THE RUIN OF BITCOIN

July 2022

Dear investors,

Bitcoin reached its peak price in November 2021, at approximately USD 68,000. From that high to June 30th, its price fell by roughly 70%.

We have always avoided any investment in cryptocurrencies, but the subject has become so prevalent in financial markets that, almost involuntarily, we followed the unfolding of the bitcoin story over many years. We imagine you followed it to some extent as well, so we will use it as a backdrop to lay out some of the foundational concepts of our investment philosophy.

What Defines Economic Value

In abstract terms, the value of an asset is how much a person judges there to be benefit in owning it. In practical terms, it is the price that person is willing to pay for it in current currency. Note that the subjectivity of this definition is part of our economic reality: the value of things varies over time and according to the circumstances under which they are bought and sold. However, this subjectivity is not the same for all assets.

Some values are far easier to understand and predict than others. You certainly have a good sense of what your car is worth. If you decide to sell it, the price range you can achieve in the market is not very wide. This scenario changes completely if you own a painting. For the same painting, in the same month, you might receive completely different offers or discover that you are the only one who likes it and receive no offer at all.

A first implication is that, if one day your neighbor decides to move abroad in a hurry and puts everything up for sale, it is much easier to determine at what price it makes sense to buy his car than what price makes sense to pay for his paintings, if you intend to resell what you buy.

Several factors make the price of a car more stable and predictable: there is a production cost that sets a floor for its value, its utility as a means of transportation is quite objective and perceived similarly by different people, and there are various substitutes (other forms of transportation) against which you could compare your car to estimate a relative price.

None of these factors are present in bitcoin: the production cost is practically zero (what does carry some cost is the processing of transactions, but even so, it is quite low), there is no objective utility on which everyone agrees, and it makes no sense to try to price it by comparison with other assets. In this way, its pricing is extremely subjective, making it impossible to estimate at what price one could invest in it with any minimal degree of safety.

Productive vs. Non-Productive Assets

Another vital aspect of selecting assets as investments is understanding the value you would be able to extract from them if you could never sell them again. In the car example, if you drove it for decades until it could no longer run, you certainly would not have lost the money you spent buying it, since it served you well throughout that time. In the case of equity investments, if we buy shares in a good company that generates profits and distributes dividends at an attractive price, we can achieve an excellent return even if we never sell them.

In fact, the vast majority of existing companies are not listed on any exchange and yet continue to hold value for their owners. This proves something obvious: the value of a business comes primarily from its ability to generate income for its owners, not from the existence of a daily price quotation for its shares.

Therefore, when investing in a productive asset, you only need to ensure that your purchase price has a high probability of generating an attractive return, given your expectations about the future earnings the asset will be able to generate. The future price of the asset is of secondary importance. If that price never rises, you will not be able to profit from reselling your investment, but you will continue receiving the income the asset produces. In practice, productive and profitable assets are rarely mispriced forever, so your “risk” is simply enduring a few years with a depreciated asset. Over longer time horizons, it is very likely that good opportunities to sell will arise.

This reality is quite different when investing in non-productive assets. Without the ability to generate any income, your return depends exclusively on how much another person will be willing to pay for your asset in the future. In addition to this factor, which already represents a meaningful risk, there are no objective methods to calculate the price of a non-productive asset. In other words, the decision about the asset’s future price, which will determine your return will be entirely subjective.

Bitcoin is a non-productive asset and its pricing is subjective, depending solely on people’s beliefs about how much it will one day be worth. As a result, its price varies enormously over time and depends more on the mass psychology of investors than on any tangible factor. Consequently, investments in bitcoin (or in any other cryptocurrency) are highly speculative.

The Bubble Cycle

There are two major problems with speculative investments. The main one is that, when buying an asset at a price only justifiable by a far more glorious future than the past, the risk of capital loss is high. All it takes is for the future to fall short of what was assumed. The second problem is that, when the price drifts away from objective valuations and becomes dependent on investor psychology, it becomes extremely volatile and tends to follow the cycle of a bubble’s rise and burst.

