

# UNDERLYING INFLATION AND WEIGHTED CONSUMER EXCHANGE

December 2019



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

During December, prices under the BCV methodology (NCPI) reported a lower growth rate relative to the previous month. In this period, local inflation reached until 29.0%, for a cumulative inflation of 14,357.7%.

BCV Methodology Inflation*				
	Index	m/m (%)	Accum. (%)	y/y (%)
Dec-18	2,106,700.6	177.0	2,106,600.6	2,106,600.6
Jan-19	7,608,981.3	261.2	261.2	3,991,810.9
Feb-19	12,206,327.8	60.4	479.4	3,386,911.9
Mar-19	17,940,860.6	47.0	751.6	2,853,898.8
Apr-19	28,249,679.1	57.5	1,240.9	2,511,163.8
May-19	45,083,662.8	59.6	2,040.0	1,630,249.8
Jun-19	56,873,040.6	26.2	2,599.6	878,112.7
Jul-19	75,868,636.2	33.4	3,501.3	476,696.1
Aug-19	107,338,946.5	41.5	4,995.1	217,637.0
Sep-19	151,337,180.7	41.0	7,083.6	134,709.2
Oct-19	181,846,756.3	20.2	8,531.8	54,263.4
Nov-19	236,182,567.1	29.9	11,111.0	30,951.2
Dec-19	304,581,038.5	29.0	14,357.7	14,357.7

Sources: BCV and Ecoanalítica.

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

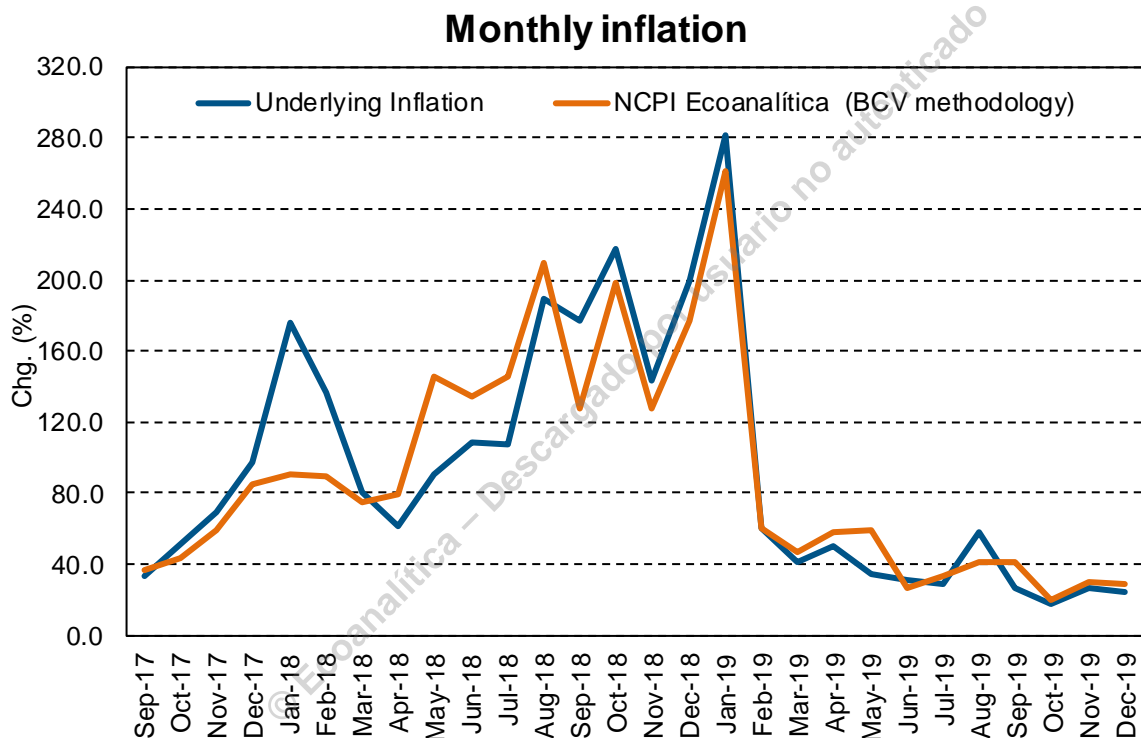
<sup>1</sup> This report is based on **Ecoanalítica's** own estimation. Official data (recently released) is presented on the corresponding section, available until April 2019, only. As usual, we created the "Central Bank of Venezuela (NCPI\*) methodology," keeping the original weights over basic basket components considered on its definition. We learned that, back in June 2014, the Central Bank of Venezuela made changes to such weightings.

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## Underlying Inflation

Underlying inflation also slowed down compared to the previous month, reaching 24.4% in December. Notably, for a second consecutive month, underlying inflation had a negative distance, 4.6 percentage points below NCPI inflation. Given December's inflation, prices have now risen by 10,793.3% year-on-year.



