

STOCKS AS AN INFLATION HEDGE

April, 2021

Dear investors,

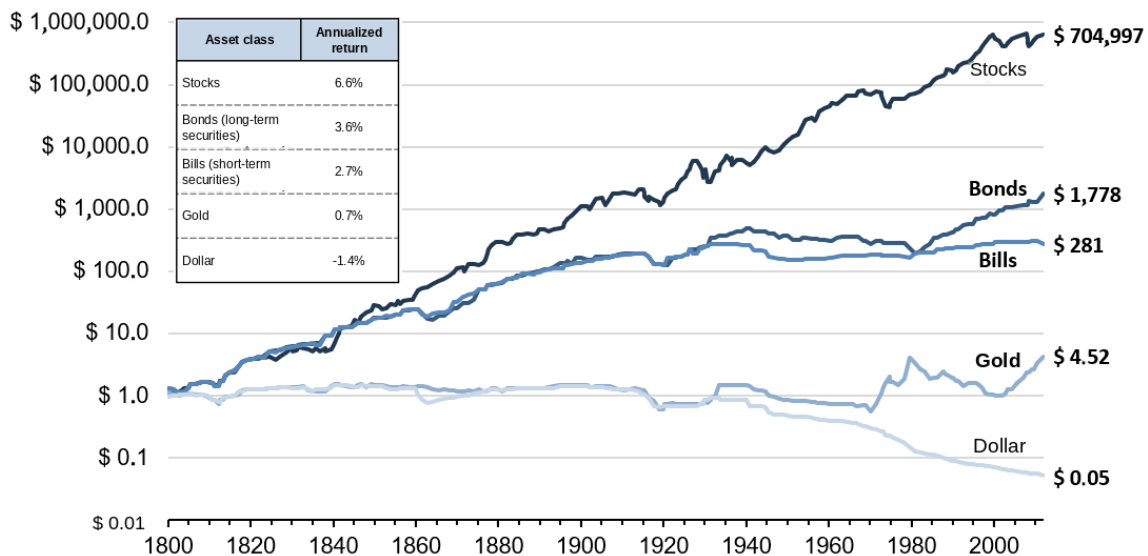
Concern about a possible return of inflation has been growing around the world. Brazil is no different: inflation expectations for 2021 have risen consistently in recent weeks. The latest Focus report already points to an expected IPCA of 4.85% in 2021 (compared with 3.32% at the beginning of the year) and, in an attempt to address the situation, the Central Bank raised the Selic rate from 2.0% to 2.75% in the last cycle. Economists still expect further rounds of interest rate increases by the end of the year.

These levels of interest rates and inflation are still far below what we experienced in Brazil for many years, but perhaps precisely because of our history, any sign of a return of inflation is viewed with concern.

Against this backdrop, in this report we seek to show how stocks behave in inflationary environments, based on historical evidence that supports our view.

In the chart below, we once again present an analysis we showed in our May 2020 letter ("Stocks vs. Fixed Income – Part 1"), which shows the returns of several asset classes in the US market over the very long term. The chart presents the inflation-adjusted historical return over the period 1800-2012.

