

INDUSTRIAL OUTPUT TOPPED EXPECTATIONS IN DECEMBER

Lucas Maynard*
 lucas.maynard.da.silva@santander.com.br
 +5511 3553 8487

- **Industrial production climbed 2.9% MoM-sa (-4.9% YoY) in December, topping our expectations (+1.8%) and market consensus (+1.6%).** December's result was the first growth print since May 2021 but was enough to offset the frustration that came with October and November's data, placing the index at the highest reading since June 2021. Industrial output ended 2021 with a 3.9% annual expansion (-4.4% in 2020) and still runs 0.9% below the pre-pandemic mark (February 2020).
- **Manufacturing drove the climb (+2.0% MoM-sa) and ended 2021 0.9% below the pre-crisis mark.** The less cyclical mining industry continued to give back October's steep tumble (-10.0%) by leaping 1.6% MoM-sa. In annual terms, manufacturing climbed 3.9% in 2021 (-4.6% in 2020), while mining slightly expanded 1.1% (-3.4% in 2020).
- **Among the big economic categories, durable goods were in the spotlight (+6.9% MoM-sa), reaching the highest level since June 2021.** Capital goods rebounded (+4.4% MoM-sa) as well, to reach its highest reading since January 2015. Intermediate goods (which account for nearly 60% of industrial output) expanded 1.2% MoM-sa, the first healthy figure since April 2021, while non-durable goods leaped 1.5%, breaking a string of three declines.
- **Among industrial activities, new widespread growth.** The diffusion index (which captures the percentage of industrial activities that show monthly expansion) reached 77% (vs. 50% in November). Vehicles contributed the most (+1.23 p.p.), food products (+0.40 p.p.), followed by computer equipment (+0.30 p.p.) and metallurgy (+0.18 p.p.). Conversely, pharmaceutical products (-0.16 p.p.) contributed the least. Moreover, 16 out of 26 industrial activities remain below the pre-pandemic mark.
- **December's result implied both quarterly stability (0% QoQ-sa) and a +1.9% QoQ-sa carryover to 1Q22, suggesting short-term relief of industrial output for overall activity.** We updated our December IBC-Br tracking to +0.1% MoM-sa (from stability, 0%) and our 4Q21 GDP growth tracking to +0.3% QoQ-sa (from +0.2%, previously).

Figure 1 – Industrial Production Breakdown*

	Weights	% MoM			% YoY			% QoQ			Feb-20%
		Oct-21	Nov-21	Dec-21	Oct-21	Nov-21	Dec-21	Oct-21	Nov-21	Dec-21	Dec-21
Total Industry	100%	-0.5	0.0	2.9	-7.8	-4.4	-4.9	-2.0	-1.6	0.0	-0.9
Mining	11%	-9.9	5.0	1.6	-4.7	5.0	2.1	-1.5	-3.5	-5.7	0.0
Manufacturing	89%	-0.1	-0.1	2.0	-8.2	-5.6	-5.9	-1.9	-1.3	0.1	-0.9
Capital Goods	8%	2.2	-2.4	4.4	8.4	4.9	5.8	1.3	-0.4	0.8	22.7
Intermediate Goods	60%	-0.7	0.0	1.2	-6.4	-2.7	-3.8	-1.5	-1.1	-0.5	0.6
Consumer goods	32%	-0.4	0.4	3.1	-14.0	-9.6	-9.4	-1.1	-0.1	1.0	-8.7
Durable	7%	-1.4	1.1	6.9	-27.9	-21.0	-16.8	-6.1	-3.9	0.3	-16.4
Non-Durable	25%	-1.2	-0.1	1.5	-10.2	-6.3	-7.5	-0.4	-0.6	-0.7	-6.5
Construction Supplies	-	-1.4	-0.9	-0.4	-9.8	-8.0	-11.6	-3.8	-4.6	-4.0	4.7

Sources: IBGE, Santander.

IMPORTANT DISCLOSURES/CERTIFICATIONS ARE IN THE "IMPORTANT DISCLOSURES" SECTION OF THIS REPORT.

U.S. investors' inquiries should be directed to Santander Investment at (212) 350-0707.

*Employed by a non-US affiliate of Santander Investment Securities Inc. and is not registered/qualified as a research analyst under FINRA rules.



