

The Tao of System 3

There is a long tradition, inaugurated in classical antiquity, that recognizes self-criticism as a disposition favorable to the development of the individual. The practice was preserved through the examination of conscience, incorporated into Western culture as the reflective assessment of one's own conduct and thoughts. Here it ceases to be merely a psychological inclination and becomes associated with virtue, linked to intellectual humility and prudence, when practiced constructively. The personal benefits of a self-critical habit are indisputable, although, as we will see further on, more recent understandings from neuroscience reveal that our cognitive apparatus, by design, has natural difficulties in performing this task well.

When we think of companies, the benefits of self-criticism as a collective attribute are also widely recognized. First, combating complacency. Successful companies tend to pursue this disposition for continuous self-assessment in a particular way. It is Amazon's "Day 1" mentality, the attitude of never losing sight of the values and drive of the beginning, avoiding the dangers of stagnation and irrelevance of "Day 2." Or the institutionalization of "paranoia" at Andy Grove's Intel, which encouraged permanent hypervigilance in order to avoid any sense of invincibility.

The second advantage of collective self-criticism is the understanding that error offers an opportunity for learning. And it is this second aspect that interests us here, not least because the first presupposes a prior merit that is not ours to judge, much less to claim. Error, on the other hand, is an epistemological instance very dear to us here at Dynamo. We have never liked the saying that error is good. No, error is not good, and we do everything within our reach to avoid it. But when it happens, it must not only be acknowledged, but analyzed. Questioned. Chewed over. Dissected. We follow Munger's recommendation to the letter: at Dynamo, we *rub our noses* in our mistakes. Each mistake has its own nuances; all of them reveal valid lessons. Mistakes usually display chemical markers of hidden future pathologies and, at the same time, offer organic matter for learning and growth.

The work of exhumation requires detachment and perseverance. It is easy to quickly find the usual suspects and

obvious classifications. *"What's past is past, what's done is done."* *"We have a portfolio to manage and a map of opportunities to explore. Let's move on."* Not at Dynamo. Mistakes cost, mistakes hurt. We need to understand their roots and contexts, decipher nuances and connections. Until we manage to scrutinize them completely, they remain alive in our memories and frequently resurface in our discussions.

The story we will tell below is one of these cases. An investment that has not been part of our portfolio for some years now, but which has continued to visit our reflections ever since. Although it was never a prominent position, we were deeply involved with it for a long time. We are talking about Technos S/A.

As a trace of our commitment to extracting lessons from these experiences, the text turned out long, and we decided to break it into three Reports. In this one, we describe aspects of this exercise in self-criticism and in the anatomy of mistakes that are scourged in the arena of our collective discussions. In the next, we present a late discovery of understandings about the nature of Technos's business that we had not fully grasped at the time we were investors. The text precisely illustrates this effort to keep illuminating corners perhaps not yet explored, and thereby broaden the boundaries of our knowledge, in order to fill gaps where our failures may have settled. In light of this preparation, the third Report describes our journey in Technos itself.

The exercise of looking back in order to reconstruct, in space-time, the context of past decisions is always imprecise and dangerous. For some, even mistaken, since it would be cognitively impracticable to reproduce with complete objectivity the prior state of uncertainty while already possessing the actual narrative of the events that followed, as we then tend to emphasize the signals that should have alerted us to the mistake and to dismiss the noise and genuine ambiguity that existed back then (hindsight bias). Not to mention the emotional incentives that conspire against a reconstruction free from compromises to the reputational integrity of those directly involved in the mistaken decision process. Having made this caveat, and aware of these limitations, we nevertheless consider the undertaking worthwhile. And in the same way that, in our process of collectively building an

investment thesis, we seek to avoid the deviations of *group-think*, here too we try, jointly, to repel the inertia that draws us toward the comfortable position of not facing collective psychological discomfort. In other words, we are dealing with deep-rooted tendencies of human personality, and collective action must be careful not to reinforce them; on the contrary, it needs to expend energy in order to overcome them.

