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Seasonally Lower Transportation Costs and Falling Soybean Export Prices

Inland and ocean freight rates—year to year. From third quarter 2023 to third quarter 2024 (year to year), the cost in Brazil of shipping a metric ton (mt) of soybeans 100 miles by truck declined 29 percent, from \$10.23 per mt to \$7.24 per mt (table 8). Although inland (truck, rail, and barge) Brazilian transportation costs typically decline in July at the end of the peak soybean export period, this year's third-quarter decline was steeper than the typical post-peak dip. Brazilian transportation demand also declined because of a smaller soybean crop than last year and lower corn flows in July and August (SIFRECA personal communication). Still, in the first 9 months of 2024, Brazil exported a record 89.5 million metric tons (mmt) of soybeans, valued at \$39 billion (fig. 1a), mostly to China (Comex Stat, Ministério do Desenvolvimento, Indústria, Comércio e Serviços (MDIC)).¹ From the middle of August to the beginning of October, as drought took hold in the "Arco Norte," poor navigation conditions reduced barge loads and shipment frequency (Hidrovias do Brasil and SIFRECA personal communication).² As barge navigation capacity fell, shippers selected alternative modes, and barge rates declined significantly.



Figure 1a. Brazil average soybean exports, January 2023 to September 2024

Source: Comex Stat, Ministério do Desenvolvimento, Indústria, Comércio e Serviços.

¹ In this report, the source of Brazil export data is the Comex Stat, Ministério do Desenvolvimento, Indústria, Comércio e Serviços (MDIC).

² Brazil's Arco Norte ports include Barcarena, São Luís /Itaqui, Itacoatiara/Manaus, and Santarém.



At some export terminals, alternative shipments by truck were able to mitigate the impact of the drought. Ocean shipping rates also declined (tables 1a, 1b, 2a, 2b, and 9). Total transportation costs varied by Brazilian region. However—for the route to Shanghai, China, from Sorriso, Mato Grosso (the largest Brazilian soybeanproducing State) via Santos—third quarter 2024 soybean transportation costs declined 15-21 percent (table 1a). Year to year, soybean transportation costs to Shanghai, China—as a share of total landed costs—declined 6-13 percent for the routes from northern Mato Grosso to Santos, Santarém, and Barcarena (tables 1a and 1b).

Farm gate prices and depreciation of Brazilian real. Year to year, Brazil's soybean exports rose from 24.5 mmt to 25.4 mmt. The average third-quarter 2024 Brazilian soybean export price (\$434.91) was down 13 percent from third quarter 2023's average (\$499.69) and down nearly 17 percent from the average for all of 2023 (\$522.67). Year to year, the Brazilian real depreciated nearly 14 percent against the U.S. dollar—from R\$4.88 per U.S. dollar to R\$5.54 per U.S. dollar (Brazil Central Bank). Brazil's average farm gate prices for soybeans fell 15 percent. Measured in U.S. dollars, that decline was from \$428.83/mt to \$363.33/mt—and in reais, from R\$2,092.75/mt to R\$2,014.56/mt (CONAB). Farm prices measured in reais declined 4 percent because Brazilian farmers continued to benefit from the real's relative weakness against the U.S. dollar. Soybeans are priced in U.S. dollars but paid in reais.

Brazilian port shares of soybean exports to China. In third quarter 2024, Brazil's soybean exports to China totaled 19.2 mmt—up 5 percent from third quarter 2023's total of 18.2 mmt (fig 1a). From January to September 2024, cumulative exports to China reached 65.5 mmt, valued at \$28.4 billion and accounted for 73 percent of Brazil's total soybean exports for the period (89.5 mmt). The next highest shares of Brazil's soybean exports (in declining order) went to Spain, Thailand, Turkey, and Iran.

The Port of Santos was the largest Brazilian export gateway to China, followed by Paranaguá, São Luís, Rio Grande, São Francisco do Sul, and Barcarena. Together, these six ports accounted for 91 percent of Brazilian soybean exports to China. In the first 9 months of 2024, 70 percent of Brazil's soybean exports to China originated from the southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul; 22 percent, from the northeastern ports of São Luís, Vitória, and Salvador; and 8 percent from the ports of Barcarena and Manaus, along the Amazon River.

Brazil's Soybean Modal Shares

Trucks moved over half of Brazilian soybean exports in 2023. Historically, grain exports from Brazil have relied heavily on road transportation to bridge long distances between major production regions and Brazilian ports. However, the expansion and consolidation of new transport corridors, as well as the addition of new railways and waterways, have made exporting of grain and soybeans more efficient and competitive in the world agricultural market. As a result of this expansion, today's Brazilian transportation system is a more balanced system—similar to the U.S. system in its complexity (fig. 1b). In 2023, trucks moved 54 percent of soybean exports; rail, 33 percent; and barges, 12 percent. In the United States, in 2022, barges hauled nearly half of soybean exports; rail, 38 percent; and trucks, 14 percent (Pera and Salin 2024).



