Operational Risks Related To Environmental, Social And Governance Affecting The Performance Of Fund Management Business

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ABSTRACT

The objectives of this research were to: 1) study the influences of operational risks related to sustainability on the performance of fund management business in the three areas including rate of return, risks, and net asset value for the Thai invested in the foreign countries; 2) examine the influences of the operational risks related to the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries; and 3) to examine the influences of the operational risks related to sustainability, and the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries. For the research sample, the secondary data on the mutual funds in Thailand which was ranked in the Morningstar Sustainability Rating between August 2018 and August 2020 and the Morningstar Analyst Rating, together with Thai mutual funds invested in the foreign countries between July 2015 and June 2020 were used. The research findings showed that the operational risks related to sustainable scores affected the performance of the fund management business in terms of rate of return, risks and the net asset value for the mutual funds Thai invested in the foreign countries. Besides, other operational risk related to the people, process, and organization factors had an influence on the performance of the fund management business for the Thai mutual funds invested in the foreign countries. Likewise, both of the factors sustainable scores and analysis rating are also influenced to the mutual funds in terms of rate of return, risk and net asset value. The findings of the research could be used as a standard model for stakeholders, especially those in the fund management business as well as the government sector in determining a policy framework and the guideline for the environmental, social and governance (ESG) fund. Moreover, they also reflect all the investments related to the ESG in Thailand which can be used to enhance the development of Thai fund management to be in line with the global international standard practices.

Keywords: operational risk, fund management, Thailand

Introduction
An investment strategy that considers environmental, social, as well as governance (ESG) factors in order to improve long-term return which had a greater contribution too positively to the society is “known as socially responsible investment (SRI)”. From a previous few decades, there were 22.89 billion assets skillfully managed through the SRI strategies. In reference Bilbao-Terol, Álvarez-Otero, Bilbao-Terol, and Cañal-Fernández (2017), The authors contend that social preference (rather than financial performance) has become the most important element in investors' decisions to invest in SRI mutual funds. Because of this rising interest in the SRI, Multiple organizations have begun to assess mutual funds based on where the underlying corporations perform on environmental, social, and governance (ESG) issues. The Morningstar Sustainability Rating and Score debuted in 2016. The Morningstar Sustainability Rating classifies mutual funds according to their Morningstar category peers' environmental, social, and governance (ESG) factors. The feature of this product is that it permits funds to be found that support SRI even if they aren't self-identified as SRI-aligned. Because these studies compare SRI funds with a comparison group (such as an index) or they use a matching methodology (by assessing SRI and non-SRI investment funds along with the related features such as size of funds, age of funds and expenses etc.), these studies are notably different from earlier researches, which remain compared SRI funds by an index and compared SRI funds with funds with the same characteristics (like fund size, fund age, expenses, and so on).

Morningstar, an independent Chicago-based research firm, launched new mutual fund analyst ratings to meet future performance requirements. These analysts have assigned each fund three rating levels, with three gold stars (recommended), three silver stars, three bronze stars, and a neutral rating. To meet increasing demands for improved mutual fund research, Morningstar Inc., an independent Chicago-based research firm, launched a new analyst rating system in 2011. The forecasts they present here use a five-tier scale with three ratings of “Gold,” “Silver,” and “Bronze,” as well as a “Neutral.” The bulk of the $16 trillion in assets under management is accounted for by household investments in mutual funds, which amount to approximately 89% of the total. The issue of how investors choose to allocate their wealth across the multitude of mutual funds continues to be up for debate. There is a large body of literature that investigates the analyst recommendations of individual stocks (Clement, 1999; Irvine, 2004; Jegadeesh, Kim, Krische, & Lee, 2004; Womack, 1996) and (Rebello & Wei, 2014; Wang, Zhuang, Peng, & Li, 2005) that can be consulted by investors about expected fund performance, however, investors aren't well served by the research in this area. Despite being considered uninformed, household investors have few resources to help them make better investment decisions. Academic research has shown that mutual fund investors primarily base their investment decisions on measures of historical fund performance, which encourages investors to chase returns or follow broker recommendations Sirri and Tufano (1998), Del Guercio and Tkac (2008) Such measures contain little information about how the fund will perform in the future because they contain outdated quantitative and historical data. The broker recommendations have little value for investors, even after you have taken into account the fees and expenses.

