

## A FLAT INDUSTRIAL OUTPUT IN NOVEMBER

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- **Industrial production (IP) inched down 0.1% MoM-sa (+0.9% YoY) in November.** This result was in line with market consensus of -0.1% MoM-sa (+0.7% YoY) and our forecast of -0.2% MoM-sa (+0.8% YoY), marking the fourth decline in the past six months and placing IP 2.2% below the pre-pandemic benchmark (February 2020). In the breakdown, November's result reflected a virtual flattening of manufacturing (+0.1% MoM-sa), along with a sharp drop in mining (-1.5% MoM-sa).
- **A mixed bag across major economic categories.** Intermediate goods (+0.4% MoM-sa) was in the spotlight, marking the second gain in a row, as did non-durable goods (+0.6% MoM-sa). Capital goods expanded at the margin (-0.8% MoM-sa) but was far from offsetting the ~4.5% drop accumulated in the previous two months. Durable goods continued to weaken (-0.4% MoM-sa), recording the third decline in a row. Moreover, construction supplies (also related to investments as capital goods output) plummeted 2.6% MoM-sa at the margin. Across industrial activities, there was widespread growth, with 15 of 26 industrial activities expanding at the margin, and with the diffusion index reaching 58% (vs. 27% and 23% in October and September, respectively). In terms of contribution, food products (+0.45 p.p.), vehicles (+0.44 p.p.), beverages (+0.34 p.p.) and oil and biofuel coke (+0.29 p.p.) contributed the most. In our view, at the margin, the positive performance of food products and beverages likely reflected greater demand during the period of the global soccer tournament. Conversely, mining (-0.17 p.p.), computer equipment (-0.16 p.p.), manufacture of clothing (-0.09 p.p.) and textile products (-0.09 p.p.) contributed the least.
- **In quarterly terms, November's result led to a -0.5% QoQ-sa carryover to 4Q22 (-0.3% QoQ-sa in 3Q22).** For manufacturing, we calculate a weak -0.9% QoQ-sa carryover (-0.2% QoQ-sa in 3Q22). The confidence surveys for December continued to show weak prints: FGV's industrial confidence index inched up to 93.3 points (from 92.1 points), remaining below the 100-points neutral threshold, while Manufacturing PMI inched down to 44.2 points (from 44.3 points), also below the 50-points neutral mark.
- **Contractionary effects of shaky financial conditions already started to kick in 3Q22, mainly hitting goods-related sectors.** Moreover, despite some resilience showed by services activities, Santander's Activity Indicator indicated that domestic activity entered restrictive territory at the start of 4Q22. In our view, restrictive financial conditions are likely to continue to stifle the performance of industrial output and retail sales throughout the quarter and beyond.
- **We are maintaining our 4Q22 GDP growth tracking at -0.1% QoQ-sa, but we recognize some downward bias.** 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.

