REVISTA CONTRIBUCIONES A LAS CIENCIAS SOCIALES

Exponential growth of ESG funds: a comparison of funding speed and profitability

Crescimento exponencial de fundos ESG: uma comparação entre velocidade de financiamento e rentabilidade

Crecimiento exponencial de los fondos de Pymes: comparación de la velocidad de financiación y la rentabilidad

DOI: 10.55905/revconv.17n.2-175

Originals received: 01/04/2024
Acceptance for publication: 01/31/2024

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ABSTRACT
In this paper, the general objective is to investigate and compare the speed of fundraising and the profitability of ESG Funds in relation to traditional investment funds in the Brazilian financial market between 2010 and 2021. To achieve this goal, we focused on three specific objectives: analyzing the growth rate of ESG Funds' net assets, evaluating the profitability of these funds and examining the impact of macroeconomic variables such as GDP, IPCA and interest rate (CDI) in this context. Using a quantitative methodology, the research analyzed comprehensive financial data on the funds, including information on asset value and profitability indicators. The results show an exponential growth in the ESG Funds' assets over the period studied, setting them apart from traditional funds. In addition, the profitability of ESG Funds proved to be competitive, often surpassing that of conventional funds, suggesting a paradigm shift in the Brazilian financial market. This study provides valuable insights into the evolution of ESG Funds in Brazil, highlighting their growing importance and potential for economic sustainability. The analysis of macroeconomic variables also revealed that ESG Funds not only remain resilient in different economic scenarios, but can also offer a sustainable and profitable path for investors aware of environmental, social and governance challenges.

Keywords: ESG investment funds, profitability, fundraising, sustainability.

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RESUMO

Neste trabalho, o objetivo geral é investigar e comparar a velocidade de captação e rentabilidade dos Fundos ESG em relação aos fundos de investimento tradicionais do mercado financeiro brasileiro entre 2010 e 2021. Para atingir esse objetivo, focamos em três objetivos específicos: analisar a taxa de crescimento do Patrimônio Líquido dos Fundos ESG, avaliar a rentabilidade desses fundos e examinar o impacto de variáveis macroeconômicas como PIB, IPCA e taxa de juros (CDI) neste contexto. Utilizando uma metodologia quantitativa, a pesquisa analisou dados financeiros abrangentes dos fundos, incluindo informações sobre valor dos ativos e indicadores de rentabilidade. Os resultados demonstram um crescimento exponencial dos ativos dos Fundos ESG no período estudado, destacando-se em relação aos fundos tradicionais. Além disso, a rentabilidade dos Fundos ESG mostrou-se competitiva, muitas vezes superando a dos fundos convencionais, sugerindo uma mudança de paradigma no mercado financeiro brasileiro. Este estudo fornece insights valiosos sobre a evolução dos Fundos ESG no Brasil, destacando sua crescente importância e potencial para a sustentabilidade econômica. A análise das variáveis macroeconómicas também revelou que os Fundos ESG não só permanecem resilientes em diferentes economias mas também pode oferecer um caminho sustentável e rentável para investidores conscientes dos cenários ambientais e dos desafios sociais e de governança.

Palavras-chave: fundos de investimento ESG, rendibilidade, angariação de fundos, sustentabilidade.

RESUMEN

En este trabajo, el objetivo general es investigar y comparar la velocidad de financiación y la rentabilidad de los Fondos ESG en relación con los fondos de inversión tradicionales en el mercado financiero brasileño entre 2010 y 2021. Para alcanzar esta meta, nos centramos en tres objetivos específicos: analizar la tasa de crecimiento del patrimonio neto de los Fondos ESG, evaluar la rentabilidad de estos fondos y examinar el impacto de variables macroeconómicas como el PIB, el IPCA y el tipo de interés (CDI) en este contexto. Utilizando una metodología cuantitativa, la investigación analizó datos financieros exhaustivos sobre los fondos, incluyendo información sobre el valor de los activos e indicadores de rentabilidad. Los resultados muestran un crecimiento exponencial de los activos de los fondos ESG durante el periodo estudiado, lo que los diferencia de los fondos tradicionales. Además, la rentabilidad de los Fondos ESG demostró ser competitiva, superando a menudo la de los fondos convencionales, lo que sugiere un cambio de paradigma en el mercado financiero brasileño. Este estudio proporciona información valiosa sobre la evolución de los fondos ASG en Brasil, destacando su creciente importancia y potencial para la sostenibilidad económica. El análisis de las variables macroeconómicas también reveló que los Fondos ESG no sólo siguen siendo resistentes en diferentes economías, sino que también pueden ofrecer un camino sostenible y rentable para los inversores conscientes de los escenarios ambientales y los desafíos sociales y de gobernanza.

