

# UNDERLYING INFLATION AND WEIGHTED CONSUMER EXCHANGE

February 2021

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## Inflation under the Venezuelan Central Bank (BCV) methodology<sup>1</sup>

During February<sup>2</sup>, prices under the BCV methodology (NCPI) reported a lower growth rate relative to the previous month. In this period, local inflation reached 4.1%, this leads to a year-on-year inflation rate of 415.0% compared to the same month in 2021.

### Ecoanalítica Inflation (BCV Methodology\*)

	Index	m/m (%)	Accum. (%)	y/y (%)
Feb-21	1,904.1	17.6	82.0	2,627.9
Mar-21	2,220.2	16.6	112.3	2,544.0
Apr-21	2,879.9	29.7	175.3	2,070.2
May-21	3,311.6	15.0	216.6	1,930.5
Jun-21	3,731.5	12.7	256.7	1,809.0
Jul-21	4,786.0	28.3	357.5	1,925.6
Aug-21	5,091.3	6.4	386.7	1,573.8
Sep-21	5,753.7	13.0	450.1	1,332.3
Oct-21	7,006.8	21.8	569.9	1,375.1
Nov-21	8,008.3	14.3	665.6	841.7
Dec-21	8,592.9	7.3	721.5	721.5
Jan-22	9,419.5	9.6	9.6	481.7
Feb-22	9,805.7	4.1	14.1	415.0

Sources: BCV and Ecoanalítica.

Note: Index was simplified (base 100= Dec 2017), and divided by 1,000,000 in 2022.

\* Estimated using official weights data published by BCV in 2007.

<sup>1</sup> This report is based on **Ecoanalítica's** own estimation. As usual, we followed the "Central Bank of Venezuela (NCPI\*) methodology," keeping the original weights over basic basket components considered on its definition. We learned that, back in June 2014, the Central Bank of Venezuela made changes to such weightings.

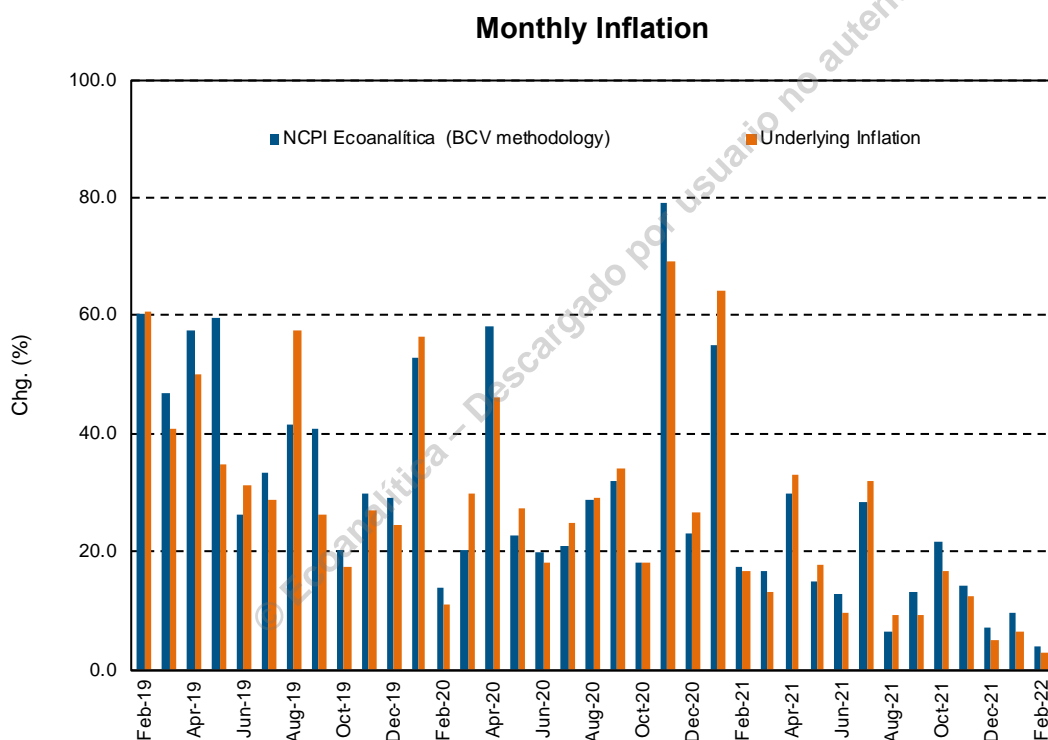
<sup>2</sup> Due to the quarantine and consequent suspension of part of the economic activity together along with the shortage of some products, it is expected that the inflation indicators may present imperfections. In view of this, it is suggested that a cautious approach be taken towards these.