Another reminder to always keep in mind is that there are two basic types of mistakes. In a world under uncertainty, populated by unknown unknowns, completely unpredictable things can happen without one being able to protect the portfolio in any minimally reasonable way. This is when events cannot be factored into a reasonable *ex ante* map of risks, like the high-intensity tectonic movements of the planet that are still impossible to anticipate with the seismic monitoring technology at our disposal. In this case, the losses are the result of the purely imponderable. There are no genuine lessons to be drawn. The exercise of dissection would be anachronistic and unproductive. Naturally, such events, which have already occurred in our investment history, are rare. We must have the lucidity not to slip into this group, out of condescension, mistakes that deserved to be included in our inventory of risks, while at the same time we cannot rationalize what belongs to the quadrant of the genuinely imponderable. Therefore, we will deal here only with the second group: the mistakes to which we can assign an identity card, issue a "medical record" describing occurrences - in short, those that could have been avoided.

Among financial investors, one of the great enemies of this exercise of inquiry into mistakes is what we might call the "statistical alibi." The argument goes as follows: since managing an investment portfolio involves a countless number of assets and/or daily transactions, dissecting them one by one would be counterproductive, competing for the scarce cognitive resources that should be devoted exclusively to the nobler execution of investing. It is better to treat the measurement of results - successes and mistakes - under an aggregate statistical logic.

A typical example is a venture capital fund with, say, some two hundred positions. It is known from the outset that the fund's distribution of returns follows a power law, in which roughly 5% of successful investments account for almost all of the results. The portfolio's "modal" failure, the "disappointment" of the vast majority of investments, does not reflect a mistaken process; it is a design feature. In fact, it is an expected statistical signature of an architecture that can be considered successful. It was what was expected from the start. Spending time scrutinizing individually the 190 investments that fell by the wayside indeed makes no sense

whatsoever. Perhaps they can be framed within an aggregate typology of mistakes, in order to identify some pattern outside statistical "normality." And that is all. In fact, it makes more sense for the VC to spend more time analyzing the good opportunities missed and the sizing of the investments that turned out very well. The VC's genuine mistake consists in letting slip the multiplying deals that passed before it, when the manager commits a type I statistical error, rejecting a true null hypothesis. In Munger's language, these are the "sins of omission."

In Dynamo's case, we are indeed very concerned about mistakes. Precisely because we make few investments per year and because our portfolio is concentrated, each position individually needs to have a good probability of success, since lower diversification produces, as a counterpart, a greater weight for idiosyncratic error. Because we hold high expectations for each new investment, proportionally and symmetrically, a mistake conveys much more qualitative information. In other words, a bad investment is statistically much stronger evidence of a process failure, precisely because the expected success rate should be higher and the recurrence of events is small. Naturally, all of this is aggravated if the investment is a high-conviction one, occupying the top tier of the fund's positions, where in theory the research process was more extensive, deeper and longer. The deviation between expected and observed results carries much more information per unit of event when the expected base rate was high and the number of events is small. The bigger problem here is type II errors, when a false null hypothesis is not rejected. In this case, we commit a crime of "commission." Not that errors of omission are unimportant or do not deserve due scrutiny. Not at all. Even more so when one misses a rare investment capable of compounding robust returns over a long period. It is just that the consequence of an error of omission is expressed as the opportunity cost of capital, while an error of commission strikes at the very preservation of capital, and is therefore more serious in its essence.

Even more relevant, beyond the difference in approaches described in statistical terms above, when we move from an extremely diversified portfolio to a much more concentrated one, there is a fundamental qualitative transformation in the understanding of risk as a non-parametric concept associated with each asset, and of error as a result of the analysis process itself, and not merely an aggregate statistical effect. Just as the construction of our portfolio is done entirely by hand, bottom up, asset by asset, so too must the deconstruction of each investment thesis be conducted. The mistake of evaluating errors as mere statistical aggregates is the same as treating risk simply as deviation from benchmarks (tracking error) or as a measure of the volatility

of the fund's shares alone. Risk, for us, is a non-parametric magnitude that is present in every domain of our analysis process; it is expressed as a permanent loss of capital and not through price fluctuation. Symmetrically, error is a qualitative instance, a sign that something needs to be reviewed in our process, deserving individualized scrutiny and taxonomy.

Therefore, one way to analyze our mistakes would be to take the reverse path of the four trails along which we seek to build competence in our analysis work, which we described in *Dynamo Report 76*: numbers, company, management and business.

