

Rabobank's share in the Brazilian bill

Accountability for € 9.5 billion to € 61 billion – the follow-up report

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About this report

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Summary

Rabobank's Brazilian forest-risk financing through Dutch dairy and protein sector loans as well as bank services provided in Brazil in 2000-2022 can be linked to € 66 billion to € 459 billion environmental and social damages. This is the result of a previous Profundo study published in July 2023.^a These damages only refer to the part that is financed by Rabobank, so not to financing from farmers' own funds or provided by other financiers engaging with the same client. Of course, the tons of soy, beef, pulp & paper, financed by Rabobank, flow through a whole supply chain, with actors at different stages earning their own profits on the same ton of product.

In the current report, an assessment is made of the share of the damages in the various supply chains for which Rabobank could face accountability. The applied methodologies focus on profit distribution in the chain, on market concentration, and an assessment whether participants could have been informed sufficiently to be aware of the potential damages.

The total damages (€ 66 billion to € 259 billion) are divided between three supply chains: Dutch soy, Brazilian soy and Brazilian beef. Each supply chain has its own dynamics, market consolidation, and awareness/access to knowledge about potential damaging effects from being active in the chains. This division in three supply chains increases the granularity and credibility of calculations in relation to the share of the total damage for which Rabobank could face accountability.

Calculations have been made for the low-end damage scenario (€ 66 billion) and the high-end scenario (€ 459 billion). The conservative conclusions for the low-end scenario can be summarised as follows (the total result of the high-end scenario is given in the last bullet and in Table 1):

- Rabobank's lending activities to Dutch dairy and protein farmers may be linked to € 5.6 billion damage in 2000-2022, and the Brazilian activities to € 60.4 billion, adding up to the above-mentioned € 66 billion.
- The Brazilian lending activities may have generated much more deforestation and deforestation-linked emissions than the Dutch activities. Moreover, Rabobank's rural loans to the Brazilian beef sector contributed to methane emissions. Of the estimated € 60.4 billion damage by Brazilian activities, € 39.4 billion can be linked to beef financing, and € 21.0 billion to soy financing.
- In the Netherlands, all the dominant actors on various levels of the supply chain, like Bunge, Cargill, FrieslandCampina, Vion, Ahold Delhaize (Albert Heijn) and Rabobank, had more or less the same access to crucial information on the damages. Only the farmers, smaller processing companies, and smaller retailers will have had less knowledge of the damage. Therefore, Rabobank's share in accountability (13.9%) is not much higher than its share in profit (calculated at 11.8%).
- Rabobank's share in the profit distribution in the Brazilian soy chain is 8.9%. However, its weighted share in accountability is 22.9%. This significant difference stems from the fact that in this supply chain, many other actors have less access to data on the production-related damages, whereas Rabobank should have been well informed. Consequently, Rabobank could face accountability for € 4.8 billion of the € 21.0 billion damage.
- Rabobank's financing of the Brazilian beef ranching and beef processing sector can be linked to € 39.4 billion damage. While Rabobank's share in the profit distribution in these sectors is 6.0%, its weighted share in accountability is 9.8%. The smaller farmers and some parts of the

^a Rijk, G., W. Warmerdam and B. Kuepper (2023, July), *€ 0.7 Billion in Profits, € 66 Billion in Damages*, Amsterdam, The Netherlands: Profundo, online: <https://www.greenpeace.org/nl/natuur/59325/07-miljard-euro-winst-66-miljard-euro-schade-rabobank-draagt-al-meer-dan-20-jaar-bij-aan-natuurverwoesting-in-brazilie/>

retail sector, like Brazilian small, family-owned and smaller international retailers, will have had less access to data. Therefore, Rabobank could face accountability for € 3.9 billion of the € 39.4 billion damage.

- The total result for the low-end scenario is that Rabobank’s share in accountability of the € 66 billion environmental and social damage would be € 9.5 billion. In the high-end scenario (total damage € 459 billion), Rabobank could face accountability for € 61.0 billion. These numbers do not include the damage costs of the loss of intrinsic value of nature, and the loss of culture and cultural diversity for the indigenous peoples and local communities (IPLCs).

