Due Diligence - Effect of Supply Chain regulation

Data-based results on the effects of the German Supply Chain Act

Galina Kolev-Schaefer / Adriana Neligan

Berlin/Cologne, 08.02.2024

IW-Report 8/2024

Wirtschaftliche Untersuchungen,
Berichte und Sachverhalte

Herausgeber
Institut der deutschen Wirtschaft Köln e. V.
Postfach 10 19 42
50459 Köln

Das Institut der deutschen Wirtschaft (IW) ist ein privates Wirtschaftsforschungsinstitut, das sich für eine freiheitliche Wirtschafts- und Gesellschaftsordnung einsetzt. Unsere Aufgabe ist es, das Verständnis wirtschaftlicher und gesellschaftlicher Zusammenhänge zu verbessern.

Das IW in den sozialen Medien

Twitter
@iw_koeln

LinkedIn
@Institut der deutschen Wirtschaft

Instagram
@IW_Koeln

Autoren

Prof. Dr. Galina Kolev-Schaefer
Senior Economist am Institut der deutschen Wirtschaft und
Professorin für Volkswirtschaftslehre an der Technischen Hochschule Köln
kolev-schaefer@iwkoeln.de
0221 – 4981-774

Dr. Adriana Neligan
Senior Economist
neligan@iwkoeln.de
030-27877-128

Alle Studien finden Sie unter www.iwkoeln.de

In dieser Publikation wird aus Gründen der besseren Lesbarkeit regelmäßig das grammatikalische Geschlecht (Genus) verwendet. Damit sind hier ausdrücklich alle Geschlechteridentitäten gemeint.

Stand:
Februar 2024

Inhaltsverzeichnis

JEL-Classification

F18 – Trade and the Environment
Q56 – Environment and Development
Q01 – Sustainable Development

Abstract

After the agreement of the European Parliament and the Council of the EU in December 2023, a few formal steps remain to introduce the Corporate Sustainability Due Diligence Directive (CSDDD). The legislation is intended to improve environmental and labor standards along the chain of international activities of European companies. However, the scope is far-reaching, and its implementation will be associated with significant costs of compliance. Thus, the directive will not only deteriorate the competitiveness of European companies but also endanger the economic development of developing and emerging economies because their attractiveness as suppliers of intermediate or final products for the European market will significantly decrease.

The experience with supply chain due diligence regulations from EU member states supports these arguments. The present paper investigates the adverse effects of the German supply chain act one year after its introduction by using trade data and the results of a recent survey among German companies:

- **Trade data:** It shows that imports in the high-risk sector of apparel from countries with problematic enforcement of sustainability standards like Bangladesh and Pakistan have decreased by more than 20 per-cent since the introduction of the law. This development seems not to be driven by shrinking demand in Germany but is rather an early sign of trade diversion due to this non-tariff barrier to trade especially with these countries.

- **Company survey:** Furthermore, survey results indicate that the range of companies affected by the existing German regulation is much wider than those directly covered by the law as many companies are indirectly affected as customers or suppliers. More than one out of eight companies have decided to purchase products or produce increasingly in countries with high human rights and environmental protection standards. For directly and indirectly affected firms the share is even 22 per cent. This explains at least partly the drop in imports from countries with weak governance.

As it cannot be ruled out that supply chain regulations negatively impact development in third countries, there is a need for more experience and time to design the CSDDD in a way that it does not only represent a burden for European companies and disadvantage for developing countries. The scope should be restrained to reduce legal uncertainty and increased only gradually as soon as European companies are prepared for the next step of the implementation. Generally, a risk-based approach is preferable, where companies are obliged to monitor and report on the sustainability of their supply chains only when there is clear evidence of high risks of non-compliance with sound environmental and labor standards. Furthermore, the obligations to monitor the production conditions of intermediate products should be constrained to the direct suppliers like in the German approach instead of covering the whole chain of activities, as it is barely possible for companies to trace the whole chain of activities associated with the production of intermediate products – especially for highly complex products. The proposed CSDDD needs to undergo a major review to assure that it effectively improves production conditions abroad without significant negative side effects and risks for economic development in developing and emerging economies.

1 Introduction

European institutions have been struggling to reach an agreement on the due diligence regulation of international value chains for several years. In December 2023, the European Parliament and the Council of the EU finally agreed on a final draft of the European directive on the sustainability of the supply chain of companies operating in the EU. After a formal vote in the Legal Affairs Committee, the Council of the EU and the European Parliament, the Corporate Sustainability Due Diligence Directive (CSDDD) can enter into force. This law will oblige companies operating in the EU to respect human rights as well as labor and environmental standards in their international activities from 2027 on. According to the directive, companies should integrate the impact of their economic activity on human rights and the environment into their management systems and ensure that their activities are not based on child labor, forced labor, exploitation, pollution, or other damage to ecosystems (European Parliament, 2023). They must also create a code of conduct and adopt a plan to ensure that their business model is consistent with limiting global warming to 1.5°C. What sounds like positive news for increasing social and environmental sustainability along the supply chain can have serious disadvantages for the competitiveness of European companies and for employment and economic development in developing and emerging countries. The CSDDD is a non-tariff barrier to trade as compliance is costly, especially for companies purchasing intermediate products in developing and emerging countries where production conditions are less transparent. Thus, while intended to improve production conditions in those countries, it diminishes their comparative advantage as countries with low labor costs and makes them less attractive as suppliers within the value chain of European companies.

For European companies it is associated with high legal uncertainty and compliance costs, as experience with similar regulation is scarce. The French *Loi de Vigilance* introduced in 2017 as well as the German *Lieferkettensorgfaltspflichtengesetz*, in the following German Supply Chain Act, introduced in 2023 also essentially regulate sustainability of international supply chains. However, they are hardly comparable to the CSDDD - both in terms of the scope of the activities covered and the number of companies affected. Still, adverse effects are already evident in terms of shrinking demand for goods produced in developing countries and trade distortions. The present paper is a first attempt to analyze the effects of the German Supply Chain Act one year after its introduction. The analysis is based both on trade data and the results of a recent survey among German companies. A similar survey conducted two years ago showed that the number of affected companies is much higher than expected as the law indirectly affects the suppliers and the customers of the big companies covered directly by the law (Kolev / Neligan, 2022). Back then, 12 percent of the companies stated that they intended to withdraw activities from high-risk countries because of high compliance costs. The results in the present paper indicate that for many companies it was not just an intention. Recent survey data suggests that these plans were implemented by many firms one year after the introduction of the Act, and trade data shows that imports in the high-impact apparel sector from countries with weak governance like Bangladesh, Pakistan or Cambodia have decreased dramatically. Considering the high significance of this industry for incomes and jobs in those countries, the results are sobering. It is thus of major importance to postpone the vote on the CSDDD at least by a few years to collect further evidence on the effectiveness of such regulations and to base the design of the directive on the experience from the regulations already introduced in some member states. On February 1, 2024 the ministers of Germany’s liberal party (FDP) announced that Germany will abstain on the vote for the law at the level of EU ambassadors on February 9 as they cannot support the current version of the planned legislation. It is unclear yet, whether this may spark a new general debate about the implementation of such a regulation.

The analysis is structured as follows. The next section gives an overview of the contents of the CSDDD as a harmonized EU framework and places the content in the context of the existing German Supply Chain Act. Section 3 represents a discussion of the trade effects of the Germany Supply Chain Act in the apparel industry. In section 4, the results of the survey-based analysis are shown. Section 5 contains some concluding remarks and economic policy implications.

2 Politics: Supply Chain Regulation in the European Union

The recent provisional agreement of the Trilogue for the CSDDD at EU level includes requirements for German companies that go far beyond the German supply chain regulation, which was introduced in Germany in 2023. If the EU regulation is passed in this version, this will have heavy implications for European firms. The CSDDD in this version would both include civil liability risks and administrative sanctions (BMJ, 2024a). The main differences between the current German regulation and the planned regulation are (Table 2-1, see also Kolev / Neligan, 2022; Lindner / Buschmann, 2024; EU Council, 2023; EU Parliament, 2023):

- **Focus:** The focus of CSDDD is broader in comparison to the German regulation as it not only aims to mitigate the negative impact of companies on human rights but also of the environment (EU Parliament, 2023). In addition, large companies must adopt and put into effect, through best efforts, a transition plan for climate change mitigation (EU Council, 2023). The German regulation aims to minimize human rights risks and enforce the ban on forced labor in the supply chain. Environmental concerns can be relevant if human rights are being violated, e.g. in the case of polluted water or if it is a matter of human health (BMAS, 2023).

- **Scope:** The scope of application of the CSDDD is wider in contrast to the current German legislation which applies to German producers abroad with more than 1,000 employees from 2024 on (in the first year 2023 more than 3,000 employees) (BMZ, 2022). The planned EU directive shall apply to EU companies and parent companies with more than 500 employees and a global turnover of more than 150 million euros. In individual sectors with higher risks (high-impact sectors), such as the clothing and textile industry, agriculture, forestry and fishing, as well as the production of food and trade in raw materials, the obligations are also to apply to smaller companies with more than 250 employees and a turnover of more than 40 million euros if at least 20 million euros of their turnover is generated in the high-risk area. Non-EU companies and parent companies with a corresponding turnover in the EU will also be subject to the obligation (EU-Parliament, 2023). In addition, the construction sector is to be categorized as a so-called risk sector (BMJ, 2024).

