BOOK SUGGESTIONS

December, 2021

Dear investors,

Continuing last year's initiative, we have set aside our last letter of the year to suggest five books related to investing. As a criterion, we sought to prioritize books that we like very much, but that may not be so well known to the public.

> *"An investment in knowledge pays the best interest."*
>
> Benjamin Franklin

1. More Than You Know: Finding Financial Wisdom in Unconventional Places

Portuguese title: Not available

First published in 2008, this book won several awards and was recognized by *Porchlight* as one of the 100 best business books of all time.

In a way, it is a precursor in applying the behavioral sciences to the investment business, something that became much more popular over the last decade, especially after the publication of *Thinking, Fast and Slow* in 2011. Rather than developing a theme or thesis prescriptively, the book is structured around a collection of 50 essays, which can be read independently, with some provocative ideas and *insights* from the most current theories at the time of publication, for example:

- Investors tend to assume linearity in their projections for businesses, whereas, in reality, a company's growth tends to follow an S-curve. This means that people underestimate the growth potential of fast-growing companies and overestimate growth as businesses mature.
- Financial models that imply an exact price for a stock are less useful than models that calculate the value of the business under several scenarios and assign probabilities to each scenario. One suggestion the author makes is to have one analyst build an economic and financial model for the company and then have a second analyst assign probabilities to each scenario, approximating a double-blind scientific method.
- Studies indicate that a group of people with no specific knowledge can solve problems as well as individuals who are experts on the subject.
- Being patient and diligent and following a sound investment process is more important than sporadically delivering great investment results. A good result does not justify a bad process. But even though a good process may sometimes produce a bad result, in the long run it will outperform a bad

process. Although this may seem obvious to some, the truth is that most fund investors pay very little attention to the robustness of the investment process.

From time to time, it is worth revisiting some of these ideas, not least because they do not stop being true simply because they have dropped out of 'the media'. One example is the Kelly Criterion, very well applied to investment management by Edward Thorp (see last year's book suggestions), which, although it is a theory developed in the 1950s, is still rarely taught today.

The author of "More Than You Know", Michael Mauboussin, has an interesting mix of academia and investment practice in his background. He currently heads research for Morgan Stanley Counterpoint Global's long-term equity fund and is an adjunct professor of finance at Columbia Business School in New York.

It is a quick and very thought-provoking read on investment topics, for beginners and industry professionals alike.

2. The Quest: Energy, Security, and the Remaking of the Modern World

Portuguese title: A Busca: Energia, Segurança e a reconstrução do mundo moderno

At a time when a liter of gasoline costs more than R$7.00 in many states, this book becomes essential reading for understanding the economic and geopolitical dynamics of energy markets.

Written by one of the leading authorities on the subject, Daniel Yergin, this book can be considered a sequel to his 1992 work, "The Prize", in which he tells the history of oil between 1850 and 1990.

"The Quest" begins by describing how the oil industry evolved from the first Gulf War onward, tracing its path up to the breakup of the Soviet Union into more than a dozen republics. But the book goes beyond the oil industry, providing a comprehensive view of the global energy market and its geographic, political and technological interdependencies.

To provide context on the political environment that surrounds this industry, the book discusses issues related to countries' energy security and the challenge of securing access to reliable and economically viable sources of energy to support their growth. It also offers a great deal of detail on China, which has tipped the balance over the last few decades.

The importance of electricity to today's world is given a section of its own in the book. The history of the development of this ubiquitous form of energy has been told many times, but Yergin does so succinctly and masterfully, also discussing the challenges of keeping such a vast and complex system running 24/7 without interruption. This includes an account of nuclear energy, which took a long time to gain acceptance as a source of electricity generation after the American bombings of Japan in World War II. It had its days of glory during the 1970s, but eventually fell into disgrace following accidents such as Chernobyl and Fukushima. With this context, for example, we can better understand why the subject has come back to the fore and led China to announce, in early November, an investment of US$440 billion in new nuclear reactors by 2030.

