

# Understanding Supply Chain Regulations:

## The Future Implications of CSDDD



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## Introduction

ESG frameworks, laws, and regulations have emerged in response to growing sustainability awareness and global supply chain risks.

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In this ebook, we take an in-depth view of some of the most relevant recent regulations and analyze how effective they seem to be. We also examine the potential effects of CSDDD and explore the real-life cases of Temu and Shein.

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These measures promote transparency, accountability, and ethical practices, potentially leading to environmental conservation, improved social conditions, and enhanced governance. Indeed, they drive innovation, brand reputation, and financial gains while aligning with sustainable development goals. However, they may burden businesses with increased costs, which is particularly challenging for smaller enterprises. Variability across regions and a compliance-centric approach may hinder transformative change, fostering a ‘tick-box’ mentality over substantial improvements.

But how effective are those regulations? Are they actually having the intended positive impact? In this ebook, we take an in-depth view of some of the most relevant recent regulations and analyze how effective they seem to be. We also examine the potential effects of CSDDD and explore the real-life cases of Temu and Shein.

## Part I Unraveling Supply Chain Regulations: From Past to Present

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**Note:**

The list of regulations and frameworks mentioned is a high-level list of the most mentioned acts.

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We traced the evolution of supply chain regulations from non-binding guidelines to binding laws, examining their impact on corporate sustainability. Along the way, we explored the challenges businesses face as they strive to comply with these constantly evolving standards.

### 1.1 Global and Non-binding

When analyzing global and non-binding regulations, although they provide crucial frameworks for promoting corporate accountability by offering guidelines for responsible business conduct, they also have limitations. For instance, they lack legal enforceability due to their non-binding nature, potentially hindering compliance. Given the broad scope of the guidelines, implementation challenges arise, particularly in regions with weak governance.

Here are a few examples of recent sustainability regulations:

■ Social & Environmental issues
 ■ Social issues
 ■ Environmental issues

Framework	Date	Jurisdiction
ISO 26000: Social Responsibility Guidance Standard	2010	Global
OECD Guidelines for Multinational Enterprises (MNE Guidelines)	1976 (updated in 2011)	Global
OECD Due Diligence Guidance for Responsible Business Conduct	2018	Global

■ Social & Environmental issues  
 ■ Social issues  
 ■ Environmental issues

Framework	Date	Jurisdiction
OECD Sectoral Due Diligence	Due diligence guidance for the following supply chains:	
	conflict minerals (2011, subsequent revisions)	
	child labor in minerals (2017)	
	garment and footwear (2017)	
	agriculture (2016)	
	extractives (2017)	
	the financial sector (2019)	
Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (MNE Declaration)	1976 (updated in 2011)	Global
The UN Guiding Principles on Business and Human Rights (UNGPs)	2011	Global

## 1.2 By Region and Binding

Binding legislation requires companies to meet specific standards in sustainability, environmental protection, and social responsibility. Non-compliance risks legal penalties and reputational damage. However, weak enforcement, insufficient penalties, and legal ambiguities often lead to criticism.

Additionally, logistical and resource constraints, especially across borders, limit the effectiveness of regulatory bodies in monitoring and enforcing compliance. Furthermore, the penalties imposed are often disproportionately low. Moreover, these bodies depend on companies' self-reporting without independent verification, leading to underreporting.



■ Social & Environmental issues  
 ■ Social issues  
 ■ Environmental issues

Framework	Date	Jurisdiction
Corporate Sustainability Due Diligence Directive (CSDDD/CS3D)	Proposed in 2022 (Approved in 2024)	EU
Corporate Sustainability Reporting Directive (CSRD)	In effect 2023	EU
Revised EU Non-Financial Reporting Directive (NFRD) (corporate sustainability reporting)	2014 (Applicable in 2018)	EU
UK Plastic Packaging Tax	In effect 2022	UK
The EU Deforestation-Free Regulation	Proposed in 2021	EU
EU Circular Economy Action Plan	2020	EU
Lacey Act	1900, amended in 2008	US
Uyghur Forced Labor Prevention Act	2020	US
Australia Modern Slavery Act	2018	Australia
EU Conflict Minerals Regulation	2017 signed into law, 2021 full entry into force	EU
UK Modern Slavery Act	2015	UK
Section 307, US Tariff Act	1930, 2015, subsequent developments	US

### 1.3 By Country/State and Binding

State or country legislation on supply chains encounters several challenges. These include jurisdictional limitations, enforcement difficulties due to resource constraints, and compliance burdens, especially for smaller businesses. Additionally,

fragmented regulations across states or countries can complicate compliance for companies operating nationally. This underscores the importance of coordinated efforts between states and the federal government to address supply chain issues effectively.

In addition, regulatory bodies contend with logistical and resource limitations, mainly when operating across borders, which can hinder their effectiveness in monitoring and enforcing compliance.

■ Social & Environmental issues   
 ■ Social issues   
 ■ Environmental issues

Framework	Date	Jurisdiction
Duty of Vigilance	2017	France
German Due Diligence Act	2021 (Applicable in 2023)	Germany
Section 135 of Companies Act 2013	2014	India
Dutch Child Labor Due Diligence Law	2019, in effect from mid2022	Netherlands
Norway Transparency Act	2021, in effect from 1 July 2022	Norway
California Transparency in Supply Chains Act	2012	California
Fashion Sustainability and Social Accountability Act	Proposed in 2021	New York

