Report
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# Passive Purposes

In December 2023, the total assets managed by funds using a passive strategy reached $13.3 trillion, surpassing active investments for the first time in history – something unimaginable in the past, even among the most enthusiastic supporters of this strategy's potential[1]. The first passive investment vehicle for retail investors, the Vanguard 500 Index Fund, was launched in 1976, initially raising $11.3 million under the mandate of replicating the performance of the S&P 500 index. We are, therefore, witnessing a human endeavor that has joined the select group of achievements that have managed to express a compound growth rate of more than 30% per year for nearly fifty years.

No wonder passive investing has been labeled as *"one of the most profound changes in the stock market ever"* (GMO, 2024). The attributes of this investment style explain its consistent growth over such a long period, dispelling the notion that it is just another routine and opportunistic innovation in the financial sector. Passive investing has already proven that it is here to stay. The question is how much more space it can occupy and whether there are limits beyond which its charm might turn into a liability – where the precision mechanics of this clock could transform it into a self-destructive artifact for all those around it.

Following the theme of our previous Report, we are interested in investigating everything that moves with significance in the market ecosystem and could potentially impact on our daily activities. Much has been said and written about passive investing. Our goal in this Report is not to present an original perspective. We begin with a brief overview of the origins of this long "takeover" by passive investment vehicles, highlighting the qualities of this investment style. Next, we describe the implications of this journey on market microstructure. Finally, building on elements from our previous Report, we summarize the conclusions, reflecting on how all of this impacts our daily life as active investors in Brazil.

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The investment world allows for various classifications. A common one divides this vast environment into two categories: active and passive investors. Passive investing follows a clear rule: it replicates a given benchmark portfolio. The investor acquires assets in the same proportion as a diversified index and maintains those positions. An active investor, on the other hand, adjusts their portfolio by buying and selling securities based on events, price movements, and updates to their knowledge. She/he is not bound by a predefined master rule but move freely according to the specifications of their mandate. The active investor reacts to market conditions and changes their stance. Passive investors, in theory, remain indifferent to their surroundings, following their indexing rule exclusively and strictly.

William Sharpe's (1991) classic definition is even simpler: a passive investor always holds each position according to its market representation and never trades. An active investor is simply one who is not passive – whose portfolio differs from the market benchmark and, therefore, from passive investors.

The concept of passive investing emerged from a long gestation of academic contributions by various scholars. French mathematician Louis Bachelier, as early as the beginning of the 20th century, developed the concept of events that describe a "random walk," inspiring Leonard Savage and Paul Samuelson to explore the random nature of the stock market. In the 1960s, Eugene Fama formulated the well-known Efficient Market Hypothesis: if asset prices incorporate all available information and react only to new information, it is impossible to consistently outperform the market on a risk-adjusted basis. Instead of trying to beat the market, investors should attempt to follow it. Samuelson then provided the mathematical "proof" that if markets are efficient, prices follow a random walk.

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1 *There are different statistics that account for these numbers. We used data from Morningstar (2024). As usual, the full bibliographical references used in this text can be found on our website, https://www.dynamo.com.br/pt/biblioteca*

A little earlier, in 1952, young Harry Markowitz developed Modern Portfolio Theory, establishing the concept of the efficient frontier and determining the counterintuitive result that the attractiveness of holding risky assets does not depend solely on their individual risks but on the entire portfolio composition, due to the benefits of diversification. Until then, under the tradition of Benjamin Graham, investing was centered exclusively on analyzing individual assets. Markowitz shifted this focus toward portfolio construction.

From there, asset pricing models and portfolio return theories emerged, with William Sharpe's Capital Asset Pricing Model (CAPM) standing out. In a simplified view, CAPM suggests that a rational investor should hold a stake of all stocks in an optimal portfolio. Since the S&P 500 represents a good approximation of a market portfolio, containing a substantial portion of the market value of listed companies, when one accepts the premises underlying modern finance theory, passively investing in the index emerges as a natural and logical conclusion – on the understanding that this vehicle captures the best possible risk-return equation for investors.

In the early 1970s, Samuelson and Charles Ellis argued that the investment management industry had become a "loser's game." In 1973, Burton Malkiel published *A Random Walk Down Wall Street*, an accessible defense of passive investing that would become one of the most influential finance books, reaching thirteen editions. Meanwhile, since the 1960s, the University of Chicago had developed the Center for Research in Security Prices (CRSP), offering proprietary databases for academic research and creating various reliable indices for investment professionals. By this point, the conceptual foundations and empirical possibilities for passive investing had been established, along with a growing critical perspective on the performance of active management.