Numbers are where one begins. They are the quantitative markers. Like clinical tests, they place the company within desired health ranges. Departures from this spectrum set off warning signs. Here, what sets a good analyst apart is the skill/experience to propose necessary adaptations that go beyond the static rules of generally accepted accounting principles. It is neither a "workaround" nor authorial whim; it is a necessary adaptation in order to generate metrics capable of reflecting more accurately the reality of operating margins and cash generation, as well as guiding calculations of return on invested capital. Here, therefore, the mistake consists basically in taking reported figures at face value and not looking at the refined number. Given its quantitative nature, this is the area where Artificial Intelligence models promise to play an increasingly relevant role, replacing the analyst's "manual" work. Provided, of course, that the technology of the refinements is properly instructed through well-designed prompts and skills.

The *Company* is the central object of our analysis work. It is an organization of people and productive inputs. It is also a living organism. Economics and biology. It must be observed in all its dimensions. Physical and human capital, resources and capabilities. Facilities, brands and contracts. Bylaws and capital structures, governance and culture. Incentives, values and purposes. A company is an individualized entity in permanent exchange with the external environment. The view must encompass extramural instances such as competitive dynamics, advantages and barriers, network effects, the nature of returns, the supply chain, the customer base, the pool of creditors, the shareholder profile. License to operate, regulatory oversight, institutional environment, natural capital. All intertwined in a continuous pulse of connections. Where can the mistake come from? From everywhere. From each of the parts. From secondary effects of the interactions between the parts. A multidisciplinary toolkit is recommended. As the principle of cybernetics says: "Only variety absorbs variety." One must cultivate sensitivity to unintended consequences, to second-order

effects, to emergent properties. The whole is greater than the analysis of the parts. The mistake can also come from the synthesis.

Management is the most enigmatic of the instances, as it encompasses human psychology with all its impregnable plasticity. The life history and professional experience of each executive and board member offer valid clues. Dominant personality traits, from altruism to narcissism, integrity of character, values and virtues, leadership style, management models, interests and incentives. One must move from the individual to the analysis of the team, to perceive how personal attributes reinforce or cancel each other out in teamwork. The analysis of people is where we find the greatest difficulty in translating our reservoir of experiences into convictions. We have seen it all. Brilliant executives making mediocre capital allocation decisions at the end of their careers. Less experienced executives delivering consistent results in challenging situations. This is the area where perhaps most of our mistakes are concentrated. Faced with these difficulties, we adopt, more than anywhere else, humility as a method, and thus this dimension usually takes up a relevant and recurring part of our discussions.

Businesses exert a predominant gravitational force on companies. They establish the rules of the game, the tolerable range of risk and leverage, the required speed of change and the degree of technological threat, the weight of regulation, the model of customer relationship, capital intensity, the profile of the talent pool, etc. They therefore shape not only physical characteristics, but also intangible competencies and the very identity of the company. Each sector is organized around different combinations and intensities of these and other determining elements. It is an extremely subtle spectrum of possibilities within which we must place each company. Mistakes here derive from inadequate understandings and classifications of these magnitudes. The next Report precisely illustrates this point: understandings about aspects of Technos's business that we had not perceived in all their nuances at the time we invested in the company.

Beyond these quadrants, which cover the object areas of analysis, mistakes can also arise from so-called heuristics and biases, the processing failures derived from intuitive strategies and mental shortcuts. Starting with the seminal empirical studies of Daniel Kahneman and Amos Tversky in the 1970s, an extensive typology of cognitive and behavioral deviations was

formed¹. It is a subject we have followed with interest - it was the topic of Dynamo Reports 44 and 45, more than twenty years ago - not only out of academic curiosity but, above all, because of the empirical insights so close to our daily experience.