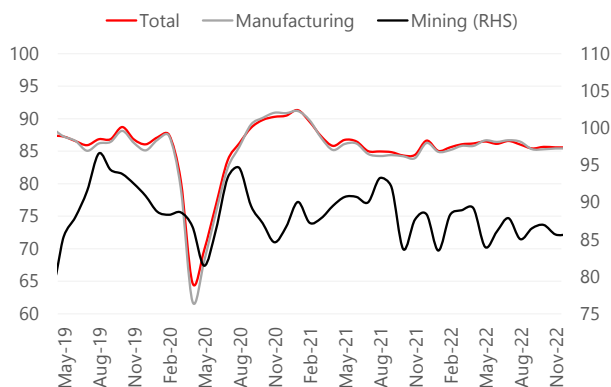


Figure 1 – Monthly Industrial Survey

Industrial Production Breakdown												
	Weights	% MoM			% YoY			% QoQ			Feb-20 %	
		Sep-22	Oct-22	Nov-22	Sep-22	Oct-22	Nov-22	Jun-22	Sep-22	Nov-22	Nov-22	
<b>Total Industry</b>	<b>100%</b>	<b>-0.7</b>	<b>0.3</b>	<b>-0.1</b>	<b>0.4</b>	<b>1.7</b>	<b>0.9</b>	<b>0.8</b>	<b>-0.3</b>	<b>-0.8</b>	<b>-2.2</b>	
<b>Mining</b>	<b>11%</b>	<b>1.7</b>	<b>0.5</b>	<b>-1.5</b>	<b>-5.7</b>	<b>4.5</b>	<b>-2.9</b>	<b>-0.6</b>	<b>0.1</b>	<b>0.1</b>	<b>-3.0</b>	
<b>Manufacturing</b>	<b>89%</b>	<b>-1.3</b>	<b>0.0</b>	<b>0.1</b>	<b>1.2</b>	<b>1.4</b>	<b>1.3</b>	<b>1.2</b>	<b>-0.2</b>	<b>-1.4</b>	<b>-2.2</b>	
Capital Goods	8%	-0.4	-4.0	0.8	4.6	-0.2	0.7	2.0	1.3	-0.2	11.5	
Intermediate Goods	60%	-1.0	0.8	0.4	-0.3	1.9	1.3	1.0	-0.2	-0.8	1.7	
Consumer goods	32%	-0.9	0.3	-0.1	0.7	2.4	0.5	0.8	0.0	-1.1	-11.1	
Durable	7%	-0.5	-3.2	-0.4	10.5	11.8	2.0	5.6	1.6	-1.4	-20.3	
Non-Durable	25%	-1.4	0.3	0.6	-1.4	0.4	0.2	0.2	-0.4	-1.7	-7.9	
<b>Construction Supplies</b>	<b>-</b>	<b>-0.9</b>	<b>0.2</b>	<b>-2.6</b>	<b>-5.3</b>	<b>-3.3</b>	<b>-5.8</b>	<b>0.6</b>	<b>-2.0</b>	<b>-2.8</b>	<b>-0.5</b>	

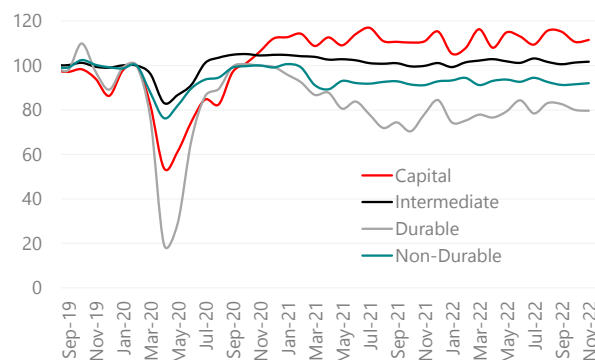
Sources: IBGE, Santander.

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



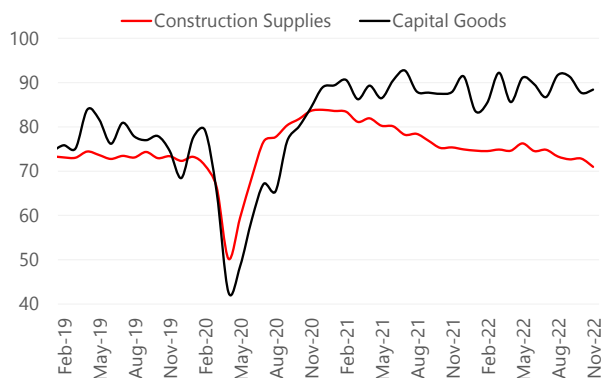
Sources: IBGE, Santander.

