PORTFOLIO DIVERSIFICATION WITH ETFs

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Abstract

The research paper intends to highlight the characteristics and demonstrate the benefits of an increasingly popular investment product, the Exchange-Traded Fund (ETF). Although it has been around for at least two decades, it began to attract most of the inflows after the Global Financial Crisis of 2007-2008, the industry's assets under management growing by more than 300% since then.

The case study outlines the benefits of investing in ETFs by comparing its return and risks to a stock-only portfolio. Using weekly closing prices for fifteen ETFs and stocks, the market and minimum-variance portfolio and also the Value at Risk model have been computed for a two-year period (2015-2017).

The final chapter provides an outlook of the Exchange-Traded Fund industry, addressing the main opportunities and challenges that will arise in the coming years.

Keywords: ETF, portfolio diversification, portfolio management, investment funds, capital market, personal finance.

JEL Classification: G11, G23.

Introduction

The importance of the topic addressed in this paper comes from the fact that it deals with a field of the capital markets that has major practical implications and theoretical significance in a continuous evolution, arising from the complex link between the allocation of an individual's financial resources and the efficient use of capital demand. Everyone is forced to block a portion of their income in the form of savings, which they can then invest in hopes of bringing a future benefit. However, many individuals do not have the financial knowledge to make investments, so they turn to the fund management industry, which thus becomes a major player in the capital market.

The paper is structured in four chapters in order to highlight the complexity of the subject. It begins with a brief introduction of the ETF industry in order to place the work in a well-defined context. In the second chapter, a review of the scientific studies carried out

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on this topic was made to show the importance of the subject, emphasizing both the modern portfolio theory elaborated by Harry Markowitz in 1952 and its derivatives, as well as specialized papers dealing with the ETFs.

Chapter number three includes the case study. It started from the theory reviewed in the previous chapter, combining it with an aspect of high importance in the current environment of the financial markets, namely the popularity of the passive investment style. Basically, a comparison was made between a portfolio of shares and one exclusively made up of ETFs.

The final chapter, the fourth one, includes the perspectives and challenges that the ETF industry will encounter in the coming years, taking into account the rise in popularity of this financial instrument. The chapter precedes the conclusions of this paper.

1. The global ETF market

Exchange-Traded Funds (ETFs) can be an important component of the portfolio of any investor, be it a sophisticated investor such as a fund manager or just a retail trader. Some investors allocate their entire portfolio to this class of instruments, managing to create a well-diversified portfolio through just a few ETFs. Other investors use ETFs in addition to their existing portfolio to create more complex investment strategies. But, as with any other instrument, in order to truly gain from the benefits offered by ETFs, investors need to fully understand and use them in such a way as to obtain maximum benefits.

Understanding most ETFs is easy. These are mutual funds traded on a stock exchange, similar to a stock. The purpose of such a fund is to replicate the return of an underlying asset. The structural difference between an ETF and a common mutual fund explains much of its investment characteristics. The other differences are given by the way the fund is managed. Having the purpose of replicating an index, ETFs are considered to be passively managed, while most mutual funds are actively managed.

From an investor's perspective, investing in an ETF is the same as investing in a stock index. For example, the SPDR S&P500 (symbol: SPY) should provide a return close to that of the S&P500 index.

By making a comparison with mutual funds, ETFs are relatively new instruments. The first ETF was listed on the US stock exchange in the early 1990s, being introduced by State Street Global Advisors. Although the first ETFs launched tended to replicate the evolution of a stock market index, they recently followed the evolution of an economic sector or fixed income, currencies or commodities.

Like mutual funds, ETFs are investment vehicles that pool assets of multiple investors and use a professional fund manager to invest the funds according to a set of rules and with the goal of creating a capital appreciation.

The investment in a mutual fund is made through the acquisition of fund units directly from the manager at the net asset value calculated at the end of the day. In contrast, investing in an ETF is similar to one in a stock: through a stock exchange and at a price set by market participants.