Table 1 Summary of damage assigned to Rabobank

€ million	Dutch chain	Brazil soy	Brazil beef	Total
Total damage linked to Rabobank’s financing				
Low scenario	5,630	21,022	39,374	66,025
High scenario	30,277	113,027	315,529	458,834
Weighted damage assigned to Rabobank				
Low scenario	784	4,804	3,866	9,455
High scenario	4,219	25,830	30,982	61,031

Source: Profundo.

Abbreviations

CO₂e	Carbon dioxide equivalent
EBITDA margin	Earnings before interest, tax, depreciation, and amortisation, divided by net turnover
Enterprise value	Market capitalisation + net-debt
Market capitalisation	Number of shares x share price

Introduction

The Profundo report: '*€ 0.7 billion in profits, € 66 billion in damages. Rabobank's destructive financing of deforestation in Brazil*' was published on 5 July 2023.¹ It concluded that over the past 23 years (period 2000-2022), Rabobank's financial support to Brazilian forest-risk sectors, including financing of the Dutch livestock industry that depends on Brazilian soy, has increased sevenfold to € 8.8 billion in 2022 and generated € 717 million in accumulated gross profits based on € 1.9 billion in net interest income. However, the estimated environmental, health, and social damage caused by these financial flows to Brazilian forest-risk sectors is much higher: at least € 66 billion (low scenario) and up to € 459 million (high scenario).

Although that first report gives an overview of how much damage can be linked to the direct and indirect financial flows of Rabobank to Brazilian forest risk sectors, it does not mention the sum to which Rabobank may be held accountable, considering that:

- Rabobank was fully aware of the negative effects on nature and climate by the financed activities, and
- Other parties profited from Rabobank's financing activities and therefore also face accountability.

The current report calculates what a reasonable damage claim would be for Rabobank to 'pay back' for the damage done in Brazil via their direct and indirect financial flows to forest-risk sectors. The current report gives arguments for Rabobank's share and calculates a low-end and high-end of the range. However, as emphasised in the earlier report, the damage to the intrinsic value of the nature cannot be calculated, and also the social damage on the indigenous peoples and local communities (IPLCs) lacks a methodology to calculate a value.

1

Methodology

This section describes the methodology that is applied to estimate Rabobank's share in the € 66 billion to € 459 billion environmental and social damage linked to Rabobank's financing of crucial Brazilian forest-risk activities. Important other stakeholders are Brazilian farmers, the midstream traders and processors, and the downstream consumer goods producers and retailers and food service. These sectors have had their own role and have earned their own profit from handling the same ton of forest-risk commodity that was financed by Rabobank.

1.1 Methodology – the profits in the value chain

The methodology for the calculation is based on the profit division in the relevant value chains which were analysed in the report *€ 0.7 billion in profits, € 66 billion in damages. Rabobank's destructive financing of deforestation in Brazil*.

These relevant chains consist of farmers, traders, importers, crushers, animal feed companies, protein processors, retailers and food service, as well as financiers (including Rabobank) for soy sourced by dairy and protein activities in the Netherlands. This chain, but on a global scale, is also crucial for the soy produced and financed (including Rabobank) in Brazil. For beef, the value chain is different: from ranches and their financiers (including Rabobank), to processors and their financiers (like JBS Brazil and Rabobank), to retail and food service (mainly Brazil, 80% of beef production consumed domestically). All these levels in the supply chain have benefited from Rabobank's financing of activities, and might also face accountability for the € 66 billion to € 459 million damage in the 2000-2022 period and linked to Rabobank's share of financing.

The analysis of the supply/value chains is the starting point for a profit distribution analysis. In every step, value is added to the (embedded) product, sometimes by just re-packaging. Therefore, the (embedded) commodity faces a pricing-up in every step and gets a bit more expensive. Every stage in the chain generates a gross profit, based on the specific action. Existing pricing-up and profit distribution estimates on soy and beef have been applied. These calculations are available from various peer-reviewed reports by Profundo.^{2 3}

Through the 2000-2022 period, the supply chain structures have been relatively stable in soy as well as in beef, and therefore profit distribution estimates for 2018/19 and 2020-2021 from previous studies are applicable.

Both in the soy chain and the beef chain, the downstream food product sector and the retail plus food service take large shares in the total profit distribution. In beef, the farmers have a larger share (24%) than in soy (Table 2).