Another very current topic for which "The Quest" provides excellent context is the carbon market. Celebrated during the recent COP 26 in Glasgow, this global agreement aims to reduce the use of fossil fuels through the mechanism known as "*cap and trade*".

In a dedicated section, the book covers the history of climate science, the evolution of the debates on global warming and how the introduction of a *cap-and-trade* market significantly reduced emissions of SO^2-containing gases, the main cause of acid rain.

Finally, it is worth mentioning the discussion about the future of the automotive market and the potential adoption of the electric car. When the book was published, Tesla had just carried out its IPO, the first automotive company to go public since Ford in 1956!

Yergin writes very fluently, which makes reading its more than 800 pages a real pleasure.

3. The Psychology of Money: Timeless lessons on wealth, greed, and happiness
Portuguese title: A psicologia financeira: lições atemporais sobre fortuna, ganância e felicidade

This is one of the best books on personal finance we have read recently. Very well written, it offers deep, high-quality content in a simple and objective way.

Unlike many other books in the genre, “The Psychology of Money” does not try to present specific tactics or formulas for building wealth quickly. Morgan Housel, its author, uses 19 stories of how people have dealt with their money to examine the mental models and behaviors that shape much of our financial success.

The premise running through the book is that making money has little to do with how smart you are, and a lot to do with how you behave. A genius who easily loses emotional control can be a financial disaster (see the next review for a historical example!). On the other hand, the opposite is also true. Ordinary people, with no financial education, can become wealthy if they develop behavioral skills that have nothing to do with formal measures of intelligence.

- Less ego, more wealth: our ability to save money is the difference between our ego and our income. Most of our spending on things and possessions (which feed our ego) gets in the way of our financial freedom and future options. “Spending money to show people how much money you have is the fastest way to have less money”
- A longer investment horizon leads to better returns: it sounds simple, but in practice it is difficult to pursue. People admire Warren Buffett’s investing skill, but his real secret is time and patience: his fortune is the result of more than 75 years of having his wealth invested, and 99.6% of his fortune (of almost US$100 billion) was acquired after he turned 52!
- Good investing does not necessarily mean earning the highest returns, because the highest returns tend to be one-off successes that cannot be repeated. It is about earning very good returns that you can sustain and that can be repeated over a long period.
- The greatest intrinsic value of money is its ability to give you control over your time.
- A “Reasonable Strategy” is better than the “Rational Strategy”: reasonable is what works for you. Taking undue risks to optimize every cent of return may not be sustainable in the long run. This is a point we explored in more depth in our previous letter.

4. Money for Nothing: The Scientists, Fraudsters, and Corrupt Politicians Who Reinvented Money, Panicked a Nation, and Made the World Rich

In Portuguese: Not available

The “*South Sea Bubble*”, a financial frenzy that helped consolidate nascent capitalism in 1720, may not be as sexy or as well known as the Tulip Mania that took place in 1637. It did not capture the popular imagination in the same way. However, by helping to invent *bond* markets and to consolidate the financial sector’s influence over modern politics, it gave rise to the capital markets as we know them today.

At the beginning of the 18th century, England was running out of money because of a prolonged war with France. Parliament tried to raise additional funds by selling debt to its citizens, receiving money now in exchange for the promise of interest later. It was the first permanent national debt, but they still needed more.

Parliament then turned to the stock market, a relatively new invention in itself, where Isaac Newton’s scientific discoveries (calculus, the motion of the planets) were being tentatively applied.

The *South Sea Company* had been created to exploit the monopoly on trade between England and the Spanish colonies in the Caribbean. There was one small problem: Spain and England were at war (again), making any kind of business between the two countries impossible.

While waiting for the traditional enemies to settle their differences, the executives of the South Sea Company drew up complex business plans based on the actuarial tables of Newton and Halley (the astronomer who discovered the comet that bears his name).