Figure 1b. U.S.-Brazil soybean modal shares, percentages

U.S.-Brazil soybean modal shares

U.S.-Brazil soybean modal shares for exports



Note: Brazil data compiled from the National Land Transport Agency (ANTT); National Water Transport Agency (ANTAQ), Comex-Vis, Ministry of Economy, and National Supply Company (CONAB). U.S. 2022 data is the latest available.

Because of rounding, shares do not sum exactly to 100.

Source: Modal share analysis results—calculations by the University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.

Brazil's railway infrastructure did not keep pace with the rise in soybean exports. The completion of the North-South (EF-151) Railroad (FSN) added access from the Center-West region to the ports of Itaquí-Sâo Luis, Maranhão, and the southern port of Santos-São Paulo.³ The opening of rail terminals in Rondonópolis, Mato Grosso (MT), and Rio Verde, Goiás, further facilitated soybean exports. Currently, Mato Grosso's shippers have the option to ship either by barge via Itacoatiara (Manaus), Santarem, and Barcarena or by rail to Santos. In 2023, the port of Santos received 57 percent of soybean exports by rail and 43 percent by truck (Pera and Salin 2024).

Despite Brazil's infrastructure advances, a number of challenges persist, including long distances from major production regions to barge and rail terminals, as well as a shortage of rail and inland waterway infrastructure capacity.

Because upgrades to Brazil's railway infrastructure did not keep pace with the rise in soybean exports, shippers' reliance on trucking continued to increase. From 2010 to 2023, although Brazil's volume of soybean exports by rail more than doubled, rail's modal share of soybean exports declined from 47 percent to 33 percent. If not for the growth of barge transportation (particularly in the northern region of the country), Brazil's dependence on trucking would have intensified even more (fig. 1b and 1c).

³ Central-West accounts for almost half of Brazilian total soybeans production. It comprises the states of Mato Grosso (largest soybean producer), Mato Grosso do Sul, Goiás, and the Federal District.







Source: Modal share analysis results—calculations by the University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/USP) and USDA, Agricultural Marketing Service.

Barge share of exports rose over fourfold. From 2010 to 2023, barge's modal share of Brazil's soybean exports rose from 8 percent in 2010 to 12 percent in 2023, and barged soybean export volumes more than quadrupled. The rise in barge transport was especially notable in Mato Grosso (MT): truck volumes to the port of Miritituba, Pará, rose with the completed pavement of highway BR-163, connecting the port city to Sorriso (North MT). From Miritituba, soybeans are shipped via the Tapajos River (a major tributary of the Amazon River) to the ports of Santarém and Barcarena.

From January-September 2024, Mato Grosso accounted for 27 percent (24.2 mmt) of total Brazilian soybean exports. Of this share, the region shipped 43 percent to the port of Santos and 46 percent to the northern ports of Barcarena (29 percent), Manaus (10 percent), and Santarém (7 percent). The next highest state shares of Brazil's soybean exporting states (in declining order) were Paraná, Goiás, Minas Gerais, Rio Grande do Sul, and Mato Grosso do Sul. For more information, contact Delmy L. Salin at <u>delmy.salin@usda.gov</u>.

Table 1a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China

	North MT - Santos by truck			North	west RS - Rio G	Grande
	—US\$	/mt—	% Change	—US\$	/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	113.56	82.31	-27.5	35.89	26.79	-25.4
Ocean	37.00	36.00	-2.7	38.50	36.50	-5.2
Total transportation	150.56	118.31	-21.4	74.39	63.29	-14.9
Farm gate price	399.94	366.60	-8.3	469.48	358.95	-23.5
Landed cost	550.51	484.91	-11.9	543.87	422.24	-22.4
Transport % of landed cost	27.4	24.4	-10.8	13.7	15.0	9.6
	North	n MT - Santos l	oy rail	Nort	th MT - Parana	aguá
	—US\$	/mt—	% Change	—US\$	/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	40.22	28.22	-29.8	112.54	80.92	-28.1
Rail	58.44	43.01	-26.4	-	-	-
Ocean	37.00	36.00	-2.7	37.50	37.50	0.0
Total transportation	135.66	107.23	-21.0	150.04	118.42	-21.1
Farm gate price	399.94	366.60	-8.3	399.94	366.60	-8.3
Landed cost	535.60	473.83	-11.5	549.99	485.02	-11.8
Transport % of landed cost	25.3	22.6	-10.7	27.3	24.4	-10.5

Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul.

Export ports = Santos, Rio Grande, and Paranaguá.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.



