



A quarterly publication of the Agricultural Marketing Service www.ams.usda.gov/services/transportation-analysis

2019 Overview Published March 25, 2020

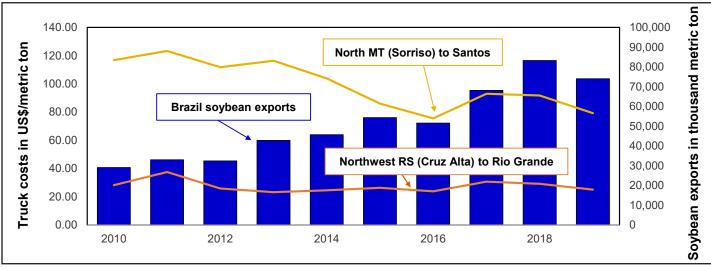
CONTENTS

Overview of Brazilian Soybean Transportation in 2019 1 Brazil Soybean Transportation Indicators 8 Contact Information 20 Data Sets 20 Subscription Information 20 Related Websites 20

Overview of Brazilian Soybean Transportation in 2019

During 2019, Brazil exported 74.1 million metric tons (mmt) of soybeans, 11 percent less than 2018's total of 83.3 mmt (figure 1)—a decline that also reduced transportation demand (Secretariat of Foreign Trade (SECEX)). In the selected routes from North Mato Grosso, Northwest Rio Grande do Sul, and South Goiás (via Santos, Rio Grande, Paranaguá, Santarém, and São Luís) to Shanghai, China, and Hamburg, Germany, total transportation costs declined as the lower truck rates offset the increase in ocean freight costs (tables 1, 1a, 2, and 2a). The cost of shipping a metric ton of soybeans 100 miles by truck decreased 15 percent from \$8.44 in 2018 to \$7.19 in 2019 (figure 1a and table 8). However, truck rates measured in reais (R\$) varied in comparison with their estimates in U.S. dollars, reflecting the depreciation of the Brazilian real (R\$) against the U.S. dollar. Truck rates also fluctuated because of the completion of the BR 163 road paving project, connecting Sorriso, North Mato Grosso to Itaituba, Pará. For example, truck rates from Cruz Alta, Rio Grande do Sul to Rio Grande decreased 14 percent. Truck rates from Sorriso, North Mato Grosso to the southern port of Santos and

Figure 1. Brazilian soybean export and truck cost declines for selected routes, 2010-19



Note: MT=Mato Grosso and Rio Grande do Sul=RG.



Paranaguá decreased 14-16 percent. Truck rates from North MT to Rondonópolis (rail terminal) and to the northern river ports of Santarém and Itaituba/Miritituba (barge terminal) decreased 12-18 percent. (For route information, see figures 1 and 2 and table 7.) Industry analysts expect transportation costs to reduce further, up to U.S. \$7/metric ton (mt) (or R\$30/mt) for the route from Sorriso to Itaituba. From 2018 to 2019, the Brazilian real depreciated nearly 7 percent against the U.S. dollar, from R\$3.69 per U.S. dollar to R\$3.94 per U.S. dollar (Brazil Central Bank).

Ocean rates from the southern Brazilian ports to Shanghai, China, increased significantly during the second half of the year, averaging 9-11 percent higher than 2018 ocean freight costs (table 1). Ocean rates to Hamburg, Germany, varied, increasing from Santos and declining from Rio Grande and Paranaguá (tables 2 and 9). Ocean rates increased because of higher bunker fuel prices, higher Brazilian corn exports, and a strong iron ore trade that reduced the availability of Panamax vessels for grain exports at the Brazilian ports (table 9) (Grain Transportation Report (GTR)).

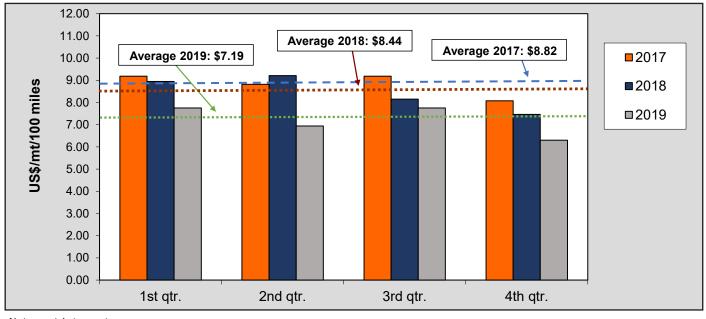


Figure 1a. Brazilian soybean export truck cost index, 2017-19

Note: metric ton=mt.

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

In 2019, Brazilian soybean transportation costs to Shanghai, China—as a percentage of total landed costs for the routes of North Mato Grosso to Santos and Santarém—slightly decreased in response to lower truck rates and farm prices than in 2018 (tables 1 and 2). In Sorriso, North Mato Grosso—the largest Brazilian soybean-producing State—2019 transportation costs represented 28 percent of the total landed costs of shipping soybeans to Shanghai through Santos, compared with 34 percent in 2008 and 45 percent in 2006. Typically, Brazilian soybean exports peak in May and decline through the end of the year.

Average Brazilian soybean export prices decreased nearly 12 percent, from \$408 per mt to \$360 per mt, from the same time in 2018 (SECEX). The weakening of the Brazilian real against the U.S. dollar partially offset the nearly 8 percent fall in farm gate prices, from \$323.42/mt in 2018 to \$297.97/mt in 2019, when measured in U.S. dollars (Companhia Nacional de Abastecimento (CONAB)). Soybeans are priced in U.S. dollars but paid in reais. Farm prices measured in reais increased an average of 2.4 percent, from R\$1,148.12/mt in 2018 to R\$1,175.84 in 2019 (CONAB).