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



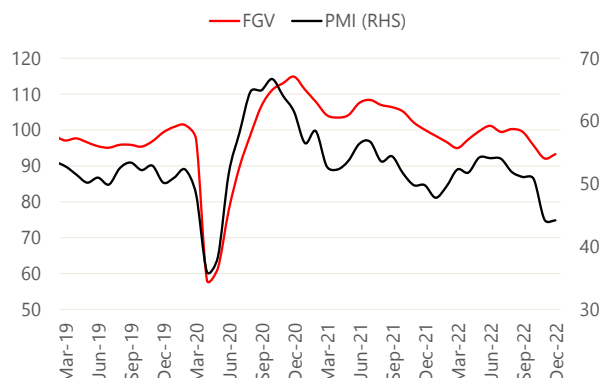
Sources: IBGE, Santander.

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 reports<sup>1</sup>.**

<sup>1</sup> **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)											
		Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
11.2%	Mining	0.80	-5.50	5.74	0.72	0.29	-5.84	2.49	2.08	-3.21	1.72	0.52	-1.48
13.9%	Food products	4.08	1.33	3.59	-2.87	-4.48	1.41	0.48	4.94	-2.97	-4.21	5.26	3.23
10.3%	Oil and biofuel coke	0.41	2.77	-2.19	-0.73	4.73	0.18	-1.18	2.24	-4.72	-2.45	0.19	2.78
10.1%	Vehicles	12.84	-15.95	4.57	6.80	-4.52	3.95	6.05	-5.92	10.83	-0.09	-6.68	4.39
5.4%	Metallurgy	2.35	-4.07	4.46	1.21	-1.10	0.97	-2.02	1.78	0.09	-7.38	5.00	3.08
5.3%	Other chemical products	0.06	-2.65	0.08	7.74	3.67	-5.91	0.72	-7.65	9.43	0.11	-2.93	0.48
4.9%	Machines and equipments	-0.45	-2.63	-0.85	5.51	-3.65	7.28	-3.39	-10.37	12.55	4.08	-9.27	0.33
3.6%	Metallic products except machines and equipments	-0.99	-4.19	4.03	-3.96	2.47	1.79	-0.83	-4.20	1.37	-0.68	-0.12	-1.52
3.6%	Non-metallic minerals	1.49	-3.80	0.41	0.82	-0.06	-0.51	-0.90	-0.72	1.61	-2.05	-1.91	-1.21
3.5%	Rubber and plastic products	-0.27	-5.08	4.27	-0.46	2.46	0.90	-0.33	0.01	0.04	-1.24	-2.48	0.63
3.3%	Beverages	3.09	-6.65	6.17	6.38	3.55	-0.44	-1.30	-0.83	2.57	-5.30	-9.31	10.27
3.0%	Cellulose,paper and paper-based products	1.92	-0.86	-4.08	3.37	1.73	-1.97	5.01	1.91	-0.70	-1.29	-1.66	-0.11
2.6%	Machines, equipments and electric material	-2.21	-3.74	2.47	-5.17	1.57	5.96	1.28	-1.80	-1.07	-1.38	-3.85	-1.79
2.5%	Computer equipments, electronics and optical products	11.19	-11.10	0.52	8.05	-3.45	3.93	-2.77	-7.49	6.47	0.87	-2.44	-6.51
2.3%	Pharmaceuticals	-5.96	-2.90	12.48	-8.28	4.58	3.83	-16.61	12.59	9.30	-1.53	0.86	-0.89
2.3%	Manufacture of clothing and accessories	-1.88	-0.92	-0.83	-4.51	2.24	-0.50	5.79	-5.13	1.24	-3.86	-7.40	-3.80
1.6%	Leather, travel items and footwear	3.92	-6.34	-2.01	9.50	0.66	9.42	-0.38	-5.49	0.35	-2.00	-12.59	-0.09
1.6%	Textile products	-0.65	-1.92	-1.82	-3.13	5.55	1.72	0.01	-1.87	-5.40	-2.86	-0.62	-5.36
1.5%	Other transport equipments, except motor vehicles	4.94	-10.82	12.16	6.45	-8.00	10.51	-1.40	-0.72	8.55	1.81	2.10	-0.68
1.3%	Repair of machines and equipments	6.33	-6.37	-0.72	-0.46	6.32	6.19	0.27	-19.35	3.24	-0.43	-5.63	2.24
1.3%	Furniture	-0.23	-5.49	2.09	-4.56	3.49	1.00	-1.76	-5.60	-0.94	-1.56	-4.58	3.65
1.3%	Personal Care	1.66	-1.10	-0.04	0.37	1.20	0.27	3.14	-1.55	-0.18	-3.28	-2.27	3.54
1.0%	Wood products	1.72	-3.44	-2.14	-1.75	-3.48	3.94	-6.23	-6.39	1.59	-8.95	-9.62	7.43
1.0%	Printing and playback of recordings	18.10	1.65	-14.27	-0.31	10.75	1.65	-7.55	3.67	-0.98	-1.26	0.73	8.37
1.0%	Miscellaneous	3.61	-3.37	5.30	-3.52	-5.58	6.75	-4.28	1.38	9.62	-8.47	-11.91	6.53
0.6%	Tobacco products	5.86	0.67	1.02	16.92	-11.09	-3.76	-2.24	-3.52	3.61	7.96	-3.16	1.07

