Cargill’s EUDR compliance: risks of a soy-prise

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American corporation Cargill (ticker CARGIL), is a food company with major businesses in trading and distributing commodities that are linked to deforestation, including soy and palm oil. It has been subject to historical fines over links to deforestation[1] and is facing a live complaint under the OECD-FAO Guidance for Responsible Agricultural Supply Chains.[2]

The EU Regulation on Deforestation-free products (EUDR) requires that supply chains for all in-scope commodities are evidenced to be deforestation-free. Substantial fines and loss of market access are the potential penalties for non-compliance.[3] Its implementation date is 30 Dec 2024.

Cargill is privately owned; indeed it is the largest privately held company in terms of revenue in the US.[4] This means that for most investors, debt is the only way to engage. It has numerous outstanding bonds, in USD and GBP, and it returned to EUR markets with a 500mm issue last year.[5]

In this note we assess the potential impact of EUDR on Cargill. We review its sourcing disclosure to understand its ability to comply, and to evidence compliance, with the EUDR. We then consider the potential financial impacts of the EUDR on Cargill using three illustrative scenarios. Lastly, we consider whether these potential financial impacts are priced into Cargill’s bonds.

To support investor engagement efforts, we offer the following takeaways:

- Cargill’s soy supply chain disclosure often uses estimates rather than directly observed data. The company relies on a mass balance certification system instead of the more robust physical verification approach. **This raises the potential for higher deforestation risk exposure than the company discloses.**
- The upcoming EUDR legislation has the potential to have a material impact on Cargill’s financials in all scenarios, due to either fines and loss of market access on non-compliance, or significant administrative costs with compliance. **The impacts are significant enough to potentially impact its Moody’s credit rating.**
- Given limited underperformance in Cargill bond spreads since the regulation was announced, these supply chain-driven risks do not appear to be fully reflected in market pricing. **For holders of Cargill bonds, this may present pricing risks as well as an opportunity for engagement.**

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[1] “Brazil fines five grain trading firms, farmers connected to deforestation”, Reuters, 2 May 2018.
[2] “ClientEarth vs. Cargill”, OECD Watch, accessed 2 Jun 2024.
[3] For our earlier work please see “EU deforestation law: fire on the horizon for soy traders”, AFII, 13 Sep 2023.
[4] “American’s Largest Private Companies”, Forbes, accessed 3 Jun 2024.
[5] Please see “Cargill: EUR bond, EU deforestation risk”, AFII, 14 Apr 2023.

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EU Deforestation Regulation

The EUDR was brought into force on 29 June 2023,[6] designed to promote the consumption of 'deforestation-free' products and thereby reduce the EU's impact on global deforestation.

Its scope is broad:

- In-scope commodities are cattle, wood, cocoa, soy, palm oil, coffee, rubber and products derived therefrom.
- The EUDR covers the full supply chain, i.e. both direct and indirect suppliers. Hence the EUDR will impact Cargill via both soy imported into the EU and livestock imported into the EU where Cargill supplies soy feed.
- Commodities and products in scope shall not be placed or made available on the market or exported, unless they are deforestation-free; they have been produced in accordance with the relevant legislation of the country of production; and they are covered by a due diligence statement.
- The cut-off for deforestation is land that has not been converted, human-induced or otherwise, from forest to agricultural use after 31 December 2020.[7]

Potential penalties for non-compliance are high; fines can be up to 4% of a company's EU turnover, products can be confiscated, which can lead to significant handling charges, and/or the company can be excluded from the EU market.[8]

Cargill's deforestation exposure

Cargill has had deforestation commitments since 2014, when it announced the intent to halve deforestation in its supply chain by 2020 and eliminate it entirely by 2030.[9,10] This was a decade ago, and though the company has made significant progress in mapping its supply chain since then, there is still insufficient disclosure to have confidence that Cargill is fully EUDR compliant.