Source: Ecoanalítica

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## A detailed overview

The asymmetry of inflation persists. In December, inflation deaccelerated for all of the items. Those that registered the highest inflation were “Restaurants and Hotels”, “Transport” and “Alcoholic beverages and tobacco”. On the other hand, “Communications”, “Clothing and footwear”, Housing rent”, and “Education” prices experimented the lowest variations.

	Monthly Inflation (%)						Cumulative Inflation <sup>1</sup>	Interannual Inflation <sup>2</sup>
	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19		
Foodstuff and non-alcoholic beverages	37.5	43.9	41.3	16.2	36.4	34.0	19,454.1	19,454.1
Alcoholic beverages and tobacco	40.0	61.9	26.9	9.3	37.0	39.5	10,353.7	10,353.7
Clothing and footwear	7.6	31.0	19.3	12.0	28.1	15.0	1,654.2	1,654.2
Housing rent	32.0	23.2	40.1	20.0	19.2	14.6	2,231.5	2,231.5
Home services except telephone	44.3	59.8	67.4	35.1	44.7	33.0	32,639.8	32,639.8
Home equipment	20.1	25.0	17.0	6.0	25.1	16.9	2,240.0	2,240.0
Health	50.1	53.9	49.4	25.3	28.0	18.1	17,093.2	17,093.2
Transport	26.0	39.1	51.1	23.2	19.4	41.2	106,618.2	106,618.2
Communications	25.0	16.2	52.2	12.3	13.5	15.9	3,742.9	3,742.9
Entertainment and culture	56.0	74.5	41.4	33.2	40.1	32.0	15,945.9	15,945.9
Education services	20.8	8.1	81.4	43.0	20.0	13.0	2,108.9	2,108.9
Restaurants and hotels	51.2	72.4	46.9	36.7	40.6	42.1	60,541.6	60,541.6
Other goods and services	22.6	30.5	28.1	18.0	23.1	27.1	4,471.7	4,471.7
<b>Underlying Inflation</b>	<b>28.9</b>	<b>57.6</b>	<b>26.3</b>	<b>17.3</b>	<b>27.1</b>	<b>24.4</b>	<b>10,793.5</b>	<b>10,793.5</b>
<b>NCPI Ecoanalítica (BCV methodology)</b>	<b>33.4</b>	<b>41.5</b>	<b>41.0</b>	<b>20.2</b>	<b>29.9</b>	<b>29.0</b>	<b>14,357.7</b>	<b>14,357.7</b>

Source: Ecoanalítica.

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

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

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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 in 2019 (%)

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	87.1	1,014.7	738.7	-40.3	735.6	13.7	-81.7	408.8	21.9	785.2	-67.8	327.7	177.8
Alcoholic beverages and tobacco	-46.5	0.0	495.9	348.4	-68.1	346.7	-39.2	-90.2	172.0	-34.9	373.2	-82.8	128.7	48.5
Clothing and footwear	-91.0	-83.2	0.0	-24.8	-94.6	-25.0	-89.8	-98.4	-54.4	-89.1	-20.6	-97.1	-61.6	-75.1
Housing rent	-88.1	-77.7	32.9	0.0	-92.9	-0.4	-86.4	-97.8	-39.3	-85.5	5.5	-96.2	-49.0	-66.9
Home services except telephone	67.4	213.2	1,766.4	1,304.2	0.0	1,299.1	90.4	-69.3	751.9	104.0	1,382.1	-46.0	616.1	365.2
Home equipment	-88.0	-77.6	33.4	0.4	-92.9	0.0	-86.4	-97.8	-39.1	-85.4	5.9	-96.1	-48.8	-66.8
Health	-12.1	64.5	880.1	637.4	-47.5	634.7	0.0	-83.9	347.4	7.2	678.3	-71.6	276.1	144.3
Transport	445.8	920.9	5,983.7	4,477.2	226.0	4,460.5	520.7	0.0	2,677.0	565.1	4,731.2	76.0	2,234.3	1,416.2
Communications	-80.3	-63.2	119.1	64.8	-88.3	64.2	-77.6	-96.4	0.0	-76.1	74.0	-93.7	-15.9	-45.4
Entertainment and culture	-17.9	53.5	814.7	588.2	-51.0	585.7	-6.7	-85.0	317.5	0.0	626.4	-73.5	251.0	128.0
Education services	-88.7	-78.9	25.9	-5.3	-93.3	-5.6	-87.2	-97.9	-42.5	-86.2	0.0	-96.4	-51.7	-68.6
Restaurants and hotels	210.1	480.1	3,357.0	2,500.9	85.2	2,491.5	252.7	-43.2	1,478.0	277.9	2,645.3	0.0	1,226.5	761.6
Other goods and services	-76.6	-56.3	160.6	96.1	-86.0	95.4	-73.4	-95.7	19.0	-71.5	107.0	-92.5	0.0	-35.0
Exchange rate	-64.0	-32.7	301.2	201.9	-78.5	200.8	-59.1	-93.4	83.2	-56.1	218.6	-88.4	54.0	0.0

December 2018 = 100  
Source: Ecoanalítica.