The mutual fund industry is seeking the answer to an important research question regarding SRI investing: how do SRI mutual funds perform? A number of studies have found that socially conscious companies have positive returns. For example, a recent paper by Friede, Busch, and Bassen (2015) compiled over 2200 unique primary empirical studies to create a meta-analysis. Most of the available research suggests that ESG factors correlate with financial performance. Even after several investigations, the debate on whether or not these
investments are worth it is still up in the air. However, according to Lewis and Mackenzie (2000); (Webley, Lewis, & Mackenzie, 2001), there are investors who are prepared to accept lower returns in order to maintain their moral position, and it is uncertain how the returns of SRI funds as well as conventional funds compare. Finance authors in Reference Junkus and Berry (2015) state that “SR mutual funds and indexes generally outperform conventional funds and indexes, but these results are highly dependent on study model specification, time period, benchmark, and other characteristics”

According to authors such as (Durán-Santomil, Otero-González, Correia-Domingues, & Reboredo, 2019; Mallin, Saadouni, & Briston, 1995), investments such as the SRI funds perform better than market indexes. This is in contrast to the alternative hypothesis, which holds that SRI mutual funds yield the same return as other mutual funds. One example of a paper that upholds this theory is (Hamilton, Jo, & Statman, 1993; N Kreander, Gray, Power, & Sinclair, 2002; Niklas Kreander, Gray, Power, & Sinclair, 2005; Syed, 2017). SRI investments underperform the benchmark due to “a trade-off between returns and investment in SRI.” A recently published paper Nofsinger and Varma (2014) shows that socially responsible (SR) funds are different from conventional mutual funds, even though the stock market conditions are similar. During market crisis, the return performance of SR mutual funds significantly exceeds that of conventional mutual funds. During non-crisis periods, however, the return performance of SR funds lags behind that of conventional funds.

Studies that have used the dichotomous variable of socially responsible funds versus conventional funds to understand the effect of sustainability on performance have exclusively relied on prior research. However, the results could be biased because the funds' levels of sustainability could be skewed when labelled "socially responsible." Authors in Reference Statman and Glushkov (2016) found that the lack of clearly defined criteria makes it difficult to clearly measure the performance of socially responsible investment funds, and as a result there is inconsistency in their classifications. Traditional methodology in empirical research consists of comparing a sample of SRI funds and conventional funds and benchmarking their returns. This is why our sustainability ratings are integrated into our analysis. Therefore, the greater the portfolio's level of sustainability, the better the investment results will be. According to our findings, only (Dolvin, Fulkerson, & Krukover, 2019; El Ghoul & Karoui, 2017), have studied this. Funds having greater Morningstar Sustainable development scores have comparable alphas to those which are have lower sustainability scores, as mentioned in the study of (Dolvin et al., 2019). Additionally, other authors have noted that SRI funds, which are well-known for their performance and sustainability, have lower performance and sustainability ratings than funds ranked in the top 50% and top 20% of Morningstar's Sustainability rankings. Finally, they find that mutual funds with higher sustainability scores such as Morningstar Sustainability have lower levels of appeal to investors than those with lower scores. For the most part, SRI mutual funds have fared better in regards to fund flows, while the self-proclaimed SRI funds have seen substantial gains. In Reference El Ghoul and Karoui (2017), authors discover that companies' CSR scores remain associated with poor fund performance and limited flows. With sustainability scores, investors can identify SRI funds regardless of whether they claim to be an SRI fund. Moreover, the previous studies had also found that analysis rating had also greater influence to the fund management return (Graham, Lassala, & Ribeiro Navarrete, 2020; Kamal, 2013). Previous studies had shown that analyst rating had an positive influence on the fund management performance (Nanigian, 2020). Therefore, the analyst rating is considered to be an important indicator to manage the fund of firms.
Along with the significance of sustainable scores and analyst rating, the previous studies had a major trend on the developed economies but had a little attention on developing economies especially on Thailand. Moreover, the previous studies had inconsistent findings, therefore a future study could be explored. Based on these gaps, the following objectives of the study had been explored. 1) to study the influences of operational risks related to sustainability on the performance of fund management business in the three areas including rate of return, risks, and net asset value for the Thai invested in the foreign countries; 2) examine the influences of the operational risks related to the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries; and 3) to examine the influences of the operational risks related to sustainability, and the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries.