Sources: IBGE, Santander.

Figure 7 - Heatmap Showing Industrial Production by Economic Category

		By Activity (% MoM sa)											
		Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22
Capital Goods	Computer equipments, electronics and optical products	11.1	-1.9	-14.9	22.2	-3.2	-2.1	-4.5	-4.4	-1.9	-1.9	4.3	-10.2
	Machines, equipments and electric material	-3.9	0.3	-1.5	-3.2	-0.1	11.5	-0.3	0.1	-2.5	-1.2	3.5	-1.1
	Machines and equipments	-1.4	-0.6	-5.7	11.1	-6.3	8.0	-3.1	-5.4	5.6	5.1	-8.3	-1.3
	Vehicles	14.2	-25.5	14.9	18.5	-14.6	9.2	-2.4	-0.4	6.5	-3.6	-2.0	4.5
	Other transport equipments, except motor vehicles	13.3	-7.5	23.4	3.3	1.9	3.2	-3.0	6.3	-4.3	3.6	1.2	-2.5
	Miscellaneous	2.4	-3.4	7.4	-6.3	-4.1	2.5	-6.8	12.0	-1.6	-3.8	-0.5	1.2
Intermediate Goods	Mining	0.4	-6.6	6.9	0.1	0.4	-4.0	0.7	1.5	-5.1	3.1	2.1	-0.4
	Food products	10.1	-0.6	1.8	-4.4	-9.2	6.1	1.2	4.1	0.5	-7.5	11.0	7.8
	Textile products	-2.2	-1.5	0.5	-0.6	4.5	1.2	-0.2	1.1	-6.9	-4.3	-0.9	-5.2
	Cellulose,paper and paper-based products	2.3	-1.7	-5.2	4.3	2.5	-0.6	4.5	2.0	-0.7	-1.8	-2.5	-0.5
	Oil and biofuel coke	-0.7	2.3	-0.4	0.3	1.7	0.3	2.2	-1.4	-4.0	0.5	-3.5	1.2
	Other chemical products	-0.3	-1.6	-0.5	7.5	2.3	-4.7	-0.9	-5.1	7.6	0.3	-2.5	0.6
	Rubber and plastic products	-1.0	-1.9	2.2	-1.9	4.0	0.6	-0.6	0.3	-1.4	-0.8	0.2	-1.9
	Non-metallic minerals	1.8	-4.1	0.5	1.1	-1.0	-0.1	-0.6	-0.9	1.3	-1.6	-2.4	-1.0
	Metallurgy	2.2	-4.5	5.3	1.2	-1.7	1.7	-2.5	2.5	0.1	-8.5	5.5	3.4
	Metallic products except machines and equipments	-0.9	-0.9	-1.3	-3.7	3.9	2.9	-1.3	-1.4	-3.6	0.6	-0.6	-2.7