## Part II Unveiling Vulnerabilities Sector

### Screening for Supply Chain Controversies

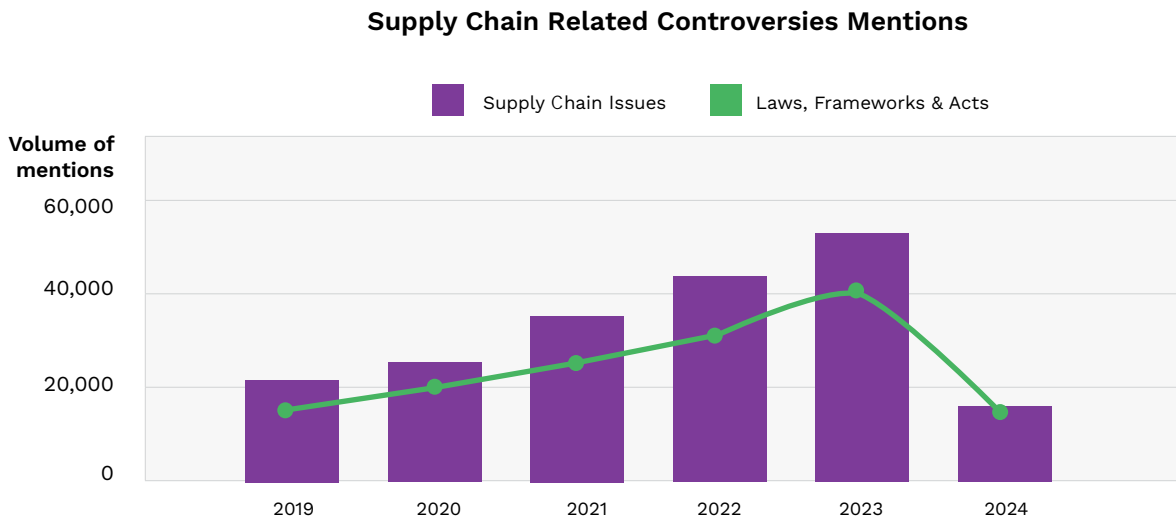
In this section, we explore the evolving landscape of supply chain regulatory frameworks and ESG risks in supply chain management. We also dive into how future regulations will affect global trade, corporate responsibility, and sustainability efforts.

## 2.1 Supply Chain Controversies Over Time

We analyzed supply chain-related controversies from 2019 onwards and found a consistent increase each year, peaking in 2023. Concurrently, mentions of various frameworks, laws, and legislations [mentioned in Part I] related to these issues have also risen.

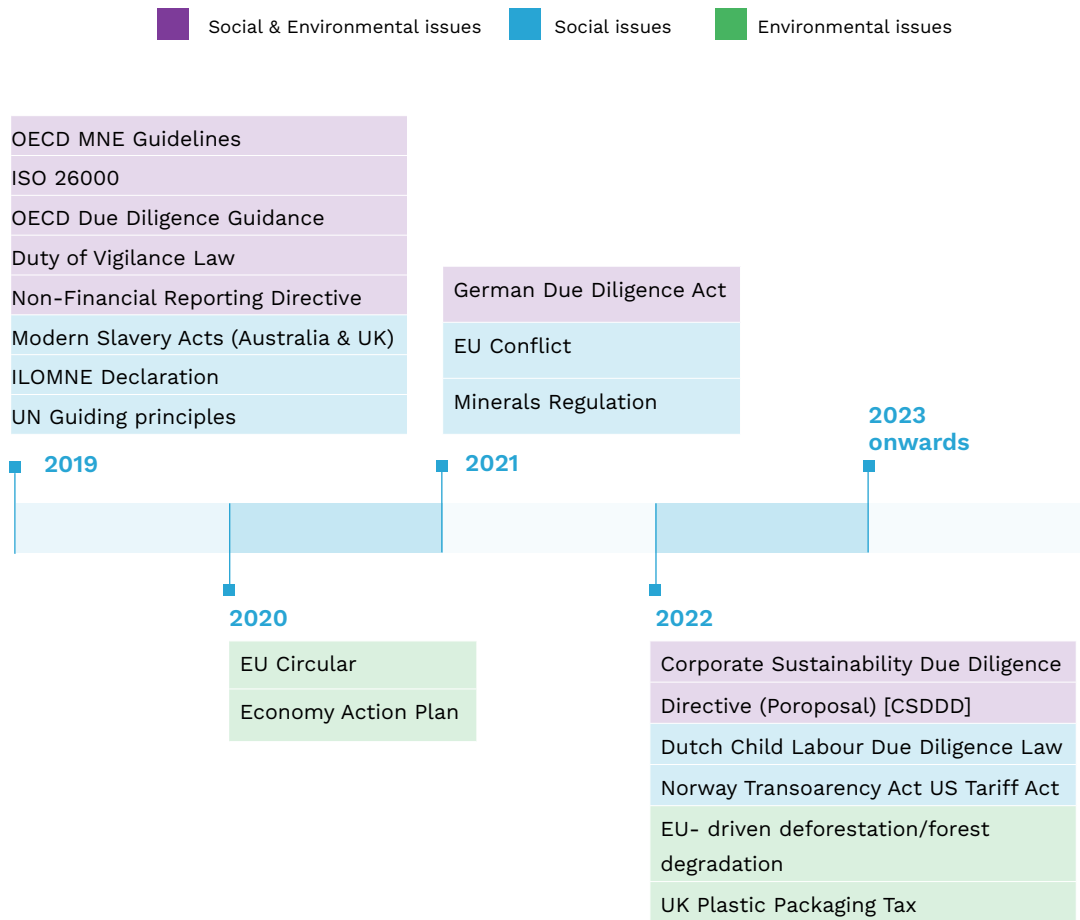
Our analysis reveals a strong and positive correlation between the two trends ( $r=0.99$ ), indicating a significant relationship. While the apparent

increase in supply chain issues, breaches, and controversies may be concerning, it's largely caused by implementing more frameworks that increase visibility and accountability. Even without binding regulations, companies' reputations are affected. Thus, the proliferation of laws and frameworks contributes to the heightened online attention to these breaches.