Table 2 Pricing-up of embedded soy and beef and profit distribution

	Soymeal (index*)	Beef (index*)	Soymeal profit share (%**)	Beef profit share (%**)
Suppliers to farmers*	69	69		
Farmer Brazil (index = 100)	100	100	13%	24%
Average trader/cruncher	111		5%	
Animal feed	139		12%	
Farmer in sourcing country	139		0%	
Midstream/downstream animal products	183	123		17%
Downstream dairy	198			
Egg packer	162			
Average downstream	181		18%	
Retailer/food service	302	202	52%	59%
Total			100%	100%

Source: Profundo, Chain Reaction Research. *) This line has been added to calculate profits of farmers. The 31.5% margin is based on the 31.5% EBITDA margin of SLC Agricola in 2017/18. *) The index shows the pricing-up in each step, and the difference is the gross profit; **) The profit share is the part of the value addition in the whole chain, for instance in the beef sector the retailers profit share is $(202 - 123) / (202 - 69) = 59\%$.

The environmental and social costs can be divided between the Dutch part and the Brazilian part. The Brazilian part is divided in beef and soy as these two commodities have different profit distributions in the chain. **These divisions offer more granularity and therefore an opportunity to differentiate Rabobank's accountability in the three chains. This to counter objections that not only Rabobank's share in the value chain and profit distribution is decisive for 'calculating an accountability', but also its dominance in a value chain and/or its position in the agro-industrial environment.**

1.2 Methodology – the weight of accountability

To calculate Rabobank's share of accountability in the € 66 billion to € 459 billion damage linked to its financing, it is important to understand that not everyone in the value chain can be held accountable in equal ways. There is a difference between large, internationally operating companies and small, family-owned companies.

The weight of accountability can be assessed based on the fragmentation or concentration in each part of the three supply chains, and by asking the question 'could they have known' the impact of their activities on the Brazilian environment and social conditions (Table 3). There are clearly differences between actors in the three chains:

- In the Dutch soy chain (A), main actors like the soy traders (such as Cargill, Bunge), animal feed companies (like ForFarmers), large dairy and meat processors/producers (like FrieslandCampina), large retailers (like Ahold Delhaize) should have been aware of the damage, already in an early stage, based on many studies, global conferences, and civil society campaigns. Smaller retailers, like family-owned stores and individual farmers, had less access to international conferences, databanks, and scientific research, or just got mixed/fragmentated information from their financier, client, or supplier. The large soy farmers in Brazil could also have been aware of the environmental and social issues.
- In the Brazilian soy chain (B) where Rabobank has financed soy farmers, there is one important difference with the Dutch soy chain (A) where Rabobank financed the dairy and protein

farmers. The international retail client base of B consists of many small family-owned stores, in particular outside of Western Europe. These had presumably less access to the right information.

- In the beef chain (C), the large Brazilian ranches will have known that they damaged the environment and social communities. As 80% of Brazilian beef is sold in Brazil, leading Brazilian retailers like Carrefour and Casino Group should have been aware of the damages. Small family-owned retailers, butchers, and restaurants will have had less access to data.

In the table as well as in relevant sub-sections, the weighting of accountability is translated into percentages (see source in table for explanation). This percentage is applied to the profit of each level in the chain and consequently gives a weight to each level's profit as a guidance to a weight in accountability.

Table 3 Brazilian environmental and social damage: awareness in three chain*

	Dutch soy chain (A)	Brazil soy chain (B)	Brazil beef chain (C)
Farmer Brazil	Small farmers (0%)**	Small farmers No, large mega farms Yes (50%)	Small farmers No, large Yes (50%)
Average trader/cruncher	Yes (100%)	Yes (100%)	
Animal feed	Yes (100%)	Yes (100%)	
Farmer in sourcing country	Many farmers, fragmented (0%)	Many farmers, fragmented (0%)	
Mid- /downstream animal products	Yes, often large companies (75%)	Yes, often large companies (25%)	Yes (100%)
Downstream dairy	Yes, concentrated industry (75%)	Yes, concentrated industry (25%)	
Egg packer	Yes/no. Less concentrated (75%)	Yes/no. Less concentrated (25%)	
Retailer/food service	Yes/no. Consolidated (75%)	No (10%)	Yes/no (50%)
Financier	Yes (100%)	Yes (100%)	Yes (100%)

Source: Profundo; *) Yes = aware of damage; No = not or less aware; 0% = low level of awareness, 10% means a small minority in the chain has awareness, 25% indicates a larger minority, and 50% = nearly 50%/50% split between large knowledgeable companies and small companies with no awareness; 75% = a large majority, and 100% = every actor should have known; **) Not included in the Dutch calculations as not relevant in the Dutch chain.