Palabras clave: fondos de inversión ESG, rentabilidad, captación de fondos, sostenibilidad.

1 INTRODUCTION

In recent years, ESG (Environmental, Social, and Governance) Funds have emerged as a new trend in the global financial market, with notable growth in Brazil aswell. This study sets out to answer the question: "How do the speed of fundraising andthe profitability of ESG Funds in Brazil compare with traditional investment funds in theperiod between 2010 and 2021?". The research aims to analyze and compare these critical aspects of ESG funds in relation to traditional funds, considering the growth rateof net assets, profitability and the impact of macroeconomic variables.

The study adopts a quantitative methodology, analyzing comprehensive financial data to provide an objective view of ESG Fund trends. Preliminary results indicate a significant growth in ESG funds, suggesting a change in investor behavior and market perception. In addition, the profitability of these funds, often comparable toor higher than that of traditional funds, points to an attractive potential for investors withethical and sustainable concerns.

The justification for this work lies in the importance of understanding ESG Funds as a transformative element in the financial market, promoting sustainable andresponsible business practices. By exploring the evolution of these funds in Brazil, thestudy contributes to a broader debate on sustainable finance and the role of investments in promoting a sustainable future. The analysis of macroeconomic variables provides additional insights into the influence of the economic environment on the growth and profitability of ESG Funds.

2 THEORETICAL FRAMEWORK

The rise of ESG funds has attracted the attention of academics and businesses internationally. According to Hoepner and McMillan (2019), these funds offer attractivefinancial returns. However, their rate of funding, compared to traditional funds, is still little explored. The complicating factor is that the financial industry can "distort" the nature of ESG funds as a strategy to accelerate fundraising (CLARK et al, 2020). Thereis a need to improve regulation to ensure authenticity and transparency; and to prevent ESG Funds from raising funds based on exaggerated and/or unfounded claims(REVELLI and VIVIANI, 2013).

Santos and Pereira (2019) highlighted the growth of ESG funds, but did not address the pace of fundraising by these funds in relation to their traditional peers. Thisgap suggests the need to expand studies on ESG in the Brazilian fund market. Regulation of this market is fundamental

to guaranteeing the quality of its governance(CARVALHO and SILVA, 2020). However, even with increased transparency, the question remains: Is the pace of fundraising a reflection of genuine sustainable practices, or is it a possible distortion of reality?

The B3 Corporate Sustainability Index (ISE) could be a useful indicator. However, it is still an open question as to whether this index contributes to faster fundraising, and whether the index itself is subject to distortions (LIMA and BARBOSA,2021).

2.1 USE OF CONTROL METRICS TO EVALUATE FUNDPERFORMANCE

Economics and finance literature has highlighted the importance of macroeconomic variables as controls in models that interpret the growth of investmentfunds. Smith and Johnson (2019) reinforce the importance of Gross Domestic Product (GDP) as a general metric for economic health, which influences profitability and the increase in the number of Investment Funds. They argue that GDP is a critical indicatorof the investment environment and should therefore be controlled for in any economicmodel that explains the increase in the number of Funds.

Similarly, Williams and Patel (2020) treated the Interbank Deposit Certificate (CDI) rate as a crucial control variable. They point out that the CDI rate influences theFund's asset allocation and the Cost of Capital, thus becoming a fundamental variablefor identifying the determinants of the increase in the number of Funds; given that theinterest rate is directly correlated with Monetary Policy; which has a significant impacton Investment Funds.

Inflation, as measured by the Broad National Consumer Price Index (IPCA) inBrazil, is highlighted in the work by Davis and Kim (2021). The authors explain that inflation can affect investor behavior and, consequently, the growth of investment funds' net assets. High inflation environments can generate greater risk aversion, which in turn impacts these Capital Flows to Investment Funds.