Chart 1 – Historical real return of several asset classes (1800-2012)¹



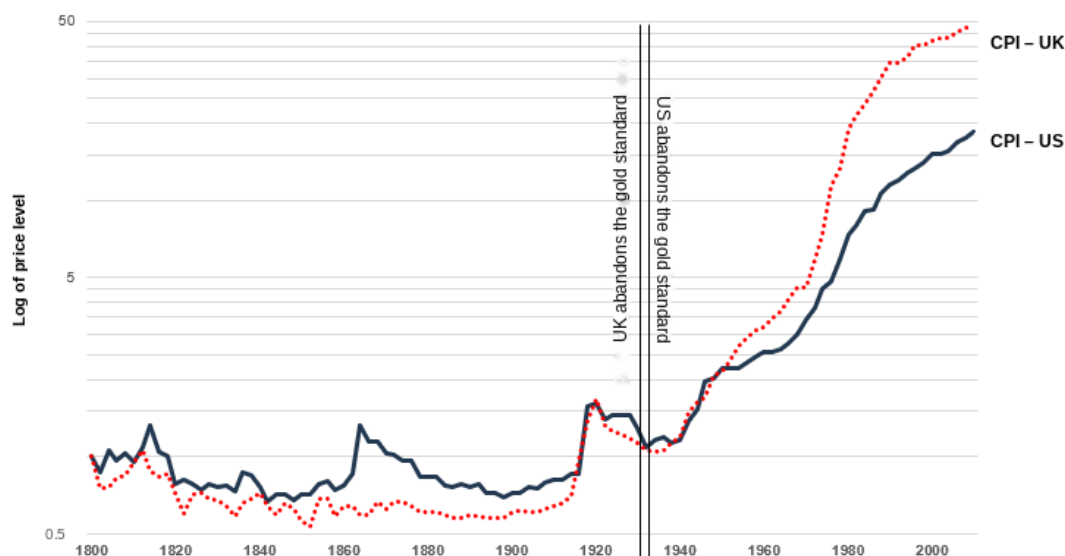
¹Source: Stocks for the Long Run, Jeremy J. Siegel (2014)

The chart illustrates how stock returns are remarkably stable over the very long term, growing practically in a straight line (logarithmic scale) with small fluctuations over time.

What is interesting to note in the chart is that the analysis can be divided into two very different periods in terms of inflation. Until the 1930s, the price level in the US was practically the same as in the year 1800 (there was no inflation for a period of 130 years!), and since then price levels have risen consistently, with inflation every year. Even in such different inflation scenarios, the real return of stocks was practically the same in both periods.

Chart 2 below shows accumulated inflation in the US and the United Kingdom over time.

Chart 2 - Accumulated inflation in the US and the United Kingdom



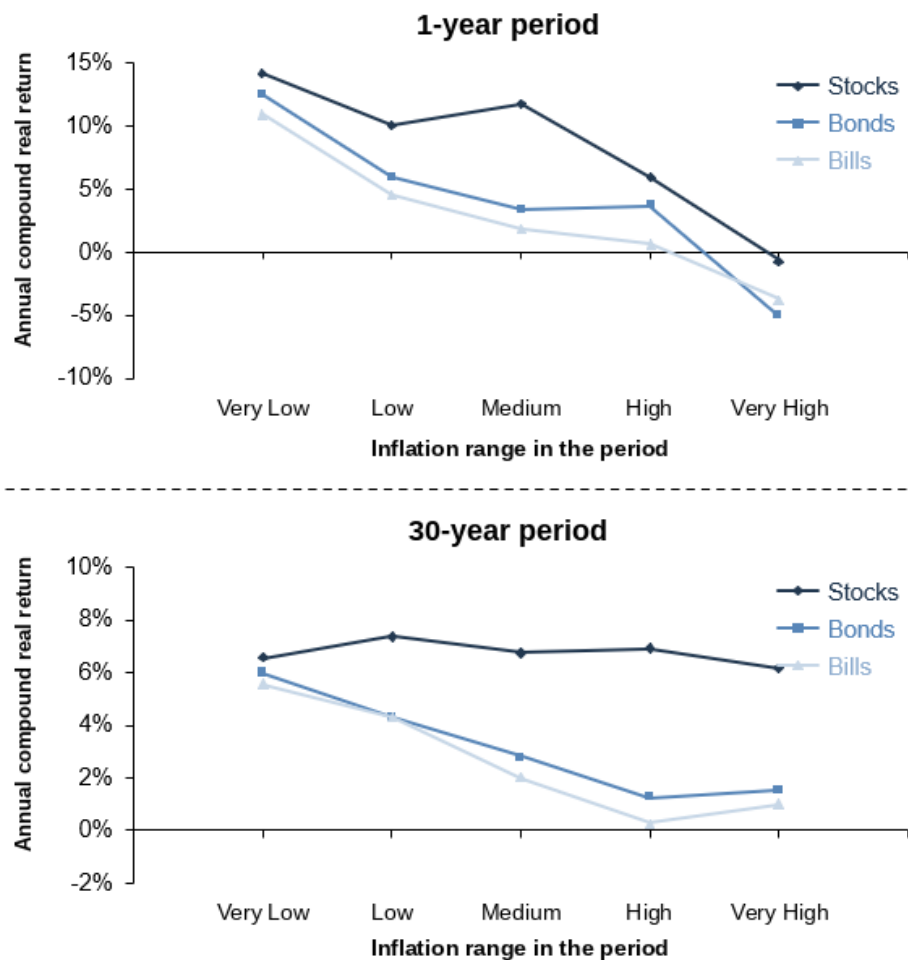
The reason for this drastic change in inflation was the end of the gold standard in the United States and the United Kingdom, which gave central banks the flexibility to increase the money supply in the economy. This greater flexibility brings some benefits, as it allows stimulative monetary policies in times of crisis, but, on the other hand, it also brings the risk of inflation. Chart 1 also highlights this effect since, until the 1930s, the values of gold and the dollar were closely linked. This link has ceased to exist since then.