**Figure 1:** Supply chain related controversies mentions

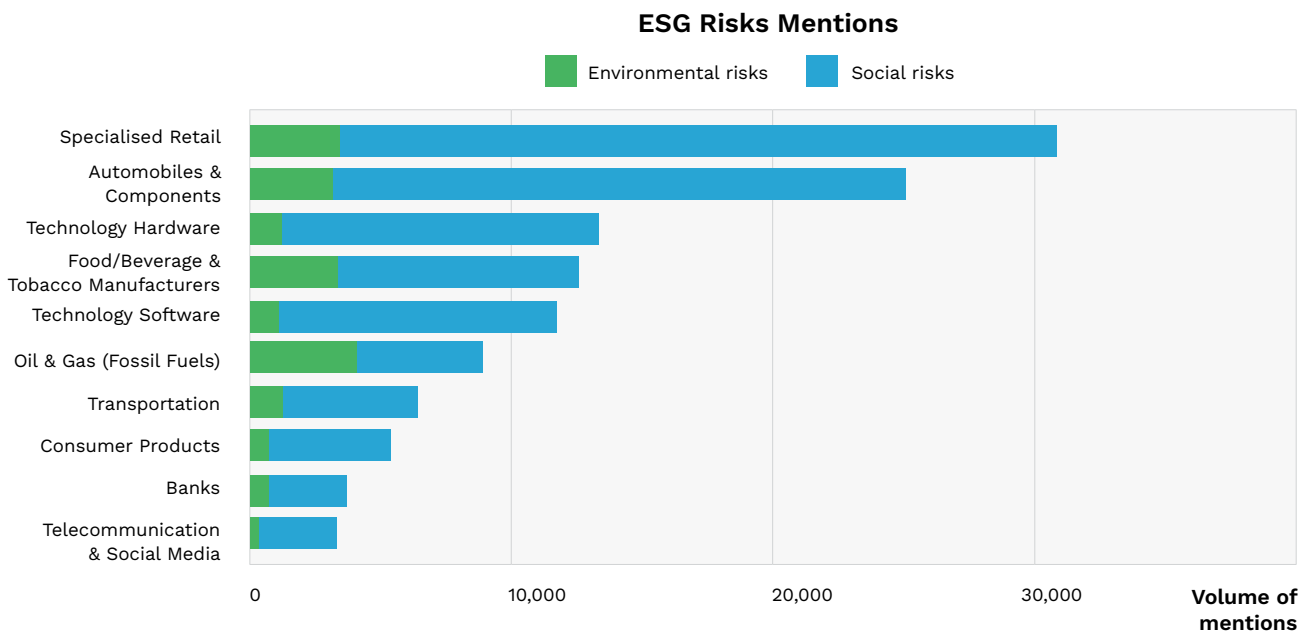




## 2.2 Supply Chain Controversies: An ESG Analysis

For this analysis, we primarily focused on environmental and social issues within the supply chain as legislation often targets these areas due to their significant external impacts. Issues like environmental damage and labor violations are most likely to occur in the supply chain and can profoundly affect communities and ecosystems. Governance issues, on the other hand, are more internal and directly pertain to a company’s operations and management practices.

Therefore, we analyzed a sample of 31,011 entities across industries with frequent mentions of ESG-related supply chain risks, focusing on social and environmental risks.



**Figure 2:** ESG risks mentions

Specialized retail has the highest incidence of social and environmental controversies, followed by technology software and automobile & components, respectively.

As shown in the graph above, many of the issues highlighted in the Social ESG supply chain pillar are driven by human and labor rights breaches, which significantly contribute to the ESG risks mentioned.

## 2.2.1 Social Risks in the Supply Chain



### Specialized retail \_\_\_\_\_

In specialized retail, many brands face scrutiny for alleged **forced labor**, **some examples include [Amazon](#), [Hugo Boss](#), [Diesel](#), and [Costco](#)** .

Additionally, **[Amazon](#)** garnered widespread attention when the company settled a \$1.9 million **human rights abuse claim**. Consumer groups sued Starbucks over **deceptive ethical sourcing claims** linked to **human rights issues**.

**[Walmart and Centric](#)** were also investigated for **human rights violations**. Moreover, reports tie **[Amazon and IKEA suppliers](#)** to **forced labor**. These controversies dominate ESG supply chain discussions in retail.



### Technology hardware \_\_\_\_\_

Regarding the other industries, we also see that technology hardware displays a significant proportion of mentions stemming from mentions of **forced labor** for **[Lenovo](#), [Cisco](#), [Intel](#)**, and numerous controversies regarding Apple (**[Link1](#), [Link2](#), [Link3](#)**), among many other allegations.



### Automotive industry \_\_\_\_\_

The automotive industry ranks second as notable companies like Tesla face criticism, with allegations ranging from opening **[showrooms in China linked to genocide allegations](#)** leading to backlash and investigations led by the US Senate. Tesla's involvement with **child labor** and **its battery material supplier's recurrent human rights abuses** further add to the scrutiny. Furthermore, we detect multiple mentions regarding **[Volkswagen's supplier breach](#)** that could impact up to 3.3 million customers. Moreover, **slave labor accusations** resurface for Volkswagen in Brazil, while companies like Toyota Motor, General Motors, Tesla, and Volkswagen suppliers are accused of **[exploitative labor practices in Southeast Asian factories](#)**.



### Transportation / Oil & Gas \_\_\_\_\_

Notable mentions from other sectors drive the ESG volumes, such as **[Uber](#)** (transportation), **[British Petroleum](#)**, and **[TotalEnergies](#)** (oil & gas)

## 2.2.1 Social Risks in the Supply Chain



### Food & beverage manufacturers

Similarly, companies from the food & beverage manufacturers industry were also linked with **human rights violations** and **infringements on labor rights**, with companies like Tyson Foods, McDonald's, Hershey, Pepsi, and Nestle having multiple supplier issues connected with **child labor**, **discrimination**, and **exploitative work**.



### Technology software

While technology software companies mentions were primarily related to contractors and content moderators' **health & safety issues** and **labor rights infringements** from companies like Meta, Microsoft, and Google.

## 2.2.2 Environmental Risks in the Supply Chain



### Oil & Gas

Environmental risks, though relatively fewer in proportion compared to social risks across sectors' supply chains are notably prevalent in specific sectors, notably in oil & gas, where incidents such as oil-well blasts are due to the lack of safety practices, improper disposal, harmful emissions from gas flaring, unremediated oil spills disproportionately impact communities and contractor negligence. This negligence has resulted in substantial **environmental harm**, endangering both communities and workers and in some cases, leading to fatalities.

