

ANOTHER FLAT INDUSTRIAL OUTPUT IN DECEMBER

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- **Industrial production (IP) remained stable (0.0% MoM-sa; -1.3% YoY) in December.** This result was in line with market consensus of 0.0% MoM-sa (-1.2% YoY) and below our forecast of +0.6% MoM-sa (-0.6% YoY), marking three months of virtual stability and placing IP 2.2% below the pre-pandemic benchmark (February 2020). In the breakdown, December's result reflected a slight increase in manufacturing (+0.3% MoM-sa), along with a sharp drop in mining (-1.1% MoM-sa).
- **Across major economic categories, mostly positive readings.** Across major economic categories, the readings were mostly positive. Intermediate goods (-2.1% MoM-sa) were the lowlight, as all other categories posted expansions in December. Non-durable goods (+3.2% MoM-sa), capital goods (+1.8% MoM-sa) and durable goods (+4.1% MoM-sa) indicated healthy increases at the margin. Moreover, construction supplies (also related to investments as capital goods output) fell 0.7% MoM-sa at the margin, the second decline in a row. Across industrial activities, we saw a mixed bag. Indeed, 11 of 26 industrial activities expanded at the margin, with the diffusion index reaching 42% (vs. 62% and 23% in November and October, respectively). In terms of contribution, oil and biofuel coke (+0.35 p.p.), pharmaceuticals (+0.21 p.p.), metallic products (+0.20 p.p.) and manufacturing of clothing (+0.18 p.p.) contributed the most, while food products (-0.36 p.p.), metallurgy (-0.28 p.p.), machines and equipment (-0.18 p.p.), and other chemical products (-0.17 p.p.) contributed the least.
- **In quarterly terms, December's result implies a -0.5% QoQ-sa result to 4Q22 and a 0.0% QoQ-sa carryover to 1Q23.** For manufacturing, we calculate a -0.8% QoQ-sa result to 4Q22 and a +0.2% QoQ-sa carryover to 1Q23. With this result, industrial production posted a 0.7% contraction for full-year 2022, from 3.9% growth in 2021.
- **Contractionary effects of shaky financial conditions started to kick in 3Q22, mainly hitting goods-related sectors.** In our view, restrictive financial conditions are likely to continue stifling the performance of industrial output and retail sales throughout the following quarters.
- **We are maintaining our 4Q22 GDP growth tracking at -0.2% QoQ-sa.** We forecast GDP growth of 3.0% in 2022. For 2023, we forecast GDP growth at +0.8%, with a significant slowdown in domestic demand and in cyclical supply components, stemming mainly from the expected global recession and the tight BCB policy, but we also expect strong growth for non-cyclical farm output, reflecting an all-time high forecast for the grain harvest.