This intellectual path needed to be paved because, since the publication of *Security Analysis* in 1934, the dominant view in the industry was that investing consisted of individually selecting assets through fundamental analysis. According to Graham & Dodd, investing is the discipline "through which, by means of thorough analysis, one ensures the safety of principal and satisfactory returns." Anything that fails to meet these criteria was essentially linked to asset price fluctuations and, therefore, fell within the realm of speculation. In this context, it became crucial to ground passive investing in a coherent logic to distinguish it from mere speculative activity.

Beyond challenging the mainstream, the passive investing proposition also faced psychological barriers. A well-known argument from an industry executive encapsulated the skepticism surrounding passive investing: *"I can't believe that the great mass of investors are going to be satisfied with just receiving average returns.. The name of the game is to be the best"*[2] (cf. Wigglesworth, 2021). This statement captures a deeply ingrained reality of human nature, well-documented in various behavioral experiments, as well as a defining trait of American culture: the psychological need to stand out, the discomfort of remaining unnoticed within the crowd, and the difficulty of accepting merely average outcomes.

Even so, resistance was gradually overcome. The empirical evidence that most active managers failed to outperform the indices increasingly overshadowed the so-called average performance syndrome. In the investment teasers of passive funds, the key advantages of the strategy were outlined as follows: (i) simplicity and transparency – the investor knows exactly what she/he is buying; (ii) low-cost access to an asset class; (iii) diversification, achieved through exposure to a broad base of companies and sectors; (iv) elimination of "human" risk – removing behavioral biases, excessive trading, and the idiosyncrasies of investment managers or teams.

The first passive investment products were developed by the California-based bank Wells Fargo, when its *Management Sciences* division, led by John McQuown, gained access to IBM mainframe computing power. However, it was through the relentless efforts of an ambassador for the cause, John Clifton Bogle, that passive investing was vigorously promoted and widely adopted. Known for founding Vanguard Group and pioneering the retail segment of passive funds in 1976, "Jack" had already cemented his convictions in his Princeton University thesis in 1951. His research demonstrated that the long-term returns of mutual funds did not surpass market averages. Defining himself as a staunch advocate for his clients' best interests, he built his career around the *cost matters hypothesis*. In a 2005 speech, the nonagenarian economist Paul Samuelson – allowing for some exaggeration – remarked: *"I rank this Bogle invention along with the invention of the wheel, the alphabet, Gutenberg printing, and wine and cheese: a mutual fund that never made Bogle rich, but elevated the long-term returns of the mutual-fund owners – something new under the Sun"* (Hartford, 2017).

Over time, technological advancements and increased computing power expanded the possibilities for passive fund offerings. In the 1990s, exchange-traded

2 *Commentary attributed to Edward (Ned) Johnson, at the time chairman of the board of directors of Fidelity.*

funds (ETFs) emerged, providing intraday liquidity. This allowed investors to buy and sell fund shares just like common stocks at any time during the trading session, with the additional advantage of being usable as hedging instruments since they could be sold short.

Regulatory measures also played a key role in advancing passive funds. Before the *Pension Protection Act* (2006), American employees had to actively opt into 401(k) retirement plans and select their investments. Due to neglect or lack of interest, a significant portion of eligible individuals remained uninvested. Following this directive from the U.S. Department of Labor, enrollment became automatic, requiring an active decision to opt out instead. The regulations, known as *qualified default investment alternatives* (QDIA), required diversified funds with professional management, allowing Vanguard and BlackRock to dominate the market. Another regulatory innovation that benefited these firms was the introduction of *target-date funds* in 2012. These funds automatically rebalance indexed portfolios as a specific date – such as retirement – approaches. Under this framework, it is clear that part of passive investing's success in the U.S. is also linked to the sustained growth of the American labor market, where a continuous and increasing volume of contributions has been directed almost exclusively toward passive strategies.

One of the most vocal advocates of Bogle's legacy is Warren Buffett himself. Despite being an icon of active investing – whose long-term returns challenge the simplicity of passive exposure – Buffett has been a staunch critic of *"Wall Street's fee logic"*.

