

Industrial Output Declines for the Sixth Month in a Row

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- **Industrial production retreated 0.2% MoM-sa in November, below our expectations (+1.0% MoM-sa) and market consensus (+0.1% MoM-sa).** This result marks the sixth consecutive monthly decline, as the last positive result for industrial production was in May 2021. November's figure places industrial output 4.3% below the pre-pandemic mark (February 2020).
- **In the breakdown, manufacturing dropped 0.4% MoM-sa, also the sixth consecutive negative result.** The less cyclical mining industry, which includes mainly iron ore and oil production, climbed 5.0% MoM-sa, partially offsetting the sharp drop in October (-10.0%).
- **Among industrial activities, more widespread growth.** The diffusion index (which captures the percentage of industrial activities that show monthly expansion) reached 50% (vs. 27% in October). In comparison to the pre-pandemic mark, 17 of 26 activities remain below the levels seen in February 2020.
- **Among economic categories, capital goods were in the spotlight, retreating 3.0% MoM-sa, fully offsetting October's increase (+1.8%).** Intermediate goods (which account for nearly 60% of industrial output) remained stable, the first non-negative figure since February 2021. Conversely, consumption goods production increased by 0.1%, driven mainly by durable goods (+0.5%).
- **The biggest contribution came from food products (+0.95 p.p.) and mining (+0.56 p.p.).** Vehicles also contributed positively (+0.30 p.p.). Conversely, rubber and plastic products (-0.17 p.p.) and metallurgy (-0.16 p.p.) posted the worst contributions.
- **November's result implies a -1.4% carryover to 4Q21.** Following three quarterly declines, we think this suggests another negative contribution from industrial output to overall activity in the remaining quarter of 2021.

Figure 1 – Industrial Production Breakdown*

	Weights	% MoM			% YoY			% QoQ			Feb-20%	Carry 4Q
		Sep-21	Oct-21	Nov-21	Sep-21	Oct-21	Nov-21	Sep-21	Oct-21	Nov-21	Nov-21	
Total Industry	100%	-0.6	-0.6	-0.2	-4.1	-7.8	-4.4	-2.0	-2.5	-2.1	-4.3	-1.4
Mining	11%	-0.2	-10.0	5.0	3.1	-4.7	5.0	2.3	-1.2	-3.8	-1.5	-7.3
Manufacturing	89%	-0.5	-0.2	-0.4	-4.9	-8.2	-5.6	-2.1	-2.3	-1.8	-3.7	-1.0
Capital Goods	8%	-1.3	1.8	-3.0	15.1	8.4	4.9	1.9	0.1	-1.3	13.5	-1.1
Intermediate Goods	60%	-0.2	-0.9	0.0	-3.5	-6.4	-2.7	-1.8	-1.7	-1.4	-1.0	-1.2
Consumer goods	32%	0.1	-0.5	0.1	-9.3	-14.0	-9.6	-1.0	-1.2	-0.5	-12.1	-0.5
Durable	7%	-0.6	-1.8	0.5	-23.3	-27.9	-21.0	-7.1	-6.9	-5.0	-23.3	-3.1
Non-Durable	25%	-0.2	-1.3	0.0	-5.7	-10.2	-6.3	0.5	-0.5	-0.6	-8.0	-1.2
Construction Supplies	-	-2.8	-1.4	-1.0	-4.4	-9.8	-8.0	-3.7	-4.1	-4.8	5.1	-3.7

*Last column shows the carryover implied to 4Q21. Sources: IBGE, Santander.