Industrial output surprised to the upside at the end of 2021. Industrial production climbed 2.9% MoM-sa (-4.9% YoY) in December, topping our expectations (+1.8%) and market consensus (+1.6%). December's result was the first growth print since May 2021 but was enough to offset the frustration that came with October and November's data, placing the index at the highest reading since June 2021. Industrial output ended 2021 with a 3.9% annual expansion (-4.4% in 2020) and still runs 0.9% below the pre-pandemic mark (February 2020).

Looking at the breakdown, manufacturing's strength drove the climb. December's growth (+2.0% MoM-sa) in manufacturing places the index 0.9% below the pre-pandemic mark, while the less cyclical mining industry continued to give back October's steep tumble (-10.0%), leaping 1.6% MoM-sa. In annual terms, manufacturing climbed 3.9% in 2021, not enough to offset the 4.6% drop seen in 2020, while mining expanded 1.1% (-3.4% in 2020).

Among the big economic categories, durable goods were in the spotlight, with capital goods rebounding. Durable goods sharply expanded 6.9% MoM-sa, reaching the highest level since June 2021 but still 16.4% below the pre-pandemic mark. Capital goods sharply rebounded 4.4% MoM-sa, reaching the highest reading since January 2015. Construction supplies (also related with investments as capital goods) retreated 0.4% MoM-sa, marking the eighth decline in a row but remaining almost 5% above its pre-pandemic mark. Intermediate goods (which account for nearly 60% of industrial output) expanded 1.2% MoM-sa, the first healthy figure since April 2021 and surpassing the pre-pandemic mark (slightly up 0.6%), while non-durable goods leaped 1.5%, breaking a three declines string but remaining 6.5% below the pre-crisis threshold.

Among industrial activities, new widespread growth. The diffusion index (which captures the percentage of industrial activities that show monthly expansion) reached 77% (vs. 50% in November). Vehicles' growth of +12.2% MoM-sa contributed the most (+1.23 p.p.) — as anticipated by Anfavea's December data, with atypically strong production for the month — followed by food products (+0.40 p.p.), computer equipment (+0.30 p.p) and metallurgy (+0.18 p.p). Conversely, pharmaceutical products (-0.16 p.p.) contributed the least. Moreover, 16 out of 26 industrial activities remain below its pre-pandemic mark, with mining (up 16.9%), and machines and equipment (up 16.5%) as the highlights, and food products (down 4.1%) and vehicles (down 3.4%) as the lowlights.

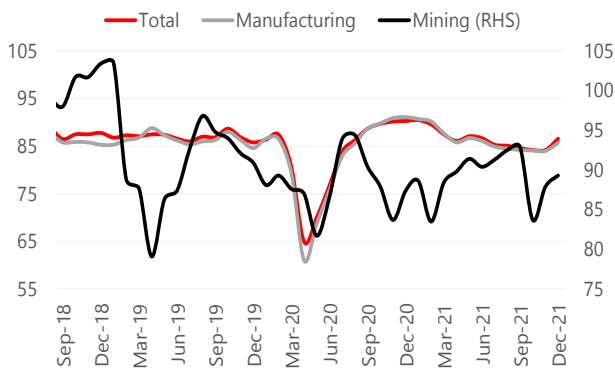
December's result implied quarterly stability (0% QoQ-sa) after three retreats in a row (-1.0%, -2.9% and -1.9% in 1Q21, 2Q21 and 3Q21, respectively). Moreover, it implies a +1.9% QoQ-sa carryover to 1Q22, suggesting a short-term relief of industrial output for overall activity. We updated our December IBC-Br tracking to +0.1% MoM-sa (from stability, 0%) and our 4Q21 GDP growth tracking to +0.3% QoQ-sa (from +0.2%, previously). **For details on Santander's activity outlook, please refer to our last chartbooks¹.**

¹ **Santander Brazil Economic Activity - "Chartbook – Maintaining the Main Growth Drivers for 2022"** – February 1, 2021 – Available on: <https://bit.ly/Std-chart-econact-feb22>

Santander Brazil Economic Activity - "Special Report – Resilience Factors for 2022 GDP Growth" – January 14, 2022 – Available on: <https://bit.ly/Std-special-011422>

