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Diego Hernandez

Texas A&M International University

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Diego Hernandez[1]
A. R. Sanchez, Jr. School of Business, Texas A&M International University, Laredo, Texas, USA

The purpose of this research paper is to analyze and discover the various factors that affect a typical investor with an investment portfolio in the United States. The portfolio would be mostly comprised of more common securities, such as stocks, bonds, mutual funds, and ETFs. With the aim of this paper falling under the field of finance, thus placing core financial principles into account, it must be stated that there is also qualitative and quantitative research put forth to ensure an objective approach to the academic question at hand. Although this is not a new inquiry in the field of finance, there is always the availability of new data as the stock market is an ever-evolving source of the latest information that continues to be cultivated. One of the main goals of this study is to provide new investors with knowledge regarding what can affect their decisions based on certain elements and scenarios. Additionally, a rationale behind this research is the fact that a majority of investors are unaware of the inner workings of certain factors that may influence their decisions, no matter the importance or size of the investment decision. As mentioned before, this is not a new topic, but modern perspectives will be presented as the U.S. market reacts differently to domestic and international events. To help bring to light the goal of this paper, the primary method employed was online research alongside analysis to bring a new perspective to the theories and trends discussed throughout the paper. Of course, with this being a financially oriented paper, quantitative data is important and will be presented as it significantly influences the academic question at hand. Similar to most research addressing this question, qualitative data will also be present in sizeable amounts as a portion of decision trends tend to have some sort of emotional or psychological aspect to them. In continuation, the findings, as compared to the initial hypothesis, stood to a certain degree as the results show that emotional and behavioral finance plays a key role when making asset allocations in an investment portfolio. Additionally, reproving and interpreting formulas that play a crucial role in portfolio management can be linked to factors that affect the final decisions of a typical investor. Overall, the significance of this research paper is to further reinforce theories on the different disciplines within the study of finance, some of which are behavioral finance, modern portfolio theory, and international finance, while striving to enlighten the unknowing with an informative paper on a rather complex and ever-changing topic that never ceases to produce new conversations.

I. Introduction

In the world of investing and portfolio management, there are endless opportunities and successes to be won through a thoroughly diversified portfolio. An investment portfolio is defined by the Corporate Finance Institute as "a set of financial assets owned by an investor that may include bonds, stocks, currencies, cash and cash equivalents, and commodities" (CFI Team 2023). This will be used as the primary reference definition when discussing investment portfolios. These

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[1] Address correspondence to Diego Hernandez, A. R. Sanchez, Jr. School of Business, Texas A&M International University, 5201 University Blvd., Laredo, Texas 78041, USA. Email: diegoa_hernandez@dusty.tamiu.edu

factors affect all aspects of financial assets, mainly stocks, as those are the most common for a typical investor.

Portfolios can mainly be used as a form of passive investment by an investor who seeks a secure retirement fund. Contrarily, there is also a method of management called active management which is much more of a firsthand approach when it comes to portfolio activities. Additionally, portfolio investment is a fantastic way to save money in a way that avoids its depreciation and loss of buying power over the years. In comparison to having funds in a regular savings account or even under a mattress, it is a popular time-tested method of saving money.

Nevertheless, when it comes to investing in the stock market and maintaining an investment portfolio, there are several factors to consider when investing in any capacity, from psychological to more quantitative additions which may have some type of impact on the outcome of said financial goal. To continue further, this paper covers a variety of factors and elements that can have a significant impact on an investment portfolio. These will be served at all levels of the investing process, from the very beginning in the research phase to the actual outcome and expected returns of the assets at hand.

II. Behavioral Factor

To begin, the typical investor and their behavioral factors can be an important aspect of how well a portfolio will perform. The net gains or losses can vary heavily in either direction as one of the main theories behind this is the risk tolerance of the investor. As is normal for any kind of person, the risk tolerance of the investor will mainly depend on age, end goal, and stock stability. The average use of risk for a portfolio, for example, for a younger investor, will mainly be for stocks and exchange-traded funds (ETFs) that can provide a rather aggressive approach to returns if necessary. Since stocks are one of the risker assets to invest in, the theory holds for younger people to be more risk seeking. Risk seeking is defined as the ability to take on more risk so long as the return is comparable to the higher inherent risk.