> *If a statue is ever erected to honor the person who has done the most for American investors, the hands-down choice should be Jack Bogle. For decades, Jack has urged investors to invest in ultra-low-cost index funds. In his crusade, he amassed only a tiny percentage of the wealth that has typically flowed to managers who have promised their investors large rewards while delivering them nothing – or, as in our bet, "less" than nothing – of added value.*
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> *In his early years, Jack was frequently mocked by the investment-management industry. Today, however, he has the satisfaction of knowing that he helped millions of investors realize far better returns on their savings than they otherwise would have earned. He is a hero to them and to me" (Buffett, 2017).*

The bet Buffett refers to was a challenge he proposed in 2007, accepted by a hedge fund firm, *Protégé Partners*. Convinced of the difficulty active funds faced in competing with passive ones, Buffett wagered $1 million that, over the next ten years, Vanguard's S&P 500 index fund would outperform a selection of five top-performing hedge funds. The results were indisputable: the passive fund returned **125.8%**, while the hedge fund portfolio returned only **36.3%**. Remarkably, the bet covered a highly volatile period, including the global financial crisis – an environment where hedge funds, in theory, should have had an advantage due to their ability to trade actively. Yet, none of the five hedge funds selected by Ted Seides managed to outperform the Vanguard fund[3].

The picture outlined thus far highlights the most evident aspects of the passive investment movement. However, it also presents a simplified narrative. In practice, the line between passive and active investing can be less distinct. As passive funds gained popularity, the industry began developing index-based strategies that extended beyond traditional market-cap-weighted indexing. Notable among these innovations are *Smart Beta ETFs* and *Direct Indexing*[4]. Research shows a growing interest among investors in holding a personalized investment portfolio. These new categories of passive-style investing have thus emerged as adaptations to accommodate more recent trends toward greater customization. Although they remain rule-based products, their construction involves decisions that go beyond the traditional market-cap-weighted indexing. These decisions include the active selection of securities, weighting methodologies, and rebalancing strategies.

The most recent statistic we have regarding the effort to measure the global index industry comes from *Business Wire* magazine, in its 2018 edition, which recorded no less than 3.7 million indices – 438,000 more than in the previous year's first count, when the number of indexed products already exceeded the number of stocks by more than seventy times. Given this vast array of alternatives, the tendency toward hyper-specialization, and the heterogeneous methodologies used to capture the same

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3 *In fact, it seems that not even Berkshire seems to have beaten the market in the period. We don't know the exact start and end date of the bet but taking S&P 500 annual results from 2008 to 2017, which are close to the performance of Vanguard disclosed in the bet, Berkshire's return in this period was around 110%.*

4 *Smart Betas ETFs and Direct Indexing allow investors to customize their exposure while maintaining rule-based investment approaches. Smart Betas ETFs are products that use as indexing criteria elements known as factors, whose characteristics are relevant to explain the risk/return behaviour of assets. As we saw in the last Report, among the most common factors are value, size, momentum, volatility and quality. Direct Indexing is when the investor holds, himself or through an advisor, the assets of a given index directly, by instead of indexed fund shares. The benefits generally pursued are greater flexibility, customization and tax gains.*

fundamentals, it is clear that index construction involves significant discretion. The sheer volume of available indices reflects the *on-demand* nature of their creation. The traditional view that indices are predefined benchmarks, which passive vehicles simply attempt to replicate, fails to explain this highly diverse universe. In reality, the understanding today is that customization has reversed the logic of the industry: rather than indices being given references that funds replicate, indices are now created in response to specific investor demands to meet each unique profile.

In this scenario, the provider of the "passive" fund has effectively taken on the role of an "active" fund manager. This was the surprising conclusion of an exhaustive study that examined the methodologies of nearly a thousand indices. According to the study's author: *"Rather than being passive in any meaningful sense, index investing simply represents a form of delegated management, whereby the investor (the principal) empowers a delegee (her agent) to make decisions on her behalf. Instead of being truly passive, tracking an index almost always implies choosing a managed portfolio."* (Robertson, 2019). Indeed, a closer look at the criteria used in index construction reveals the high level of discretion involved. We need not look far. In the methodology of the most "famous" index in this ecosystem, the S&P 500, we read: *"Constituent selection is at the discretion of the Index Committee and is based on the eligibility criteria."* For the *Dow Jones Industrial Average*, another prominent index derived from the S&P 500, the selection is "*not based on quantitative criteria. Instead, a stock typically is added only if the company has an excellent reputation, demonstrates sustained growth and is of interest to a large number of investors*".

Just as many so-called active investors, due to "institutional imperatives," seek to stay close to benchmarks, minimizing "tracking error", and end up turning their portfolios into near-replicas of indices, we have also seen that, under the umbrella of so-called passive investing, there is active selection of investments and constant trading[5]. In other words, over time, the clear-cut bifurcation that characterized the early days of passive investing has given way to a more intertwined network of approaches.