The use of these variables as controls is especially relevant in panel data analysis. The use of macroeconomic controls is fundamental in panel data models; toisolate specific effects and generate more robust estimates (Taylor, 2018).

Confirming this view, Green and White (2020) state that controlling for variables such as GDP, CDI and IPCA is indispensable in any analysis aimed at identifying the factors that influence the increase in the number of investment funds. Ignoring these variables can lead to

biased estimates; since these factors often have a significant influence on profitability and the increase in the number of Funds.

Recent studies have focused on identifying the differences in fundraising speed between funds managed by family offices and those managed by traditional fund managers. They found that, controlling for other variables such as GDP, CDI andIPCA, funds managed by family offices tend to raise funds more efficiently (Thopson and Jenkins, 2022).

Smith and Wang (2021) used a similar methodology, using a dummy variable,to separate the types of fund management and observe their effectiveness in raising funds. Both studies corroborate the idea that family office management can offer significant advantages in terms of raising capital, even when adjusted for macroeconomic factors such as GDP, CDI and IPCA.

Considering the academic research on the performance of ESG investment funds in the international market, this study proposes to test two hypotheses for the Brazilian market.

The first hypothesis (H1) states that ESG investment funds in Brazil raise fundsmore easily than equivalent non-ESG investment funds. The second hypothesis (H2)states that ESG funds have higher returns and therefore raise funds more quickly. Bothhypotheses seek to identify the fundraising dynamics of ESG Investment Funds in Brazil.

3 METHODOLOGY

In this chapter, the type of research will be shown first, followed by thedevelopment of the proposed model, data collection and processing.

3.1 TYPE OF RESEARCH

This is a quantitative**,** descriptive study using secondary panel data. The resultswere estimated using a linear regression model with fixed effects. A very low p-value was found in the Hausman test, suggesting that the best model to use for this study isFixed Effects Regression.

3.2 THE MODEL

The aim of this study is to identify which type of investment fund has the fastestgrowth in net assets. The research compares ESG Funds with other types of Funds toidentify whether the principles of sustainability and governance contribute to more robust equity growth. A fixed effects regression model (Equation 1) was used to controlfor unobserved variables which are

constant for each Fund over time but vary betweenFunds. The model incorporates macroeconomic variables**:** inflation (IPCA)**,** Gross Domestic Product (GDP), interest rate (CDI) as control variables - to adjust for the impact of these variables on the growth of the Funds' net assets. The use of this robuststatistical model makes it possible to isolate the effect of being an ESG fund**,** and to see whether this type of fund really does grow faster than its peers.

$$LNPL_{it} = \alpha_i + \beta_i FundosASG_{it} + \beta_2 IPCA_{it} + \beta_3 PIB_{it} + \beta_4 CDI_{it} + \beta\ LNRent_{it} + \varepsilon_{it} \quad (1)$$

In this Fixed Effects Regression Model, variables were used to understand howthe Net Equity (NAV) of Investment Funds grows:

(i) NPL: Represents the logarithmic variation in the Net Assets of InvestmentFunds, used to evaluate the performance and growth of the Funds.

(ii) LNRENT: Captures the logarithmic variation in the profitability of funds, indicating their financial performance.

(iii) GDP: Measures the impact of general economic conditions on investmentfunds.

(iv) IPCA: reports the behavior of the General Price Level.

(v) CDI: indicates the profitability of financial investments

(vi) ESG Funds: Differentiates funds that follow Environmental, Social andGovernance (ESG) practices from others, allowing the impact of these practices on net worth growth to be identified.

Table 1 summarizes the variables in the model.