On the contrary, as the investor gets older, there is a noticeable change in investment consciousness that makes it a more secure, stable portfolio with more bonds, treasury bills, notes, and the like. This comes as no surprise as older investors are generally classified as more risk-avoidant decision makers. There are a variety of reasons for this, one of which is the older investor will most likely be retiring soon, meaning that there will be a lower income inflow for the portfolio. This, in turn, will cause the investor to have a more conservative approach to their portfolio to ensure a more secure and stable investment.

Moreover, other behavioral theories about investing can include the overconfidence of an investor. Ferreira-Schenk and Dickason-Koekemoer (2023) made a fantastic statement regarding overconfidence: "…it can be suggested that overconfident investors are likely to omit new public information in their investment decisions, which can cause these investors to invest in the long-term and ignore short-term volatility." To provide more insight into this statement, overconfidence makes it so that the investor inherently understands that the stock market will increase in the long-term having little to no regard for short-term volatility. Long-term investing tends to be the more common avenue for typical investors as it is seen as the more accessible strategy. Now this does not come without its consequences as overconfidence can lead to distinct levels of manipulation of the market in their portfolios since the investor would not take meaningful action on any present-day news.

Now, another qualitative factor that needs to be examined is the risk perception of an investor that can be influenced by herd bias. Herd bias is defined as the collective action of a group that affects and influences the thinking of an individual. This is present, especially in the investment world. When it comes to investing, herding bias can be extraordinarily strong as the investor will rationalize that if everyone else is buying, per say, the same stock, then they must also buy it instead of doing independent research. Herding bias can have a profound effect on an investment portfolio. A study by Wibowo, Indrawati, and Aisjah (2023) explores the impact of herding bias on investment decisions.

III. Market Outlook Factor

It is also important to note that the market is an essential factor to consider when it comes to the outcome of an investment portfolio. Since this is where primary information comes from and where all transactions occur daily, it is no surprise that any major changes in the market are reflected in any portfolio. To demonstrate this point, BlackRock Incorporated, an investment, advisory, and risk management consulting firm, points to a good observation in which they discuss how the United States market is recovering after the year 2020, in which it seemed to have been steadily falling since the mid-1980s.

Figure 1 illustrates the United States 10-year return on Treasury yields. Adding to the figure, the relevancy of Treasury yields to an investment portfolio is that the Treasury yields give great insight into the health of a portfolio. The relationship between Treasury yields and the stock market is inverse, which means that when the yield is up, the stock market tends to be down or in a bearish market. This kind of inverse relationship is crucial to know, especially when considering modern-day stock market activities.

Figure 1: 10-year return on Treasury yields.
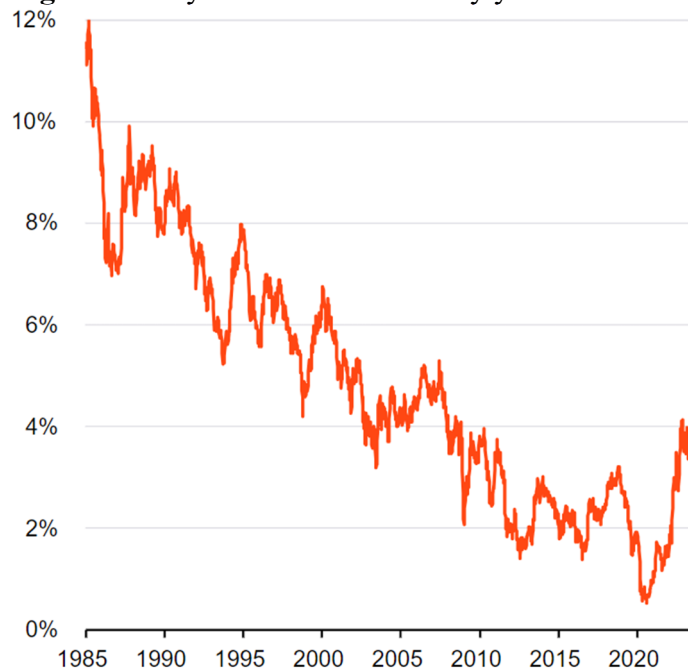
Now, with the overall downturn that occurred during 2020 due to the COVID -19 pandemic, an obvious rise was observed as is common after a recession. However, it would be noteworthy for an investor to recognize the drivers that prompted such a rapid comeback from the market that resulted in a return to levels seen even before the 2008 housing recession. To restate, Figure 1 is based on the 10-year Treasury yields for the United States. That means that investors have a sense of confidence from the government that the market will recover, and this ends up causing a sort of cycle that prompts the market into a bullish market. To a keen investor, government incentives would cause a second look into certain kinds of securities, especially those of medical and consumer staples, especially because some of the biggest moves the government made to help stimulate the economy was to distribute stimulation checks which were, at their very basis, a way to encourage people to spend more in an effort to move the economy forward during 2020. The effects could be seen in the following years as the U.S. market and economy started to respond to the increased spending.