2

Rabobank's share: the calculation

Chapter 2 divides the damages between three supply chains: Dutch soy, Brazilian soy, and Brazilian beef. Each supply chain has its own dynamics, and awareness and/or access to knowledge about potential damaging effects from being active in the chains. The split of damages per chain increases the granularity/quality and credibility of calculations on the share of the total damage for which Rabobank could face accountability.

2.1 The total damage and profit calculated in the base report

Two tables in the preceding report are crucial in the calculation. The first summarizes the damage, and the second one summarizes the profits made by Rabobank.

The environmental, health and social damage linked to Rabobank's financing of Brazilian forest-risk activities is assessed at a low-scenario estimate of € 66 billion and a high-scenario estimate of € 459 billion (Table 4). These are all societal, externalised costs. Of course, not all social and environmental harms can be covered by a value number. For example, the costs of the loss of intrinsic value of nature, and the loss of culture and cultural diversity cannot be calculated and are not included in this report. Important to consider is that the calculated damage estimates consider only Rabobank's financing part, so not the damages linked to the part that is financed by the farmers' own equity and not for the part financed by others. Also, the estimates do not consider Rabobank's financing of dairy and protein activities outside the Netherlands and Brazil.

Table 4 Environmental and social damage by Rabobank in 2000-2022*

	Damage - Low	Damage - High
Climate damage		
Climate damage (CO ₂ e mln tons), deforestation	108	108
Costs per ton (€)	86	1,160
Climate damage (€ mln), deforestation	9,254	124,816
Climate damage (CO ₂ e mln tons), beef/cattle ranching	148	148
Costs per ton (€)	86	1,160
Climate damage (€ mln), beef/cattle ranching	12,736	171,794
Total climate damage 2000-2022 (€ mln)	21,990	296,610
Biodiversity damage, excluding intrinsic value of nature		
Biodiversity (hectares)	434,224	434,224

	Damage - Low	Damage - High
Biodiversity damage (€ mln) ^{b,c}	26,606	142,746
Health damage		
Air pollution (€ mln)	17,330	19,379
Pesticides (€ mln)	99	99
Other social/socio-economic impact (€ mln)	n/a	n/a
Total health and other social damage	17,429	19,478
Absolute and relative damage		
Total damage (€ mln), excluding intrinsic value nature	66,025	458,834

Source: Profundo; *) Brazilian damage, through financing forest-risk activities in Brazil and indirectly through soy-sourcing sectors in the Netherlands.

Rabobank has made accumulated gross profits of € 717 million on activities with high forest risk in Brazil in the period 2000-2022, based on € 1.9 billion in net interest income. The profits made by Rabobank (Table 5) show that the net interest income is quite evenly divided between the Dutch and the Brazilian activities.

Table 5 Rabobank: Total profits on forest-risk loans related to Brazil (2000-2022)

€ million	2000-2005	2006-2010	2011-2015	2016-2022	Total
Net interest income on:					
Dutch soy-sourcing activities (x25%*)	191.8	168.1	220.3	335.3	915.4
Brazilian forest-risk loans	4.8	9.7	135.2	825.0	974.7
Total net interest income	196.6	177.7	355.5	1,160.3	1,890.1
Gross result on:					
Dutch soy-sourcing activities (x25%*)	58.2	63.1	77.5	121.1	319.9
Brazilian forest-risk loans	2.1	3.9	46.4	345.2	397.6
Total gross result	60.3	67.0	123.9	466.2	717.4

Source: Profundo; *) 25% = a minority of financing to the Dutch sector had been accounted for as not all loans to Dutch farmers are related to Brazilian soy-sourcing activities.

2.2 The division of damages between three supply chains

The Dutch financing activities can be split from the Brazilian activities. In the current report, initially most tables and the text focus on the low-end scenario as this improves readability. In the conclusion, the outcome of the calculation for the high-end scenario (Rabobank can be linked to € 459 billion damage in Brazil) will be added.

^b There are stakeholders that are opposed to focus on a value approach for biodiversity as all valuation methodologies are partly, and often only, based on ecosystem services (for mankind) and the value for tourism (idem).

^c See in relevant chapter for calculation methodology.