Table 1 - Model variables

Type	Variable	Abbreviation
Dependent	Change in Equity	LNPL
Independent	Change in profitability	LNRENT
Control	GDP	GDP
	Inflation (AC 12M)	IPCA
	Interest Rate	CDI
Dummy	ASG funds	ASG Funds

Source: Prepared by the author with research data

3.3 UNIVERSE AND SAMPLE

When analyzing whether funds focused on Environmental, Social and Governance (ESG) criteria raise funds more quickly than other funds, it is necessary to select the variables that should be used to estimate the Linear Regression with fixedeffects:

(vii) Change in Net Assets (NPL): essential for measuring fundraising. Shareholders' equity represents the total value of the fund's assets**,** minus its liabilities**;** its variation is a direct indicator of the flow of capital in or out. By analyzing the variation in Net Assets, it is possible to identifywhether ESG Funds are in fact attracting more investments compared toTraditional Funds.

(viii) Independent Variable - Change in Profitability (LNRENT): Profitability is a key factor in investment decisions. A higher return on investment tendsto attract more capital. By including the variation in Profitability as an independent variable, it is possible to assess whether a higher Profitability of ESG funds is correlated with faster fundraising.

(ix) GDP: Gross Domestic Product is an indicator of the general economic health of the economy, which can influence the behavior of the investment fund market. A growing GDP generally indicates a favorable economic environment, which can stimulate fundraising by the Funds.

(x) Inflation (AC 12M): Inflation affects purchasing power and investment return expectations. Including inflation makes it possible to control the effects of currency devaluation on fundraising.

(xi) Interest Rate (CDI): The interest rate is a key factor influencing the financial market. Changes in interest rates can affect the attractiveness of investment funds compared to other investment options.

(xii) *Dummy* - ESG Funds: The inclusion of a *dummy* variable for ESG Fundsmakes it possible to isolate the specific effect of being a Fund with a focuson ESG criteria when raising funds. Compared directly with non-ESG Funds, this variable helps determine whether the ESG nature of a Fund has a significant impact on its ability to attract investment.

3.4 DATA COLLECTION

Data was collected on the performance and net assets of investment funds in the Brazilian market from 2007 to 2023, on a monthly basis, considering only equity funds and ESG funds that were created during this period and were in operation in June 2023. This sample contained more than 40,000 observations. The data was extracted from the *Quantum* system, *a* technology company specializing in finance**,** whose source is ANBIMA.

We chose to select data after 2007 in order to delimit the period from the suprime crisis, when investors became more aware of their investments**,** and the ESGFI industry grew more strongly.

3.5 CHOICE OF ECONOMETRIC MODEL FOR TESTING HYPOTHESES

After selecting and processing the data, tests were carried out to identify the type of model suitable for the Regression - Table 2.

Table 2 - Tests for choosing the type of model

Test	Chow	Breush-Pagan	Hausman
Results	Pob > F = 0.0001	Prob > chibar2 - 0.0000	Prob > chi2 = 0.00000
Interpretation	Fixed effects model superior to pooled	Random effects model superior to polled	Fixed effects model superior to random effects model

Source: Prepared by the author with research data

The results of the Chow and Breusch-Pagan tests showed that the pooled model **was** relatively superior to the fixed and random effects models, respectively. The Hausman test was used to identify which model was the most appropriate. The results indicated that the fixed effects model was the most appropriate.

In the Hausman test, this statistical tool was used to indicate which of the effects - random or fixed - is more appropriate for estimating the model. When the result of theHausman test is statistically significant, it suggests that the disparities between the groups are correlated with the explanatory variables**;** indicating that a fixed effects model would be more appropriate. On the other hand, if the Hausman test is not statistically significant, a random effects model is indicated (BALTAGI, 2020).

4 DESCRIPTION OF RESULTS

Table 3 describes the descriptive statistics of the variables in the model, and theadjustments and treatments described in the previous sections.

Table 3 - Tests for choosing the type of model Descriptive statistics must have absolutevalues.

Variable	Average	Desv. Standard	Minimum	Max
LNPL	7,8	0,91	-3	9,8
IPCA	5,8%	2,5%	1,9%	10,7%
GDP(k)	625.631	167.155	231.983	925.131
CDI (p.a.)	0,8%	0,4%	0,1%	1,4%
Profitability (p.a.)	2,08%	2,27%	-1,38%	11,30%

Source: Prepared by the author with research data

The Natural Logarithm of Net Worth (NPL) variable had a mean of 7.8 and a standard deviation of 0.91**,** with values ranging from -3 to 9.8. This distribution indicatesconsiderable diversity in the size of the funds, ranging from smaller to significantly larger. In relation to the IPCA, the average inflation rate recorded is 5.8%, with a standard deviation of 2.5%, showing relevant variations in inflation ranging from 1.9%to 10.7%. This fluctuation may reflect different economic conditions over the period analyzed.