	Machines and equipments	2.0	-1.4	4.5	4.1	-5.6	4.0	-2.7	-12.0	15.3	-0.3	-2.3	1.0
	Vehicles	6.7	-3.3	2.5	2.0	-6.0	7.2	0.3	2.2	5.4	12.6	-13.7	2.3
Miscellaneous	3.9	-1.9	1.5	-1.9	-1.1	1.3	-1.2	-1.7	-1.9	-1.5	-4.4	2.0	
Durable Goods	Computer equipments, electronics and optical products	17.0	-12.5	3.4	4.9	-4.0	13.9	-7.7	-6.5	10.6	16.8	-4.5	-22.6
	Machines, equipments and electric material	-4.6	-4.2	2.7	-12.3	10.7	3.2	0.0	-1.3	-5.2	-0.6	-4.9	-2.8
	Vehicles	28.3	-19.6	-0.2	12.5	-10.4	0.0	17.5	-11.3	5.7	-1.3	-3.3	3.6
	Other transport equipments, except motor vehicles	-3.2	-9.5	11.3	11.9	-13.3	21.4	-6.8	-6.3	14.0	2.6	2.5	-2.2
	Furniture	0.8	-7.5	4.2	-3.0	6.3	-2.4	-3.1	-5.2	-6.7	4.6	-4.5	4.3
	Miscellaneous	-1.8	-5.0	-6.0	1.4	-5.0	9.9	-4.8	-5.6	16.5	-10.2	-13.2	-4.4
Non Durable Goods	Food products	3.3	0.1	2.1	0.1	-0.3	-1.6	0.9	1.3	-2.5	-1.3	0.7	-0.5
	Beverages	6.1	-7.3	6.6	1.1	3.2	1.3	-0.4	-2.5	-2.0	-1.1	0.5	-2.7
	Textile products	-0.6	0.7	0.0	-2.2	-2.8	2.8	0.6	-12.2	-3.1	-1.3	3.2	-6.4
	Manufacture of clothing and accessories	-1.7	2.8	-3.1	-1.0	1.6	-0.4	3.4	1.1	-5.5	-3.7	-5.7	-4.1
	Leather, travel items and footwear	1.1	-1.5	-2.6	-0.8	2.5	7.5	2.9	-6.5	0.0	3.9	-11.1	-1.3
	Printing and playback of recordings	4.0	23.2	-37.0	3.6	20.1	8.0	-2.2	8.5	-2.5	0.0	-5.2	28.9
	Oil and biofuel coke	4.5	8.6	-9.4	-8.9	12.8	0.4	-3.6	0.1	-4.0	-5.7	6.0	8.5
	Personal Care	2.3	1.0	-0.2	-1.0	1.6	0.5	4.9	-0.1	-3.3	-3.3	-0.2	1.0
	Pharmaceuticals	-7.6	-3.6	15.2	-12.0	6.3	6.3	-16.5	13.3	6.3	2.0	-0.4	-1.4
	Miscellaneous	6.1	-7.3	6.6	1.1	3.2	1.3	-0.4	-2.5	-2.0	-1.1	0.5	-2.7

Sources: IBGE, Santander.