Why do stocks perform well in different inflation scenarios?

Stocks represent ownership stakes in companies, and the value of such companies is linked to the price of the goods and services they offer. Since the increase in the price of such goods and services is what makes up inflation, stocks are naturally protected against inflation.

The evidence shows that this finding holds true in the long run, but not in the short run. The charts below show the real returns of stocks in different inflation environments, in two scenarios: (1) long term (30-year investment period) and (2) short term (1-year investment period).

Chart 3 – Returns in different inflation scenarios (1871-2012)²



The data indicate that, as noted earlier, over sufficiently long periods the inflationary environment matters little in determining stock returns. In the short term, however, stocks end up benefiting when inflation is low.

There are a few reasons that explain this poor performance in the short term. One of them is that, with higher inflation, central banks are expected to raise interest rates, which, in turn, is usually followed by an economic slowdown and a consequent decline in stock prices.

Another important reason is that, in many situations, price increases do not spread simultaneously across all sectors, hurting the performance of companies that have greater difficulty passing on price increases.

One example was the oil shock of the 1970s. At the time, because of supply restrictions in the OPEC countries, the price of the commodity more than tripled in a few months. This increase put pressure on the costs and margins of many companies, which took years to pass the price increase on to their customers, which in turn put pressure on their market value.

This situation leads us to an important conclusion: companies with pricing power are naturally protected in inflationary scenarios because they are able to absorb cost increases more easily.

² Source: Stocks for the Long Run, Jeremy J. Siegel (2014)

What does the evidence show for Brazil?

As in the United States, investments in stocks in Brazil have historically been quite profitable, although much more volatile. This level of return was achieved despite a past of hyperinflation lasting many years.

From the creation of the Ibovespa, in Jan/1968, to Mar/2021, the Ibovespa delivered a real return (above inflation) in dollars of 26.3 times (equivalent to an annual rate of 6.33% p.a.), compared with 25.3 times for the S&P 500 (6.26% p.a.) over the same period.

Chart 4 - Historical return of the Ibovespa vs. the S&P 500 in dollars³



At Ártica, we focus our investments on great businesses, and one of the characteristics that define such businesses is the ability to pass on prices in the most adverse environments. This selection criterion, combined with our long-term focus, is how we seek to protect ourselves against inflation.

³ Source: Ártica analysis; data presented for the period between Jan/68 (inception of the Ibovespa) and Mar/21; S&P considering dividend reinvestment (SP500TR), whose data are presented annually between 1968-88 and monthly from 1988 onward

Fund characteristics

ÁRTICA LONG TERM FUNDO DE INVESTIMENTO DE AÇÕES (the "Fund"), managed by Ártica Gestão de Recursos Ltda., is an equity investment fund regulated by CVM Instruction 555/2014.

Target audience

The Fund is intended exclusively for qualified investors (under CVM Instruction 554/2015) seeking long-term-focused returns.

