Examining Sin Stocks: A Theoretical Take on Alternative Investments

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We are pleased to submit our manuscript titled "Examining Sin Stocks: A Theoretical Take on Alternative Investments" for consideration for Conference Proceedings to be published by AIMS International. This study underscores the potential for future conceptual exploration in the area of sin stocks. This could involve developing frameworks, models, or theories to better understand the behaviour of these stocks. The results of this research along with future research questions will guide the researchers and academicians to further explore and stand on a quantitative basis regarding the untapped potential of sin stocks as an alternative investment strategy. We aim to contribute growing body of knowledge on alternative investments and to foster further discussion and development in this field. This manuscript is an original work that has not been published and is not under consideration elsewhere. Both authors have reviewed and approved the submission, and there are no conflicts of interest to disclose. Thank you for considering our manuscript. We look forward to your feedback and are happy to provide any additional information. This paper aims to understand the concept of sin stocks as an unconventional stock and to leverage the overlooked potential of vice-related stocks in the Indian context. In addition, it enlists significant gaps and recommends avenues for future research. The literature review utilized the Scopus database and employed a specific search string to identify relevant journal articles. Subsequently, inclusion and exclusion criteria were applied to select articles aligning with the study's scope and addressing its research objectives. A total of 70 journal articles published in top-tier journals between 1993 and 2024 were considered for the review.

Keywords-- Sin Stocks, Socially Irresponsible Stocks, ESG Stocks, SRI, Vice Stock, Literature Review

1. Introduction

Investing in sin stocks intersects with the confluence of growth, sustainability, and resilience in that they can offer significant growth opportunities and display resilience in market stability. These stocks can offer substantial growth potential due to high consumer demand and steady financial returns, making them attractive for investorsseeking profitable opportunities. They also demonstrate resilience, maintaining stable performance even during economic downturns due to the inelastic nature of demand for their products. Most studies on sin stocks comparetheir performance to traditional benchmarks. Fabozzi, Ma, and Oliphant (2008) found that from 1970 to 2007, sinstocks yielded an average annual return of 19.02%, versus 7.87% for the market. Hong and Kacperczyk (2009) employed time-series regressions from 1965 to 2006, holding sin stocks while shorting non-sin stocks. However, sin stocks often conflict with sustainability goals. They are associated with negative environmental andsocial impacts, which contradict the principles of sustainable investing that prioritize long-term ecological healthand social responsibility. Increasing regulations and evolving social attitudes towards these industries further challenge their alignment with sustainability. As societal norms shift towards more ethical and sustainable practices, sin stocks may face growing pressures and potential market risks. Investors must weigh the financial growth and stability offered by these stocks against the broader ethical concerns and sustainability issues they raise. This balancing act is crucial in determining whether the potential returns justify the associated risks and conflicts with sustainability principles.

The concept of "sin stocks" refers to publicly traded companies listed in stock exchanges that derive profits from industries perceived as morally or ethically questionable, such as alcohol, tobacco, gambling, and weapons. Thisterm is relative, varying across cultures due to different opinions on what constitutes a sin. Contrary to common belief, sin stock investing is not the direct opposite of ethical or SRI, as ethical investors define their own criteria, which may or may not include these stocks.

Individual and institutional investors alike are increasingly demanding investments that adhere to social responsibility. They are actively looking for lucrative ventures that complement their moral principles and advancesociety. Most people agree that equities that promote morality and higher standards of conduct tend to do worse than those linked to socially irresponsible activities such as gambling, alcohol, and tobacco. This studyattempts tocomprehend the sin stock anomalyto obtain an edge over the risk-return trade-off while making importantinvestment decisions.

The demand for socially responsible investments has been on the rise, both among individual and institutional investors. They are actively seeking profitable opportunities that align with their values and contribute positively to society. It's widely acknowledged that stocks supporting higher social standards and ethical conduct often perform less favorably compared to those associated with activities deemed socially irresponsible, like alcohol, tobacco, and gambling. This paper tries to understand the sin stock anomaly to have an edge against risk - return trade-off while making crucial investment decisions.