2.2.1 The split between Dutch and Brazilian activities

The Dutch activities generated € 5.6 billion damage, and the Brazilian € 60.4 billion (Table 6). The Brazilian lending activities generated much more deforestation and deforestation-linked emissions. Moreover, Rabobank's Brazilian rural loans to the beef/ranching sector contributed to methane emissions.

Table 6 Damage from Brazilian and Dutch financing

	Brazil	Netherlands
Climate damage		
Climate damage (CO ₂ e mln ton), deforestation	101	7
Costs per ton (€)	86	86
Climate damage (€ mln), deforestation	8,660	593
Climate damage (CO ₂ e mln ton), beef/cattle ranching	148	0
Costs per ton (€)	86	86
Climate damage (€ mln), beef/cattle ranching	12,736	0
Total climate damage 2000-2022 (€ million)	21,397	593
Biodiversity		
Biodiversity (hectares)	370,272	63,952
Biodiversity damage (€ mln)	22,687	3,918
Health damage		
Air pollution (€ mln)	16,219	1,111
Pesticides (€ mln)	93	6
Other social/socio-economic impact (€ mln)	Na	Na
Total health and other social damage (€ mln)	16,312	1,118
Total damage (€ mln)	60,396	5,630

Source: Profundo, based on the July 2023 report "€ 0.7 Billion in Profits, € 66 Billion in Damages".

2.2.2 Division of the Brazilian damage between beef and soy

The next sections refer to financial flows by Rabobank in Brazil, which are categorized in various categories. The deforestation calculations are based on the rural credits. Therefore, the related emission and damage numbers are split 44%/56% for soy and beef (Table 14 in Appendix). The next step is to split the damage linked to Rabobank's Brazilian financing through local rural credits and corporate loans between soy and beef activities. **While 56% of the Brazilian rural credits linked to forest-risks went to the beef sector,⁴ 65% of the damage is attributable to the beef part. This higher share is caused by 100% of the methane damage being linked to beef.**

Table 7 Damage linked to Rabobank's Brazilian soy and beef financing

	Beef %	Soy %	Beef damage	Soy damage	Total damage
Climate damage (€ mln), deforestation	56%	44%	4,850	3,810	
Climate damage (€ mln), beef/cattle ranching	100%	0%	12,736	0	

	Beef %	Soy %	Beef damage	Soy damage	Total damage
Biodiversity damage (€ mln)	56%	44%	12,705	9,982	
Air pollution (€ mln)	56%	44%	9,083	7,136	
Pesticides (€ mln)	0%	100%	0	93	
Total damage (€ mln)			39,374	21,022	60,396
% of total			65%	35%	

Source: Profundo, based on the July 2023 report “€ 0.7 Billion in Profits, € 66 Billion in Damages”.

2.3 The Dutch soy chain and Rabobank’s accountability

As all calculations are based on gross profits, a comparable variable is used for Rabobank’s profit share, the net interest income value. The 2020 report *Who’s profiting from Brazilian soy?*⁵ is used as a basis as it offers profit numbers for the leading companies in the Dutch soy chain.

As this 2020 report was about the profits of the leading companies in the whole sector, the first step is to calculate the net interest income of all large banks’ (including ABNAmro, ING), so not only Rabobank. Considering Rabobank’s 85% market share (C) and its average profit of € 48 million (B, column 3), and the high share of all banks in long-term loan financing to farmers (95%/D), an average net interest income of all banks is € 60 million (D; 2015 and 2020 are used as reference years as these are calculated in the report) (Table 8).

Table 8 Rabobank’s adjusted profits on financing Dutch soy sourcing farmers

€ million	2015	2020	Average
Net interest income (A)	199	189	194
of which 25% on Brazilian embedded soy (B = 25% x A)	50	47	48
Rabobank’s share in financing Dutch farmers loans (C)	85%	85%	85%
Banks’ share in long-term financing (D)	95%	95%	95%
Net interest income of all long-term financiers to farmers (E = B / C / D)	61	58	60

Source: Profundo, based on the July 2023 report “€ 0.7 Billion in Profits, € 66 Billion in Damages”.

