



## Systemic Perspectives on Portfolio Management, Behavioral Finance and Financial Culture

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**ABSTRACT:** This empirical study reconceptualizes portfolio management from a series of isolated financial transactions into a complex, self-organizing socio-technical system. Grounded in general systems theory and cybernetics, the research introduces the regenerative wealth management framework, which integrates the financial market environment, cognitive-behavioral inputs, and financial culture into a dynamic feedback loop. The study posits that human behavioral biases are not anomalies to be eradicated, but intrinsic system noise that must be structurally managed through deliberate choice architecture. By evaluating 1,722 investment portfolios over short-term (3-month) and long-term (10-year) horizons, the research tests the systemic resilience of the Rolling Nuts (RN) portfolio models. The findings reveal profound scale independence and fractallike invariance: the system's structural robustness remains constant regardless of time horizon, participant demographics, or sample size. Furthermore, the study demonstrates that imposing strict academic rationality disrupts the system's internal cybernetic feedback mechanisms. Instead, accommodating autonomous, intuition-based decisions within a rigid, simple structural framework (RN 4) enables the system to self-correct and achieve superior passive profitability. Ultimately, this research validates a paradigm shift in financial science, proving that optimal systemic performance is an emergent property of aligning structural allocation rules with natural behavioral tendencies rather than resisting them.

**KEYWORDS:** behavioral finance, financial culture, financial self-sufficiency, portfolio management, wealth management system

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### PRELUDE

Financial culture, defined here as an integrated framework of proficiency, confident application, personal evolution, and knowledge dissemination, transcends the static constraints of conventional definitions. From a General Systems Theory perspective, the investment portfolio is not merely a collection of assets but a dynamic, self-organizing system characterized by internal complexity and external interaction with market entropy. Viewing the portfolio as a systemic entity requires moving beyond traditional linear models toward a framework that accounts for the recursive relationship between the investor's cognitive architecture and the structural behavior of capital markets.

In this context, the portfolio acts as a complex decision-making system where the human element – marked by the subjective biases identified by *Barberis and Thaler (2003)*, and *Odean (1999)* – serves as the primary source of system noise. Designing a resilient portfolio requires a deliberate choice architecture (*Thaler & Sunstein, 2011*) that treats these behavioral biases not as errors to be eradicated, but as systemic inputs to be managed through structural controls. The methodology of regenerative wealth management functions as a cybernetic feedback loop; by imposing symmetry and simplicity, such as the Rolling Nuts models, the system effectively dampens the financial entropy generated by irrational decision-making.

System design in wealth management must therefore prioritize the transition from a chaotic state – defined by excessive complexity and reactive decision-making – to a controlled state of self-sustaining order. This is achieved by acknowledging that systemic performance is an emergent property of the interaction between the individual's financial literacy and the chosen allocation framework. Consequently, the control of the system lies in the strategic alignment of behavioral tendencies with robust, scalable allocation rules. By

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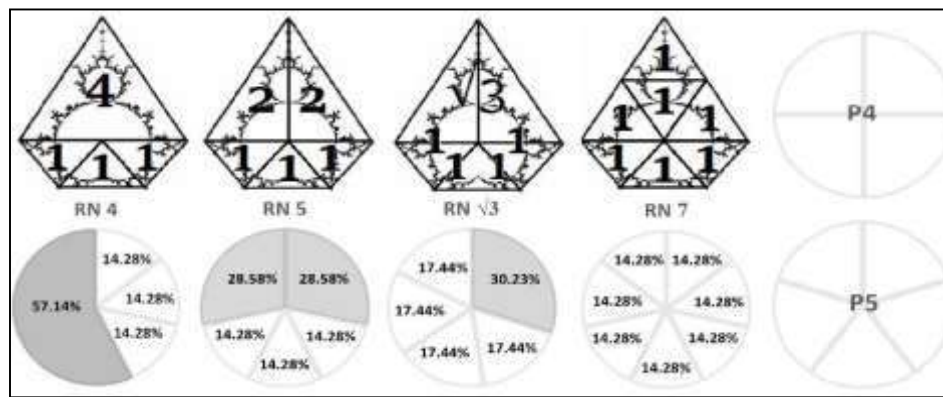
systematizing decision making through such mechanisms, we stabilize the portfolio against the volatility inherent in financial markets, transforming the management process into a framework for long-term sustainability, passive profitability, and cognitive self-sufficiency. This approach confirms that financial literacy, when practiced as a systemic discipline, enables the investor to navigate market turbulence by aligning their internal logic with the inherent patterns of natural growth and institutional stability.

Financial culture refers to financial proficiency, the confident application of knowledge, personal learning, and the sharing of knowledge. Many people interpret the term “financial literacy” in various ways, so we felt it was appropriate to provide our own definition right at the beginning of this study, which is broader than those definitions because it also encompasses foresight and personal development. Previous definitions, in fact, generally narrow down to financial knowledge, application, and the management of personal decisions (*Remund, 2010; Mak–Braspenning, 2012; Amagir et al., 2020*). However, it is easy to see that when defining any culture, it includes not only knowledge and behavior but also the capacity for development and the dimensions of modeling and transmission; thus, we align with the description provided in the first sentence and examine the subject from this perspective. Behavioral finance encompasses the set of decisions made from an individual’s perspective, along with all of their subjective errors (*Howard, 2014*). Unlike the rational investor (*Markowitz, 1952*), people make their decisions primarily on an emotional basis and commit cognitive errors that also influence our investment decision-making (*Dubey, 2025*). Behavioral biases – overconfidence, herd mentality, trendfollowing, confirmation bias, recency bias, anchoring bias, mental accounting, loss aversion – require a psychological approach to the system, contributing to a better understanding of investor behavior in financial markets. Portfolio management is a chaotic system of complex decisionmaking processes (*Pagdin and Hardy, 2018*); therefore, using an interdisciplinary approach, we seek to apply its nature as a controllable system from an econophysics perspective (*Burennikova– Yarmolenko, 2023*). Parallel to the development of financial culture, increasing attention is being paid to financial freedom (*Kiyosaki–Lechter, 2000*); however, returns are expected to be driven by the seemingly incongruous pairing of choice architecture and the behaviorally oriented investor (*Kahneman–Tversky, 1979*). Sustainable asset management faces challenges (*Hayes, 2019*), as it must combine human error with engineering-level precision in decision-making; we attempt to understand and apply this from the perspective of the dual conceptual framework indicated in the title.

Regenerative wealth management is an advanced socio-technical system designed to ensure financial sustainability, generate passive income, and manage financial entropy. Building on general systems theory and critical systems heuristics, it approaches portfolio allocation not as a series of isolated financial investments, but as a dynamic, self-sustaining framework based on natural growth patterns. Through choice planning and the systematic mitigation of behavioral biases, regenerative wealth management creates an internal order in asset allocation that leads to long-term profitability. Treating wealth management as a system means recognizing the structural mechanisms of capital markets and the psychological factors affecting investors. This system-level approach is based on three main principles, which we must first test before we can present them as a solution within a systematic framework. These principles are scale independence, the management of financial market disruptions, and the unity of autonomous decision-making. The research assumes that the system’s robustness should remain constant regardless of the scope of analysis and time horizon; that financial market noise can be mitigated through a structured, purposefully diversified system; and that, rather than excessive rationality, it will be examined conviction-based positioning.

## METHODOLOGY

The research methodology is based on the Rolling Nuts (RN) portfolio management system, which adapts the sustainability and growth patterns found in nature to wealth management (*Cziraki et al., 2024*). Based on this methodology, it was constructed investment portfolios according to a symmetry system. This makes it possible to compare four types of portfolio diversification structures, while also subjecting the methodological system itself to critical comparative analysis. The methodology is suitable for addressing the following key asset management issues: recommended number of investment components, diversification strategy, degree of focus, behavior-oriented investor behavior, financial culture, and sustainable asset management. To this end, we compare 4-, 5-, and 7-asset portfolios with different focuses, using equally (permanently) allocated benchmarks (*Figure 1*), in both short- and long-term analyses, and through a focus group approach. To model investor behavior, the methodology examines: the reasons behind investment decisions, the role of focus selection, and winning strategies; it contrasts the power of free asset selection with the decisions of other focus groups – which operate under constraints – and compiles the range of lessons learned at the individual level.