Issuance and redemption of fund units for an ETF is made exactly opposite to the procedure followed by a mutual fund. When an investor purchases units of a mutual fund, he sends the money to the administrator, who then invests in the portfolio, whereas in the case of ETFs the money reaches the hands of a former investor.

ETFs are certificates attesting ownership of a portion of a portfolio of financial instruments. In order to create an ETF, the fund manager must create a prospectus, which has to be approved by the home country's financial authority. Then, a custodian bank is required to deposit the assets and a market maker to distribute the fund units. Typically, only the largest asset management companies create ETFs, because they are in regular contact with qualified investors, pension funds and other entities that have large amounts of money. Demand for new ETFs comes from both institutional and retail investors.

In order to redeem the shares, an authorized participant purchases an ETF unit, sends it to the custodian bank and receives an equivalent basket of individual shares in exchange which can be further sold on a stock exchange. Another way is to sell ETFs directly on the stock exchange.

An important feature of ETFs is the opportunity of arbitrage. When the ETF's stock price deviates from its net asset value, speculators can take advantage of this difference. If the ETF is being traded at a discount, the arbitrageurs initiate a buying operation on the market, then change the units to the custodian bank and sell the shares underlying the ETF, thus obtaining a profit.

The vast majority of ETFs are designed to replicate the evolution of a stock index. There are, however, yield differences between the ETF and the index, caused by fund expenditures and administration fees.

ETFs can be bought or sold on a stock exchange having permanent liquidity. The way of trading is simple, identical to trading a stock. Investors can place limit orders, stop-loss orders and can also make short selling transactions. Mutual funds are traded at the end-of-day net asset value, while ETFs can be purchased at any time, sometimes even at a discount, fact that is impossible for unlisted funds.

With regards to dividends, ETFs are distributing them quarterly so the money is not being reinvested by the administrator, thus creating a deviation from portfolio returns due to the existence of cash.

Having passively managed portfolios, ETFs offer much better tax benefits than a mutual fund. It generates fewer capital gains because there are not very frequent sales transactions. At the same time, ETFs are showing a higher degree of transparency, potential investors always knowing the composition of the fund they want to invest in; mutual funds are required to report their holdings bi-annually.

One of the biggest advantages of ETFs is the low level of administration fees. Passive portfolio management, low distribution costs and internal accounting contribute to a low cost to the client.

The first ETF created, which became the most popular in the meantime, is SPDR S&P500 (SPY), which aims to replicate the return of the US Stock Market Index S&P500. The fund manager is State Street Global Advisors, one of the largest fund managers in the

world. SPY is traded on the American Stock Exchange (AMEX) having a daily trading volume of over 60 million units.

Although index replication is a passive investment strategy used by many institutional investors, it has only recently come to the attention of retail investors. Due to the fact that ETFs use this strategy predominantly, the first question a novice investor needs to address is whether it wants a more dynamic portfolio or just to pursue general market returns.

The most popular strategy is active portfolio management, which involves trying to get better returns than the market. Fund managers base their investment decision on analyzing the state of the economy, the factors that directly influence a company and the general market trend. Many analysts or managers have their own system of selecting financial instruments and customized methods to trade them, including fundamental analysis, technical analysis, quantitative or macroeconomic analysis.

Asset managers believe that financial markets are inefficient, so they can exploit anomalies in order to achieve more generous returns. On the other hand, those who run passive funds are adepts of the efficient market theory, which is based on the fact that the price of an asset is always fair, effectively and quickly encompassing all the information available about it. Thus, this category of administrators seeks to replicate the general evolution of the market, unwilling to take additional risks.

Over the last half century, there have been many debates on which would be the best investment approach: passive or active. Passive portfolio administration is supported by the academia, while active management is encouraged by financial institutions, each of these two camps coming up with strong arguments.