Thus, it is very common for us when doing research to seek information and select conversations that confirm our premises. An inclination so spontaneous that it risks creeping in unnoticed. This is the well-known "*confirmation bias*," which adds even more fuel to the fire of the cognitive deviation of "*overconfidence*," the disproportionate weight we attribute to the accuracy of our judgments and abilities. Since time is a scarce resource, it is also natural for us to attribute value in proportion to the effort devoted. And so, looking at the inventory of past diligence, we find it difficult to acknowledge that the conditions of a given investment have deteriorated or to abandon unpromising lines, and we fall into the "*sunk cost bias*." We also tend to form an opinion of a company or an executive based on more salient signals such as a good presentation, a logical chain of arguments, a consistent narrative, communication skills, charisma, confidence, body language, etc., qualities that are increasingly being "*trained*," it should be said, but which offer no insight whatsoever into the quality of the business or the company's capital allocation capacity. And so we are swayed by an attribute substitution heuristic, causing more readily available impressions to displace the harder analytical work, producing poorer-quality judgments, a tendency known as the *Halo Effect*.

Spreadsheets exert an inordinate seduction on the analyst's imagination. And so it is common to trust that more detailed models increase our confidence in an investment in a given company. Here we face the infamous "*illusion of control*." The work of the long-term investor's analysis does not flaunt glamour and can at times prove arid. On the other hand, it requires frequent interaction with the company. The danger here lies in coming to prefer executives who treat us well and companies we "*like*" more. These are the tireless insinuations of "*emotional involvement*," a subject we addressed in Dynamo Report 83. Another interesting result is captured by so-called "*Prospect Theory*" (PT). Colloquially, PT states that we perceive the pain of a loss more acutely (about 2 to 2.5x) than the pleasure of a gain. The practical corollary is the so-called "*disposition effect*": fearing to lose the profit already obtained, we tend to sell more quickly the

stocks that are performing well. On the other hand, in order not to realize the more painful loss, we are inclined to hold on to bad investments, hoping that the loss can be reversed or minimized. And further, an intriguing finding: since stock prices update the future value of companies, in theory they are hyperlinks to what is to come and are essentially forward-looking instances. It so happens that, in our investment decisions, past prices tend to exert a gravitational pull, which in theory makes no sense at all. The effect of the commonplace "*anchoring bias*."

The equity investor finds himself in a double bind. First, his epistemological object, companies and the business environment, is complex and broad, presenting a wide spectrum of dimensions to be investigated through the lenses of several disciplines. In addition, both the business context and the capital markets ecosystem are immersed in conditions of genuine uncertainty, which makes the journey of decision-making and the formation of pertinent judgments quite difficult. Faced with this compound challenge, it is up to investors to develop toolkits equal to the task. Here lie the various techniques and experiences acquired by the investment team, as well as the immunological protections against the successive offensives of procedural deviations and behavioral inclinations.

There is an old theoretical line in psychology that describes thought as the result of a cognitive process composed of two distinct and intertwined mechanisms. Systems 1 and 2 had already been named (Stanovich & West, 2000)², but it was Kahneman (2011) who popularized them as a metaphor for the brain's machinery. Put simply, according to this tradition, System 1 is fast, automatic, associative and intuitive; it operates with little or no effort, without a sense of voluntary control, and allows us to make quick decisions and judgments based on patterns and experiences. Starting from a fast associative memory, System 1 continuously assesses the environment, generating impressions, intuitions, feelings, as well as emotional readings and responses, suggesting compatible courses of action and reflexes. It is jumping up after a decisive goal, dodging a determined animal; recognizing a delayed gait, sensing a heavy atmosphere; stopping at a red light, blaming the mirror.

System 2, in turn, is slow, deliberative and analytical. It is the mechanism in charge of mental activities that require effort and attention, including complex computations. It comes into action when we multiply two-digit numbers, or recognize unlawful contracts; when we find someone in a crowd, or follow instruction manuals; when we compare

1 Some lists catalog nearly two hundred deviations, but we acknowledge that there is a great deal of semantic overlap - different names reflecting the same phenomenon. One might say that a smaller group of perhaps 20 biases are the most frequent and relevant in our activity.

2 As usual, the complete bibliographic references can be found on our website, <https://www.dynamo.com.br/>

prices, or look for addresses. By recruiting voluntary attention, System 2 expends more energy. It therefore remains in a low-effort mode, letting System 1 work actively. The “laziness” of System 2 is not something negative, but an intelligent biological strategy, saving glucose and cognitive capacity.