- **Liability risks:** Even though the due diligence obligation of companies is to apply to the entire supply chain according to the German law, it limits the direct duty of care to the company itself and direct suppliers. Only in suspicious cases indirect suppliers must be checked (BMAS, 2023). The CSDDD does not differentiate between direct and indirect suppliers (BMJ, 2024). With the planned EU regulation companies will have to identify, assess, prevent, mitigate, end and remedy their negative impact and that of their upstream and partly downstream partners along the chain of activities, including production, supply, transport and storage, design and distribution on people and the planet. This would lead to an extremely broad scope of obligations and therefore much higher liability risks than in the current German regulation.

- **Civil Liability:** The EU regulation shall include civil liability reinforcing the access to justice of persons affected. Claims can be made within a period of five years by those affected by adverse impacts. This includes trade unions or civil society organizations. Furthermore, it also limits the disclosure of evidence, injunctive measures, and cost of the proceedings for claimants (EU Council, 2023). In contrast to this the German law does not create any new civil liability regulations. At the same time, civil liability on grounds outside this law remain unaffected. However, injured parties receive more rights, as people whose human rights have been violated can use the German courts to get their rights upheld, but they can also report their grievances to the Federal Office for Economics and Export Control. In addition, German trade unions and non-governmental organizations can also support injured parties from other countries in a representative way by defending their rights before a German court (BMAS, 2023).

Table 2-1: EU plans go beyond German legislation

A comparison

	Lieferkettensorgfaltspflichtengesetz (since 2023)	**EU Due Diligence Directive (CSDDD) (Plan)**
Focus	Human rights Environment only with reference to human rights	Human rights Environment
Scope	Companies based in Germany from 2023: >3,000 employees, from 2024: >1,000 employees	Companies operating in the EU: > 500 employees + turnover > €150 million, In "high-risk" sectors: >250 employees + €40 million
Liability risks	Graded according to influence: own company + direct suppliers Only in case of suspicion: indirect suppliers	All business relationships: "upstream" partly "downstream"
Enforcement	Federal Office of Economics + Export Control	National authorities
Civil liability	No	Yes
Penalties	100 - 800 thousand € / up to 2 percent of turnover (>400 million €)	Naming and shaming as well as fines of up to no less than 5 percent of net worldwide turnover
Exclusion/Awards	Exclusion for serious offences: public procurement (up to 3 years)	Award for compliance for public contracts and concessions

Source: own compilation based on Kolev / Neligan (2021a), BMAS (2023), EU Parliament (2023), EU Council (2023), BMJ (2024)

3 Trade: Effects of due diligence

3.1. Role of German and other European businesses abroad

International activities are essential for European companies since the international division of labor is the be-all and end-all of many business models. Thanks to globalization, European companies benefit from specialization advantages and thus increase the quality of the products manufactured while at the same time reducing costs by scaling production volumes. The products or production steps for which there are high production costs or a lack of capacity at home are then carried out abroad. Moreover, global supply chains not only increase productivity of local companies abroad; they also create jobs worldwide and ensure global networking of production and economic development. Many European companies are generally sought-after employers and bring good salaries, high production standards and newer technologies to their production facilities abroad. According to the German Bundesbank, the German economy's direct investments abroad in 2021 has created and secured almost eight million jobs worldwide. In addition, European companies act as important customers for products manufactured abroad. According to OECD data, for the purpose of domestic demand and exports in Germany, value-added worth almost 1,100 billion euros is created abroad - for comparison: that is over 30 percent of Germany's gross domestic product (data for the year 2018, for which the last data on value added trade is available). This creates millions of jobs worldwide in addition to those arising from investment activities.

It is difficult to imagine the world today without global supply chains. Nearly every product we consume in the EU – goods or services – contains at least a small proportion of foreign added value. At the hairdresser it might be the hairdryer that was imported from South Korea, at the bakery it is the work clothes that come from Bangladesh, at the tax office it is the computer on which the tax officer processes the application and for which the final manufacturing steps took place in China.

Even though European companies generally bring high production standards with them abroad, it is often not possible to trace the production conditions for all individual raw materials or intermediate products that go into the production process of the final goods purchased by the consumer. Supply chains are extremely complex. If a large company affected by the law has ten direct suppliers of raw materials, intermediate products, components, technology, etc., each of which has ten suppliers itself, then there are 110 different direct and indirect trading partners whose production conditions need to be checked to comply with the supply chain law. A company's supply chain usually does not end after two intermediate stages. In addition, most of these suppliers are located in other, sometimes distant, countries, meaning that it is an enormous effort for the companies concerned to reliably trace their production conditions. The implementation of supply chain regulations is therefore costly. It affects the competitiveness of the companies concerned compared to their competitors abroad, for whom such obligations do not apply.

The associated bureaucratic effort creates an incentive to purchase intermediate products primarily from countries with high production standards, or to build up own production capacities in such countries to be able to provide evidence of high production standards more easily. The law reduces the previous cost advantage of developing countries such as Bangladesh or Cambodia, where it is hardly possible to guarantee the standards in the manufacturing process required to comply with the law. If production standards are raised to meet legal requirements, this would result in an increase in the sustainability of production, so that living conditions for the population would improve - as intended by the European Commission (2023). However, it is much more likely that the low production standards in these countries and thus the high implementation costs encourage many German and soon other European companies to avoid these countries as suppliers, to withdraw from them and to manufacture their primary products in countries with more reliable production conditions instead. This would then be associated with a falling demand for products from countries with problematic production conditions, including job losses and a deterioration in the general economic situation - and thus the opposite of what the European Commission and the Federal Government expect from the introduction of supply chain regulations.

In an ex-ante assessment, Wolfmayr et al. (2023) simulate the expected trade effects of the CSDDD using a general equilibrium global economy and trade model. The results show that international trade between the EU and countries with weak governance, where due diligence violations are more likely, decreases significantly. The authors estimate a decrease of EU imports from high-risk countries of 26 percent for high-impact sectors where the probability of human rights and environmental violations is comparatively high. Kolev and Neligan (2021b) confirm these findings by analyzing the trade effects of the French supply chain law (*Loi de Vigilance*) within a gravity model of international trade. The results of their empirical analysis indicate that the introduction of the law was associated with significant decline in trade between France and low-income countries.

3.2. Trade effects of the German Supply Chain Act

One year after the introduction of the supply chain law in Germany, the assessment of the impact is challenging. In this section, a first attempt is made to provide understanding to the extent to which German buyers have withdrawn from countries with weak governance due to the strict provisions of the law using trade statistics accompanied with other macroeconomic data. Still, the present analysis is not conclusive but rather indicative for observed adverse effects due to increased requirements of German authorities regarding the sustainability of the imports of German producers.

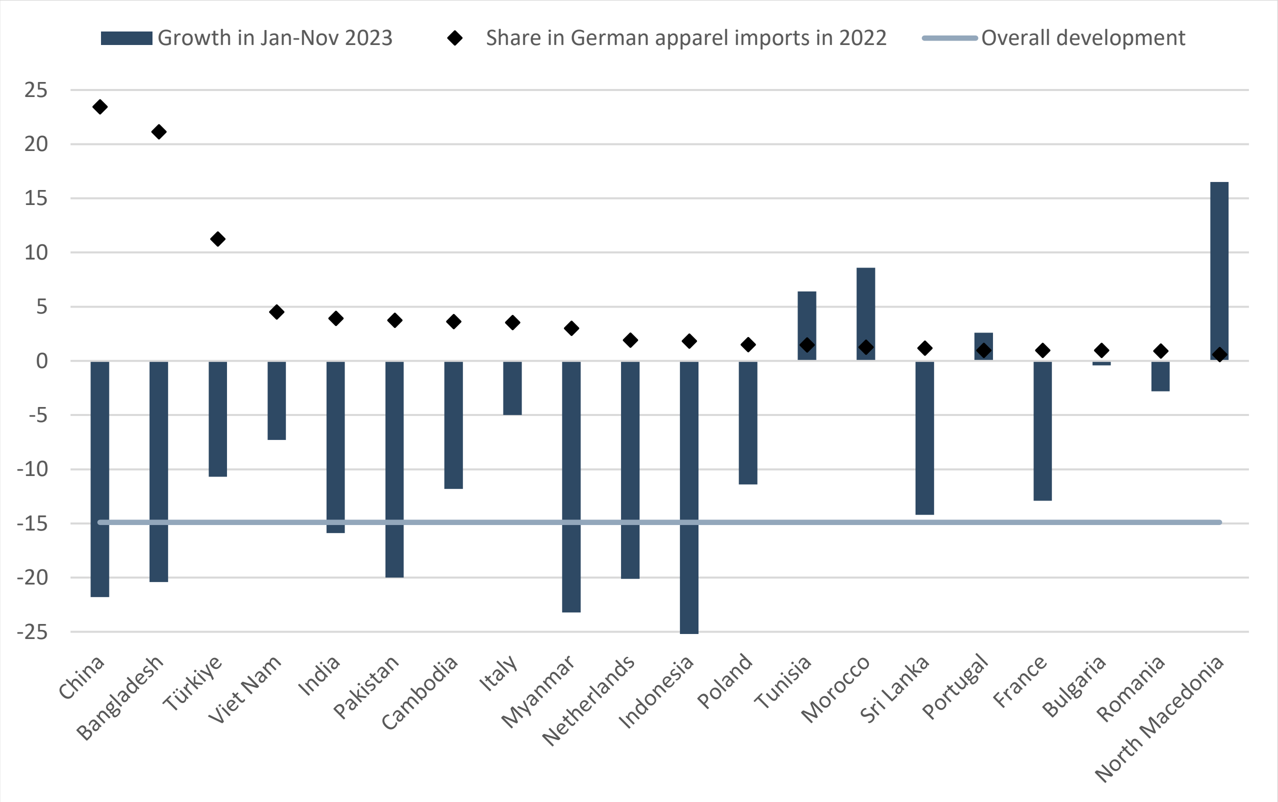
The empirical analysis is mainly based on data from the Federal Statistical Office of Germany (*Statistisches Bundesamt*). It considers the development of German imports of products from the apparel industry since the production of these products has been often used as an illustrative example of lacking sustainability, both in terms of environmental pollution and poor working conditions. Especially since the tragedies in Pakistan in 2012 and Bangladesh in 2013, when more than 1300 people died in the fire of the Ali Enterprises factory and the collapse of the Rana Plaza factory, it has become clear that production standards in the apparel industry in major supplier developing countries can be highly problematic. Furthermore, the European Commission lists textiles, clothing and related products first when it comes to high-impact sectors where due diligence obligations need to be even stricter than for the overall economy.