The main advantage of active management is the ability of portfolio managers to use their skills in order to achieve a higher return than their benchmark. They can make investment decisions based on their professional experience and analyzes. If they foresee a market correction, they can use hedging techniques or increase cash exposure to drastically reduce the negative impact on the respective portfolio.

A disadvantage of this approach is the high cost, which affects the long-term returns. Frequent transactions and the need for more employees generate higher operational costs, thus hindering the inflows of new capital, considering that investors will not want to pay a very high management fee.

The passive management strategy has the advantage that it does not require many investment decisions, generating a low number of transactions and therefore low operational costs. A fund managed in this way will never get a better return than the index it replicates, nor will it be able to protect itself against a bear market.

2. Literature review

ETFs are often presented as an alternative to index funds in the academic literature. Their performance is compared with that of a mutual fund that replicates an index and its efficiency with that of a closed-end investment funds. Being traded the same way as a stock, ETFs are affected by the same problems.

Boehmer and Boehmer, as well as Tse and Erenburg, note in 2003 the influence that the listing of an ETF on the New York Stock Exchange has on the ETFs that are traded on the American Stock Exchange (AMEX) in terms of the quality and flow of trading orders. Because of the growing popularity of these instruments and implicitly the rising trading volume, NYSE wanted to attract as many new ETF listings as possible. Tse and Erenburg note that having ETFs trading on both AMEX and NYSE has led to an increase in competition between the two exchanges, following the narrowing of spreads. However, this rivalry has not led to a segmentation of the market or an increase in transaction costs.

Boehmer and Boehmer also confirm this conclusion, noting that there is an increase in the trading volume following the dual listing. However, David Peterson (2003) opposes the idea that the market would not be segmented. He argues that Boehmer and Boehmer's findings suggest that investors will trade on the market that has the highest liquidity.

The way these financial instruments are created can provide clues to other questions. Arshanapalli, Switzer and Abersfeld measured in 2002 the impact that the issuance and redemption of the S&P Depositary Receipts has on the price of the shares that make up the S&P500.

ETFs have been created with the main purpose of giving investors the opportunity to diversify their investments through a single, low-cost instrument. However, there is not much information about how they are actually used by investors. Pennathur, Delcuore and Anderson in 2002, and Miffre in 2007, question the ability of country ETFs to create a truly international diversification. They agree that the ETFs faithfully replicate the evolution of the local stock index, but the diversification offered is limited because it has a high exposure on the US market. Miffre puts a particular emphasis on the benefits an ETF has to a mutual fund: the possibility of short selling the instrument and gaining from a negative evolution of the stock market index in that country, low costs and tax efficiency.

The debate between active and passive investing is covered in numerous scientific papers. Blake, Elton and Gruber (1993) have analyzed the performance of a mutual bond fund. They concluded that the fund had a lower return than its benchmark, which can be attributed to the existence of management fees. A regression analysis shows that a one percentage point increase in the fees charged by the fund manager leads to a one percent decrease in the return.

Burton Malkiel demonstrated in 1995 that actively managed funds fail to deliver better returns than their benchmarks. Generally, these kinds of funds fail to beat the market even before deducting administration costs. Malkiel concludes that investors should choose to invest in an index fund.

Martin Gruber (1996) researched actively managed funds as well. Although they do not produce better results than their benchmark, they still enjoy high popularity. There are two types of such funds: open and closed. Fund units are sold at the net asset value, excluding a commission for administration, while closed funds should include this fee. Gruber concludes that the evolution of open-end funds should be predictable.

In 2006, Harper, Madura and Schnusenberg compared actively managed closed-end funds with passively managed ETFs. Their study focused on funds that track the evolution of a domestic stock index. Their conclusion was that ETFs have, on average, a better risk-adjusted return, measured by the Sharpe indicator. In addition, closed-end funds had a

negative alpha indicator, demonstrating once again the superiority of passively managed funds.