**Figure 1: The Rolling Nuts (RN) and benchmark (P) distributions of the methodology used**

Based on the research methodology, we created portfolios consisting of 4, 5, and 7 elements with various groups of higher education students, allowing them to freely select the elements; in addition to returns, we also examined the rationale behind investment decisions and the range of conclusions that could be drawn during the evaluation. Our aim is to explore a decision-making system that is well-structured, operates within a defined framework, and is easy to control. Alongside the distribution of the four portfolios in the Rolling Nuts model system, we included two benchmark portfolios (P4 and P5) as a basis for comparison, allowing to contrast the assumption of an equal distribution of selected elements with the results of the focused models. Of the 6 portfolios thus formed, 3 have varying degrees of focus (RN4 and RN5 Force are singlefocus, while RN5 is dual-focus), while the other 3 represent an equally distributed structure (with 4, 5, and 7 elements), thereby enabling a comparison of the degree of dominance against permanent distributions. By comparing these factors, the framework for the decision-making system can be established. *Table 1* summarizes the influence of the aspects examined in the study on financial culture and behavioral finance.

**Table 1: Research aspects across the two dimension of financial literacy and behavioral finance Research Aspects**

|                    |                                                            |                                                          |
|--------------------|------------------------------------------------------------|----------------------------------------------------------|
| Investment Motives | Factors influencing decisionmaking?                        | Decision-making biases? Suggestions for addressing them? |
| Winning Portfolio  | The result of risk tolerance?                              | Recommended strategies for correcting errors?            |
| Returns            | #1 Quantitative Comparison<br>#2 Methodological Comparison | Short-term vs. long-term investment horizons             |
| Focus Groups       | Diversification strategies?                                | Differences in mindset?                                  |
| Conclusions        | What conclusions can be drawn?                             | Solutions for avoiding poor decisions?                   |

One of the fundamental questions of the research is: Does the smaller, the larger, or the solution with two focal points prove to be the most effective (dominant behavior), or does an equal (permanent) distribution of elements yield better results? While evaluating the test results, we also focused on detecting differences in the number of elements, since we compared two structures from a 4-element portfolio, three from a 5-element portfolio, and one from a 7-element portfolio.

Is a smaller, medium, or larger number of items the most effective solution? We can examine this using this methodology. Of course, we could have worked with a much larger number of items; after all, it is not uncommon in real life for a portfolio to consist of as many as several hundred items. However, this raises the issue of overdiversification (*Statman, 2002*), which refers to the negative impact on returns caused by risks that have been excessively excluded. In our case, the differences in items 4, 5, and 7 can already be considered significant. By comparing these numbers to one another – even if the analysis is not guided by representativeness across the entire spectrum of numbers – evaluating the results derived from the differences in a small but wellfocused number of items can suggest much more effective solutions. The study reflects an examination of portfolios within a symmetry system, where we allow for multiple interpretations even within the system itself, interpreting the basic diamond structure in four different ways. In this way, we can detect discrepancies inherent in the system – supplemented by our own empirical choices – by comparing them across a broad spectrum of data and over various time periods.

The research methodology not only examines returns and compares them with benchmarks but also addresses the human factors underlying decision-making as elements of financial culture and behavioral finance, thereby making investment behavior measurable.

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The analysis conducted in the field of behavior-oriented investing thus considers the selection (and rationale) of investment components, decisions regarding portfolio focus, and the scope of lessons learned to be human factors; furthermore, individual birthdays were also included in the study as a unique marker. Participants in the study tracked the prices of their selected assets in a Microsoft Excel spreadsheet and examined the performance of their investments over the course of a single semester (3 months), supplementing this with the projected 10-year returns of those same assets. Table 2 illustrates the specific time intervals examined in the study.

**Table 2: Time periods examined in the research**

| 10 YEARS  | QUARTERS       |
|-----------|----------------|
| 2020–2010 | IX–XII. 2020.  |
| 2021–2011 | I–IV. 2021.    |
| 2022–2012 | VIII–XI. 2021. |
|           | I–IV. 2022.    |
|           | VI–IX. 2022.   |
|           | VIII–XI. 2022. |

Just as we included at least one date per week in the quarterly analysis, over the 10-year period, each participant was able to work with the current values on their own birthday. This allowed us, on the one hand, to incorporate a personal connection into the research alongside the long- and short-term analyses, and on the other hand, to eliminate distorting factors arising from potential market seasonality (for example, working exclusively with exchange rates as of January 1 would reflect only the rates typical at that time). In addition to the variations inherent in diversification, this methodology allows for an analysis of the number of components and provides an opportunity to identify differences in terms of the degree of focus or dominance. Regarding the selection of elements, we employed a focus group approach, in which certain groups were given complete freedom of choice, while we imposed restrictions on other groups in order, for example, to demonstrate the beneficial effects of international diversification (*Bugár–Maurer, 1999*). Overall, the research methodology aims to determine which alternative of behavior-adaptive decisionmaking is more effective and over what time frame, when considering a manageable decisionmaking system.

Hypotheses. To specify the studies listed above, we formulated three hypotheses, which are illustrated in *Table 3*. The hypotheses are based on the system-level approach mentioned earlier: the aim is to demonstrate scale invariance, while also is seeking to control for external noise and internal behavioral errors.

**Table 3: Research Hypotheses**

|    |                                                                                              |
|----|----------------------------------------------------------------------------------------------|
| H1 | A viable financial system can be built by structurally controlling behavioral distortions    |
| H2 | The portfolio management system used is scalable                                             |
| H3 | The regenerative wealth management system can be controlled by harmonizing financial culture |

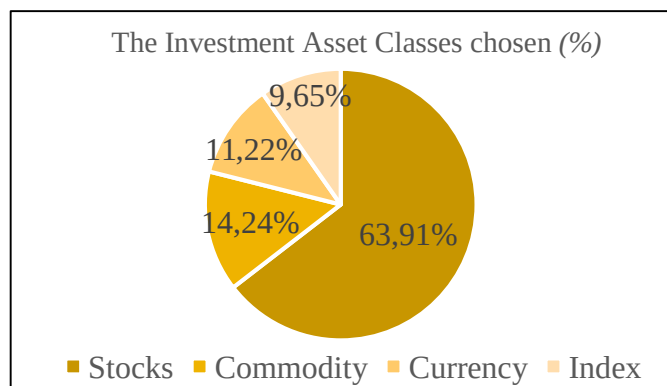
The study compiles validated, and evaluable responses of 287 participants, including 148 longterm empirical evaluations and 139 short-term data sets. This represents a combination of 1,722 investment portfolios and 2,009 investment elements in total. The short-term analyses was examined across 6 different semesters, allowing us to compare the results from 6 different time intervals when contrasting short-term versus long-term trends. This was necessary for the research to eliminate the anomaly of comparing only a specific short-term investment spectrum with a specific longer-term investment period. The more of these short-term analyses we pair with longterm analyses, the closer we can get to understanding the differences in investment diversification based on a comparison of the analyzed formulas with themselves. In this research, six different short-term time horizons are used to consider multiple periods and to compare the results of investment decisions made over these horizons with those of a longer-term, strategic investment horizon (10 years). The study conducted short- and long-term analyses of the same selected components to examine the differences in the passive and active effects of an investment strategy across multiple platforms: rationale, returns, winning portfolios, focus groups, and lessons learned. The research sample represents a total of 1,722 investment portfolios and 2,009 investment components. It considered the sample to be representative because all levels, academic years, and formats of university education were represented; we conducted the research across faculties with completely different orientations; and, given that the respondents' ages ranged from 18 to 55, the sample

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represents this university itself – and indeed, any university in Hungary. Rather than seeking to understand the general characteristics of the population, the study focused on the behavioral patterns and financial literacy of non-professional (non-broker) but highly educated investors; therefore, our research reflects this specific group. Of course, one could argue about its representativeness; in any case, the authors view the analyzed sample as a broad cross-section that measures the decisions of people with diverse life experiences and attitudes. This could also be considered a limitation of the study, but it is important that it simultaneously points the way for future research, which could focus on the differences inherent in various focus groups.

