-compliance with overtime payment, and the lack of implementation of collective agreements have come to light. Labor disputes have also surfaced in Vietnam, with workers demanding better pay, treatment, and provisions for Covid-19 rapid testing. Strikes and protests involving thousands of employees have been documented, drawing attention to the workers' grievances and the need for swift resolutions.

2023 + beyond

Be it because we have returned to a time in which access to information is now greater or because operating conditions deteriorated significantly in most production markets during the pandemic, 2023 will be characterized by a high degree of risk associated with supply chain ESG violations. Our risk ratings reflect this.

These risks are not abstract. They are established in ESG violations we are now observing on the factory floor: from evidence of forced labor and child labor in Western markets to challenges associated with accessing reliable information in auditing. They are expansive and evolving, even in markets such as China in which sources of ESG risk have long been well understood, but certainly in new frontier markets that are of growing importance. These risks should also provoke questions. To what extent are heightened levels of ESG risk a reflection on the broken dynamics which guide how consumption markets relate to production markets? What of the efficacy of our previous responsible sourcing strategies, should this be the end result? And if we are now to move to a period of hard law – in which penalties for ESG transgressions are codified in regulation – how might many of these violations move from externalities to financially material considerations around which a broader set of operational priorities are built?

Increases in risk require better program management. Increases in risk require higher levels of due diligence. But increases in risks should also, when so collectively exhibited, signal that a structural reset is needed: one that might offer a better set of conditions for the future of sourcing.

Risk indices appendix

Labor index

ILAB Child Labor	Civil Society	Number of instances of child labor in the supply chain at productlevel.
ILAB Forced Labor	Civil Society	Number of instances of forced labor in the supply chain at product level.
Secondary Enrollment (UNESCO)	Civil Society	Ratio of number of children enrolled in secondary education to the number of children of secondary school age.
Global Slavery Index - Proportion in Slavery (Walk Free Foundation)	Civil Society	Global slavery index - proportion in slavery identifies risk in countries based on the percentage of people involved in modern slavery (forced labor and forced marriage).
Global Slavery Index - Vulnerability (Walk Free Foundation)	Civil Society	Global slavery index - vulnerability identifies vulnerability of people to modern slavery by measuring political stability, and human rights protection related factors in a country.
Human Development Index (United Nations)	Civil Society	The Human Development Index (HDI) is a composite index focusing on three basic dimensions of human development: life expectancy, education, and income.
ITUC Global Rights Index	Civil Society	Global rights index keeps track of the violations of labor rights by governments and employers. The methodology is grounded in standards of fundamental rights at work, in particular the right to freedom of association, the right to collective bargaining and the right to strike.
Children's Rights in the Workplace Index (UNICEF and Global Child Forum)	Civil Society	The Children's Rights in the Workplace Index measures child labour and decent work for young workers, parents and caregivers based on legal framework, enforcement and outcome.
Gender Inequality Index (United Nations)	Civil Society	The Gender Inequality Index is a composite index of gender inequality using three dimensions: reproductive health, empowerment and the labour market.
Child Labor Index (ELEVATE)	Supply Chain	Child labor index is based on instances of non-compliances associated with child below the age of 15 or in breach of local minimum age for work or mandatory schooling being employed in a site, excessive hours for juvenile workers, health examination for juvenile workers, inadequate work for juvenile workers and juvenile workers registration.
Forced Labor Index (ELEVATE)	Supply Chain	Forced labor index is based on instances of non-compliances associated with forced labor instances, travel documents kept and deductions / deposit.
Freedom of Association Index (ELEVATE)	Supply Chain	Freedom of association index is based on instances of noncompliances associated with freedom of association or collective bargaining agreement, election of committee, inadequate reporting mechanism and non-functional committee.
Humane Treatment Index (ELEVATE)	Supply Chain	Humane treatment index is based on instances of non-compliances associated with disciplinary practices, discrimination, excessive hours for pregnant worker, inadequate work for pregnant workers, harassment or abuse, workers with disabilities, and pregnancy testing.
Foreign Migrant Workers Index (ELEVATE)	Supply Chain	Foreign migrant workers index is based on the number of foreign migrant workers employed in a site, percentage of migrant worker population, and number of source countries for workers.
Domestic Migrant Workers Index (ELEVATE)	Supply Chain	Domestic migrant workers index is based on the number of domestic migrant workers employed in a site and the percentage of domestic migrant worker population.
Wages Index (ELEVATE)	Supply Chain	Wages index is based on instances of non-compliances associated with minimum wage payment, leave, OT wage payment, wage benefits, wage deductions / deposit, and late payment of wages.
Working Hours Index (ELEVATE)	Supply Chain	Working hours index is based on instances of non-compliances associated with hours of work, leave days, rest days, and rest periods.