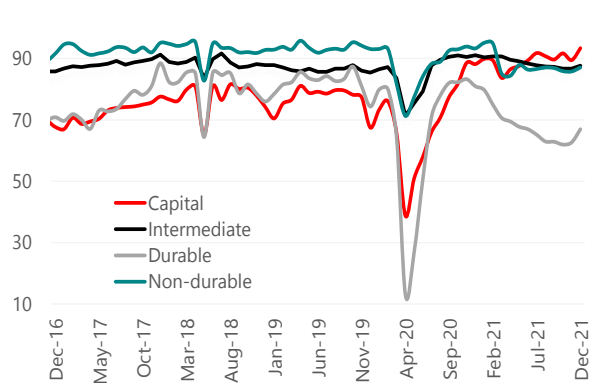


Figure 2.A – Industrial Production Index (sa, 2012=100)



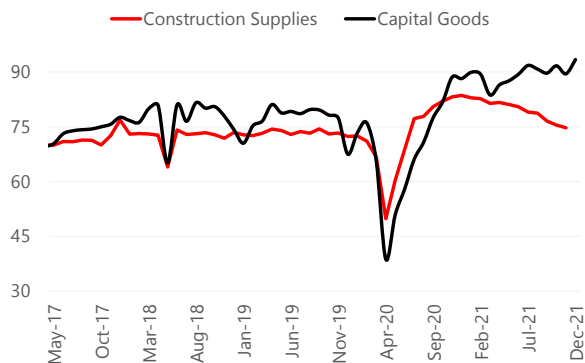
Sources: IBGE, Santander.

Figure 2.B – Economic Categories (sa, 2012=100)



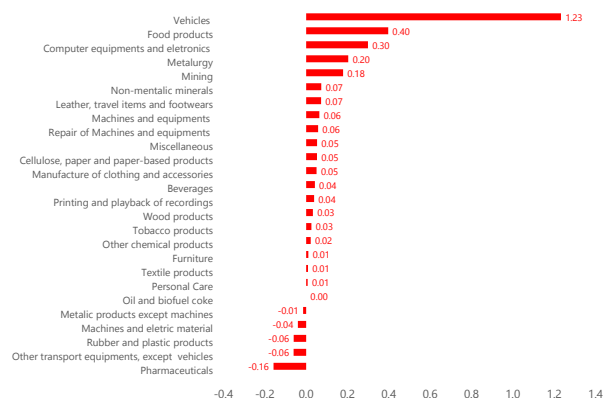
Sources: IBGE, Santander.

Figure 3.A – Industrial Production Related to Investment (sa, 2012=100)



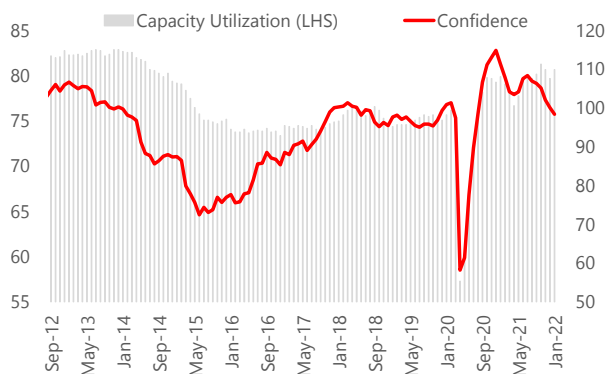
Sources: IBGE, Santander.

Figure 3.B – Contributions by activities (sa, p.p)



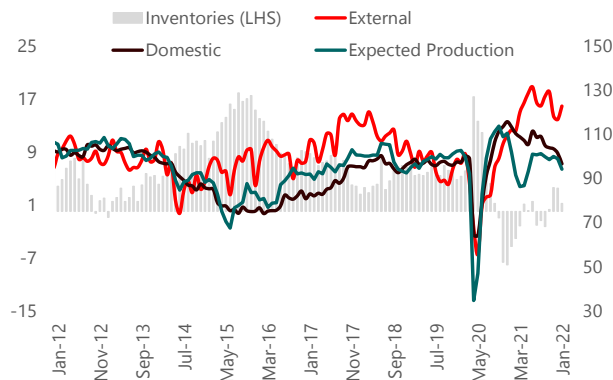
Sources: IBGE, Santander

Figure 4.A – Confidence (points, sa) x Capacity Utilization (% sa)



Sources: FGV, Santander.

Figure 4.B – Inventories Perception (Excessive-Insufficient) and Demand (points, sa)



Sources: FGV, Santander.