Another interesting study, conducted by Elton, Gruber, Comer and Li in 2002, shows that the SPDR ETF that replicates the S&P500 index (symbol: SPY) underperforms not only the benchmark index, but also similar mutual funds. The main reason is the lack of reinvestment of dividends. This problem does not occur however to newly issued ETFs because the US Securities and Exchange Commission (SEC) now allows changing the legal structure of the fund.

In his 2003 paper, Leonard Kostovetsky studies the differences between ETFs and mutual funds. His theoretical model highlights management fees, trading fees and taxation. It concludes that underperforming the benchmark index is due to the operational structure of the fund.

Gary Gastineau released a paper in 2004 on the ETF structure as well. It analyzed the performance of index funds and passive ETFs in terms of operational efficiency. Gastineau concludes that mutual funds are more efficient and manage to achieve higher returns than the benchmark index by not fully replicating the index structure. For example, ETFs are adjusted much later when it comes to a change in the index composition, whereas mutual funds are adjusted earlier, when the change was announced.

In 2008, Gerasimos Rompotis compares the return, volatility and costs of ETFs and index funds. The data set consists of sixteen ETFs and index funds that replicate Russell, S&P, Wilshire, or MSCI indexes. The author finds no statistically significant difference between the risk and returns of these two categories of funds. Also, they underperform the benchmark and replication errors are similar, although ETFs follow the index more faithfully.

In another paper, conducted in 2007, Rompotis assesses the seasonality of ETF's performance and volatility. Regardless of the capitalization of the fund or its composition, can be noticed a so-called “November Effect”. Daily average return and standard deviation are higher than in other periods of the year. Investors can exploit this anomaly by investing in ETFs only during the month of November. A reverse effect is observed in December, when the risk is at its lowest.

Another interesting paper was written by Blitz, Huji and Swinkels in 2012, in which they investigated why European funds and ETFs do not perform as well as their American counterparts. They found that the tax on dividends had the same impact as the rest of the fund's expenses. Thus, they suggested that the Total Expense Ratio (TER) is not the only aspect at which an investor must look.

ETFs have many common features with index funds. However, there are also considerable differences, such as the method of trading and issuance of fund units. A fund manager creates ETF units by depositing shares to a depository bank. ETF units are traded on a stock exchange, so the price, which is being determined by supply and demand, may deviate from the net asset value.

Engle and Sarkar (2006) analyzed the magnitude of these price deviations from the net asset value for some domestic (US) and international ETFs (ex-US). The unit issuance procedure is much more complex and arbitrage opportunities are more expensive for such

funds. The hypothesis that the price of international ETFs has a large deviation from net asset value is supported by empirical results. Mean and standard deviation's premium were 5, respectively 14 basis points for domestic funds and 77 basis points for international funds. Thus, it can be concluded that domestic ETFs are traded closer to their net asset value.

When comparing to a mutual fund, ETFs have a tax advantage and also lower costs. These benefits are, however, reduced or completely canceled by investors' predisposition to excessive trading, according to the analysis published by Peter Bernstein in 2002. From a statistical point of view, the average holding period of the SPDR S&P500 ETF (SPY) in the first five months of the year 2001 was ten days. The holding period for the PowerShares QQQ ETF, which replicates the NASDAQ 100 index was even lower, totaling six days. Hence, it can be concluded that the short holding periods and the trading fees that occur reduce the ETF's advantage in terms of low costs. One of the few papers written about actively managed ETFs was carried out in 2009 by Gerasimos Rompotis. He analyzed the evolution of three such funds over a six-month period with results showing that actively managed ETFs don't provide better returns than similar passively managed funds.

3. A comparative analysis between stocks and ETFs

The case study outlines the benefits of investing in ETFs by comparing it to a stock portfolio.

The following criteria were taken into consideration in selecting the stocks: high, positive return; high market capitalization; high daily trading volume; diversification.