1.1 Motivation for Current Study

The previous studies have focused mostly on Green or ESG stocks or SRI (Sustainable Responsible Investing). A little research has been done on sin stocks and their risk-return analysis as one of the appropriate options for thematic investment. However, the literature is silent when it comes to the study of sin stocks in the Indian context. The unwrapped potential of sin or socially irresponsible stocks makes it important to study and understandthe financial and investment decisions from their perspective. Although the previous reviews have made noteworthy contributions, there are certain limitations. For instance, a review by Blitz, D., & Fabozzi, F. J. (2017) is confined to only 100 stocks and did not involve microcaps in the study. other study includes nuclear power, Statman and Glushkov [2009], in this case, it does not seem to have a material effect on the conclusions. Notably, all the prior reviews in the sin investing domains lack a systematic procedure in their literature selection. Moreover, to the best of the author's knowledge, there are no comprehensive reviews of sin stocks literature after 2017.

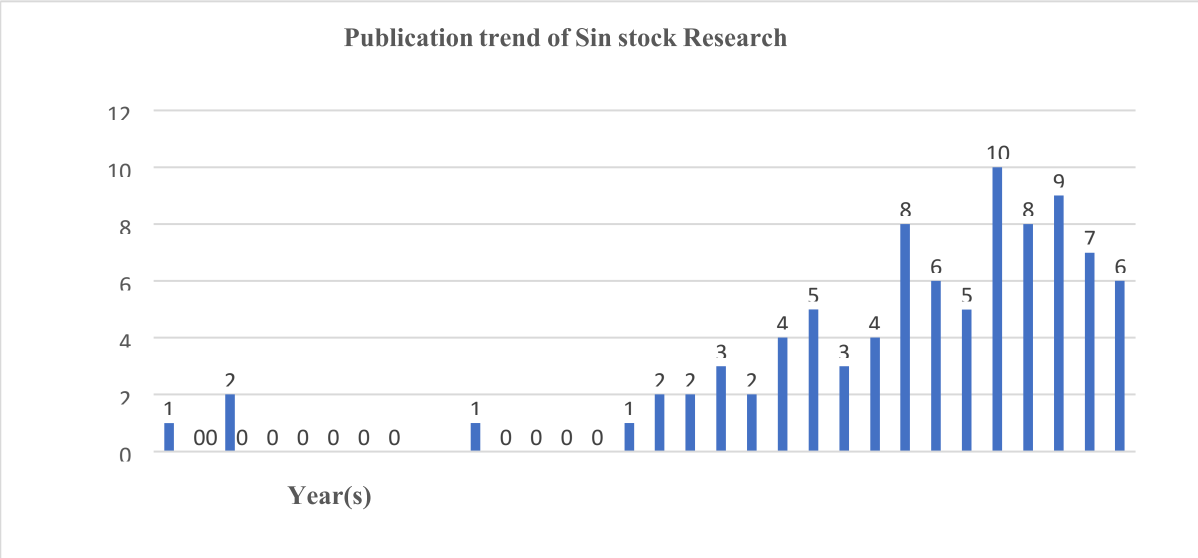

Figure 1 *Publication Trend of Sin Stock Research Retrieved From Scopus. Note(S): This Figure Portrays the ResearchTrend and Scientific Productivity in Sin Stock Literature (1993-2024).*

Source: *The Authors*

Driven by the identified gaps in existing literature and emerging insights, (a) this study expands the analysis of sin stock investing by exploring new aspects such as the impact of social screening practices, evolving social, ethical, and legal norms, and the influence of social screening and discrimination. These dimensions have been largely overlooked in prior research, allowing for a comprehensive examination of their effects on sin stock investing. (b) Approximately 45% of the articles reviewed in this study were published after 2018. This substantialinclusion of recent research ensures an up-to-date and thorough review of contemporary issues in sin stock investing, addressing the scarcity of review papers on this topic in the years following 2018. (c) The study represents a pioneering effort in conducting a literature review (LR) to identify, compile, and synthesize the body of literature on sin stock investing, thereby providing a valuable framework for future research in this area and offering insights into the evolving landscape of social responsibility in investment practices.

1.2 Objectives of the Study

The purpose of this study is to highlight the current state of research on sin stocks, with the following questions definingthe scope of the study:

RQ1: How has the literature on sin stock investments evolved over time?

RQ2: What are the dominant and emerging research themes in the sin stock domain? RQ3: What are the gaps and potential research areas for future exploration?

