INVESTOR ATTENTION AND EXCHANGE TRADED FUND RETURNS IN SOUTH AFRICA: THE ROLE OF INVESTORS' INTERNET SEARCH ACTIVITY

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Abstract

In recent years, exchange-traded fund (ETF) markets have grown exponentially due to their rising popularity amongst retail investors with a preference for passive investments. However, the effect of this rising popularity on the performance of ETF markets remains understudied. Therefore, the objective of this study is to explore the effect of investor attention on the returns of South African ETFs. To achieve this objective, a sample of 80 JSE-listed ETFs is examined using a panel regression approach for the period 2 January 2018 to 30 December 2022. The results obtained suggest that investor attention has a negative effect on ETF returns in line with the Investor Recognition Hypothesis. However, further analysis reveals that this negative effect is only significant for ETFs with domestic benchmarks and ETFs tracking equity benchmarks. Additional analysis also reveals that the negative effect of investor attention diminished after South Africa reported its first case of COVID-19. Noteworthy is that global investor attention also exhibits a significant effect of the returns of these funds. Overall, these findings indicate that investor attention contains information that is useful in explaining ETF price movements and, therefore, has important implications for various stakeholders.

Keywords: Google Search Volume Index, Investor Recognition Hypothesis

JEL Classification: G11; G12; G40

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1. Introduction

The Efficient Market Hypothesis of Fama (1970) proposes that markets are efficient when asset prices instantaneously incorporate new information. To achieve this instant reaction, market participants need to pay close attention to information and consider this information during their investment decision-making processes (Peng and Xiong, 2006). However, attention is a scarce resource particularly when it comes to investment decision making (Kahneman, 1973). This is because there exist large amounts of information that need to be processed by investors who have limited time and effort (Aouadi, et al., 2013). Given its influence on investment decision-making, investor attention affects various aspects of financial markets including returns (Chen, et al., 2022), liquidity (Cheng, et al., 2021), and volatility (Wang, et al., 2021). This study, however, concentrates on the influence of investor attention on asset returns, in particular, the Exchange Traded Fund (ETF) asset class.

An ETF is defined as an investment fund that attempts to track the performance of a specific benchmark by pooling various securities constituted in the underlying benchmark (Kunjal, 2022). In recent years, these funds have gained increasing popularity with the global ETF market growing by more than 500% over the last decade (Jhunjhunwala and Sethi, 2022; Kunjal, et al., 2022). This exponential growth in the market stems from the various benefits offered by these funds, including low costs, tax efficiencies, trade flexibility, and increased transparency (Kallinterakis, et al., 2020). However, research on the influence of this increasing popularity on ETF markets remains scanty. There are only two studies, known to the author, which examine the influence of investor attention on ETF returns. Lee and Chen (2021) examine cross-border ETFs trading in the United States (U.S.) and find that local (that is, U.S.) investor attention has a consistent negative effect on returns. However, investor attention in the home country negatively impacts returns in the low and medium quantiles but positively impacts the returns in the high quantile. On the contrary, Lee, et al. (2021) find that local attention does not significantly impact single-country ETFs in the U.S. while home-country investor attention significantly impacts the returns in the low and medium quantiles. There is no study which related investor attention to non-U.S. ETFs. Therefore, the objective of this study is to investigate the effect of investor attention on the returns of South African ETFs given that the

market has experienced a growth of more than 200% over the last decade (Kunjal, et al., 2022).

This study contributes to existing literature in several ways. Akarsu and Süer (2022) find that the direction in which investor attention influences returns, and the significance thereof, differs across countries. The only investor attention-related study, known to the author, which considers the South African market is conducted by Iyke and Ho (2021) although the study concentrates on attention towards Coronavirus rather than the financial market itself. Therefore, the first contribution of the current study is that it provides insight into the response of South African markets to investor attention, specifically, attention related to the financial market. In particular, the study focuses on ETF markets which are relatively understudied especially in non-U.S. markets since the only two investor attention-related studies survey U.S-listed ETFs (conducted by Lee and Chen, 2021 and Lee, et al., 2021). Hence, the second contribution of this study is that it sheds light on the impact of investor attention on ETFs trading in emerging countries, in this case, ETFs listed on the Johannesburg Stock Exchange (JSE).