As for the Gross Domestic Product (GDP), there is an average of 625,631 and a standard deviation of 167,155, indicating variations in the country's economic performance, with values ranging from 231,983 to 925,131. These variations suggestperiods of economic growth and retraction. The interest rate, measured by the CDI (Interbank Deposit Certificate), has a monthly average of 0.8% and a standarddeviation of 0.4%, ranging from 0.1% to 1.4%. This variation can be attributed to changes in monetary policies and market conditions.

The Funds' monthly returns show an average of 2.08% with a standard deviationof 2.27%, indicating high volatility in returns. The return values vary between -1.38% and 11.30%, which suggests that the Funds are susceptible to market factors and variable economic conditions. This volatility in fund returns highlights the complexity ofthe investment environment and the influence of multiple economic and financial factors on fund performance.

This initial analysis of the variables, ranging from the size of the Funds to the volatility of profitability, lays the foundation for a broader exploration of the underlying interrelationships - Table 4. The correlation matrix offers a valuable insight into how the Funds' net assets, ESG

practices, inflation, GDP, interest rates and profitability areinterconnected in the context of the financial market.

Table 4 - Correlation matrix

Variable	LNPL	ESG Funds	IPCA	GDP	CDI	LNRent
LNPL	1					
ESG Funds	-0,12	1				
IPCA	0,0173	0,0424	1			
GDP	0,1389	0,1838	0,0585	1		
CDI	-0,1193	0,0314	-0,0879	0,0296	1	
LNRent	0,1143	-0,011	-0,0087	-0,0704	-0,0203	100,0%

Source: Prepared by the author with research data

The negative correlation between NPL and ESG funds (-0.12) suggests that, ingeneral, larger funds may not be as intensely focused on ESG criteria as smaller funds. This indicator may reflect a greater diversification of investments in larger funds, whichmay not focus exclusively on ESG criteria.

The correlations of NPL with IPCA (0.0173) and GDP (0.1389) are positive, butrelatively low. This suggests that although there is some relationship between fund sizeand macroeconomic conditions (inflation and economic growth), these factors are notthe main determinants of fund size.

The negative correlation with CDI (-0.1193) may indicate that the larger funds may have strategies to deal with higher interest rate scenarios**;** or that an increase in interest rates (CDI) does not favor the growth of the Funds' Net Assets.

The correlation between ESG Funds and IPCA (0.0424) is low**, as is** the correlation with GDP (0.1838). Although the correlation with GDP is slightly higher, suggesting a slightly stronger relationship, both correlations are modest. This suggeststhat, while ESG Funds can operate in more robust economic environments, the influence of the general economic environment (measured by GDP and IPCA) on ESGFunds is not predominantly strong. The relatively low correlation suggests that factorsspecific to ESG Funds, in addition to general macroeconomic conditions, play a moresignificant role in their performance.

The slightly positive correlation between ESG Funds and CDI (0.0314) is noteworthy, but it is not strong enough to suggest that there is a direct relationship. This indicates that changes in interest rates may have a limited impact on the performance of ESG Funds. The result may

reflect a characteristic of ESG Funds of having diversified investment strategies that are less sensitive to fluctuations in interestrates.

The profitability of the funds, represented by LNRent, showed a low correlationwith LNPL, ESG Funds, IPCA, GDP and CDI. These low correlations indicate that theprofitability of the Funds is not directly influenced in a significant way by any of these factors **in** isolation. This suggests that the profitability of ESG Funds is influenced by abroad combination of internal and external factors, and is not directly dependent on thesize of the fund, ESG criteria**,** macroeconomic conditions or interest rates.

The correlations observed in the matrix are mostly low. This indicates low interdependence between the variables studied**,** which is beneficial as it avoids problems of multicollinearity**,** which could compromise the validity of the regression results. In terms of ESG fund analysis, this means that there is no single dominant variable that influences all aspects of the Funds, but rather a variety of factors thatcontribute**, in a** diverse way**, to the** Fund's performance.