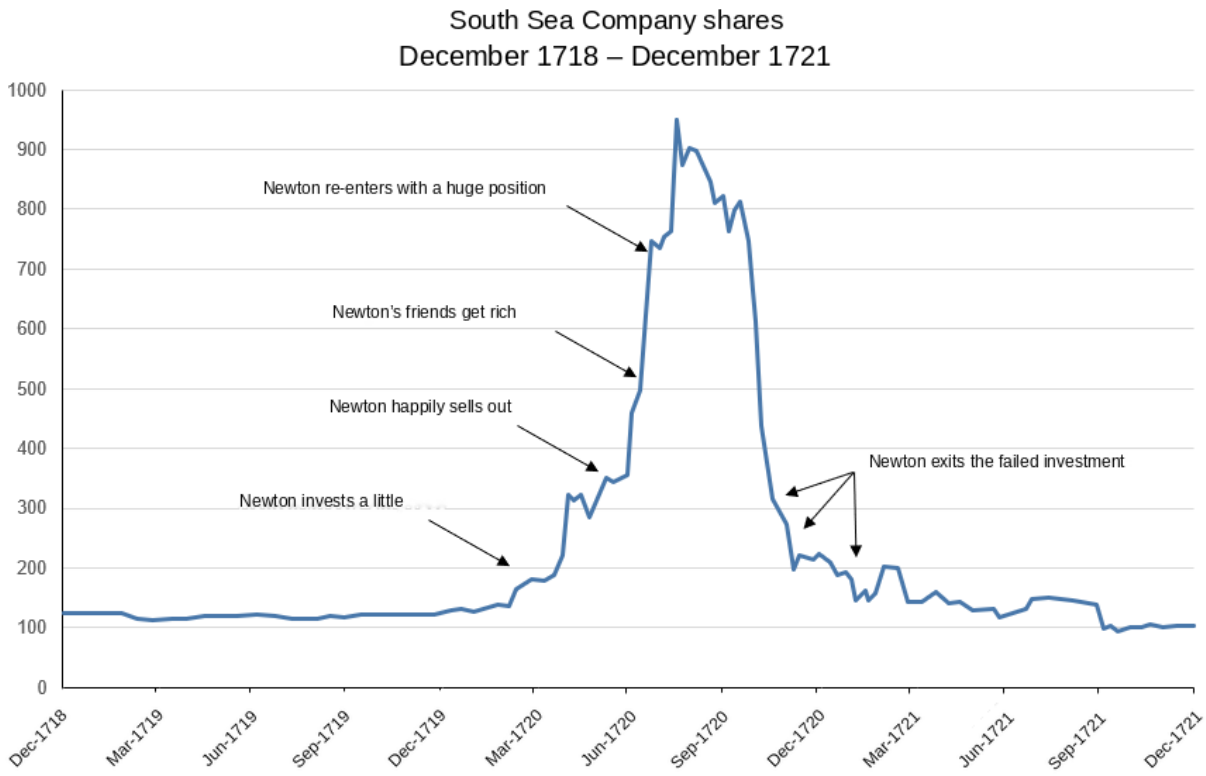
Soon, the *South Sea Company* began to see its share price rise, based not on anything it was making or selling, but on the putative value of its future plans. Encouraged by the “success” of the business, the company’s directors began borrowing to buy more South Sea shares, using the shares themselves as collateral.

Share prices doubled, doubled again and then doubled once more, drawing everyone in London, from Newton to the Prince of Wales, into the financial mania.

One thing that makes the book truly enjoyable is the context the author provides. The first third of the book shows what was happening in scientific thought and observation, mathematical theory and monetary practice between the middle and the end of the 17th century. Without these changes, and the prevailing national debt, it is difficult to understand how the bubble could have happened when it did.

A second feature of the book is that it clearly explains many of the basic concepts needed to understand how the bubble began and how it was deliberately inflated.

As a curiosity, this was the (approximate) performance of Isaac Newton, perhaps one of the most intelligent people who ever lived, with this investment:



Source: Marc Faber, Jeremy Grantham, Sir Isaac Newton

5. Invent and Wander: The Collected Writings of Jeff Bezos, With an Introduction by Walter Isaacson

In Portuguese: Not available

The book is based on the letters to Amazon shareholders written by Bezos and on speeches he has given throughout his life. In a determined tone, Bezos discusses the values and culture he developed at Amazon and carries with him in his life and his other businesses, such as The Washington Post and Blue Origin.