Yuan, et al. (2022) find that returns respond differently to local and non-local investor attention. On this basis, this study also considers the effect of global investor attention. Thus, the third contribution of this study is that it adds to current knowledge of how global investor attention impacts returns while the majority of the existing literature focuses solely on local investor attention. Despite the growing interest in international ETFs (that is, ETFs which offer international exposure), research on these funds remains scanty (Bahadar, et al., 2020). A further contribution of this study is that it adds to the literature on international ETFs by segmenting the analysis into ETFs tracking domestic and international benchmarks. Likewise, this study assesses the investor attention-return relationship across ETFs tracking different asset classes. An understanding of the effects across different benchmarking styles would assist investors in devising appropriate diversification strategies using ETFs which track different benchmarks.

This study is structured as follows: Section 2 outlines the data and methodology employed in this study while Section 3 presents and analyses the results. Section 4 concludes the study.

2. Literature review

In theory, there are two strands of opposing hypotheses that attempt to explain the association between investor attention and returns. On the one hand, the 'Investor Recognition Hypothesis' proposed by Merton (1987) asserts that investors trade in securities with which they are familiar. Therefore, neglected securities (or securities with less attention) would need to attract investors by offering them higher returns as compensation for taking large undiversified positions in the respective securities. Hence, the 'Investor Recognition Hypothesis' predicts a negative relationship between investor attention and returns. On the contrary, the 'Attention-Induced Price Pressure Hypothesis' of Barber and Odean (2008) implies that investors are net demanders of attention-grabbing stocks. As such, an increase in attention signifies a surge in demand which adds positive, temporary price pressure to a security. Thus, a positive relationship between investor attention and future returns is expected. Notably, Peng and Xiong (2006) posit that investors tend to exhibit category-learning behaviour whereby they focus on market- or sector-wide information rather than firm-specific information because of their limited attention. Moreover, when information is severely constrained, investors disregard firm-specific information and focus only on market- and sector-wide information. Several empirical studies have explored the relationship between investor attention and returns.

Recent empirical evidence of the association between investor attention and stock returns is inconsistent. On one hand, Chen (2017), Piñeiro-Chousa, et al. (2020), and Smales (2021a) find that investor attention and returns are negatively associated such that increased attention leads to reduced returns. On the other hand, Tan and Tas (2019), Swamy and Dharani (2019), and Yang, et al. (2021) report a positive association such that greater attention leads to greater returns. Remarkably, Kim, et al. (2019) and Osabuohien-Irabor (2021) discover that investor attention exhibits no significant effect on the stock returns in Norway and Nigeria, respectively. There is evidence that investor attention also impacts the returns in markets for other asset classes including bonds (Pham and Huynh, 2020; Pham and Cepni, 2022), cryptocurrency (Zhang and Wang, 2020; Smales, 2022), futures (Han, et al., 2017; Saxena and Chakraborty, 2020), and exchange-traded funds (ETFs) (Lee and Chen, 2021; Lee, et al., 2021). However, while the effect of investor attention on stock returns has been extensively

studied, the association is relatively understudied in other asset markets (Subramaniam and Chakraborty, 2020) especially the market for ETFs, thus, highlighting the need for further research on ETF markets.

Noteworthy is that there are only two studies, known to the author, which examine the influence of investor attention on ETF returns. Lee and Chen (2021) examine cross-border ETFs trading in the United States (U.S.) and find that local (that is, U.S.) investor attention has a consistent negative effect on returns. However, investor attention in the home country negatively impacts returns in the low and medium quantiles but positively impacts the returns in the high quantile. On the contrary, Lee, et al. (2021) find that local attention does not significantly impact single-country ETFs in the U.S. while home-country investor attention significantly impacts the returns in the low and medium quantiles. There is no study which related investor attention to non-U.S. ETFs.

3. Data and methodology

To achieve the objectives of this study, ETFs listed on the JSE at the end of December 2022 are surveyed, however, each ETF included in the sample needs to be trading for at least one year in order to ensure a sufficient number of observations for each fund. This leads to a sample of 80 JSE-listed ETFs after discarding six ETFs with missing data. The period under observation varies from 2 January 2018 to 30 December 2022. Daily closing prices for the ETFs are collected from the EquityRT database, and the daily returns are computed as follows:

$$Return_{i,t} = \frac{Price_{i,t} - Price_{i,t-1}}{Price_{i,t-1}} \times 100 \tag{1}$$

where $Return_{i,t}$ represents the return for ETF i on day t and $Price_{i,t}$ represents the closing price for ETF i on day t.