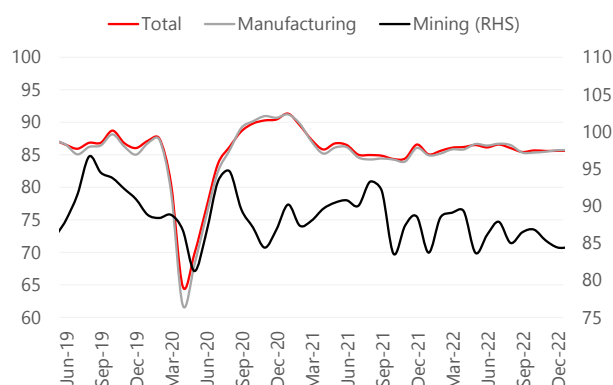


Figure 1 – Monthly Industrial Survey

Industrial Production Breakdown												
	Weights	% MoM			% YoY			% QoQ			Feb-20 %	
		Oct-22	Nov-22	Dec-22	Oct-22	Nov-22	Dec-22	Jun-22	Sep-22	Dec-22	Dec-22	
Total Industry	100%	0.3	-0.1	0.0	1.7	0.9	-1.3	0.8	-0.3	-0.5	-2.2	
Mining	11%	0.4	-1.7	-1.1	4.5	-2.9	-4.0	-0.8	0.1	-1.1	-4.5	
Manufacturing	89%	0.0	0.2	0.3	1.4	1.3	-0.8	1.2	-0.1	-0.8	-1.9	
Capital Goods	8%	-4.0	0.8	1.8	-0.2	0.7	0.9	1.9	1.6	-1.1	14.4	
Intermediate Goods	60%	0.6	0.3	-2.1	1.9	1.3	-2.6	0.8	-0.4	-1.2	-0.9	
Consumer goods	32%	0.4	0.0	2.2	2.4	0.5	1.4	0.8	0.3	0.2	-8.9	
Durable	7%	-3.4	-0.7	4.1	11.8	2.0	-5.8	5.3	1.8	-1.0	-17.6	
Non-Durable	25%	0.5	0.8	3.2	0.4	0.2	3.1	0.3	-0.3	0.5	-4.3	
Construction Supplies	-	0.2	-2.6	-0.7	-3.3	-5.8	-7.0	0.6	-2.1	-3.0	-1.0	

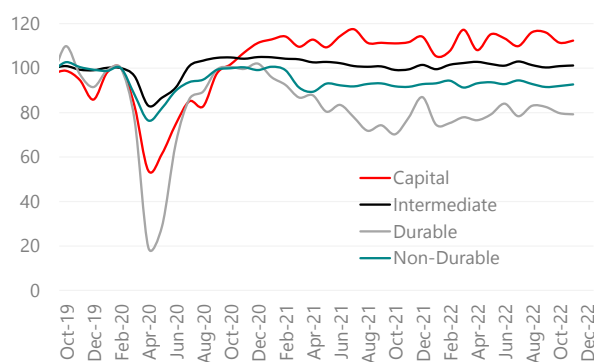
Sources: IBGE, Santander.

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



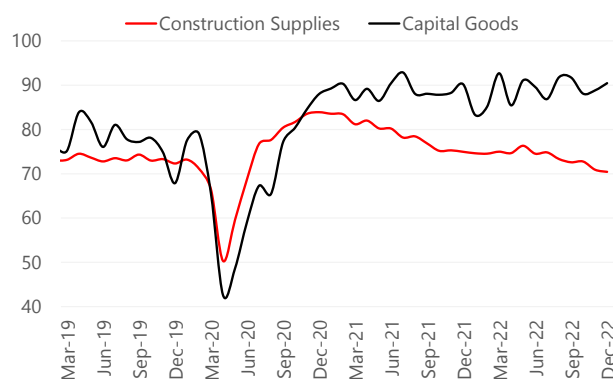
Sources: IBGE, Santander.

Figure 3 – Economic Categories (sa, Feb/20=100)



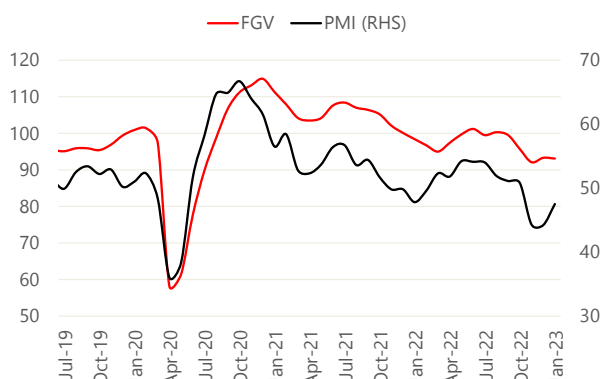
Sources: IBGE, Santander.

Figure 4 – Related to Investment (sa, 2012=100)



Sources: IBGE, Santander.

Figure 5 – Manufacturing Soft Data (sa)*



Sources: Markit, FGV, Santander.