Regarding the composition of the ETF portfolio, there have been selected US-listed funds with a high value of assets under management and exposure to diverse domains (real estate, emerging markets, commodities, etc.). For each instrument that was included in the analysis, weekly closing prices were extracted from Thomson Reuters Eikon for the period of January 2015 to January 2017. Afterwards, the following indicators were calculated: yearly average return, risk ratio, market sensitivity, Markowitz model, Capital Market Line, CAPM and Value at Risk; these fundamental analysis metrics are considered to be representative for the management of a portfolio. The results were compared with the general market index, BET for the equity portfolio, and Dow Jones Industrial Average for the ETF portfolio.

It is noted that during the analyzed period, the highest returns were recorded by Turbomecanica shares (75%) and Banca Transilvania (29%), while the poorest returns were generated by Petrom (-12.8%) and Nuclearelectrica (-19.1%). Among the ETFs, the highest profitability was recorded by QQQ (11%) and IWM (8.3%), while the poorest returns were generated by GCC (-4.2%) and GVA (-4.7%). The stock-only portfolio had the best average return (10.5%), while the ETF-only portfolio was flat during this period (0.45%).

Table no. 1. Average Yearly Return, 2015-2017

Stock Ticker	Return	ETF Ticker	Return
TBM	75%	QQQ	11%
TLV	29%	IWM	8.3%
COTE	25.1%	*^DJIA*	*7.6%*
SIF1	20.1%	SPY	6.8%
BRD	15.4%	VIG	4.7%
ROCE	12.4%	VEA	0.3%
TGN	9%	TIP	-0.4%
EL	8.4%	VEU	-0.4%
TEL	3.2%	VNQ	-1.8%
FP	3.1%	BND	-1.9%
^BET	*3%*	VGK	-2.2%
SIF2	2.7%	GLD	-2.6%
ATB	-2.6%	PFF	-2.8%
SNG	-11.4%	VWO	-3.2%
SNP	-12.8%	GCC	-4.2%
SNN	-19.1%	VUG	-4.7%

Analyzing the instruments included in the two portfolios from the point of view of annual return, it has been shown that the shares offer a much higher return, but they carry a high degree of risk as well. Regarding the beta indicator, the highest values are also found among stocks, demonstrating again that ETFs are less volatile, confirmed as well by the presence of negative beta for ETFs with exposure on bonds and gold.

Table no. 2. Beta Coefficient

Stock Ticker	Beta Indicator	ETF Ticker	Beta Indicator
BRD	1.33	VWO	1.24
TLV	1.32	IWM	1.2
SNP	1.23	VEU	1.14
^BET	1	VGK	1.14
SIF2	0.99	VEA	1.1
SNG	0.9	QQQ	1.06
SIF1	0.86	*^DJIA*	1
FP	0.83	SPY	0.99
TGN	0.65	VIG	0.84
TEL	0.59	VNQ	0.81
SNN	0.58	GCC	0.44
EL	0.56	PFF	0.23
COTE	0.47	VUG	0.07
ROCE	0.37	TIP	0.02
TBM	0.33	BND	-0.03
ATB	0.27	GLD	-0.09

Following the creation of a minimum variance portfolio, it is concluded that from a risk point of view, the ETF portfolio is much more attractive, having a risk ratio almost four times lower than the equity portfolio. The latter has an annual return of 3.71% and a corresponding risk ratio of 8.67%, while the ETFs portfolio has a return of -1.05% and a 2.37% risk ratio.

The market portfolio of stocks has a return of -19.08% and a risk ratio of 11.46%, while the ETF market portfolio has a return of 6.81% for a 4.67% risk ratio. Likewise the minimum variance portfolio, it is observed that the ETF portfolio offers a huge advantage to investors: positive returns for a lower risk.