In this study, investor attention is measured using the Google Search Volume Index (GSVI) in line with recent studies by Lee, et al. (2021), Lin (2021), Akarsu and Süer (2022), Smales (2022), and Koch and Dimpfl (2023). The GSVI reflects the number of searches for a particular keyword as a proportion of searches for all keywords in a specific location and time (Swamy and Dharani, 2019). Thus, the GSVI represents a novel and direct measure of investor attention as it directly

captures internet search activity whereby an investor searching for an asset indicates that the investor is paying attention to the asset (He, et al., 2022). This is particularly important in a world where most retail investors use search engines to collect information (Yang, et al., 2021). The GSVI is provided by Google Trends available at https://trends.google.com/.

It is important to note that Google Trends normalizes the search activity and scales the index between zero and 100, such that, a higher index value represents greater search activity and, thus, greater investor attention. However, Google Trends does not provide data on rarely searched keywords (Akarsu and Süer, 2022). Therefore, the keyword selected for this study is "ETF" because the use of ETF names or tickers may lead to an inaccurate reflection of the attention received by the fund. Furthermore, the seminal work of Peng and Xiong (2006) asserts that investors have limited attention and tend to focus on market-wide information, thus, the choice of the "ETF" keyword captures attention for the whole ETF market. To capture local investor attention towards the ETF market, the baseline analysis is restricted to the search conducted in South Africa. In the latter part of the analysis, global investor attention towards the ETF market is captured by examining worldwide searches for "ETF". To ensure comparability across the funds, the GSVI is standardized in line with existing studies as follows (Swamy and Dharani, 2019; Swamy, et al., 2019):

$$Investor\ Attention_t = \frac{GSVI_t - \frac{1}{n}\sum_{i=1}^{n} GSVI_t}{\sigma_{GSVI}} \qquad (2)$$

where $GSVI_t$ is the index value for searches related to ETF on day t, n represents the total number of daily observations, and σ_{GSVI} is the standard deviation of the daily index values over the full sample period.

The effect of investor attention on ETF returns is examined using a panel data approach because of its ability to mitigate issues related to heterogeneity, multicollinearity, and omission of variables (Al-Awadhi, et al., 2020). The baseline model is adapted from Tan and Tas (2019) as follows:

$$Return_{i,t} = \beta_0 + \beta_1 Return_{t-1} + \beta_2 Investor\ Attention_{t-1} \\ + \sum_{k=1}^{3} \gamma_k Control_{i,t-1} + \varepsilon_{i,t} \qquad (3)$$

where $Return_{i,t}$ represents the return of ETF i on day t as defined in Equation (1) and $Investor\ Attention_t$ is the standardised GSVI on day t as defined in Equation (2). β_0 is a constant term while $\varepsilon_{i,t}$ is an error term. The three control variables included to control for alternative explanations of ETF returns are $LnVolume_{i,t-1}$ which is the log of the ETF's daily trading volume, $LnVolatility_{i,t-1}$ which is the log of the ETF's price volatility, and $LnMarket\ Capitalisation_{i,t}$ which is the log of the ETF's market capitalisation included to capture the ETF's size.

Further, to minimize issues relating to cross-sectional heterogeneity and the omission of ETF characteristics, Equation (3) is estimated using cross-sectional fixed or random effects. The appropriate panel estimation method is selected using the Hausman (1978) test which has a null hypothesis suggesting that the random effects model is preferred.

4. Results and analysis

4.1. Preliminary analysis

Table 1 summarizes the descriptive statistics for the daily return series (that is, $Return_{i,t}$) and the daily GSVI for searches related to "ETF" ($GSVI_t$). The average daily return for the surveyed ETFs is 0.045 per cent with a standard deviation of 1.753 per cent which implies that, for everyone per cent of risk, the ETFs generate a return of 0.026 per cent on average. The average GSVI is 28.014 suggesting that, on average, ETF-related search activities are relatively low compared to searches for all other keywords.