Fund objective

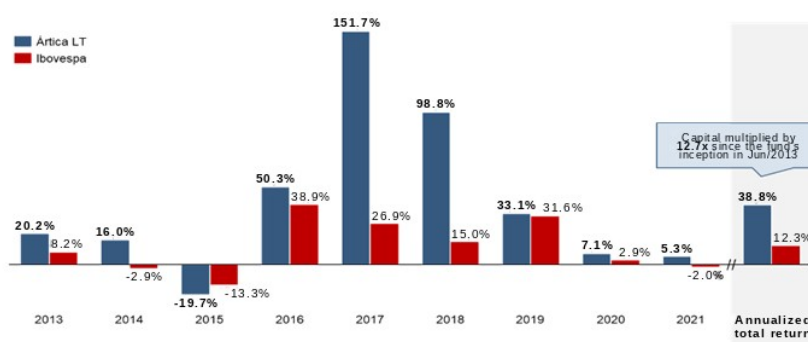
The Fund's objective is to provide its unitholders, over the medium and long term, with capital gains by investing its resources primarily in the stock market, without pursuing a high correlation with any specific equity index available.

Current net assets	R\$117.1 million
12-month average net assets	R\$91.9 million
Cumulative return	1,165.8%
12-month return	52.5%
36-month return	95.9%
Fund assets held by partners	56.8%

ANBIMA classification	Equities (Free)
Manager	Ártica Gestão de Recursos Ltda.
Administrator / custodian	BTG Pactual Serviços Financeiros S.A. DTVM
Minimum investment	R\$20.0 thousand
Additional investment	R\$1.0 thousand
Minimum balance	R\$10.0 thousand
Management fee	2% p.a.
Performance fee	20% of excess return over the Ibovespa (high-water mark)
Subscription conversion	D + 1 (business day)
Redemption conversion	D + 89 (calendar days)
Settlement	D + 1 (after conversion)
Taxation (income tax)	15% of gains upon redemption (no come-cotas)

Annual return

Historical annual returns



Monthly return

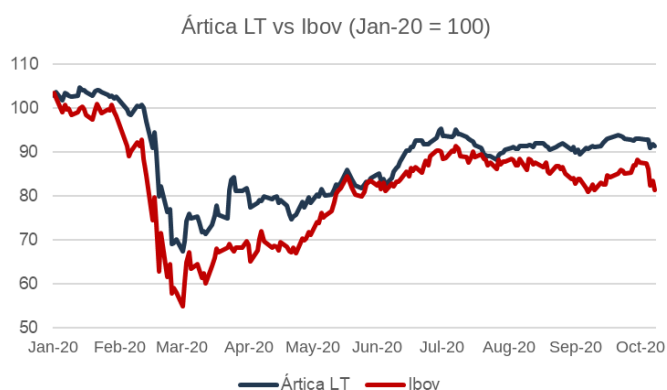
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Cumulative
2013	Ártica LT	-	-	-	-	-	2.2%	6.7%	(5.2%)	8.8%	8.3%	(1.0%)	(0.3%)	20.2%	20.2%
	Ibovespa	-	-	-	-	-	(11.3%)	1.6%	3.7%	4.7%	3.7%	(3.3%)	(1.9%)	8.2%	8.2%
2014	Ártica LT	(4.5%)	2.9%	2.2%	(0.9%)	4.2%	7.7%	1.2%	0.9%	(1.2%)	(1.2%)	6.2%	(1.7%)	16.0%	39.4%
	Ibovespa	(7.5%)	(1.1%)	7.1%	2.4%	(0.8%)	3.8%	5.0%	9.8%	(11.7%)	1.0%	0.2%	(8.6%)	-2.9%	5.0%
2015	Ártica LT	(4.4%)	(3.6%)	3.4%	5.1%	1.3%	(4.2%)	(10.6%)	(2.9%)	0.2%	(8.7%)	0.5%	3.5%	-19.7%	12.0%
	Ibovespa	(6.2%)	10.0%	(0.8%)	9.9%	(6.2%)	0.6%	(4.2%)	(8.3%)	(3.4%)	1.8%	(1.6%)	(3.9%)	-13.3%	-8.9%
2016	Ártica LT	(9.7%)	2.8%	20.9%	4.7%	1.8%	(0.7%)	16.1%	7.8%	(0.3%)	(1.0%)	1.6%	0.6%	50.3%	68.3%
	Ibovespa	(6.8%)	5.9%	17.0%	7.7%	(10.1%)	6.3%	11.2%	1.0%	0.8%	11.2%	(4.7%)	(2.7%)	38.9%	26.5%
2017	Ártica LT	2.0%	3.7%	1.4%	2.6%	20.4%	1.7%	27.9%	9.4%	8.7%	8.9%	14.1%	(1.2%)	151.7%	323.7%
	Ibovespa	7.4%	3.1%	(2.5%)	0.7%	(4.1%)	0.3%	4.8%	7.5%	4.9%	0.0%	(3.2%)	6.2%	26.9%	60.5%
2018	Ártica LT	22.1%	23.9%	0.8%	2.4%	29.7%	(8.4%)	7.9%	5.1%	(7.8%)	6.5%	(4.7%)	0.9%	98.8%	742.3%
	Ibovespa	11.1%	0.5%	0.0%	0.9%	(10.9%)	(5.2%)	8.9%	(3.2%)	3.5%	10.2%	2.4%	(1.8%)	15.0%	84.6%
2019	Ártica LT	10.7%	(1.7%)	(3.4%)	(1.2%)	(5.7%)	(1.5%)	3.6%	1.0%	(7.8%)	14.0%	0.5%	25.0%	33.1%	1021.5%
	Ibovespa	10.8%	(1.9%)	(0.2%)	1.0%	0.7%	4.1%	0.8%	(0.7%)	3.6%	2.4%	1.0%	6.9%	31.6%	142.9%
2020	Ártica LT	2.7%	(4.2%)	(24.8%)	8.0%	0.2%	6.7%	9.9%	(2.9%)	(0.2%)	0.1%	12.2%	4.6%	7.1%	1,101.6%
	Ibovespa	(1.6%)	(8.4%)	(29.9%)	10.3%	8.6%	8.8%	8.3%	(3.4%)	(4.8%)	(0.7%)	15.9%	9.3%	2.9%	150.0%
2021	Ártica LT	(1.1%)	(1.5%)	8.1%	-	-	-	-	-	-	-	-	-	5.3%	1,165.8%
	Ibovespa	(3.3%)	(4.4%)	6.0%	-	-	-	-	-	-	-	-	-	-2.0%	145.0%