We have witnessed many bubble stories in investing, and the dynamics of this phenomenon always follow the same archetype. First, a new asset emerges with promises of exceptional returns for those capable of understanding how “revolutionary” the novelty is. Most of the population remains skeptical, but the enthusiasts invest and become evangelists, their conviction reinforced by the financial interest they have created. Gradually, they attract more and more investors, who fuel an upward cycle in the asset’s price. At this moment, the impossibility of objectively calculating the asset’s value becomes an advantage for the upward movement, as there is no way to defend a price ceiling. After watching the asset’s price rise for some time, the skeptics begin to convert. Even without believing in the fundamentals, they see people who were “visionaries” making money effortlessly, and the fear of missing out comes into play. So they decide to invest something, sometimes rationalizing it as almost a form of insurance against the possible regret of being one of the few who did not invest if prices continue to rise. As long as new people keep deciding to make new investments, regardless of price, the upward price movement continues.

However, this upward movement depends on a continuous flow of investment to sustain itself. Since the asset generates no income for its owners, these investments must be made with external capital and, inevitably, that capital eventually runs out. At the end of the cycle, those who had any affinity for the asset have already invested and have no additional capital to keep buying, so there is no one left to buy.

When the bubble bursts, the dynamics reverse. With few buyers remaining, selling pressure begins to build, prices start to fall, and the decline drives away more and more investors. There is no way to calculate what the minimum value of the asset should be, so prices keep falling and the fear of being left behind resurfaces, but now in the form of being the one who did not sell quickly enough and ended up losing alone. The downward movement feeds on itself, and it is difficult to predict how far it will go. In many cases, the invested capital is reduced to dust.

Anti-Bubble Investing

To avoid the risk of losing money by investing in bubbles, it is enough to follow two simple rules: do not buy anything you do not know how to price, and do not overpay for what you have priced. This does not guarantee that the investor will not lose money, but it avoids the majority of cases in which the loss can be very significant.

The strategy we follow at Ártica Long Term is aligned with this way of thinking. We buy shares in good companies at very attractive prices, such that our returns do not depend solely on prices rising. As an example, some of our oldest investments have already distributed more dividends to us than the amount we paid for the shares.

Investing in this way, the risk lies entirely in the possibility that the invested company delivers results worse than expected. The volatility of the share price itself is less of a concern: if the price rises far beyond what we believe the share is worth, that is obviously not a problem, we simply sell. If it falls well below what we believe it is worth, we can buy more shares, and the return on the investment will come through the dividends generated.

Note that we will be in a very different position from the owners of non-productive assets, who depend on external capital to keep buying, since we can use the dividends distributed by the company itself to increase our stake in the business. Furthermore, while non-productive assets have no price floor, assets that consistently generate cash will never be reduced to dust. Although there is no precise minimum price, as the ratio between the price and the business's cash generation capacity declines, it will reach a point at which investors will be willing to buy even in crisis scenarios.

Process Matters

A concept we have held since the early days of Ártica Long Term, nine years ago, is that we must always invest based on a method that, on average, generates good long-term results. It is vital to be clear that decisions made in a rational and disciplined manner can produce poor results, just as irresponsible decisions can sometimes produce good ones. Therefore, we maintain a strong focus on the process of analysis and investment selection, in order to consistently apply the principles that have brought us strong returns over the years.

American investor Joel Greenblatt captures a very similar idea, in less subtle terms:

"Choosing individual stocks without any idea of what you're looking for is like running through a dynamite factory with a burning match. You may live, but you're still an idiot."

ÁRTICA LONG TERM FIA – 30/06/2022

ÁRTICA ASSET MANAGEMENT

Fund Characteristics

O ÁRTICA LONG TERM FUNDO DE INVESTIMENTO DE AÇÕES (“Fund”), managed by Ártica Gestão de Recursos Ltda., is an equity investment fund regulated by CVM Instruction 555/2014. CNPJ: 18.302.338/0001-63

Target Investors

O Fundo is intended exclusively for qualified investors (as defined by CVM Instruction 555/2014) seeking long-term-focused returns.

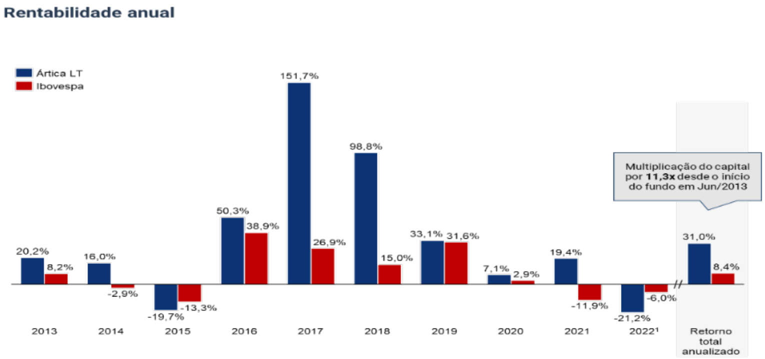
Fund Objective

The Fund aims to provide its shareholders with medium- and long-term capital gains through the investment of its resources primarily in the equity market, without seeking a high correlation with any specific equity index.