To confirm that the model meets the regression assumptions **and** does not show multicollinearity**,** statistical tests were carried out **-** Table 5.

Table 5 - Tests for choosing the type of model

Assumption	**Absence of multicollinearity**	**No autocorrelation of residuals**	**Homoscedasticity of residuals**	**Normality of residuals**
Test	VIF stat	Wooldridge	Breusch-Pagan	Shapiro-Francia
Results	Mean VIF = 1.02 P	Prob > F = 0.7854	Prob > chi2 = 0.0000	Prob>z = 0.00001
Interpretation	Acceptable multicollinearity	No autocorrelation	Heteroscedasticity exists (corrected by the robust model)	No normal distribution

Source: Prepared by the author with research data

The analysis of the regression assumptions ensures the reliability of the inferences made from the Statistical Model. The test results corroborate the adequacyof the regression model. For multicollinearity, the VIF Stat (Variance Inflation Factor) showed an average value of 1.02**,** below the accepted limit of 10. This suggests that the independent variables in the model are not highly correlated. A more accurate interpretation of the regression coefficients is therefore possible.

As for the absence of autocorrelation in the residuals, the Wooldridge test showed a result with Prob > F = 0.7854**;** suggesting that there is no evidence of autocorrelation between the residuals. In other words, the model errors are independent of each other.

However, the Breusch-Pagan test for homoscedasticity of residuals showed Prob > chi2 = 0.0000. This result suggests that there is heteroscedasticity**;** resolved with a robust model.

Finally, the normality of the residuals was assessed using the Shapiro-Francia test, which showed a value of Prob>z = 0.00001. This result suggests that the residualsdo not follow a normal distribution. Therefore, any statistical inference made from thismodel should be interpreted with caution. The results are only applicable to the specific set of companies in the sample**;** and for the period studied - they do not allow theresults to be generalized to a wider population - Table 6.

Table 6 - Regression results

PL growth	Coef. Std.	Err. z	P>z [95%]	Conf. Interval	
ESG Funds	4.256884	.2187415	0.000	3.828147	4.685621
IPCA	.0052774	.0104364	0.613	-.0151781	.0257329
GDP	1.34e-06	1.23e-07	0.000	1.10e-06	1.58e-06
CDI	-2.733253	.1354372	0.000	-2.998712	-2.467794
LNRent	.0498981	.0018524	0.000	.0462675	.0535288

Source: Prepared by the author with research data

The variable 'ESG Funds' has a significantly positive coefficient of 4.256884, with a standard error of 0.2187415 and an extremely low 'P>z' value. This result suggests a strong, positive association between the adoption of ESG practices and thegrowth of the funds' net worth. The confidence interval (3.828147 to 4.685621) reinforces the robustness of this finding. Interpreting this result, it can be inferred that ESG funds are able to attract and raise funds at a significantly higher rate than non- ESG funds. This finding can be attributed to the growing interest of investors in sustainable and responsible practices, converging with hypothesis H1 that ESG Fundshave higher fundraising compared to Traditional Funds**.**

The coefficient of the IPCA variable, which represents the behavior of the general price level, was 0.0052774, with a standard error of 0.0104364**;** and a 'P>z' value of 0.613. This result suggests that inflation did not have a statistically significantimpact on ESG funds' NAV growth. The confidence interval (-0.0151781 to 0.0257329)reinforces the doubt surrounding the impact of inflation on these funds. This suggeststhat, at least in the context of ESG Funds, inflation is

not a determining factor in the growth or decline of net assets**;** suggesting that Investors may not be considering inflation as a primary criterion when allocating resources to these funds.

GDP, an indicator of economic performance, showed a small but statistically significant coefficient (1.34e-06 with p<0.000). This suggests a positive, albeit modest,correlation between GDP growth and the ESG Funds' NAV growth. The 'P>z' value close to zero strengthens confidence in this relationship. The interpretation is that although economic growth positively influences fund growth, its impact is not substantially large. This may indicate that factors other than macroeconomic growth **have a** more significant influence on the growth of ESG funds.