Table 1b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China

	North MT - Santarém			South MA - São Luís			
	—US\$	/mt—	% Change	—US\$	/mt—	% Change	
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24	
Truck	73.96	58.70	-20.6	48.72	37.01	-24.0	
Ocean	41.40	39.00	-5.8	42.00	39.50	-6.0	
Total transportation	115.36	97.70	-15.3	90.72	76.51	-15.7	
Farm gate price	399.94	366.60	-8.3	428.33	357.15	-16.6	
Landed cost	515.30	464.29	-9.9	519.05	433.67	-16.5	
Transport % of landed cost	22.4	21.0	-6.0	17.5 17.6		0.9	
	Southwest PI - São Luís		Luís	Nor	th MT - Barcar	ena	
	—US\$	/mt—	% Change	—US\$	/mt—	% Change	
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24	
Truck	52.28	38.46	-26.4	61.36	44.96	-26.7	
Barge	-	-	-	30.47	17.42	-42.8	
Ocean	42.00	39.50	-6.0	42.20	39.75	-5.8	
Total transportation	94.28	77.96	-17.3	134.03	102.12	-23.8	
Farm gate price	432.42	363.76	-15.9	399.94	366.60	-8.3	
Landed cost	526.70	441.72	-16.1	533.97	468.72	-12.2	
Transport % of landed cost	17.9	17.6	-1.4	25.1	21.8	-13.2	

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

Table 2a. Quarterly costs of transporting Brazilian soybeans from thesouthern ports to Hamburg, Germany

	North MT - Santos by truck			North	west RS - Rio G	Grande
	—US\$	/mt—	% Change	—US\$	/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	113.56	82.31	-27.5	35.89	26.79	-25.4
Ocean	35.00	33.80	-3.4	36.00	34.60	-3.9
Total transportation	148.56	116.11	-21.8	71.89	61.39	-14.6
Farm gate price	399.94	366.60	-8.3	469.48	358.95	-23.5
Landed cost	548.51	482.71	-12.0	541.37 420.34		-22.4
Transport % of landed cost	27.1	24.1	-11.2	13.3 14.6		10.0
	North	MT - Santos I	Nor	th MT - Parana	aguá	
	—US\$	/mt—	% Change	—US\$	/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	40.22	28.22	-29.8	112.54	80.92	-28.1
Barge	58.44	43.01	-26.4	-	-	-
Ocean	35.00	33.80	-3.4	34.20	33.50	-2.0
Total transportation	133.66	105.03	-21.4	146.74	114.42	-22.0
Farm gate price	399.94	366.60	-8.3	399.94	366.60	-8.3
Landed cost	533.60	471.63	-11.6	546.69	481.02	-12.0
Transport % of landed cost	25.0	19.4	-22.6	26.8	23.8	-11.4

Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul.

Export ports = Santos, Rio Grande, and Paranaguá.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

Table 2b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany

	North MT - Santarém			So	uth MA - São L	.uís
	—US\$	/mt—	% Change	—US\$	/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	73.96	58.70	-20.6	48.72	37.01	-24.0
Ocean	33.00	31.20	-5.5	38.20	36.10	-5.5
Total transportation	106.96	89.90	-16.0	86.92	73.11	-15.9
Farm gate price	399.94	366.60	-8.3	428.33	357.15	-16.6
Landed cost	506.90	456.49	-9.9	515.25 430.27		-16.5
Transport % of landed cost	21.1	19.7	-6.7	16.9	17.0	0.7
	Sout	hwest PI - São	Luís	Nor	th MT - Barcaı	rena
	—US\$	/mt—	% Change	—US\$	5/mt—	% Change
	3rd qtr. 2023	3rd qtr. 2024	2023-24	3rd qtr. 2023	3rd qtr. 2024	2023-24
Truck	52.28	38.46	-26.4	61.36	44.96	-26.7
Barge	-	-	-	30.47	17.42	-42.8
Ocean	38.20	36.10	-5.5	32.50	30.60	-5.8
Total transportation	90.48	74.56	-17.6	124.33	92.97	-25.2
Farm gate price	432.42	363.76	-15.9	399.94	366.60	-8.3
Landed cost	522.90	438.32	-16.2	524.27	459.57	-12.3
Transport % of landed cost	17.3	17.0	-1.7	23.7	20.2	-14.7

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.



Indicators





Notes: Table defining routes by number is shown on page 13. Regions comprised about 78 percent of Brazilian soybean production, 2022 (Brazilian Institute of Geography and Statistics—Produção Agricola Municipal).

Table 3. Quarterly costs of transporting Brazilian soybeans from thesouthern ports to Shanghai, China, 2024