“

Interestingly, we've gathered a substantial number of articles, but they all revolve around the same types of breaches mentioned above.

”



### Specialized retail

In specialized retail, brands' suppliers are linked to deforestation, illegal extraction of minerals, animal cruelty (Link1, Link2, Link3), and illegal waste disposal. Similarly, controversies arise from controversial mining, breaches of clean air acts by suppliers, deforestation, and questionable cobalt sourcing in the Auto and Components sector.



### Food & Beverage

Environmental concerns also impact the food & beverage supply chain, with prevalent issues like deforestation, animal abuse, and unethical sourcing.

## Part III Case Study

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We studied the supply chain practices of **SHEIN** and **TEMU**, two specialized retail giants with similar business models but distinct histories.

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We studied the supply chain practices of SHEIN and TEMU, two specialized retail giants with similar business models but distinct histories. Both companies have faced significant scrutiny over their labor practices and environmental impacts, providing critical insights into existing regulatory frameworks. By analyzing their ESG controversies and comparing their responses, we assess how well current

and future legislation, particularly the CSDDD initiative, addresses ethical issues in global supply chains.

### 3.1 Specialized Retail: The Case of SHEIN and TEMU

SHEIN and TEMU are compelling use cases due to their past controversies and the focus on their supply chain practices. Both companies have come under scrutiny for their labor practices, environmental impacts, and ethical issues, making them ideal subjects for analysis. By studying their supply chain challenges, we aim to assess the effectiveness of current legislation and predict the potential impact of future regulatory frameworks, particularly in the context of the CSDDD initiative.

While both companies operate with a similar business model, SHEIN is an established player entangled in numerous supply chain controversies. On the other hand, TEMU, a newcomer since 2022, faces similar issues. Comparing them helps us evaluate the effectiveness of existing supply chain legislation and determine whether increased regulatory scrutiny has improved compliance or merely raised awareness of these controversies within the industry.

**Note:**

**1 Size bias mitigation:**

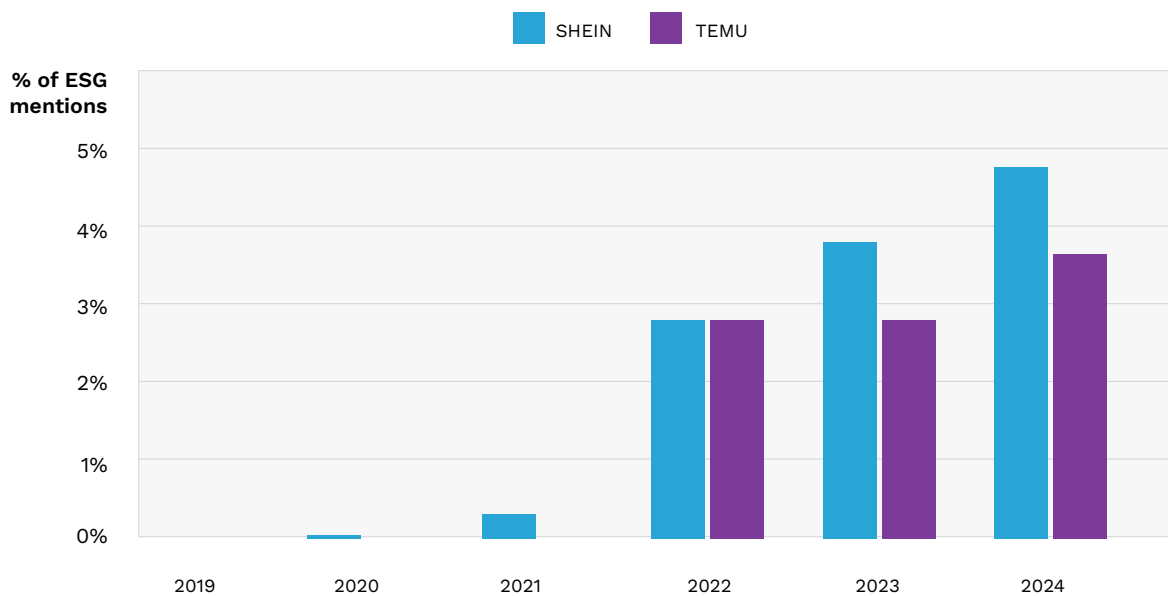
We normalized the data for both companies to ensure an equal basis of comparison, accommodating the difference in operational history—SHEIN since 2008 and TEMU since 2022— to eliminate discrepancies in web attention.

**2 Risks analysis**

It’s worth noting that the figures presented here specifically relate to supply chain risks, as that is the primary focus of our analysis.

### 3.2 Examining Supply Chain Controversies

Supply Chain Risks Mentions



**Figure 3:** Supply chain risks mentions



We analyzed ESG risks in the supply chains of SHEIN and TEMU over the past four years, adjusting data volumes for comparative analysis. SHEIN’s supply

