WIFO ■ WORKING PAPERS

669/2024

Designing EU Supply Chain Regulation

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WIFO Working Papers 669/2024
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2024/1/W/0

Media owner (publisher), producer: Austrian Institute of Economic Research
1030 Vienna, Arsenal, Objekt 20 | Tel. (43 1) 798 26 01 0 | https://www.wifo.ac.at
Place of publishing and production: Vienna

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This is a draft version. The final version will be published in a forthcoming issue of Intereconomics.

9th January 2024

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JEL: F13, F18, J80
Keywords: EU, supply chain, due diligence, regulation, firm, international trade

Abstract
The EU Directive on Corporate Sustainable Due Diligence has sparked fierce debate about the regulations of supply chains. The Directive's objectives are aligned with European values. Assuming that enforcements of social and environmental rules are absent in certain third countries, it privatises compliance costs in complex supply networks. This paper suggests options to make the Directive more effective and efficient. It should exclude countries with a sufficient regulatory system and focus not on the entire network but on supplier-buyer relationships only. Public agencies should set harmonised regulatory standards, interpret the regulations and organise a private certification scheme in which liabilities are assumed by certification companies. The proposed system resembles the market for financial auditors.

1. Background

The integration of emerging and developing countries into the global production networks of industrialised countries has brought great progress to hundreds of millions of people around the world. For instance, World Bank data suggest that the number of people living in absolute poverty has fallen from around 2 billion in 1990 to less than 650 million in 2019, even as the world's population has grown from 5.3 billion to 7.8 billion. Other social welfare indicators paint, on average, a similar picture. From a somewhat narrow, economic perspective, the literature provides evidence on the average growth-enhancing effects of trade integration, see for example Felbermayr & Gröschl (2013) or Feyrer (2019, 2021). However, trade integration also has its downsides. Growth can increase economic inequality in rich and poor countries (see the review by Helpman, 2021), and its impact on environmental outcomes is ambiguous to say the least (see, e.g., Cherniwchan et al. (2017) for a review). The vehicle of these processes were the relocation of production processes from developed to less developed countries, where not only are labour costs typically lower, but social and environmental standards are either absent or poorly enforced. This has had unintended and undesirable consequences there have been concerns about negative effects on longer-term productivity growth (Windrum, Reinstaller and Bull, 2009). At the societal level, human rights abuses, including forced labour, and environmental degradation have been criticised.

These issues are far from new, and the global community has reacted. It has developed and ratified a significant number of legal texts that implement the provisions of the 1948 Universal Declaration of Human Rights, such as those prohibiting the worst forms of child labour. Similarly, there are various environmental conventions, the 2015 Paris Agreement on climate change being a prominent and almost universally accepted example. Although these norms are desirable, they are often in breach. The risk of such events has increased with the recent rise of autocratic or illiberal governments around the world. According to the V-Dem Institute (2023), 72% of the world's population lived in autocracies in 2022, the highest level since 1986. Similarly, according to the World Bank's Carbon Pricing Dashboard, only 23% of global CO2 emissions occur in countries with some form of carbon pricing, signalling the uneven level of government commitment to tackling climate change. Supply chain regulations seek to effectively promote the compliance with such regulations. One such regulation is the EU Directive on Corporate Sustainability Due Diligence (CS3D). This policy brief aims to discuss this directive and suggest practical steps to improve its effectiveness and efficiency.

1.1 The EU Directive on Corporate Sustainability Due Diligence

In 2022, the EU first proposed the Directive on Corporate Sustainability Due Diligence (CSDD; 2022/0051/COD) (CS3D). On 14th December 2023, the Council and the European Parliament reached a provisional deal (Council of the EU, 2023). The aim of the Directive is to improve corporate governance practices to mitigate globally adverse human rights and environmental impacts, to remedy adverse impacts for those affected, and to promote sustainable and responsible business practices throughout the global value chain. Firms operating in the EU will have to ensure that they meet high ethical, environmental and labour standards throughout their operations. The CS3D requires companies to integrate due diligence into policies and management systems to identify risks. Companies would have to implement risk management systems and a grievance mechanism. They would have to produce an annual report describing due diligence efforts and objectives and monitoring the effectiveness of due diligence measures.