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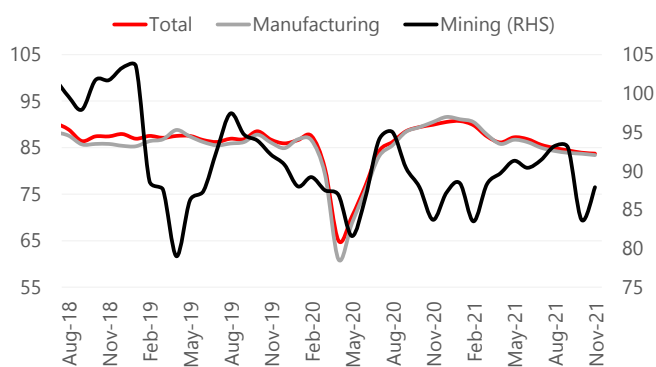
Another negative figure for industrial output in November. November's figure marked the sixth consecutive negative figure (since May 2021's 1.3% increase), retreating 0.2% MoM-sa, below market expectations and our estimate (+0.1% and +1.0%, respectively). Looking at the details, the mining industry (which includes mainly iron ore and oil production) expanded 5.0% MoM-sa, partially offsetting the previous sharp drop (-10.0% in November). However, the manufacturing industry, which in recent months has been the major drag on industrial output, posted another negative result. Following the headline index, November's figure (-0.4%) was also the sixth consecutive decline for manufacturing and places industrial output 4.3% below the pre-pandemic mark (February 2020).

Among economic categories, capital goods were in the spotlight. The segment (highly correlated with investment) dropped 3.0% MoM-sa, fully offsetting October's increase (+1.8%) and standing 13.5% above the pre-crisis mark, still a delayed effect of historically low interest rates. Intermediate goods (which account for nearly 60% of industrial output) broke a string of eight declines by remaining stable, at 1.0% below the pre-crisis mark. Lastly, durable goods printed their first growth in 2021 (+0.5% MoM-sa) but remain 23.3% below the pre-pandemic mark.

More widespread growth among industrial activities. The diffusion index (which captures the percentage of industrial activities that show monthly expansion) reached 50% (vs. 27% in October). In comparison to the pre-pandemic mark, 17 of 26 activities remain below the levels seen in February 2020. The biggest contributions came from food products (+0.95 p.p.) and mining (+0.56 p.p.). Vehicles also contributed positively (+0.30 p.p.). Conversely, rubber and plastic products (-0.17 p.p.) and Metallurgy (-0.16 p.p.) posted the worst contributions.

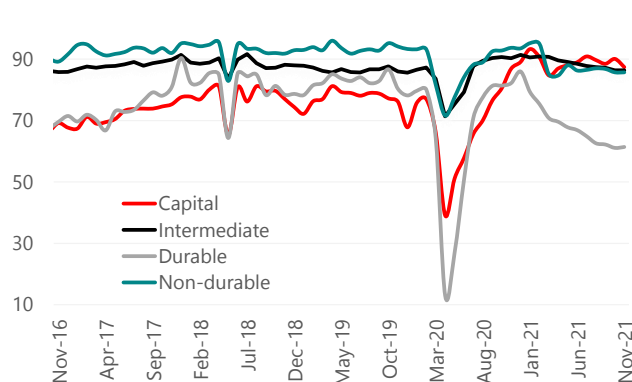
November's result implies a -1.4% QoQ-sa carryover to 4Q21. Following three quarterly declines, we think this suggests another negative contribution from industrial output to overall activity in the remaining quarter of 2021. **For details on Santander's activity outlook, please refer to our last chartbooks¹.**

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



Sources: IBGE, Santander.

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



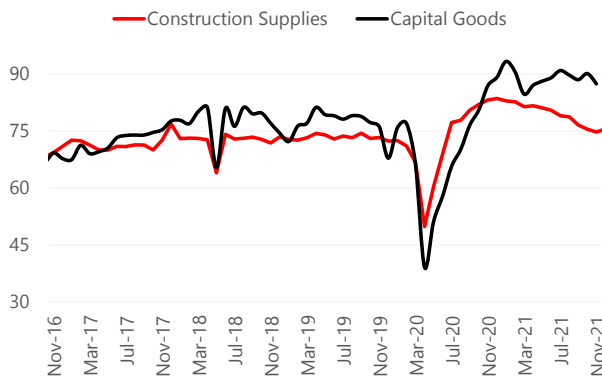
Sources: IBGE, Santander.