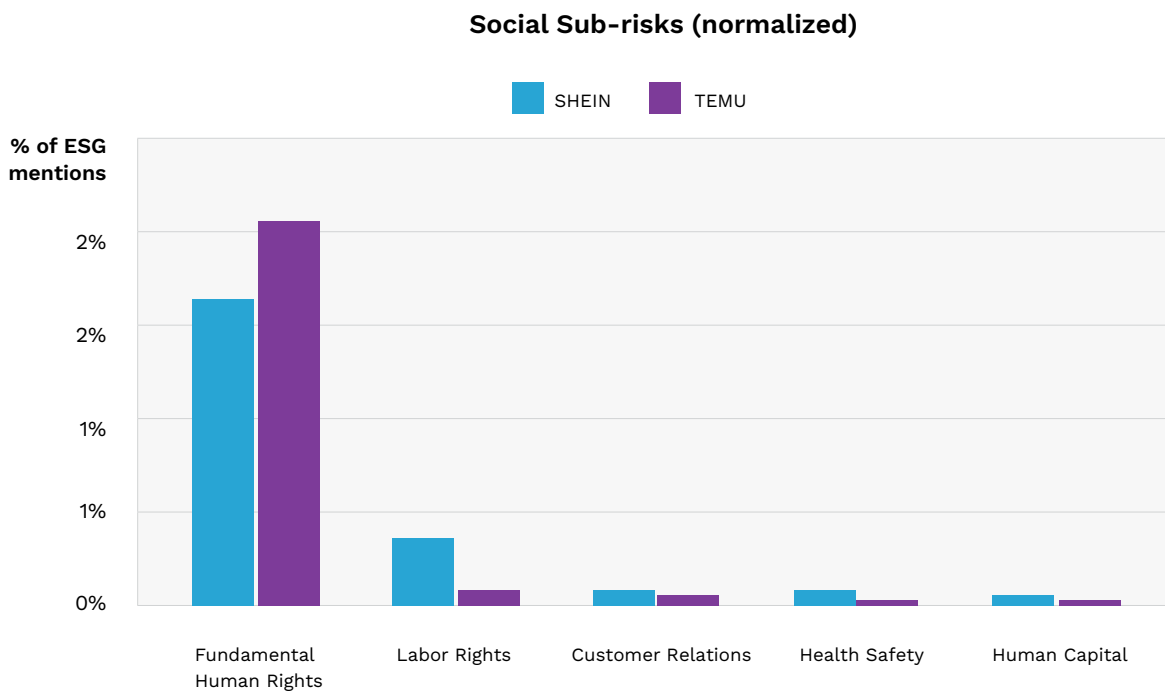
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We analyzed ESG risks in the supply chains of SHEIN and TEMU over the past four years, adjusting data volumes for comparative analysis.

”

chain risks have significantly increased since 2021, peaking in 2022 and continuing to rise in 2023, reflecting a growing online focus on its issues. Meanwhile, TEMU, despite only being established in 2022, has quickly come under intense scrutiny. The company faces frequent criticism for its supply chain practices, including condemnations for inaction and ongoing human rights violations.

### 3.2.1 Examining Social Sub-risks



**Figure 4:** Social sub-risks (normalized)

In our analysis of social risks within the supply chains of TEMU and SHEIN, we discovered that fundamental human rights and labor rights are the most and second most prevalent issues, respectively. Notably, despite TEMU's more recent establishment compared to SHEIN, its supply chain has a relatively higher proportion of human rights controversies.

Both companies have faced serious allegations related to their supply chain practices. TEMU and SHEIN are scrutinized for using Chinese cotton potentially linked to [slave labor](#), with insufficient efforts to mitigate forced labor risks. Allegations include [child slavery](#), [privacy issues](#) related to sharing user data, and environmental neglect, including the [use of carcinogens in products](#). Despite their efforts to boost their public image through [aggressive marketing and influencer engagements](#), both companies have been criticized for their approach to environmental responsibility and [labor practices](#). Political calls for investigations into the use of [Uyghur slave labor](#) in both companies underscore their

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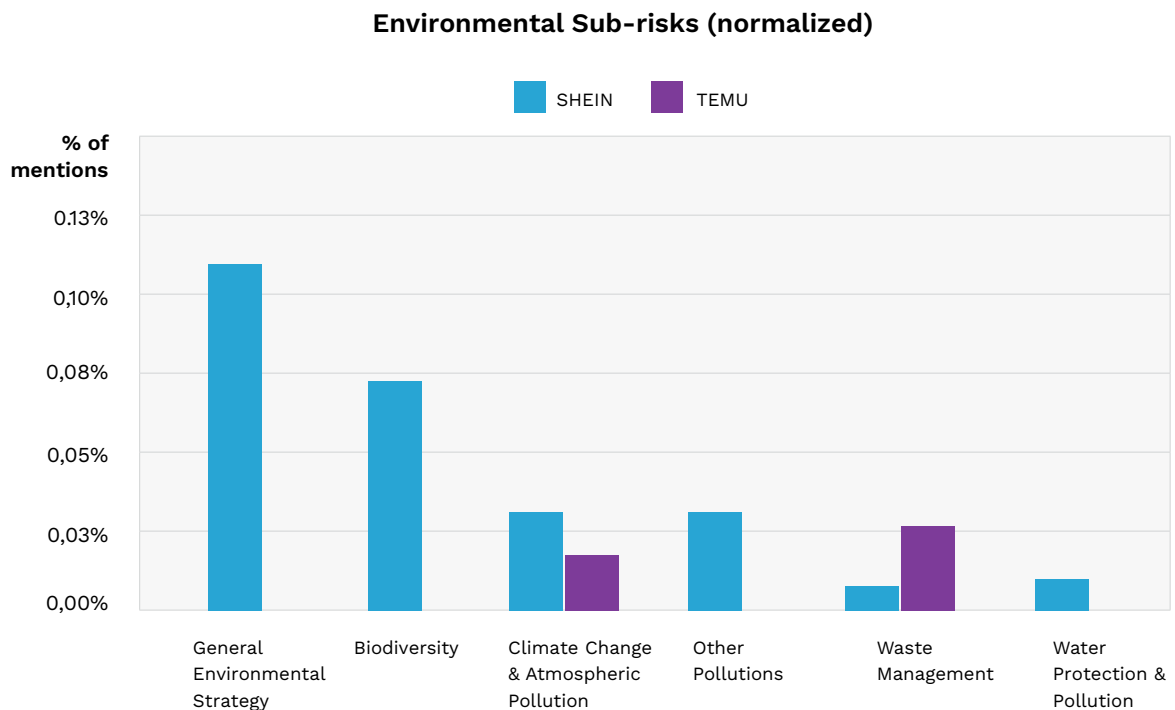
In our analysis of social risks within the supply chains of TEMU and SHEIN, we discovered that fundamental human rights and labor rights are the most and second most prevalent issues, respectively.

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ethical challenges. Neither company has shown rigorous compliance with [anti-forced labor laws](#), lacking stringent programs to audit supplier compliance. This highlights significant gaps in their corporate responsibility efforts.