Table 1

Descriptive Statistics

Statistic	$Return_{i,t}$	$GSVI_t$
Mean	0.045	28.014
Maximum	131.117	100.000
Minimum	-50.000	0.000
Std. Dev.	1.753	24.207
Skewness	10.296	0.613
Kurtosis	699.604	2.905
Jarque-Bera	1.77E+09	5507.409
Probability	0.000	0.000
Observations	87534	87534

Source: Author's own compilation

Table 2 provides the results of the stationarity tests for each variable. For all the variables, the null hypothesis of a unit root is rejected. Therefore, all the variables are stationary and can be used in the analysis.

Table 2

Stationarity Results

Variable	LLC	IPS	ADF	PP
$Return_{i,t}$	-93.004*	-140.368*	11928.2*	6888.60*
$Investor\ Attention_{i,t}$	-95.866*	-93.455*	7347.14*	6820.02*
$LnVolume_{i,t}$	-66.601*	-84.252*	6389.21*	9813.71*
$LnVolatility_{i,t}$	-70.889*	-91.283*	7095.03*	10241.0*
$LnMarket\ Capitalisation_{i,t}$	-6.428*	-2.697*	225.441*	565.773*

*Notes: 1) LLC denotes the Levin, Lin and Chu test, IPS denotes the Im, Pesaran and Shin test, ADF denotes the Augmented Dickey-Fuller Fisher Chi-square test, and PP denotes the Phillips-Perron Fisher Chi-square test. 2) *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively.*
Source: Author's own compilation

4.2. Baseline analysis

Table 3 presents the results of the panel regression estimated using Equation (3).

Table 3

Baseline Panel Regression Results

Variable	Coefficient	T-statistic
$Constant$	6.722*	12.346
$Return_{i,t-1}$	-0.138*	-41.366
$Investor\ Attention_{i,t-1}$	-0.015**	-2.519
$LnVolume_{i,t-1}$	0.006**	1.995
$LnVolatility_{i,t-1}$	0.009***	1.807
$LnMarket\ Capitalisation_{i,t-1}$	-0.273*	-12.265
Hausman Test Stat.	204.296*	
Fixed Effects Included	Yes	

*Notes: *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively.*
Source: Author's own compilation

The significant Hausman (1978) test statistic suggests that the optimal model is the fixed effects model, hence, Equation (3) is estimated using cross-sectional fixed effects. The results in Table 3

show that $Investor\ Attention_{i,t-1}$ exhibits a negative and statistically significant effect on $Return_{i,t}$. This implies that an increase (decrease) in investor attention leads to a decrease (increase) in ETF returns. This finding supports the Investor Recognition Hypothesis which claims that securities which attract low attention need to provide higher returns to compensate investors for taking undiversified positions (Chen, 2017). The negative effect is also consistent with Lee and Chen (2021) who report that local investor attention negatively impacts U.S.-listed ETF returns. Together, these findings suggest that ETFs in emerging and developed markets response similarly to local investor attention.

For completion, the results in Table 3 indicate that ETF returns are also significantly influenced by its past returns, trading volume, price volatility, and market capitalization. To be more specific, past returns negatively impact current returns indicating the presence of significant negative autocorrelation in the ETF returns. This negative autocorrelation may be attributed to positive feedback trading in South African ETFs as documented by Charteris, et al. (2014). ETF returns are also negatively impacted by its lagged market capitalization which captures the fund's size. Economies of scale enable larger funds to charge lower transaction costs and, thus, generate better performance (Grinblatt and Titman, 1989; Chu, 2011). On the contrary, ETF returns are positively influenced by lagged volume and volatility. Consistent with the Sequential Information Arrival Hypothesis, the study also finds that lagged trading volume positively influences current returns. The Sequential Information Arrival Hypothesis proposes a positive lead-lag relationship because information is disseminated to market participants sequentially and, therefore, price adjustments are not immediate (Copeland, 1976). The lagged price volatility captures the fund's risk component, thus, suggesting a positive risk-return relation whereby investors receive higher compensation for taking on higher risk. This aligns with the finding on investor attention whereby funds with low attention are considered riskier and need to provide greater compensation in the form of returns.