Risk indices appendix

Health and Safety Index

Life Expectancy Index (UNDP HDR)	Civil Society	Life expectancy index is based on the number of years a newborn infant could expect to live as measured by the IHME.
Technological Disasters Index (EM-DAT and World Bank)	Civil Society	Technological disaster index is based on the weighted average of standardized counts of technological disaster and deaths combined with the country's GDP per capita.
Sanitation & Drinking Water Index (Yale and Columbia University)	Civil Society	The Sanitation & Drinking Water Index measures how well countries protect human health from environmental risks with regards to unsafe drinking water and unsafe sanitation.
Building Safety Index (ELEVATE)	Supply Chain	Building Safety index is based on instances of non-compliances associated with building approval, railings, multi-tenants building, structural integrity, ventilation / heating, and warehouse related.
Chemical Related Index (ELEVATE)	Supply Chain	Chemical related index is based on instances of non-compliances associated with chemical spills, chemical storage, and material safety data sheet.
Emergency Evacuation Index (ELEVATE)	Supply Chain	Emergency evacuation index is based on instances of non-compliances associated with aisles, emergency power backup, evacuation drills, evacuation plan, public address system, exits and sign postings for evacuation procedure, and stairs.
Fire Safety Index (ELEVATE)	Supply Chain	Fire safety index is based on instances of non-compliances associated with fire alarms, fire extinguishers, fire hydrant / riser / standpipe system, fire potential / general cleanliness, fire resistant separations, fire service inspection certificate, and smoke detectors.
Food and Sanitation Index (ELEVATE)	Supply Chain	Food and sanitation index is based on instances of non-compliances associated with drinking water, kitchen & canteen facilities, dormitories, childcare, and toilets.
Injuries Index (ELEVATE)	Supply Chain	Injuries index is based on instances of non-compliances associated with first aid, eyewash, injury records and medical staffing.
Machine Safety Index (ELEVATE)	Supply Chain	Machine safety index is based on instances of non-compliances associated with boiler inspection / certificate, boiler safety, machine safety and operator license.
Occupational Safety Index (ELEVATE)	Supply Chain	Occupational safety index is based on instances of non-compliances associated with electrical safety, ergonomics, lighting, lighting & noise analysis, occupational health check, and personal protective equipment.
Environment Index		
Wastewater Index (Yale and Columbia University)	Civil Society	Wastewater index measures the percentage of collected wastewater that is treated.
Flood Risk Index (World Resources Institute)	Civil Society	Flood risk index measures the risk of population that will be affected in an event of flood.
Water Stress Index (World Resources Institute)	Civil Society	Water stress index measures the relationship between total water use and water availability.
Agriculture Index (Yale and Columbia University)	Civil Society	Agricultural index measure for the degree of environmental pressure exerted by subsidizing agricultural inputs.
Tree Cover Loss Index (Yale and Columbia University)	Civil Society	Tree cover loss index indicates the change in forest cover from 2000-2016 by factoring in deforestation, reforestation, and afforestation.
Air Quality Index (Yale and Columbia University)	Civil Society	Air quality index measures the average exposure to PM2.5 (fine particulate matter) in the air.
Carbon Intensity Index (Yale and Columbia University)	Civil Society	Carbon intensity index is based on the trend in CO2 emissions per unit GDP from 1990 to 2010 at a country level.
Solid Waste Management Index (Yale and Columbia University)	Civil society	Solid Waste Management Index is constructed from the percentage of household and commercial waste generated in a country that is collected and treated through recycling, composting, anaerobic digestion, incineration, or disposed of in a sanitary landfill.
Storm Risk Index (EMDAT and World Bank)	Civil society	Storm risk index is based on the total number of storms, the total number of deaths and people affected by the storms as well as the total damages due to the storm. Total damages are balanced by the GDP to better represent financial impact.