SHEIN has faced accusations of [stealing artists' work](#) and failing to comply with [modern slavery reporting regulations](#), adding to the ethical concerns. Consumers have also been alarmed by [hidden clothing tag messages](#) indicating threats. Both companies are heavily investing in [lobbying efforts](#) amid regulatory scrutiny as they [struggle](#) to balance rapid growth with sustainable and ethical business practices.

### 3.2.2 Examining Environmental Sub-risks



**Figure 5:** Environmental sub-risks (normalized)

“ It’s evident that social risks, particularly human rights breaches and labor rights controversies, have received significantly more attention than environmental risks. ”

It’s evident that social risks, particularly human rights breaches and labor rights controversies, have received significantly more attention than environmental risks. Despite the severity of environmental events, they represent a lower percentage in comparison. This highlights the prioritization of addressing social issues within these companies’ operations.

SHEIN experiences extensive scrutiny, leading to a wealth of data on its practices. Conversely, TEMU, despite facing environmental controversies, has been less transparent about its environmental footprint, with [Greenpeace reports](#) highlighting this lack of clarity. This disparity underscores that SHEIN's environmental impacts are more thoroughly documented than TEMU's.

For SHEIN, concerns include [lead contamination](#) in products, resulting in recalls by Health Canada of [toxic children's jackets](#). Greenpeace's analysis has also revealed hazardous chemical levels [surpassing EU regulations](#). Additionally, SHEIN's

operations are criticized for their contribution to [climate change](#) through promoting [overconsumption](#) that leads to [high carbon dioxide emissions](#), severe [water pollution](#) from textile dyeing, and substantial [textile waste](#).

These environmental and health issues gained attention during SHEIN's [attempts to launch IPOs in the US and UK](#), spotlighting the company's ethical and environmental practices. Despite SHEIN's pledges to donate towards solving textile waste problems, critics label these actions as [greenwashing](#), calling for significant alterations to its business model to address the underlying issues effectively.

### 3.3 Supply Chain Dynamics: SHEIN vs TEMU

While TEMU doesn't have its own brand like SHEIN, it operates under a comparable business model. It acts as an intermediary, managing shipments for products it doesn't manufacture. Despite their distinct approaches, both companies frequently engage in disputes, drawing attention to their supply chains. Additionally, policymakers often group them with similar firms, subjecting their fast fashion practices to heightened scrutiny.

“

These events highlight the growing scrutiny surrounding the supply chain practices of both SHEIN and TEMU.

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Recent reports and incidents shed light on TEMU's practices, including its engagement with suppliers previously rejected by SHEIN for **substandard practices and allegations of evading responsibility for forced labor**. We also detect TEMU's legal battles with SHEIN, involving disputes

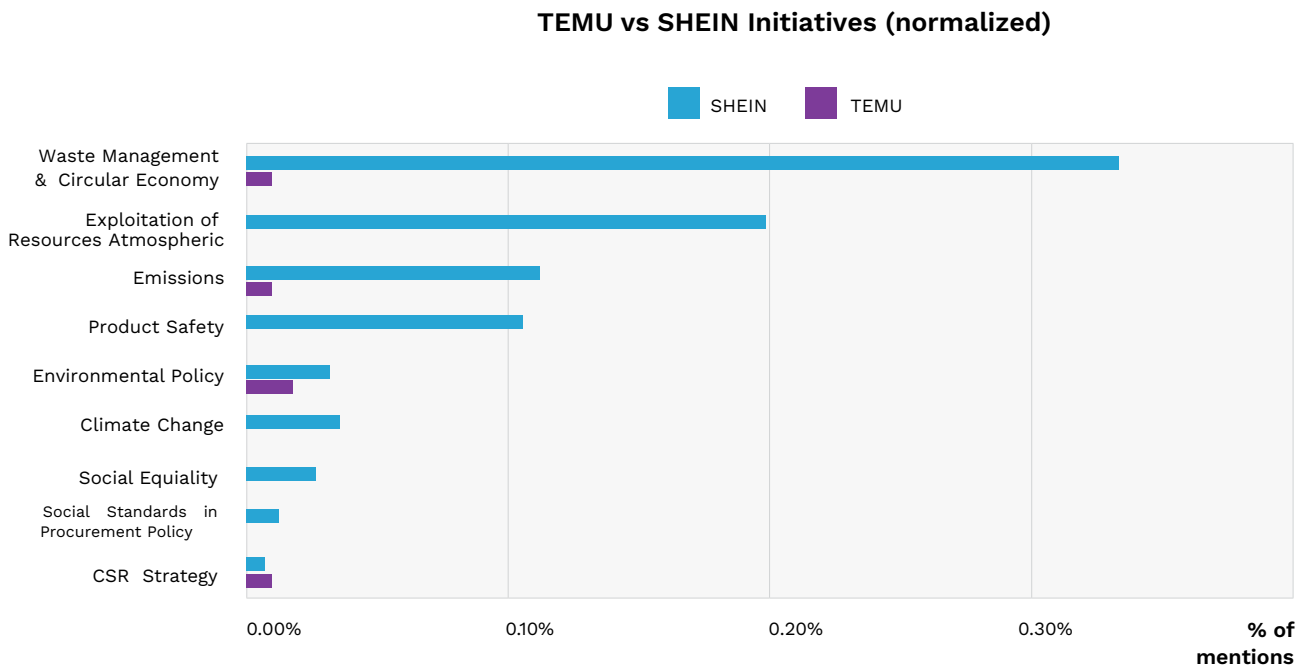
over **supply chain arrangements and copyright violations**, and a separate lawsuit filed by TEMU against SHEIN accusing it of **coercive tactics against suppliers** and allegedly **intimidating its third-party suppliers and taking retaliatory actions against them for conducting business** with TEMU.

These events highlight the growing scrutiny surrounding the supply chain practices of both SHEIN and TEMU. Senator Rubio's call for an investigation into allegations of Uyghur slave labor

usage by both companies, in addition to mentions of Congressional attention has also focused on these companies, with reports exposing violations of U.S. tariff laws and evasion of human rights reviews on imports, shedding light on systemic issues within their operations.