The 2020 report *Who’s profiting from Brazilian soy?* calculated the gross (and operating) profits for 2017 and 2018 made by the ‘leading’ companies in every part of the Dutch soy supply chain. In a second step, this ‘leading’ groups’ profit is recalculated to a profit value for the whole Dutch supply chains (including smaller companies). It is assumed that the leading companies had 80% of the total market. This leads to an average gross profit number for the whole sector of € 350 million (third column Table 9, versus € 280 million for the ‘leading’ companies). Adding the results from the underlying analysis (July 2023 report), the addition of € 60 million banks’ profit leads to € 410 million for the whole chain. The € 60 million net interest income of all Dutch banks is on average 14.6% for all banks. Rabobank’s share is 11.8% (x 85%).

In a third step, it is considered that the protein processing sector is given a lower 75% weight in awareness (many, but not all companies had access to data) and the total retail sector a 75% weight (based on Table 3; see explanation percentages in the source of that table). Subsequently, A is multiplied by B, which ends up in C in the table. **The outcome for Rabobank is 13.9%. This is an input for the total ‘accountability based on awareness’ in the conclusion table.** Note that the

Dutch farmers are not included in this number, as the analysis of *Who's profiting from Brazilian soy?* focussed on large companies in the Dutch chain.

Table 9 Profit distribution Dutch soy chain and accountability

€ million	2017	2018	Average (A)	Awareness (B)	Weighted value (C= A x B)
Traders top-6	12	8	10	100%	10
Crushers top	12	17	15	100%	15
Animal feed top-3	52	56	54	100%	54
Leading protein processing companies	104	107	105	75%	79
Food retail/foodservice	90	103	97	75%	72
Gross profit leading companies from import to retail	270	291	280		230
Leaders as % of whole chain	80%	80%	80%		80%
Gross profit whole sector (D), excluding financiers	337	363	350		287
All long-term financiers to farmers, net interest income (E)	61	58	60	100%	60
Total gross profit in the chain, including financiers (F = D + E)	399	422	410		347
% of all long-term debt financiers of farmers in total gross profit (G = E/F)	15.4%	13.8%	14.6%		17.3%
% of Rabobank in total gross profit embedded soymeal (H = G x 85% x 95%*)	12.4%	11.2%	11.8%		13.9%

Source: Profundo, based on the July 2023 Rabobank report and Table 3: *) Rabobank's share is 85% of bank financing in the Netherlands to farmers, and bank's financing is 95% of all long-term financing to farmers, excluding own capital.

2.4 The Brazilian soy chain and Rabobank's accountability

Based on a leading listed soy farming company, SLC Agricola (see Appendix 1, Table 15), the gross profit per ton soy of Rabobank's soy financing is deducted (Table 16). This number is necessary to integrate the Rabobank analysis into the NVF/Profundo analysis *Financial materiality in Latin American soy and beef supply*.⁶ Rabobank earned US\$ 110 per ton of soy (see Appendix 1). This is 8.9% of all gross profits in the chain per ton soy (Table 10).

The weighting of awareness/accountability is adjusted to less than 100% for farmers (to 50%) as there are many small, less-informed farmers next to mega farms like SLC Agricola or BrasilAgro. The downstream sector globally gets a weight of 25% as there are many small companies in developing markets, and retailers worldwide (10%, fragmented, with many small, family-owned businesses). **As a consequence, Rabobank's weighted share is 22.9% (110/482).**

Table 10 Profit distribution Brazilian soy chain and accountability

US\$ profit per ton	Profit distribution	Weight awareness	Weighted value
Farmer	151*	50%	76
Average trader/cruncher	53	100%	53

US\$ profit per ton	Profit distribution	Weight awareness	Weighted value
Animal feed	135	100%	135
Average downstream	202	25%	50
Retailer/food service	582	10%	58
Total (excluding Rabobank) (A)	1,122		372
Rabobank** (B)	110	100%	110
Total including Rabobank (C = A + B)	1,232		482
% of Rabobank (D = B/C)	8.9%		22.9%

Source: Profundo, based on 5 July 2023 Rabobank report; Appendix 1, and Table 3; *) US\$ 480 per ton soy x 31.5% margin (from Appendix 1, SLC Agricola); **) Only Rabobank as financier is mentioned here, but this calculation could be made for every other financier. The US\$ 110 per ton is specific for Rabobank (see Table 16).

2.5 The Brazilian beef chain and Rabobank's accountability

Based on financial flows from Rabobank, the tons of beef financed have been calculated (see Appendix 1, Table 17). As a result, the net interest income per ton beef is US\$ 343 (see Appendix 1, Table 18).