Soybean exports to China in 2019 declined nearly 16 percent to 58 mmt (valued at \$20.5 billion) from 68.6 mmt in 2018, because of an epidemic of African swine fever that reduced the country's hog herd. In 2019, China received 78 percent of Brazil's total soybean exports (74 mmt). The next highest shares of Brazil's soybean exports went (in declining order) to Spain, the Netherlands, Thailand, and Iran (SECEX). Of all the Brazilian States, Mato Grosso exported the most soybeans in 2019—roughly 21 percent of the national total—followed by Paraná, Rio Grande Do Sul, Goiás, Mato Grosso Do Sul, Bahia, São Paulo, and Minas Gerais. Mato Grosso was also the top soybeans exporter to China.

In 2019, Santos was the largest Brazilian soybean export port, followed by Rio Grande, Paranaguá, São Luís, Barcarena, and São Francisco do Sul. These six ports accounted for 82 percent of Brazil's total exports. Looking at the split from a north/south perspective, the southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul dominate the soybean trade to China, accounting for about 72 percent of Brazil's soybean exports to China. Meanwhile, the northeastern ports of São Luís, Vitória, Salvador, and Barcarena accounted for nearly 26 percent of exports to China. The Amazon River ports of Manaus and Santarém exported nearly 2 percent to China (SECEX).

During the 2019 peak harvest season, loading delays and vessel backups were similar in Brazilian ports and the U.S. Gulf, averaging 3-10 days—narrowing the time spread between the regions. Seasonally, the Northern ports had lower loading delays and vessel backups than the Southern ports of Santos and Paranaguá (Salin 2020). Barcarena had vessel loading delays of 3-4 days, which nearly offset the roughly 3-day-longer voyage distance to Shanghai, compared with the ports of Santos and Paranaguá. In 2019, the ocean freight spread was about \$1-\$2/mt for route from the northeastern ports of Barcarena (\$34.96/mt) and São Luís (\$34.81/mt) to Shanghai and the route from the port of Santos (\$33.65) to Shanghai (table 9). Ocean freight spread is the cost difference between two vessel routes to the same destination.

Investment Partnership Program (PPI): An update of selected infrastructure project priorities that facilitate exports of agricultural products

1. BR-163: The distance by truck from Sorriso, North Mato Grosso, (Brazil's largest grain producer) to Miritituba is 663 miles (1,067 km), via BR-163 is completed. Currently, it takes about 2 days to ship grain to Miritituba. There are reports of road deterioration (<u>Portosenavios</u>).

Current status: The Brazilian government announced that the auction to privatize BR-163 operations will be held in 2022. The concession is for 10 years.

2. Ferrogrão Railroad (EF-170): The purpose is to consolidate the new Brazilian export rail corridor of the "Arco Norte" by connecting the grain-producing region of the Midwest to the State of Pará, ending at Miritituba Port. The EF-170 is expected to increase transport capacity and competitiveness within the corridor and alleviate traffic conditions on highway BR-163 by serving as an alternative route for soybean and corn exports. The estimated cost of the project is \$3.1 billion (R\$14 billion). The concession is for 65 years. Public hearings and technical studies are complete.

Current status: On October 2020, the Brazilian government plans to announce the auction.

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

3 ,								
2018	2019	% Change 2018-19	2018	2019	% Change 2018-19			
North MT¹ - Santos² —US\$/mt—			Northwest RS¹ - Rio Grande² —US\$/mt—					
91.76	79.28	-13.6	29.20	25.06	-14.2			
30.31	33.65	11.0	31.06	33.94	9.3			
122.08	112.92	-7.5	60.27	58.99	-2.1			
306.03	285.35	-6.8	333.21	305.56	-8.3			
428.11	398.28	-7.0	393.48	364.56	-7.3			
28.5	28.4	-0.4	15.3	16.2	5.7			
No	orth MT¹ - Sant —US\$/mt—	os²	South MT¹ - Paranaguá² —US\$/mt—					
33.49	27.62	-17.5	43.25	37.34	-13.7			
43.29	39.98	-7.6	-	-	-			
30.31	33.65	11.0	30.31	33.65	11.0			
107.10	101.25	-5.5	73.56	70.98	-3.5			
306.03	285.35	-6.8	312.31	291.46	-6.7			
413.13	386.60	-6.4	385.88	362.45	-6.1			
25.9	26.2	1.0	19.1	19.6	2.8			
	91.76 30.31 122.08 306.03 428.11 28.5 No 33.49 43.29 30.31 107.10 306.03 413.13	North MT¹ - Sant —U\$\$/mt— 91.76 79.28 30.31 33.65 122.08 112.92 306.03 285.35 428.11 398.28 28.5 28.4 North MT¹ - Sant —U\$\$/mt— 33.49 27.62 43.29 39.98 30.31 33.65 107.10 101.25 306.03 285.35 413.13 386.60	North MT¹ - Santos² —US\$/mt— 91.76 79.28 -13.6 30.31 33.65 11.0 122.08 112.92 -7.5 306.03 285.35 -6.8 428.11 398.28 -7.0 28.5 28.4 -0.4 North MT¹ - Santos² —US\$/mt— 33.49 27.62 -17.5 43.29 39.98 -7.6 30.31 33.65 11.0 107.10 101.25 -5.5 306.03 285.35 -6.8 413.13 386.60 -6.4	North MT¹ - Santos² —US\$/mt— North MT¹ - Santos² —US\$/mt— North MT¹ - Santos² —US\$/mt— North MT¹ - Santos² —ID	North MT¹ - Santos² —US\$/mt— Northwest RS¹ - Rio —US\$/mt— 91.76 79.28 -13.6 29.20 25.06 30.31 33.65 11.0 31.06 33.94 122.08 112.92 -7.5 60.27 58.99 306.03 285.35 -6.8 333.21 305.56 428.11 398.28 -7.0 393.48 364.56 28.5 28.4 -0.4 15.3 16.2 North MT¹ - Santos² —US\$/mt— 33.49 27.62 -17.5 43.25 37.34 43.29 39.98 -7.6 - - 30.31 33.65 11.0 30.31 33.65 107.10 101.25 -5.5 73.56 70.98 306.03 285.35 -6.8 312.31 291.46 413.13 386.60 -6.4 385.88 362.45			

¹Producing regions: RS=Rio Grande Do Sul, MT=Mato Grosso, and GO=Goiás.