The shareholder letters go far beyond commenting on the company's annual results, offering an example of corporate strategy, long-term thinking and customer obsession. In our role as investors, we read many annual reports and executive letters, but we rarely find the clarity and objectivity of Bezos's.

It is one thing for a successful entrepreneur to write about his path after the fact. The narrative becomes much more linear, and many challenges, or even strokes of luck, end up being forgotten or losing their due weight. It is another thing to read "history as it is being written". For example, this is the chart of Amazon's share price around the year 2000:



Source: Capital IQ

And what did he write in the 2000 annual letter? "*Ouch*. It has been a brutal year for many in the capital markets and certainly for Amazon.com shareholders. As of this writing, our shares are down more than 80% from when I wrote you last year. [...] If the company is better positioned today than it was a year ago, why is the stock price so much lower than it was a year ago? As the famous investor Benjamin Graham said, 'In the short term, the stock market is a voting machine; in the long term, it is a weighing machine.'" And the most fascinating thing is that, from the time Bezos wrote the 2000 letter until today, the stock has multiplied more than 300x!

Among the points developed in the book, we highlight the following:

- Day 1 Mindset: since Amazon's beginning, the company has kept the mindset of working as if it were always the first day, with the motivation of carrying out a new project and the energy and entrepreneurial spirit of being part of something great. As human beings, we settle in very quickly. The book's challenge is for us to face every day with the typical excitement we feel when starting a new personal project.
- It's all about the long term: the short term is very volatile, and this is true both for the financial markets and for companies' operating metrics. Focusing solely on this quarter's or next quarter's results blinds us to the structural and lasting changes of the coming years. We must plan, have a vision of where we want to be in the coming years and work accordingly to get there, knowing that the path to the goal may not be linear.
- Focus relentlessly and passionately on the customer: from the very beginning, Amazon set out to be the most customer-centric company in the world. More important than focusing on competitors, as other companies usually do, Amazon kept its focus on customers (customer obsession as opposed to competitor obsession) because, in Bezos's words, "customers are always beautifully, wonderfully dissatisfied, even when they report being happy and business is great", exerting constant pressure on the company to improve.

- Resist proxies: as companies grow larger and more complex, there is a tendency to care more about formal processes than about the ultimate goal they are meant to achieve. A good process serves an employee so that he can serve the end customer. However, if we are not careful, the process can become an end in itself. You stop looking at the outcomes and care only about following the right process. In his own words, “It is not that rare to hear a junior leader defend a bad outcome with something like, ‘Well, we followed the process.’ A more experienced leader will use it as an opportunity to investigate and improve the process. The process is not the thing. It is always worth asking, do we own the process or does the process own us?”
- Decision making: some decisions have profound consequences and are irreversible. These decisions should be made very carefully, analytically and methodically, with great deliberation and consultation. However, most decisions are not irreversible, but rather reversible. The beauty of these decisions is that they can be made even without broad consensus or broad access to all the information. 70% of the information should already be enough for capable individuals to make them. Beyond that, time is probably being wasted.

Besides many insights like these, the book offers a light and humorous narrative, characteristic of Bezos, and tells a series of anecdotes about Amazon’s history, from the beginning, when they still dreamed of having the money to buy a forklift, to the present day.

Whether you are an experienced investor or just starting out, we believe the books above will offer valuable lessons along with a good dose of enjoyment. Special thanks to our friend Gustavo Baltar, who recommended some of the books in this review. Without further ado, happy reading!