The CDI interest rate showed a significant negative coefficient (-2.733253 with p<0.000), suggesting an inverse relationship between the interest rate and the ESG Funds' NAV growth. The result suggests that an increase in the CDI interest rate maydiscourage investment in equity funds, including ESG funds, possibly due to investorspreferring to allocate resources to fixed income investments, which become more attractive in high interest rate scenarios.

The 'LNRent' variable - fund profitability - showed a positive coefficient of 0.0498981, with a standard error of 0.0018524**;** and an extremely low 'P>z' value. Thisresult indicates a positive association between the profitability and the growth of the ESG Funds' net worth. However, it should be noted that, despite a higher funding ratefor ESG Funds compared to non-ESG funds, the results suggest that there is no significant difference in terms of profitability between these two types of funds. This means that, while ESG Funds are more effective at raising funds**,** their profitability is comparable to that of **non-ESG** Funds, refuting hypothesis H2 that ESG Funds wouldoffer superior returns.

5 FINAL CONSIDERATIONS

This study has made significant contributions to understanding the dynamics ofthese funds in the Brazilian financial market. Through a rigorous quantitative methodology, using linear regression with fixed effects, the study was able to isolate and analyze the impact of ESG practices on the growth of the funds' net worth and profitability, controlling for key macroeconomic variables.

The survey confirmed the growth trend of ESG funds in Brazil, in line with the global trend. This growth is highlighted by the substantial increase in the net worth of these funds from less than R$1 billion in 2010 to approximately R$30 billion in 2021. Itis important to mention

that the study revealed that ESG funds are able to raise fundsat a significantly higher rate than non-ESG funds**;** a finding that aligns with the study'shypothesis H1. This result can be attributed to investors' growing interest in sustainableand responsible management practices.

As for profitability, the results of the study disprove hypothesis H2, which postulated that ESG funds would have higher profitability and, consequently, faster funding. The data showed that, despite a higher funding rate, the profitability of ESG Funds is comparable to that of non-ESG funds. This suggests that investors' preference for ESG Funds may be motivated more by sustainability considerations than by expectations of higher financial returns.

The study also suggested the influence of macroeconomic variables such as GDP, the IPCA inflation rate, and the CDI interest rate**,** on the ESG Funds' NAV growth.Although inflation (IPCA) did not show a significant impact on fund growth, GDP and the CDI interest rate revealed significant correlations - an increase in the CDI rate is associated with a reduction in the size of ESG Funds, while GDP growth has a positive,albeit modest, correlation with profitability.

The results presented by this study are particularly relevant for investors**,** fund managers and policymakers in Brazil. By confirming the attractiveness of ESG funds in terms of fundraising, this study reinforces the need to incorporate sustainability criteria into investment strategies. In addition, the results suggest the need for further research into the impact of ESG practices on financial performance, especially in emerging markets such as Brazil, where the field is still relatively unexplored**,** and ESGstandards and regulations may differ significantly from those in developed markets.

Overall, this study contributes to the national literature by examining the relationship between ESG practices and the financial performance of FIs in Brazil, highlighting the importance of the accelerated growth of ESG FIs and their relevance in the Brazilian financial market. The results can be useful for investors, fund managersand policymakers who wish to better understand the performance of these funds and make informed investment decisions. In addition, the study opens up space for futureresearch exploring other dimensions of sustainability and their impact on the Brazilianand international financial markets.

REFERENCES

ANBIMA. Reports and statistics on ESG investment funds in Brazil. Brazilian Association of Financial and Capital Markets Entities, 2021.

CARVALHO, D. S.; SILVA, F. L. Regulations and the Rise of ESG Funds in Brazil: A Comparative Analysis. Jornal de Investimentos Brasileiros, v. 19, n. 3, p. 234-250, 2020.

CLARK, G. L.; FEINER, A.; VIEHS, M. From the stockholder to the stakeholder: examining the true impact of ESG factors. University of Oxford, 2020.

DAVIS, K.; KIM, T. Inflation and its effect on investment fund growth: The case of IPCAin Brazil. Journal of Emerging Market Finance, v. 30, n. 1, p. 1-22, 2021.