To address these questions, the study conducts a systematic review of 70 articles published between 1993 and 2024. It provides a detailed summary of the literature on ESG and sin stocks, examining various aspects such as geographical distribution, methodological approaches, and the evolution of key themes. The study identifies and explores critical strands of research including the interplay between ESG criteria and investment in sin stocks, thefinancial performance of sin stocks under different ESG frameworks, the impact of regulatory changes and corporate governance practices on sin stock investments, and the role of ethical considerations and investor behavior. Additionally, the study highlights substantial areas for future research, emphasizing the need for furtherinvestigation into the integration of ESG factors with sin stock investment strategies and the evolving dynamics of investor preferences and regulatory environment.

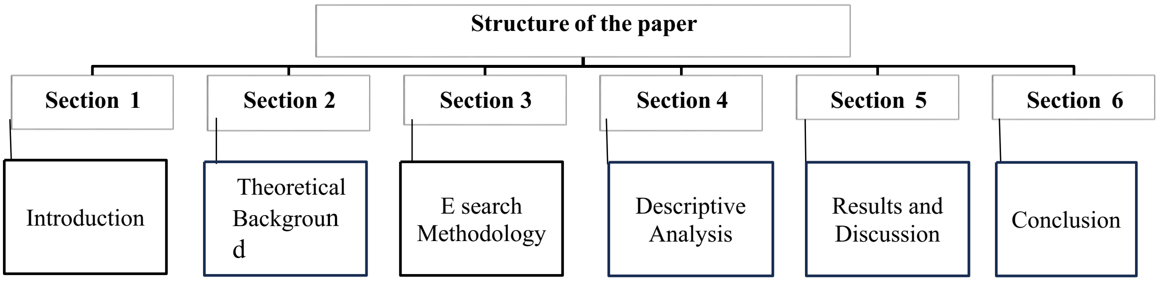

Figure 2 *Organization of the Research*
Source*: The Authors*

2. Theoretical Background

This section presents definitions of sin stocks as provided by several authors based on their traits, characteristics and classification of sin stocks

Sin Stock is a relative concept, though, as different cultures have different opinions on what constitutes a sin. Hence contrary to popular belief, sin stock investing is not the opposite of ethical investing or SRI, since ethical investors create their own ethical definitions which may or may not include some or all sin stocks. (Durand et al., 2013)

Salaber (2007) studied sin stock returns in tobacco, alcohol, and gaming sectors across 18 European countries from 1975 to 2006. Adjusting for size and book/market, sin stocks excel in higher litigation risk. In countries where Protestants predominate, a significant premium is needed for them to invest in sin stocks.

2.1 Characteristics of Sin Stocks

Fabozzi, Ma, and Oliphant (2008) analyzed a global sample from 1970 to 2007, covering 21 national markets. sinstocks, with over 30% revenue from sin products, outperformed the market by 3% annually.

2.2 Classification of Sin Stocks

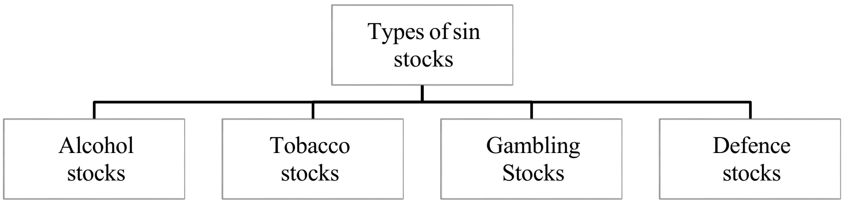

Figure 3 *Classification of Sin Stocks*
Source: *The Authors*

Stocks of firms that make money from human vice—such as firms in the alcohol, tobacco, gambling, and weaponsindustries—are typically referred to as “sin stocks,” and less popularly as “vice stocks,” “shunned stocks,” “controversial stocks,” and “unethical stocks.” (Blitz, D. and Fabozzi, F.J, 2017).

According to Licht et al. (2007), cultural values guide a society in evaluating and justifying certain actions or events. According to Greif (1994), culture is a system of social rules and ideas that direct a society toward a particular goal. Cultural values and groupthink are therefore probably related.