In their Forests 2023 CDP reporting Cargill acknowledges the due diligence requirements of the EUDR, and notes that it sources soy from South American countries whose national forest laws do not align with EUDR. It accepts it "*must ensure and prove that soy products are deforestation-free, and […] ensuring imported/exported products and products on the EU market have no or negligible risk of non-compliance with the deforestation-free requirement, including an assessment of the risk of mixing with products of unknown origin or where deforestation has occurred.*"[11]

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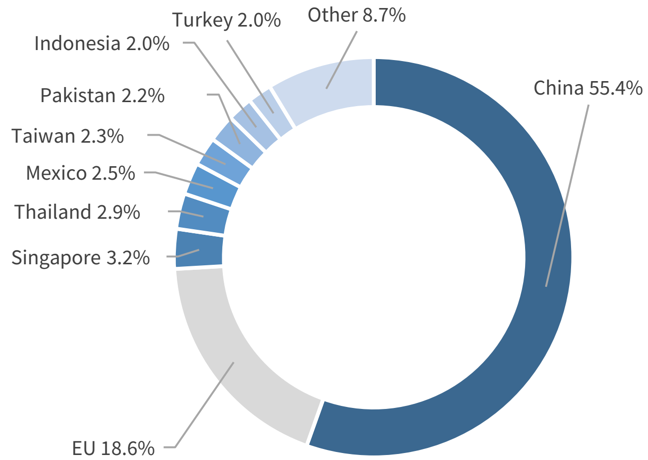
[6] "Regulation on Deforestation-free products", European Commission, accessed 30 May 2024.
[7] "Regulation (EU) 2023/1115", EUR-Lex, accessed 30 May 2024.
[8] "10 key things to know about the new EU Deforestation Regulation", White & Case, 21 Jul 2023.
[9] "Cargill Policy on Forests", Cargill, Sep 2015.
[10] "Cargill pledges to protect forests in all agricultural supply chains", Cargill, 23 Sep 2014.
[11] P22 of "Cargill - Forests 2023", CDP, accessed 5 June 2024. Note login may be needed to access this report.

Cargill Soy exports

Data on Cargill's soy exports from Trase Earth,[12] a data provider mapping financial flows behind forest risk commodities, is shown in Figure 1. Of the soy that Cargill exports from Brazil, 35.5 million tonnes (19%) is imported into the EU. The only larger end market is China (66.6 million tonnes, 55%), and the third-largest market is Singapore (416,880 tonnes, 3%).

For this soy to remain eligible for EU access, its supply chain must be mapped to determine its origin, and that origin must be deforestation-free.

Figure 1. Cargill 2020 soy exports by destination. Source: Trase Earth.



Mapping of Cargill's soy supply

Cargill states that the percentage of the company's total volumes, including soy destined for the EU, estimated to be DCF (Deforestation & Conversion Free) since 2008 (earlier than the 2020 required by the EUDR), including indirect suppliers, is 94-100% for Argentina, Brazil, Paraguay and Uruguay, with Bolivia trailing at 73%.[13] On a weighted average basis (using Trase Earth regional data), the DCF percentage for Cargill's soy volumes is 96%. There is no direct disclosure given on how this should be interpreted for the level of EUDR compliance.

Table 1. Cargill methods for mapping soy supply. Source: Cargill, Trase Earth, AFII.

	Direct supply		Indirect supply	
	Proportion	Method	Proportion	Method
Argentina	41.1%	Regional average used	21.2%	Regional average used
Bolivia	0.4%	Regional average used	0.1%	Regional average used
Brazil	21.5%	Calculated	12.1%	Average (including direct supply) used
Paraguay	1.6%	Regional average used	2.0%	Regional average used
Uruguay	*No Trase Earth Data*	Regional average used	*No Trase Earth Data*	Regional average used

This estimated percentage is based on production sources, and so assumes a 'mass balance' scheme where production is not directly sent to individual markets. Furthermore, much of Cargill's self-disclosure relies on proxies, for example like regional averages, as detailed in Table 1. No data was available from Trase Earth for Uruguay, resulting in insufficient data to make our assessment for this country.

For Argentina, Bolivia, Paraguay, and Uruguay, Cargill explain that individual mapping was performed too late to include in the DCF percentage calculation, and so a sectoral average was used based on its market share in each local producing region.[14] However, there is no evidence

[12] Previously 'Trase Finance'.
[13] P134 of "2023 ESG report", Cargill, accessed 30 May 2024.
[14] P151 of "2023 ESG report", Cargill, accessed 30 May 2024.

given to confirm that Cargill's DCF compliance rate is similar to the sectoral average in those regions.

For Brazil, data for direct suppliers was collected by Cargill's commercial team. For indirect suppliers, Cargill used historical data to calculate the DCF percentage for the full soy sector for each municipality in Brazil. The sector average was then combined with Cargill's market share in the local area to arrive at the DCF percentage.

We would expect direct supplier volumes to be removed from the calculation used to produce this estimation for indirect suppliers, given they make up such a significant portion of the sector. As such a high percentage of direct supplies are reported as DCF, by including these amounts in the indirect estimate there is a risk the total DCF percentage is overstated.