The EU Directive will apply to all large companies operating in the EU, i.e., companies with more than 500 employees and a global annual turnover of more than €150 million. In addition, the CS3D will apply to EU based firms with more than 250 employees and a turnover of more than €20 million generated in "high impact sectors". These thresholds were the result of a lengthy discussion process. While the EU Council favoured a higher threshold in terms of number of employees and turnover, i.e. less directly affected companies, the EU Parliament proposed lower thresholds, with companies affected if they have more than 250 employees or an annual worldwide turnover of more than €150 million. In addition, the CS3D will apply to non-EU companies and parent companies with over €150 million net turnover generated in the EU, three years from the entry into force of the directive. The Commission will have to publish a list of non-EU companies that fall under the scope of the directive.

There is a particular focus on companies operating in "high impact sectors". These are sectors identified by the EU as having a high risk of negative impacts on the EU and a high potential for violations of human rights and environmental standards. They include wholesale trade of textiles, clothing and footwear, wholesales trade of agricultural raw materials, live animals, wood, food and beverages, agriculture, forestry, fisheries, extraction of mineral resources, manufacturing of food products and beverages, manufacturing of textiles, leather and related products and manufacturing of basic metal products, other non-metallic mineral products and fabricated metal products. Financial services are temporarily excluded from the Directive. However, a review clause is envisaged to allow for the future inclusion of the downstream financial sector, based on a sufficient impact assessment. The agreement stipulates that compliance could be a criterion for awarding public contracts and concessions.

The CS3D will introduce duties for directors and senior managers to establish and oversee the implementation of due diligence processes and to integrate due diligence into the company's strategy. Directors and management will have to consider the impact of their decisions on human rights, climate change and the environment in fulfilling their duty to act in the best interests of the company. Companies, including those in the financial sector, will also need to adapt and implement climate change transition plans to ensure that their business models are consistent with efforts to limit global warming to 1.5°C.

Companies found to be in breach of the new regulation will be subject to sanctions, including fines and compliance orders, and victims of violations will be compensated. Failure to comply with the CS3D can lead to reputational costs for the importer, loss of access to EU public procurement and/or financial consequences. The latter can be significant, even if the risk is low, as fines are substantial: up to 5% of net turnover.

The CS3D closely follows the Corporate Sustainability Reporting Directive (CSRD), which entered into force earlier this year. It is part of a wider trend to shift responsibility for enforcing international law beyond governments to individuals and businesses. Examples of recent EU legislation aimed at promoting sustainable practices along European supply chains include the EU-regulation on deforestation, the EU Timber Regulation, the regulation on conflict minerals, and the draft regulation banning products made with forced labour. Yet, the CS3D is different from previous supply chain legislation in a number of ways. First, it is one of the few to cover both human rights and environmental impacts of value chains. Second, it covers direct and indirect suppliers, upstream and partially downstream in the value chain, such as distribution or recycling. Third, it goes a step further than previous reporting requirements by requiring companies to disclose their risk mitigation strategies. Furthermore, it will close regulatory gaps. Even though trade regulations apply to many value chain transactions, this this is not always the case. Hence, CS3D has a residual effect. In the absence of equivalent agreements, it fills a gap and provides a regulatory baseline.

The provisional deal has been subject to fierce debate. The provisional agreement reached with the European Parliament has been subject to fierce debate now needs to be endorsed and formally by both institutions. Once the CS3D is formally adopted, Member States will have two to three years to transpose it into national law. This means that countries, such as

Austria, that do not have any supply chain-related due diligence laws would have to create a national supply chain law. Countries such as Germany, France or the Netherlands, which already have legislation in place, would have to ensure that their laws do not fall short of the standards set by the EU directive.