Salaber (2009) strengthens this connection by examining the cultural features of eighteen European nations according to their legal and religious systems. She discovered that these variables affect how investors see sin stocks.

According to Hong and Kacperczyk (2009), investor behavior and corporate financial policies are influenced by social norms, which hold that the usefulness of an action is decided by the beliefs and deeds of others (Akerl of, 1980).

Fabozzi, Ma, and Oliphant (2008) examine a worldwide sample spanning 21 national marketplaces from 1970 to 2007. Their sample of sin stocks, included a company only if the revenue obtained from sin products exceeded more than 30% of the company’s total revenue. They find that sin stocks outperform the market by over 3% per annum on a raw basis, and by almost 6% per annum on a beta-adjusted basis.

Lobe and Walkshäusl (2016) investigate whether a global, regional, and domestic portfolio composed of sin stocksoutperforms the corresponding portfolio made up of socially responsible stocks. Unlike the previous studies, theyfind no evidence that sin stocks outperform or underperform because as much as 46% of their total sin portfolio is allocated to nuclear power, while the returns of this particular sector are found to be not particularly anomalous.This choice is all the more significant because none of the seven other sin reserve studies they cite include nuclearpower.

Sin Stocks and ESG scores: Does the nature of your business really matter? (Cayón, E., Gutierrez, J.C.,2021) suggests the existence of a positive correlation between the ESG performance of sin stocks and their future ESG performance. ESG serves as the dependent variable (DV). Independent variables (IDVs) include Tobin's Q, Returnon Equity (ROE), Return on Assets

(ROA), Growth, Debt, Liquidity, and Earnings per Share (EPS). Data is gathered from Bloomberg, assembling a dataset encompassing all the stocks listed in the S&P Global 1200 index spanning from 2014 to 2018. It evaluates the ESG (Environmental, Social, and Governance) performance of companies in sectors with ethical implications like gaming, defence, and adult entertainment, focusing on their ownership of sin stocks. Do US Active Mutual Funds Make Good of Their ESG Promises? Evidence from Portfolio Holdings (Guidolin, M., Magnani, M., 2024) investigated greenwashing within the US mutual fund industry. Utilizing panel regression methods, we examined whether there are discernible differences in the investment behaviors of active equity funds that claim to prioritize ESG principles compared toother funds. Our analysis centered on two key aspects of fund portfolio allocation: the average implied ESG ratingsof stocks within a mutual fund's portfolio and the proportion of the portfolio invested in "sin stocks." The findingsdo not strongly support the notion that ESG and non-ESG funds exhibit identical investment patterns, leading usto reject the hypothesis of prevalent greenwashing.

ESG Investing: From sin stocks to smart beta (Alessandrini, F., Jondeau, E.,2020) investigated into SRI in stock markets began with a focus on "sin stocks," but have since expanded to encompass abroader range of criteria, including environmental, social, and governance (ESG) factors. By utilizing ESG scoresfor companies within the MSCI World universe, researchers assess the effects of excluding certain stocks based on these scores on both passive investment and smart beta strategies. Their findings indicate that exclusion tends to enhance the scores of standard portfolios initially, without compromising risk-adjusted performance. This trendis often more evident in smart beta strategies.

Quo Vadis Sustainable Finance: why defensive weapons should never be classified as an ESG investment (Causevic, A.,Beslik, S.,Causevic, S.,2022) discussed some of the reasons underlining systematic problems in thesustainable finance realm and lists why defensive weapons can never be classified as an acceptable asset to investin.

The Influence of ESG Ratings on Idiosyncratic Stock Risk: The Unrated, the Good, the Bad, and the Sinners (Horn, M.,2023) examined whether stocks of companies with environmental, social, and governance (ESG) ratings exhibit reduced idiosyncratic risk. Analyzing data from 1991 to 2018, covering 898,757 company-month observations of US stocks, the analysis accounted for various factors like liquidity exposure, mispricing, volatility risk innovations, investor sentiment, and analysts' forecast divergence.

3. Research Methodology

The study employs the Systematic Literature Review (SLR) methodology (Tranfield *et al.,* 2003) to identify, select, review and synthesize the relevant literature. SLR provides a succinct, lucid, and emulatable synthesis of extant knowledge (Mulrow, 1994). Consistent with this, the study follows the steps shown in Figure 4 given below.