So far, we have described an impeccable side of the passive investing journey: an innovation that offered investors a safe, cost-effective, and profitable alternative, gaining exponential adoption to the point of displacing the establishment of active management in the world's largest capital market.

At the beginning of last year, David Einhorn, a well-known investor and founder of Greenlight Capital, declared: *"I view the markets are fundamentally broken,"* referring to the rise of passive investors, who make no consideration of value and simply assume that the work of asset selection should be done by someone else. Since then, Einhorn has intensified his complaints, emphasizing that the situation continues to worsen, that the market is becoming structurally dysfunctional, losing its fundamental ability for *price discovery*, and that the professional asset management industry is being destroyed[6].

His warning resonated deeply, as it came as an outcry from a well-known and successful investor. But it was not new. Concern about the limits of passive investing has existed for a long time. As early as 1996, a young Bill Ackman – who would later become a prominent investor – challenged the legendary duo of Buffett and Munger at a symposium with the following statement: "*… To the extent that more and more capital becomes indexed – and if you think about index fund managers as really being a computer, then in terms of the voting of shares for instance – the more stock that is held by people who don't care about individual corporations, the more there is a significant societal detriment to have capital in the hands of people who are just seeking average performance."* He then concluded: *"The result is that the more capital that is indexed, the more it inflates the prices of companies in the S&P and leads to poor capital allocation and maybe detrimental owner performance over time because some companies get more capital than they deserve*" (La Roche, 2016). To which Munger responded, acknowledging the merit in the young interlocutor's observation: *"You are plainly right, if you pushed indexation to the very logical extreme you would get preposterous results."*

This dialogue took place nearly thirty years ago and foreshadowed some of the central dilemmas of index investing, including its important impact on corporate governance, which we will discuss further in this text. Buffett, focusing on the substance of investor´s financial balance, spent his career praising the merits of passive investing,

5 *"Closet indexation" is the term given to the fund that, despite being named active and charges for it, it closely follows a benchmark.*

6 *Mike Green, founder of Simplify, another investor coming warning about the dangers of this unlimited advance, refers to the passive investment as a "crushing machine of active investors", since "the investor who performs discounted cash flow analysis is being replaced by someone who assumes that another is doing that work, believing that they thereby have no influence on the market, which is not true" (Green, 2022).*

championing index funds in his famous bet, and publicly recognizing the legacy of their main advocate. Munger, a master of mental exercises, anticipated the logical absurdity of taking this investment proposition to its extreme.

Toward the end of his career, even John Bogle, when asked about the dangers of widespread indexing, admitted without euphemism: *"If everybody indexed, the only word you could use is chaos, catastrophe"*. He then added: *"There would be no trading. There would be no way to turn a stream of income into a pile of capital or a pile of capital into a stream of income"*. In a more reassuring tone, he maintained in the same interview that he saw no chance of the market becoming 100% indexed. The journalist insisted: at what percentage would we start having problems? Even at 75% participation, the market would still not become dangerous, was his response (Udland, 2017).

In recent years, academic literature in finance has shown increasing interest in gaining a deeper understanding of the dynamics of market microstructure, investigating how trading mechanisms affect the price formation process. From 2016 onward, in particular, several studies have introduced significant advancements. The increase in computational power, the incredible volume of available data, and more sophisticated modeling are transforming theoretical suspicions into measurable magnitudes, revealing realities previously imperceptible to the naked eye. Regarding index investing, in a highly simplified form, the main critical findings are as follows:

(i) Passive funds do not adhere to William Sharpe's classic academic definition that a passive investor is one who never trades. In practice, passive funds do trade, not only during index rebalancing but also whenever they receive inflows or face redemptions.

(ii) Passive funds follow a simple rule: if there is inflow, they buy; if there is redemption, they sell – automatically and regardless of the displayed price. Passive funds typically do not hold cash, or they hold very little cash as a percentage of the fund's size. The mechanical impact of not holding cash is that they buy and sell at any price.

(iii) Passive strategies exhibit perfectly inelastic behavior, entirely insensitive to price signals. This results in a loss of the informational element of prices. Normally, when prices rise, demand for assets decreases, and vice versa. This is the basic market adjustment mechanism. Without this sensitivity, and merely following the systematic replication of the portfolio, when there is an inflow, more is bought of what already has more weight, and when there is a redemption, more is sold of what already has more weight – without considering fundamentals or looking at prices[7].

(iv) In aggregate, since passive funds have been consistently registering net positive inflows, the combination of points (ii) and (iii) above leads to the following observable market consequences:

  (a) The valuations of underlying assets increase in line with fund growth, regardless of fundamentals. Since investors are not reacting to price increases as expected, the negative feedback mechanism of demand response is "jammed" (inelasticity). Thus, the continuous flow into passive funds should continue pushing prices upward.