2. A general appraisal

The EU is founded on a set of social and economic values. Environmental and social sustainability are part of these values and are part of the supply chain regulations. This is backed by the public. There appears to be a strong preference among EU citizens that goods or services consumed at home should not have been produced abroad in violation of these standards. EU Member States are under an obligation to have in place appropriate frameworks for such engagement. While the national regulatory frameworks are supposed to ensure the compliance with these values within the EU, the question arises how these can be implemented outside of the EU. The EU Corporate Sustainable Due Diligence is a vehicle supporting these policy objectives under the assumption that public enforcement is poor or lacking in third countries.

A first question concerns how supply chain issues should be approached. Certainly, these could be effectively promoted if embedded in trade regulations. There are human rights conventions, international environmental treaties and agreements setting labour standards, which are provisions of international law. They must in principle be enforced by the states or by the international community. Yet, international enforcement mechanisms are absent. The UN agreed on "Guiding Principles on Business and Human Rights " in 2011, in which private companies are empowered to act as agents of society at large in the enforcement of human rights (see also Jacob et al. 2022). Recently, Western governments have involved the private sector, i.e., private companies are being obliged to monitor compliance and addressing non-compliance in their supply networks. In a number of countries due diligence laws to regulate the supply chain have been enacted. This is particularly the case in France (Loi de vigilance, effective from 2017) and Germany (Lieferkettensorgfaltspflichtengesetz, LkSG, effective from 2023). The Directive on Corporate Sustainability Due Diligence (CSDD; 2022/0051/COD) in 2022 (CS3D) could be interpreted as a means to avoid a fragmentation of due diligence requirements across the EU.

The rationale for the CS3D is that voluntary agreements have failed and that international agreements cannot be enforced abroad by foreign governments. As a result, the burden of responsibility will fall on companies doing business internationally. This means that the monitoring and enforcement of public regulations will be delegated to private companies. Private companies are certainly key to compliance. However, they do not have the mandate to enforce the rules in the wider economy and do not have the legal means to monitor third parties. Hence, the CS3D broadens the base of enforcing agents. Yet, private companies cannot fully substitute the public enforcement of compliance with rules and regulations.

Some private companies that source internationally have already taken voluntary steps to eliminate misconduct in their supply chains. However, only a small fraction of all firms has done so. A survey of Austrian firms shows that many have already implemented responsible corporate governance concepts, but the systematic integration and monitoring required for reporting and documenting supply chain due diligence has so far been limited. Small and medium-sized enterprises in particular are less likely to have already implemented the necessary measures (Meyer and Reinstaller, 2022). From a cost-benefit perspective, this is not surprising. Stricter sourcing standards by individual importers, even large ones, are unlikely to have any measurable marginal impact on the human rights situation or environmental pollution in developing countries, while inevitably increasing their sourcing costs. The incentives for companies to act autonomously are therefore weak. To solve this variant of the "tragedy of the commons", government action is justified.

3. An ex ante assessment

3.1 International economic effects

The implementation of the CS3D imposes due diligence obligations that will result in increased implementation and transition costs for firms. If costs become too high, there is the risk of withdrawal of EU importers from certain source countries. According to simulations of the effect of the CS3D on welfare and trade using a general equilibrium global economy and trade model by Wolfmayr et al. (2023), a significant reduction in international trade between the EU and countries with a high probability of due diligence violations, including China, can be expected. If EU firms were to withdraw from key high-risk trading partners, imports from sectors with a high risk of human rights and environmental violations, such as clothing, textiles and minerals, would see their international trade fall by more than 26%. This decline in trade could have a negative impact on the degree of diversification of EU imports, undermining efforts to strengthen the EU's resilience and posing a challenge to the EU's sustainability goals, as many products vulnerable to human rights violations serve as essential inputs for the green transition. In addition, EU companies may have to replace their imports of goods vulnerable to due diligence violations with imports from other sources that comply with the CS3D. This will increase transition costs and import prices, thereby reducing the EU's competitiveness, particularly in relation to other geo-economic powers such as the US and China (Wolfmayr et al., 2023).