Figure 8 - Industrial Production by Activity

	Industrial Activities Breakdown										
	Weights	% MoM			% YoY			% QoQ			Feb-20%
		Sep-22	Oct-22	Nov-22	Sep-22	Oct-22	Nov-22	Jun-22	Oct-22	Nov-22	Nov-22
<b>Mining</b>	<b>11.2%</b>	<b>1.7</b>	<b>0.5</b>	<b>-1.5</b>	<b>-5.7</b>	<b>4.5</b>	<b>-2.9</b>	<b>-0.6</b>	<b>0.1</b>	<b>0.1</b>	<b>-3.0</b>
Food products	13.9%	-4.2	5.3	3.2	-0.1	12.2	8.6	-4.2	-0.8	-0.2	0.8
Oil and biofuel coke	10.3%	-2.5	0.2	2.8	0.6	-2.3	1.9	3.2	-5.2	-3.9	2.2
Vehicles	10.1%	-0.1	-6.7	4.4	20.3	12.6	13.1	5.9	6.0	1.5	-7.0
Metallurgy	5.4%	-7.4	5.0	3.1	-10.3	-3.7	3.5	1.1	-2.8	-2.7	0.9
Other chemical products	5.3%	0.1	-2.9	0.5	7.7	1.2	1.9	4.9	3.0	1.6	4.7
Machines and equipments	4.9%	4.1	-9.3	0.3	4.0	-2.9	-3.0	3.2	2.7	1.8	12.4
Metallic products except machines and equipments	3.6%	-0.7	-0.1	-1.5	-7.9	-4.0	-6.9	2.0	-2.3	-1.8	-9.8
Non-metallic minerals	3.6%	-2.1	-1.9	-1.2	-3.9	-4.1	-6.9	0.0	-1.2	-2.9	-0.4
Rubber and plastic products	3.5%	-1.2	-2.5	0.6	-2.0	-4.3	-1.9	4.1	-1.7	-2.6	-9.0
Beverages	3.3%	-5.3	-9.3	10.3	1.4	-5.9	5.8	9.1	-5.0	-6.9	-2.8
Cellulose,paper and paper-based products	3.0%	-1.3	-1.7	-0.1	6.6	2.7	2.8	2.9	0.7	-2.3	3.2
Machines, equipments and electric material	2.6%	-1.4	-3.9	-1.8	-9.2	-4.0	-9.4	3.2	-4.0	-5.7	-15.1
Computer equipments, electronics and optical products	2.5%	0.9	-2.4	-6.5	10.0	14.6	-6.2	3.5	-0.2	-1.4	-9.5
Pharmaceuticals	2.3%	-1.5	0.9	-0.9	1.6	10.1	2.9	-0.7	10.2	8.6	2.0
Manufacture of clothing and accessories	2.3%	-3.9	-7.4	-3.8	-5.9	-8.6	-15.5	0.4	-5.4	-10.6	-30.0
Leather, travel items and footwears	1.6%	-2.0	-12.6	-0.1	8.5	-4.6	-5.9	12.6	-8.8	-11.7	-22.7
Textile products	1.6%	-2.9	-0.6	-5.4	-11.7	-7.4	-15.6	3.9	-8.6	-9.1	-22.7
Other transport equipments, except motor vehicles	1.5%	1.8	2.1	-0.7	25.9	30.0	23.6	5.8	9.6	8.5	16.0
Repair of machines and equipments	1.3%	-0.4	-5.6	2.2	-3.9	-11.0	-10.8	10.2	-12.8	-8.6	-20.1
Furniture	1.3%	-1.6	-4.6	3.6	-13.3	-15.4	-12.7	1.1	-7.7	-5.9	-32.6
Personal Care	1.3%	-3.3	-2.3	3.5	-6.3	-6.1	1.2	2.7	-3.1	-4.2	-10.5
Wood products	1.0%	-9.0	-9.6	7.4	-24.2	-24.5	-25.1	-4.9	-13.4	-13.8	-18.1
Printing and playback of recordings	1.0%	-1.3	0.7	8.4	-20.4	-4.1	15.9	3.2	-1.8	2.5	4.2
Miscellaneous	1.0%	-8.5	-11.9	6.5	0.8	-10.0	-6.2	-3.4	-1.1	-8.2	-14.3
Tobacco products	0.6%	8.0	-3.2	1.1	35.5	15.1	12.3	-4.5	4.6	7.3	7.6

Sources: IBGE, Santander.



## CONTACTS / IMPORTANT DISCLOSURES

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