In summary, Cargill discloses that an estimated 96% of soy, including soy destined for the EU, is deforestation and conversion free and is thus suitable for consumption in the EU. We find this percentage includes estimates and proxies, leading it open to uncertainties as to whether this is the case.

EUDR due diligence requirements

The EUDR requires that products are accompanied by a due diligence statement which needs to state, among other things, the country of production and geolocation of all plots of land where the relevant commodities were produced and that "*no or only a negligible risk*" was found that the relevant products do not comply with the EUDR.[15]

The EUDR further states that "*[…] due diligence systems should include three elements, namely information requirements, risk assessment and risk mitigation measures, complemented by reporting obligations*".[15] This is illustrated in Figure 2.

The EUDR goes on to state: "*The operator should only be allowed to place relevant products on the market or export them if the operator concludes, after exercising due diligence, that there is no or only a negligible risk that the relevant products do not comply with this Regulation*".[16]

Figure 2. EUDR due diligence system criteria flow chart. Source: EU.

Cargill's disclosure, as reviewed earlier in this research, shows that the company is in the stage of mapping geolocation data, which is part of the "Information requirements'" section of the due diligence system above. Further, the company's existing due diligence systems have been the subject of some criticism.[17]

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[15] P214 of "Regulation (EU) 2023/1115 of the European Parliament and of the Council", accessed 5 Jun 2024.
[16] P214 of "Regulation (EU) 2023/1115 of the European Parliament and of the Council", accessed 5 Jun 2024.
[17] "ClientEarth legal complaint against Cargill FAQs", ClientEarth, May 2023.

Cargill's certification system

Cargill itself notes that the EUDR requires an assessment of the risk of mixing deforestation-and-conversion free products with products of unknown origin or where deforestation has occurred, indicating a recognition that their certification scheme will need to be advanced.[18] A more detailed summary can be shown in Appendix 2, alongside our analysis.

Cargill uses an in-house sourcing management system, Triple S (Sustainably Sourced & Supplied). Triple S is a 'mass balance' scheme, which is unlikely to be EUDR-compliant[19,20] because this system does not segregate certified and un-certified soy.[21] A mass balance scheme is often an interim route to the more robust 'physical verification' system, which requires such segregation and would give us more comfort over DCF-compliant soy volumes.[22]

There are potentially further concerns regarding the robustness of Cargill's estimated DCF-compliant soy volumes because its Triple S programme received a relatively low score compared to other sustainable soy certification schemes, coming 18 out of 21 such schemes in an independent assessment. [23]

In summary, we find that Cargill's chosen certification scheme is less robust, and therefore provides less confidence, than a physical verification system, and may not reach the required standard to evidence compliance with the EUDR.

Tensions between Cargill's reporting and reporting from external sources

Though Cargill is transparent that estimates have been used in calculating the proportion of soy that is DCF-compliant, its disclosures imply that a weighted average of 96% of volume supplied since 2008 is deforestation free.

There are reports from NGOs that cast doubt over the traceability of soy traded by Cargill and whether it is DCF compliant (i.e. Deforestation Free). This includes estimated parts of Cargill's supply chain, but also could include some directly calculated supply. These reports include:

- **NASA Earth Observatory:** Between 2010 and 2018 over 29,000 square kilometers (4%) of the Gran Chaco was cleared for farms and ranches. Much of this took place in Argentina, which is the most significant production area for Cargill. Cargill exports circa 10.9% of all soy exported from Argentina, making them the 5th-largest exporter in the country.[24]

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[18] P22 of "Cargill – Forests 2023", CDP, accessed 5 June 2024. Note a login may be needed to access this report.
[19] "EU Deforestation rules show biodiversity intent", Fidelity International, accessed 5 Jun 2024.
[20] This specific point is the subject of a masters thesis, "From Bean to Green: EU Deforestation Regulation and the Soy Supply Chain", Femke Weerdenburg, Wageningen University, 9 Nov 2023.
[21] "First COFCO soymeal shipment aligned with upcoming EU Deforestation Regulation (EUDR) requirements loads in Argentina", COFCO
[22] P12 of "Achieving verified deforestation and conversion free soy feed in Europe", 3Keel, accessed 31 May 2024.
[23] P12 of "Setting the new bar for conversion free soy in Europe", Profundo 2023 , accessed 31 May 2024.
[24] Data from Trase Earth, accessed 6 June 2024. Data is for 2019, the most recent data available on 6 Jun 2024.