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## Underlying Inflation

The underlying inflation slowed down compared to the previous month, reaching 3.0% in February. The underlying inflation had a negative distance of 1.1 percentage points (pp.) from the NCPI inflation. Given December's underlying inflation, prices have now risen by 361.7% year-on-year.



Source: Ecoanalítica.

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## A detailed overview

The asymmetry of inflation persists. In February, the items that registered the highest inflation were “Communications”, “Restaurants and Hotels” and “Entertainment and Culture”. On the other hand, “Clothing and Footwear”, “Alcoholic Beverages and Tobacco” and “Home Equipment” prices experimented the lowest variations.

Monthly Inflation (%)								
	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Cumulative Inflation <sup>1</sup>	Interannual Inflation <sup>2</sup>
Foodstuff and non-alcoholic beverages	14.1	19.4	17.0	7.5	13.1	4.3	17.9	504.8
Alcoholic beverages and tobacco	10.4	16.1	15.4	1.4	6.9	0.3	7.2	287.7
Clothing and footwear	6.0	13.0	19.0	9.9	3.7	-1.1	2.6	212.7
Housing rent	12.4	14.0	5.9	5.0	8.5	5.0	14.0	262.1
Home services except telephone	13.8	29.3	17.3	7.3	10.1	5.2	15.8	624.0
Home equipment	8.0	16.2	10.0	1.7	4.0	1.3	5.4	240.1
Health	11.6	18.3	15.0	5.9	8.2	3.0	11.4	425.5
Transport	20.4	48.1	16.2	11.6	10.8	5.0	16.3	716.9
Communications	23.0	25.2	17.0	8.4	9.0	8.6	18.4	533.3
Entertainment and culture	6.0	5.8	7.0	7.2	4.5	6.0	10.7	147.7
Education services	8.0	17.7	9.2	4.2	2.5	3.5	6.0	217.5
Restaurants and hotels	13.8	30.5	14.6	10.0	12.0	6.7	19.4	585.7
Other goods and services	9.2	14.7	10.5	5.5	8.9	3.7	12.9	322.7
Exchange rate <sup>3</sup>	38.6	-22.7	4.8	0.1	-1.6	-6.2	-7.8	119.1
<b>Underlying Inflation</b>	<b>9.4</b>	<b>16.6</b>	<b>12.4</b>	<b>5.1</b>	<b>6.4</b>	<b>3.0</b>	<b>9.5</b>	<b>361.7</b>
<b>NCPI Ecoanalítica (BCV methodology)</b>	<b>13.0</b>	<b>21.8</b>	<b>14.3</b>	<b>7.3</b>	<b>9.6</b>	<b>4.1</b>	<b>14.1</b>	<b>415.0</b>

Source: Ecoanalítica.

<sup>1</sup>Cumulative inflation since the start of the year.

<sup>2</sup>Last twelve months' inflation.

<sup>3</sup>Non official exchange rate.

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## Relative prices' deformation

Different price variations among items affect the relation between them. The following matrix shows the prices' changes of all the items (seen at the rows on the left) in relation to the prices' changes of their counterparts (seen at the columns above). An item with a positive value means it has been made more expensive, while one with a negative value means it has cheapened.