		North M ⁻	T - Santos -US\$/mt	s by truck —	C		North _	MT - Para -US\$/mt	anaguá —	guá Avg. h qtr. Avg. 86.92 36.17 123.09 360.92 360.92 484.01 25.4 25.4 rande 29.32 9 -			
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	91.79	91.10	82.31		88.40	89.66	90.18	80.92		86.92			
Ocean	34.70	33.30	36.00		34.67	36.20	34.80	37.50		36.17			
Total transportation	126.49	124.40	118.31		123.07	125.86	124.98	118.42		123.09			
Farm gate price	349.39	366.79	366.60		360.92	349.39	366.79	366.60		360.92			
Landed cost	475.88	491.19	484.91		483.99	475.25	491.76	485.02		484.01			
Transport % of landed cost	26.6	25.3	24.4		25.4	26.5	25.4	24.4		25.4			
		North M —	1T - Santo -US\$/mt·	os by rail —			Northwe –	st RS - Ri -US\$/mt	o Grande —	86.92 36.17 123.09 360.92 484.01 25.4 25.4 20.3 20 35.17 64.49			
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	32.64	29.89	28.22		30.25	32.07	29.10	26.79		29.32			
Rail	53.29	48.56	43.01		48.29	-	-	-		-			
Ocean	34.70	33.30	36.00		34.67	35.20	33.80	36.50		35.17			
Total transportation	120.63	111.76	107.23		113.21	67.27	62.90	63.29		64.49			
Farm gate price	349.39	366.79	366.60		360.92	383.05	381.34	358.95		374.45			
Landed cost	470.02	478.54	473.83		474.13	450.32	444.25	422.24		438.94			
Transport % of landed cost	25.7	23.4	22.6		23.9	14.9	14.2	15.0		14.7			

Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

Export ports = Santos, Paranaguá, and Rio Grande.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In, Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Table 4. Quarterly costs of transporting Brazilian soybeans from thesouthern ports to Hamburg, Germany, 2024

		North M ⁻	Γ - Santos -US\$/mt·	s by truck —	:		North _	MT - Para -US\$/mt [.]	anaguá —	
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	91.79	91.10	82.31		88.40	89.66	90.18	80.92		86.92
Ocean	32.60	31.30	33.80		32.57	32.20	31.00	33.50		32.23
Total transportation	124.39	122.40	116.11		120.97	121.86	121.18	114.42		119.15
Farm gate price	349.39	366.79	366.60		360.92	349.39	366.79	366.60		360.92
Landed cost	473.78	489.19	482.71		481.89	471.25	487.96	481.02		480.08
Transport % of landed cost	26.3	25.0	24.1		25.1	25.9	24.8	23.8		24.8
		North MT - Santos by rail —US\$/mt—					Northwe _	st RS - Ri -US\$/mt·	o Grande —	
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	32.64	29.89	28.22		30.25	32.07	29.10	26.79		29.32
Rail	1									
	53.29	48.56	43.01		48.29	-	-	-		_
Ocean	53.29 32.60	48.56 31.30	43.01 33.80		48.29 32.57	- 33.40	- 32.00	- 34.60		- 33.33
Ocean Total transportation	53.29 32.60 118.53	48.56 31.30 109.76	43.01 33.80 105.03		48.29 32.57 111.11	- 33.40 65.47	- 32.00 61.10	- 34.60 61.39		- 33.33 62.65
Ocean Total transportation Farm gate price	53.29 32.60 118.53 349.39	48.56 31.30 109.76 366.79	43.01 33.80 105.03 366.60		48.29 32.57 111.11 360.92	- 33.40 65.47 383.05	- 32.00 61.10 381.34	- 34.60 61.39 358.95		- 33.33 62.65 374.45
Ocean Total transportation Farm gate price Landed cost	53.29 32.60 118.53 349.39 467.92	48.56 31.30 109.76 366.79 476.54	43.01 33.80 105.03 366.60 471.63		48.29 32.57 111.11 360.92 472.03	- 33.40 65.47 383.05 448.52	- 32.00 61.10 381.34 442.45	- 34.60 61.39 358.95 420.34		- 33.33 62.65 374.45 437.10

Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

Export ports = Santos, Paranaguá, and Rio Grande.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In, Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Table 5. Quarterly costs of transporting Brazilian soybeans from thenorthern and northeastern ports to Shanghai, China, 2024

		North	MT ¹ - San -US\$/mt·	itarém² —			South _	MA ¹ - Sã -US\$/mt·	o Luís² —				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	64.20	67.30	58.70		63.40	39.56	36.78	37.01		37.78			
Ocean	38.00	36.50	39.00		37.83	38.30	37.10	39.50		38.30			
Total transportation	102.20	103.80	97.70		101.23	77.86	73.88	76.51		76.08			
Farm gate price	349.39	366.79	366.60		360.92	373.82	369.07	357.15		366.68			
Landed cost	451.59	470.58	464.29		462.15	451.67	442.95	433.67		442.76			
Transport % of landed cost	22.6	22.1	21.0		21.9	17.2	16.7	17.6		17.2			
		Southw _	est Pl ¹ - S -US\$/mt	ao Luís² —			North I _	MT ¹ - Bar -US\$/mt ⁱ	carena² —	Avg. 37.78 38.30 76.08 366.68 442.76 17.2 17.2 442.76 20.47 38.55 106.02 360.92			
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	43.54	41.21	38.46		41.07	49.61	46.45	44.96		47.01			
Barge	-	-	-		-	23.56	20.42	17.42		20.47			
Ocean	38.30	37.10	39.50		38.30	38.50	37.40	39.75		38.55			
Total transportation	81.84	78.31	77.96		79.37	111.68	104.27	102.12		106.02			
Farm gate price	390.34	369.30	363.76		374.46	349.39	366.79	366.60		360.92			
Landed cost	472.17	447.60	441.72		453.83	461.06	471.06	468.72		466.94			
Transport % of landed cost	17.3	17.5	17.6		17.5	24.2	22.1	21.8		22.7			

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available. Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.