Note: mt=metric ton.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no public/official 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.



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

	2018	2019	% Change 2018-19	2018	2019	% Change 2018-19	
	North MT¹ - Santarém² —US\$/mt—			South MA¹ - São Luís² —US\$/mt—			
Truck	58.86	52.04	-11.6	37.60	32.99	-12.3	
Ocean	34.81	35.06	0.7	33.89	34.81	2.7	
Total transportation	93.67	87.10	-7.0	71.48	67.80	-5.2	
Farm gate price ³	306.03	285.35	-6.8	333.03	297.05	-10.8	
Landed cost	399.70	372.45	-6.8	404.51	364.85	-9.8	
Transport % of landed cost	23.4	23.4	-0.1	17.7	18.6	5.0	
	Soutl	nwest PI¹ - São —US\$/mt—	Luís²	Nort	rena²		
Truck	46.52	39.34	-15.4	-	46.64	-	
Barge⁴	-	-	-	-	18.85	-	
Ocean	33.89	34.81	2.7	-	34.96	-	
Total transportation	80.41	74.15	-7.8	-	100.45	-	
Farm gate price ³	306.26	295.87	-3.4	-	285.35	-	
Landed cost	386.67	370.02	-4.3	-	385.80	-	
Transport % of landed cost	20.8	20.9	0.3	-	26.1	-	

¹Producing regions: MT=Mato Grosso, PI=Piauí, and MA=Maranhão.

Note: mt=metric ton.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In Brazil, there are no public/official 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.



Table 2. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany

	2018.	2019	% Change 2018-19	2018	2019	% Change 2018-19		
	No	rth MT¹ - Sant —US\$/mt—	os²	Northwest RS ¹ - Rio Grande ² —US\$/mt—				
Truck	91.76	79.28	-13.6	29.20	25.06	-14.2		
Ocean	25.25	25.63	1.5	26.25	25.63	-2.4		
Total transportation	117.01	104.90	-10.4	55.45	50.68	-8.6		
Farm gate price ³	306.03	285.35	-6.8	333.21	305.56	-8.3		
Landed cost	423.05	390.25	-7.8	388.66	356.25	-8.3		
Transport % of landed cost	27.6	26.9	-2.7	14.3	14.2	-0.3		
	No	North MT¹ - Santos² South GO¹ - Santos² —US\$/mt— —US\$/mt—						
Truck	33.49	27.62	-17.5	43.25	37.34	-13.7		
Rail ⁴	43.29	39.98	-7.6	-	-	-		
Ocean	25.25	25.63	1.5	25.25	25.63	1.5		
Total transportation	102.03	93.23	-8.6	68.50	62.96	-8.1		
Farm gate price ³	306.03	285.35	-6.8	312.31	291.46	-6.7		
Landed cost	408.07	378.58	-7.2	380.81	354.42	-6.9		
Transport % of landed cost	25.0	24.6	-1.6	18.0	17.8	-1.3		

¹Producing regions: RS=Rio Grande Do Sul, MT=Mato Grosso, and GO=Goiás.

Note: mt=metric ton.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In Brazil, there are no public/official 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.



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

	2018	2019	% Change 2018-19	2018	2019	% Change 2018-19	
	Nort	th MT¹ - Santa —US\$/mt—	rém²	South MA¹ - São Luís² —US\$/mt—			
Truck	58.86	52.04	-11.6	37.60	32.99	-12.3	
Ocean	23.35	23.42	0.3	19.40	20.34	4.9	
Total transportation	82.21	75.45	-8.2	57.00	53.33	-6.4	
Farm gate price ³	306.03	285.35	-6.8	333.03	297.05	-10.8	
Landed cost	388.24	360.81	-7.1	390.02	350.38	-10.2	
Transport % of landed cost	21.2	20.9	-1.1	14.6	15.2	4.0	
				1			
	Soutl	hwest PI ¹ - São —US\$/mt—	Luís²	Nort	h MT¹ - Barcar US\$/mt	rena²	
Truck	Soutl 46.52		-15.4	Nort -		rena²	
Truck Barge ⁴		-US\$/mt-			US\$/mt	rena² - -	
	46.52	-US\$/mt-		-	US\$/mt 46.64	rena²	
Barge ⁴	46.52 -	-US\$/mt- 39.34	-15.4 -	-	US\$/mt 46.64 18.85	-	
Barge ⁴ Ocean	46.52 - 19.40	-US\$/mt- 39.34 - 20.34	-15.4 - 4.9		US\$/mt 46.64 18.85 21.16		
Barge ⁴ Ocean Total transportation	46.52 - 19.40 65.92	-US\$/mt- 39.34 - 20.34 59.68	-15.4 - 4.9 -9.5		US\$/mt 46.64 18.85 21.16 86.64		

¹Producing regions: MT=Mato Grosso, PI=Piauí, and MA=Maranhão.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In Brazil, there are no public/official 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: mt=metric ton.