Figure 5 - Heatmap Showing Industrial Production by Activity

		By Activity (% MoM sa)											
		Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
11.2%	Mining	1.37	-5.76	5.87	1.58	1.78	-1.09	1.00	1.31	0.43	-9.90	5.02	1.59
13.9%	Food products	3.37	-0.42	0.32	-3.58	2.51	-2.02	-2.17	1.89	-2.40	-5.02	7.05	2.85
10.3%	Oil and biofuel coke	-0.83	-0.42	2.63	-9.64	3.29	3.85	2.65	-2.27	1.05	3.76	-0.50	0.00
10.1%	Vehicles	1.73	-8.51	-8.76	2.04	0.00	-3.42	-2.07	-1.96	0.31	1.38	2.87	12.21
5.4%	Metallurgy	-11.70	1.67	-0.66	0.00	2.98	0.00	-1.07	0.32	-2.80	-2.00	-3.74	3.76
5.3%	Other chemical products	0.51	2.75	-3.67	0.51	2.56	-1.00	-1.31	-5.73	2.49	2.22	0.21	0.41
4.9%	Machines and equipments	-1.90	2.90	-1.57	2.02	-2.08	2.87	-3.41	-0.21	2.04	-4.73	1.65	1.30
3.6%	Metalic products except machines and equipments	-2.54	-4.43	-1.19	-4.45	1.01	-3.24	-0.26	-1.16	0.13	-2.35	-2.67	-0.41
3.6%	Non-mentalic minerals	0.54	-0.32	-2.59	2.10	-0.65	-0.55	-1.97	0.56	-0.56	-1.01	0.68	2.02
3.5%	Rubber and plastic products	-2.42	0.00	-3.92	-3.33	-3.33	-1.38	-1.98	-1.31	0.72	2.63	-5.48	-1.73
3.3%	Beverages	-0.60	-1.51	-5.21	4.63	3.71	1.39	-9.40	7.24	-1.51	-1.13	-2.17	1.27
3.0%	Cellulose,paper and paper-based products	5.33	0.72	0.27	-2.69	0.09	-1.38	0.37	0.00	1.49	1.01	-0.82	1.74
2.6%	Machines, equipments and eletric material	1.17	-1.62	-2.47	-3.73	-0.25	-2.76	-2.45	-1.98	2.02	-5.82	0.00	-1.54
2.5%	Computer equipments, eletronics and optical products	-8.71	1.99	-0.13	-4.16	0.14	2.30	-4.77	-6.26	-0.89	-1.20	1.36	11.96
2.3%	Pharmaceuticals	-1.88	-1.92	-7.72	0.00	7.12	1.05	3.34	-11.27	6.67	-2.36	1.81	6.88
2.3%	Manufacture of clothing and accessories	2.10	-4.57	-23.59	-2.19	6.73	-1.35	2.59	-1.78	0.76	-4.05	0.00	2.19
1.6%	Leather, travel items and footwears	1.99	-6.84	-14.69	-4.78	6.60	4.71	-2.83	0.79	-6.17	-1.54	0.85	4.51
1.6%	Textile products	-2.31	-9.36	-6.13	-5.08	-3.18	0.53	-0.92	2.91	-0.77	-8.28	2.54	0.55
1.5%	Other transport equipments, except motor vehicles	-17.13	6.56	34.24	0.00	-3.30	10.25	-34.87	0.61	-7.44	1.96	-0.43	-4.07
1.3%	Repair of Machines and equipments	-5.08	1.53	9.19	-4.14	-3.17	-2.08	1.82	1.94	-1.61	-21.40	1.89	4.45
1.3%	Furniture	2.54	-0.24	-9.82	-8.53	5.45	-9.31	-1.01	-2.32	-3.27	-0.61	-3.40	0.80
1.3%	Personal Care	2.89	-3.74	-0.10	-2.92	1.40	-1.68	1.91	-0.49	0.69	-1.87	-0.71	0.53
1.0%	Wood products	-1.69	-1.71	4.55	2.87	5.41	1.33	-1.60	2.96	2.60	-6.87	-4.27	3.26
1.0%	Printing and playback of recordings	4.47	10.21	19.40	38.45	6.16	5.80	7.05	-1.22	9.88	-6.29	0.72	3.81
1.0%	Miscellaneous	15.03	-8.90	0.31	-3.52	-0.86	-2.71	-4.90	-1.41	1.54	2.22	-4.46	5.27
0.6%	Tobacco products	-10.50	12.74	3.13	-5.75	-1.15	-4.07	-11.53	-4.12	2.29	7.13	4.96	4.23