¹ Santander Brazil Economic Activity - "Chartbook – Lowering (Again) Our GDP Estimates" – December 8, 2021 – Available on: <https://bit.ly/Std-chart-econact-dec21>

Santander Brazil Economic Activity - "Chartbook – Household Debt is a Risk for Loan Growth and Delinquencies" – December 2, 2021 – Available on: <https://bit.ly/Std-chart-credit-dec21>



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



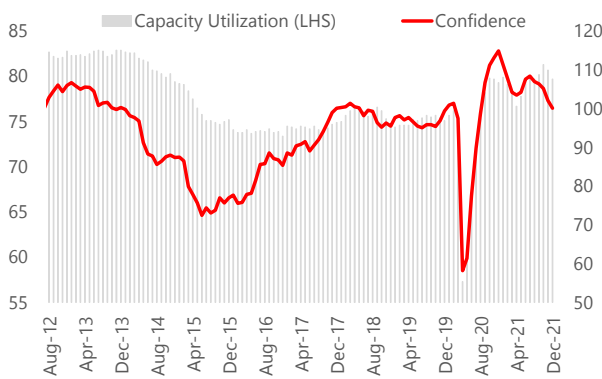
Sources: IBGE, Santander.

Figure 3.B – Industrial Production by Activity (sa, MoM %)