Figure 3-1 offers an overview of recent apparel imports and their development in Germany. The biggest suppliers of apparel products in 2022 were China (23.5 percent of total German imports of apparel products), Bangladesh (21.2 percent), Türkiye (11.2 percent), Vietnam (4.5 percent), India (3.9 percent), Pakistan (3.7 percent), Cambodia (3.6 percent), Italy (3.5 percent) and Myanmar (3.0 percent). Overall, these nine countries account for 78.2 percent of German imports of apparel products.

Beyond the share of major supplying countries in German apparel imports, Figure 3-1 further depicts the development of import flows in 2023. For most of the supplying countries, the year-on-year growth rate is negative, indicating that the value of German apparel imports from these countries has decreased. The value of total German imports of apparel products decreased by 14.9 percent in the same time period. Among the top suppliers, especially China, Bangladesh and Pakistan experienced a significant drop of over 20 percent in the months January-November 2023 against the previous year. Notable exceptions from the overall trend represent Tunisia, Morocco, Portugal and North Macedonia, as German apparel imports from these countries increased, in some cases substantially, in 2023. Furthermore, imports from Bulgaria, Romania, Italy and Vietnam exhibited a decline well below average by less than 10 percent.

Figure 3-1: Major supplier countries of apparel imports

Share in overall German imports of apparel products in 2022 and growth in 2023 in percent



Source: Own calculations based on data by the ITC World Trade Map and Destatis

The question arises which factors drive the development of apparel imports in Germany and which impact is attributable to the newly introduced supply chain regulation. In the following, possible answers to these questions are investigated. As potential explanations for the development of German imports of apparel products the following factors are considered:

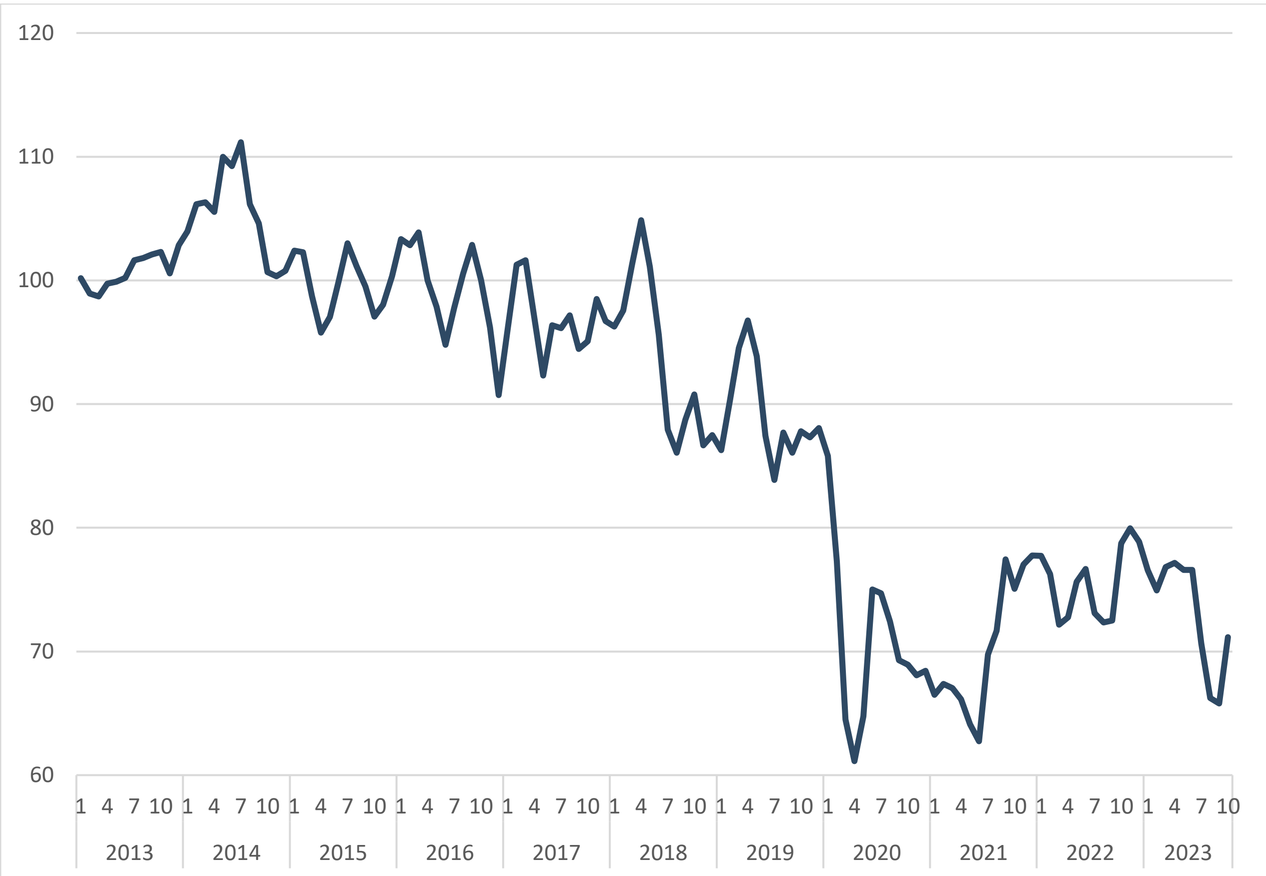
1) Decreasing demand for products of the apparel industry
2) Decreasing import prices (including exchange rate fluctuations)
3) Near-shoring and shifting procurement towards countries with higher level of sustainability (adverse side effect of the supply chain regulation)

Ad 1) Decreasing demand for products of the apparel industry

The decline of total German imports of apparel products suggests that there may be an overall drop in demand for these products in Germany. Especially shrinking purchasing power due to high inflation can have negative effects on purchases of apparel products. According to data by the Federal Statistical Office of Germany, in 2022 consumer prices of apparel products increased by 7.9 percent on average in Germany and the inflation rate remained above 6 percent in the first eight months of 2023. Therefore, decreasing demand for textile products can possibly be a common trend due to high inflation and not necessarily related to the supply chain law. However, as data by the Federal Statistical Office of Germany indicates, consumption expenditure on apparel and shoes increased by 3.3 percent in nominal terms in the first nine months of 2023 year-on-year and decreased only by 0.6 percent price-adjusted (adjusted for calendar effects). Therefore, despite high inflation demand for these products remained rather stable in Germany. Furthermore, local production of apparel products decreased in the period between January-November 2023 only by 3.1 percent in real terms against the same period of the previous year, despite the overall weakness of German industry in recent years (Figure 3-2).

Figure 3-2: Apparel production in Germany

Index, 2015=100, adjusted for price, calendar and seasonal effects, 3-months moving averages



Sources: Own calculations based on data by the Federal Statistical Office of Germany

Decreasing imports of apparel products accompanied by stable local demand measured by real consumption expenditure and only a small decline in local production can be seen as signs of reshoring. Since the outbreak of the COVID-19 pandemic, many companies have questioned their sourcing strategies and considered re-structuring in terms of diversification, stock piling or reshoring and nearshoring (Kolev / Obst, 2021). Therefore, the development of demand, production and imports of apparel products may be caused by the attempt of many companies to increase resilience of global supply chains.

The introduction of the supply chain regulation is another possible explanation for this phenomenon, as high compliance costs for imported goods increase their prices relative to the locally produced counterparts. In a survey conducted a year before the introduction of the law, one out of 20 companies expressed their intention to relocate production back to Germany as a measure to adjust to this new regulation (Kolev / Neligan, 2022). As apparel is not among the products where strategic dependencies were identified (see e.g. European Commission 2021), this explanation for the process of reshoring seems at least as plausible as increasing resilience.