### FINDINGS

The results consist of two components: returns (quantitative) and investor behavior (qualitative), where the former is compared over the long and short term, while the latter can be inferred from several factors based on the summary of the research. First, it is useful to clarify the composition of the sample under study, specifically the breakdown of the selected assets by investment category. This explains the magnitude of the returns shown later, and at the same time, it reveals the preferences underlying investment decision-making. The study examined the distribution of more than 2,000 investment assets across asset classes, as illustrated in *Figure 2*.



**Figure 2: Distribution of the research sample across investment asset classes (%)**

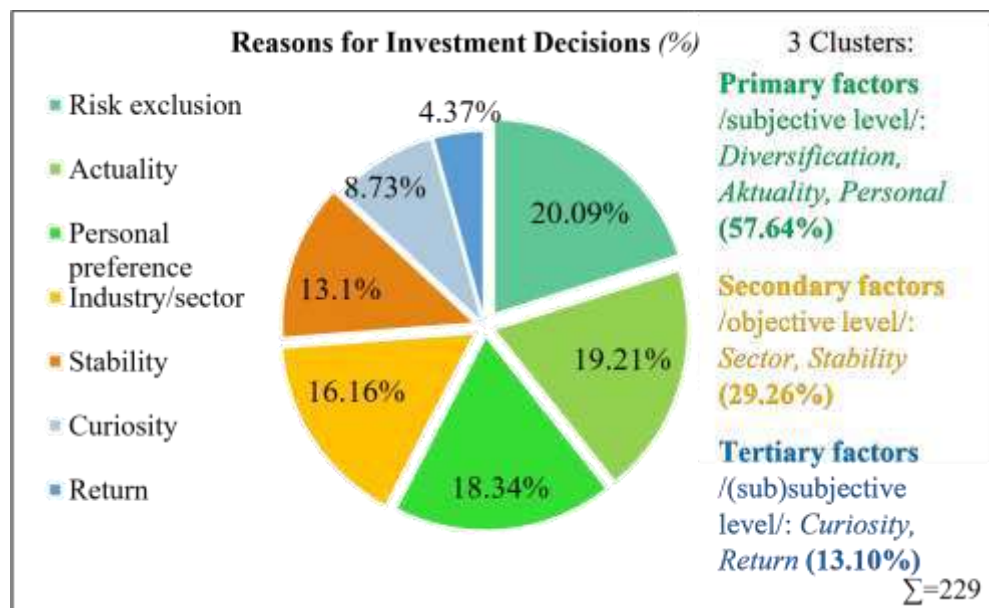
The analyzed sample consists primarily of equity investments (63.91%), followed by commodities (14.24%) as the second most common choice, as well as a combination of foreign exchange (11.22%) and index-tracking (9.65%) investments. Only four asset classes are included in the analysis, with equity investments taking the lead; thus, the sample analyzed will primarily reflect the 10-year and 3-month performance of domestic and international stock markets. Another conclusion drawn from the composition of the sample is that asset selection took place partly in the shadow of the COVID-19 pandemic and a military conflict; in light of these events, researchers see potential returns in the selected equity, foreign exchange, and commodity assets, with a primary focus on the former. The current economic and political situation influences our decision-making; yet, by categorizing the asset selection, we can conclude that we are not afraid to take risks in order to achieve returns, even if we are making our investment decisions in the midst of an unpredictable, turbulent, and uncertain present and future. Of course, people don't necessarily handle their own money quite so casually; in any case, the study provided an answer to the question of what we would invest in if we were given a free sum of money based on the research. Let's take a closer look at the deeper reasons behind the choice of investment as-sets, which are predominantly stocks.

After describing the sample analyzed, we will first examine, among the research findings, the reasons behind investment decision-making as an element of financial culture. In their individual explanations, the study participants were asked to state in their own words why they chose the specific element in question, why they focused on that particular element, and why they selected precisely these elements and organized them into individual portfolios. Based on the responses received, we can identify seven distinct groups of reasons, listed in order of frequency as follows:

1. Risk avoidance,
2. Timeliness,
3. Personal preference,
4. Industry/sector,
5. Stability,
6. Curiosity,
7. Importance of return on investment.

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The reasons for investment decisions can be classified into three distinct groups, which most strongly determine behavior, and within which interesting subjective, objective, and (sub)subjective levels can be identified. Based on the results, three clusters can be identified, which yielded similar figures, thereby allowing us to determine the factors influencing primary, secondary, and tertiary investment decisions (*Figure 3*).



**Figure 3: The justifications for investment decisions (%)**

The research findings identify diversification as the most important factor, which – given the nature of the task – can be interpreted as a slight distortion. Viewed from another perspective, however, this criterion can also be seen as a conscious effort, reflecting the risk-mitigation tool briefly studied prior to the research as the basis for personal decision-making. The short-term investment mindset is a hallmark of the behavior-oriented investor (*Gordon, 2010*), and as such a human factor, it also constituted one of the study’s primary investment motivations, based on the argument of timeliness. Personal justification emerges as a further subjective factor in the analysis, which again points to the behavior-oriented investor, here reflecting the importance of emotionally driven decisions (*Taffler-Tuckett, 2010*). The most surprising finding is that return on investment ranks last among the reasons cited. This research result directly contradicts the hypothesis of the rational investor that has prevailed for decades, in which the investor always makes decisions based on the trade-off between return and risk (security). Apparently, return does not drive investment decision-making; in fact, the research shows that it has the least influence, even though one would expect an investor to make decisions precisely in the hope of future returns. This result can also be interpreted to mean that, rather than profit maximization (return), risk avoidance (diversification) plays the primary role in decision-making; thus, return is much less (or not at all) important than ensuring that our money is in a safe and secure place. This, in turn, presupposes a longer-term mindset, in which security is far more important than immediate concerns or the currently available, tangible return expectations. Investors, on the other hand, tend to have a much more short-sighted mindset, so it is no coincidence – though surprising – that the study found return expectations to be the ultimate motivator (as a conscious behavior), thereby confirming the prevalence of behavior-oriented investor behavior.

It can be concluded that, based on the study, investors are far more behavior-oriented than return-oriented, with human factors and intuition taking precedence over speculation (calculation, rationality). Nevertheless, the highest subjective level of investment decisions is followed by an objective decision-making level; together, these account for 86.9% of the factors influencing behavior. An interesting conclusion is that at the very bottom there is an additional subjective level, which collectively accounts for another 13.1% of the factors influencing decision-making, and it is only here that the issue of return on investment and expected returns comes into play. Among the factors influencing investment decision-making identified by the research, subjective factors are thus in the majority overall (70.74%), forming a sort of “sandwich” around the median of objective assessments (*Figure 4*). The research suggests that investment decision-making is largely subjective. According to the study, investment decisions tend to be subjective, which is consistent with behavioral finance (*Rahayu et al., 2023*). The most important reason for excluding risk in the study is a subjective factor, because it does not depend on the decision-maker which factor offsets another factor or not; this is more of a feeling than a rational decision (*Jiang et al., 2024*). The research suggests that investment decision-making is a *rather subjective* matter, what is consistent with behavioral finance (*Feng,*

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2025). The primary rationale for risk exclusion involves a subjective factor in research, because it does not depend on the decision-maker which factor cancels out another factor or not; it is more a matter of intuition than a rational decision (Çağatay, 2025).