  (b) Stocks become more correlated, as buy and sell orders are spread in the same direction across the entire portfolio. In fact, a historical increase in co-movement measures has been recorded, culminating in an unprecedented event in 2018 when all stocks in the S&P 500 moved in the same direction – something that has occurred several times since.

  (c) Since, by design, the allocation of funds flowing into passive vehicles follows the proportionality of existing positions, market concentration increases. The Herfindahl-Hirschman Index (a measure of concentration) for the S&P 500, for example, shifted to a higher level starting in 2020 and has been reaching successive record highs. Indeed, over the past two years, 60% of the S&P 500's return has been driven by the performance of the "Magnificent Seven," whose $18 trillion market capitalization represents 35% of the index. Another way to express this concentration: during this period, only 29% of S&P 500 companies managed to outperform the index, whereas historically,

7 *In theory, when a group of investors adopts passive strategies, it is expected that the others will become more aggressive in order to "not leave money on the table," thereby ensuring the informational efficiency of the market. Evidence of this reaction is hedge funds and pod shops shortening time horizons and trading more frequently as passive investment increases penetration. Contrary to what is expected by traditional theory and the Efficient Markets Hypothesis, which assumes that markets are highly elastic, Haddad et al. (2024) showed that this compensation is not integral. They estimate that the "strategic responses" of other investors reduce the direct impact of an increase in passive investment by two thirds. Since 1/3 "remains inert" and 32% was the increase in the share of passive investment over the last 20 years, the authors conclude that the reduction in market elasticity was in the order of 11%, which is quite significant. Other pioneering empirical works attempt to describe and measure the "inelastic markets hypothesis," for example, Gabaix & Koijen (2021) and Bouchaud (2021).*

this figure has ranged between 50% and 55% (cf. BofA, 2025).

(d) As a result, larger companies become even larger (momentum bias), driven by a self-reinforcing positive feedback loop: assets that rise the most attract more flows and tend to rise even further. Surprisingly, the largest companies by market capitalization are also those exhibiting the highest volatility. Evidence shows that investors in this space behave even more inelastically. The positive relationship between size and volatility seems counterintuitive – even for technology companies – because larger firms are more widely covered by analysts and investors, which should, in theory, make them more informationally efficient. However, this is not what is observed, especially since liquidity does not scale with market capitalization.

(e) This self-reinforcing cycle of flow-valuation-flow, in turn, strengthens the appeal of passive strategies relative to active management. When flows interact with illiquidity, the result is artificially inflated returns (Beck et al., 2024). Active managers face ongoing redemptions and lose relevance within the industry.

(f) The shrinking role of active managers has extremely significant implications for capital market dynamics. First, it reduces the presence of those responsible for market "price discovery," who perform the essential task of selecting investments eligible for index inclusion. Second, it inhibits the volume of IPOs, as newly public companies, by definition, are not part of indices and thus fall outside the scope of interest for passive funds. At this stage, discretionary investors are usually the ones who participate in and anchor initial offerings[8].

g) Conceptually, the increasing share of passive investing, through ETFs, for example, should improve market efficiency by reducing transaction costs, facilitating short selling, and thereby increasing the speed at which new information is incorporated into prices. In practice, however, the opposite has been observed. Empirical studies suggest that indexation has made markets less efficient, not more, as it fuels short-term speculation/noise, reduces stock liquidity, and diminishes the relevance of specific information in asset price fluctuations. As a result, companies become more susceptible to "sentiment shocks" and tail risk impacts in markets (Höfner et al., 2023).

An investment strategy that disregards company fundamentals, ignores asset prices, does not respond to flows, and neglects the relative weights of positions in the portfolio must rely heavily on the ability of those entrusted with this outsourced management. This model assumes that discretionary investors will continue to do the heavy lifting of analysis, selecting the winning stocks that should be included in indices. It also assumes that the market will continue to function in an informationally efficient manner. However, empirical evidence from recent studies on market microstructure dynamics suggests that passive investing's growth may reach a threshold where these two assumptions are no longer valid. When that happens, passive investing could become a victim of its own success, triggering a self-destructive cycle by undermining the very premises that sustain it. Not surprisingly, identifying this inflection point – where a regime shift occurs – remains one of the most intriguing challenges for financial scholars and one of the most relevant questions for investors/practitioners.