## Increasing sustainability awareness

We studied both ESG initiatives' mentions associated with the brands, and we detected that over the analyzed time frame, SHEIN has been associated with significantly more initiatives in comparison to TEMU.



**Figure 6:** TEMU vs SHEIN initiatives (normalized)

We analyzed the sustainability initiatives of these companies, finding that SHEIN's efforts outpace TEMU's significantly.

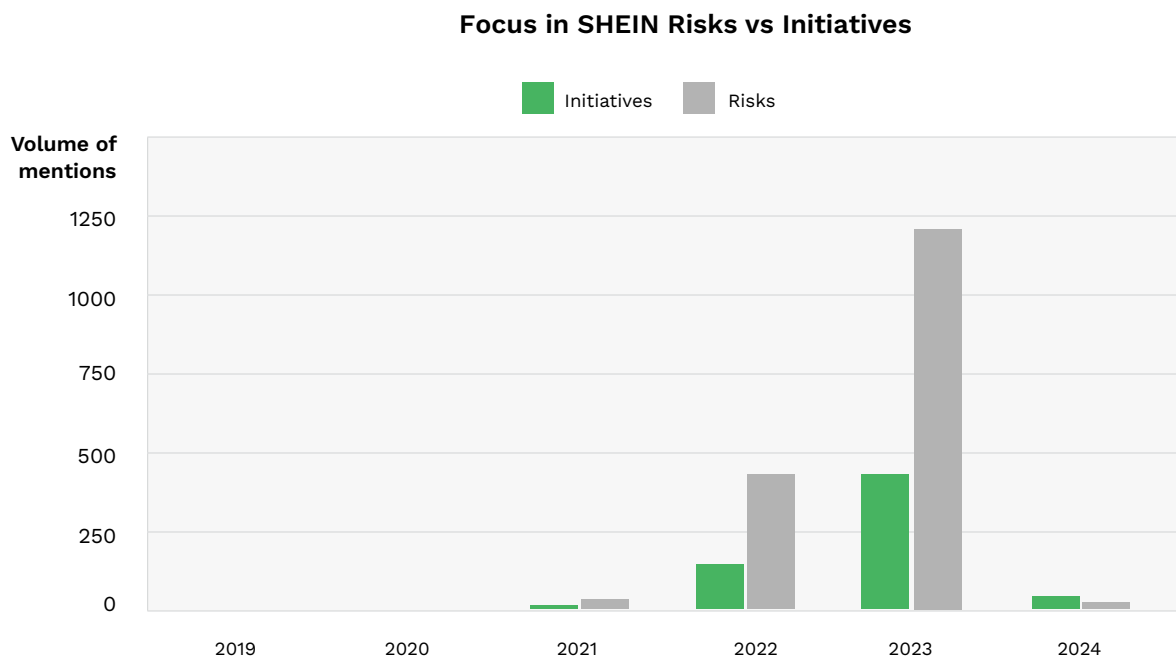
SHEIN focused on circular economy practices, exemplified by partnerships like that with [Queen of Raw to reuse excess industry inventory](#) and

launches such as [EvoluSHEIN](#) and [SHEIN Exchange](#), also boosting Product safety mentions, which promote recycled materials and resale of used products, respectively.

In contrast, initiatives related to atmospheric emissions are mainly concerned with [reducing supply chain emissions by 25%](#) by 2030, while climate change efforts

include innovations with [water-saving technologies](#) and collaborations to [avoid sourcing from forests](#) and promote low-carbon, recycled textiles. Social initiatives, though less frequent than environmental efforts, include a \$70 million [Supplier Community Empowerment Program](#) and [compliance monitoring](#), a [community empowerment fund](#), and [clothing drives supporting nonprofits](#).

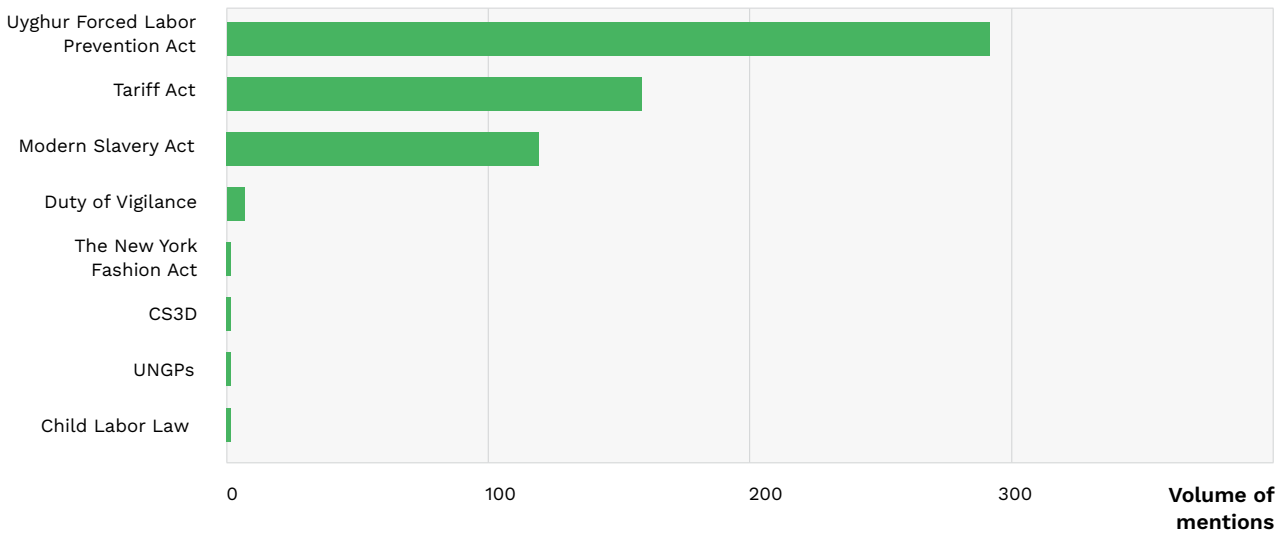
### 3.4 Risks versus initiatives: Focus on SHEIN