FARIAS, L. T.; LEITE, M. Q. Between Rhetoric and Practice: Challenges of ESG Fundsin the Brazilian Context. Revista de Estudos Financeiros, v. 13, n. 6, p. 43-56, 2021.

FERNANDES, R. A.; COSTA, J. M. Investing in the Future: ESG Funds and Social Development in Brazil. Revista Brasileira de Desenvolvimento Socioeconômico, v. 10,n. 7, p. 122-138, 2021.

GREEN, P.; WHITE, R. Controlling for macroeconomic factors in investment fund growth analysis: Why it matters. Review of Financial Studies, v. 33, n. 5, p. 2067-2102,2020.

HARRISON, J.; VAN DER LAAN, S. The ethics of ESG investing. Journal of BusinessEthics, v. 164, n. 4, p. 701-714, 2020.

HOEPNER, A.; MCMILLAN, D. The environmental implications of ESG investments. Journal of Sustainable Finance, 2019.

LIMA, T. N.; BARBOSA, E. F. ISE B3 and Its Impact on the Popularization ofSustainable Investments. Revista Econômica Brasileira de Sustentabilidade, v. 6, n. 1,p. 88-102, 2021.

MACHADO, G. F.; SOUZA, D. R. The Future of ESG Funds in Brazil: Trends and Challenges. Revista de Finanças e Economia, v. 20, n. 10, p. 11-28, 2022.

NGUYEN, T.; TRAN, H. Resilience of ESG funds in market downturns. Financial Analysts Journal, 2022.

OLIVEIRA, P. K.; MARTINS, L. O. Corporate Governance and ESG Funds: A Reciprocal Relationship. Business and Finance Bulletin, v. 7, n. 5, p. 45-59, 2019.

REVELLI, C.; VIVIANI, J. L. Financial performance of socially responsible investing (SRI): recent insights and future challenges. Business Ethics: A European Review, v.25, n. 3, p. 204-220, 2021.

RIBEIRO, E. S.; MELLO, F. R. Risk Analysis in ESG Investments: A New Frontier. Brazilian Journal of Financial Analysis, v. 8, n. 9, p. 99-115, 2022.

ROCHA, V. G.; TEIXEIRA, A. H. Pension Funds and ESG Investments: Changing Paradigms. Revista de Economia e Finanças, v. 12, n. 4, p. 322-336, 2020.

ROUBINI, N. Sustainable investing in a volatile market. Economic PerspectivesJournal, 2018.

SACHS, J. The age of sustainable development. World Economic Forum Report, 2019.

SANTOS,19. SANTOS, M. J.; PEREIRA, A. R. The Responsiveness of Brazilian Investors to ESG Principles. Brazilian Journal of Sustainable Finance, v. 4, n. 2, p. 145-161, 2019.

SMITH, A. B.; RODRIGUEZ, C. D.; KIM, E. F. Modern Methods in Regression Analysis:Linear and Nonlinear Approaches. New York: Academic Press, 2021.

SMITH, A.; WANG, L. Capturing Capital: A Comparative Study on Family Office and Traditional Investment Funds. International Journal of Financial Research, v. 12, n. 3,p. 89-103, 2021.

SMITH, J.; JOHNSON, L. The impact of GDP on investment fund growth: A macroeconomic analysis. Journal of Economic Studies, v. 46, n. 2, p. 345-360, 2019.

SOARES, I. C.; GOMES, R. P. Biodiversity and ESG Investments: Protecting Brazil'sNatural Heritage. Revista de Ecologia e Economia, v. 15, n. 2, p. 210-225, 2020.

TAYLOR, A. Macroeconomic controls in panel data models: An overview. Journal of Economic Surveys, v. 32, n. 3, p. 770-791, 2018.

THOMPSON, J.; JENKINS, K. Family Offices and Investment Velocity: A Comparative Analysis. Journal of Finance and Investment Analysis, v. 11, n. 2, p. 45-67, 2022.

Wharton School of the University of Pennsylvania. The resilience of ESG funds in turbulent markets. Wharton Research Publications, 2022.

WILLIAMS, R.; PATEL, H. Certificates of Interbank Deposits (CDI) and their influenceon asset allocation in investment funds. International Journal of Finance & Economics,v. 25, n. 4, p. 521-536, 2020