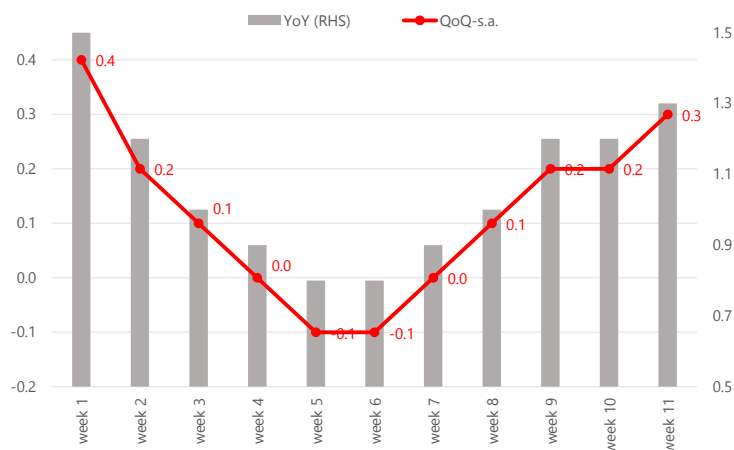
Sources: IBGE, Santander.

Figure 6 - Heatmap Showing Industrial Production by Economic Category

		By Activity (% MoM sa)											
		Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Capital Goods	Computer equipments, eletronics and optical products	-12.2	5.8	-4.5	-4.4	9.2	4.7	-3.9	-6.7	3.3	-6.2	2.8	13.3
	Machines, equipments and eletric material	-0.2	-6.9	4.4	-0.9	0.4	-5.5	-5.5	8.7	1.8	2.4	-0.4	-5.2
	Machines and equipments	1.4	1.3	2.7	0.2	4.0	3.4	-1.8	4.0	0.3	-2.4	-0.3	-2.7
	Vehicles	0.8	1.4	-0.6	0.8	4.1	3.3	9.4	-9.0	-7.6	2.8	-1.7	11.4
	Other transport equipments, except motor vehicles	-14.0	20.6	-2.2	-4.2	19.1	-1.3	0.2	-22.1	7.7	-12.1	12.5	14.9
Miscellaneous	2.5	-2.0	1.0	-0.9	-1.2	-7.3	-3.6	0.5	0.0	5.4	3.8	1.9	
Intermediate Goods	Mining	1.5	0.0	0.3	2.1	-0.3	0.3	-1.6	1.8	-0.4	-5.5	4.6	0.5
	Food products	4.6	1.7	1.4	-4.0	0.6	-2.9	-0.1	0.7	-1.0	-13.5	17.4	4.5
	Textile products	1.5	-7.5	-3.6	-6.8	-4.3	2.6	-7.1	6.9	-1.6	-5.3	1.1	1.1
	Cellulose,paper and paper-based products	4.5	0.7	-1.3	-1.2	1.3	-1.2	-0.5	-0.7	1.8	0.9	-0.9	2.0
	Oil and biofuel coke	-3.9	0.6	5.7	-13.1	-1.6	9.1	4.8	-4.1	0.3	10.6	-2.5	-1.9
	Other chemical products	1.4	2.5	-3.5	-3.1	3.8	-0.7	-1.3	-4.2	1.1	4.1	0.1	0.5
	Rubber and plastic products	-3.3	-0.8	-1.4	-2.9	-2.8	-0.6	-3.5	-2.3	2.4	3.1	-6.3	0.1
	Non-mentalic minerals	1.3	-0.1	-1.9	2.0	-1.1	-0.7	-1.9	0.4	-1.0	-1.5	1.3	2.0
	Metallurgy	-9.5	2.6	-0.3	-1.7	5.7	-0.2	-1.5	0.0	-3.4	-3.1	-2.6	1.6
	Metalic products except machines and equipments	0.2	-4.5	-0.4	-1.8	-1.3	-3.5	-1.7	-0.4	-1.0	-2.1	-2.1	-0.6
	Machines and equipments	-3.2	1.2	1.5	-1.2	3.9	-2.1	-3.1	-2.5	0.9	-2.7	0.7	2.5
	Vehicles	-5.9	-6.1	-5.5	-0.7	0.2	-1.0	-6.9	1.7	-0.5	-4.3	4.0	8.9
	Miscellaneous	-0.3	-2.9	0.7	-1.5	-0.8	3.0	-6.7	-1.0	3.0	-1.9	-1.4	4.3
Durable Goods	Computer equipments, eletronics and optical products	-21.1	3.5	6.9	-2.1	-1.2	2.1	-1.0	-12.9	-5.9	-1.6	-0.2	18.1
	Machines, equipments and eletric material	-4.7	2.7	-2.4	-3.9	-2.6	3.4	-5.1	1.3	1.6	-20.6	6.8	-4.3
	Vehicles	0.7	-6.3	-11.4	-5.9	-8.0	1.4	-16.7	-11.6	14.9	-2.0	18.1	26.7
	Other transport equipments, except motor vehicles	-38.0	9.4	70.8	-8.2	-7.4	18.2	-17.7	7.4	-3.2	-4.9	5.6	-2.8
	Furniture	3.2	-1.4	-0.6	-10.5	4.2	-3.7	-2.3	-3.8	-6.9	0.4	-8.7	0.5
Miscellaneous	7.8	5.2	15.0	-12.5	-1.5	-1.0	-1.1	-4.3	0.2	-23.0	16.9	2.3	
Non Durable Goods	Food products	0.3	0.1	-1.9	0.6	1.9	-0.2	-2.8	0.9	-4.7	3.0	-1.3	4.1
	Beverages	-2.1	-1.1	-0.2	-6.0	3.0	-2.4	-1.0	-0.7	-2.8	-2.5	-1.5	7.5
	Textile products	-0.3	-4.0	-8.3	-5.2	2.1	1.6	-1.5	-1.9	2.6	-11.8	4.0	-2.6
	Manufacture of clothing and accessories	1.8	-5.6	-19.7	-8.1	9.9	-2.5	1.4	-3.3	1.9	-4.3	1.0	2.1
	Leather, travel items and footwears	3.2	-5.4	-23.7	-2.0	1.5	7.9	-2.2	1.9	1.2	-0.3	2.4	3.0
	Printing and playback of recordings	12.8	34.8	18.8	-33.5	-9.6	-10.7	21.0	-6.0	21.8	-34.2	4.3	37.1
	Oil and biofuel coke	7.3	-3.0	-6.2	5.5	6.3	-2.9	0.7	0.4	0.5	-6.3	3.9	3.1
	Personal Care	1.3	-2.1	1.2	-4.6	2.8	-1.9	0.9	-0.4	1.3	-1.9	-5.8	0.7
	Pharmaceuticals	-5.6	1.2	-8.4	-1.9	8.3	1.6	4.1	-16.4	10.6	-6.4	6.3	-8.5
	Miscellaneous	-2.1	-1.1	-0.2	-6.0	3.0	-2.4	-1.0	-0.7	-2.8	-2.5	-1.5	7.5