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Risk indices appendix

Air Emissions Index (ELEVATE)	Supply Chain	Air emissions index is based on instances of non-compliances associated with whether air emissions have been identified, characterized, routinely monitored, controlled, treated prior to discharge, and meet the discharge limits for regulated constituents.
Environment Management Index (ELEVATE)	Supply Chain	Environment management index is based on instances of non-compliances associated with environmental management program that seeks to minimize environmental impacts with respect to energy, air emissions, water, waste, hazardous waste, and other significant environmental risks.
Environment Permits Index (ELEVATE)	Supply Chain	Environment permits index is based on instances of non-compliances associated with whether the facility has all legally required environmental permits, licenses, approvals, and / or other registrations.
Waste Management Index (ELEVATE)	Supply Chain	Waste management index is based on instances of non-compliances associated with hazardous wastes are separated from general waste and are appropriately handled and disposed of as legally required.
Wastewater Violations Index (ELEVATE)	Supply Chain	Wastewater violations index is based on instances of non-compliances associated with whether wastewater are properly treated to meet discharge standards / limits as legally required; wastewater is produced but treated off-site, relevant manifests and records are maintained; the facility has implemented a systematic approach to prevent contamination of storm water runoff; illegal discharges and spills of waste water is entering storm drains.
Business ethics index		
Corruption Perceptions Index (Transparency International)	Civil Society	Corruption perceptions index ranks countries "by their perceived levels of corruption, as determined by expert assessments and opinion surveys".
Rule of Law Index (World Bank)	Civil Society	Rule of law index captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
Corporate Governance Index (World Bank)	Civil Society	Corporate governance index ranks countries based on the corruption (legal and illegal) and ethical standards in public sectors and corporations.
Freedom in the World Index (Freedom House)	Civil Society	Freedom in the World assess the condition of political rights and civil liberties around the world.
Fundamental Rights Index (World Justice Project)	Civil Society	Fundamental rights index measures absence of discrimination, right to life and security due process, freedom of expression and religion, right to privacy, freedom of a ssociation, and labor right.
Transparency Index (ELEVATE)	Supply Chain	Transparency index is based on instances of non-compliances associated with denied access to factory, books, inconsistentrecords, and number of non-transparent audits among known audits.
Business Integrity Index (ELEVATE)	Supply Chain	Business integrity index is based on instances of non-compliances associated with business license, coaching, employee interviews, bribery, and number of inconclusive audits among known audits.
Policy Index (ELEVATE)	Supply Chain	Policy index is based on instances of non-compliances associated with child labor policy, code posting and establish clear standards, disciplinary practices policy, forced labor policy, freedom of association policy, harassment & abuse policy, bribery, nondiscrimination, and health and safety policies.
Management systems index		
Transparency of Government Policymaking Index (World Bank)	Civil Society	Transparency of Government Policymaking Index indicates how easy is it for companies to obtain information about changes in government policies and regulations affecting their activities.
Regulatory Quality Index (World Bank)	Civil Society	Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

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Risk indices appendix

Code Awareness Index (ELEVATE)	Supply Chain	Access issues index is based on instances of non-compliances a ssociated with code awareness, inadequate reporting mechanism, and worker / management code awareness.
Health and Safety Policy Index (ELEVATE)	Supply Chain	Health and safety policy index is based on instances of noncompliances associated with health and safety policies, certificates, reports & assessments, training, security, and safety committee.
Unauthorized Subcontracting Index (ELEVATE)	Supply Chain	Unauthorized subcontracting index is based on instances of noncompliances associated with homework and unauthorized subcontracting.
Wage Documentation Index (ELEVATE)	Supply Chain	Wage documentation index is based on instances of noncompliances associated with pay stubs, payroll record keeping.
Worker Contracts Index (ELEVATE)	Supply Chain	Worker contracts index is based on instances of non-compliances associated with record keeping (personnel files / age), undocumented workers, and worker contracts.
Other Documentation Index (ELEVATE)	Supply Chain	Other documentation index is based on instances of noncompliances associated with Other (H&S), Other 2 (H&S), Other 3 (H&S), Other (Monitoring & Documentation), Other Certificates / Permits, Other Certificates / Permits 2, and Other Laws.
Working Hours Documentation Index (ELEVATE)	Supply Chain	Working hours documentation is based on instances of noncompliances associated with leave records and time keeping records.