Current AUM	R$ 153,9 milhões
12-Month Average AUM	R$ 156,5 milhões
Cumulative Return	1.031,2%
12-Month Return	-25,7%
36-Month Return	39,2%

ANBIMA Classification	Unrestricted Equities
Manager	Ártica Gestão de Recursos Ltda.
Administrator / Custodian	BTG Pactual Serviços Financeiros S.A. DTVM
Minimum Investment	R$ 20,0 mil
Additional Investment	R$ 1,0 mil
Minimum Remaining Balance	R$ 10,0 mil
Management Fee	2% a.a.
Performance Fee	20% sobre o que exceder o Ibovespa, com marca d’água
Subscription Shares	D + 1 (dia útil)
Redemption Shares	D + 89 (dias corridos)
Financial Settlement	D + 1 (após cotização)
Taxation (Income Tax)	15% do ganho, no resgate (sem come-cotas)

Annual Returns



Monthly Returns

		Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez	Ano	Acumulado
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%	6,3%	7,8%	4,8%	(2,1%)	(1,3%)	(2,2%)	(1,6%)	(2,7%)	4,1%	19,4%	1.335,2%
	Ibovespa	(3,3%)	(4,4%)	6,0%	1,9%	6,2%	0,5%	(3,9%)	(2,5%)	(6,8%)	(6.7%)	(1,6%)	3,0%	-11,9%	120,2%
2022	Ártica LT	0,5%	(9,2%)	0,4%	(6,1%)	0,3%	(8,7%)	-	-	-	-	-	-	-21,2%	1.031,2%
	Ibovespa	7,0%	0,9%	6,1%	(10,1%)	3,2%	(11,5%)	-	-	-	-	-	-	-6,0%	107,0%

* Ártica LT launched on 06/27/2013 as an “investment club” and was converted into an “equity investment fund” on 09/27/2019. Returns presented from inception on 06/27/2013 through 06/30/2022

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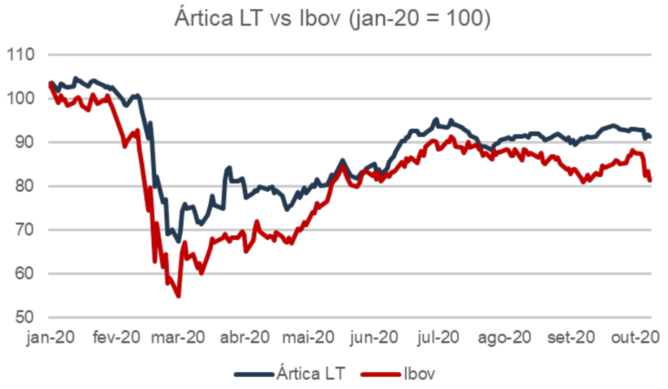
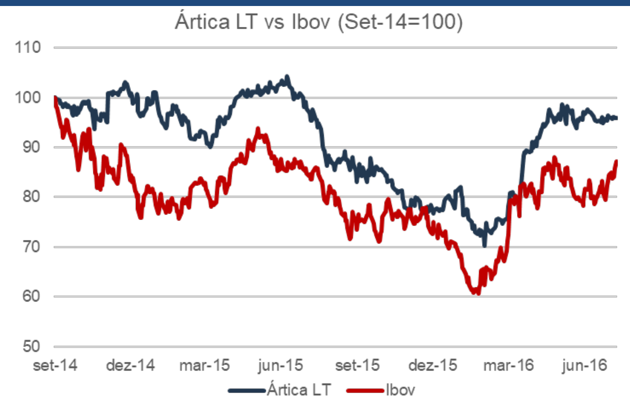
Performance in Crisis Scenarios





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

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

	Ártica LT	Ibovespa
Volatility – Since Inception	23,4%	25,4%
Sharpe Ratio – Since Inception	1,02	0,12
Correlation (Ártica LT vs Ibovespa) – Since Inception	0,38	-
Volatility – 12 Months	17,1%	20,3%
Sharpe Ratio – 12 Months	(1,81)	(1,34)
Correlation (Ártica LT vs Ibovespa) – 12 Months	0,70	-

3-Year Rolling Returns