With only a few exceptions, self-declared variables are used in sustainable scores and analyst rating. The study of the long-term viability of investment strategies is expanded to include the Thailand, who accounts for more than half of international SRI assets. Our results for the years 2015 and 2020 show that many funds failed to make the sustainability declaration, but their portfolio has the same or similar sustainable-ness as their compliant peers. The significance of the sustainability score and analyst rating when it comes to describing the amount of performance, negative risk, and cash flows is highlighted in the infographic. Our three dimensional sustainability was equally supported (environmental, social and corporate).

**Literature Review**

**Environmental Social and Governance**

SRI investing has grown in popularity over the last few years. According to the CFA Institute, investment analysts must consider ESG factors in order to make every analyst could able to recognize and appraise investment risks in order to make well-informed investment decisions. There are two types of investors who want to invest in incorporating ESG aspects in their choice: value-motivated investors as well as values-motivated investors. The financial success of SRI funds for the first category of investors is our primary concern. The reference Hamilton et al. (1993) examined three hypotheses to determine whether or not SRI mutual funds outperformed their industry peers. Conventional funds outperform socially responsible investment funds, indicating that the investment market disregards the social responsibility component. The social responsibility feature market price corroborates the second hypothesis, according to which SRI funds perform worse than conventional funds. According to rumors, SRI funds outperform conventional funds in terms of performance. When financial performance is considered, SRI mutual funds may outperform conventional funds (that do not take into account environmental, social, and governance (ESG) concerns). Small-cap companies are more adaptable to changing market conditions and In the long run, it may be more profitable. Additionally, social firms are also more effective and excellently more successful inside the market place.

In a theoretical sense, social businesses maybe either decrease costs or enhance revenues. (Flammer, 2015; Margolis, Elfenbein, & Walsh, 2007). SRI detractors argue that the number of possible investment opportunities for these funds (single companies) is limited, which raises the level of investment risk. In the references (Chegut, Schenk, & Scholtens, 2011; Humphrey & Tan, 2014), authors replicated 10,000 pairs of SRI as well as conventional portfolios, each including 10,000 pairs of SRI and conventional portfolios. They then tested the performance of SRI-screened and unscreened portfolios and there was no significant risk-
adjusted return difference between the two groups. They conclude that SRI funds have an equal likelihood of making gains or losses regardless of the screening of their portfolio. However, because negative screening may cost performance, negative screening should only be used if the benefit outweighs the cost. Some SRI mutual fund managers, such as (Goldreyer & Diltz, 1999; Kurtz, 1997), believe that managers of SRI mutual funds require access to additional information on the businesses in which they have an investment; in other words, managers who manage SRI mutual funds believe that having additional, more extensive, and higher quality information enables them to achieve significant reductions in risk associated with their investing choices. On the basis of other authors' research, it could be demonstrated that SRI funds perform better than conventional investments. As well, SRIs appear to be neutral to financial performance (e.g., (Hamilton et al., 1993; N Kreander et al., 2002; Niklas Kreander et al., 2005; Syed, 2017), among others), or there is evidence to suggest that SRIs perform below-average in investment returns, for example (White, 1995).