Table 6. Quarterly costs of transporting Brazilian soybeans from thenorthern and northeastern ports to Hamburg, Germany, 2024

		North _	MT - Sar -US\$/mt	itarém —			South _	n MA - Sã -US\$/mt [.]	o Luís —				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	64.20	67.30	58.70		63.40	39.56	36.78	37.01		37.78			
Ocean	30.40	29.20	31.20		30.27	35.20	33.80	36.10		35.03			
Total transportation	94.60	96.50	89.90		93.66	74.76	70.58	73.11		72.82			
Farm gate price	349.39	366.79	366.60		360.92	373.82	369.07	357.15		366.68			
Landed cost	443.99	463.28	456.49		454.59	448.57	439.65	430.27		439.50			
Transport % of landed cost	21.3	20.8	19.7		20.6	16.7	16.1	17.0		16.6			
		Southv _	vest PI - S -US\$/mt	ão Luís —			North _	MT - Bar -US\$/mt	carena —	Avg. 37.78 35.03 72.82 366.68 439.50 16.6 439.50 20.47 20.47 20.47 20.47 29.73 97.21			
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.			
Truck	43.54	41.21	38.46		41.07	49.61	46.45	44.96		47.01			
Barge	-	-	-		-	23.56	20.42	17.42		20.47			
Ocean	35.20	33.80	36.10		35.03	29.90	28.70	30.60		29.73			
Total transportation	78.74	75.01	74.56		76.10	103.08	95.57	92.97		97.21			
Farm gate price	390.34	369.30	363.76		374.46	349.39	366.79	366.60		360.92			
Landed cost	469.07	444.30	438.32		450.57	452.46	462.36	459.57		458.13			
Transport % of landed cost	16.8	16.9	17.0		16.9	22.8	20.7	20.2		21.2			

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.



Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2024

Route		Destination	Distance	Share	Fre	ight price	(US\$/mi	t /100 mi l	es)
#	Origin (reference city)	Destination	(miles)	(%)	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
1	Northwest RS (Cruz Alta)	Rio Grande	288	4.3	11.13	10.11	9.30		10.18
2	North MT (Sorriso)	Santos	1,190	3.5	7.71	7.66	6.92		7.43
3	North MT (Sorriso)	Paranaguá	1,262	3.3	7.10	7.15	6.41		6.89
4	South GO (Rio Verde)	Santos	587	6.2	7.58	7.21	6.67		7.16
5	South GO (Rio Verde)	Paranaguá	726	5.0	7.53	7.31	6.72		7.19
6	North Central PR (Londrina)	Paranaguá	268	2.5	10.88	10.01	9.37		10.09
7	Western Central PR (Mamborê)	Paranaguá	311	1.2	10.18	9.33	8.72		9.41
8	Triangle MG (Uberaba)	Santos	339	4.1	10.40	9.71	9.01		9.70
9	West PR (Assis Chateaubriand)	Paranaguá	377	1.5	9.12	8.51	7.82		8.48
10	West Extreme BA (São Desidério)	Salvador	535	6.4	8.40	7.88	7.04		7.77
11	Southeast MT (Primavera do Leste)	Santos	901	3.1	7.35	7.03	6.42		6.93
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.9	6.61	6.74	6.03		6.46
13	Southwest MS (Maracaju)	Paranaguá	612	2.3	7.85	7.60	6.83		7.43
14	Southwest MS (Maracaju)	Santos	652	2.2	8.23	8.01	7.23		7.82
15	Northeast MT (Canarana)	São Luís	1,177	2.4	6.62	6.59	6.04		6.42
16	East GO (Cristalina)	Santos	585	2.5	8.67	8.58	7.69		8.31
17	North PR (Cornélio Procópio)	Paranaguá	306	1.9	8.88	8.01	7.50		8.13
18	Eastern Central PR (Castro)	Paranaguá	130	2.0	14.98	12.79	12.09		13.29
19	South Central PR (Guarapuava)	Paranaguá	204	2.3	13.10	11.80	11.33		12.07
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.8	7.47	7.02	6.36		6.95
21	Ribeirão Preto SP (Guairá)	Santos	314	0.6	8.70	7.91	7.35		7.98
22	Northeast MT (Canarana)	Santos	950	3.0	7.38	7.01	6.37		6.92
23	East MS (Chapadão do Sul)	Santos	607	1.6	7.03	6.79	6.25		6.69

The main city in the region is considered as a reference to establish the freight price.

Distance from the main city of the considered region to the mentioned ports.

Share of exports is measured as a percentage of total production.

Average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollars.

RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, PR=Paraná, MG=Minas Gerais, BA=Bahia, MS=Mato Grosso do Sul, SP=São Paulo, PI=Piauí, MA=Maranhão, PA=Pará, and TO=Tocantins.