**Figure 7:** Focus in SHEIN risks vs initiatives



### SHEIN's Mentions with Supply Chain Regulations



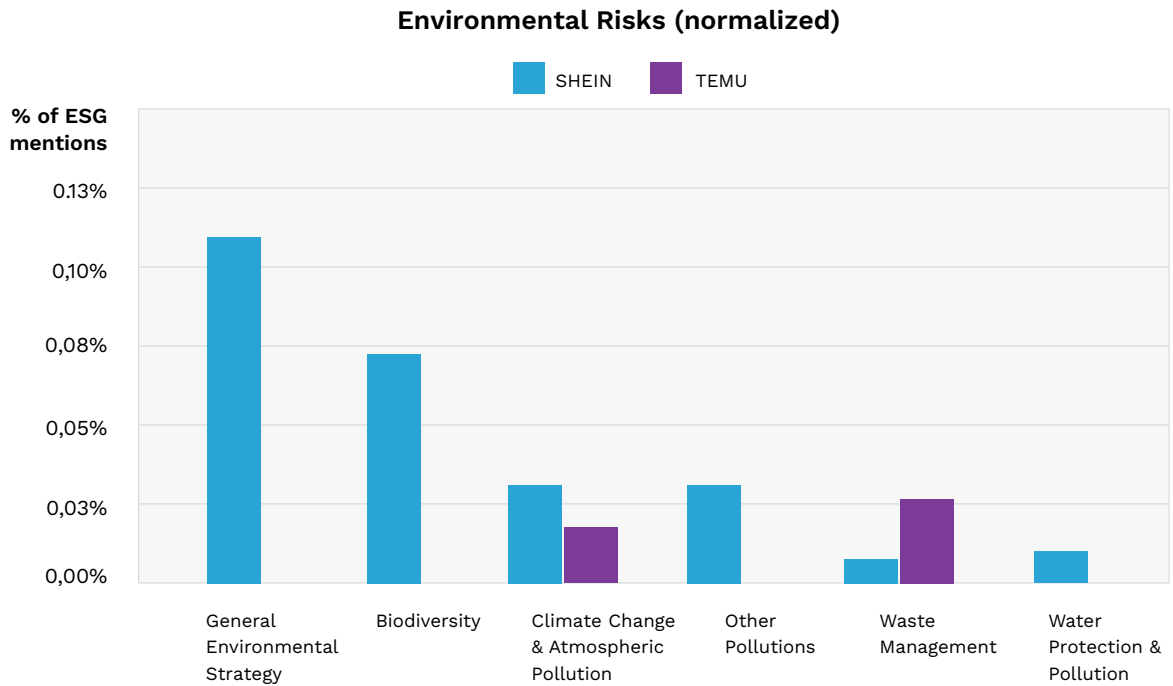
**Figure 8:** SHEIN's mentions with Supply chain regulations

Throughout our analysis period, we noted that 2022 was a turning point for SHEIN's sustainability efforts, sparked by several mentions of breaches related to the Modern Slavery Act and child labor allegations in the previous year, which subsequently increased the company's sustainability-related mentions.

By 2023, as SHEIN prepared for potential IPOs in the US and UK and with the release of a [controversial documentary](#), the company faced heightened scrutiny, with more allegations surfacing in its supply chain concerning various acts and

legislations, such as the Modern Slavery Act, Uyghur Forced Labor Prevention Act, and others.

Despite these challenges, mentions of SHEIN's ESG initiatives also rose, although they remained less prominent than risk-related mentions due to controversies typically gaining more attention online. However, from 2024 to the present, we have observed more initiatives than risks, suggesting that, despite some acts and legislations being non-binding or not directly applicable to SHEIN, the potential reputational impacts drive the company toward positive change.



**Figure 9:** Environmental risks (normalized)

It's worth noting that we've observed discussions linking SHEIN with the recent EU Corporate Sustainability Due Diligence Directive, also referred to as CSDDD or CS3D. These discussions underscore the view that governments should refrain from incentivizing fast fashion companies like SHEIN.

As the CSDDD is expected to bring about significant changes, forcing

businesses to identify, prevent, or mitigate adverse impacts of their operations on human rights and the environment. Notably broader in scope compared to previous legislation, this directive will apply to all companies operating in the EU that surpass a certain revenue threshold. Consequently, fast-fashion retailers like SHEIN will face increased requirements to take action and ensure compliance.

“ ...raise questions about whether its efforts to improve practices are driven by the scrutiny associated with preparing for a public offering or by a sincere commitment to compliance with laws and regulations.

”

The absence of enforceable regulations allows companies like TEMU to continue operating, but SHEIN’s actions, particularly as it moves towards an IPO, raise questions about whether its efforts to improve practices are driven by the scrutiny associated with preparing for a public offering or by a sincere commitment to compliance with laws and regulations.

## Conclusion

Supply chain-related controversies are undergoing significant scrutiny, emphasizing transparency and accountability. While non-binding frameworks provide guidelines, binding legislations mandate compliance, posing legal and reputational risks. Challenges persist, especially for smaller enterprises.

Our analysis underscores the dynamic landscape of supply chain regulations, ESG risks, and sustainability initiatives within the specialized retail sector, particularly in the fast-fashion industry, with a focus on SHEIN and TEMU, revealing a rise in both ESG initiatives and identified breaches. SHEIN's proactive initiatives suggest a

response to regulatory pressures.

Additionally, our findings suggest that even without binding legal requirements, companies may still choose to comply to enhance their reputation or respond to heightened scrutiny.

The introduction of initiatives like the EU Corporate Sustainability Due Diligence Directive (CSDDD) is set to tighten regulations, increasing scrutiny and pressure on businesses to address supply chain controversies and ensure compliance. Stricter regulations are imminent, reinforcing the need for responsible business practices to navigate risks and drive positive change.

[Request a demo here](#)