Sources: IBGE, Santander.

Figure 7 - 4Q21 GDP Tracking (YoY% and QoQ%-sa)



Sources: IBGE, Santander.



CONTACTS / IMPORTANT DISCLOSURES

Brazil Macro Research

Ana Paula Vescovi*	Chief Economist	anavescovi@santander.com.br	5511-3553-8567
Mauricio Oreng*	Head of Macro Research	mauricio.oreng@santander.com.br	5511-3553-5404
Jankiel Santos*	Economist – External Sector	jankiel.santos@santander.com.br	5511-3012-5726
Ítalo Franca*	Economist – Fiscal Policy	italo.franca@santander.com.br	5511-3553-5235
Daniel Karp Vasquez*	Economist – Inflation	daniel.karp@santander.com.br	5511-3553-9828
Tomas Urani*	Economist – Global Economics	tomas.urani@santander.com.br	5511-3553-9520
Lucas Maynard*	Economist – Economic Activity	lucas.maynard.da.silva@santander.com.br	5511-3553-7495
Felipe Kotinda*	Economist – Commodities	felipe.kotinda@santander.com.br	5511-3553-8071
Gabriel Couto*	Economist – Special Projects	gabriel.couto@santander.com.br	5511-3553-8487
Fabiana Moreira*	Economist – Credit	fabiana.de.oliveira@santander.com.br	5511-3553-6120
Gilmar Lima*	Economist – Modeling	gilmar.lima@santander.com.br	5511-3553-6327