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average.

For more details, on the definitions/calculations contact <u>esalqlog@esalqlog.esalq.usp.br</u>.

Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.

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Route		Destination	Distance	Share	Freight price (US\$/mt/100 miles)					
#	Origin (reference city)	Destination	(miles)	(%)	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	
24	Northeast MT (Canarana)	Paranaguá	1,075	2.6	6.99	6.91	6.31		6.74	
25	Western Central RS (Tupanciretã)	Rio Grande	273	1.0	9.96	8.90	8.62		9.16	
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.3	10.03	9.22	8.56		9.27	
27	North MT (Sorriso)	Itaituba	672	6.3	7.39	6.92	6.69		7.00	
28	North MT (Sorriso)	Porto Velho	632	6.7	7.02	6.61	6.17		6.60	
29	North MT (Sorriso)	Santarém	876	4.8	7.33	7.68	6.70		7.24	
30	South MA (Balsas)	São Luís	482	2.4	8.21	7.64	7.69		7.85	
31	Southwest PI (Bom Jesus)	São Luís	606	3.2	7.19	6.80	6.35		6.78	
32	Southeast PA (Paragominas)	Barcarena	249	2.1	8.90	7.98	7.33		8.07	
33	East TO (Campos Lindos)	São Luís	842	2.2	6.72	6.51	5.95		6.40	
	Weighted average		587	100.0	8.29	7.86	7.24		7.80	
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		8.55	7.83	7.39		7.92	
35	Rondonópolis MT (Rail terminal)	Santos	1,019		5.23	4.77	4.22		4.74	
36	Itaituba PA (Barge terminal)	Santarém	153		5.30	4.52	4.36		4.73	
37	Itaituba PA (Barge terminal)	Barcarena	600		3.93	3.40	2.90		3.41	
38	South GO (Rio Verde)	Santos	546		6.25	5.66	5.53		5.81	

The main city in the region is considered as a reference to establish the freight price.

Distance from the main city of the considered region to the mentioned ports.

Share of exports is measured as a percentage of total production.

Average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollars.

RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, PR=Paraná, MG=Minas Gerais, BA=Bahia, MS=Mato Grosso do Sul, SP=São Paulo, PI=Piauí, MA=Maranhão, PA=Pará, and TO=Tocantins.

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average.

For more details, on the definitions/calculations contact <u>esalqlog@esalqlog.esalq.usp.br</u>.



Table 8. Monthly Brazilian soybean export truck transportation cost index

	Freight price	Index variation (%)	Index value		Freight price	Index variation (%)	Index value		
Month	(US\$/mt/100 miles)	(Base: prior month)	(Base: Jan-05=100)	Month	(US\$/mt/100 miles)	(Base: prior month)	(Base: Jan-05=100)		
Jan-18	7.59	5.0	130.90	Jan-22	5.94	30.9	102.42		
Feb-18	8.65	13.9	149.04	Feb-22	7.77	30.8	134.02		
Mar-18	10.59	22.5	182.61	Mar-22 8.59		10.4	147.99		
Apr-18	9.78	-7.7	168.59	Apr-22	8.83	2.9	152.27		
May-18	8.96	-8.4	154.45	May-22	9.05	2.4	155.94		
Jun-18	8.89	-0.8	153.24	Jun-22	8.83	-2.4	152.18		
Jul-18	8.97	0.9	154.58	Jul-22	8.98	1.7	154.78		
Aug-18	8.24	-8.1	142.00	Aug-22	8.79	-2.1	151.51		
Sep-18	7.24	-12.1	124.78	Sep-22	7.93	-9.8	136.68		
Oct-18	7.69	6.2	132.55	Oct-22	7.71	-2.7	132.98		
Nov-18	7.51	-2.3	129.44	Nov-22	7.42	-3.9	127.84		
Dec-18	7.19	-4.3	123.87	Dec-22	7.94	7.1	136.89		
Jan-19	7.72	7.5	133.13	Jan-23	7.97	0.4	137.38		
Feb-19	8.19	6.0	141.15	Feb-23	9.41	18.1	162.28		
Mar-19	7.34	-10.3	126.61	Mar-23	9.39	-0.3	161.87		
Apr-19	7.16	-2.6	123.35	Apr-23	9.57	1.9	164.91		
May-19	6.73	-5.9	116.02	May-23	9.27	-3.1	159.82		
Jun-19	6.94	3.1	119.56	Jun-23	9.38	1.1	161.64		
Jul-19	8.33	20.1	143.60	Jul-23	10.09	7.6	173.97		
Aug-19	7.85	-5.8	135.23	Aug-23	10.09	0.0	173.94		
Sep-19	7.09	-9.7	122.17	Sep-23	10.50	4.1	181.01		
Oct-19	6.57	-7.4	113.19	Oct-23	9.38	-10.7	161.66		
Nov-19	6.41	-2.3	110.54	Nov-23	9.36	-0.2	161.31		
Dec-19	5.93	-7.5	102.21	Dec-23	9.55	2.0	164.60		
Jan-20	6.03	1.7	103.90	Jan-24	8.57	-10.3	147.66		
Feb-20	6.76	12.2	116.52	Feb-24	8.31	-3.0	143.29		
Mar-20	6.20	-8.2	106.95	Mar-24	8.00	-3.7	137.96		
Apr-20	5.86	-5.5	101.09	Apr-24	7.70	-3.8	132.68		
May-20	5.26	-10.4	90.58	May-24	7.83	1.7	134.89		
Jun-20	5.45	3.7	93.95	Jun-24	8.05	2.9	138.74		
Jul-20	5.44	-0.2	93.74	Jul-24	7.56	-6.1	130.31		
Aug-20	5.41	-0.4	93.34	Aug-24	7.08	-6.4	122.03		
Sep-20	5.58	3.0	96.14	Sep-24	7.09	0.1	122.21		
Oct-20	4.97	-10.8	85.71						
Nov-20	4.58	-7.9	78.95	Note: \	Weighted average is ca	Iculated from product	ion-based		
Dec-20	4.32	-5.8	74.39	shares	to weigh high-volume	routes more heavily t	han low-volume		
Jan-21	4.26	-1.3	73.39	routes. The share associated with each route is used to define the					
Feb-21	5.60	31.5	96.50	weight of a given route's freight price in the composition of the					
Mar-21	6.93	23.8	119.49	49 monthly weighted export truck freight index.					
Apr-21	6.20	-10.5	106.96	Source	: University of São Pau	lo. Escola Superior de	Agricultura		
May-21	5.76	-7.2	99.22	"Luiz d	e Oueiroz." Brazil (FSA	LO/USP) and USDA A	gricultural		
Jun-21	5.87	2.0	101.22	1.22 Marketing Service.					
Jul-21	5.09	-13.4	87.70						