BRAZIL SOYBEAN TRANSPORTATION INDICATORS

Figure 2. Routes¹ and regions considered in the Brazilian soybean export transportation indicator²

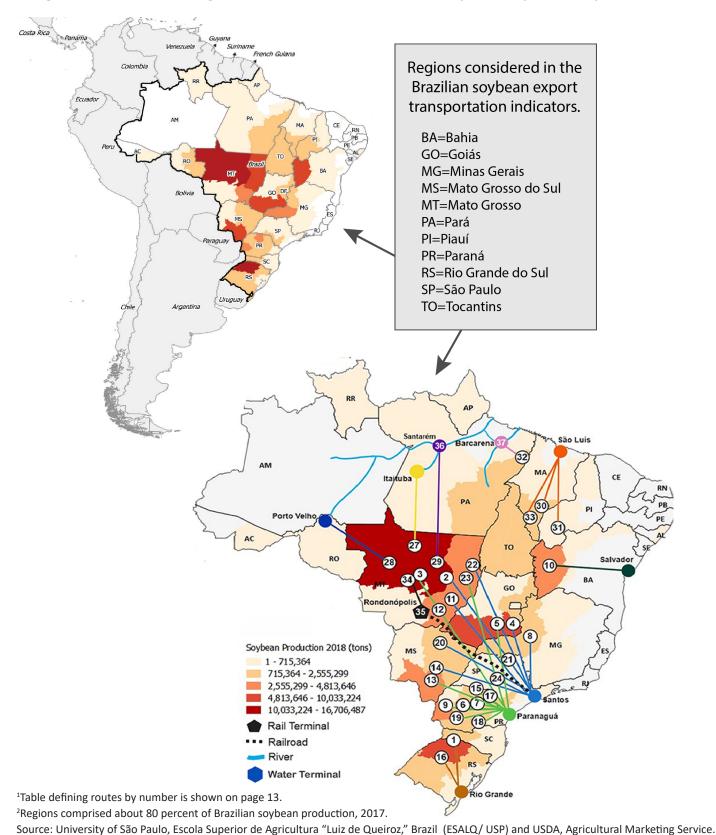




Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China

		—2019—										
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.		
		North MT¹ - Santos² —US\$/mt—					North MT¹ - Paranaguá² —US\$/mt—					
Truck	81.92	73.96	88.37	72.86	79.28	71.05	72.82	87.49	71.77	75.78		
Ocean	32.25	30.92	33.25	38.17	33.65	33.75	31.42	34.75	39.50	34.86		
Total transportation	114.17	104.88	121.62	111.03	112.92	104.80	104.24	122.24	111.27	110.64		
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	275.38	271.70	286.87	307.47	285.35		
Landed cost	389.54	376.58	408.48	418.50	398.28	380.18	375.94	409.10	418.74	395.99		
Transport % of landed cost	29.3	27.8	29.8	26.5	28.4	27.6	27.7	29.9	26.6	27.9		
			n MT¹ - Sa -US\$/mt-			Northwest RS ¹ - Rio Grande ² —US\$/mt—						
Truck	29.89	26.49	30.03	24.07	27.62	26.05	24.86	26.82	22.50	25.06		
Rail ⁴	41.21	31.39	48.04	39.28	39.98	-	-	-	-	-		
Ocean	32.25	30.92	33.25	38.17	33.65	31.58	30.25	34.25	39.67	33.94		
Total transportation	103.36	88.80	111.32	101.53	101.25	57.63	55.11	61.07	62.17	58.99		
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	308.52	294.72	304.20	314.81	305.56		
Landed cost	378.73	360.50	398.19	409.00	386.60	366.2	349.83	365.27	376.98	364.56		
Transport % of landed cost	27.3	24.6	28.0	24.8	26.2	15.7	15.8	16.7	16.5	16.2		

¹Producing regions: RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, and PR=Paraná.

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

Note: Avg.=average.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In, Brazil, there are no public/official 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.



Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany

					—20	19—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
	North MT¹ - Santos² —US\$/mt—							MT¹ - Para -US\$/mt-	_	
Truck	81.92	73.96	88.37	72.86	79.28	71.05	72.82	87.49	71.77	75.78
Ocean	23.00	21.50	27.00	31.00	25.63	23.00	21.25	27.00	30.75	25.50
Total transportation	104.92	95.46	115.37	103.86	104.90	94.05	94.07	114.49	102.52	101.28
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	275.38	271.70	286.87	307.47	285.35
Landed cost	380.29	367.16	402.23	411.33	390.25	369.43	365.77	401.35	409.99	386.64
Transport % of landed cost	27.6	26.0	28.7	25.2	26.9	25.5	25.7	28.5	25.0	26.2
			n MT¹ - Sa -US\$/mt-			Northwest RS¹ - Rio Grande² —US\$/mt—				2
Truck	29.89	26.49	30.03	24.07	27.62	26.05	24.86	26.82	22.50	25.06
Rail ⁴	41.21	31.39	48.04	39.28	39.98	-	-	-	-	-
Ocean	23.00	21.50	27.00	31.00	25.63	23.00	21.25	27.00	31.25	25.63
Total transportation	94.11	79.38	105.07	94.36	93.23	49.05	46.11	53.82	53.75	50.68
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	308.52	294.72	304.20	314.81	305.56
Landed cost	369.48	351.08	391.94	401.83	378.58	357.57	340.83	358.02	368.56	356.25
Transport % of landed cost	25.5	22.6	26.8	23.5	24.6	13.7	13.5	15.0	14.6	14.2

¹Producing regions: RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, and PR=Paraná.

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

Note: Avg.=average.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In, Brazil, there are no public/official 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.