Table no. 3. Minimum-Variance Portfolio Allocation

Stock Ticker	%MVP	ETF Ticker	%MVP
SNN	0.17	SPY	0.25
SNG	0.01	QQQ	-0.01
TGN	0.02	VWO	-0.05
TEL	0.13	VEA	-0.02
EL	0.3	BND	1.03
SNP	-0.03	GLD	-0.03
FP	0.04	VNQ	-0.09
SIF1	-0.04	VUG	0.03
BRD	-0.02	TIP	-0.19
TLV	0.05	VGK	0.08
COTE	0.09	GCC	0.09
ATB	0.28	IWM	0.02
SIF2	-0.05	VIG	-0.09
ROCE	0.03	VEU	-0.08
TBM	0.02	PFF	0.08

The use of the Value at Risk model demonstrates once again the benefits of diversification offered by ETFs. The maximum possible loss of the stock portfolio is reduced by 48.5% when using equal weighting of each share and by 27.2% in case of the ETF portfolio.

In conclusion, it can be recommended to a retail investor to invest in ETFs because they have a much more attractive risk-return ratio than stocks.

4. ETF industry outlook

In 2002, just over 100 ETFs were traded on the US markets. Today, there are close to 2,000, so it can be concluded that these instruments should no longer be considered a niche product.

The global ETF industry is experimenting rapid growth, which offers plenty of opportunities but challenges as well. Consequently, several themes that will underpin the future evolution of ETFs have been identified:

Growth

The ETF sector has been steadily rising since its inception in 1993. This trend is expected to continue in the coming years, based on a diversification of products and an increase in popularity. The inflows attracted in 2016 amounted to a record $375 billion, bringing the total value of assets under management to $3.54 trillion. Taking into account that it represented only $1.46 trillion at the beginning of the decade, there has been an increase of 142% over the past six years. It is expected that by 2021, the total assets under management will exceed $7 trillion.

The largest market remains North America, having the largest potential gain. It is expected to reach an AUM of $5.9 trillion in the next five years, which would represent an annual growth of 23%. In Europe, it is expected an annual growth of 27%, while in Asia, the least developed market for ETFs, just 18%.

The year 2016 brought a total of over 200 new funds globally. Approximately 80% of these are managed passively and have a full exposure on equities.

Surprisingly, the customer's level of financial literacy is directly correlated with ETF's growth. US-based fund managers are thinking of global expansion, since they are not identifying many domestic growth opportunities, while Asian managers are promoting inter-regional links between stock exchanges, hoping that these instruments will gain popularity.

Regarding the challenges, the biggest one is represented by further regulations. Also, a change in investor's behavior or an unstable capital market environment can lead to fund withdrawals. Another limitation is the lack of industry innovation because the investment policies are limited.

Distribution

The offer of ETFs is extremely vast, especially in North America and Europe. To distinguish themselves from competitors, fund managers will have to differentiate their products, develop more efficient distribution channels and educate potential customers.

The main sources of demand are represented by financial advisors, online trading platforms and retail investors. Fund managers put their high hopes on financial advisors to generate demand, especially those based in Europe.

One thing to note is that online trading platforms have surpassed discretionary asset management in this ranking. It could be a consequence of a matured North American market, where retail investors are present in large numbers. However, insurance companies are expected to increase their activity in the ETF market by issuing new funds or purchase asset management companies.

Products

As of now, most of the ETFs are passively managed. However, there has been a greater orientation towards the "smart beta" investment style in recent years, which takes into account factors other than market capitalization and dividends, the financial position of the company or stock momentum. Also, many fund managers are taking into consideration creating actively managed fixed income funds.

Although equity ETFs are the most popular, fixed income funds gained increasingly more attention from investors, thus representing a potential opportunity for fund

managers. Lastly, there are ETFs that invest in commodities, which are attractive for the Asian investors.

Index funds will be the pillar for future growth, great potential lying here among the "smart beta" or "strategic beta" type of funds. Actively managed ETFs represent 14% of the Canadian market, but have a lower market share in other geographic regions. The lack of popularity comes from regulations that impose transparency, these funds being required to report their holdings on a daily basis.