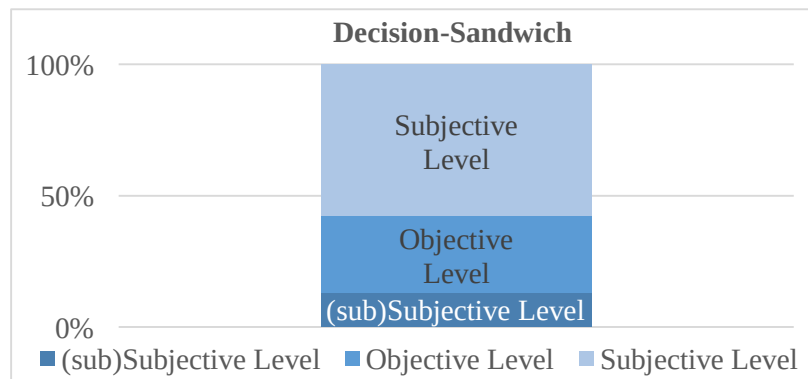


Figure 4: The investment decision sandwich (%)

**Winner.** One of the main questions of the study is: Which portfolio is the winner (even on an individual basis)? We compared six different diversification strategies to determine which one was the winner for whom, and why. Since each participant in the study was free to decide on their own investment components and areas of focus, we actually expected to see either completely different or balanced results. However, this was not the case upon completion of the analysis; instead, we obtained decisive and dominant results when we examined, in each instance, which of the six analyzed portfolios was the winning formula. One of the most surprising findings of the study was that the long-term and short-term analyses showed striking similarities regarding the winning portfolios (Figure 5). By taking stock of the winning portfolios, we can draw conclusions about the differences inherent in long- and short-term diversification strategies and determine which of the equal-weighted or focused allocations prevailed. Each participant created their own unique portfolios and decided on their own focus; for each participant, we examine which specific formula proved to be the winner based on their individual portfolio components. The analysis of the 287 winning portfolios in this study yielded decisive results that reflected similarities across time horizons.

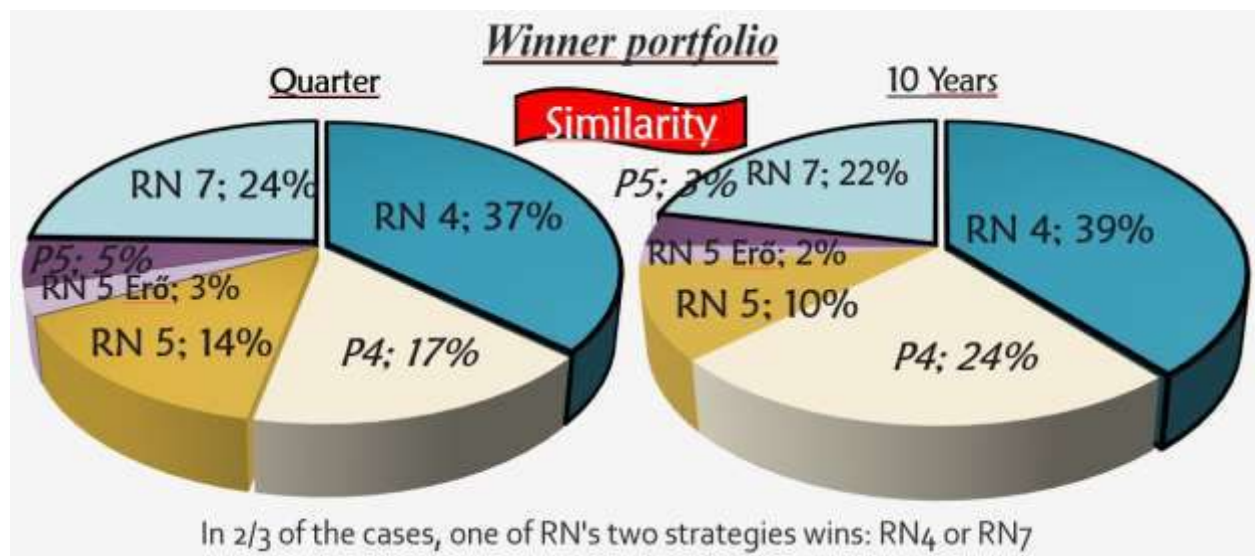


Figure 5: The percentage of winner portfolios

As part of the study, it was compiled six different diversified portfolios, including three evenly distributed portfolios (with 4, 5, and 7 components) and three portfolios with different focuses (with 4 and 5 components). Since each study participant selected different investment assets and made individual decisions regarding their priorities, and since birthdays were included as an individual characteristic in the analysis, we ruled out the presence of similarities that could skew the sample. Under these conditions, we were curious to see which participant's portfolio allocation emerged as the winner, both for the semester and for the 10-year analysis conducted using the same assets. In the long term, all six portfolio distributions proved successful, though two of them to a negligible extent: the RN 5 Forces and Benchmark 5 portfolios proved successful in only a very small number of cases (2% and 3%, respectively).

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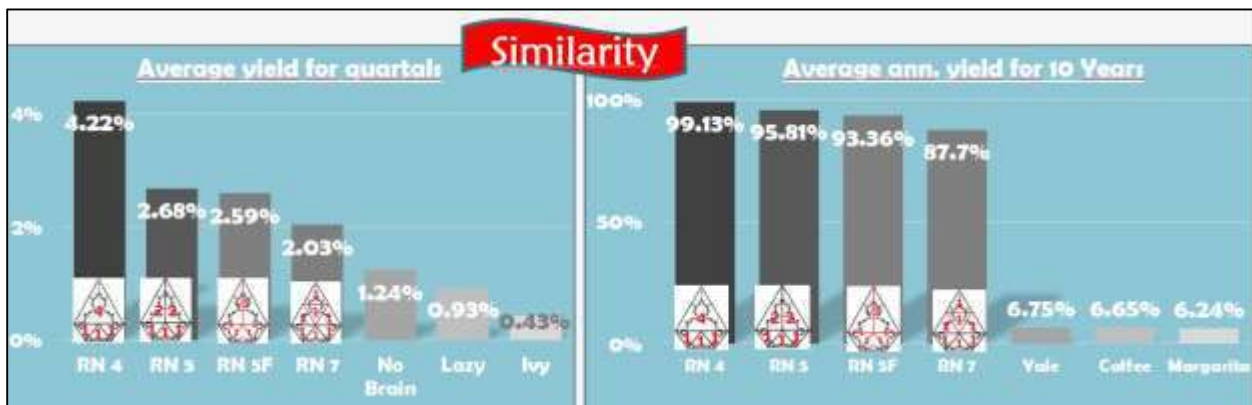
Surprisingly, the long-term analysis in this case also shows similarities to the short-term results of the winning portfolios, as the RN 4 and RN 7 portfolios proved to be winners in two-thirds of the ten-year periods examined. Looking at the pie charts, the ranking of the successful portfolios resembles that of the short-term results. If neither the RN 4 nor the RN 7 portfolio wins, the Benchmark 4 portfolio follows, and only then does the RN 5 distribution come next. This indicates that fewer elements are generally preferable; if that is not possible, using the maximum number of elements (currently 7) is advisable, but a moderate number (5) is not recommended. Even when combined, the three five-item portfolios proved successful in only 15% of cases. In the short term, all six portfolios proved to be winners, with the four-item Rolling Nuts (RN 4) portfolio proving to be the most profitable in the highest proportion of cases (37%). This in itself is a decisive result – namely, that the portfolio with the greatest focus (and the fewest components) won over the short, 3-month time horizon. The second most frequent winning portfolio was the version with seven evenly distributed components (RN 7), which achieved the highest return in 24% of cases. The RN 4 and RN 7 portfolios thus proved to be winners in a total of two-thirds of the cases, while the remaining four portfolios accounted for the remaining one-third. Of these, benchmark 5 was the least likely to generate the highest return (in one case). Participants primarily selected investment components for the short term, so the similarity of the long-term analysis yielded unexpected results in the study.