SRI investment funds did not outperform or underperform against the index benchmark in a study done by Alam, Duygun, and Ariss (2016). The researchers compared to the fifteen UK SRI funds against two various stock market indices, finding weak evidence to support their claim that fifteen SRI funds had outperformed the stock market indices.

According to the Hamilton et al. (1993), there are no statistically important difference in excess returns existed as well as only one mutual fund ensured a positive Jensen's alpha. Excess returns in SRI funds are found to be highly correlated with small cap stocks, which have a low market capitalization. Grants from SRIs have been found to have no effect on overall student achievement. Reference White (1995) examined three investment performance measurements (Treynor ratio, and Sharpe ratio) and the extent to which SRI portfolios underperform the benchmark. The research team examined a variety of US funds and five German SRI Investment funds in order to compile data for this report. Several previous studies employed an index as a standard, posing the question of which index to employ. Rather than directly comparing the performance of SRI and conventional mutual funds in the United Kingdom, the authors of Reference Mallin et al. (1995) used matched pair analysis to compare the performance of SRI and conventional mutual funds. According to fund size and age, the authors compared 29 SRI mutual funds to conventional funds. The Jensen test revealed no difference in performance between the two samples, but ethical funds outperformed non-ethical funds. The study, published in Gregory, Matatko, and Luther (1997), examined 18 SRI funds and their investment strategies. Their alternative investments performed identically to their conventional investments. From 1990 to 1998, the authors of Reference evaluated the performance of 31 US SRI mutual funds and the Domini 400 Social-Index (DSI), also known as the Domini Social Index. Certain socially responsible investments fell short of outperforming the benchmark (S&P 500 or DSI). However, SRI funds outperformed comparable funds such as the S&P 500, the Dow Jones Sustainability Index, and conventional funds. The authors of N Kreander et al. (2002) used a matching procedure and variables to account for the fund’s age, size, country of origin, and investment universe. The study included the countries of "Sweden, the Netherlands, Norway, Germany, the United Kingdom, and Switzerland," as well as Jensen's alpha and the Sharpe and Treynor ratios. They discovered that when they compared their performance to that of conventional funds, SRI funds performed almost identically. European SRI funds outperformed conventional funds in terms of investment returns, according to (Niklas Kreander et al., 2005). A study of the investment performance of 30 European SRI Funds discovered that they perform comparably to conventional funds.
Environmental and green mutual funds are compared where authors find that while conventional funds underperformed during the period 1987–2009, green funds only managed to match the risk-adjusted returns of other SRI and conventional mutual funds during the decade between 2001 and 2009 (Rayer, 2020). SRI funds from the European market from 1996 to 2007 were examined in the Research Maria Ceu Cortez, Silva, and Areal (2009) on Authors in Reference. Conventional and socially responsible indexes perform similarly when it comes to SRI funds. In Reference Maria Céu Cortez, Silva, and Areal (2012), seven European and U.S. markets were studied over a ten-year period, from 1996 to 2008. Researchers found that SRI funds delivered the same results as conventional funds, but also showed better results than the conventional benchmarks in several European markets (Belgium, France, Germany, Italy, the Netherlands, and the UK). The US and Austrian funds demonstrated lower-than-expected performance. Reference Pérez-Gladish, Rodríguez, M'zali, and Lang (2013) investigated the performance of 46 randomly selected large-cap equity mutual funds that belong to the SIF and conventional funds and found that the performance differences between the two groups were insignificant. Additionally, they discovered that SRI funds performed poorly at other times. Authors used the five-factor model to compare socially responsible investment funds with conventional investment funds in Europe.