The weighting of awareness/accountability is adjusted to less than 100% for retailers and farmers. Beef farmers are sometimes large suppliers to companies like JBS and aware of environmental and social damages, but there are also small farmers. For retailers/food service, large retailers like the Brazilian subsidiaries of Carrefour and Casino are important, as well as small retailers and restaurants. As a consequence, Rabobank's weighted share is 9.8%.

Table 11 Profit distribution Brazilian beef chain and accountability

US\$ profit per ton	Profit distribution	Weight awareness	Weighted
Farmer Brazil	1,265*	50%	632
Midstream/downstream animal products	934	100%	934
Retailer/food service	3,167	50%	1,584
Total (excluding Rabobank) (A)	5,366		3,150
Rabobank** (B)	343	100%	343
Total including Rabobank (C = A + B)	5,709		3,493
% of Rabobank (D = B/C)	6.0%		9.8%

Source: Profundo, based on July 5th 2023 Rabobank report, Appendix 1, and Table 3; *) based on 31.5% profit margin and US\$ 4,015 per ton beef at JBS/global price level and US\$ 4,024 at farmer level; **) Only Rabobank as financier is mentioned here, but this calculation could be made for every other financier. The US\$ 343 per ton is specific for Rabobank (see Table 18).

2.6 Conclusion

Including the weightings, Rabobank's share in accountability of the € 66 billion environmental and social damage is € 9.5 billion. While Rabobank could emphasize that awareness is more evenly spread through the whole chain, it would still have € 6.1 billion damage accountability (Table 12).

Table 12 Summary of share of damage for Rabobank – low scenario

€ million	Netherlands	Brazil soy	Brazil beef	Total
Total damage (€ mln)	5,630	21,022	39,374	66,025
No 'awareness' weighting				
% of damage*	11.8%	10.2%	8.4%	
Damage for Rabobank	665	2,142	3,293	6,099
% per activity (mentioned in the columns)	10.9%	35.1%	54.0%	100.0%
With 'awareness' weighting				
% of damage*	13.9%	22.9%	9.8%	
Damage for Rabobank	784	4,804	3,866	9,455
% per activity	8.3%	50.8%	40.9%	100.0%

Source: Profundo; from Table 9, Table 10, Table 11.

Finally, the high range calculation of Brazilian environmental and social damage would lead to a higher number of € 61.0 billion.

Table 13 Summary of share of damage for Rabobank – high scenario

€ million	Netherlands	Brazil soy	Brazil beef	Total
Total damage (€ mln)	30,277	113,027	315,529	458,834
No 'awareness' weighting				
% of damage	11.8%	10.2%	8.4%	
Damage for Rabobank	3,576	11,515	26,386	41,477
% per activity	8.6%	27.8%	63.6%	100.0%
With 'awareness' weighting				
% of damage	13.9%	22.9%	9.8%	
Damage for Rabobank	4,219	25,830	30,982	61,031
% per activity	6.9%	42.3%	50.8%	100.0%

Source: Profundo; from Table 9, Table 10, Table 11.

2.7 Data gaps

There are some relevant shortcomings in this research to be considered:

- The financing of other parts of the chain are not considered in the total gross profit. However, these are often also financed by Rabobank. Moreover, these financing streams need a significant adjustment factor as for instance food producers (like Nestlé) and retailers (like Ahold Delhaize) are selling much more products than only meat, dairy, and other products with embedded soy.
- Rabobank's financing of soy-sourcing farmers outside the Netherlands, and soy-sourcing sectors other than described in the basis study, are not taken into account. This means that the estimates are conservative.

References

- 1 Rijk, G., W. Warmerdam and B. Kuepper (2023, July), *€ 0.7 Billion in Profits, € 66 Billion in Damages*, Amsterdam, Netherlands: Profundo.
- 2 B. Kuepper and G. Rijk (2020, October), *Who's Profiting from Brazilian Soy?*, Amsterdam, Netherlands: Profundo.
- 3 B. Kuepper and G. Rijk (2022, July), *Financial Materiality in Latin American Soy and Beef Supply*, Amsterdam, Netherlands: Profundo.
- 4 Forests & Finance, online: <https://forestsandfinance.org>.
- 5 B. Kuepper and G. Rijk (2020, October), *Who's Profiting from Brazilian Soy?*, Amsterdam, Netherlands: Profundo.
- 6 B. Kuepper and G. Rijk (2022, July), *Financial Materiality in Latin American Soy and Beef Supply*, Amsterdam, Netherlands: Profundo.