Most of the time, System 1 plays its role very well, modeling familiar situations, making good short-term predictions and suggesting adapted reactions, to the point that Kahneman considers it the true “hero.” Behavioral science estimates that about 90/95% of our daily decisions are made automatically. System 2 generally accepts the reactions and courses of action suggested by System 1, which ensures an advantageous combination of effectiveness and parsimony. It so happens that, at times, System 1, which is never switched off, can make systematic errors, finding more readily available answers that are not the most appropriate, not to mention that it does not handle logical and statistical questions well. At this point, System 2 mobilizes efforts to exercise its role of vigilance, critically examining System 1’s suggestions. Thus, much of what we believe we think originates in System 1, but System 2 takes control when things become more difficult, and it has the final word.

In short, we have two gears of cognitive architecture responsible for our ability to understand the world, make judgments and take decisions. The first is fast, tireless, intuitive, efficient at deciphering the environment and suggesting everyday responses, but it is not infallible. On the contrary, it makes systematic errors that need to be assessed by the second system, which is slower, costly (in energy terms), analytical and methodical. It so happens that the quality standard of the supervisory system sometimes fails, especially when it is very busy, being easily swayed by the emotional insinuations of the previous mechanism. When it comes to self-criticism, both of our mental processes fall short. System 1 works to generate internal coherence and produce a sense of confidence, even when the predictive basis is weak, giving rise to an “illusion of validity.” Our System 1 has no independent critical capacity and was not designed to detect its own gaps. That is System 2’s job. It so happens that System 2 operates on a limited effort budget and is only triggered when System 1 signals difficulty and surprise, for example in the presence of something “too new,” which escapes fast familiar processing. Even so, except when there are conflicts, available cognitive effort and motivation to investigate, System 2 tends to endorse System 1’s suggestions when it should audit them. Instead of verifying, System 2 ends up building justifications for the conclusion that System 1 has already delivered, as if confirmation bias operated within the very act of reflection. And there is also the problem of availability. Frequently, we do not even have privileged

access to the processes that generate our judgments. Ideally, System 2 would be less supportive of System 1’s hastiness and more self-critical. But it is not. It is also known that trying to train each of these mechanisms is a task of dubious validity. Interested as we are in improving our judgment and decision processes, we need to develop another mechanism. We add a third layer of external vigilance. And this is where our “System 3” comes onto the scene.

At Dynamo, the various businesses are covered by at least a pair of analysts, primarily responsible for investment proposals in their respective sectors. There is no hierarchy whatsoever; each pair organizes itself according to the agenda of daily diligence, events, meetings and priorities. When a suggestion matures enough, the pair submits the investment thesis to everyone else in a collective meeting, where each person seeks to contribute a critical perspective, scanning, based on their personal experience, for possible cognitive gaps, omissions, procedural failures, or even emotional involvement on the part of the proponents. It is the group working collectively to refine whatever may have escaped the pair’s reach.

It is a look at the voids, at the unlit corners, at the hidden details, at the forgotten arguments, at the concealed actors; at second-order conditions, at what can go wrong, at the counterfactual, at unintended consequences. The debate is frank, open and objective. No seniority and no rules; authority belongs only to arguments. Spontaneous questions are welcome; only answers must be well thought out. Doubt is the raw material; diversity is a resource. Preparation - and not persuasion - emerges as recognized. Dissent is genuine, encouraged and not forged. There are no roles to play, only the exercise of personal detachment for the benefit of productive collective debate. There is a disciplined search for objective empirical refutation, avoiding merely rhetorical debate in a game of logical persuasion. In this sense, we search for genuine black swans, avoiding the trap of “ducks painted black,” the false conjectures that we ourselves imagine and that divert us from promising theses. When the thesis passes through the critical sieve of the debate and reaches the portfolio, generally after overcoming doubts and incorporating suggestions, it acquires the status of collective property, owned by all. It is “*discuss and commit*” (Grove, 1983) in full force.