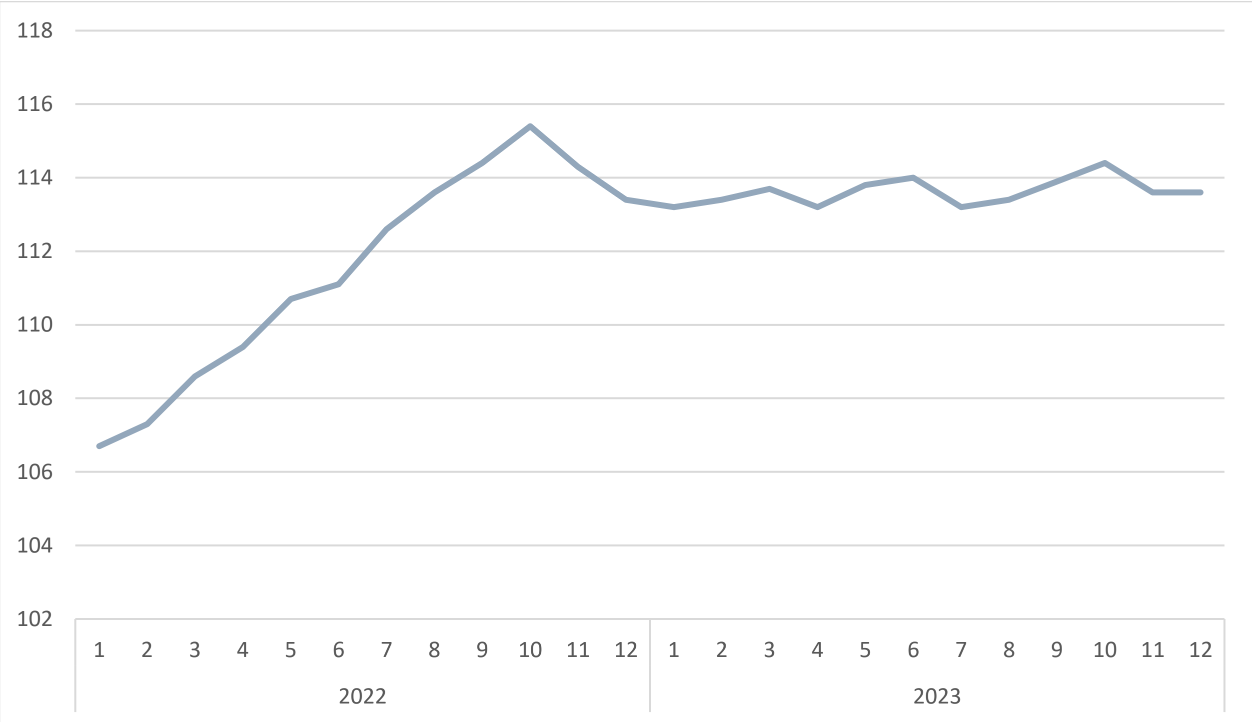
Ad 2) Decreasing import prices (including exchange rate fluctuations)
A second possible explanation for decreasing value of imported apparel refers to the development of exchange rates and thus import prices. In the context of monetary tapering in developed economies like the US and the Euro Area, the currencies of many developing and emerging economies experienced a sharp depreciation thus making their export products less expensive for their international customers. This is particularly the case for Pakistan, where the currency lost about half its value in the first months of 2023 against 2022, as well as Türkiye und Bangladesh, where the depreciation was substantial too, with more than one fifth. It was less the case for Myanmar and in Vietnam, Cambodia and India as their currencies remained almost at the same level as one year ago. The Chinese Yuan Renminbi experienced even an appreciation against the euro. Most of the currencies stabilized in the course of 2023 and at the beginning of 2024 only the Pakistan and the Turkish currencies were valued by more than 20 percent lower than a year ago. Therefore, the exchange rate effect on import flows is expected to be mostly limited.

Furthermore, the overall impact of the exchange rate development on the imported value is less straightforward, as both price and quantity effects need to be considered. First, the pass-through of exchange rate fluctuations on prices is, in general, comparatively low as suppliers tend rather to follow a pricing-to-market strategy, where markups and thus prices do not react much to exchange rate changes but are set in accordance with market conditions (see e.g. Krugmann, 1987, Bhagwati, 1991, Menon, 1995, Benedictow / Boug, 2012). Hoque and Razzaque (2004) investigated the exchange rate pass-through relationship for the particular case of Bangladesh. Their panel data analysis indicates that especially in the case of ready-made garment exports prices are rather determined by destination markets' demand pattern in accordance with the pricing-to-market hypothesis. Benedictow and Boug (2012) analyzed determinants of the exchange rate pass-through in the case of textiles and wearing apparel imports in Norway. Again, the pass-through effect turns out to be weak and more than half of the import prices development is attributable to a pricing-to-market factor.

Figure 3 shows the development of import prices of apparel products in Germany over 2022-2023. The overall trend is upwards. Despite the small decline at the end of 2022, in 2023 import prices of apparel products were on average 1.9 percent higher than a year ago. Therefore, prices of imported apparel have not decreased, but slightly increased since 2022, although the currencies of many major suppliers experienced a devaluation in the first months of 2023. Since the value of overall imports of apparel in Germany in 2023 was by 14.9 percent lower compared to the previous year, the increase in prices of imported products implies an even stronger drop in imported quantity.

Figure 3-3: Import prices of apparel products

Index, January 2015=100



Sources: Federal Statistical Office of Germany

Ad 3) Near-shoring and shifting procurement towards countries with higher level of sustainability

The analysis thus far suggests that exchange rate fluctuations and demand side factors do not seem to be sufficient to explain the pattern of development of German apparel imports. Increasing local demand and production and lower import volume point toward reshoring. A closer look at the development of apparel imports at country level reveals further insights about possible restructuring international supply chains of these products. As shown in Figure 3.1 on page 11, imports from most of the supplying countries decreased, with several notable exceptions, which can be summarized into three groups:

i) EU member states with low unit labor costs or accession countries

The first group can be referred to as the EU member states with low unit labor costs or accession countries. It comprises Bulgaria and Romania on the one hand, where the decline of German apparel imports amounted to less than 3 percent and thus was well below the average of -14.9 percent, and Portugal and North Macedonia on the other hand as countries, from which Germany's apparel imports even increased. According to Eurostat data, hourly labor costs averaged €30.5 in the EU in 2022. As the production of apparel is labor intensive, especially countries with low labor costs are of particular interest as alternative sources to conventional suppliers like Bangladesh or China. Bulgaria and Romania exhibit the lowest level of hourly labor costs among the EU countries – €8.2 and €9.5, respectively. In the accession country North Macedonia the level of labor costs is even lower. In Portugal, hourly labor costs are somewhat higher at €16.1, though, still far below the EU average. Therefore, imports of apparel products seem to have shifted away from conventional suppliers and towards EU member states or accession countries with low labor costs (the only exception being Poland – a country with relatively low labor costs and substantial decline in German apparel imports).

ii) EU neighboring countries with free trade arrangements

Tunisia and Morocco are two further countries with comparatively low labor costs which have benefitted from restructuring of German imports of apparel products. As part of the network of Euro-Mediterranean Association Agreements the two countries enjoy free trade with the European Union. Furthermore, negotiations have been launched to create Deep and Comprehensive Free Trade Areas between the EU and Morocco and between the EU and Tunisia. Thus, these are developing countries located near to the EU border that have not only relatively low labor and also transport costs but also an advantage in terms of tariff rates, as average EU tariff rate on clothing imports lies at 11.5 percent according to WTO data. Imports of apparel products from these countries increased by 6.4 percent for the case of Tunisia and 8.6 percent for the case of Morocco.

iii) Countries with newly introduced free trade agreement (FTA)

Vietnam as well is a supplier of apparel products to the EU which experienced a decline of German apparel imports well below average. It is neither an EU member state nor an EU neighboring country. However, in August 2020 the EU-Vietnam Free Trade Agreement entered into force eliminating 99 percent of all tariffs and reducing regulatory barriers. Many products of the apparel industry still undergo a transitional period of reduction of tariffs. Most of them were categorized in group B5 where customs duties shall be removed in six equal annual stages. Three years after entering into force, tariffs are still not zero, but substantially lower than prior to the FTA. This agreement offers Vietnam a significant advantage compared to countries like China, India or Indonesia and phasing-out the tariffs in the near future adds to this advantage.

