

## Idat-Cars: The Itaú car price index

- ▶ **This report presents the Itaú Car Price Index (Idat-Cars), Itaú's proprietary index of automotive prices.** The Idat-Cars uses data from closed financing contracts of vehicles between Itaú with both individuals (PF) and legal entities (PJ).
- ▶ **Idat-Cars uses the actual prices of transactions as agreed upon in financing contracts,** while traditional automotive price indices are based on market research conducted by specialized companies.
- ▶ **In addition to an overall index of cars, we also present three key disaggregates:** new cars, low-mileage cars (up to 3 years of use), and used cars (between 4 to 10 years of use).
- ▶ **Our data shows that the price hike observed for new vehicles during the COVID-19 pandemic persisted for new cars but was partially reversed for low-mileage and used cars.** Compared to the peak prices in July 2022, the values of low-mileage and used cars decreased by 13.2% and 6.8%, respectively, while the values of new cars increased by an additional 1.9%. As a result, new cars have accumulated a hike of 48% compared to pre-pandemic levels (4T19), while low-mileage and used cars have accumulated hikes of 12.1% and 26.5%, respectively.

### Methodology

The calculation of the IDAT-Cars index consists of two main steps: first, calculating individual price variations for each pair model/manufacturing year of vehicles; and second, aggregating all variations to compose an index (with the 4Q19 mean normalized to 100).

In the first step, we calculate the monthly median price of all contracts for model/year of vehicles, as shown in the table below for CAR A, of BRAND B, from 2021 to 2024:

Model	Brand	Year	Median Prices (R\$ thousands)						
			Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24
CAR A	BRAND B	2021	105.0	100.0	102.50	100.50	103.00	105.40	104.90
		2022	110.0	106.0	111.90	105.90	107.50	105.00	107.00
		2023	114.6	113.0	118.00	111.90	117.90	121.00	120.00
		2024	128.9	122.4	122.90	120.00	121.00	124.50	124.90

Therefore, with these monthly price medians, next we need to calculate the monthly variations for all model/year pairs, as the example shown in the table below:

Model	Brand	Year	Variation (MoM)					
			Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24
CAR A	BRAND B	2021	-4.8%	2.5%	-2.0%	2.5%	2.3%	-0.5%
		2022	-3.6%	5.6%	-5.4%	1.5%	-2.3%	1.9%
		2023	-1.4%	4.4%	-5.2%	5.4%	2.6%	-0.8%
		2024	-5.0%	0.4%	-2.4%	0.8%	2.9%	0.3%

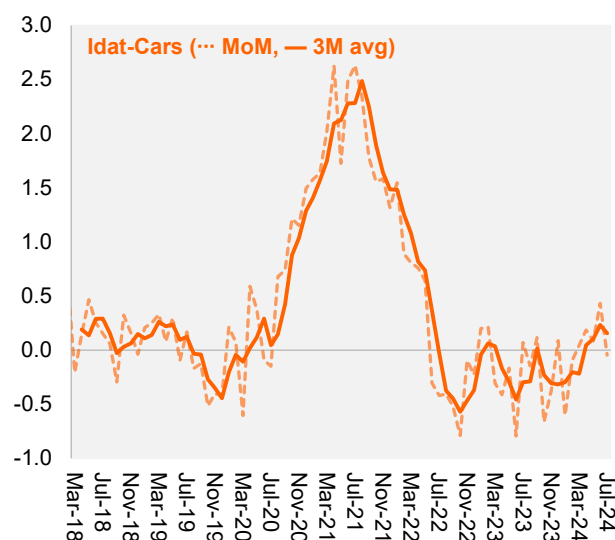
If there is no price data for a model/year in a given month, no variation will be set, and this particular model/year will not be included in the final aggregation for that month.

Second step consists of aggregating each pair of model/year. To obtain an index that better represents the market dynamics of vehicles, we weight based on the quantity of vehicles financed throughout each month. This intuitive weighting scheme will give more importance to the most commercialized vehicles. Additionally, to smooth out fluctuations that occur in sales between months, we use a 3-month moving average of these quantities.

## The Idat-Cars

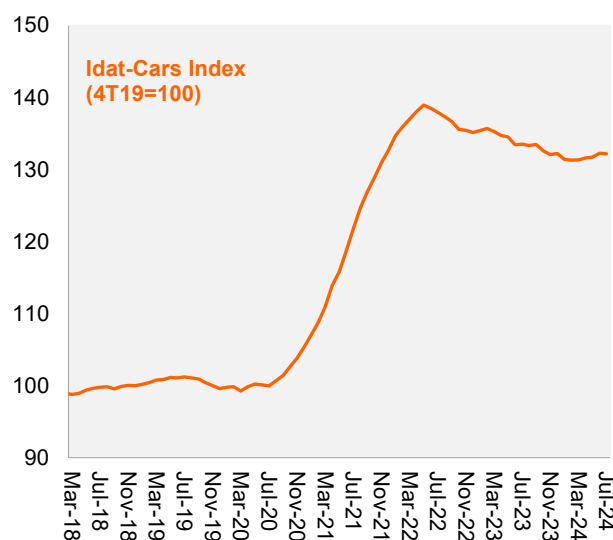
**Inflationary effects of the COVID-19 pandemic are still persistently evident in car prices.** Despite a small decline of 4.6% since the peak in July 2022, the Idat-Cars index is still up 32% compared to pre-pandemic levels (4Q29). However, the Idat-Cars closed neutral in July 2024 at 0% MoM, but with a slight upward trend in the past three months (0.2%).