System 3 is a semantic license, since we deliberately go beyond the science of the cognitive processes of individual minds, adding an external, collective decision-making instance. Even so, we consider the metaphor valid, provided we remain attentive to the organizational design precautions that the new dimension requires. Avoiding *groupthink*, the illusion of invulnerability of cohesive groups, isolation from

outside opinions, lack of independence and the effects of the “decision cascades” phenomenon, insufficient effective diversity, the use of rationalizations to dismiss negative warnings, the illusion of unanimity, self-censorship, the incentive to soft reciprocity generated by the repeated game (the same team interacting for many years), the collective reinforcement of individual biases and convictions, merely artificial dissent, among others. The enemies of a quality collective decision are not few. Even so, with due diligence in place, reflected in the attributes of our discussions mentioned above and pursued with discipline for decades at Dynamo, we believe that a well-executed collective arrangement brings superior results.

Naturally, all these qualities are easier to state on paper than to live in practice. This is because they must ultimately be supported by the values and principles that guide the partnership. What drives our day-to-day at Dynamo is the aspiration to preserve and grow wealth so that families and institutions can carry out their life projects. Our care reflects the counterpart of the trust placed in us by our investors; our diligence must be equal to the discipline and parsimony that gave rise to the resources entrusted to us, which must be remunerated accordingly.

We are engaged in a long-term journey, in which time is a fundamental substrate. Time for the companies in our portfolio to see their investment projects mature. Time for the market to recognize the merit of these initiatives, time for the Fund to capture the appreciation in its shares, and thus for our investors’ patience to be duly rewarded. At Dynamo, our values and purposes, governance and culture, incentives and compensation, processes and organizational designs are all aligned and conceived under this extended time dimension. And it could not be otherwise.

Since constructions in complex environments can never be attributed exclusively to individual merit, everything we do here is a collective work, both the successes and the mistakes. Under this design, “System 3” in action produces some advantageous effects, which operate silently. We highlight two. The first is to confer an expanded dimension on small daily tasks, however routine they may seem, consisting of the expectation that they may come to compose an investment proposal, becoming raw material for important discussions and, from then on, acquiring the reputation of collective assets. The second is psychological safety, which consists of a belief shared by the team that it is safe for each member to take interpersonal risks. Attitudes such as admitting mistakes, asking “obvious” questions, disagreeing with the most experienced, reporting bad news, not only will not result in retaliation but, on the contrary, are welcomed, as they ensure the foundations for improving the quality of

future decisions. When mistakes are seen as collective attributes and not as occasions for targeted punishment, defensive and bureaucratic attitudes, shifting of blame, artificial behavior, or simply silence are avoided. In our experience, a protected psychological environment does not exempt initiative or personal responsibility, much less compromise performance; on the contrary, it allows an owner’s mindset and prudent risk-taking to spread, fosters an effective sense of belonging, stimulates creative impulses and also establishes the conditions for genuine self-criticism to emerge.

Our perception is in dialogue with findings from neuroscience and is supported by empirical studies. It is now known that fear competes for cognitive resources in parts of the brain responsible for managing working memory and processing new information, in addition to hindering analytical thinking, creative insight and problem solving. In the workplace, fear reduces the propensity to engage in behaviors that produce learning, such as sharing information, asking for help, discussing mistakes, experimenting, etc. It is no coincidence that psychological safety has been identified as the most important element in explaining a team’s performance.

As a general rule, a company’s success and its ability to outperform competitors depend essentially on the engagement and collaboration of its teams. In light of this, in 2012 Google decided to devote effort and resources to discovering how to build a “perfect team,” embarking on an internal initiative called “Project Aristotle,” which brought together specialists from various areas of the company. It began by going through fifty years of professional literature, trying to identify patterns - and they are good at that - in behaviors, team compositions, operational designs, tasks, norms, personal characteristics of leaders and members, such as educational background, hobbies, personality traits, etc. And... nothing. A gigantic amount of data analyzed, and nothing seemed to make a difference, no evident direction. Until those responsible for the research “*came across the concept of psychological safety in academic studies. And it was as if everything suddenly fell into place*” (Duhigg, 2016).

The empirical work that gave rise to the concept of psychological safety (Edmondson, 1996) resulted from an unintended discovery (another example for our collection) in the area of health care in hospitals in the Boston region. Counterintuitively, the study found that the best-performing nursing teams were precisely those that reported the most medication errors, not those that made the fewest. These teams did not make more mistakes; they simply felt safer reporting them. The others, for fear of reputational damage,

hid their mistakes. The reported errors opened space for self-criticism and learning, allowing these groups to improve. The others remained in defensive attitudes and tended to repeat the same mistakes. Since then, several studies have reinforced the same line of argument: in work groups, psychological safety creates the conditions for collective learning behaviors, such as asking questions, seeking feedback, discussing mistakes, experimenting and reflecting on results, which in turn appear to be among the main precursors of performance excellence.