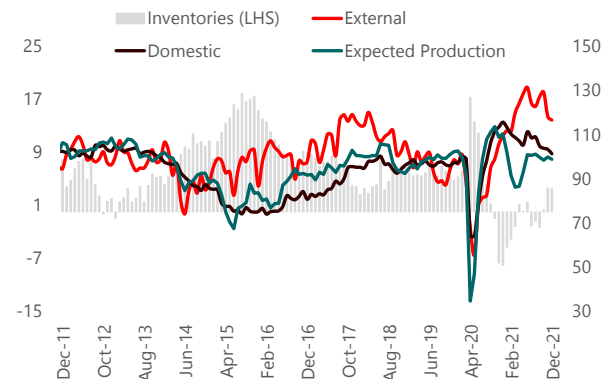
Sources: IBGE, Santander

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)											
		Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
11.2%	Mining	4.18	1.38	-5.54	5.75	1.59	1.78	-0.99	1.11	1.97	-0.21	-10.00	5.02
13.9%	Food products	-4.12	2.47	-0.42	0.11	-3.68	2.51	-2.13	-2.39	1.89	-2.73	-4.72	6.84
10.3%	Oil and biofuel coke	-0.72	-1.24	-0.52	2.53	-9.55	3.18	3.96	2.65	-2.37	1.06	3.76	-0.60
10.1%	Vehicles	4.94	-0.24	-7.86	-9.45	2.17	-0.57	-3.42	-1.77	-2.71	0.00	0.00	2.94
5.4%	Metallurgy	18.66	-12.33	1.33	-0.77	-0.11	2.65	0.11	-1.18	0.22	-2.93	-2.01	-2.96
5.3%	Other chemical products	0.51	0.31	2.55	-3.57	0.51	2.56	-1.00	-1.41	-5.53	2.28	2.12	0.21
4.9%	Machines and equipments	6.36	-2.31	2.69	-1.36	2.12	-2.08	2.86	-3.71	-0.21	1.93	-4.84	1.55
3.6%	Metalic products except machines and equipments	5.23	-2.76	-4.55	-1.07	-4.33	0.88	-3.12	-0.64	-0.65	0.00	-2.09	-2.66
3.6%	Non-metallic minerals	1.09	0.86	-0.54	-2.58	2.10	-0.76	-0.55	-2.08	0.56	-0.56	-1.01	0.45
3.5%	Rubber and plastic products	3.79	-2.03	0.00	-3.83	-3.33	-3.34	-1.27	-1.98	-1.19	0.84	2.63	-4.77
3.3%	Beverages	-8.17	-0.60	-1.61	-5.21	4.75	3.81	1.39	-9.49	7.24	-1.51	-1.13	-2.17
3.0%	Cellulose,paper and paper-based products	-2.49	4.73	0.72	0.09	-2.33	0.00	-1.47	0.37	-0.09	1.30	1.10	-0.82
2.6%	Machines, equipments and eletric material	0.00	1.05	-1.50	-2.59	-3.74	-0.25	-2.64	-2.45	-1.85	1.75	-5.43	0.00
2.5%	Computer equipments, electronics and optical products	4.93	-9.75	1.17	-0.90	-3.90	0.00	2.03	-5.30	-6.85	-1.35	-1.98	0.31
2.3%	Pharmaceuticals	8.95	-0.22	-2.37	-7.62	0.00	7.25	1.05	3.58	-9.25	6.52	-2.24	2.65
2.3%	Manufacture of clothing and accessories	8.69	1.39	-4.46	-23.68	-1.88	6.87	-1.94	2.59	-1.93	0.76	-4.06	-0.16
1.6%	Leather, travel items and footwears	-3.29	1.10	-6.72	-14.88	-4.51	6.29	4.44	-2.71	0.66	-6.05	-1.82	0.29
1.6%	Textile products	15.86	-2.70	9.45	-6.12	-5.07	-3.05	0.26	-1.05	2.78	-0.77	-8.17	2.26
1.5%	Other transport equipments, except motor vehicles	-6.15	-17.03	6.84	34.48	-0.18	-3.12	10.61	-15.92	1.43	-7.63	2.17	-0.21
1.3%	Repair of Machines and equipments	1.31	-6.60	2.30	9.01	-4.13	-3.16	-2.08	1.52	1.79	-1.76	-21.64	1.90
1.3%	Furniture	0.85	2.42	-0.83	-9.39	-8.66	5.75	-5.57	-0.86	-2.32	-3.12	-0.77	-3.40
1.3%	Personal Care	-0.48	2.80	-3.20	0.10	-3.01	1.40	-1.68	1.81	-0.20	0.49	-1.77	-4.50
1.0%	Wood products	-0.65	-2.23	-1.52	4.55	2.68	-5.50	1.33	-1.60	2.68	2.89	-6.79	3.59
1.0%	Printing and playback of recordings	-12.84	3.62	8.39	20.22	-36.14	0.28	4.75	8.80	-0.49	6.16	-2.55	-2.86
1.0%	Miscellaneous	-0.65	14.53	-8.90	0.21	-3.42	-0.86	-2.71	-4.90	-0.82	0.83	2.11	-4.47
0.6%	Tobacco products	10.00	-13.10	12.33	2.33	-6.07	-1.15	-4.08	-11.68	-4.27	2.16	6.90	4.87

Sources: IBGE, Santander.