The symmetry system proved to be scalable in terms of determining the winning portfolio; the research results confirm that the RN 4 or RN 7 model is responsible for the highest returns in two-thirds of the cases. These are random moments – both the 3-month and 10-year periods – and while the varying birthdays and different investments would allow for many variations, there is still a similarity in terms of the winners and their proportions – at least as far as the final returns for these periods are concerned. The scalability of the analyzed sample was also demonstrated by the dataset used for sampling, confirming the results of a previous study conducted on a smaller sample, where even a sample 3.5 times smaller (81) showed similarities in the distribution of winning portfolios, also showing a two-thirds dominance by the two winning portfolios, RN 4 and RN 7 (Cziraki, 2022). Now, having conducted the analysis on a larger dataset, we arrive at the same conclusion, which confirms that the study yields the same result even with a smaller sample size as it does with a larger one, thus the sample can be considered scalable (in terms of the number of sampling elements included in the study).

Let us highlight the clear winner, the Rolling Nuts 4 portfolio, which shows a dominant occurrence in both the long and short terms (37% and 39%, respectively). Among the portfolios included in the analysis, RN 4 has the most concentrated distribution, with one component accounting for 4/7 (57.14%) of the total, while the remaining three components are distributed equally. This could be considered risky, since the performance of the focal element – which depends on our choice – will largely determine the portfolio's overall performance. At most, half of the other portfolios are this dominant in any single area, and many of them are evenly distributed; thus, it was here, above all, that we might have expected fierce competition regarding the nature of diversification. However, in the analysis of the winning portfolio, the component with the greatest focus emerged victorious, even though participants often made their focus decisions on a whim or driven by curiosity. A few elements with a high degree of focus proved to be the most rewarding; thus, focusing on a single element did not prove risky at all, as this allocation yielded the best returns in both the long and short term. It is therefore worth highlighting a single element and placing greater emphasis on it, rather than trying to keep the elements as close together as possible and thus fine-tuning diversification. Diversification is a risk-mitigation tool; however, while mitigating risk, we must not forget about adequate returns. Therefore, if we wish to keep both factors in mind at the same time, the best tool recommended by this study is symmetry with an RN 4 distribution.

Overall, an analysis of the winning portfolio shows that both a small number of holdings with a high concentration (RN 4) and a large number of holdings distributed evenly (RN 7) prove to be viable solutions in both the short and long term; however, to draw deeper conclusions from this, let's also examine the specifics in terms of the returns achieved.

**Return.** With regard to the profitability under examination, we first identified the winning portfolios responsible for the greatest growth and their proportions; in the next phase, let us examine what average returns, expressed as percentages, these results generated (Figure 6). A glance at the figure immediately reveals the similarity in the order of returns across the two intervals, as we observe in both time frames that returns decrease as the number of components increases. Calculating the average from the long-term analysis, we find that the top-performing RN 4 portfolio would have delivered growth equivalent to an annual return of 99.13% over the past 10 years, while increasing the number of components – albeit slightly – reduced returns, which still remained at an average annual level of around 90% (RN 5 = 95.81%, RN 5 Power = 93.36%, RN 7 = 87.7%). Assets nearly doubled annually based on average Rolling Nuts results, which is certainly a remarkable achievement. To put these returns into context, we can compare them with the returns achieved by market participants over the same time period. We make this comparison with portfolios that are similarly diversified and managed passively, comparable to the portfolios used in the analysis.



**Figure 6: Annual and quartal average return on research portfolios and market participants (%)**

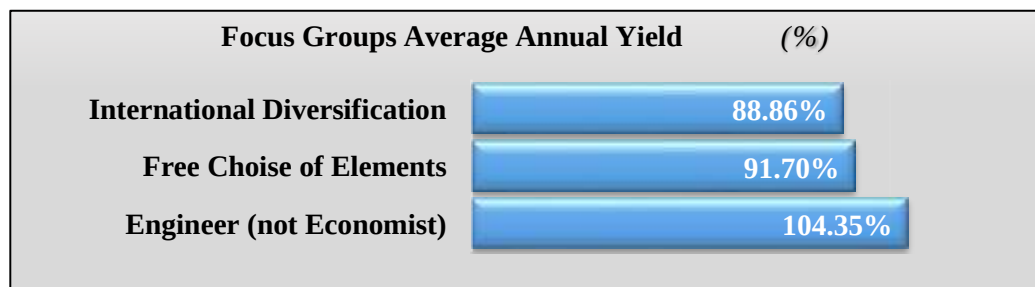
It could be used any of these types of “lazy” portfolios as a basis – *Figure 6* highlights six of them – but when extracting the data, it makes little difference which actual market participant serves as the benchmark; we get a similar picture. In the 10-year chart of the long-term analysis, the Yale University portfolio serves as the benchmark – 6 holdings; 30/20/15% – (*Yale Investments, 2022*), the Coffehouse portfolio – 7 holdings; 40% in focus, the rest 10% – (*Schultheis, 2013*), and the Margaritaville portfolio – 3 holdings in equal proportions – (*Burns, 2017*). What we see in the table is no mistake: when we calculate the average of the 10-year performance of the portfolios included in the study, we get a value nearly ten times higher than the results of real-world market participants. The main reason for this is that the study participants made their investment decisions in hindsight, while real-world investors faced those investment decisions in real time. Thus, this is by no means a definitive measure of the returns achieved, but merely an illustrative presentation of them. However, this result does unequivocally confirm that a behavior-oriented investor, by trusting their instincts, can easily outperform the investment strategies of large, professional asset managers. Even with the data from the short-term analysis, we can calculate an annual return by extrapolating the quarterly results to an annual level (assuming that every quarter would look like this). The study uses data from six 3-month periods, and the report shows the average returns for these short-term periods. The returns of real-market participants shown alongside them on the graph also represent the average results for the same 3month periods, allowing us to use real-market data for greater accuracy and representativeness. In terms of diversification, these are similar to the No Brainer portfolio – 4 components equally weighted – (*Bernstein, 2017*), the Ivy portfolio – 5 components equally weighted – (*Faber– Richardson, 2009*), and the Lazy portfolio – 6 components; 30–20–15% – (*Swensen, 2005*). In the short term, the Rolling Nuts portfolios outperform active market participants, demonstrating overall returns of 6.15–8.94% in a comparison based on real-time data. This is not a bad performance over 3 months, especially considering that the study focuses on the results of novice, inexperienced investors. Even in the short term, the behavior-oriented principle of taking conviction-based positions (*Siegel–Scanlan, 2014*) has been validated, leading to more successful investments than professional investment principles. Second, the success of the research model has become evident on multiple levels even in the short term, and a dominant ranking among them has emerged. *Figure 6* of the performance report reveals similarities between the data from shortterm and long-term investment analysis; in fact, we can observe the same pattern of dominance on both the left and right sides of the figure. Proportionally, similarities can be observed in the return statement, which demonstrates the scalability of the sample and methodology used. Based on the statement, it should not be the case at all that the same profitability ranking emerges from the aggregated results of a random 10-year period and a random quartal period. In fact, we would be interested in knowing which formula performs better in the short term and which in the long term.

Yet it can be seen the same result and the same dominance in the values of the study’s return statement. The sample proves to be scalable, and even within the sample, we can draw clear and dominant conclusions. The performance report reflects passive investment strategies, even for the 3-month interval, since we only had to make diversification decisions and tested our hypotheses at specific, arbitrarily chosen points in time. The more frequently an investor monitors their investments, the more often they make (often erroneous) decisions; and we can see an example of how to eliminate this short-term mindset in the implementation of passive strategies, which closely mirrors the deliberate lazy behavior of real-world market participants. One limitation of the research is that, of course, many such statements spanning 10 or other periods could be lined up side by side to obtain more precise results. In any case, we can establish a clear hierarchy among the various interpretations of the model underlying the methodology, which was one of the objectives of the research.