- **Earthsight and De Olho nos Ruralistas (via ChainReactionResearch):** Cargill was linked to the contested Mato Grosso soy farm in Brazil, officially recognised by Brazil's Funai (the Federal Agency tasked with protecting indigenous rights). Sourcing from this farm would contravene the EUDR, which requires compliance with relevant legislation in the country of origin. This casts doubt on the credibility of Cargill's estimated 96% DCF-compliance since 2008.[25]

- **GlobalForestWatch:** From 2008 to 2023 Argentina lost 6.8% of its primary forest at a >10% canopy density.[26] This casts doubt on whether the Cargill's quoted 98% estimated volumes of DCF compliant soy from Argentina is accurate.

- **Global Witness**: Cargill claims that 73% of all volumes sourced from Bolivia are DCF compliant since 2008. However, Global Witness highlighted gaps in sourcing controls at Cargill which cast doubt on the robustness of these estimates.[27]

Overall, there seems to be concerns around Cargill's disclosure of the total percentage of soy volumes estimated to be DCF-compliant. There is a risk that there may be more soy out of compliance with EUDR than the company discloses.

Financial implications of EUDR

The EUDR requires companies to evidence by 30 December 2024 that products imported into the EU do not contribute to deforestation. This applies across their supply chains, however our analysis is restricted to direct soy imports only.

Our analysis earlier in this report suggests there is a risk that Cargill is not yet compliant with the regulation. Pertinently, Cargill's own reporting to CDP notes that potential for financial impact due to the EUDR is "Medium-high" and that the likelihood is "very likely" within a timeframe of 1-3 years. Cargill does not provide an estimated financial impact figure in CDP reporting,[11] and so we use scenarios to assess the potential financial implications for Cargill, complete with high-level, illustrative, sensitivity analysis.[28]

We consider the administrative cost to Cargill to effect partial or full compliance with the regulation. Where compliance is incomplete, we consider the costs of a fine, confiscation of goods (which include the costs of the lost goods and its own fine), plus the ongoing loss of market access. As soy as a commodity is a low margin crop (typically 1% average return) the shift from a mass balance to physical verification certification scheme will lower returns.[29]

[25] "Revealed: US agribusiness giants' soy linked to stolen indigenous land and murder in Brazil", Earthsight, 19 Aug 2022.
[26] "Primary forest loss in Argentina", Global Forest Watch, accessed 4 June 2024. Filtered to show 2008 to 2023 at >10% canopy density.
[27] "Empty promises: Cargill, soy, banks and the destruction of Bolivia's Chiquitano forest", Global Witness, 6 Sep 2023.
[28] "We have extrapolated the details from "Chopping and changes: what are the implications of the EU's Deforestation Regulation", Columbia Threadneedle, 13 Oct 2023.
[29] "Putting a price on soy", Feed Navigator, 5 Jun 2018.

Illustrative scenario details

Our illustrative analysis uses three scenarios:

- **Scenario 1: Full compliance:** Under this scenario, Cargill successfully evidences full compliance with the EUDR in time for the 30 December 2024 implementation date. We treat 100% of Cargill soy imported into the EU as EUDR compliant. However, this has additional costs for Cargill to improve traceability and reporting.[30]

- **Scenario 2: Partial compliance:** In this scenario, Cargill evidences partial compliance with the EUDR in time for the 30 December 2024 implementation date. We treat 50% of Cargill's soy imported into the EU as EUDR compliant. We apply a fine of 2% of EU turnover under the EUDR to reflect partial compliance.[31] We apply an estimated cost for confiscation of goods, calculated as the sum of lost value from the goods themselves and the EU Member State's fine for handling their disposal.[32] These costs reflect compliance for 50% of soy imported into the EU from Argentina, Bolivia, Brazil, and Paraguay. We also apply a cost to reflect the loss of market access in the 'Ongoing' scenarios for half of the non-compliant soy.[33]

- **Scenario 3: Low compliance:** Cargill is unable to evidence substantial compliance with the EUDR legislation by the implementation date. We treat 25% of Cargill's soy imported into the EU as EUDR compliant. We apply a fine of 3% under the EUDR (still below the maximum fine of 4% as we expect there to be some compliance with the EUDR under this scenario given Cargill's Triple S internal certification scheme).[34] We apply an estimated cost for confiscation of goods both in terms of the lost value and also the EU Member State's fine for handling their disposal which reflects compliance for 25% of soy imported into the EU from Argentina, Bolivia, Brazil, and Paraguay.