Before we conclude, one last example to illustrate the fact that the way we face error ends up being the main determinant in overcoming it. Civil aviation has become much safer over the years and is today recognized for its best practices in learning from mistakes. When an accident occurs, a deep, meticulous and open investigation begins, without seeking to assign blame, but focused on a systematic analysis of the facts in order to understand the causes of the disaster. To this end, the invention of the black box played a fundamental role (cf. Syed, 2015). The device replaced noise and hypotheses with signals and evidence. Of course, at first it had to face no small resistance from the establishment, especially from pilots who feared compromising their reputations, pejoratively labeling it a “snooping recorder.” Inspired by aviation, some leading hospitals in the United States are developing the “surgical black box,” an ecosystem of sensors and microphones that captures an enormous amount of data with the aim of anticipating medical errors before they harm patients. Supported by privacy rules, analogously to aviation, the idea is to shift the focus to the system rather than blaming individuals. The main lesson here is that facing error with courage, method and diligence, if possible developing adequate prevention tools, is the best way to reduce its future incidence.

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After many years of studying, observing and testing different models, our design of work organization has evolved into an essentially participative and collegiate arrangement, which fits not only the values and temperaments of Dynamo’s partners, but also the fact that we are a small group that makes few relevant investment decisions each year. Even without knowing it beforehand, today we recognize that our “System 3” brings together qualities that are hard to reproduce and that make us very satisfied, among which we highlight:

(i) it offers an alternative to the chronic limitation of self-criticism as an individual cognitive instance, identified as alien to System 1 and absent in System 2. It is precisely

because we place immense value on self-criticism, to the point of regarding it as a cultural trait, capable of performing several functional roles, as an antidote to “uncritical consensus,” an opportunity for learning and a censor of deviations in judgment, that we attribute outstanding merit to our refutationist arrangement;

(ii) it is an organizational device, developed by design, for confronting error and recognizing biases as instances of learning and improvement, distilling them into a frank, constructive and collegiate discussion;

(iii) it gives an amplified dimension and incentive to the small fragments of everyday work, since, when these are integrated into a new investment thesis, they qualify to acquire the status of collective intellectual endowment;

(iv) As mistakes at Dynamo are equally perceived as collective attributes, when they happen they are investigated as inputs for learning, and not exploited as occasions for reprimand. This establishes an environment of psychological safety, the social precondition for self-criticism and dissent to occur without individual reputational cost. With negative anxiety set aside, trust and a sense of belonging prevail, precursors of productive engagement, creativity and mutual admiration, the secrets of a healthy work environment and a long-lasting partnership.

Rio de Janeiro, October 16th, 2026.

Dynamo Cougar x Ibovespa Performance in R\$ up to September 2026

Period	Dynamo Cougar	Ibovespa*
120 months	215.8%	219.3%
60 months	24.7%	67.9%
36 months	52.6%	59.9%
24 months	32.6%	41.4%
12 months	21.7%	27.4%
Year (2026)	11.2%	15.6%
Month (September)	4.5%	5.0%

(*) Ibovespa closing. Indices are presented as economic reference only, and not as a benchmark.

DYNAMO COUGAR x IBOVESPA

(Performance in US\$*)