**Focus Groups.** During the research, it was worked with three distinct focus groups of nearly equal size to gain insights into aspects of financial culture, specifically whether free investment decisions have a demonstrable impact and what role financial education plays in terms of future portfolio returns. In the first focus group, it is imposed restrictions on the selection of investment instruments by stipulating that diversification must occur on an international basis. This is one type of diversification that, in addition to the triad of

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asset class, time horizon, and industry found in the literature, seeks to explain its risk-reducing effect based on geographic exposure (Wang–McLee, 2011). In the second focus group, it was allowed for completely free selection of components, while a third group consisted of students majoring in fields other than economics. By comparing the average annual portfolio returns of each focus group side by side, we can draw interesting conclusions regarding financial literacy and investment asset selection (Figure 7).



**Figure 7: Average annual portfolio return of focus groups (%)**

The report is based on data from a 10-year analysis; it calculates an annual average from this data and thus divides the sample of 148 participants into three nearly equal, clearly distinguishable focus groups. The international diversification focus group had the lowest average return, with an annual profit of 88.86%, a figure that includes the returns of the 53 analyzed portfolios. Taken on its own, this is not a bad performance; however, allowing for freedom of decision-making could further improve this figure, reaching 91.7% – the average annual return of the 56-person focus group in this analysis. The argument that acquiring financial knowledge would increase future financial success is a valid one; however, the opposite was confirmed during the research: namely, if our vision is not clouded by a financial mind-set, we can double our returns (104.35%) through simple, behavior-oriented decision-making. This behavioral pattern is exemplified by the third focus group of 39 participants, which consisted primarily of engineering and com-puter science students who, due to the nature of their studies, had not acquired in-depth foundational financial knowledge. The areas of interest of non-economists (e.g., computer scientists, engineers) may influence their investment decisions, leading them to focus more on emerging high-tech industries, which appear to have yielded significantly higher returns over the past 10 years compared to the investments chosen by the other focus groups. Essentially, Focus Group 3 was also based on free choice of investment instruments, but it was clear that they did not make these decisions as financial experts; rather, they relied even more on their instincts, habits, and the preferences they cited as reasons when making their decisions. Their approach to investing was not guided by a financial perspective; as a result, they still achieved much higher (double) returns compared to the other focus groups. The behavior-oriented approach of free asset selection outperforms international diversification in every case, a fact that is clearly evident from the focus group results. It is not worthwhile to draw deeper conclusions based on the data obtained; rather, this result can be attributed to the fact that the selected industries have been on an upward trend over the past 10 years, and those who invested in such industries enjoyed higher returns than those who simply spread their risk on a geographic basis. Nevertheless, as an interesting aspect of our financial culture, we can observe how our preferences shape our investment decisions and how these preferences manifest themselves in concrete results in terms of returns.

**Lessons Learned.** The research specifically addressed the set of individually drawn lessons as a human factor in financial culture. Indeed, throughout the iterative process of portfolio management, equal attention is given to the lessons learned that serve as feedback, which in turn helps impro-ve future decision-making. In this research, we can distinguish between the implications of short-term results and the lessons learned from long-term outcomes, since the investment time horizon significantly influences individual goals, expectations, and their fulfillment. Similar findings emerged as lessons from the analyzed time periods; only the order of the individual reasons differed slightly (Figure 8). The consistency assessment is intended to illustrate the human factors of the research by measuring the fragments of financial culture that crystallized in individuals upon completion of the analysis. Furthermore, comparing the lessons learned can lead to important conclusions regarding improvements to the methodology used, its future prospects, and the scope of potential errors and lessons learned.

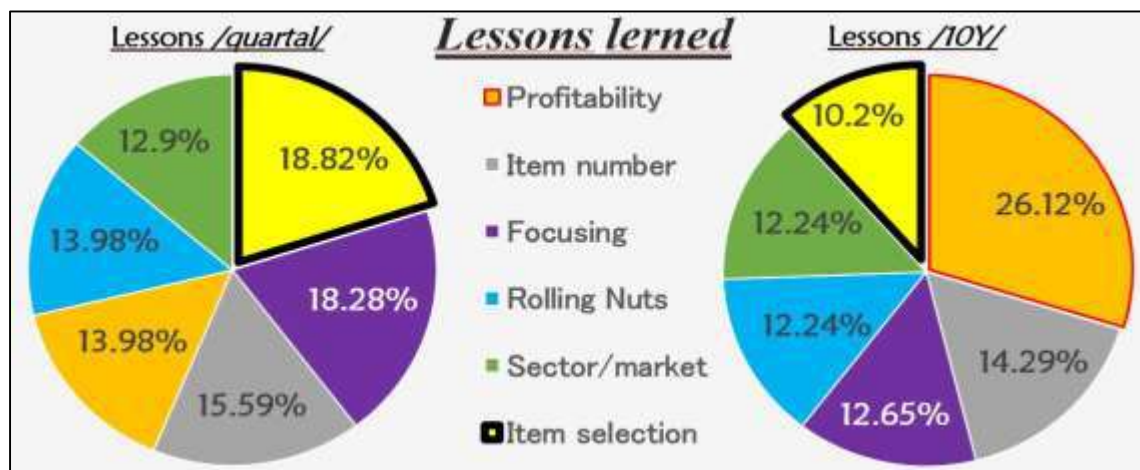


Figure 8: The range of variation in individually drawn conclusions across the distances examined (%)

Among the lessons drawn from the six categories, **profitability** emerged as one of the key takeaways for both time periods, according to the participants in the analysis. This means that, as a result of their own choices and the research they conducted, the respondents became convinced of the profitability of the methodology and passive asset management. Here, we can observe the attitude-based perspective of financial culture – specifically, how such research can influence an individual’s future willingness to adopt this form of self-reliance. When we see that the main takeaway (mistake, finding, observation, recommendation...) is that this is a profitable endeavor, we can be certain that a shift has occurred in individuals’ mindset; as feedback and a drawn conclusion, they carry this with them into future decision-making situations in their lives. In the long term, this appears to be the most important and prominent lesson according to the research (26.12%), although in the short term, profitability ranks only fourth. Based on this conclusion, the Rolling Nuts portfolio management strategy appears to be effective, and participants gained confidence in the passive profitability of capital markets and asset management.

The next consequence was the rationale for **element selection**, which presents a contradictory picture across the analyzed investment horizons. According to this, the correct or incorrect selection of assets is the cause of the results achieved, which also means that the participant attributes success to better asset selection; thus, they do not criticize any of the diversification strategies but view all of them as equally and passively profitable, arguing that better assets would have yielded a higher average return. Here, they believe they have identified the individually drawn lesson in human decision-making, thereby indirectly confirming the validity of the methodology used and finding nothing objectionable in it with regard to the future. Why is asset selection the most important factor in the long run, yet the least important lesson in the short run? There is no clear-cut answer to this, but it suggests that, in the long run, stock selection does not have such a significant impact on returns because the capital market’s selfcorrecting mechanism offsets periodic fluctuations. This means that regardless of the investments we make, prices will generally rise over the long term. This symbolizes the power of the capital market, which, according to these data, has such a positive effect over a ten-year period that it can completely negate the impact of asset selection – and the resulting financial errors in behavior. In the short term, however, it is fair to say that investing for such a short period is quite risky, since these three months are just isolated slices of reality, and anything can happen with such a sudden investment. Thus, in this scenario, the choice of assets plays a much greater (in this case, the greatest) role. This line of reasoning reflects individual, personal uncertainty, whereby people hold themselves responsible for their outcomes: they see the final result as a manifestation of their own bad decisions or, conversely, their successes. This is a highly subjective perspective that highlights the human side of financial behavior: the evaluation of our own decisions and our acceptance of responsibility for them. In contrast, this argument can be ruled out for longer investment horizons, so we ultimately conclude that we have found a tool that can help us make better decisions in the field of behavioral finance. It simply needs to be applied over the appropriate time horizon to eliminate the pitfalls arising from individual decision-making errors. From this, we can draw another important, behavior-oriented conclusion: namely, since the selection of individual assets has virtually no impact in the long run, this reinforces the power of intuitive decision-making. According to this approach, we can confidently make investment decisions and trust our instincts or intuition, since this decision-making factor is not particularly significant in the long run. Thus, intuitive decision-making pays off over the long term, (almost) regardless of the specific choices made or the mistakes committed.