In Reference Munoz, Vargas, and Marco (2014), authors analyzed 89 European green funds and 18 U.S. funds that were active between 1994 and 2013. To test the claims of the Carhart four-factor model, the researchers applied the model to the U.S. market and determined that green funds performed similarly to the market, but found that global equity portfolio green funds performed worse. One recent study Leite and Cortez (2015) in the French market found that SRI funds underperformed relative to matched samples with respect to multiple model results, but there were no significant differences in alphas. None of the estimated models showed much significance at the 10% significance level. An examination of SRI Managers by Humphrey, Warren, and Boon (2016) revealed that their tenure was longer and they were more likely to be female, but SRI and conventional funds were found to have similar performance. The Reference study found that European green, conventional, and black mutual funds performed about the same, and green funds began to significantly outperform black funds. All other analyses have referenced Morningstar Sustainability scores. According to the authors, portfolios with better sustainability scores have similar alphas. In addition, the authors note that SRI funds have shown virtually no difference in performance or sustainability when compared to the 50% and 20% of various Morningstar's Sustainability scores. Finally, El Ghoul and Karoui (2017) used a CSR fund score that uses asset-weighted composite CSR score, which they named the CSR Fund Score. They demonstrated the correlation between CSR and fund performance, as well as the effects of CSR on fund performance.

An investigation by reference Nofsinger and Varma (2014) showed that SRI mutual funds performed better than conventional funds during the global financial crisis, which suggests that these funds can be a good option for investors who want to avoid risk on the downside. Value at risk (VaR) is the maximum loss, expressed as a percentage of a predetermined threshold that could possibly occur within a certain confidence level. The Value at Risk (VaR) is an extremely important metric when discussing downside risk. However, there are remarkably few papers that have used it in the analysis of SRI investment funds (Reboredo, Quintela, & Otero, 2017).

The bulk of the $16 trillion in assets under management is accounted for by household investments in mutual funds, which amount to approximately 89% of the total. 1 The issue of
how investors choose to allocate their wealth across the multitude of mutual funds continues to be up for debate. There is a large body of literature that investigates the analyst recommendations of individual stocks (Clement, 1999; Irvine, 2004; Jegadeesh et al., 2004; Wang et al., 2005; Womack, 1996) that can be consulted by investors about expected fund performance, however, investors aren't well served by the research in this area. Despite being considered uninformed, household investors have few resources to help them make better investment decisions. Academic research has shown that mutual fund investors primarily base their investment decisions on measures of historical fund performance, which encourages investors to chase returns or follow broker recommendations (Del Guercio & Tkac, 2008; Sirri & Tufano, 1998) Such measures contain little information about how the fund will perform in the future because they contain outdated quantitative and historical data. Investing in broker recommendations lacks significant value for investors, considering the additional fees and expenses they must pay. Based on previous discussion, the following hypothesis of the study had been formulated.

H1: Sustainable score had a significant relationship with the mutual fund indicator alpha.
H2: Sustainable score had a significant relationship with the mutual fund indicator return.
H3: Sustainable score had a significant relationship with the mutual fund indicator standard deviation.
H4: Sustainable score had a significant relationship with the mutual fund indicator value at risk.
H5: Sustainable score had a significant relationship with the mutual fund indicator sharp ratio.
H6: Sustainable score had a significant relationship with the mutual fund indicator information ratio.
H7: Analyst rating had a significant relationship with the mutual fund indicator alpha.
H8: Analyst rating had a significant relationship with the mutual fund indicator return.
H9: Analyst rating had a significant relationship with the mutual fund indicator standard deviation.
H10: Analyst rating had a significant relationship with the mutual fund indicator value at risk.
H11: Analyst rating had a significant relationship with the mutual fund indicator sharp ratio.
H12: Analyst rating had a significant relationship with the mutual fund indicator information ratio.
H13: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator alpha.
H14: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator return.
H15: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator standard deviation.
H16: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator value at risk.
H17: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator sharp ratio.
H18: Sustainable score and analysis rating had a significant relationship with the mutual fund indicator information ratio.