Trade diversion from high-risk countries to high-income countries could hinder the integration of developing countries into international markets and the economic development of poor third countries that lose access to the EU export market. According to Wolfmayr et al. (2023), high-risk countries could experience significant welfare losses. The withdrawal of EU imports could lead to trade diversion, with importers from other countries, such as China, filling the gap. Moreover, since exporters are necessarily formal firms, CS3D could push employment in developing countries into the informal sector, where the situation regarding human rights, labour standards and environmental pollution is much worse.

However, there are no comprehensive econometric evaluation studies of existing due diligence laws. Preliminary evidence on the French law shows that French importers have withdrawn from small and risky countries (Kolev and Neligan, 2021). This is consistent with existing evidence (Hendricks and Singhal 2003, 2005a,b) that news of adverse events in the supply chain has a particularly negative impact on the economic value (i.e. share price) of companies.

3.2 Relationships that need to be monitored

Assessing the effects of supply chain regulations suffers from poor data availability. Supply chain data at the firm level, let alone breaches of regulations within supply networks, is not available. In a recent paper published by the Supply Chain Intelligence Institute Austria (ASCII), this issue was overcome by a synthetic dataset of EU firms, which allows to quantify the likelihood of links to firms potentially involved in human rights abuses in their supply chain (Hurt et al., 2023). The network model shows that virtually every company in Europe is vulnerable to supply chain risk when considering indirect relationships. This is because supply networks are extremely dense: On average, there are 30-50 suppliers per company. Large companies have up to 10,000 suppliers and up to 100,000 customers. The exposure is particularly high for small, open economies. In Austria, for instance, the probability of an importer being exposed to a risky product/country combination is almost 100% from the second link in the supply chain onwards. Yet, even companies in the larger and/or less open EU countries are almost fully exposed from the third (or higher) link in the supply chain. Depending on the precise definition of high-risk sectors, the estimates show that the CS3D directly applies to approximately 20,000 EU-based companies. These companies are estimated to have 8.9 million supply relationships with 4.8 million companies, all of which would need to be monitored. In addition, these companies will need to monitor their own supply chains. ASCII estimates that 30 million EU companies and virtually all global companies importing into the EU are no more than three levels away in the supply network from the original 20,000 companies, amounting to approximately 894 million supply relationships that would need to be monitored under CS3D. ASCII further estimates that there are approximately 600,000 such supply links from European to non-European companies.

3.3 Fixed costs of suppliers

The CS3D increases the fixed costs of trade per supplier due to importers' efforts to fulfil the obligations set out in the Regulation. Additional expenditures include the identification of key suppliers and regularly reviewing their business practices to ensure compliance or developing contingency plans. Given the design of the scheme, it is inevitable that public regulatory costs will be privatised.

To assess the likely impact of the CS3D, one can draw on a growing body of research on the effects of trade costs on firm behaviour. Starting with Melitz (2003), theoretical and empirical work has shown how firms of different sizes react to changes in the trade cost environment. If the fixed cost of sourcing from a particular foreign supplier rises, low-volume relationships will be abandoned because the operating profits they generate will no longer cover the fixed costs of the key account. In general equilibrium, this allows larger suppliers to gain market share at the expense of smaller suppliers, thereby reducing the number of suppliers and the degree of diversification. Helpman et al. (2008) extend this result to a multi-country setting and show that higher fixed trade costs stop trade between countries altogether unless there is a firm-level relationship in which the achievable operating surplus exceeds the fixed costs of maintaining the relationship. The intention of the law is that European firms should improve local conditions in third countries rather than withdraw. However, there are no legal means of enforcing such behaviour if firms' operations are not profitable.

For example, the German Parliament provides a legislative impact assessment of its supply chain act. It provides estimates of the direct administrative costs associated with the implementation of the due diligence obligations. However, this calculation remains incomplete, because European importers are not in a position to judge ex ante whether a particular supplier is "clean" or not. As a result, companies invest in costly monitoring activities. Increased monitoring will reduce the likelihood of human rights abuses or environmental crimes, but it will not eliminate the likelihood of a foreign supplier shirking its responsibilities. Even when a supply chain risk management and monitoring system is effectively implemented, many firms do not have a complete picture of their entire supply chain due to data protection and privacy concerns.