As a corollary, **focus** was among the top three most important conclusions in both periods examined, a category indicating that the researcher considers focus (whether the choice of focus was good or bad) to be the primary cause of the results. This suggests that correct or incorrect focus is primarily responsible for the results achieved; thus, the lesson for the future is that, among the selected elements,

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attention should be concentrated on well-chosen focus. This argument was further supported by the fact that re-search participants expressed confidence in the practice of focusing over equal distribution, reinforcing the importance of emphasizing a single element for future success. In the short term, focusing appears to be the most important lesson, while in the long term, it is the third most important implication. This is a clear research finding that answers the question of diversification versus focus. Focus proves to be very important for both short- and long-term investments and, in every case, outperforms non-focused (equally distributed, permanent) strategies.

The lesson learned “**Rolling Nuts**” is that the researcher deemed it to outperform the benchmarks and explicitly recommends this (or some form of it) as a diversification strategy. This confirms the effectiveness of the methodology used, but cannot in itself be considered the primary reason for the results. In any case, the model provided by the methodology appears to be a recommended diversification strategy for the future, both in the short and long term, regardless of the number of investments used.

The fifth most common lesson (over 12% in both time frames) attributes responsibility to the **market (sector)**, suggesting that external factors are responsible for the results or are the primary cause of changes in returns, rather than, say, our decisions or the manner of diversification. This set of lessons implies that the individual stands by their chosen investments and considers their portfolio allocations to be successful (passively profitable), and is much more likely to attribute individual results to current events. This attitude is perhaps strongest here, in that neither the selection nor the methodology is subject to criticism; the individual recognizes their success and is aware that the market’s influence is primarily reflected in the current price movements of the investments. Ultimately, this line of reasoning acknowledges that good decisions can be made using the methodology in question, and that the consequences must ultimately be attributed to external factors.

Finally, the list of lessons is supplemented by a discussion of the rationale behind the **number of assets**. In this category, a specific number of assets – whether more or fewer – is recommended for more successful asset management. It will be not distinguished here between which time horizons, which combinations of elements, or which time periods call for more or fewer elements, as this would require a much more in-depth analysis than is currently available. The number of elements – as a lesson learned – suggests, however, that there is indeed an optimal number of elements for a given investment strategy, and that the investor decides whether more or fewer elements are desirable in their own portfolio to increase the return on their decisions. This observation does not yet answer the question of whether a high or low number of elements is needed; it can be only seen that the most important implication is the number of investment objects we use. From this statement, it can be also concluded that it is not the elements themselves or the relevance of the methods used that are at fault, but rather that the results depend on how many investments we have diversified across. In other words: it is not me, or my decision, or the methodology that influences the results; rather, it is solely the number of investments (regardless of the strategies) that determines the achievable profit. In other words: it is not me, my decisions, or the methodology that influence the results; rather, it is solely the number of investments (regardless of the strategies) that determines the achievable profit. This finding leads us to the conclusion that significant differences can be observed between portfolio strategies employing different numbers of investments. Further research would be needed to determine under what conditions a large, medium, or small number of holdings is necessary; however, this goes far beyond the scope of the present study. During the analysis of the data, it was found that, in both the long and short term, 4 or 7 components are recommended; however, this depends on the composition of the investment portfolio and is not a specific feature of the methodology. However, recommending a greater or lesser number of investment components also implies that no distinction is made between equal allocation and concentration, and the average number of components (5 in this case) cannot be recommended as a diversification method either. The research is also limited in this regard, since with the same assets, there may be periods where 4, 5, or even 7 assets emerge as winners, and the research, of course, does not examine an infinite number of periods but only arbitrarily selected time points.

Based on a review of the lessons learned individually, we can draw three main conclusions:

1. It has been developed a functional investment decision-making system with sufficient alternatives and profitable strategies
2. The Rolling Nuts formula has proven successful in every respect
3. The regenerative wealth management system appears to be manageable when financial and cultural aspects are taken into account

**Table 4: Research Hypotheses Verification**

| Hypothesis                                                                                       | Justification | Reasoning                                                                   |
|--------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------|
| H1: A viable financial system can be built by structurally controlling behavioral distortions    | Verified      | The success of RN4 and RN7 outweighs the distortions arising from behavior. |
| H2: The portfolio management system used is scalable                                             | Verified      | Similarity across time frames.                                              |
| H3: The regenerative wealth management system can be controlled by harmonizing financial culture | Verified      | Cybernetic feedback loop.                                                   |

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Based on the empirical results presented in the study, all three hypotheses (H1, H2, and H3) can be explicitly accepted (*Table 4*). The research demonstrates that structurally controlling behavioral distortions through the Rolling Nuts (RN) model yields highly profitable, viable financial systems that outperform traditional benchmarks. Furthermore, the portfolio management system proved completely scalable across different time horizons and sample sizes. Finally, the results validate that aligning financial culture with intuitive, conviction-based decision-making effectively controls regenerative wealth management.

### CONCLUSION

The regenerative asset management model fundamentally redefines the investment portfolio as a complex, socio-technical cybernetic system. Rather than viewing the market and the investor as independent entities engaged in linear transactions, the system is based on the recursive relationship between the investor's cognitive architecture and the structural behavior of capital markets. The system's architecture integrates three main subsystems: the financial market (the external environment that generates volatility and entropy), the human factor (the primary source of system noise through cognitive biases), and the decision-making architecture (the structural framework that mitigates noise). By applying Rolling Nuts (RN) models, the architecture enforces structural symmetry and simplicity, transforming excessive complexity and reactive decisionmaking into a state of controlled, self-sustaining order.

The study drew on regenerative patterns from nature and applied them to the field of financial self-reliance. It examined the reasons behind investment decisions, portfolio returns, and the range of lessons learned, with the aim of making the mixed elements of financial culture and investor behavior measurable and organizing them into a common asset management system. *Table 5* presents the conclusions and range of solutions derived from this research, as discussed in greater detail below.

**Table 5: Findings of research areas**

| Research Areas                | Financial Literacy                                                                                                     | Behavioral Finance                                        |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>Investment Motivations</b> | Profitability is the ultimate factor.                                                                                  | Subjective–Objective–Subjective Decision-Making Sandwich. |
| <b>Winning Portfolio</b>      | The highest-risk option usually wins.                                                                                  | Few elements, strong focus.                               |
| <b>Returns</b>                | The regenerative wealth management has proven on itself-based individual decisions.                                    | Similarities across both investment horizons.             |
| <b>Focus Groups</b>           | International diversification < Free choice < No economist.                                                            | The “non-financial” mindset boosts returns.               |
| <b>Conclusions</b>            | #1 Profitability, number of elements, importance of focus.<br>#2 The methodology's success outperforms the benchmarks. | Success of intuition-based decisions – in the long term.  |
| <b>Methodology</b>            | RN 4 in both investment horizons.                                                                                      | RN 4 in both investment horizons.                         |

One of the key characteristics of this system-level framework is its scale independence.

The research confirms that the system's robustness remains constant, regardless of the time horizon or scope of the analysis. This reinforces the notion that the system's resilience is not a random result of timing, but rather a property stemming from the system's symmetry. Furthermore, the system exhibits highly subjective internal dynamics with regard to decision-making. The evaluation of investment motivations revealed an “*investment decision sandwich*”, in which primary and tertiary motivations are overwhelmingly subjective (accounting for more than 83% of behavioral drivers in total), and include risk aversion, timeliness, and personal preferences. Paradoxically, investment return ranked lowest among conscious motivational factors. This characteristic highlights that the system functions most effectively when it adapts rather than resists.