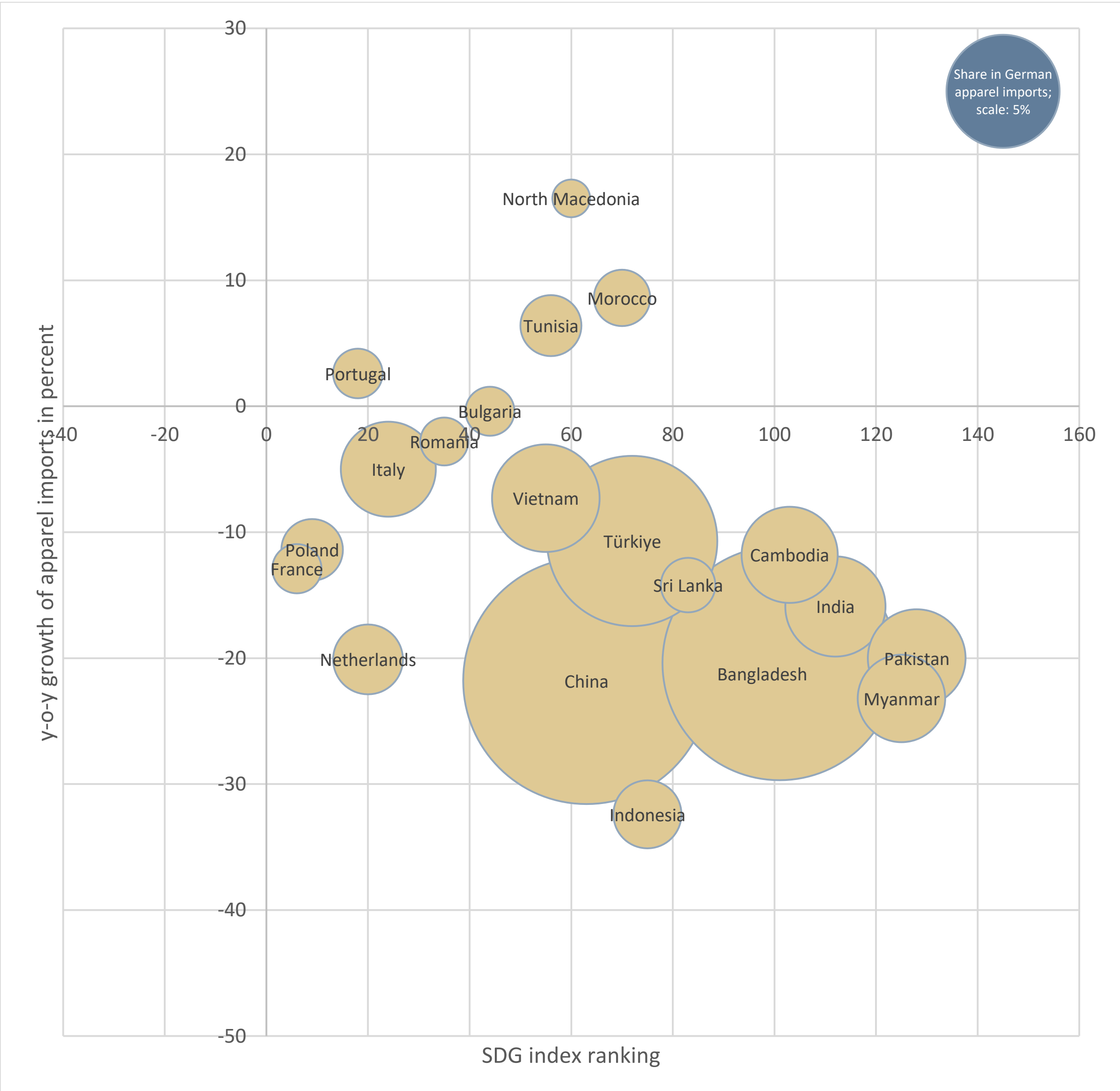
The process of restructuring of German apparel imports reveals the trend to withdraw from conventional suppliers of the products in South-East Asia and to purchase more products from EU member states or accession countries, neighboring countries or countries with newly introduced FTA. This development can again be attributed to the attempt of many companies to increase resilience of their supply chains after the COVID-19-pandemic and in the course of increasing geopolitical tensions. However, a second reason for this observation can be the high compliance costs with the new supply chain regulation in Germany, as the results reported by Kolev and Neligan (2022) indicate that about 12 percent of the surveyed companies intended to withdraw from countries with weak governance structures as a measure to adapt or adjust to the German Supply Chain Act. This share was particularly high among companies with foreign production where 19 percent considered this option prior to the introduction of the law. The analysis based on survey data in the next section will add to this evidence.

Figure 3-4 depicts the development and share of German apparel imports in the context of sustainability. The horizontal axis shows the level of sustainability in the 20 biggest suppliers of apparel products to

Germany as represented by the SDG index. Higher values indicate lower levels of implementation of the 17 SDG goals and thus lower ranks compared to other countries. The representation suggests that the major suppliers of apparel products to Germany with decreasing import values in 2023 are among the worst ranked countries worldwide in terms of SDG implementation. Bangladesh, Cambodia, India, Myanmar and Pakistan are ranked above 100 meaning that less than two thirds of SDGs are implemented in these countries. The countries with increasing imports exhibit significantly better values in terms of SDG implementation. Again, this descriptive analysis is not conclusive, though it indicates a potential shift of German imports not only towards local production but also towards products from countries with higher sustainability standards – as suggested by the survey-based analysis in Kolev and Neligan (2022) and in the next section of the present paper.

Figure 3-4: Development of German apparel imports

Year-on-year growth in January-July 2023 in percent; SDG Index (ranking); share in German apparel imports in percent (bubbles)

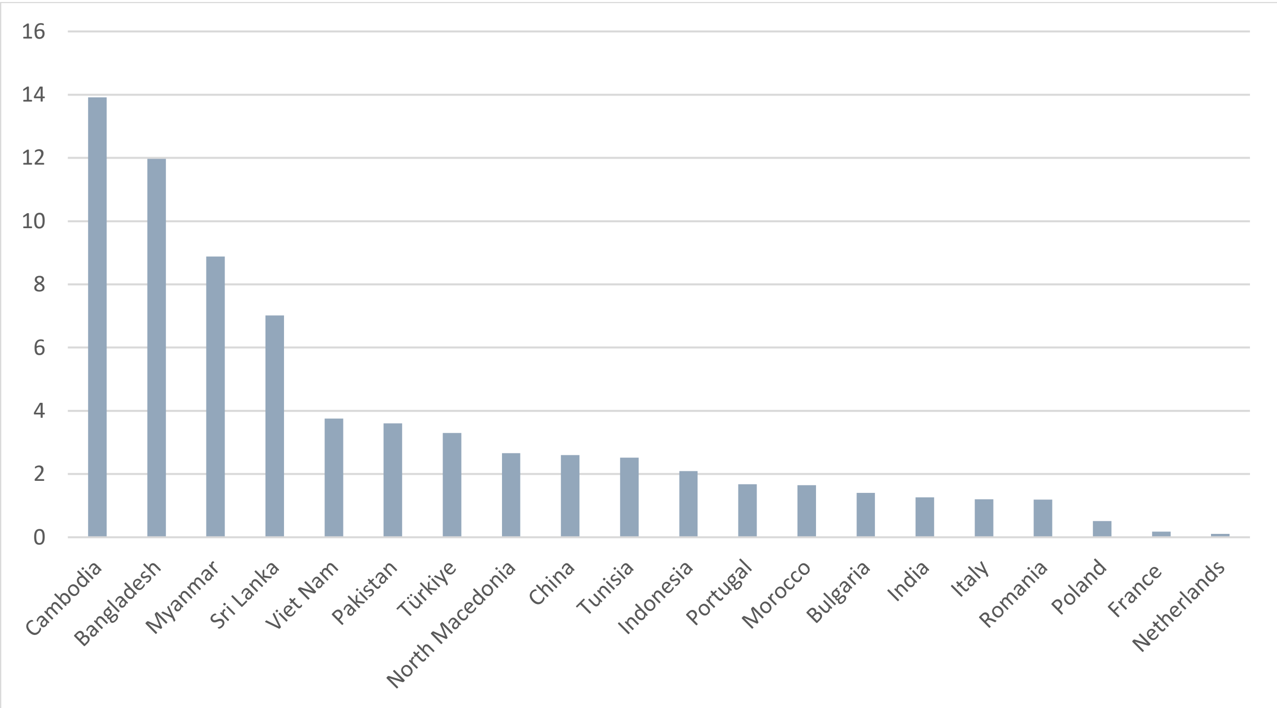


Source: Own calculations based on data by the ITC World Trade Map, Federal Statistical Office of Germany; SDG Index (2023)

Although sustainability of consumed apparel is expected to increase on average in Germany due to both reshoring (thus replacing imports by local production) and near-shoring from countries with higher sustainability commitment, this is an adverse effect regarding the economic perspectives in developing countries like Cambodia, Bangladesh, or Myanmar. As shown in Figure 3-5, textiles and clothing contribute substantially to overall value-added in these countries. In Cambodia, almost 14 percent of total value-added is attributable to this industry according to data by the World Bank, in Bangladesh almost 12 percent. Germany is one of the major customers of the clothing industries of these countries. Almost 9 percent of apparel exports from Pakistan and Myanmar and more than 7 percent of Cambodian exports are directed to Germany. For Bangladesh Germany is even the second most important single country (after the US) purchasing apparel products from its clothing industry with a share of almost 17 percent of total apparel exports. Therefore, shifting demand away from these countries tends to have painful consequences for producers of apparel products and thus for their employees.