* Neutral level: 100 points for FGV and 50 points for PMI.

For details on Santander’s economic outlook, please refer to our last reports¹.

¹ **Santander Brazil Economic Activity: “Financial Conditions Remain Critically Restrictive”** – November 30, 2022 – Available on: <https://bit.ly/Std-FCI-nov22>

Santander Brazil Special Report: “Santander’s Monthly Activity Indicator Entered Restrictive Territory in October” – January 03, 2023 – Available on: <https://bit.ly/Std-special-010323>

Santander Brazil Special Report: “Forecasting Probability of Recession in Brazil with Financial Conditions” – January 04, 2023 – Available on: <https://bit.ly/Std-special-010423>



Figure 6 - Heatmap Showing Industrial Production by Activity

		By Activity (% MoM sa)											
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
11.2%	Mining	-5.46	5.64	0.74	0.23	-6.27	2.92	2.02	-3.24	1.69	0.42	-1.68	-1.10
13.9%	Food products	1.15	3.46	-2.84	-4.55	1.47	0.47	4.87	-2.96	-4.21	5.10	3.23	-2.62
10.3%	Oil and biofuel coke	2.93	-2.02	-0.52	4.62	0.14	-1.12	2.39	-4.75	-2.50	0.38	2.84	3.43
10.1%	Vehicles	-14.56	4.66	6.83	-4.54	4.09	6.01	-5.93	11.00	-0.03	-6.59	4.34	1.34
5.4%	Metallurgy	-4.33	3.83	1.06	-1.20	0.88	-2.30	1.75	-0.08	-7.43	4.67	3.76	-5.10
5.3%	Other chemical products	-2.86	0.09	7.46	3.49	-5.87	0.66	-7.81	9.78	-0.19	-3.07	0.50	-3.15
4.9%	Machines and equipments	-3.41	-0.86	5.56	-3.86	7.49	-3.72	-10.50	12.53	4.11	-9.42	0.25	-3.58
3.6%	Metallic products except machines and equipments	-2.76	4.13	-4.05	2.50	1.84	-0.69	-4.15	1.55	-0.59	-0.05	-1.40	5.61
3.6%	Non-metallic minerals	-4.12	0.41	0.80	-0.06	-0.52	-0.92	-0.75	1.70	-2.19	-2.05	-1.13	-0.54
3.5%	Rubber and plastic products	-4.97	4.28	-0.48	2.43	0.89	-0.35	0.01	0.06	-1.19	-2.44	0.71	-0.19
3.3%	Beverages	-7.39	5.66	6.34	3.50	-0.67	-1.25	-0.84	2.63	-5.44	-8.94	9.82	-2.76
3.0%	Cellulose,paper and paper-based products	-0.82	-4.22	3.47	1.70	-1.96	4.93	1.93	-0.64	-1.27	-1.67	-0.15	-0.18
2.6%	Machines, equipments and electric material	-3.70	2.45	-5.08	1.49	6.11	1.12	-1.78	-0.93	-1.61	-3.39	-2.06	0.36
2.5%	Computer equipments, electronics and optical products	-11.25	0.37	7.98	-3.57	4.08	-2.66	-7.47	6.39	0.89	-2.49	-6.77	4.70
2.3%	Pharmaceuticals	0.52	12.53	-8.33	4.52	4.13	-16.58	13.03	9.13	-1.33	0.95	-0.38	9.13
2.3%	Manufacture of clothing and accessories	0.07	-0.78	-4.37	1.89	-0.19	-5.74	-5.06	1.39	-3.71	-7.11	-4.00	7.97
1.6%	Leather, travel items and footwears	-4.78	-1.30	9.17	1.56	8.61	-0.37	-5.46	0.45	-1.80	-13.02	-0.47	6.74
1.6%	Textile products	-1.64	-1.40	-2.47	4.99	1.83	0.07	-1.59	-5.45	-2.43	-0.20	5.24	5.14
1.5%	Other transport equipments, except motor vehicles	-8.39	14.25	2.95	-7.51	8.47	-5.27	4.17	7.92	2.31	2.14	-0.71	-2.32
1.3%	Repair of machines and equipments	-5.96	-0.60	-0.38	6.30	6.75	-0.34	-19.24	3.35	-0.33	-6.11	2.97	2.12
1.3%	Furniture	-3.98	2.28	-3.65	2.83	1.11	-1.61	-5.51	-0.79	-1.39	-4.33	4.44	7.56
1.3%	Personal Care	-1.49	-0.11	0.46	1.09	0.28	3.12	-1.60	-0.18	-3.16	-2.47	3.46	-3.14
1.0%	Wood products	-3.36	-2.26	-1.90	-3.43	3.51	-5.84	-6.58	1.47	-9.01	-9.32	7.16	-3.49
1.0%	Printing and playback of recordings	13.29	-15.95	-0.96	7.34	0.79	-6.77	1.43	-3.43	1.58	-0.87	8.30	-1.97
1.0%	Miscellaneous	-4.03	5.36	-3.43	-6.75	7.70	-4.12	1.18	9.52	-8.47	-12.24	6.70	-2.65
0.6%	Tobacco products	-0.24	0.91	16.36	-10.91	-3.80	-2.27	-3.59	3.51	7.32	-3.05	0.76	-8.02