Within this framework, system-level regulation is achieved not by enforcing strict rationality, but through cybernetic feedback loops. Since the human factor causes financial entropy (system noise), control is achieved through structural behavioral constraints – specifically, by requiring the selection of a limited number of instruments (e.g., 4 or 7) and by applying a specific focus (as seen in the 57.14% concentration of primary elements in the RN 4 model). The system is continuously regulated by a feedback mechanism based on lessons learned. In the long run, investors participating in the system accept profitability and focus as primary lessons, while shortterm feedback loops strongly emphasize asset selection and the number of elements. By allowing investors to rely on their intuition within a structurally rigid decision-making framework, the system achieves self-correction. The long-term macroeconomic mechanisms of the

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capital market naturally absorb short-term, individual asset selection errors, which means that the system is regulated not by micro-level control of the input data (the specific stocks selected), but by maintaining the macro structure (RN allocation symmetry).

This socio-technical system could be of tremendous practical use, especially for nonprofessional investors. The study demonstrates that a behavior-oriented investor who relies on intuition and a simple, highly focused structural model (RN 4) can significantly outperform professional, lazy, or evenly diversified benchmark portfolios. The RN 4 model generated an average theoretical long-term return of 99.13%, clearly demonstrating that minimal elements and strong conviction yield optimal practical results. Furthermore, the system demonstrates that financial knowledge – if defined strictly as academic economic knowledge – can actually hinder practical applicability. The focus group analysis revealed that non-economists (e.g., engineering students), who relied on free choice and personal preferences, achieved significantly higher returns (104.35%) than those constrained by traditional financial rules—such as international geographic diversification (88.86%). Consequently, the practical application of the system requires moving away from forced over-diversification. This provides retail investors with a manageable, highly profitable tool: select a strictly limited number of assets (preferably 4), focus heavily on the most preferred asset, and trust in intuitive, conviction-based positioning.

This research contributes to the intersection of econophysics, behavioral finance, and general systems theory. It plays a pioneering role in the development of the concept of regenerative asset management by demonstrating that natural growth patterns and symmetry can be successfully applied to financial allocation. He challenges the decades-old hypothesis of the purely rational investor by providing empirical evidence that risk aversion and subjective intuition drive portfolio construction far more than rational profit maximization. From a scientific perspective, it redefines financial entropy: not merely as market volatility, but as friction caused by a chaotic choice architecture that clashes with human cognitive biases. By demonstrating that behavioral biases can be structurally regulated to create a viable, scalable financial system, the study offers a new paradigm: sustainable asset management does not require the elimination of human error, but rather the engineering-level systematization of human intuition.

The research uncovered a system based on conviction-based positioning, in which empirical frameworks guide autonomous decisions, demonstrating that disciplined, structured investing is far more effective than overly rational analysis clouded by market noise. Our transdisciplinary model has proven viable, demonstrating that the most effective strategies often reflect nature's tendency to favor simplicity over excessive complexity. The empirical evidence supporting regenerative asset management highlights several significant advantages. One is passive income generation, where our system has proven to be a fundamentally viable and structurally sound method for generating passive income. Another is a shift in mindset, as a longterm change in mindset strengthens an individual's willingness to practice disciplined financial self-sufficiency. Third is behavioral correction, where the methodology acts as a filter against harmful investment behaviors and shifts the emphasis from reactive market timing to consistent, goal-oriented execution.

The universality and scalability of the regenerative symmetry system enable a wide range of practical applications across numerous financial dimensions: in individual financial self-sufficiency, it provides reliable, evidence-based guidance for private retirement savings and personal wealth accumulation, improving general financial literacy; in institutional asset management, it offers dynamic portfolio management frameworks for institutional investors seeking sustainable, long-term returns without excessive dilution of assets; and with regard to corporate sustainability, the identified principles can be integrated into corporate social responsibility initiatives, promoting sound financial health and sustainable economic practices within corporate structures. Ultimately, regenerative asset management can systematize the complex decision-making framework for investments and offers a proven, scalable model for financial self-sufficiency.

This empirical study examines regenerative asset management within the framework of general systems theory, which interprets portfolio management not as a set of isolated financial decisions, but as a dynamic socio-technical system. The study confirms that asset management, as a closed socio-technical system, can be steered by harmonizing financial culture and by systematically designing a choice architecture that neutralizes individual metacognitive biases through structural controls. The regenerative wealth management system identified consists of three subsystems: the financial subsystem, the cognitive-behavioral subsystem, and the financial culture subsystem. System-level integration is achieved through a nonlinear, mutually reinforcing relationship among the three subsystems: cognitive behavior shapes the composition of the financial subsystem (asset selection), the performance of the financial subsystem (returns, volatility) influences the development of financial culture (learning experiences), which ultimately shapes cognitive-behavioral patterns in future cycles. The system functions best when maximum autonomy is combined with minimal external control. Paradoxically, classical control-theory regulation (e.g., rigid asset allocation rules) impairs performance because it stifles cognitive decision-making, thereby reducing individual learning and intuitive adaptation. This indicates that financial literacy can be developed, but only through a long, iterative learning process.

The passive, symmetry-based approach, supported by empirical data, serves as a pragmatic alternative for practical implications. From a cost-effectiveness perspective, RN models do not require sophisticated algorithms or active portfolio managers. Empirical data show that non-expert investors achieved returns equal to or higher than those of trained economists. The RN4 winning portfolio can be used to promote emotional stability, as the investor can clearly see that one component dominates, thereby reducing choice paralysis

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(Kumar–Warne, 2023) caused by overscattering and search loss. Meanwhile, scalability indicates that the RN model not only works in a university setting but can also be generalized. The research revealed that the system can be applied to employee pension plans; incorporating the RN 4 or RN 7 automatic allocation would reduce the active decision-making burden while empirically guaranteeing superior returns.

Foundation asset management can also draw inspiration from this; although our results are retrospective, they can serve as guidelines for asset growth. Finally, robo-advisors could easily adapt the symmetry system; the algorithms could operate based on simple symmetry rules, thereby reducing model risk and the black box problem.

One of the most surprising findings of the research is scale independence: the 2/3 dominance of RN 4 and RN 7 was reproduced in both the short and long term, as well as in samples with both small and large numbers of participants. This fractal-like invariance suggests that the symmetry system is universal and does not depend on specific time points or the specific demographic characteristics of the participants. This indicates that there may be a deeper, universal structure underlying portfolio configurations, one that stems from the immanent organization of financial markets (as complex adaptive systems). The observable scale independence, analogous to fractal geometry and critical phenomena (Baus–Tejero, 2021), suggests that the symmetry system is universal and does not depend on the specific time or the orientation of the number of participants.

The research empirically validated that regenerative asset management – as a dynamic socio-technical system – is innovative and applicable from both practical and scientific perspectives. The empirical research specifically demonstrated that the average investor (nonexpert) can achieve higher returns by applying the RN method and following their own intuition. This conveys a radical message that runs counter to mainstream financial advice. The research challenges the classical homo economicus rational actor model (Zsolnai, 2025). The empirical validation – that intuition outperforms rationality in the long run – calls for a paradigm shift in financial science. The study shows that “irrationality” is not a force to be eliminated, but rather one that must be systematically managed in financial decision-making. The principles of intuition, autonomy, and symmetry outperform traditional, rational, uniform diversification in the long run. This suggests a paradigm shift: Systems should not be designed for homo economicus (the rational agent), but rather for the “autonomous homo sapiens” (the autonomous, learning, intuitive human), whose behavioral distortions can be harmonized through symmetry principles and structural guidance. Empirical validation of the research shows that this is not a utopia, but an empirically proven practice, systematized.

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