Full details of all calculations are included in Appendix 2.

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[30] It is estimated that the administrative costs of compliance could be in the range of 0.3-4.3% of companies' input costs, and this applies to multinationals, as detailed in "Chopping and changes: what are the implications of the EU's Deforestation Regulation", Columbia Threadneedle, 13 Oct 2023.

[31] Data on Cargill's revenue by region was unavailable, so a 39% of revenue was used as a proxy. This is based on Bunge's % of revenue from the EU. Bunge and Cargill are both significant US-headquartered agricultural commodities traders with links to deforestation. They are both in the top 5 agricultural products companies in the world by revenue in 2021 per "Top 10 Agricultural Products Companies in the World in 2021 by revenue", GlobalData, accessed 5 June 2024.

[32] The EUDR regulations note "Member States may authorise their competent authorities to reclaim from the operators or traders the totality of the costs of their activities with respect to instances of non-compliance.".

[33] The value of goods confiscated was based on the tonnes of soy imported into the EU using Trase Earth data and the average EU price of Soy for 2024 of EUR453.57 from "Price Dashboard", European Commission, 25 Apr 2024. The disposal costs are estimated using 2023 disclosure from the EU.

[34] This is a mass balance scheme, considered a transitory route to achieving Deforestation and Conversion-free soy, with more details in "Progressing towards more sustainable soy supply chains in Europe", 3Keel, Dec 2023.

Illustrative scenario results

The potential financial implications of this basic scenario analysis on Cargill's Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA) for 2024 and 2025 are shown in Table 2. We have divided these potential impacts into an 'Initial implementation' phase and an 'Ongoing' phase. Due to the lack of clarity over the implementation time horizons of these costs (for example, how long it may take a 'Confiscated goods fine' to impact cash flow), we consider this the most appropriate grouping for this high-level scenario analysis.

We recognise that these are upper bound estimates, but they provide a starting point for analysis. As we move towards implementation of the EUDR we expect to be able to perform more detailed evaluations. We do not have conclusive evidence on the genuine level of compliance with the EUDR and so consider the scenarios described previously and in Appendix 2.

Table 2. Cargill scenario analysis. Source: Bloomberg, AFII.

	Initial Implementation			Ongoing		
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
	Full compliance	Partial compliance	Low compliance	Full compliance	Partial compliance	Low compliance
	$m	$m	$m	$m	$m	$m
EBITDA	11,378	11,378	11,378	11,378	11,378	11,378
Additional costs of compliance	(4,854)	(3,383)	(1,912)	(1,213)	(1,213)	
EU DR non compliance fine	-	(1,287)	(1,931)	-	-	(965)
Value of goods confiscated	-	(1,258)	(2,359)	-	-	(1,180)
Confiscated goods fine	-	(1,223)	(3,262)	-	-	(2,174)
Value of loss of market access	-	-	-	-	(786)	(1,180)
Revised EBITDA	6,524	3,126	1,550	10,165	9,378	5,879
Impact (% EBITDA)	-43%	-73%	-86%	-11%	-18%	-48%

This illustrates that there is the potential for material financial impact on EBITDA particularly during initial implementation, whether compliance is high or low.

Though the exact impact will crystalise over time, holders of Cargill's bonds would benefit from making further inquiry regarding Cargill's state of preparedness for the EUDR to understand the risks they may be exposed to.

Potential rating implications

Here, we attempt to understand the potential implications in the scenarios above on bond ratings. For this analysis, we used Moody's rating methodology for the protein and agriculture sector. The scorecard portion of the methodology assigns a 10% weighting to each of the Debt/EBITDA ratio, CFO/Debt ratio, EBITDA/Interest expense ratio, and the Debt/Book Capitalisation ratio. The scorecard result is then combined with the outcome of three other category assessments: Other Considerations, Instrument Considerations, and Cross-sector Methodologies.

Cargill has A2 and P-1 ratings from Moody's.[35] Table 3 shows the impacts of the three scenarios on the financial ratios used in the scorecard underlying Moody's ratings. The fourth financial ratio, Debt/Book Capitalisation, is not affected under the scenarios.

Following this scorecard, the potential financial impacts above imply changes to the Moody's Scorecard-indicated Outcome as shown in Table 4.