Idat-Cars MoM var (%)



Source: Itaú

Idat-Cars Index (4T19=100)



Source: Itaú

## Idat-Cars: breakdown in new, low-mileage and used cars

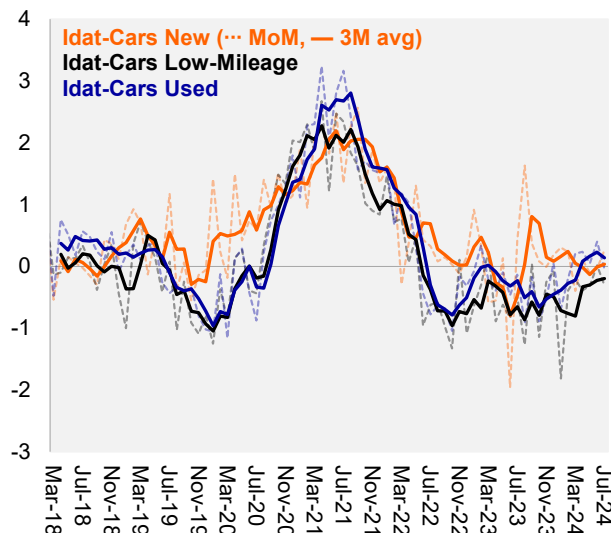
We also present three breakdowns of the Idat-Cars: **Idat-Cars New**, **Idat-Cars Low-Mileage**, and **Idat-Cars Used**. We classify low-mileage cars as those with a manufacturing age of up to 3 years, and used cars as those with an age over 3 years and under 10 years.

**Inflationary effects of the COVID-19 pandemic remain significant for new cars, but are only partially impacting low-mileage and used cars.** New car prices have surged by 48% compared to pre-pandemic levels (4Q19), while low-mileage and used car prices have risen by 12.1% and 26.5%, respectively.

In the case of new cars, after a strong upward trend between March 2020 and July 2022, the index increased further by 1.9% until July 2024. The only significant drop (2% MoM) in this breakdown coincided with the government's incentive program (MP 1.178) for new cars in June 2023. However, prices rebounded in the following month with the end of the program.

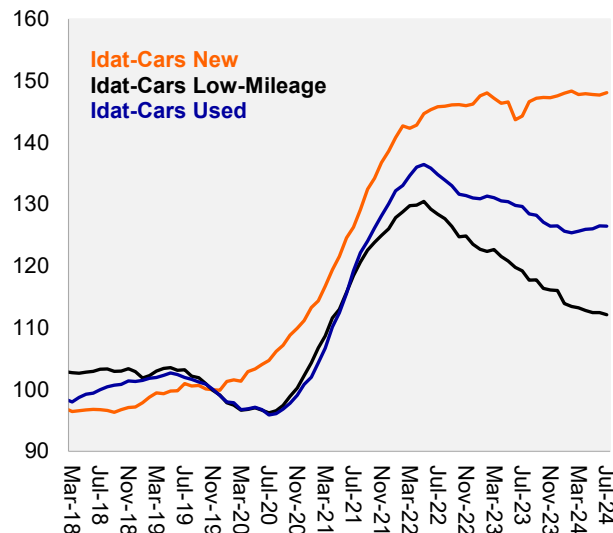
However, the scenario for used and low-mileage vehicles has been different since the post-July 2022 period, with a consistent decline in used vehicles and, more intensively, in low-mileage vehicles. After reaching all-time high car prices during the COVID-19 pandemic, low-mileage and used vehicles have since depreciated by 13.2% and 6.8%, respectively.

Idat-Cars MoM var and ma3m (%)



Source: Itaú

Idat-Cars Index (4T19=100)



Source: Itaú

Over the past three months, Idat-Cars Used has been gradually reversing its deflationary trend, with a monthly increase of 0.1% in the 3-month moving average for July 2024. Meanwhile, the Idat-Cars Low-mileage continues to decline (-0.2% m/m in the 3-month moving average), and the Idat-Cars New is nearing stability.

	Jul/24 (MoM)	3M avg (MoM)	var. since 4Q19	var. since Jul/22
Idat-Cars	-0.3%	-0.2%	12.1%	-13.2%
Idat-Cars New	0.3%	-0.5%	9.1%	-13.1%
Idat-Cars Low-Mileage	-0.6%	-0.4%	8.4%	-15.4%
Idat-Cars Used	-0.4%	-0.2%	11.6%	-13.1%

The Idat-Cars will be released monthly by the Itaú macroeconomic research team by the seventh business day of the month, with negotiated vehicle prices data from previous month.

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