4.3. Robustness analysis

4.3.1. The role of benchmarking styles

Steyn (2019) notes that the pricing dynamics of ETFs tracking domestic and international benchmarks differ for several reasons. On this basis, the attention-returns relation is explored for ETFs tracking domestic and international benchmarks, and the results are provided

in Table 4. Table 4 shows that the negative effect of investor attention is still present, however, it is only significant for ETFs tracking domestic benchmarks. This finding is consistent with the local bias whereby investors pay greater attention to local assets, in this case, ETFs with local benchmarks (Huang, et al., 2016).

Table 4

Panel Regression Results for ETFs Tracking Domestic and International Benchmarks

Variable	ETFs with Domestic Benchmarks		ETFs with International Benchmarks	
	Coefficient	T-statistic	Coefficient	T-statistic
Constant	8.688*	10.583	4.999*	7.304
$Return_{i,t-1}$	-0.131*	-31.038	-0.157*	-28.616
$Investor\ Attention_{i,t-1}$	-0.023*	-2.853	-0.003	-0.327
$LnVolume_{i,t-1}$	0.005	1.486	0.005	0.870
$LnVolatility_{i,t-1}$	0.007	1.153	0.012	1.363
$LnMarket\ Capitalisation_{i,t-1}$	-0.357*	-10.537	-0.198*	-7.189
Hausman Test Stat.	148.856*		66.040*	
Fixed Effects Included	Yes		Yes	

*Notes: *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively.*
Source: Author's own compilation

In addition, the attention-returns relation is explored for ETFs tracking different asset classes, and the results are present in Table 5. ETFs tracking money markets and multi-assets have been disregarded due to an insufficient number of ETFs to form an adequate panel for observation.

The results in Table 5 suggest that exhibits a significant, negative effect only on ETFs tracking equities and does not significantly influence ETFs tracking bonds, commodities, and property. This finding may be attributed to the familiarity bias whereby investors pay greater attention to broad asset classes with which they are familiar (in this case, equities) and less attention is paid to alternative asset classes such as commodities and real estate (Huberman, 2001).

Table 5
Panel Regression Results for ETFs with Different Asset Classes

Variable	Equities	Bonds	Commodities	Property
$Constant$	5.462*	22.109*	8.306*	-0.073
$Return_{i,t-1}$	-0.129*	-0.356*	-0.059*	-0.062*
$Investor\ Attention_{i,t-1}$	-0.018*	-0.004	0.022	-0.037
$LnVolume_{i,t-1}$	-0.001	0.013**	0.021**	0.005
$LnVolatility_{i,t-1}$	0.001	0.012	0.081*	-0.015
$LnMarket\ Capitalisation_{i,t-1}$	-0.220*	-0.918*	-0.314*	-
Hausman Test Stat.	101.760*	41.432*	19.856*	5.726
Fixed Effects Included	Yes	Yes	Yes	No

*Notes: 1) Only the coefficient estimates are provided to improve the overall presentation of the table. 2) *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively. 3) $LnMarket\ Capitalisation_{i,t-1}$ has been removed from the panel regression for properties to ensure that the number of funds in the panel exceed the number of coefficient estimates.*
Source: Author's own compilation

4.3.2. The role of COVID-19

According to Kunjal (2023), the COVID-19 pandemic had a significant effect on the performance of JSE-listed ETFs. On this background, the effect of investor attention before and after the COVID-19 pandemic is examined.

To conduct this analysis, the full sample period is divided into pre- and post-COVID sub-samples where the pre-COVID sub-sample varies from 2 January 2018 till 4 March 2020 (the day before South Africa confirmed its first COVID-19 case) and the post-COVID sub-sample varies from 5 March 2020 (the day South Africa reported its first case of COVID-19) to 30 December 2022.

The results, which are presented in Table 6, indicate that investor attention exhibits a consistent negative effect on ETF returns. However, the magnitude and significance of the negative effect has diminished after South Africa reported its first COVID-19 case. This may be because some ETFs have benefitted from the increased attention brought about by the pandemic and its increased market uncertainty (Smales, 2021b).