Period	DYNAMO COUGAR		IBOVESPA**	
	Year	Since Sep 1, 1993	Year	Since Sep 1, 1993
1993	38.8%	38.8%	7.7%	7.7%
1994	245.6%	379.5%	62.6%	75.1%
1995	-3.6%	362.2%	-14.0%	50.5%
1996	53.6%	609.8%	53.2%	130.6%
1997	-6.2%	565.5%	34.7%	210.6%
1998	-19.1%	438.1%	-38.5%	91.0%
1999	104.6%	1,001.2%	70.2%	224.9%
2000	3.0%	1,034.5%	-18.3%	165.4%
2001	-6.4%	962.4%	-25.0%	99.0%
2002	-7.9%	878.9%	-45.5%	8.5%
2003	93.9%	1,798.5%	141.3%	161.8%
2004	64.4%	3,020.2%	28.2%	235.7%
2005	41.2%	4,305.5%	44.8%	386.1%
2006	49.8%	6,498.3%	45.5%	607.5%
2007	59.7%	10,436.6%	73.4%	1,126.8%
2008	-47.1%	5,470.1%	-55.4%	446.5%
2009	143.7%	13,472.6%	145.2%	1,239.9%
2010	28.1%	17,282.0%	5.6%	1,331.8%
2011	-4.4%	16,514.5%	-27.3%	929.1%
2012	14.0%	18,844.6%	-1.4%	914.5%
2013	-7.3%	17,456.8%	-26.3%	647.9%
2014	-6.0%	16,401.5%	-14.4%	540.4%
2015	-23.3%	12,560.8%	-41.0%	277.6%
2016	42.4%	17,926.4%	66.5%	528.6%
2017	25.8%	22,574.0%	25.0%	685.6%
2018	-8.9%	20,567.8%	-1.8%	671.5%
2019	53.2%	31,570.4%	26.5%	875.9%
2020	-2.2%	30,886.1%	-20.2%	679.0%
2021	-23.0%	23,762.3%	-18.0%	538.9%
2022	-7.8%	21,899.9%	12.0%	615.4%
2023	32.1%	28,965.0%	31.8%	842.8%
2024	-30.8%	20,002.8%	-29.9%	560.7%
2025	56.1%	31,224.4%	50.8%	845.5%
2026***	18.1%	36,961.4%	22.8%	1,123.4%

(*) Considering that this is a Fund that has existed since 1993, the figures were converted into dollars (US\$) as a way to eliminate the volatility of the Brazilian currency throughout the period and, in this way, minimize the risk of possible misinterpretations by the reader in the case of an investment decision/divestment. Dynamo Cougar is a fund that invests in NAV of an equity investment fund and is currently closed for new investments. (**) Ibovespa closing price. The index is presented as a mere economic reference and does not constitute a target or benchmark for the Fund. (***) Return up to September 2026.

Additional information:

- **Inception:** 09/01/1993
- **Objective:**
Deliver NAV appreciation above inflation in a medium/long term horizon by investing at least 95% (ninety-five percent) of the fund's net worth in the NAV of Dynamo Cougar Master Equity Investment Fund ("Master Fund")
- **Target investor:** Qualified investors
- **Status:** Closed for new investments
- **Redemption grace period:** 12 months grace period or liquidity fee of 3% for redemption within this time period*
- **Redemption NAV:** D+12 (calendar days)*
- **Redemption payment:**
D+2 (working days) after NAV conversion*
- **Applicable taxation:** Equity
- **Anbima's classification:** "Equity - Free Portfolio"
- **Management fee:** 1.90% per year for the Fund + 0.10% for the Master Fund
- **Performance fee:** on the top of IPCA + IMAB*
- **Average monthly net worth last 12 months:**
R\$ 5,876.9 million.

(*) Detailed description provided in the bylaws

To find more information about Dynamo and our funds, or if you wish to compare the performance of Dynamo Cougar to other indices in different time periods, please visit our website:

www.dynamo.com.br

This letter is published for informational purposes only and should not be construed as an offer to sell Dynamo Cougar or any other fund, nor as a recommendation to invest or disinvest in any of the aforementioned securities. All judgments and estimates contained herein are opinions only and may change at any time without notice. The information contained in this document is, in Dynamo's better understanding, materially accurate. However, Dynamo is not responsible for any errors, omissions or inaccuracies regarding the information disclosed. The performance obtained in the past does not represent a guarantee of future results. Performance disclosed is net of management and performance fees, but not net of taxes, performance adjustment or exit fee, if applicable. Investing in mutual funds is risky. Carefully read the regulation before investing. The regulation of Dynamo Cougar is available on Dynamo's webpage, www.dynamo.com.br. Investments in funds are neither guaranteed by the administrator, by any insurance mechanism, nor by the Credit Guarantee Fund. Supervision and Inspection: Brazilian Security and Exchange Commission (CVM). Citizen Service, www.cvm.gov.br.

DYNAMO

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