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

		—2019—								
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
		North MT¹ - Santarém² —US\$/mt—						MA¹ - Sã -US\$/mt-		
Truck	59.40	47.34	55.66	45.74	52.04	37.04	31.80	36.22	26.89	32.99
Ocean	32.25	30.58	38.25	39.17	35.06	31.00	30.58	38.25	39.42	34.81
Total transportation	91.65	77.92	93.91	84.91	87.10	68.04	62.38	74.47	66.31	67.80
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	298.43	278.70	300.20	310.87	297.05
Landed cost	367.03	349.62	380.78	392.39	372.45	366.47	341.08	374.67	377.18	364.85
Transport % of landed cost	25.0	22.3	24.7	21.6	23.4	18.6	18.3	19.9	17.6	18.6
			est PI¹ - S -US\$/mt-			North MT¹ - Barcarena² US\$/mt-				
Truck	45.24	38.41	41.42	32.28	39.34	53.99	45.66	49.49	37.43	46.64
Barge ⁴	-	-	-	-	-	19.66	18.30	20.63	16.79	18.85
Ocean	31.00	30.58	38.25	39.42	34.81	32.25	29.92	38.25	39.42	34.96
Total transportation	76.24	68.99	79.67	71.70	74.15	105.90	93.89	108.37	93.64	100.45
Farm gate price ³	292.96	285.28	288.35	316.88	295.87	275.38	271.70	286.87	307.47	285.35
Landed cost	369.20	354.27	368.03	388.58	370.02	381.28	365.59	395.24	401.11	385.80
Transport % of landed cost	20.7	19.5	21.6	21.6	20.9	27.8	25.7	27.4	23.3	26.1

¹Producing regions: MT=Mato Grosso, PI=Piauí, and MA=Maranhão.

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

Note: Avg.=average.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

⁴In Brazil, there are no public/official 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.



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

					—20	19—					
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	
		North MT¹ - Santarém² —US\$/mt—					South MA¹ - São Luís² —US\$/mt—				
Truck	59.40	47.34	55.66	45.74	52.04	37.04	31.80	36.22	26.89	32.99	
Ocean	21.00	20.25	25.92	26.50	23.42	18.00	17.10	22.77	23.50	20.34	
Total transportation	80.40	67.59	81.58	72.24	75.45	55.04	48.90	58.99	50.39	53.33	
Farm gate price ³	275.38	271.70	286.87	307.47	285.35	298.43	278.70	300.20	310.87	297.05	
Landed cost	355.78	339.29	368.45	379.72	360.81	353.47	327.60	359.19	361.26	350.38	
Transport % of landed cost	22.6	19.9	22.1	19.0	20.9	15.6	14.9	16.4	13.9	15.2	
			est Pl¹ - S -US\$/mt			North MT¹ - Barcarena² US\$/mt-					
Truck	45.24	38.41	41.42	32.28	39.34	53.99	45.66	49.49	37.43	46.64	
Barge⁴	-	-	-	-	-	19.66	18.30	20.63	16.79	18.85	
Ocean	18.00	17.10	22.77	23.50	20.34	19.00	17.85	23.52	24.25	21.16	
Total transportation	63.24	55.51	64.19	55.78	59.68	92.65	81.82	93.64	78.47	86.64	
Farm gate price ³	292.96	285.28	288.35	316.88	295.87	275.38	271.70	286.87	307.47	285.35	
Landed cost	356.20	340.79	352.55	372.66	355.55	368.03	353.52	380.51	385.94	372.00	
Transport % of landed cost	17.8	16.3	18.2	15.0	16.8	25.2	23.1	24.6	20.3	23.3	

¹Producing regions: MT=Mato Grosso, PI=Piauí, and MA=Maranhão.

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

Note: Avg.=average.

²Export port.

³The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no public/official 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.



Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2019

Route	Origin¹	D	Distance	Share	Freig	ht price	(US\$/mt	t/100 mi	les)4
#	(reference city)	Destination	(miles) ²	(%)³	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
1	Northwest RS ⁵ (Cruz Alta)	Rio Grande	288	12.0	9.05	8.63	9.31	7.81	8.70
2	North MT (Sorriso)	Santos	1,190	3.0	6.88	6.21	7.43	6.12	6.66
3	North MT (Sorriso)	Paranaguá	1,262	2.8	5.63	5.77	6.93	5.69	6.00
4	South GO (Rio Verde)	Santos	587	5.1	7.29	5.89	6.75	5.51	6.36
5	South GO (Rio Verde)	Paranaguá	726	4.1	6.15	6.03	7.06	5.81	6.26
6	North Central PR (Londrina)	Paranaguá	268	3.3	8.86	8.40	9.06	7.47	8.45
7	Western Central PR (Mamborê)	Paranaguá	311	2.6	7.96	7.76	8.48	7.11	7.83
8	Triangle MG (Uberaba)	Santos	339	3.1	10.13	8.11	9.02	7.37	8.66
9	West PR (Assis Chateaubriand)	Paranaguá	377	2.5	7.45	7.00	7.86	6.47	7.19
10	West Extreme BA (São Desidério)	Salvador	535	5.6	7.03	6.48	7.41	6.02	6.74
11	Southeast MT (Primavera do Leste)	Santos	901	2.5	6.23	5.60	6.61	5.34	5.94
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.3	5.21	5.26	6.35	5.09	5.48
13	Southwest MS (Maracaju)	Paranaguá	612	3.3	6.48	6.33	7.28	5.99	6.52
14	Southwest MS (Maracaju)	Santos	652	3.1	7.67	6.20	7.21	5.90	6.75
15	West PR (Assis Chateaubriand)	Santos	550	1.7	7.76	6.29	7.27	5.98	6.82
16	East GO (Cristalina)	Santos	585	1.9	8.18	6.80	7.94	6.50	7.35
17	North PR (Cornélio Procópio)	Paranaguá	306	1.8	7.16	6.78	7.24	5.92	6.78
18	Eastern Central PR (Castro)	Paranaguá	130	2.1	12.15	10.87	11.15	9.18	10.84
19	South Central PR (Guarapuava)	Paranaguá	204	2.3	11.22	10.29	11.06	9.07	10.41
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.3	6.79	5.44	6.29	5.17	5.92
21	Ribeirão Preto SP (Guairá)	Santos	314	0.0	8.57	6.62	7.30	5.89	7.09
22	Northeast MT (Canarana)	Santos	950	3.4	7.04	5.71	6.84	5.56	6.29
23	East MS (Chapadão do Sul)	Santos	607	0.0	6.71	5.45	6.23	5.11	5.88