The problem is that we are once again facing a phenomenon governed by the logic of the "tragedy of the commons." From an individual investor's perspective, the most rewarding strategy is to keep "riding the wave" and try to exit before it crashes onto the sandbank. From a societal perspective, the best solution would be some regulatory intervention to restore a healthier balance among ecosystem participants, allowing the market to regain its operational efficiency and avoid a systemic collapse. Ironically, the passive investment style, which assumes that unsophisticated, almost naïve investors should passively participate in the market as individual price takers, has collectively transformed them into true price makers.

This empirical finding – that passive fund flows can dictate prices over long periods – brings an intriguing new development. As we recalled in the previous Report, value investors assume that their efforts *"to understand the intrinsic value levers of companies and identify asset prices distortions"* will be rewarded as markets *"perceive these asymmetries over time and converge prices in the direction of the reliable ballast of value"*. From this perspective, *"the*

8 *Just as an illustration, the regulation of SPACs –Special Purpose Acquisition Companies – in order to reach these deep pockets, included a provision providing that from a certain size, the deal becomes eligible for investment for indexed funds. A SPAC is a structure in which a holding company goes public without operations or assets with the objective of acquiring or merging with another operating company. The justification for this innovation is to allow access to capital under conditions of tighter liquidity in the market and at more competitive costs than a traditional initial public offering. The SPAC "wave" occurred in 2020 and especially in 2021, when more than six hundred deals were registered. Since then, activity has fallen dramatically, to less than 10% of this volume last year.*

*cyclothymic market has always been seen as an ally for this tribe of participants, offering entry and exit opportunities at attractive prices in times of excess. Once the emotional extremes have passed, in times of greater psychological sobriety, rationality once again prevails and seeks to locate prices where disciplined value investors imagine they will stay or exit"* (Carta Dynamo 123).

The rise and success of passive investing give a new status to the phenomenon of "flows," making them a dominant force in price determination over extended periods rather than just short-term *influencers*. If this is the case, the foundational assumptions of the value investing mindset could be challenged, explaining the strong reaction from some of its proponents. If flows "make" prices, the expected "correction" of the market – where prices converge toward fundamental reality – could take much longer, requiring greater patience.

Even so, some mitigating factors should be considered. The supremacy of passive funds is, for now, limited to a specific asset class and a single geography: U.S. equities. The penetration of passive funds in the U.S. bond market has been growing but remains below 25–30% of the market. Additionally, active equity investors have demonstrated superior performance compared to indices in other global markets, particularly in emerging markets. In Brazil, we are aware of several active managers who consistently outperform the Ibovespa. There are multiple historical reasons for this. The primary index selection criteria – trading liquidity and size – fail to adequately capture the quality, business merit, and risk profile of many companies while giving relative weight to state-owned enterprises and commodities. Furthermore, Brazil's largest companies are not as exposed to the benefits of digital technology and winner-takes-all business models that have reshaped the S&P 500 through the dominance of the "Magnificent Seven," turning it into a respected *stock picker's* benchmark. In other words, while passive investing has grown in Brazil – mainly through the channel of global indices – we believe the Brazilian stock market is more insulated from the risk of being impacted by passive vehicles to the same extent as in the U.S.

On the other hand, the strong momentum of U.S. market performance, driven by the big tech locomotive, has global repercussions. U.S. has been concentrating performance and absorbing capital from other markets. The relative performance of U.S. equities compared to the rest of the world is now several standard deviations above the historical average – an unprecedented event. Similarly, over the past five years, capital inflows into U.S. equity funds have been six times larger than those into the rest of the world combined. It is safe to say that the biggest beneficiary of this trend has been passive strategies. Just last year, U.S. active funds faced around half a trillion dollars in redemptions, while passive funds attracted $2.8 trillion.

## Governance

Before closing, a brief note on the impact of passive investing growth on corporate governance issues.

The low-cost passive strategy requires scale to be viable as a business. Unsurprisingly, the industry has become so concentrated that it is now largely dominated by the "three giants", the "Big Three" (Bebchuck & Hirst, 2019), or the "new titans of Wall Street" (Fisch et al., 2019): BlackRock, Vanguard, and State Street. Together, these firms are estimated to hold approximately 30% of all shares in the S&P 500 index. This represents an unprecedented concentration of ownership in what was once the stronghold of capital dispersion, where, paradoxically, control over American corporations has fallen into the hands of investors who claim to participate in the market purely passively.