Sources: IBGE, Santander.

Figure 7 - Heatmap Showing Industrial Production by Economic Category

		By Activity (% MoM sa)											
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
Capital Goods	Computer equipments, electronics and optical products	-1.5	-14.8	21.9	-3.3	-2.0	-4.5	-4.3	-1.8	-1.9	4.1	-9.9	2.0
	Machines, equipments and electric material	0.9	-1.7	-3.0	-0.3	11.7	-0.6	0.3	-2.2	-1.2	3.7	-0.9	2.1
	Machines and equipments	-1.9	-5.1	9.5	-5.4	8.9	-4.1	-5.2	5.2	5.9	-8.8	-1.4	-2.2
	Vehicles	-20.8	15.5	17.7	-13.8	8.9	-2.0	-0.1	6.6	-3.2	-1.7	4.7	6.4
Intermediate Goods	Other transport equipments, except motor vehicles	-4.8	23.6	3.2	1.8	3.1	-3.0	7.1	-4.8	3.3	1.7	-1.7	8.1
	Miscellaneous	-2.1	7.8	-6.1	-3.9	2.5	-6.7	12.5	-1.8	-4.0	-0.3	1.4	4.1
	Mining	-6.7	6.8	0.1	0.4	-4.0	0.6	1.4	-5.5	3.4	1.9	-0.4	-2.1
	Food products	-0.7	1.8	-4.4	-10.1	7.0	1.1	4.1	0.4	-7.5	10.2	10.6	-6.8
	Textile products	-1.2	0.0	-1.7	1.2	-0.5	0.8	-0.6	-2.3	-2.7	-0.2	-5.3	5.0
	Cellulose,paper and paper-based products	-1.6	-5.2	4.2	2.4	-0.7	4.5	2.0	-0.7	-1.7	-2.5	-0.5	0.6
	Oil and biofuel coke	1.9	0.7	0.2	1.4	0.6	2.3	-1.3	-3.8	0.7	-2.3	0.4	4.3
	Other chemical products	-1.9	-1.3	7.8	2.4	-4.9	-0.8	-5.3	7.7	0.4	-2.9	0.6	-2.2
	Rubber and plastic products	-2.5	2.1	-1.9	3.7	0.7	-0.7	0.7	-1.7	-0.6	0.2	-1.8	-0.5
	Non-metallic minerals	-3.1	0.5	-0.2	-0.5	0.4	-1.4	-0.1	-0.1	-1.1	-1.3	-2.8	0.2
	Metallurgy	-5.6	5.3	1.2	-1.9	1.8	-2.7	2.7	0.0	-8.6	5.3	4.3	-6.0
	Metalic products except machines and equipments	-0.5	-1.2	-2.9	3.3	3.2	-1.2	-1.1	-3.4	0.6	-0.2	-3.2	7.0