“Transport” maintains as the item that has become the most relative expensive through the year. This is explained as a very aggressive price *catch up* after years of controlled ticket prices. The next item with the highest appreciation is “Restaurants and hotels”, which has more than doubled compared “Foodstuff and non-alcoholic beverages”.

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## Official inflation published by BCV

Official figures were updated in October by Venezuela's Central Bank. Before that, the last data available was from April of this year and, previously, from 2016.

<b>BCV Inflation*</b>				
	Index	m/m (%)	y/y (%)	Var. % Accum.
Sep-18	13,480.0	127.7	44,950.55	15,764.3
Oct-18	25,355.6	88.1	64,133.77	29,740.5
Nov-18	56,589.6	123.2	103,523.05	66,499.3
Dec-18	110,597.6	95.4	130,060.24	130,060.2
Jan-19	328,067.7	196.6	232,471.69	196.6
Feb-19	703,259.1	114.4	344,509.51	535.9
Mar-19	948,197.2	34.8	329,567.60	757.3
Apr-19	1,268,517.2	33.8	282,972.81	1,047.0
May-19	1,769,365.8	39.5	187,634.91	1,499.8
Jun-19	2,160,431.1	22.1	116,436.30	1,853.4
Jul-19	2,579,165.8	19.4	76,597.21	2,232.0
Aug-19	3,472,176.2	34.6	58,561.06	3,039.5
Sep-19	5,286,006.3	52.2	39,113.75	4,679.5

Sources: BCV and Ecoanalítica.

\* Official BCV data.

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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 (%)	2018E (y/y)	2018E (m/m average)	2019F (y/y)	2019F (m/m average)
Official BCV Inflation Rate	130,060	81.8	11,567	48.7
BCV Methodology Inflation Rate <sup>1/</sup>	2,106,601	129.2	14,358	51.4
Underlying Inflation Rate	2,880,309	135.3	10,796	47.8

Sources: BCV and Ecoanalítica.

<sup>1/</sup> 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)						
	Dec-19	Nov-19	Dec-18	y/y (%)	Depreciation % (m/m)	m/m (%)
Foodstuff and non-alcoholic beverages	46,052.4	32,064.3	654.0	6,941.5	-30.4	43.6
Alcoholic beverages and tobacco	46,108.3	32,134.4	663.7	6,847.2	-30.3	43.5
Clothing and footwear	46,124.8	32,155.0	666.9	6,816.0	-30.3	43.4
Housing rent	45,765.3	31,704.5	550.7	8,210.6	-30.7	44.3
Home services except telephone	45,686.3	31,605.5	489.0	9,243.4	-30.8	44.6
Home equipment	46,108.3	32,134.4	679.8	6,682.2	-30.3	43.5
Health	43,951.3	30,200.6	462.4	9,405.2	-31.3	45.5
Transport	45,673.5	31,589.4	530.2	8,514.4	-30.8	44.6
Communications	43,631.4	29,799.7	493.9	8,733.5	-31.7	46.4
Entertainment and culture	45,162.6	30,949.2	459.5	9,727.9	-31.5	45.9
Education services	42,027.8	28,559.4	366.9	11,355.2	-32.0	47.2
Restaurants and hotels	46,068.8	32,084.9	595.9	7,631.0	-30.4	43.6
Other goods and services	45,637.6	31,544.5	557.7	8,083.4	-30.9	44.7
<b>Total</b>	<b>45,593.2</b>	<b>31,618.4</b>	<b>589.0</b>	<b>7,641.4</b>	<b>-30.7</b>	<b>44.2</b>
<b>Unofficial Exchange Rate</b>	<b>46,124.8</b>	<b>32,155.0</b>	<b>683.1</b>	<b>6,652.5</b>	<b>-30.3</b>	<b>43.4</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.

In the month of July we made a methodological adjustment that may have altered certain historical values.

## Detailed Underlying Inflation

Underlying Inflation				
	Index	m/m (%)	Accum. (%)	y/y (%)
Nov-18	961,128	143.3	961,027.9	1,896,205.3
Dec-18	2,880,500	199.7	2,880,400.2	2,880,400.2
Jan-19	10,985,940	281.4	281.4	3,977,574.7
Feb-19	17,654,200	60.7	512.9	2,703,698.0
Mar-19	24,876,533	40.9	763.6	2,117,229.0
Apr-19	37,329,725	50.1	1,195.9	1,968,221.1
May-19	50,301,805	34.8	1,646.3	1,394,386.2
Jun-19	65,940,636	31.1	2,189.2	876,990.4
Jul-19	85,023,856	28.9	2,851.7	546,476.0
Aug-19	133,989,095	57.6	4,551.6	297,903.4
Sep-19	169,241,626	26.3	5,775.4	135,949.5
Oct-19	198,503,504	17.3	6,791.3	50,157.5
Nov-19	252,297,953	27.1	8,658.8	26,150.2
Dec-19	313,782,964	24.4	10,793.3	10,793.3

Sources: BCV and Ecoanalítica.

Note: Index was simplified (base100=Dec2017).

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