¹Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

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

²Distance from the main city of the considered region to the mentioned ports.

³Share is measured as a percentage of total production.

⁴Average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollars.

⁵RS=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.

⁶In Brazil, there are no public/official 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.

⁷In Brazil, there are no public/official 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.



Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2019

Route	Origin ¹	Destination	Distance	Share	Freig	ht price	(US\$/mt	:/100 mi	les)⁴
#	(reference city)	Destination	(miles) ²	(%)³	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
24	Northeast MT (Canarana)	Paranaguá	1,075	3.0	6.04	5.66	6.66	5.54	5.97
25	Western Central RS (Tupanciretã)	Rio Grande	273	2.7	9.40	8.31	8.47	6.91	8.27
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.8	11.75	10.44	11.81	7.48	10.37
27	North MT (Sorriso)	Itaituba	672	5.3	8.04	6.80	7.37	5.57	6.94
28	North MT (Sorriso)	Porto Velho	632	5.7	6.29	5.98	6.26	5.19	5.93
29	North MT (Sorriso)	Santarém	876	4.1	6.78	5.40	6.35	5.22	5.94
30	South MA (Balsas)	São Luís	482	1.9	7.69	6.60	7.52	5.58	6.85
31	Southwest PI (Bom Jesus)	São Luís	606	2.2	7.47	6.34	6.84	5.33	6.49
32	Southeast PA (Paragominas)	Barcarena	249	1.5	10.05	7.58	8.08	6.66	8.09
33	East TO (Campos Lindos)	São Luís	842	1.1	6.43	5.36	6.68	5.54	6.00
	Weighted average		587	100.0	7.75	6.94	7.75	6.30	7.19
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		7.83	6.93	7.86	6.30	7.23
35	Rondonópolis MT (Rail terminal) ⁶	Santos	1,019		4.04	3.08	4.71	3.86	3.92
36	Itaituba PA (Barge terminal) ⁷	Santarém	224		9.24	7.84	5.15	3.93	6.54
37	Itaituba PA (Barge terminal) ⁷	Barcarena	738		2.67	2.48	2.80	2.28	2.55

¹Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

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

²Distance from the main city of the considered region to the mentioned ports.

³Share is measured as a percentage of total production.

⁴Average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollars.

⁵RS=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.

⁶In Brazil, there are no public/official 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.

⁷In Brazil, there are no public/official 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.



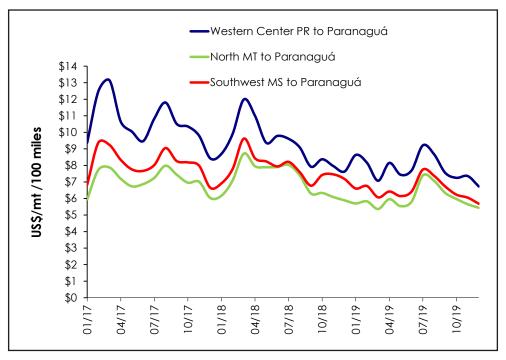
Table 8. Monthly Brazilian soybean export truck transportation cost index