The repercussions for shareholder relations dynamics are evident. The way these firms monitor, vote, and engage with their portfolio companies affects corporate governance structures and company performance itself. Much debate has surrounded the incentives behind their actions and whether they genuinely exercise (or neglect)

*Dynamo Cougar x Ibovespa*
*Performance in R$ up to January 2025*

| Period | Dynamo Cougar | Ibovespa* |
|---|---|---|
| **120 months** | 207,3% | 168,9% |
| **60 months** | -2,8% | 10,9% |
| **36 months** | -3,1% | 12,5% |
| **24 months** | 9,3% | 11,2% |
| **12 months** | -3,2% | -1,3% |
| **Year (2025)** | 5,5% | 4,9% |
| **Month (January)** | 5,5% | 4,9% |

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

the representational power conferred upon them by this vast mass of investors.

Despite representatives of the "Big Three" – most notably, Larry Fink of BlackRock – consistently reaffirming their commitment to stewardship, i.e., active engagement based on fiduciary duty to enhance value and promote sustainability, some experts view the situation differently. According to these critics, passive funds lack an incentive to engage actively because such activities are costly, and their low fees mean they capture only a small fraction of the resulting appreciation. Additionally, they would essentially offer a free ride on their governance efforts to other competing funds invested in the same assets (Bebchuck & Hirst, 2020). Furthermore, there are reasons why passive vehicles might adopt a more "deferential" stance toward companies. One key reason is the conflict of interest in the personal agendas of index fund managers, given that a significant portion of their assets under management originates from companies themselves – through their management of employee retirement plans. Moreover, precisely because of their sheer size, it is convenient for these large funds to adopt a more discreet approach, avoiding corporate controversies to prevent regulatory scrutiny. Since these firms hold stakes in multiple companies within the same sector, they could raise concerns among antitrust regulators. As a result, passive funds may be passive not just as investors but also as shareholders.

Empirical research on the issue has produced mixed results depending on the scope of observation. When the "Big Three" are compared exclusively to smaller passive funds, evidence suggests they engage more in proprietary governance research, vote more independently of proxy advisory firms, and demonstrate greater incentives to engage. However, when compared to active funds, they tend to vote pro-management more frequently, reinforcing the hypothesis of a more "resigned" approach mentioned earlier (Brav et al., 2023). Another recent empirical study took a different angle, concluding that the governance impact on companies depends on whom the large passive funds are replacing in the shareholder base. If the "Big Three" displace other smaller passive funds, governance and transparency indicators tend to improve. However, when they replace active investors, governance tends to deteriorate (Chen & Heater, 2024).

All indications suggest that passive managers generally lack the balance sheet strength, interest, or natural inclination to engage in governance activities. However, the "Big Three" have grown so large that they have upended these initial "constraints." Their scale has now: (i) made engagement financially viable – not just in terms of fee revenues but also in the performance of their invested companies, given the size of their holdings; (ii) strengthened their fiduciary duty obligations, reinforcing the need for monitoring and engagement, counteracting the institutional tendency toward non-confrontation. As Peter Parker's (Spider-Man's) uncle famously said: "With great power comes great responsibility." The explosive growth of the "Big Three" has forced them into roles that were never part of the original script.

If this expansion continues at the current pace, new and unprecedented concerns lie ahead. Reaching certain ownership thresholds in U.S. companies could alter the investor status of these firms, classifying them as *beneficial owners*, which would trigger legal obligations and impose trading restrictions – an outcome that portfolio investors generally seek to avoid. This could create even greater complications for systematic investment vehicles. Additionally, if these funds must respect ownership limits to avoid triggering poison pill clauses, for example, they may lose their ability to track indices closely, drifting away from their statutory objective.

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In these last two Reports, we have sought to describe the characteristics and behaviors of some participants who have gained relevance in capital markets. We used the metaphor of an ecosystem, understanding that we are dealing with an environment with a high number of individuals in constant interaction and adaptation, adopting diverse strategies to thrive, reflecting both competitive and cooperative elements of the natural world. Given the extent of the challenge, we selected three species to examine more closely: high-frequency traders, factor investors, and passive investing. Each of these categories include various subdivisions. In common, each one believes in a coherent understand and in its own tool box, in a way that this combination of strategy and instruments can provide them with some competitive edge – whether by anticipating the market to capture above-average returns or by accepting market returns at lower costs. Among systematic investors, HFTs aim to extract excess returns from the microstructure of order books and trading screens, investing in mathematical models, fast algorithms, and computing power. Factor-based strategies rely on vast amounts of data and employ statistical models to identify patterns of characteristics (factors) that are best suited for each moment in the market cycle, promising a more attractive risk-adjusted return. Passive investments, on the other hand, are simple, rule-based strategies that are highly cost-effective, benefiting from the work of active

managers and delivering consistent returns over the past two decades, mainly due to the strong performance of large U.S. technology companies.