Table 6
Panel Regression Results After Accounting for COVID-19

Variable	Pre-COVID		Post-COVID	
	Coefficient	T-statistic	Coefficient	T-statistic
$Constant$	5.910*	4.261	20.538*	15.870
$Return_{i,t-1}$	-0.175*	-32.681	-0.125*	-29.311
$Investor\ Attention_{i,t-1}$	-0.043*	-5.243	-0.019**	-2.297
$LnVolume_{i,t-1}$	0.001	0.217	0.001	0.226
$LnVolatility_{i,t-1}$	0.012**	1.994	-0.009	-1.194
$LnMarket\ Capitalisation_{i,t-1}$	-0.239*	-4.200	-0.838*	-15.859
Hausman Test Stat.	161.837*		276.070*	
Fixed Effects Included	Yes		Yes	

*Notes: *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively.*
Source: Author's own compilation

4.3.3. The role of global investor attention

Yuan, et al. (2022) report that the effects of local and non-local investor attention are not uniform. In this regard, the effect of global investor attention is examined. Global search activity for the keyword (ETF) is obtained from Google Trends and local investor attention is replaced with global investor attention in Equation (3). The results, presented in Table 7, suggest that the global investor attention exhibits a significant, negative effect on ETF returns.

Table 7
Panel Regression Results with Global Investor Attention

Variable	Coefficient	T-statistic
$Constant$	6.955*	12.864
$Return_{i,t-1}$	-0.139*	-41.455
$Investor\ Attention_{i,t-1}$	-0.033*	-4.838
$LnVolume_{i,t-1}$	0.005	1.589
$LnVolatility_{i,t-1}$	0.009***	1.652
$LnMarket\ Capitalisation_{i,t-1}$	-0.282*	-12.747
Hausman Test Stat.	216.953*	
Fixed Effects Included	Yes	

*Notes: *, **, *** represent statistical significance at a 1%, 5%, and 10% level of significance, respectively.*
Source: Author's own compilation

This finding is consistent with the results for local investor attention and aligns with the Investor Recognition Hypothesis of Merton (1987). However, global investor attention exhibits a greater effect on the returns. This finding is expected because domestic and foreign traders (when combined) should have a greater impact on market performance compared to only domestic traders.

Overall, this study contributes to existing literature by demonstrating that investor attention has a negative effect on ETF returns, however, this effect differs based on the ETFs' benchmarking styles and the asset classes tracked by the ETFs. The results also indicate the global investor attention significantly impacts the returns of these funds.

5. Conclusion

In recent years, ETF markets have grown exponentially due to their rising popularity amongst retail investors with a preference for passive investments. However, the effect of this rising popularity of the performance of ETF markets remains understudied. Therefore, the objective of this study is to explore the effect of investor attention on the returns of South African ETFs. To achieve this objective, a sample of 80 JSE-listed ETFs are examined using a panel regression approach for the period 2 January 2018 till 30 December 2022. The results obtained suggest that investor attention has a negative effect on ETF returns in line with the Investor Recognition Hypothesis. However, further analysis reveals that this negative effect is only significant for ETFs with domestic benchmarks and ETFs tracking equity benchmarks. Additional analysis also revealed that the negative effect of investor attention diminished after South Africa reported its first case of COVID-19. Noteworthy is that global investor attention also exhibits a significant effect of the returns of these funds.

Overall, these findings indicate that investor attention contains information that is useful in explaining ETF price movements. Hence, the findings of this study have important implications for various stakeholders. For investors, these findings should serve as guidance for the construction of portfolio adjustment strategies when there is a change in investor attention. For instance, investors can purchase ETFs with domestic benchmarks when investor attention decreases since it is likely to generate a positive return. Overall, the findings of this study indicate that investors need to carefully monitor retail

investor attention in order to detect the optimal time to invest and avoid negative returns. Similarly, these findings indicate that policy makers need to monitor the levels of investor attention in order to detect early signs of increased losses for retail investors and to guide the regulation of ETF markets. For fund managers, these findings suggest that investors are subject to local and familiarity biases, therefore, greater awareness needs to be created for funds taking international benchmarks as well as funds tracking bonds, commodities, and property.

The current study is not free of limitations. In particular, this study only employs one measure of investor attention, that is, the GSVI. In this regard, future studies can employ alternative keywords or different measures of investor attention including indirect measures. The current study of the South African ETF market only concentrates on returns. Future studies can assess different aspects of the ETF market including liquidity, volatility, and price discovery. In a similar manner, future studies can undertake a comparison of the effects of investor attention on different asset classes and different emerging capital markets.

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