Relative price change during February 2022 (%)														
Item	Foodstuff and non-alcoholic beverages	Alcoholic beverages and tobacco	Clothing and footwear	Housing rent	Home services except telephone	Home equipment	Health	Transport	Communications	Entertainment and culture	Education services	Restaurants and hotels	Other goods and services	Exchange rate
Foodstuff and non-alcoholic beverages	0.0	4.0	5.4	-0.7	-0.9	2.9	1.2	-0.7	-4.0	-1.6	0.7	-2.2	0.6	11.2
Alcoholic beverages and tobacco	-3.8	0.0	1.3	-4.6	-4.7	-1.0	-2.7	-4.5	-7.7	-5.4	-3.1	-6.0	-3.3	6.9
Clothing and footwear	-5.1	-1.3	0.0	-5.8	-6.0	-2.3	-3.9	-5.8	-8.9	-6.7	-4.4	-7.2	-4.6	5.5
Housing rent	0.7	4.8	6.2	0.0	-0.2	3.7	2.0	0.0	-3.3	-0.9	1.5	-1.5	1.3	12.0
Home services except telephone	0.9	4.9	6.3	0.2	0.0	3.9	2.2	0.2	-3.1	-0.7	1.7	-1.4	1.5	12.2
Home equipment	-2.8	1.0	2.4	-3.6	-3.7	0.0	-1.7	-3.5	-6.7	-4.4	-2.1	-5.0	-2.3	8.1
Health	-1.2	2.7	4.1	-1.9	-2.1	1.7	0.0	-1.9	-5.2	-2.8	-0.5	-3.4	-0.7	9.9
Transport	0.7	4.7	6.1	0.0	-0.2	3.7	1.9	0.0	-3.3	-0.9	1.4	-1.6	1.3	12.0
Communications	4.2	8.3	9.8	3.4	3.2	7.2	5.4	3.4	0.0	2.5	4.9	1.8	4.7	15.8
Entertainment and culture	1.7	5.7	7.1	0.9	0.7	4.6	2.9	1.0	-2.4	0.0	2.4	-0.6	2.2	13.1
Education services	-0.7	3.2	4.6	-1.5	-1.6	2.2	0.5	-1.4	-4.7	-2.3	0.0	-3.0	-0.2	10.4
Restaurants and hotels	2.3	6.4	7.8	1.5	1.4	5.3	3.6	1.6	-1.8	0.6	3.0	0.0	2.9	13.8
Other goods and services	-0.6	3.4	4.8	-1.3	-1.5	2.4	0.7	-1.2	-4.5	-2.2	0.2	-2.8	0.0	10.6
Exchange rate	-10.1	-6.5	-5.3	-10.7	-10.9	-7.5	-9.0	-10.7	-13.7	-11.6	-9.4	-12.1	-9.6	0.0

Source: Ecoanalítica.

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## Cost of living in dollars

The difference between the inflation of each item and the variation of the exchange rate determines whether the exchange rate becomes more expensive (real appreciation) or cheaper (real depreciation) in dollars within the Venezuelan economy. Variations in the cost of living in dollars can be understood as the increase, or decrease<sup>3</sup>, in the amount of dollars required to acquire the same basket of goods compared to its equivalent cost in foreign currency in the previous period.

During the month of February, the cost of living in dollars increased 11.0% and all the items that make up the “Communications”, “Restaurants and Hotels” and “Entertainment and Culture” items grew 15.8%, 13.8% and 13.1%, respectively. On year-on-year basis, the cost of living in dollars grew 135.0%.