	Machines and equipments	-2.0	3.9	5.7	-6.6	3.7	-2.5	-12.2	15.0	-0.3	-2.5	0.7	-8.4
Vehicles	-1.1	2.9	0.9	-3.5	5.6	1.0	1.7	4.7	11.6	-12.7	1.4	-5.9	
Miscellaneous	-2.1	1.3	-1.7	-1.1	1.3	-1.1	-1.7	-1.9	-1.6	-4.5	1.7	-0.8	
Durable Goods	Computer equipments, electronics and optical products	-10.1	2.5	5.0	-4.1	13.8	-7.5	-6.1	10.6	14.2	-2.9	-21.6	20.5
	Machines, equipments and electric material	-3.7	2.8	-12.4	10.6	3.3	0.0	-1.2	-5.1	-0.4	-4.7	-2.7	4.0
	Vehicles	-18.8	1.1	16.1	-12.8	1.3	16.2	-11.8	8.2	-4.5	-1.0	2.3	3.2
	Other transport equipments, except motor vehicles	-12.5	11.9	9.1	-11.0	19.9	-6.4	-6.1	15.0	1.4	2.1	-2.3	-7.9
	Furniture	-13.3	12.8	-2.0	5.2	2.2	-5.1	-6.3	-7.8	1.2	-2.1	3.7	10.0
Non Durable Goods	Miscellaneous	4.7	-5.9	1.3	-4.7	9.4	-5.1	-5.7	16.7	-10.4	-13.4	-4.5	2.6
	Food products	0.2	2.2	0.1	-0.3	-1.5	0.8	1.4	-2.5	-1.3	0.7	-0.5	2.1
	Beverages	-6.9	6.6	1.1	3.0	1.2	-0.5	-2.4	-2.0	-1.0	0.8	-2.8	0.6
	Textile products	1.2	0.3	-1.8	-3.1	2.5	1.7	-13.0	-2.9	-1.0	4.0	-5.9	-0.3
	Manufacture of clothing and accessories	2.8	-2.8	-0.7	1.3	-0.4	3.3	1.2	-5.2	-3.6	-5.5	-3.9	5.8
	Leather, travel items and footwears	-0.5	-1.8	0.2	2.0	7.0	2.4	-6.1	-0.1	3.8	-10.5	-1.8	7.6
	Printing and playback of recordings	23.6	-37.8	3.7	20.5	8.0	-2.0	8.4	-2.5	0.2	-5.7	28.6	-12.6
	Oil and biofuel coke	9.0	-9.3	-9.2	13.1	0.2	-3.7	0.1	-3.8	-1.4	3.3	5.4	10.2
	Personal Care	0.8	-0.5	-1.1	1.5	0.7	4.3	-0.8	-2.6	-3.0	-0.4	0.6	-1.6
	Pharmaceuticals	-1.2	15.5	-12.1	6.4	6.4	-16.5	13.8	6.1	2.1	-0.4	-1.0	10.2
	Miscellaneous	-6.9	6.6	1.1	3.0	1.2	-0.5	-2.4	-2.0	-1.0	0.8	-2.8	0.6

Sources: IBGE, Santander.