Figure 1: Conceptual Framework

Research Methodology

The current study had applied the quantitative research approach and applied the longitudinal research design. For the research sample, the secondary data on the mutual funds in Thailand which was ranked in the Morningstar Sustainability Rating between August 2018 and August 2020 and the Morningstar Analyst Rating, together with Thai mutual funds invested in the foreign countries between July 2015 and June 2020 were used. Data were analyzed by using the multiple regression analysis. As for the qualitative research part, in-depth interviews were conducted with 17 key informants who were the stakeholders including chief executives of the mutual fund management companies, institutional investors, unitholders, fund advisors, government and regulators, Bank of Thailand, the Securities and Exchange Commission of Thailand, the Stock Exchange of Thailand and private organizations.

RESULTS

The Table 1 predicted values had shown that sustainability level had a positive and negative relation for explaining the performance of all the matrices. Table 1 predicted values had shown that sustainable score is negatively related with the standard deviation, information ratio, VAR while positive related with the return, sharp ratio and alpha. These findings are consistent with the following study (Durán-Santomil et al., 2019). On other hand, rating score had a negative relation with the return, standard deviation and VAR while had a positive relation with the sharp ratio, information ratio and Alpha. These findings are further in line with the previous studies. On the other hand, both the indicators, sustainable scores and rating scores had also influenced to the fund management returns. These findings are further supported with previous studies (Brown, Wei, & Wermers, 2014; Durán-Santomil et al., 2019; Haslem, 2014; Kamal, 2013; Taghawi Moussawi, 2019).

Table 1: Results
### Discussion and conclusion

The operational risk management related to environmental, social and governance (ESG) which considers the sustainability scores of the fund (ESG Score) is widely accepted. Such risk management focuses on the fund management in the foreign countries in terms of sustainable growth of the fund management. As for Thailand, this is a new issue, and the fund management has not been considered as significant yet in Thailand. The objectives of this research were to: 1) study the influences of operational risks related to sustainability on the performance of fund management business in the three areas including rate of return, risks,
and net asset value for the Thai invested in the foreign countries; 2) examine the influences of the operational risks related to the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries; and 3) to examine the influences of the operational risks related to sustainability, and the people, process, and organization factors on the performance of the fund management business for the Thai mutual funds invested in the foreign countries. For the research sample, the secondary data on the mutual funds in Thailand which was ranked in the Morningstar Sustainability Rating between August 2018 and August 2020 and the Morningstar Analyst Rating, together with Thai mutual funds invested in the foreign countries between July 2015 and June 2020 were used. For these objectives, there were 18 hypothesis were proposed.

The research findings showed that the operational risks related to sustainable scores affected the performance of the fund management business in terms of rate of return, risks and the net asset value for the mutual funds Thai invested in the foreign countries. Moreover, other operational risk related to the people, process, and organization factors had an influence on the performance of the fund management business for the Thai mutual funds invested in the foreign countries. Furthermore, both of the factors sustainable scores and analysis rating are also influenced to the mutual funds in terms of rate of return, risk and net asset value. As most of the hypothesis of the study are accepted, therefore, the findings developed by the researcher could be used as a standard model for stakeholders, especially those in the fund management business as well as the government sector in determining a policy framework and the guideline for the ESG fund. In addition, the research also showed that at present some government agencies and large-scale funds in Thailand were paying more attention on the issues of environmental, social and governance. The findings of the research can be used as the standard for the decisions on future investments as well as the guideline for improving the risk management. Moreover, they also reflect all the investments related to the ESG in Thailand which can be used to enhance the development of Thai fund management to be in line with the global international standard practices.

Along with these significant contribution, the study had several limitations that could become a new are of research in future. Firstly, the study was limited on Thailand, therefore the study generalizability is also limited, in this regards a future study could be done on other countries. Secondly, the relationships of the study were direct, the mutual funds activities could be influenced by indirectly. Therefore, a future study could be done along with moderating and mediating variables. Another limitation is that we use only five-year data to calculate the Morningstar Sustainability score, since Morningstar does not yet provide the rating for all funds and years. Empirical studies based on sustainability criteria will be aided by an increasing amount of data in the future. Also, we face the challenge of survivorship bias, as our sample only includes data collected over a five-year period.

References

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