The effective relationship-specific fixed costs are the sum of direct (bureaucratic) costs plus the probability of failure times the probability of detection times the sum of fines and reputational costs. This means that companies will withdraw from foreign countries if they perceive a high risk of damage. While this was partly intended, in some cases it has led to a concentration on fewer suppliers. This runs counter to efforts to diversify the EU's supply base. It may also

lead to the withdrawal of EU importers from high-risk countries, with possible developmental and geopolitical implications.
It also means that information asymmetries are at work. Even "clean" foreign suppliers will lose business in Europe because they cannot be distinguished from rogue firms. This "lemon problem" means that a CS3D that increases the effective cost of large customers for European importers may end up penalising the wrong foreign companies. The problem is compounded by legal ambiguities that plague the CS3D provisions. For example, it is difficult to determine ex ante how much effort a company will have to expend to comply with the due diligence requirements. Over time, this will be determined by best practice routines and by the courts. However, the risk remains that a firm will be accused, with or without justification, of failing in its due diligence obligations after a risk has materialised.

4. Towards an effective, cost-efficient regulatory design

The policy should be designed to ensure that the Directive is effectively implemented so that human rights and environmental standards are respected along the value chain. While compliance imposes additional costs on companies, it must be done in a cost-effective manner so as to minimise disruption to compliant operations and company profitability.

4.1 Scope of application

The starting point is to limit the increase of fixed costs at the company level. These should not reach an extent to which unwanted firm reactions become likely. A straightforward way to do this is to ensure that the overall cost efficiency of the monitoring system is maximised. Consider a network of M buyers in the EU and N sellers abroad. To achieve efficiency, it is obviously preferable to monitor the N potential sellers rather than the MxN potential bilateral relationships. In a global network where each of the K firms is potentially a buyer and a seller to every other firm, focusing on firms rather than relationships reduces the monitoring activities from Kx(K-1) to K, i.e. almost to the square. For the importer in the EU, focusing on the nodes of the networks rather than on the links significantly reduces total costs. Lower costs imply that fewer EU importers withdraw from risky countries or concentrate their sourcing on fewer suppliers within the same country. From a non-compliant suppler perspective, the firm risks losing all M-buyers in the EU rather than just one. In other words, the negative consequences of non-compliance would be much greater due to Single Market related multiplier effects. This greatly increase the effectiveness of the regulation.
Companies are being obliged to consider adverse impacts on human rights and the environment in relation to their own activities, the activities of their subsidiaries and the activities of companies in the value chain. The latter is a direct or indirect business relationship that is consistent in intensity or duration and does not represent an insignificant or merely subordinate part of the value chain (Art 3 lit f CSDDD). Altogether, this implies that both suppliers and buyers are subject to the EU CSDD. Restricting the regulation to upstream relationships, i.e., only to suppliers, would immediately lead to a significant cost degression. Given the cash flows from buyers to suppliers, this limitation of the scope is also more practical from a transactional perspective.
The geographic scope of the regulation should be limited to reduce the bureaucratic burden. The Directive has been designed on the assumption that public enforcement in third countries is poor or non-existent. In turn, this implies that the Regulation should not apply to transactions with trading partners in countries with sufficient de jure and de facto enforcement of European values. Companies located in geographical areas with a sufficient rule of law should therefore be exempted, because they are assumed to be able to sufficiently

enforce social and environmental standards. These should include, but not be limited to, EU Member States, EFTA countries, the United States of America, Canada, Australia, New Zealand, Japan, and South Korea.