As we are part of the same ecosystem, the actions of these species also affect us. HFTs operate at the level of "quantum particles," on a time scale vastly different from the pace of real-world events. Nevertheless, in aggregate, this frantic search for microscopic advantages can dictate short-term price movements, causing considerable fluctuations – sometimes intraday – without any real connection to companies' day-to-day fundamentals. Practically, this has led to increased volatility in our share prices and short-term price swings that are difficult to understand.

Factor investors sometimes adopt extrapolative strategies that favor performance persistence, leading to endogenous price movements. By capturing momentum and trends, they may drift away from the north of fundamentals. In this case, we also observe the same reflexivity effect, where recent prices become the primary guide for investment decisions and portfolio construction.

Meanwhile, the unprecedented growth of passive strategies has made markets more insensitive (inelastic), undermining price discovery and reducing overall efficiency. Here, allocation decisions are based on automatic rules, leaving no room for discretion or fundamental considerations. Coinciding with the dominance of American big tech companies, passive funds have proven to be effective stock pickers. As a result, investors who openly embrace a "naïve" approach have, in practice, become key price makers. By design, driven by a self-reinforcing mechanism, under the dominance of index funds and ETFs, inflows generate performance, which in turn attracts more inflows, leading to a concerning spiral of valuation asymmetries and market concentration never seen before.

The coexistence of passive and quantitative investing is no coincidence. A predictable environment – where simple systematic rules prevail – is ideal for algorithms to develop statistical skills. Even more so when these strategies become widely dominant, fueled by a secular trend, with trillions of dollars operating under the same modus operandi, creating strong, well-defined, and prolonged price movements in an unprecedent way.

The growing presence of systematic investors, the rise of algorithms and computers taking control of trading desks, the expansion of the passive investment industry, and the increasing activity of retail investors have created a fragile and, consequently, riskier trading environment – one that demands caution, observation, and continuous reflection. We remain vigilant, both regarding the (positive and negative) impacts this dynamic may have on the prices of assets in our portfolio and in assessing the implications for the asset management industry and the evolution of capital markets in Brazil.

These observations in no way shake our convictions. We remain focused on our analysis, which is an unwavering pursuit of the elements that provide clues about business vitality, managerial excellence, the quality of leadership teams, the concreteness of value propositions, the depth of competitive positioning, and other attributes that together determine the enigmatic reality of a company's intrinsic value. Our work is akin to assembling a Gothic stained-glass window, where each individual piece may seem insignificant on its own, but when properly arranged, reveals a remarkable collective result. This is the beauty and the secret of the seemingly tedious bottom-up approach – the unglamorous daily process of sifting through fragmented pieces, often not readily expressed in codified data. We have often said that, for us, price is an epiphenomenon, a derivative of the underlying reality of fundamentals – the true underlying asset. Of course, we also recognize that market prices have a monopoly on evaluations and ultimately determine outcomes, deciding winners and losers. As the saying goes, markets can remain bewildered longer than we can remain "solvent". This underscores the increasing importance for asset managers to cultivate a stable, long-term relationship with qualified investors.

We will continue to focus on the long term, seeking to identify the true value of the assets in which we invest. With price discovery increasingly distorted by factors unrelated to fundamentals, we anticipate that the windows of observation may need to be extended in the future. This dynamic environment will offer more opportunities but with higher statistical risk (volatility), requiring stronger conviction and deeper analytical capabilities. Most importantly, it demands a clear understanding of each investor's horizon. Now more than ever, an informed and aligned investor base is the most valuable asset for a long-term approach to asset management.

We are confident that we can take advantage of these asymmetries and price deviations from the reality of fundamentals, turning apparent disadvantages into real strengths. Over the past thirty years, our principles and techniques have been tested in various circumstances. These two Reports reveal a peculiar trait of ours at Dynamo: the curiosity to investigate systems and behaviors that differ from ours, to search even in differing perspectives for insights that challenge our foundations, in order to strengthen them further. This endeavor, while risky, when carried out with honesty and diligence, invariably proves

## 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*** | 12.0% | 22,423.8% | 11.4% | 635.9% |

*(*) 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 January 2025.*

worthwhile. This time was no different. We emerge from this journey with a calm confidence – established on the pillars of learning from mistakes, the strength of our method, an obsession with continuous improvement, and accumulated experience – that we have the ability to construct a portfolio of winning companies capable of delivering attractive and consistent returns for our investors.

*Rio de Janeiro, 14th February 2025.*

## *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$ 5.838,2 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 another 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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