5.09

5.31

4.49

4.28

4.54

Aug-21 Sep-21

Oct-21

Nov-21

Dec-21

0.1

4.2

-15.5

-4.6

6.0

87.81

91.53

77.36

73.80

78.26





Note: mt = metric ton. PR = Paraná, MT= Mato Grosso, and MS = Mato Grosso do Sul. Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/USP) and USDA, Agricultural Marketing Service.



Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2021-24

Note: mt = metric ton. MT= Mato Grosso and MA = Maranhão. Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.







Note: mt = metric ton.



Table 9. Quarterly ocean freight rates for shipping soybeans from selected Brazilian portsto Germany and China (US\$/metric ton)

Port	Destination	1st qtr. 2019	2nd qtr. 2019	3rd qtr. 2019	4th qtr. 2019
Santos	Germany (Hamburg)	23.00	21.50	27.00	31.00
Paranaguá	Germany (Hamburg)	23.00	21.25	27.00	30.75
Rio Grande	Germany (Hamburg)	23.00	21.25	27.00	31.25
Santarém	Germany (Hamburg)	21.00	20.25	25.92	26.50
São Luís	Germany (Hamburg)	18.00	17.10	22.77	23.50
Barcarena	Germany (Hamburg)	19.00	17.85	23.52	24.25
Santos	China (Shanghai)	32.25	30.92	33.25	38.17
Paranaguá	China (Shanghai)	33.75	31.42	34.75	39.50
Rio Grande	China (Shanghai)	31.58	30.25	34.25	39.67
Santarém	China (Shanghai)	32.25	30.58	38.25	39.17
São Luís	China (Shanghai)	31.00	30.58	38.25	39.42
Barcarena	China (Shanghai)	32.25	29.92	38.25	39.42
Port	Destination	1st qtr. 2020	2nd qtr. 2020	3rd qtr. 2020	4th qtr. 2020
Santos	Germany (Hamburg)	29.25	20.50	24.00	25.25
Paranaguá	Germany (Hamburg)	30.00	21.50	25.00	25.35
Rio Grande	Germany (Hamburg)	29.50	20.75	24.50	25.75
Santarém	Germany (Hamburg)	25.00	16.00	20.75	22.00
São Luís	Germany (Hamburg)	22.25	17.50	25.00	26.30
Barcarena	Germany (Hamburg)	24.00	15.00	20.50	21.75
Santos	China (Shanghai)	35.50	27.08	31.33	31.67
Paranaguá	China (Shanghai)	37.25	28.83	33.08	33.42
Rio Grande	China (Shanghai)	37.00	28.58	32.83	33.17
Santarém	China (Shanghai)	36.50	28.08	34.83	35.21
São Luís	China (Shanghai)	36.75	28.33	35.33	35.67
Barcarena	China (Shanghai)	38.50	28.33	36.33	36.67
Port	Destination	1st qtr. 2021	2nd qtr. 2021	3rd qtr. 2021	4th qtr. 2021
Santos	Germany (Hamburg)	31.25	42.70	54.00	52.50
Paranaguá	Germany (Hamburg)	31.00	41.90	53.00	51.50
Rio Grande	Germany (Hamburg)	32.00	43.80	55.50	53.80
Santarém	Germany (Hamburg)	28.65	40.00	50.60	49.10
São Luís	Germany (Hamburg)	33.25	45.90	58.00	56.30
Barcarena	Germany (Hamburg)	28.10	38.90	49.20	47.80
Santos	China (Shanghai)	37.00	50.60	64.00	62.00
Paranaguá	China (Shanghai)	38.75	52.40	66.00	64.00
Rio Grande	China (Shanghai)	37.25	51.00	64.75	62.75
Santarém	China (Shanghai)	40.54	55.60	67.50	65.60
São Luís	China (Shanghai)	41.00	56.60	68.00	66.00
Barcarena	China (Shanghai)	42.00	58.20	70.00	68.00