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. CNPJ: 18.302.338/0001-63

Target audience

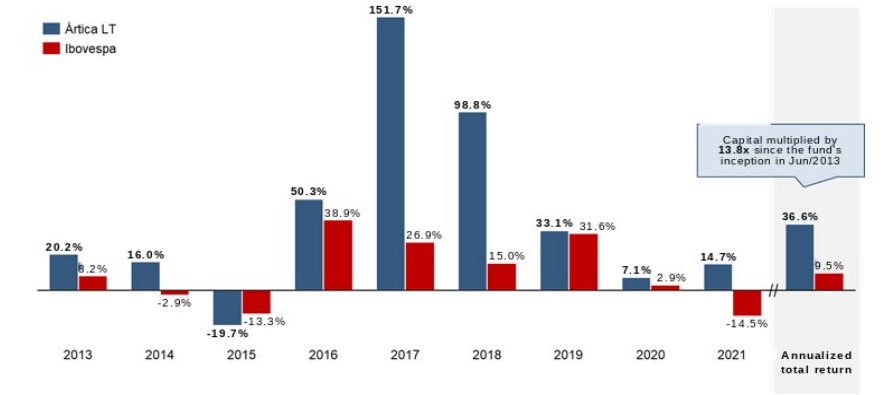
The Fund is intended exclusively for qualified investors (under CVM Instruction 555/2014) seeking long-term-focused returns.

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.

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



Current net assets	R$148.9 million
12-month average net assets	R$132.7 million
Cumulative return	1,278.8%
12-month return	20.1%
36-month return	65.2%

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%	6.3%	7.8%	4.8%	(2.1%)	(1.3%)	(2.2%)	(1.6%)	(2.7%)	-	14.7%	1,278.8%
	Ibovespa	(3.3%)	(4.4%)	6.0%	1.9%	6.2%	0.5%	(3.9%)	(2.5%)	(6.8%)	(6.7%)	(1.6%)	-	(14.5%)	113.8%

* 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 November 30, 2021

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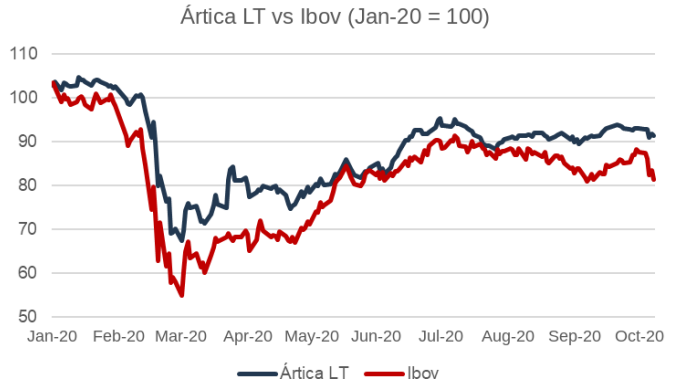
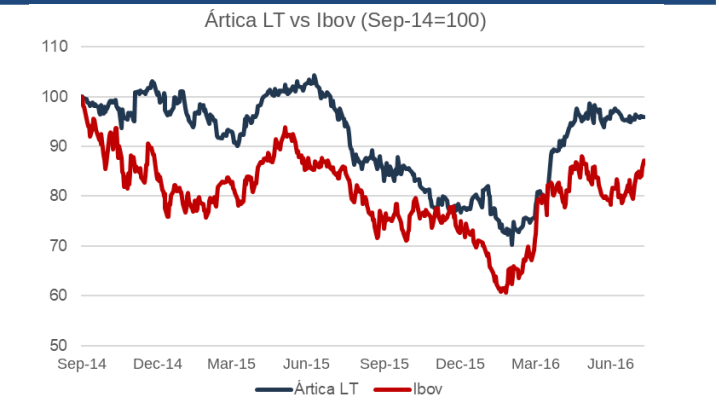
Performance in crisis scenarios



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



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

	Ártica LT	Ibovespa
Volatility – since inception	23.6%	25.8%
Sharpe – since inception	1.25	0.18
Correlation (Ártica LT vs Ibov) – since inception	0.37	-
Volatility – 12 months	12.9%	20.5%
Sharpe – 12 months	1.31	(0.34)
Correlation (Ártica LT vs Ibov) – 12 months	0.69	-

Rolling 3-year returns



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