Table 3. Impact on Cargill Moody's rating inputs due to EUDR scenarios. Source: Moody's, AFII.

		Initial Implementation			Ongoing	
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
	Full compliance	Partial compliance	Low compliance	Full compliance	Partial compliance	Low compliance
Debt/EBITDA						
Original	*0.86*					
Revised	1.50	3.12	6.29	0.96	1.04	1.66
CFO/Debt						
Original	*29%*			*29%*		
Revised	*-1%*	*-8%*	*-15%*	*21%*	*21%*	*9%*
EBITDA/Interest						
Original	*26.10*			*26.10*		
Revised	14.96	7.17	3.56	23.31	21.51	13.48

Table 4. Potential impact on Moody's rating due to EUDR scenarios. Source: AFII.

	Initial Implementation			Ongoing			
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Original
	Full compliance	Partial compliance	Low compliance	Full compliance	Partial compliance	Low compliance	
Debt/EBITDA	A	Ba	Ca	Aa	A	A	Aa
CFO/Debt	Unrated	Unrated	Unrated	Aa	Aa	B	Baa
EBITDA/Interest	A	Baa	Ba	Aaa	Aaa	A	Aaa

While we are unable to map the modelled financial impacts exactly to projected rating changes, we see in Table 4 there is the potential for a ratings impact during implementation under the full compliance and partial compliance scenarios due to the 'Unrated' classification of the CFO/Debt ratio, which falls below the disclosed ratings. There is a more enduring effect under the low compliance scenario. After initial implementation the scorecard measures underlying Moody's credit ratings have the potential to improve under the full compliance and partial compliance scenarios.

Overall, Cargill faces potentially significant financial implications from the EUDR which have the potential to negatively impact scorecard credit ratings during the regulation's implementation phase. This is primarily due to the 'Unrated' classification of the CFO/Debt ratio, while more limited impact is driven by the Debt/EBITDA and EBITDA/Interest ratios.

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[35] P3-4, "[Protein and Agriculture Scorecard]", Moody's, accessed 31 May 2024. We note that registration is required to view this document.

Pricing in increasing deforestation risk

Our analysis has shown that the potential financial impact for Cargill due to EUDR is significant, with more negative impacts possible during implementation under low and partial compliance scenarios. We note the potential for improved comparative financials post-implementation under these scenarios, and the potential for lower scorecard ratings under the low compliance scenario. We will now analyse Cargill bond spreads to see whether this risk has been incorporated in market prices. Figure 3 shows the spread of two Cargill bonds (CARGIL 4 06/22/32 and CARGIL 2 1/8 11/10/31) versus a comparable universe of bonds.[36]

The bonds included in the initial comparable universe were issued by Coca Cola, Pepsico, Diageo, Mars, and ABInBev.

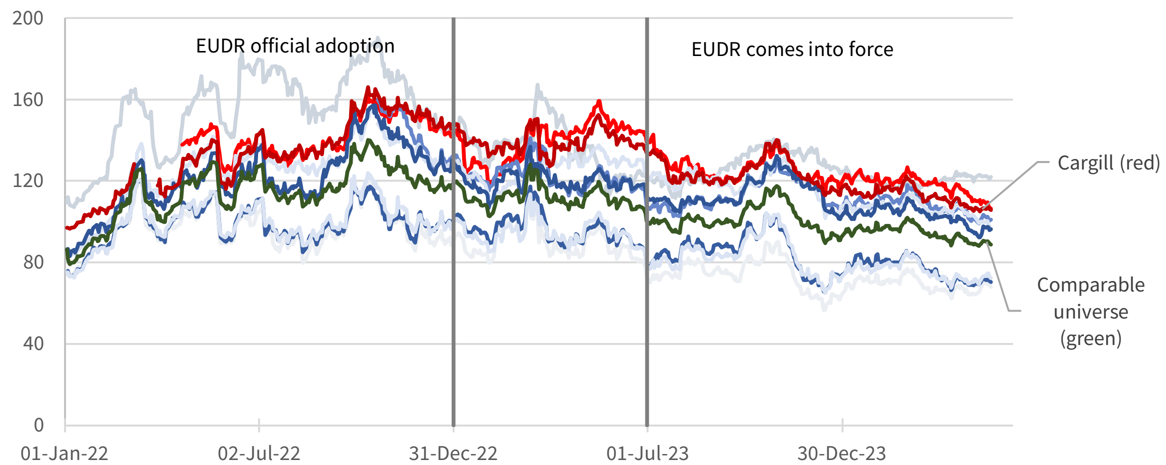
We then first excluded ABInBev, as this bond was upgraded in September 2022, impacting the bond spread, whereas there were no upgrades or downgrades on the Cargill bond during this period.[37]