Figure 6 - Heatmap Showing Industrial Production by Economic Category

		By Activity (% MoM sa)											
		Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21
Capital Goods	Computer equipments, electronics and optical products	25.4	-14.4	5.1	-4.7	-6.0	10.9	4.7	-4.2	-7.2	3.1	-6.9	2.5
	Machines, equipments and electric material	-0.8	0.5	-6.9	4.4	-0.9	0.5	-5.2	-5.6	9.1	1.7	2.5	0.0
	Machines and equipments	-1.8	1.9	0.7	-2.1	0.3	0.6	3.1	-1.6	3.9	0.2	-2.2	-0.2
	Vehicles	11.9	-4.1	1.2	-2.0	2.0	4.0	3.0	9.2	-9.4	-8.3	2.7	-2.1
	Other transport equipments, except motor vehicles	34.7	-24.2	21.2	-1.8	-5.7	21.9	-1.3	-0.3	-22.1	6.7	-14.0	11.6
Miscellaneous	2.6	1.2	-2.2	0.6	-0.7	-1.4	-7.2	-3.8	0.5	0.2	5.3	3.6	
Intermediate Goods	Mining	2.1	3.2	-1.5	0.2	3.1	0.5	-0.1	-2.1	0.2	0.3	-5.2	3.1
	Food products	-0.9	0.1	1.6	1.2	-4.0	0.4	-2.9	-0.3	0.5	-1.3	-13.5	15.7
	Textile products	7.4	-0.4	-5.5	-0.3	-3.7	-2.1	-1.2	-8.7	3.8	-2.7	-5.1	-0.9
	Cellulose, paper and paper-based products	-1.1	3.8	0.6	-1.3	-1.2	1.5	-1.2	-0.8	-0.8	1.6	1.0	-1.0
	Oil and biofuel coke	-0.2	-4.1	0.4	5.3	-12.6	-1.6	8.8	4.4	-3.8	0.2	10.4	-3.0
	Other chemical products	0.4	1.2	2.5	-3.5	-3.1	3.8	-0.7	-1.4	-4.2	0.9	4.2	0.1
	Rubber and plastic products	4.8	-2.7	-0.6	-2.0	-2.6	-2.9	-0.6	-3.4	-2.8	2.5	3.2	-6.4
	Non-metallic minerals	2.0	-0.2	-0.4	-0.9	1.7	-1.7	2.1	-2.9	-0.4	0.0	-4.3	3.3
	Metalurgy	15.9	-10.5	2.7	-0.3	-1.3	5.4	-0.1	-1.5	0.0	-3.5	-3.2	-2.7
	Metalic products except machines and equipments	3.3	0.1	-4.4	-0.4	-1.7	-1.5	-3.5	-1.7	-0.4	-0.8	-2.0	-2.0
	Machines and equipments	6.5	-3.8	1.1	2.5	-1.8	3.8	-1.9	-3.2	-2.6	0.9	-2.7	0.7
	Vehicles	7.5	-6.4	-5.1	-9.9	2.6	2.2	-2.1	-9.2	4.0	-0.5	-5.4	3.8
	Miscellaneous	-3.9	-0.6	-3.2	0.6	-1.5	-0.9	3.3	-6.8	-1.4	3.2	-2.0	-1.9
	Durable Goods	Computer equipments, electronics and optical products	-3.3	-22.0	2.6	7.1	-2.0	0.6	1.5	-1.3	-12.6	-6.8	-1.3
Machines, equipments and electric material		2.5	-4.7	2.9	-2.5	-3.6	-2.6	3.4	-4.0	0.0	1.9	-22.1	9.5
Vehicles		5.8	-2.5	-6.2	-16.0	-0.3	-9.1	1.4	-14.1	-14.1	15.2	-3.0	22.9
Other transport equipments, except motor vehicles		-0.4	-38.1	9.3	71.1	-8.1	-7.4	17.8	-17.4	7.6	-2.7	-5.6	6.8
Furniture		-1.5	3.3	-1.4	-0.7	-10.5	4.3	-3.8	-2.3	-3.8	-6.9	0.4	-8.7
Miscellaneous		-8.2	10.6	5.1	15.1	-12.6	-1.0	-1.4	-1.1	-4.3	0.4	-22.8	16.0
Non Durable Goods	Food products	-2.3	-0.1	0.2	-2.7	0.9	2.0	-0.2	-2.6	0.8	-4.4	2.9	-1.4
	Beverages	-1.0	-2.3	-0.2	-0.1	-10.8	7.6	-3.7	-0.1	-2.7	-2.2	-3.0	-2.0
	Textile products	6.6	0.3	-3.7	-7.7	-4.7	1.3	1.5	-1.7	-1.5	1.8	-11.8	7.1
	Manufacture of clothing and accessories	8.1	1.3	-7.2	-15.3	-7.8	11.1	-2.6	0.9	-2.0	-0.3	-4.9	-1.2
	Leather, travel items and footwears	-3.1	3.4	-10.0	-16.7	-6.7	6.5	6.6	-2.1	1.6	-5.0	-1.5	2.1
	Printing and playback of recordings	-12.1	5.0	34.5	19.1	-33.9	-9.9	-11.9	22.7	-5.9	16.2	-32.0	2.5
	Oil and biofuel coke	-2.7	6.1	-3.0	-6.8	5.6	6.4	-3.0	0.5	0.3	0.3	-6.2	3.4
	Personal Care	0.0	1.9	-1.9	1.1	-4.0	2.3	-2.2	1.2	-0.4	0.7	-1.5	-5.7
	Pharmaceuticals	18.7	-4.7	0.7	-7.5	-2.3	8.4	1.3	4.4	-16.3	10.6	-6.3	6.6
	Miscellaneous	-1.0	-2.3	-0.2	-0.1	-10.8	7.6	-3.7	-0.1	-2.7	-2.2	-3.0	-2.0

Sources: IBGE, Santander.



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