Variation of living costs in USD (%)								
	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Cumulative variation <sup>1</sup>	Interannual Inflation <sup>2</sup>
Foodstuff and non-alcoholic beverages	-17.7	54.5	11.7	7.3	14.9	11.2	27.8	176.0
Alcoholic beverages and tobacco	-20.3	50.2	10.2	1.2	8.7	6.9	16.2	77.0
Clothing and footwear	-23.5	46.2	13.6	9.8	5.4	5.5	11.2	42.7
Housing rent	-18.9	47.5	1.1	4.9	10.3	12.0	23.6	65.3
Home services except telephone	-17.9	67.3	12.0	7.1	11.9	12.2	25.6	230.4
Home equipment	-22.1	50.4	5.0	1.5	5.7	8.1	14.3	55.2
Health	-19.5	53.1	9.8	5.8	10.0	9.9	20.8	139.8
Transport	-13.1	91.6	10.9	11.4	12.6	12.0	26.1	272.8
Communications	-11.3	61.9	11.7	8.2	10.8	15.8	28.4	189.0
Entertainment and culture	-23.5	36.9	2.1	7.1	6.2	13.1	20.1	13.1
Education services	-22.1	52.3	4.3	4.0	4.2	10.4	15.0	44.9
Restaurants and hotels	-17.9	68.9	9.4	9.9	13.8	13.8	29.5	213.0
Other goods and services	-21.2	48.3	5.5	5.3	10.7	10.6	22.5	92.9
<b>General costs in USD*</b>	<b>-18.5</b>	<b>57.6</b>	<b>9.1</b>	<b>7.2</b>	<b>11.4</b>	<b>11.0</b>	<b>23.7</b>	<b>135.0</b>

Source: Ecoanalítica.

\*Based on Ecoanalítica's NCPI (BCV methodology).

<sup>1</sup>Cumulative variation since the start of the year.

<sup>2</sup>Last twelve months' variation.

<sup>3</sup> When calculated on the basis of the differences between inflation and exchange rate variation, it is common to find occasions in which the variations are negative, i.e. price growth lagged behind the exchange rate and therefore fewer dollars are required to maintain purchasing power in foreign currency than in the previous period.

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## Official inflation published by BCV

The BCV published inflation data until February of 2022. The official figures show an accumulated inflation of 9.8% in 2022, with a year-on-year inflation of 340,1%.

BCV Inflation				
Mar-21	878.6	16.1	127.8	3,014.1
Apr-21	1,094.5	24.6	183.8	2,942.6
May-21	1,406.6	28.5	264.8	2,721.2
Jun-21	1,627.1	15.7	322.0	2,508.8
Jul-21	1,898.1	16.7	392.2	2,444.5
Aug-21	2,273.2	19.8	489.5	2,343.7
Sep-21	2,434.2	7.1	531.2	1,946.0
Oct-21	2,600.5	6.8	574.4	1,575.3
Nov-21	2,819.2	8.4	631.1	1,197.5
Dec-21	3,032.4	7.6	686.4	686.4
Jan-22	3,235.6	6.7	6.7	472.3
Feb-22	3,329.4	2.9	9.8	340.1

Sources: BCV and Ecoanalítica.

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## Forecasts of different inflation indicators

With the aim of offering our clients clear and precise information, at **Ecoanalítica** we include forecasts for three inflation indicators each month. For our “Official Central Bank Inflation” indicator, we reproduce the adjustments that the Central Bank (BCV) unofficially made to their methodology, using an econometric model that allows us to have a better estimate of the updated figures that the BCV might publish in the future.

It is pivotal to stress that, under hyperinflation, low increases in the weekly inflation rate result in higher magnitude increases of monthly inflation, given that mathematically they are changes over previous changes. With this in mind, it should not surprise our readers if, during the following months, inflation is orders of magnitude higher than previous. Hyperinflations are volatile, and apparent stabilizations can be followed up by sudden (or even a reduced growth path of) price accelerations.

It should be noted that the BCV is the only organization authorized to publish official inflation figures. Therefore, their official data must be taken at face value for purposes of submitting reports to government agencies. However, at **Ecoanalítica** we consider that for internal estimates, or as a planning tool, the best indicator for measuring the evolution of prices in Venezuela is our “BCV methodology” indicator.