3.1 Step 1: Objective and Scope Definition

This study aims to assess the current state of sin stock investing, focusing on the following questions to define itsscope:
RQ1: How has the literature on sin stock investments evolved?
RQ2: What are the dominant and emerging research themes in the sin stock domain?
RQ3: What are the gaps and potential research areas for future exploration?

3.2 Step 2: Search, Identify and select Research Articles

The study uses the Scopus database to get a more comprehensive and high-quality corpus on sin stocks. The followingstring of appropriate search terms was employed to search the articles in title, abstract, and keywords. ("Sin stock*" OR "vice stock*" OR "controversial stock*" OR "shunned stock*" OR “SIN stock*” OR “socially irresponsible stocks*”)

Table 1 *Data Refinement and Filtering Process for Analysis*

Stage	Filtering criteria	Eliminated/(Added)	Accepted
1	Initial search result (based on keywords)	----	89
2	Subject filter (Business finance and economics)	14	75
3	Language (English)	0	75
4	Document type (Article)	5	70
5	Source Type (Journal)	0	70

This Table depicts the list of the steps incorporated to arrive at the final set of data.

3.3 Step 3: Assessment of Selected Articles

The final literature review is based on 70 articles covering a period of 32 years (1993-2024). A meticulousexamination of these articles (Step 4 in Figure 4) is provided in the subsequent sections.

The search string yielded 89 contributions, which underwent further refinement using various filters, including language (English), subject area (Economics, Econometrics & Finance and Business, Management & Accounting), document type (Journal articles) and source type (Journal) to filter out quality and appropriate articles. These filters resulted in 70 articles in top-tier journals.