Figure 3-5: Contribution of textiles and clothing to GDP

2021 or most recent available data in percent



Source: Own calculations based on data by the World Bank

In fact, the Business & Human Rights Resource Centre (BHRRC) has published several articles describing the dramatic current development in garment, footwear and travel (GFT) factories. In Cambodia, workers in 22 GFT factories lost their jobs due to the slowdown faced by the exports of GFT goods (Times, 2023). Several explanations are offered: the non-renewal of the Generalized System of Preferences (GSP) by the US, the reduction in Everything But Arms (EBA) benefits by the EU since 2020 but also the recession experienced in several export markets. In Pakistan, over 1,600 factories closed in 16 months (Vibe, 2023). In Bangladesh, 320 factories closed leaving almost 45,000 workers unemployed – of which almost 100 factories are from ready-made garment (RMG) industry (Age, 2023). Especially small-scale export-oriented factories engaged in subcontracting closed due to lack of orders according to the information provided by Age (2023).

4 Businesses: Effects of the German Supply Chain Act

The German Supply Chain Act has come into force in 2023. After a short company survey prior to the introduction of the legislation another survey was undertaken recently and thus one year after the implementation of the law to evaluate the effects of the due diligence regulation in Germany.

4.1. Data and Methodology of the Company Survey

The analysis of German firms is based on a company survey conducted as part of the *IW-Zukunftspanel*. The *IW-Zukunftspanel* is a recurring company survey. The respondents are managing directors, board members or heads of strategy departments in companies in industry and the industry-related service sector. In addition to current key topics, the survey collects various structural data that can be used to characterize the companies. The data for wave 46 were collected from 15 November 2023 to 19 January 2024. 982 companies took part, of which 737 answered two questions on the "German Supply Chain Act". This unique dataset includes responses from 414 producing companies – (among these 321 from the manufacturing sector) and 323 industrial service providers (logistics, business-related services) (see Table 4-1).

Table 4-1: Survey sample

Unweighted number of firms according to size and economic sector

	Producing Sector	among which: Manufacturing Sector	Industrial Service Providers	Total
Up to 49 employees	231	187	201	432
50 to 249 employees	126	92	93	219
250 and more employees	57	42	29	86
Total	414	321	323	737

Source: IW-Zukunftspanel, Wave 46, 2023

The participating companies are based on a random sample stratified by number of employees and sector, which was drawn from a company database. The distributions between the population and the sample differ: The sample contains proportionately more large companies than the population. This approach was deliberately chosen to achieve a sufficiently high number of cases for the analysis in this group as well. To determine representative overall values for the population (industrial companies and industry-related services), the survey results were calculated using number weights (based on the number of companies using data from the Federal Statistical Office's business register (*'Unternehmensregister'*). Up to ten sectors and three employee size classes (1 to 49 employees, 50 to 249 employees and 250 employees or more) were considered. Weighting according to the number of companies means that large companies are given a small weighting in the overall result due to their relatively small number. Small companies, on the other hand, account for a large proportion of the total number of German companies and are therefore assigned a higher weighting factor. The results provide information on how the average company assesses an issue. In addition, considering the economic significance of companies the responses are also weighted with the turnover volume of the industry and size classes. The results will be mentioned if there are significant differences. In a turnover-weighted model larger companies have a stronger influence on the results, as larger companies have a higher weighting than small companies.

Two questions were specifically asked on the affectedness of and measures of businesses to fulfil the German Supply Chain Act in force. These questions correspond to the questions analyzed in Kolev / Neligan, (2022) based on data from wave 40 of the *IW-Zukunftspanel* at the end of 2021 – one year prior to the introduction of the regulation.

For this paper descriptive statistics is used to explore the large data set in the context of our research question for which there is only very limited other evidence available. Looking at the differences in the mean value among different types of firms allows to extract meaningful and valuable information from the data.

4.2. Affectedness by the German Supply Chain Act

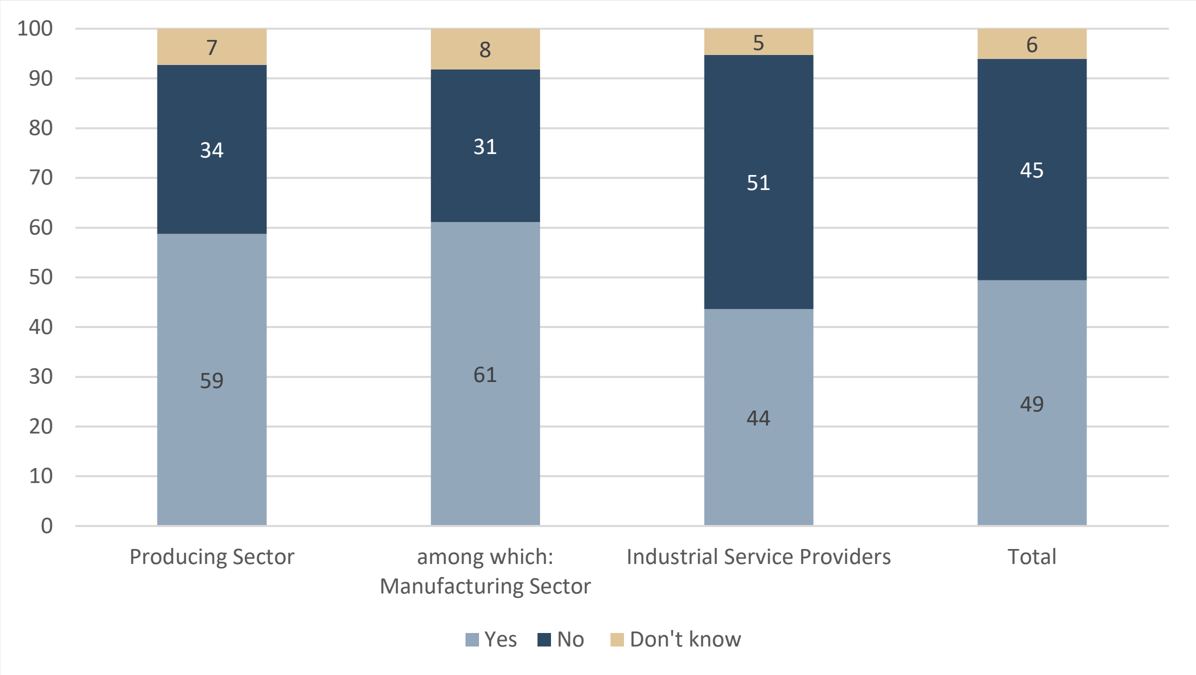
The survey results indicate the level of affectedness one year after the introduction of the regulation. Since the survey results are weighted representatively with the number of companies, the average is determined by the answers of small- and medium-sized enterprises (SMEs) being the dominant group of companies in Germany.

Sectoral view: Many firms are not affected directly given the focus of the Act on large companies, but a considerable share of companies state that they are at least indirectly concerned with the German supply chain regulation as they have to report to customers or as the regulation applies directly to their suppliers. In comparison to the expected affectedness prior to the introduction of the regulation in the previous survey of Kolev / Neligan (2022) the share of overall affectedness with the regulation being in force is now higher and the share of firms not knowing much lower. Industrial firms are more often affected by the regulation than industrial service providers (see Figure 4-1):

- Half of the companies of all sectors surveyed state that they are either directly or indirectly affected by the law. A third of the firms state that they are not directly affected but must report to customers. Almost two fifths have suppliers that have to comply with the regulation.
- In the industrial sector three out of five firms are at least indirectly affected by the law. Only around a third of producing firms state that this is not the case. Reporting to customers makes the regulation indirectly applicable to around 36 percent of the firms in the producing sector. This share is much higher in the manufacturing sector with 45 percent. Every second industrial firm is indirectly impacted by the law due to suppliers being directly affected.
- Within the sector of the industrial service providers, every second firm is not impacted by this regulation. Two out of five must deal either directly or indirectly with the German supply chain regulation. Around 30 percent of these companies are either indirectly affected due to customers or suppliers.

Figure 4-1: Direct and indirect affectedness by the German supply chain regulation

Share as percentage of firms in the relevant sectors



Question: Through which channels is your company affected by the German Supply Chain Act? With three response categories: yes, no, don't know. Multiple answers were possible except for "directly or indirectly affected" which was specifically calculated based on the other items.