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Port	Destination	1st qtr. 2022	2nd qtr. 2022	3rd qtr. 2022	4th qtr. 2022
Santos	Germany (Hamburg)	52.70	55.85	42.60	42.20
Paranaguá	Germany (Hamburg)	51.50	54.60	41.60	41.20
Rio Grande	Germany (Hamburg)	54.00	57.20	43.60	43.10
Santarém	Germany (Hamburg)	49.10	52.00	46.00	39.60
São Luís	Germany (Hamburg)	56.50	60.00	40.00	39.80
Barcarena	Germany (Hamburg)	48.00	50.80	39.70	39.20
Santos	China (Shanghai)	62.00	65.75	48.70	47.70
Paranaguá	China (Shanghai)	64.00	67.75	49.00	48.60
Rio Grande	China (Shanghai)	62.75	66.50	49.00	48.40
Santarém	China (Shanghai)	66.00	69.90	56.00	54.80
São Luís	China (Shanghai)	66.20	70.00	56.00	55.00
Barcarena	China (Shanghai)	68.00	72.00	55.40	55.50
Port	Destination	1st qtr. 2023	2nd qtr. 2023	3rd qtr. 2023	4th qtr. 2023
Santos	Germany (Hamburg)	31.65	33.20	35.00	33.00
Paranaguá	Germany (Hamburg)	31.00	32.50	34.20	32.10
Rio Grande	Germany (Hamburg)	32.50	34.20	36.00	33.80
Santarém	Germany (Hamburg)	30.00	31.50	33.00	31.00
São Luís	Germany (Hamburg)	34.50	36.30	38.20	36.00
Barcarena	Germany (Hamburg)	29.40	31.00	32.50	30.50
Santos	China (Shanghai)	33.50	35.20	37.00	35.00
Paranaguá	China (Shanghai)	35.00	36.70	37.50	35.50
Rio Grande	China (Shanghai)	34.00	35.70	38.50	35.50
Santarém	China (Shanghai)	37.50	39.40	41.40	39.00
São Luís	China (Shanghai)	38.00	40.00	42.00	39.50
Barcarena	China (Shanghai)	38.25	40.20	42.20	39.60
Port	Destination	1st qtr. 2024	2nd qtr. 2024	3rd qtr. 2024	4th qtr. 2024
Santos	Germany (Hamburg)	32.60	31.30	33.80	
Paranaguá	Germany (Hamburg)	32.20	31.00	33.50	
Rio Grande	Germany (Hamburg)	33.40	32.00	34.60	
Santarém	Germany (Hamburg)	30.40	29.20	31.20	
São Luís	Germany (Hamburg)	35.20	33.80	36.10	
Barcarena	Germany (Hamburg)	29.90	28.70	30.60	
Santos	China (Shanghai)	34.70	33.30	36.00	
Paranaguá	China (Shanghai)	36.20	34.80	37.50	
Rio Grande	China (Shanghai)	35.20	33.80	36.50	
Santarém	China (Shanghai)	38.00	36.50	39.00	
São Luís	China (Shanghai)	38.30	37.10	39.50	
Barcarena	China (Shanghai)	38.50	37.40	39.75	

Notes: The rates correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume. qtr. = quarter.



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Data Sets (XLS files):

- Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2021-24
- Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2021-24
- Figure 5. Brazilian soybean export truck transportation weighted average prices, 2021-24
- <u>Table 1a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai,</u> <u>China</u>
- <u>Table 1b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Shanghai, China
- <u>Table 2a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg,</u> <u>Germany</u>
- <u>Table 2b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Hamburg, Germany
- <u>Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai,</u> <u>China, 2024</u>
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- <u>Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Shanghai, China, 2024
- <u>Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Hamburg, Germany, 2024
- Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2024
- <u>Table 8. Monthly Brazilian soybean export truck transportation cost index</u>
- <u>Table 9. Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Germany</u> and China (US\$/metric ton)

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Related Websites:

- Soybean Transportation Guide: Brazil 2023
- Prior Articles: Brazil Soybean Transportation
- Related Articles: Grain Transportation Report: September 12, 2024 (PDF)

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