4.2 A certification and blacklisting system

While direct monitoring can be costly for companies and not monitoring the risks of including a non-compliant company in the supply chain, a market solution can reduce both the costs incurred and the risk of dealing with a non-compliant company. In principle, such certification can take place at country or company level and can be carried out by public authorities or specialised private companies. Given the budgetary constraints of the public sector and the complexity of the real business environment, a market solution seems more efficient than a government solution. This could be similar to the market for financial audits. Specialised and regulated certification firms could take on risk. Private firms would take on both public oversight responsibilities and liabilities. The certifying firms would have to be contracted by a public authority to carry out due diligence and would be authorised to issue a certificate for a certain period of time, thereby exempting the foreign company's EU trading partner from carrying out bilateral due diligence. Such specialised companies would charge a fee for their services. Crucially, they would assume liability for their due diligence, so that the EU importers themselves would be completely relieved of liability. A certification approach can be interpreted as a "positive list", i.e., a list of companies that comply with the CS3D. There are significant advantages to the supplier-based certification approach:

- By effectively pooling the costs of due diligence, a positive list approach significantly increases the efficiency of the monitoring system as a whole. It also increases effectiveness because non-compliance by a single supplier leads to the delisting of that supplier for the entire EU market. This multiplies the incentives for compliance. As a result, both the efficiency and the effectiveness of a system that focuses on the manufacturer is orders of magnitude higher than that of a system that focuses on the bilateral relationship.
- Once a supplier has been approved and certified, the European label can be used by importers anywhere in the world. Suppliers therefore have an interest in being certified and listed. This gives the EU measure much more clout, creating a desired 'Brussels effect' (Anu Bradford, 2020). Without this mechanism, the CS3D strictly covers only those foreign exporters who sell to the EU.
- A CS3D that allows companies to outsource liability to specialised certification firms would create a European supply chain certification industry that could set global standards and pursue opportunities in many economies and jurisdictions. The existing structure of comparative advantages puts the EU in a good starting position.

Similarly, negative lists can be drawn up and maintained by public authorities. These would – temporarily - blacklist firms that do not comply with the CS3D. The negative listing of a country, region, or foreign company by a public authority would undoubtedly provoke political opposition abroad and be probably accompanies by retaliation measures. This is not necessarily a disadvantage, as such possibilities require an analysis of the trade-offs involved. Leaving the decision whether or not to import from a particular country to EU importers, or to EU courts interpreting or ruling on the CS3D, removes geopolitical considerations from the debate, whereas it may be in the European interest to include them. For example, it may be politically desirable to continue sourcing from a high-risk country if decoupling would cause the foreign government to change its allegiance. Different actors, from trade unions, business associations, NGOs to private individuals, should be allowed to provide information to the authorities responsible for maintaining and amending the positive and negative lists. CS3D, as presently envisaged, should apply in cases where a supplier is not included in either positive or negative lists.

5. Conclusions

In a nutshell, the Corporate Sustainable Due Diligence Directive requires companies to conduct due diligence on their own behaviour and that of their direct and indirect suppliers. They would have to identify and prevent, end or mitigate any actual or potential adverse impacts on human rights and the environment in their own operations, in their subsidiaries and in the value chain. This paper proposes a certification scheme to move monitoring from the bilateral, transactional to the supplier level. As in the market for financial auditors, certifying companies would take responsibility for compliant suppliers. The certifier would be publicly approved by an authority within the EU. At the same time, blacklists exclude certain countries or suppliers from supply chains involving EU companies. There are no due diligence requirements for companies that are blacklisted or certified. This approach is based on the integrity of the EU's single market, which is more effective when implemented within a single framework rather than many, possibly incompatible, national rules.

This system would reduce the overall cost of the regulation for EU importers and the likelihood of unwanted side-effects. It would also be more effective because non-compliance by a foreign supplier would lead to delisting across the EU, rather than affecting a single supplier-buyer relationship. The market solution would also reduce legal uncertainty. Overall, the system offers an option to extend the scope of the regulation, and thus EU values, beyond EU-based production networks. Certainly, if other countries, such as the United States, were to implement a similar system that is in line with the approach adopted by the EU, such an initiative would be more effective.

A certification scheme can shift liabilities and, if designed in a cost-effective manner, reduce the burden on companies and effectively improve local production conditions. However, residual risks remain, and these can be significant. For example, if upstream market structures for critical inputs are highly concentrated, with no alternative suppliers available. This is likely to be the case in supply chains where raw materials are required. In the worst case, European suppliers would be at a competitive disadvantage in an otherwise desirable initiative.

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