* Ártica LT began on June 27, 2013 as an "investment club" and, on September 27, 2019, it was converted into an "equity investment fund." Returns shown from inception on June 27, 2013 through March 31, 2021

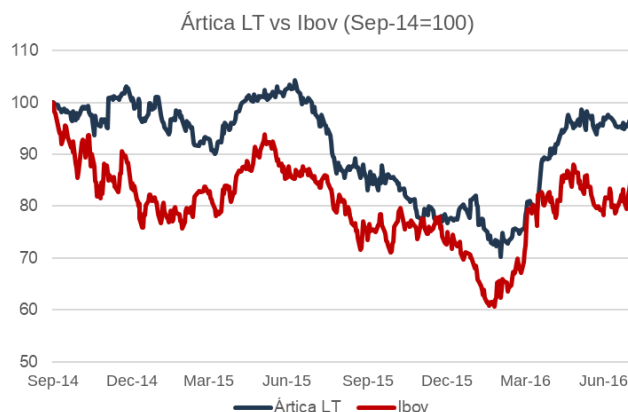


This material is intended solely to provide information and transparency regarding the management carried out by Ártica Gestão de Recursos, and does not constitute, and should not be construed as, an offer or solicitation to buy or sell any financial instrument or to participate in any specific business strategy. All opinions contained herein were prepared within the context and conditions prevailing at the time the presentation was edited and may change without notice. They also do not take into account the investment objectives, financial situation or specific needs of any particular investor.

Performance in crisis scenarios



Max drawdown Ártica LT: 34
Max drawdown Ibovespa: 47%



Max drawdown Ártica LT: 30%
Max drawdown Ibovespa: 39%

	Ártica LT	Ibovespa
Volatility – since inception	24.3%	26.2%
Sharpe – since inception	1.29	0.26
Correlation (Ártica LT vs Ibov) – since inception	0.36	-
Volatility – 12 months	19.6%	26.6%
Sharpe – 12 months	2.69	2.36
Correlation (Ártica LT vs Ibov) – 12 months	0.57	-

Rolling 3-year returns