Feb-12 10.76 5.4 185.45 Feb-16 6.73 4.8 Mar-12 10.55 -2.0 181.82 Mar-16 7.79 15.8 Apr-12 10.45 -1.0 180.06 Apr-16 8.30 6.5 May-12 9.64 -7.7 166.20 May-16 7.28 -12.3 Jun-12 9.37 -2.9 161.44 Jun-16 7.16 -1.5 Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.21 3.9 <th>dex value Jan-05=100)</th>	dex value Jan-05=100)
Mar-12 10.55 -2.0 181.82 Mar-16 7.79 15.8 Apr-12 10.45 -1.0 180.06 Apr-16 8.30 6.5 May-12 9.64 -7.7 166.20 May-16 7.28 -12.3 Jun-12 9.37 -2.9 161.44 Jun-16 7.16 -1.5 Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.99 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 -feb-17 Feb-13 10	110.63
Apr-12 10.45 -1.0 180.06 Apr-16 8.30 6.5 May-12 9.64 -7.7 166.20 May-16 7.28 -12.3 Jun-12 9.37 -2.9 161.44 Jun-16 7.16 -1.5 Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 <td>115.98</td>	115.98
May-12 9.64 -7.7 166.20 May-16 7.28 -12.3 Jun-12 9.37 -2.9 161.44 Jun-16 7.16 -1.5 Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-17 Mar-13 10.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.4	134.33
Jun-12 9.37 -2.9 161.44 Jun-16 7.16 -1.5 Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 </td <td>143.05</td>	143.05
Jul-12 9.76 4.2 168.16 Jul-16 7.46 4.2 Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jul-13 9.49 -8.8 </td <td>125.43</td>	125.43
Aug-12 10.17 4.3 175.33 Aug-16 7.33 -1.7 Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jul-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7<	123.51
Sep-12 10.30 1.3 177.54 Sep-16 6.35 -13.3 Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 <td>128.64</td>	128.64
Oct-12 10.13 -1.6 174.66 Oct-16 5.88 -7.5 Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 <td>126.41</td>	126.41
Nov-12 9.84 -2.8 169.69 Nov-16 5.00 -14.9 Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 <td>109.53</td>	109.53
Dec-12 9.73 -1.1 167.74 Dec-16 5.47 9.4 Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6	101.35
Jan-13 10.11 3.9 174.31 Jan-17 7.32 33.8 Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 <td>86.21</td>	86.21
Feb-13 10.79 6.7 185.96 Feb-17 9.85 34.6 Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 <td>94.32</td>	94.32
Mar-13 11.14 3.3 192.04 Mar-17 10.38 5.3 Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 <td>126.20</td>	126.20
Apr-13 10.95 -1.7 188.71 Apr-17 9.52 -8.3 May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 </td <td>169.85</td>	169.85
May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2<	178.90
May-13 10.40 -5.0 179.31 May-17 8.75 -8.0 Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2<	164.05
Jun-13 9.49 -8.8 163.61 Jun-17 8.18 -6.5 Jul-13 9.65 1.7 166.41 Jul-17 8.74 6.8 Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	150.90
Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	141.04
Aug-13 9.80 1.5 168.95 Aug-17 9.85 12.7 Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	150.66
Sep-13 10.21 4.2 176.02 Sep-17 8.97 -9.0 Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	169.76
Oct-13 10.17 -0.4 175.28 Oct-17 8.64 -3.6 Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	154.55
Nov-13 9.29 -8.6 160.18 Nov-17 8.36 -3.2 Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	148.93
Dec-13 8.91 -4.1 153.63 Dec-17 7.23 -13.5 Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	144.11
Jan-14 8.86 -0.6 152.73 Jan-18 7.59 5.0 Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	124.63
Feb-14 10.34 16.7 178.24 Feb-18 8.65 13.9 Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	130.90
Mar-14 11.61 12.3 200.13 Mar-18 10.59 22.5 2 Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7 2	149.04
Apr-14 11.35 -2.2 195.65 Apr-18 9.78 -7.7	182.61
	168.59
May-14 10.90 -4.0 187.89 May-18 8.96 -8.4 3	154.45
	153.24
	154.58
	142.00
	124.78
	132.55
	129.44
	123.87
	133.13
	141.15
	126.61
	123.35
	116.02
	119.56
	143.60
	135.23
	122.17
	113.19
Dec-15 6.76 -4.5 116.56 Dec-19 5.93 -7.5	113.19 110.54

^{*}Weighted average.



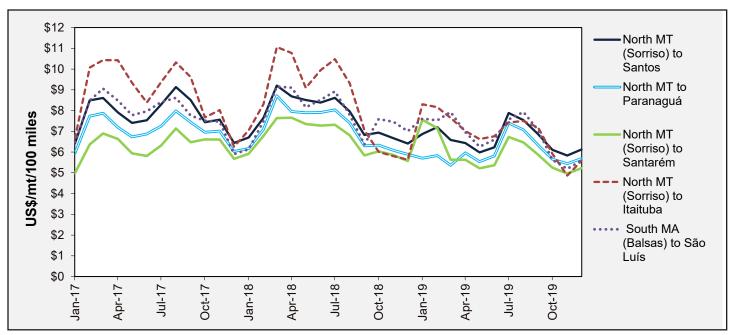
Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2017-19



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.

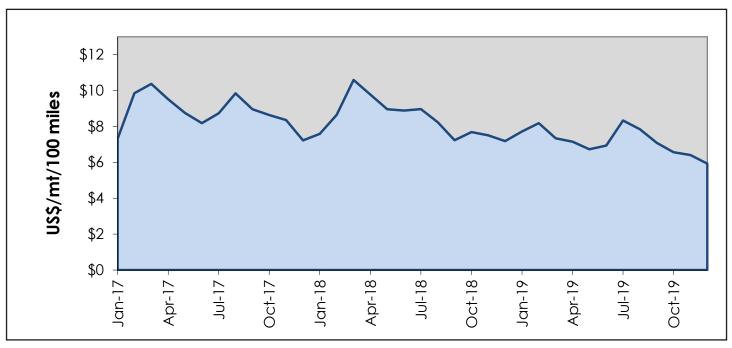
Figure 4. Truck rates for selected southern Brazilian soybean export transportation routes, 2017-19



Note: mt=metric ton. MT=Mato Grosso and MA=Maranhão.



Figure 5. Brazilian soybean export truck transportation weighted average prices, 2017-19



Note: mt=metric ton.