Source: IW-Zukunftspanel, Wave 46, 2023

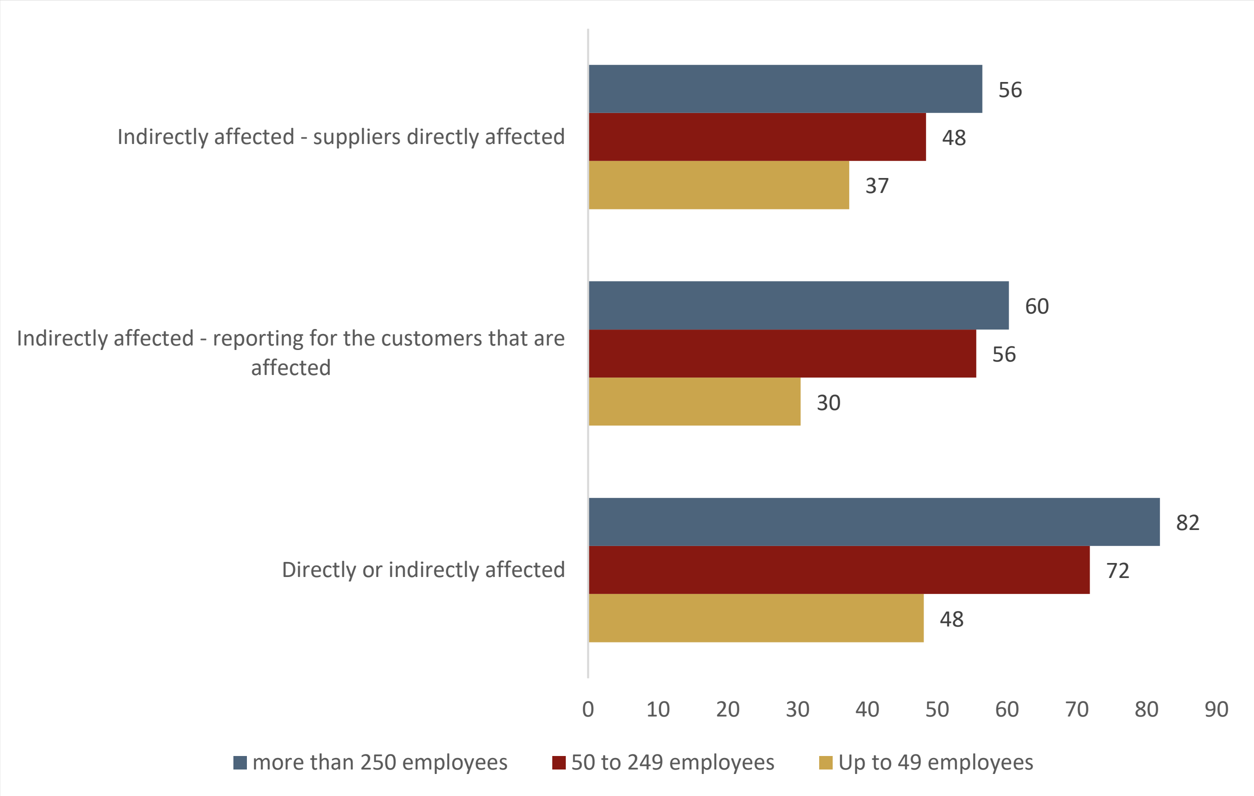
Looking at the results using a weighting based on the turnover instead of the number of companies, the picture is a little different. 75 percent of the surveyed firms state that they are directly or indirectly affected by the German Supply Chain Act. For producing firms, the share is also much higher with 85 percent of the firms. For the manufacturing industry it is nine in ten firms. This indicates that company size does matter, especially as the differences between a turnover-based weight and a number-based weight are minimal when looking at the results according to company size.

Company size: As already seen in Kolev/Neligan (2022) the level of affectedness is not significantly lower among SMEs, although the government stresses that only a small number of companies are covered by the law as it refers currently only to firms with more than 1,000 employees and in 2023 only firms with more than 3,000 employees (see Figure 4-2):

- While 82 percent of the companies with more than 250 employees state that they are at least indirectly affected, this share is 72 percent for mid-sized enterprises (50 to 249 employees).
- Even every second small enterprise with employees of up to 49 percent states that they are indirectly affected as they have to report to customers (30 percent) and/or have suppliers directly affected (37 percent). These shares are even higher looking at manufacturing firms only.
- With 56 percent of the mid-sized firms (50 to 249 employees) having to report to customers due to the regulation it shows that many smaller firms are also burdened by the law.

Figure 4-2: Many SMEs are indirectly affected

Share as percentage of firms in the relevant company size class



Question: Through which channels is your company affected by the German Supply Chain Act? With three response categories: yes, no, don't know. Multiple answers were possible except for "directly or indirectly affected" which was specifically calculated based on the other items.

Source: IW-Zukunftspanel, Wave 46, 2023

4.3. Reactions to the German Supply Chain Act

In the previous section the direct and indirect affectedness of German companies by the German Supply Chain Act was analyzed. The following subsection looks at the measures taken to adjust to the new regulation. The results are for most measures by and large like the ex-ante survey results by Kolev / Neligan (2022) prior to the implementation of the law. In some cases, similarities to the recently published survey results by BDI (2024) on the consequences taken due to the German Supply Chain Act are underlined (see below).

Looking at the measures taken according to the affectedness by the German Supply Chain Act it shows that the relevance of the regulation forces companies to adjust. Differing results on a sectoral level or regarding company size are also included if relevant (see Figure 4-3):

- Only a small minority (3 percent) is planning to relocate at least partly foreign production back to Germany even if they are directly or indirectly affected (6 percent). Only 4 percent plan to stop supplying firms affected by the law – with affected firms this share is higher with 7 per cent. Looking at the company size it is 8 percent of the mid-sized firms (50 to 249 employees) that have taken this measure. In the manufacturing sector regardless their affectedness it is 6 percent respectively for both measures.

- 13 per cent of all firms increasingly purchase products or produce in countries with high human rights and environmental protection standards. The share is somewhat lower than in the ex-ante study by Kolev and Neligan (2022) and still, more than every eighth company has taken this action. Even 18 percent of manufacturing firms choose this option. For affected firms from all sectors surveyed the share is 22 percent.

- One in five companies (in-)directly affected by the law raises the price of its own products to finance the additional costs. Here the shares of companies not concerned with the law are much lower.

- About 7 percent have at least partly withdrawn from countries with weak governance structures. The value is somewhat lower than stated two years ago. Nevertheless, it implies that one out of 14 companies have already implemented this adaptation strategy. For companies affected by the regulation either directly or indirectly it is one out of eight companies similar to the survey by BDI (2024), which focused on firms being directly affected by the regulation. For manufacturing companies, it is more than every seventh.

- Solely 3 percent have appointed additional staff for monitoring – this is the case for small companies with up to 49 employees. The share is 7 to 8 percent for larger firms. For large manufacturing firms the share is around double as high. The survey by BDI (2024) shows even higher shares here on a similar question asking if additional jobs were created or re-organized for the implementation of risk-management.

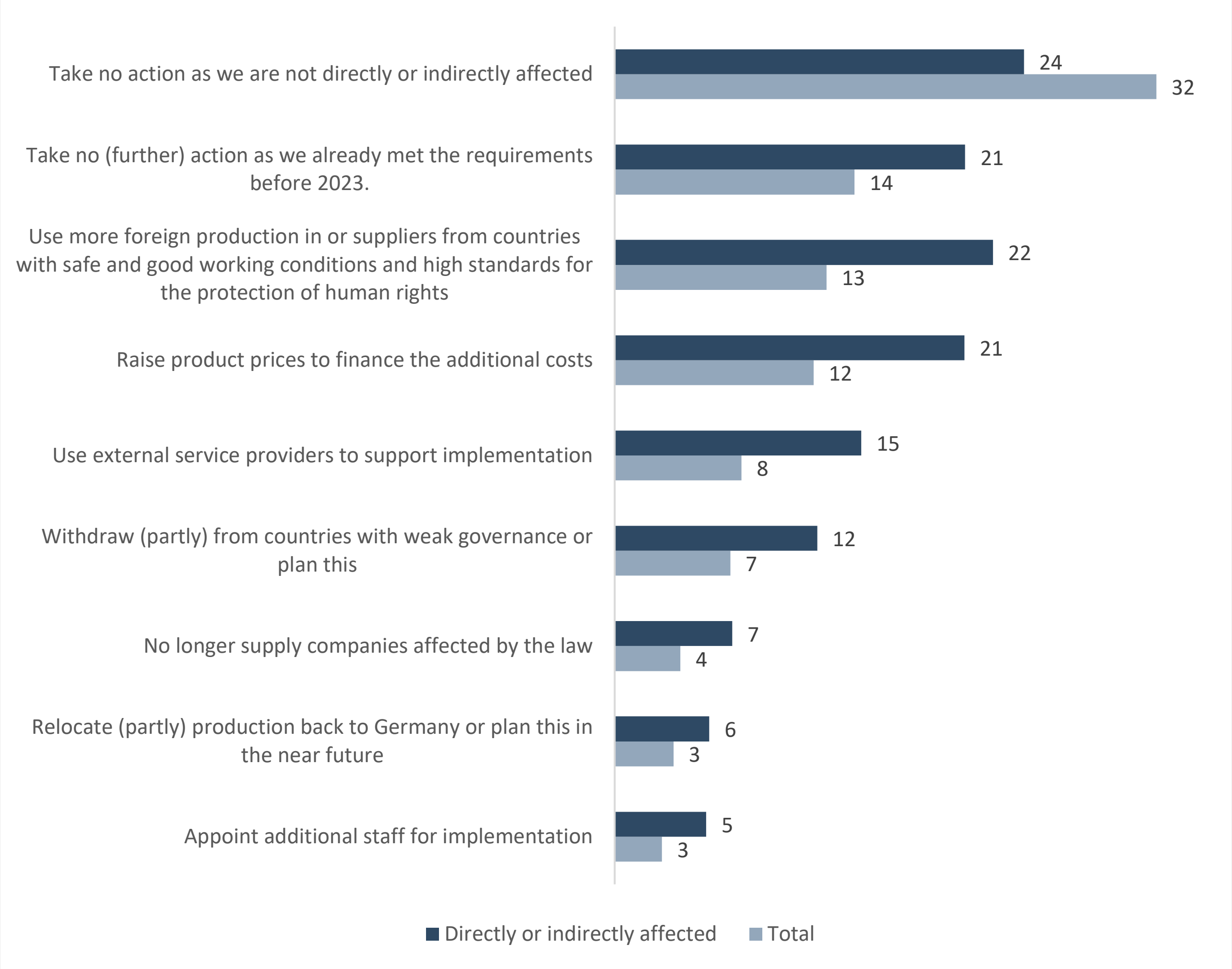
- 8 percent have employed external service providers to do so, the share being almost double as high among directly or indirectly affected companies. Using a turnover-based weight these shares are much higher with 21 percent for all companies and 27 percent of all affected firms. One in four large companies (more than 250 employees) also use external services to comply with the regulation. Almost every second large manufacturing company uses external service providers as shown by the recent results by BDI (2024).