Regulations

Considering the significant growth and innovation of ETFs, regulators continue to focus on protecting the investors, which could negatively impact the ETFs market. These measures include greater transparency with regard to management fees and commissions. UCITS V and MiFID II are some examples of regulations that apply to funds operating in the EU.

Although these financial instruments have appeared a few decades ago and have become increasingly popular since then, the US Securities Exchange Commission, the regulator of the largest financial market in the world has yet to come up with some specific laws. Currently, every newly issued ETF must find a way to evade the mutual fund regulations, so that the fund units can be listed on a stock exchange and not sold directly to a client.

On average, the approval of a new issue takes about a year, although an ordinary mutual fund might get approved much faster - one or two months maximum. More complex ETFs are getting approved even harder.

As a result of this complex legal system, several asset management companies are lobbying for a change in regulations. Thus, the industry entry barriers would be much lower. At the moment, only three companies manage 80% of total assets: BlackRock, State Street Global Advisors and Vanguard.

Technology

Technological innovations have had a huge impact on the development of the ETF industry. The ongoing digital evolution will certainly bring changes in the fund's relationship with customers. Asset management firms will make use of big data, social media and digital technology to reduce operational costs, improve their customer relationship, distribution channels and sales. By using an online platform, they will be able to reach several targeted investors.

An important trend in the industry is represented by the emergence of so-called "robo-advisors", which are digital platforms that offer customer assistance on personal financial planning based on algorithms. These programs collect information on the financial situation and objectives of customers through online surveys and provide sample portfolios. For retail customers, these robots have been available for purchase since 2008, which are expected to manage up to 5 trillion dollars in 2025.

Globalization

Almost all fund managers want to have an international presence, which represents both an opportunity and a challenge for them. Over 80% of Asian companies and 70% of European firms want to extend abroad, while only 50% of US companies plan to market funds abroad. To expand their product offerings globally, companies will have to adapt to complex regulations and tax laws from other jurisdictions, but also to create a strong relationship with local investors.

When deciding to enter a new market, it is important to consider the activities and the physical presence that the fund manager will have. Establishing a sales office could create an obligation to pay taxes in that jurisdiction. These decisions are critical in optimizing the tax efficiency of the portfolio, having an important impact on the fund's performance.

In conclusion, it is expected for the ETF industry to maintain a high growth rate in the coming years. New fund managers will try to take advantage of this niche, either organically or through acquisitions. More investors will use these financial instruments in order to diversify their portfolios, so the assets under management are expected to overpass the $7 trillion mark.

A tightening in global competition it is expected as well, fund managers being forced to find new ways to differentiate themselves. Educating potential investors, adapting the range of products to the new regulations and creating strong distribution channels will be critical to success. The development of technology and social media will offer opportunities for companies to cut costs, streamline sales channels and offer a better customer relation.

Conclusions

The paper is based on the modern portfolio theory developed by W. Sharpe and H. Markowitz over the last half-century and intends to demonstrate applicability in one of the most debated topics of recent times: the importance of a well-diversified portfolio. Exchange-Traded Funds (ETFs) are an extremely important element of innovation in today's financial markets. These products offer diversification at extremely low costs, aiming to create strategies that meet the investors' needs with regards to liquidity and efficiency.

The case study presents the difference between a stock portfolio and one composed of ETFs and demonstrates why an investor has to diversify his investments through such instruments. The conclusions are as expected, highlighting a golden principle of investing: the need for proper diversification. Multiple methods were used in analyzing the portfolio, indicators such as level of profitability, risk level and models such as Markowitz, CAPM and VaR being calculated.

Sector ETFs enjoyed continuous growth since its foundation, more than two decades ago. As pointed out in the paper, it is expected that this trend will continue in the coming years, because of a broader supply and increase in the client's financial literacy. Finally, it can be recommended to any investor an exposure on ETFs, the advantages enjoyed by such instruments being numerous. In the current economic climate dominated by uncertainty, a low-volatility portfolio is more than welcome.

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