Global Macro Research

Maciej Reluga*	Head Macro, Rates & FX Strategy – CEE	maciej.reluga@santander.pl	48-22-534-1888
Juan Cerruti *	Senior Economist – Argentina	jcerruti@santander.com.ar	54 11 4341 1272
Ana Paula Vescovi*	Economist – Brazil	anavescovi@santander.com.br	5511-3553-8567
Juan Pablo Cabrera*	Economist – Chile	jcabrera@santander.cl	562-2320-3778
Guillermo Aboumrad*	Economist – Mexico	gjaboumrad@santander.com.mx	5255-5257-8170
Piotr Bielski*	Economist – Poland	piotr.bielski@santander.pl	48-22-534-1888
Mike Moran	Head of Macro Research, US	mike.moran@santander.us	212-350-3500

Fixed Income Research

Juan Arranz*	Chief Rates & FX Strategist – Argentina	jarranz@santanderrio.com.ar	5411-4341-1065
Mauricio Oreng*	Senior Economist/Strategist – Brazil	mauricio.oreng@santander.com.br	5511-3553-5404
Juan Pablo Cabrera*	Chief Rates & FX Strategist – Chile	jcabrera@santander.cl	562-2320-3778

Equity Research

Miguel Machado*	Head Equity Research Americas	mmachado@santander.com.mx	5255 5269 2228
Alan Alanis*	Head, Mexico	aalanis@santander.com.mx	5552-5269-2103
Andres Soto	Head, Andean	asoto@santander.us	212-407-0976
Claudia Benavente*	Head, Chile	claudia.benavente@santander.cl	562-2336-3361
Walter Chiarvesio*	Head, Argentina	wchiarvesio@santanderrio.com.ar	5411-4341-1564
Mariana Cahen Margulies*	Head, Brazil	mmargulies@santander.com.br	5511-3553-1684

Electronic

Bloomberg
Reuters

SIEQ <GO>
Pages SISEMA through SISEMZ

This report has been prepared by Santander Investment Securities Inc. ("SIS"; SIS is a subsidiary of Santander Holdings USA, Inc. which is wholly owned by Banco Santander, S.A. "Santander"), on behalf of itself and its affiliates (collectively, Grupo Santander) and is provided for information purposes only. This document must not be considered as an offer to sell or a solicitation of an offer to buy any relevant securities (i.e., securities mentioned herein or of the same issuer and/or options, warrants, or rights with respect to or interests in any such securities). Any decision by the recipient to buy or to sell should be based on publicly available information on the related security and, where appropriate, should take into account the content of the related prospectus filed with and available from the entity governing the related market and the company issuing the security. This report is issued in Spain by Santander Investment Bolsa, Sociedad de Valores, S.A. ("Santander Investment Bolsa"), and in the United Kingdom by Banco Santander, S.A., London Branch. Santander London is authorized by the Bank of Spain. This report is not being issued to private customers. SIS, Santander London and Santander Investment Bolsa are members of Grupo Santander.

ANALYST CERTIFICATION: The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed, that their recommendations reflect solely and exclusively their personal opinions, and that such opinions were prepared in an independent and autonomous manner, including as regards the institution to which they are linked, and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report, since their compensation and the compensation system applying to Grupo Santander and any of its affiliates is not pegged to the pricing of any of the securities issued by the companies evaluated in the report, or to the income arising from the businesses and financial transactions carried out by Grupo Santander and any of its affiliates: Gabriel Couto*. *Employed by a non-US affiliate of Santander Investment Securities Inc. and not registered/qualified as a research analyst under FINRA rules, and is not an associated person of the member firm, and, therefore, may not be subject to the FINRA Rule 2242 and Incorporated NYSE Rule 472 restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account.

The information contained herein has been compiled from sources believed to be reliable, but, although all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, we make no representation that it is accurate or complete and it should not be relied upon as such. All opinions and estimates included herein constitute our judgment as at the date of this report and are subject to change without notice.

Any U.S. recipient of this report (other than a registered broker-dealer or a bank acting in a broker-dealer capacity) that would like to effect any transaction in any security discussed herein should contact and place orders in the United States with SIS, which, without in any way limiting the foregoing, accepts responsibility (solely for purposes of and within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934) for this report and its dissemination in the United States.

© 2022 by Santander Investment Securities Inc. All Rights Reserved.