Appendix 1 Additional tables

Table 14 Categorization Brazilian credits/loans and underwriting services*

US\$ million	Total	%
Suzano - paper & pulp	4,489	46%
Other paper & pulp	45	0%
Rural credits soy related	2,037	21%
Other soy	389	4%
Rural credits beef	2,602	27%
Other beef	156	2%
Total	9,719	100%
Total soy versus beef:		
Soy related	2,426	47%
Beef related	2,759	53%
Total	5,185	100%
Rural credits only:		
Soy rural credits	2,037	44%
Beef rural credits	2,602	56%
Total	4,639	100%

Source: Profundo, based on the July 2023 Rabobank report; Forests & Finance. These numbers are relevant for Rabobank activities in Brazil and its financial services to forest-risk businesses. *) The numbers above do not include the annual financing (adjusted) of Dutch farmers which use Brazilian soy in their business model.

Table 15 calculates the enterprise value per ton soy produced: US\$ 2,378. The source report showed that the EBITDA margin is 31.5% for this large farming company (Table 15). This percentage is applied in the profit calculation for Brazilian soy farmers, when needed. Due to lack of data, this percentage is also used for beef farmers.

Table 15 SLC Agricola – EBITDA margin + Enterprise value per ton soy

	SLC Agricola (2017/18)
Enterprise value (US\$ million)	1,740
Enterprise value (US\$ million) soybean business	990
Total planted area (ha)	404,446
of which soybean	230,164
Yield/ha (kg) - soy	1,809
Production soybean (million ton)	41.6%
Enterprise value soy business/ton soy (US\$)	2,378
EBITDA margin	31.5%

Source: Chain Reaction Research (2018, October), "SLC Agricola: Planned deforestation could contradict buyers' ESG policies"; Profundo calculation.

Based on the rural credits to soy farmers by Rabobank (US\$ 2,037 million; see Table 14), which on average finance a farmer for 2.5 years (Rabobank did not want to give specific information) and the US\$ 2,378 per ton soy of SLC Agricola, it is calculated that the US\$ 2,037 million facilitated the production of 2.1 million tons of soy. As the rural credits for soy contributed to 21% of identified financing in Brazil (Table 14 Appendix 1), the share of net interest income from identified forest-risk financing in Brazil by Rabobank (US\$ 1,125 million) for rural credits in soy where US\$ 236 million, and US\$ 110 per ton (Table 16).

Table 16 Rabobank: net interest income per ton soy

	Data
Financial flows (US\$ mln) in soy activities (see Table 14)	2,037
Duration rural loan	2.5 years
Enterprise value soy business/ton soy (US\$)	2,378
Soy produced due to Rabobank's financing (million ton)	2.1
Share of soy sectors in total identified financing (Table 14)	21.0%
Net interest income Brazil	1,125
Net interest income rural credit soy related	236
Net interest income per ton soy (US\$) by Rabobank	110

Source: Profundo, Chain Reaction Research (2018, October), "SLC Agricola: Planned deforestation could contradict buyers' ESG policies"; Forests & Finance.

With total financial flows of US\$ 2,759 million to beef ranchers and processors in 2000-2022 (see Table 14), Rabobank has financed 6.9 million bovines and thus 0.93 million tons of beef (Table 17).

Table 17 Rabobank: tons of beef financed

	2000-2022
Financial flows (US\$ mln) in beef ranching and beef processors (see Table 14)	2,759
Price per bovine (US\$)	400
# of bovines (million)	6.9
Tons of beef (million) financed by Rabobank	0.93

Source: Profundo calculation; Forests & Finance; July 2023 Rabobank report.

With rural beef credits and beef processing loans contributing 28% of identified forest-risk financing by Rabobank, the net interest per ton beef can be calculated on US\$ 343 (Table 18).

Table 18 Rabobank's Brazilian net interest income per ton beef

	2000-2022
Net interest income	1,125
Share of beef sectors in total identified financing (see Table 14)	28%
Net interest income, beef related	319
Tons of beef (million) financed by Rabobank	0.93
Net interest income per ton beef (US\$) by Rabobank	343

Source: Profundo calculations; Forests & Finance; July 2023 Rabobank report; other sources.

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