IV. Asset Allocation Factors

To continue on a qualitative basis, placing securities into a portfolio also means understanding how well these kinds of assets react with each other. Alongside this is the allocation part, which essentially means where exactly the investment is going. To further clarify, there are several different assets that an investor might choose depending on the end goal. There are stocks, bonds, mutual funds, ETFs, and cash, all of which have a certain kind of inherent risk with the potential profit depending on certain circumstances.

To begin with, stocks are the most common and make up most of the general allocation for an investment portfolio, with the major difference being that there are different sectors that distinguish it from the rest. Sectors, in this case, are a major factor for an investor to consider. For example, for a young investor, it would be advisable to invest in a cyclical sector which can include industries such as information technology, consumer discretionary, and communication services. This tends to carry a higher risk with a more lucrative return on investment, should it be managed correctly. On the other hand, for an older and close to retirement investor, an allocation of defensive stocks, which are stable and not so volatile, would be preferable. These defensive stocks are not limited to health care, utilities, and consumer staples such as food and drug companies.

Continuing, bonds are also assets that are divided into several diverse kinds of bonds, the most common being government and corporate bonds. Under the government, there are Treasury bonds which have different maturity rates and are often suggested for soon to retire investors looking for a way to have a secure line of stability. Corporate bonds, also known as commercial paper, often carry more risk with a higher return interest rate, yet they are not always recommended as they tend to have too much risk for a typical investor who is risk avoidant.

Mutual funds and ETFs, electronically traded funds, both have similar principles in which funds are pooled together such as a series of stocks and/or bonds of similar sectors which are then managed by financial institutions. Investors can then purchase a slice of these funds and have them added to their investment portfolio. As it pertains to how this factor is influential, there are things to note. The main one is how the investor plans to manage the portfolio itself. One of the two ways can be passive management, which involves minimal maintenance with long-term goals in mind. It tends to be called a hands-free approach as there is not as much trading involved as its

counterpart. The active management of a portfolio involves a more significant amount of trading and can be a big gain for short-term investors. This rather small factor for investors can change the trajectory of a portfolio and its overall goal in either the short or long term.

V. Quantitative Factors

In the world of investment portfolios, investing involves as much rational and logical thinking as it does mathematical and quantitative reasoning. A certain topic that is often overlooked when it comes to investment factors is the mathematical risk involved in portfolio management. This risk can be called variance which is defined as "…a statistical measurement of the spread between numbers in a data set" (Hayes 2023). Hayes states it simply and thoroughly, using that definition to help further understand portfolio variance. Under portfolio variance, there are three separate statistical ideas to understand. When it comes to an investment portfolio's assets, the weight of each asset should be considered as this will be consequential in the future. In essence, the weight is the percentage an asset takes up in the investment portfolio. It can range in any direction with a greater number of assets resulting in less weight per security. It can be argued that there are several distinct types of weights for securities such as price, value, and unweighted. To continue, the other is portfolio variance itself which has the symbol σ^2; sigma squared has an especially significant role in determining the overall risk of a portfolio. Lastly, there is the security covariance which is used when there are multiple securities in the same portfolio. This will help determine the pairing of each separate security with another security, giving an equal amount of potential risk for each pairing. Staying on this relevant topic, understand that the standard deviation, σ, is just the square root of the variance. Furthermore, as explained earlier, the standard deviation of a security would be the volatility of the security. In other words, it would be how often it changes in price throughout a period.

For an investor, it can be beneficial and influential to have a rough calculation of the potential return of the total portfolio. The equation (Figure 2) states that the expected return of a portfolio is calculated as the percentage of the weight of an asset in the portfolio times that of the expected rate of return for the asset.