We then excluded Mars and Pepsico, as they are also in scope of EUDR, and we want the comparable universe to include only those bonds that are not materially impacted by the regulation. Mars has exposure to EUDR through commodities including cocoa, palm oil, beef, and soy,[38] and Pepsico through palm oil, soy, paper and pulp, and fibre-based packaging. Pepsico disclosed in their 2023 CDP report that 21-30% of its revenue depended on soy.[39]

The final text of the EUDR was approved in December 2021 before the Cargill and comparable universe bonds were issued. The EUDR official adoption was in December 2022, and the regulation came into force in June 2023. Neither Cargill bonds nor the comparable universe show a notable response at either date. Given the increasing supply chain risk driven by the EUDR highlighted earlier in this paper, we would expect to see bond spreads for Cargill underperforming rather than the slight relative tightening that we observe.

This suggests the market may be taking at face value Cargill's disclosure that it will easily comply with the regulation without incurring additional costs.

Figure 3. Historic bond spreads for Cargill and comparable universe. Source: Bloomberg, AFII, accessed 30 May 2024.



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[36] The comparable universe is defined as issuers from the G7 in the Consumer Staples sector with maturity 2031-2022, issued prior to 2023 and for whom the issued amount was >$0.5mm.
[37] "Cargill Incorporated", Fitch Ratings, accessed 30 May 2024.
[38] "Mars", CDP, accessed 30 May 2024.
[39] "Pepsico", CDP, accessed 30 May 2024.

Given that Cargill needs to comply with the EUDR legislation by 31 December 2024 there is the potential for increased tightening in the lead-up to and at this date.

Looking at the pricing over a longer period, from 21 April 2022, the first day on which both Cargill bonds were active, to 22 May 2024, the Cargill bonds have tightened by 26.30 (20%) on average, versus the comparable universe which tightened by 28.16 (24%).

The full history shows the slight underperformance was focused in 2022 prior to official EUDR adoption by the EU. Since the regulation has been effective, there has been some small outperformance of Cargill bonds compared to the broader universe.

Therefore, while we may be seeing some reaction to the increased risks highlighted above, the scale of the underperformance is not commensurate with the size of the potential financial impact due to EUDR.

Due to Cargill's additional exposure to the EUDR, we would expect to see bond spread underperformance as the scope of the regulation becomes clear. As there has so far been only slight relative movement, bond investors may still be at risk from this exposure.

Conclusions

The EUDR will have significant consequences for suppliers of in-scope commodities such as Cargill.

Even though Cargill's disclosure suggests 96% of its soy will comply the regulation, the company's disclosure could be more robust. The company uses a mass balance certification scheme which may not reach the evidence basis required for the EUDR. Further, we have identified tension between Cargill's disclosure and external sources which indicate the company may be exposed to higher deforestation risk than it discloses.

The EUDR has the potential to have a financial impact on Cargill, through administrative costs for compliance, or fines and loss of market access for lack of compliance. Our scenario analysis suggests these costs may be material enough to potentially impact ratings.

Analysis of recent market moves suggests there has been only limited periods of underperformance by Cargill bonds in the past two years, and indicates these occurred largely prior to the regulation becoming live. Cargill bonds appear to be priced on the face value of the company's disclosure, and do not fully reflect the potential additional costs it could incur as described in this research.

Overall, investors may be exposed to increasing supply chain-driven risk which is not yet fully reflected in bond spreads. Holders of Cargill bonds may benefit from asking further questions of the company around its sourcing, certification scheme and readiness to comply with the EUDR legislation.

Appendix 1

Table 6 below outlines the data used in the scenarios applied in Table 2. For each cost we outline the calculation method and include any explanatory notes.

Table 5. Details for Cargill scenarios. Source: AFII.