Inflation Rate Forecast				
Inflation (%)	2021E (y/y)	2021E (m/m average)	2022F (y/y)	2022F (m/m average)
Official BCV Inflation Rate	686.9	18.8	164.6	8.4
BCV Methodology Inflation Rate <sup>1/</sup>	721.5	19.2	183.1	9.1
Underlying Inflation Rate	707.5	19.0	122.1	6.9

Sources: BCV and Ecoanalítica.

1/ Ecoanalítica's own estimation, since 2015.

Monthly averages are geometric, not arithmetic, to reflect price variations with greater precision.

For more information on our scenarios read our *Perspectives Report*.

At **Ecoanalítica**, we intend to guide our clients' decisions with the most precise estimates, and so we revise them whenever facts bring new information that change our perspective. Base on this principle we perform adjustments to our year-end projections every month, which in hyperinflation can seem substantial, but are in fact are relatively small in terms of orders of magnitude.

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## Weighted Consumer's Exchange Rate

Weighted Exchange Rate of the Venezuelan Consumer (VES/USD)						
	Feb-22	Jan-22	Feb-21	y/y (%)	Depreciation % (m/m)	m/m (%)
Foodstuff and non-alcoholic beverages	4.51	4.63	1.83	145.9	2.55	-2.49
Alcoholic beverages and tobacco	4.51	4.63	1.84	145.8	2.52	-2.46
Clothing and footwear	4.51	4.63	1.84	145.8	2.51	-2.45
Housing rent	4.50	4.62	1.83	146.3	2.70	-2.63
Home services except telephone	4.50	4.62	1.83	146.4	2.74	-2.67
Home equipment	4.51	4.63	1.84	145.8	2.52	-2.46
Health	4.49	4.62	1.76	154.5	2.95	-2.86
Transport	4.50	4.62	1.83	146.4	2.75	-2.67
Communications	4.48	4.61	1.75	155.0	3.11	-3.02
Entertainment and culture	4.48	4.62	1.81	147.1	3.01	-2.92
Education services	4.47	4.61	1.69	163.6	3.25	-3.15
Restaurants and hotels	4.51	4.63	1.83	145.9	2.54	-2.48
Other goods and services	4.50	4.62	1.82	146.5	2.76	-2.69
<b>Total</b>	<b>4.50</b>	<b>4.62</b>	<b>1.82</b>	<b>147.2</b>	<b>2.67</b>	<b>-2.60</b>
<b>Unofficial Exchange Rate</b>	<b>4.51</b>	<b>4.63</b>	<b>1.84</b>	<b>145.8</b>	<b>2.51</b>	<b>-2.45</b>

Sources: BCV and Ecoanalítica.

The unofficial exchange rate used as an input is a weighted average between the corporate and conventional rate.

The published exchange rates represent a monthly average, not their values at the end of the month.

## Detailed Underlying Inflation

Underlying Inflation				
	Index	m/m (%)	Accum. (%)	y/y (%)
Jan-21	13,975	64.3	64.3	2,749.4
Feb-21	16,295	16.6	91.6	2,891.3
Mar-21	18,448	13.2	116.9	2,509.7
Apr-21	24,523	32.9	188.3	2,274.5
May-21	28,918	17.9	240.0	2,098.1
Jun-21	31,673	9.5	272.4	1,939.5
Jul-21	41,799	32.0	391.4	2,057.9
Aug-21	45,624	9.2	436.4	1,725.4
Sep-21	49,908	9.4	486.7	1,387.3
Oct-21	58,178	16.6	584.0	1,365.4
Nov-21	65,369	12.4	668.5	874.0
Dec-21	68,683	5.1	707.5	707.5
Jan-22	73,072	6.4	6.4	422.9
Feb-22	75,235	3.0	9.5	361.7

Sources: BCV and Ecoanalítica.

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