Figure 8 - Industrial Production by Activity

	Industrial Activities Breakdown										
	Weights	% MoM			% YoY			% QoQ			Feb-20%
		Oct-22	Nov-22	Dec-22	Oct-22	Nov-22	Dec-22	Jun-22	Nov-22	Dec-22	Dec-22
Mining	11.2%	0.4	-1.7	-1.1	4.5	-2.9	-4.0	-0.8	0.1	-1.1	-4.5
Food products	13.9%	5.1	3.2	-2.6	12.2	8.6	2.1	-4.2	-0.3	2.3	-2.1
Oil and biofuel coke	10.3%	0.4	2.8	3.4	-2.3	1.9	6.0	3.3	-3.7	0.0	6.1
Vehicles	10.1%	-6.6	4.3	1.3	12.6	13.1	4.4	6.0	1.7	-0.2	-5.5
Metallurgy	5.4%	4.7	3.8	-5.1	-3.7	3.5	-6.4	0.5	-2.8	0.1	-4.6
Other chemical products	5.3%	-3.1	0.5	-3.2	1.2	1.9	-2.5	4.5	1.3	-1.0	0.8
Machines and equipments	4.9%	-9.4	0.3	-3.6	-2.9	-3.0	-8.6	3.0	1.7	-4.4	7.7
Metallic products except machines and equipments	3.6%	-0.1	-1.4	5.6	-4.0	-6.9	2.5	2.1	-1.5	1.0	-4.1
Non-metallic minerals	3.6%	-2.1	-1.1	-0.5	-4.1	-6.9	-9.9	-0.1	-3.0	-3.9	-1.2
Rubber and plastic products	3.5%	-2.4	0.7	-0.2	-4.3	-1.9	-1.4	4.0	-2.5	-2.8	-9.0
Beverages	3.3%	-8.9	9.8	-2.8	-5.9	5.8	-1.1	8.8	-6.9	-6.6	-5.9
Cellulose,paper and paper-based products	3.0%	-1.7	-0.2	-0.2	2.7	2.8	0.9	2.8	-2.2	-2.9	3.1
Machines, equipments and electric material	2.6%	-3.4	-2.1	0.4	-4.0	-9.4	-8.0	3.2	-5.7	-5.9	-14.7
Computer equipments, electronics and optical products	2.5%	-2.5	-6.8	4.7	14.6	-6.2	-13.4	3.4	-1.6	-3.0	-5.6
Pharmaceuticals	2.3%	0.9	-0.4	9.1	10.1	2.9	32.1	-0.6	9.1	5.8	12.8
Manufacture of clothing and accessories	2.3%	-7.1	-4.0	8.0	-8.6	-15.5	-10.5	0.4	-10.2	-9.1	-24.0
Leather, travel items and footwears	1.6%	-13.0	0.5	6.7	-4.6	-5.9	-1.0	13.1	-11.6	-11.7	-17.2
Textile products	1.6%	-0.2	-5.2	5.1	-7.4	-15.6	-10.6	4.0	-8.3	-5.5	-17.6
Other transport equipments, except motor vehicles	1.5%	2.1	-0.7	-2.3	30.0	23.6	23.0	2.0	10.3	5.0	9.5
Repair of machines and equipments	1.3%	-6.1	3.0	2.1	-11.0	-10.8	-13.2	10.4	-8.5	-2.7	-18.0
Furniture	1.3%	-4.3	4.4	7.6	-15.4	-12.7	-3.1	1.3	-5.2	-0.2	-26.2
Personal Care	1.3%	-2.5	3.5	-3.1	-6.1	1.2	-4.6	2.6	-4.3	-3.4	-13.6
Wood products	1.0%	-9.3	7.2	-3.5	-24.5	-25.1	-31.5	-5.1	-13.9	-11.5	-21.3
Printing and playback of recordings	1.0%	-0.9	8.3	-2.0	-4.1	15.9	2.2	-1.5	1.9	3.8	-3.9
Miscellaneous	1.0%	-12.2	6.7	-2.6	-10.0	-6.2	-15.0	-3.9	-8.5	-11.8	-17.0
Tobacco products	0.6%	-3.0	0.8	-8.0	15.1	12.3	-6.5	-4.6	6.5	0.5	-2.3

Sources: IBGE, Santander.



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