Scenario element	Scenario 1: Full compliance	Scenario 2: Partial compliance	Scenario 3: Low compliance
Fine under EUDR	Nil – full compliance with EUDR.	2% of EU turnover in line with EUDR legislation.	3% of EU turnover in line with EUDR legislation.
Confiscation and disposal of goods fine	Nil – full compliance with EUDR.	(1/2) * Average cost of storage and disposal per tonne of goods per EU Commission in 2023. Multiplication by (1/2) accounts for the difference in magnitude of non-compliance relative to Scenario 3 in line with the difference in fine under the EUDR.	(3/4) * Average cost of storage and disposal per tonne of goods per EU Commission in 2023. Multiplication by (1/2) accounts for the difference in magnitude of non-compliance relative to Scenario 2 in line with the difference in fine under the EUDR.
Additional costs of compliance	Ongoing cost of goods (Bloomberg data) * 3.3%. ColumbiaThreadneedle estimates that increased costs due to the EUDR could equate to 0.3% to 4.3% of companies input costs. Though this is a full compliance scenario we do not apply 4.3% in recognition of Cargill's progress in this area to date including their 3S certification scheme.	Ongoing cost of goods (Bloomberg data) * 2.3%. ColumbiaThreadneedle estimates that increased costs due to the EUDR could equate to 0.3% to 4.3% of companies input costs. 2.3% was chosen to reflect the difference between this scenario and Scenarios 1 and 3 in line with the relative difference in fine imposed under the EUDR legislation.	Ongoing cost of goods (Bloomberg data) * 1.3%. ColumbiaThreadneedle estimates that increased costs due to the EUDR could equate to 0.3% to 4.3% of companies input costs. Though this is a low compliance scenario we do not apply 0% as this is not a nil compliance scenario.
Value of goods confiscated	Nil – full compliance with EUDR.	Tonnes of soy imported to the EU by Cargill from Argentina, Bolivia, Brazil and Paraguay * Price of EU Soy March 2024. Tonnes of soy imported for 2020, the most current year for which data is available from Trase Earth.	Tonnes of soy imported to the EU by Cargill from Argentina, Bolivia, Brazil and Paraguay * Price of EU Soy March 2024. Tonnes of soy imported for 2020, the most recent year for which data is available from Trase Earth.

Appendix 2

Table 6. Reporting per Cargill 2023 Sustainability Report, Trase Earth and AFII analysis. This covers the calendar year 1 Jan 2022 to 31 Dec 2022, despite being reported in the Sustainability Report for the fiscal period starting 1 June 2022 and ending on 31 May 2023.

		Argentina	Bolivia	Brazil	Paraguay	Uruguay	AFII Total or Average	AFII Commentary
Cargill Reporting	Industrywide soy production (million tons)	43.9	3	125.6	3.4	2.8	178.7	Note this is the soybean production volume for the soybean industry.
Cargill Reporting	Number of suppliers	4,800	300	14,900	1,600	700	22,300	
Cargill Reporting	% suppliers - Direct	66%	74%	64%	45%	86%	67%	
Cargill Reporting	% suppliers - Indirect	34%	26%	36%	55%	14%	33%	
Cargill Reporting	% of directly sourced volumes from suppliers whose farms have been polygon mapped.	99%	75%	100%	95%	94%	93%	This excludes indirectly sourced volumes.
Cargill Reporting	% of volumes estimated as DCF since 2008 (see p. 151 SR 2023 for methodology)	98%	73%	94%	96%	100%	95%	This includes indirectly sourced volumes. Average is AFII calculated weighted average.
Trase Earth	Cargill soy exports (tonnes)	23,964,118	209,851	12,908,260	1,384,472	Unavailable	38,466,701	
Trase Earth	Cargill soy imports to EU (tonnes)	4,104,381	-	2,403,411	184,642	Unavailable	6,692,433	
Trase Earth	Trase Earth Data (years covered)	2019	2021	2020	2019	Unavailable	N/a	AFII have used the most recent data available.
AFII Analysis	Soy / supplier (tonnes)	4,993	700	866	865	0.004	1,485	Cargill soy exports per Trase Earth / Number of suppliers per Cargill.
AFII Analysis	Unmapped - Directly sourced volumes (tonnes)	239,641	52,463	-	69,224	0.17	361,328	Cargill soy exports per Trase Earth * (1 - percentage of directly sourced volumes per Cargill)
AFII Analysis	Unmapped - Indirectly sourced volumes (tonnes)	8,147,800	54,561	4,646,974	761,460	0.39	13,610,795	Soy / supplier (tons) * (% suppliers - Indirect) per Cargill * Number of suppliers per Cargill.
AFII Analysis	Unmapped - Est. total direct & indirect (tonnes)	8,387,441	107,024	4,646,974	830,683	0.56	**13,972,123**	36% Still to be mapped to achieve EUDR compliance without estimates. Scaled to EU volumes this is 2.3 million tonnes.

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