Figure 2: Expected return of a portfolio formula.

$$E(R_{port}) = \sum_{i=1}^{n} W_i\, E(R_i)$$

This formula gives a knowledgeable investor the ability to provide an educated guess on what the potential can be for the portfolio at hand. This can directly lead to the following point, the theory of the effective frontier. Essentially, it is when the rate of return is at its maximum at its given level of risk from the lowest to the highest. This turns out to be more useful in portfolio investment situations. In turn, this theory shows that there is a certain point to which a portfolio is deemed the most effective given its risk or standard deviation of return. Additionally, to the extent of the effective frontier, it has a unique approach that is both qualitative and quantitative in certain respects. An instance would be how risk avoidant an investor is when confronted with quantitative

data showing the overall risk of an investment or, in the case of a portfolio, several investments. If the data shows that the risk is on the lower end of the effective frontier, the investor might see this as reasonable enough to continue with the investment. However, if the investor already has a financial goal that does not align with the portfolio, then no matter how efficient the investment portfolio is, there would be no reason to continue with the investments.

VI. International Investing Factors

Continuing along the line of quantitative factors, the math does point to a rather interesting strategy that can heavily influence investors who favor a more quantitative approach to investing. Moreover, a quantitative approach for some investors can be seen as more dependable and can be compared to a fundamental analysis since a fundamental analysis is mainly based on numbers and previous historical data. With that being said, international assets and their partners offer a great deal of diversification for a typical investor who wants to evenly distribute risk in their investment portfolio. Although data has shown that an international asset, such as a security or bond, does tend to carry more inherent risk along a similar timeline as its domestic counterpart, there is a solution that offers a viable compromise to this dilemma.

Figure 3: Correlation coefficient formula.

$$\rho_{xy} = \frac{\text{Cov}(x, y)}{\sigma_x \sigma_y}$$

It involves formulating the covariance of both stocks which is then divided by the product of the standard deviation of both stocks (Fernando 2024). The resulting number from this formula can be interpreted in one particular way in which the number will range from -1 to 1; depending on the result, the analysis will be different. In general, the closer the answer is to a positive 1, the more correlated the stocks are with each other; hence, they will move virtually in unison. Additionally, if the result is zero, there is no correlation which means both stocks will not move in a similar direction and do not seem to influence each other. Lastly, and more notably, an answer closer to a negative 1 means that the stocks will move inversely to each other, a notable detail that will be further discussed.

Knowing the correlation coefficient in an investment portfolio has a multitude of benefits, one of which is seeing the coefficient between international stocks and domestic stocks. With the tendency of international stocks having a higher risk aspect, it can be said that pairing it with a domestic stock that has a relatively low risk rate, i.e., a defensive or non-volatile stock, will help lower the overall risk of the investment portfolio both stocks are in while still maintaining the advantage of having a highly diversified portfolio. This sort of low correlation coefficient has been proven mathematically with actual results to back up the data. Moreover, a common trend among investors who are familiar with international markets state that a portfolio split of 70% to 30% of domestic and international stocks, respectively, is one of the more ideal combinations for a good possible portfolio. Donaldson et al. (2021, 8) have a fantastic statement to add to this theory, "We

expect that the return patterns between domestic and international equities will continue to differ regardless of where an investor lives, leading to a continued benefit from diversification." To add to this point, to have a benefit stem from diversification, there must be a low correlation between the assets at hand. Donaldson et al. (2021) also provide a table highlighting this point exactly. With calculations performed for a predicted 30-year correlation between domestic and international countries, the results do favor the theory as a whole.

Figure 4: 30-year correlation for countries.

Country/region	30-year correlation
Australia	0.62
Canada	0.64
United Kingdom	0.65
United States	0.72
Euro area	0.76

Note: Correlations are for domestic equities to each country/region's international equity market.

Source: Donaldson et al. (2021, 7).

To further explain, markets need to be imperfect for the correlation. What is called a perfect correlation is a 1, so that means that these countries, although close, are not close enough to be considered perfect and are considered imperfect. As it pertains to the investor, having this kind of data available to digest and process is crucial as this could be the key to having a very well diversified portfolio.

VII. Conclusion

The results from analyzing various kinds of sources concluded that there is, in fact, a multitude of factors that can influence an investment portfolio. More specifically, from a psychological standpoint, there are instances where external events and ideologies can cause investors to turn to a specific investment goal. All the while, that same investor can see a more concrete and quantitative process that, again, can lead that investor to invest appropriately given the math-based rationale. Overall, this research paper was made with a distinct goal in mind and has successfully answered its academic question.

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