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

Port	Destination	1st qtr. 2013	2nd qtr .2013	3rd qtr .2013	4th qtr .2013
Santos	Germany (Hamburg)	30.00	29.00	29.00	30.00
Paranagua	Germany (Hamburg)	30.00	29.00	29.00	30.00
Rio Grande	Germany (Hamburg)	30.00	29.00	29.00	30.00
Santos	China (Shanghai)	52.34	34.50	34.50	42.50
Paranagua	China (Shanghai)	56.03	36.75	36.75	46.00
Rio Grande	China (Shanghai)	51.34	35.25	35.25	44.25
Port	Destination	1st qtr .2014	2nd qtr. 2014	3rd qtr .2014	4th qtr .2014
Santos	Germany (Hamburg)	31.00	30.00	26.00	24.00
Paranagua	Germany (Hamburg)	31.00	30.00	28.00	26.00
Rio Grande	Germany (Hamburg)	31.00	30.00	24.50	22.50
Santos	China (Shanghai)	44.83	38.07	34.00	30.50
Paranagua	China (Shanghai)	47.22	41.13	36.00	32.50
Rio Grande	China (Shanghai)	44.83	38.75	32.50	30.50
Port	Destination	1st qtr. 2015	2nd qtr. 2015	3rd qtr. 2015	4th qtr. 2015
Santos	Germany (Hamburg)	22.00	21.00	19.00	17.00
Paranaguá	Germany (Hamburg)	22.00	21.00	19.00	17.00
Rio Grande	Germany (Hamburg)	22.00	21.00	19.00	17.00
Santarém	Germany (Hamburg)	20.00	14.50	13.50	20.00
São Luís	Germany (Hamburg)	20.00	18.25	16.38	20.50
Barcarena	Germany (Hamburg)	20.00	16.00	15.20	21.00
Santos	China (Shanghai)	29.50	22.50	23.25	20.00
Paranagua	China (Shanghai)	31.50	23.50	24.18	20.50
Rio Grande	China (Shanghai)	29.50	25.00	25.75	21.00
Santarém	China (Shanghai)	32.00	25.00	25.75	23.50
São Luís	China (Shanghai)	32.00	25.00	25.75	23.50
Barcarena	China (Shanghai)	32.00	25.00	25.75	23.50
Port	Destination	1st qtr. 2016	2nd qtr. 2016	3rd qtr .2016	4th qtr. 2016
Santos	Germany (Hamburg)	16.00	17.00	16.50	23.00
Paranaguá	Germany (Hamburg)	16.00	17.00	16.50	24.00
Rio Grande	Germany (Hamburg)	16.00	17.00	16.50	23.00
Santarém	Germany (Hamburg)	11.03	14.13	15.00	19.80
São Luís	Germany (Hamburg)	8.25	11.00	11.80	15.80
Barcarena	Germany (Hamburg)	9.60	12.45	13.20	17.35
Santos	China (Shanghai)	17.50	16.50	12.50	20.00
Paranagua	China (Shanghai)	18.00	18.50	14.50	21.50
Rio Grande	China (Shanghai)	18.50	17.00	13.00	20.50
Santarém	China (Shanghai)	22.00	21.00	19.40	23.75
São Luís	China (Shanghai)	20.00	18.40	17.50	22.00
Barcarena	China (Shanghai)	22.50	21.50	20.00	23.75

^{*}The rates correspond to the average actual values negotiated between shippers and carriers and qtr. = weighted according to the magnitude of the shipped volume.

Note: qtr.=quarter.



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

Port	Destination	1st qtr. 2017	2nd qtr. 2017	3rd qtr. 2017	4th qtr. 2017
Santos	Germany (Hamburg)	21.00	24.00	26.00	27.00
Paranaguá	Germany (Hamburg)	22.00	25.00	27.00	28.00
Rio Grande	Germany (Hamburg)	22.00	25.00	27.00	28.00
Santarém	Germany (Hamburg)	21.00	23.60	25.00	26.00
São Luís	Germany (Hamburg)	17.60	20.00	21.20	22.00
Barcarena	Germany (Hamburg)	18.00	20.60	21.80	22.70
Santos	China (Shanghai)	18.50	29.00	30.00	30.00
Paranagua	China (Shanghai)	20.50	30.50	31.00	31.50
Rio Grande	China (Shanghai)	18.00	29.50	31.00	30.70
Santarém	China (Shanghai)	24.00	33.50	31.00	34.50
São Luís	China (Shanghai)	23.50	30.25	31.00	33.50
Barcarena	China (Shanghai)	24.00	33.50	31.00	34.50
Port	Destination	1st qtr. 2018	2nd qtr. 2018	3rd qtr. 2018	4th qtr. 2018
Santos	Germany (Hamburg)	27.00	25.00	24.00	25.00
Paranaguá	Germany (Hamburg)	28.00	26.00	25.00	26.00
Rio Grande	Germany (Hamburg)	28.00	26.00	25.00	26.00
Santarém	Germany (Hamburg)	25.00	22.90	22.50	23.00
São Luís	Germany (Hamburg)	21.00	19.10	18.50	19.00
Barcarena	Germany (Hamburg)	23.00	20.90	20.20	20.00
Santos	China (Shanghai)	32.50	31.00	27.75	30.00
Paranagua	China (Shanghai)	32.00	32.00	28.75	31.00
Rio Grande	China (Shanghai)	33.00	31.50	28.25	31.50
Santarém	China (Shanghai)	38.50	35.50	31.25	34.00
São Luís	China (Shanghai)	37.00	34.80	30.75	33.00
Barcarena	China (Shanghai)	37.50	33.80	32.25	35.00
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
Paranagua	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

^{*}The rates correspond to the average actual values negotiated between shippers and carriers and qtr. = weighted according to the magnitude of the shipped volume.

Note: qtr.=quarter.



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Data Sets (XLS files):

- Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2017-19
- <u>Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2017-19</u>
- Figure 5. Brazilian soybean export truck transportation weighted average prices, 2017-19
- Table 1. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China
- <u>Table 1a. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China</u>
- <u>Table 2. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg,</u>
 <u>Germany</u>
- <u>Table 2a. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Hamburg, Germany
- Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China
- <u>Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg,</u> Germany
- <u>Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China</u>
- <u>Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports</u> to Hamburg, Germany
- Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2019
- Table 8. Monthly Brazilian soybean export truck transportation cost index
- <u>Table 9. Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Germany and China (US\$/metric ton)</u>

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- Prior Articles: Brazil Soybean Transportation
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Preferred Citation:

Salin, Delmy. Brazil Soybean Transportation. March 2020. U.S. Department of Agriculture, Agricultural Marketing Service. Web. http://dx.doi.org/10.9752/TS052.03-2020>

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