- No measures are required for a third as they are not affected. Given the law’s focus on large companies this applies only to a fifth of the large firms (250 and more employees). For producing firms this share is slightly lower with 29 percent.

- Only 14 percent of all firms already comply with the requirements and must take no further action. This is the case with 20 percent of firms being affected in some way by the regulation.

Figure 4-3: Measures to comply with the German Supply Chain Act

Shares "Yes" as a percentage of firms according to their (in-)direct affectedness



Question: What actions has your company taken to comply with the requirements of the German Supply Chain Act? With three response categories: yes, no, don't know.

Source: IW-Zukunftspanel, Wave 46, 2023

5 Solutions: Mitigation of adverse effects

It is much too early to conclusively evaluate the effects of the German Supply Chain Act. Yet, data-based analysis one year after the introduction indicates that it does not only lead to higher costs for German companies but also deteriorates the competitiveness of developing countries with weak enforcement mechanisms. As it is significantly more difficult to trace supply chains in those countries, the introduction of the law increases the incentives for trade diversion effects in favor of nearer countries with more reliable production standards. The results are, though, only indicative, and not conclusive, as they solely cover the first year after the introduction of the regulation. Moreover, they do not investigate the impact of the German Supply Chain Act on production conditions. They just underline that companies leaving emerging and developing countries due to high compliance costs cannot be in favor of sustainability and economic development in those countries.

The policy implications of the analysis are clear: as it cannot be ruled out that supply chain regulations negatively impact sustainability in third countries, there is a need for more experience and time to design the CSDDD in a way so that it does not represent an excessive burden for European companies and a severe disadvantage for developing countries. The introduction of the regulation needs to be postponed until there is sufficient capacity in developing countries to deliver the necessary information and thus to maintain their comparative advantage as low-labor cost countries. Furthermore, the scope should be restrained to reduce legal uncertainty and increased only gradually when European companies are sufficiently prepared for the next step of the implementation. Generally, a risk-based approach is preferable, i.e. increasing compliance costs only for high-risk companies or countries. Furthermore, the obligations to monitor the production conditions of intermediate products should be constrained to the direct suppliers instead of covering the whole chain of activities, as it is barely possible for companies to trace the whole supply chain of their products – especially for highly complex products. The CSDDD needs to undergo a check of which obligations can realistically be expected from producers and this check needs to take place with business associations and even with single companies.

Further ideas for the design of an effective, cost-efficient regulatory framework for the CSDDD are presented in a recent paper by Felbermayr et al. (2024). They consider possible ways to lower compliance costs by reducing the scope of application. In the first place, cost efficiency can be increased by focusing on firms rather than bilateral relationships. Moreover, the geographical scope should be limited to countries with lacking de jure and de facto enforcement of European values. A certification and blacklisting system at the country or company level can further contribute to the practicability of the CSDDD and thus make the implementation of the directive less costly. Overall, as already stressed above, the authors point out that the regulation should be designed in a way to effectively ensure implementation in a cost-effective manner in order to minimize trade distortions.

List of tables

List of figures

References

Age, New, 2023, Bangladesh: Over 300 factories incl. garment factories close, leaving over 44000 workers unemployed, online article published by the Business & Human Rights Resource Centre on Aug 28th, 2023, https://www.business-humanrights.org/en/latest-news/bangladesh-over-300-factories-incl-garment-factories-close-leaving-over-44000-workers-unemployed/ [9.10.2023]

Benedictow, Andreas / Boug, Pal, 2012, Trade liberalization and exchange rate pass-through: the case of textiles and wearing apparels, in: Empirical Economics, Vol. 45, pp. 757-788

Bhagwati, Jagdish N., 1991, The pass-through puzzle: The missing prince from Hamlet, in: Irwin, DA (ed.), Political economy and international economics, MIT Press, Cambridge

BDI – Bundesverband der Deutschen Industrie, 2024, BDI-Unternehmensumfrage: Auswirkungen des Lieferkettensorgfaltspflichtengesetzes (LkSG) auf Unternehmen, https://bdi.eu/artikel/news/umfrage-auswirkungen-des-lieferkettensorgfaltspflichtengesetz [5.2.2024]

Lindner, Christian / Buschmann, Marco, 2024, Trilog-Ergebnis zum Entwurf einer EU-Lieferkettenrichtlinie (Corporate Sustainability Due Diligence Directive – CSDDD), Position des Bundesministeriums der Finanzen und des Bundesministeriums der Justiz am 1. Februar 2024, Berlin, unpublished

BMJ – Bundesministerium der Justiz, 2024, Europäische Lieferkettenrichtlinie (CSDDD) – U2-Papier „heißt es aus dem BMJ" am 1. Februar 2024, Berlin, unpublished

BMAS – Bundesministerium für Arbeit und Soziales, 2023, Supply Chain Act, Frequently Asked Questions, https://www.csr-in-deutschland.de/EN/Business-Human-Rights/Supply-Chain-Act/FAQ/faq.html [5.2.2024]

European Commission, 2023: Corporate sustainability due diligence. Fostering sustainability in corporate governance and management systems, Brussels

European Parliament, 2023, Corporate due diligence rules agree to safeguard human rights and environment, Press Release, 14-12-2023, https://www.europarl.europa.eu/news/en/press-room/20231205IPR15689/corporate-due-diligence-rules-agreed-to-safeguard-human-rights-and-environment#:~:text=The%20new%20directive%20on%20corporate,pollution%2C%20deforestation%2C%20excessive%20water%20consumption [5.2.2024]

Felbermayr, Gabriel / Friesenbichler, Klaus / Gerschberger, Markus / Klimek, Peter / Meyer, Birgit, 2024, Designing EU Supply Chain Regulation, in: Intereconomics, Vol. 59, No. 1, pp. 28–34

Hoque, Mohammad Mainul, Razzaque, Abdur, 2004, Exchange rate pass-through in Bangladesh's Export Prices: An Empirical Investigation, in: The Bangladesh Development Studies, Vol. 30, No. 1&2, pp. 35-64

Kolev, Galina / Neligan, Adriana, 2021a, Nachhaltigkeit in Lieferketten. Eine ökonomische Bewertung von Gesetzesvorschlägen, IW-Policy Paper, No. 5, Cologne / Berlin

Kolev, Galina / Neligan, Adriana, 2021b, Working paper, presented at the Research Conference on Sustainability of Global Value Chains, 7 December 2021

Kolev, Galina / Neligan, Adriana, 2022, Effects of a supply chain regulation. Survey-based results on the expected effects of the German Supply Chains Act, IW-Report, No. 8, Cologne / Berlin

Kolev, Galina / Obst, Thomas, 2021, Global value chains of the EU member states: Policy options in the current debate, IW-Report No. 4, Cologne

Krugman, Paul, 1987, Pricing-to-market when the exchange rate changes. In: Arndt SW, Richardson JD, Eds., Real-financial linkages among open economies, MIT Press, Cambridge

Menon, Jayant, 1995, Exchange rates and import prices for a small open economy, in: Applied Economics, Band 27, No. 3, pp. 297–301

Times, Khmer, 2023, Cambodia: Workers at 22 garment, footwear & travel factories who face suspended employment due to factory suspensions will receive allowance, online article published by the Business & Human Rights Resource Centre on Sept 8th, 2023, https://www.business-humanrights.org/en/latest-news/cambodia-workers-at-22-garment-footwear-travel-factories-who-face-suspended-employment-due-to-factory-suspensions-will-receive-allowance/ [6.10.2023]

Vibe, Mashriq, 2023, Pakistan: Over 1,600 textile factories reportedly close within 16 months, online article by the Business & Human Rights Resource Centre on Sept 3rd, 2023, https://www.business-human-rights.org/en/latest-news/pakistan-over-1600-textile-factories-reportedly-close-within-16-months/ [9.10.2023]

Wolfmayr, Y. / E. Christen / H. Mahlkow / B. Meyer / M. Pfaffermayr, 2023, Trade and Welfare Effects of New Trade Policy Instruments, WIFO, Vienna