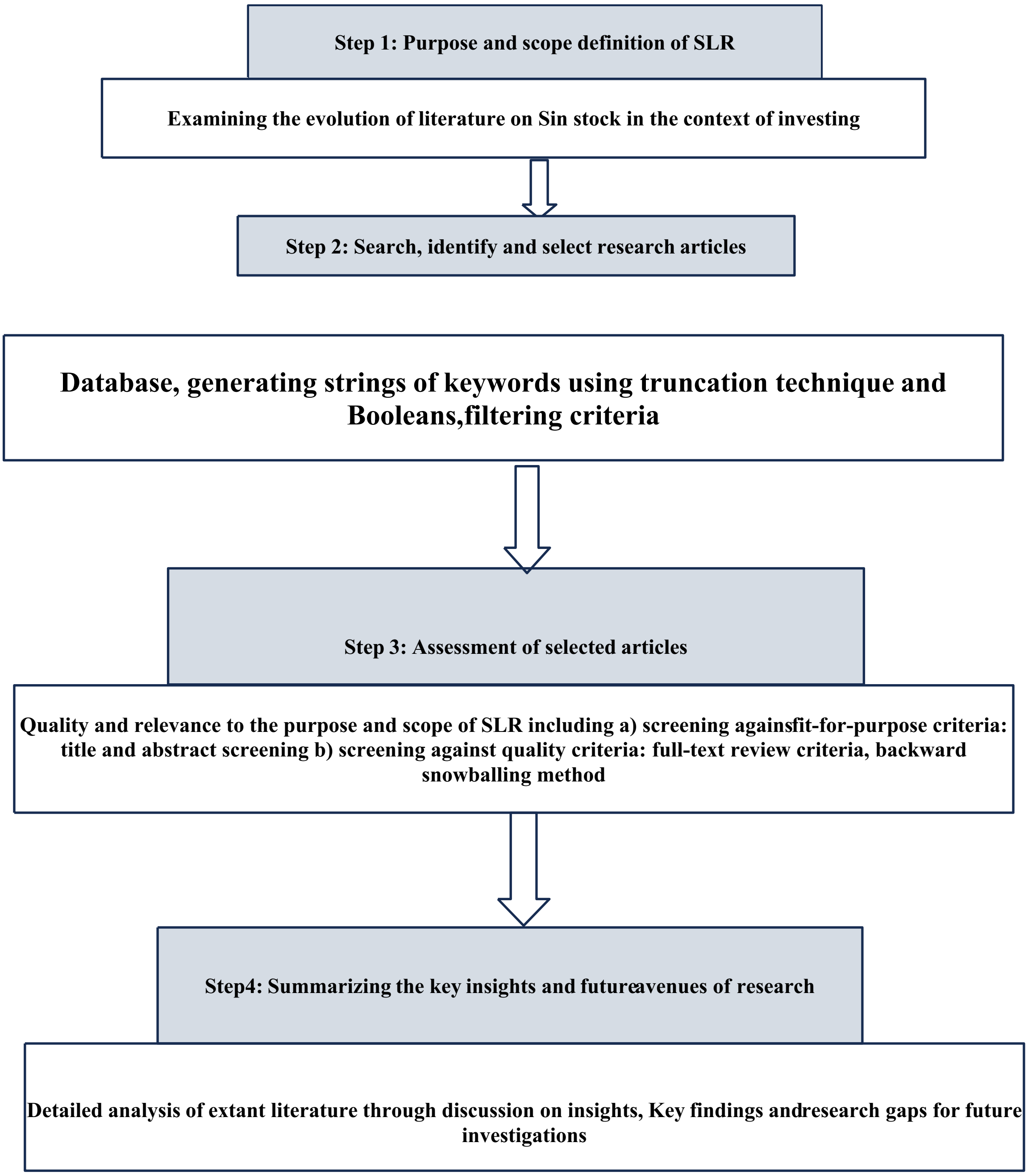

Figure 4 *Summary of Systematic Literature Review (SLR) Methodology Employed in the Study.*

4. Descriptive Analysis of Selected Literature

This study also performs a descriptive classification analysis of the final set of articles (70 articles). These articlesare classified based on the year of publication, geographical coverage, methodologies employed, co-occurrences of keywords, and key journals.

4.1 Classification by Year of Publication

Figure 5 shows the publication trend of selected articles from 1993 to 2024. The final set of papers extensively coversresearch publications dating back to 1993. Moreover, approximately 42.5% of the articles included in this currentstudy were published after 2017. This significant representation of recent literature allows for a meticulous reviewof contemporary sin stock literature, addressing the paucity of review papers in this field post-2017.

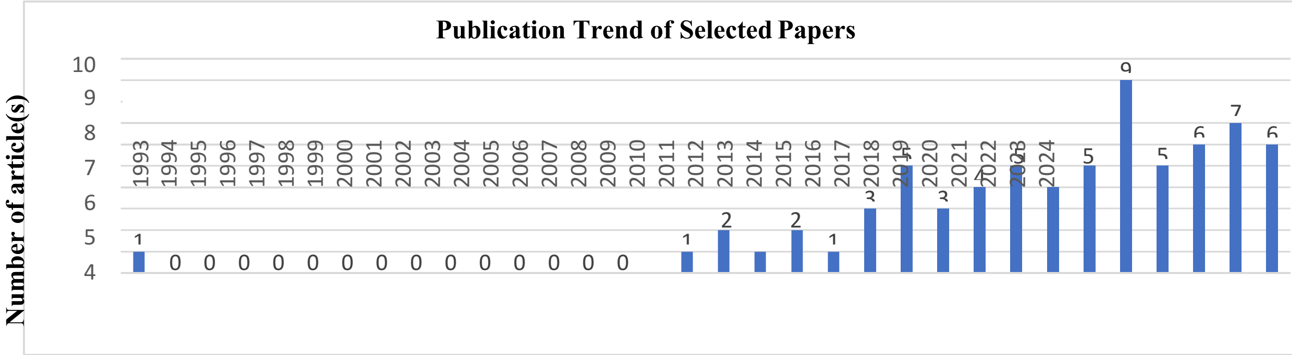

Figure 5 *Year-wise distribution of the selected articles on sin stocks from 1993-2024 Year(s)*

4.2 Classification by Geographical Coverage

Figure 6 represents the classification of articles based on geographical coverage. The selected articles of this studycover diverse geographical regions, including developed and emerging economies. However, majority of the articles (i.e., 70%) concentrate on developed economies, notably the USA (Boubakri et al., 2019; Choi et al.,2024;Richey, G. M. 2020: Liston-Perez et al.,2018), with relatively fewer studies focusing on emerging economies (Tirodkar et al.,2023; Karim et al.,2022; Han et al.,2022; Castro et al.,2020).

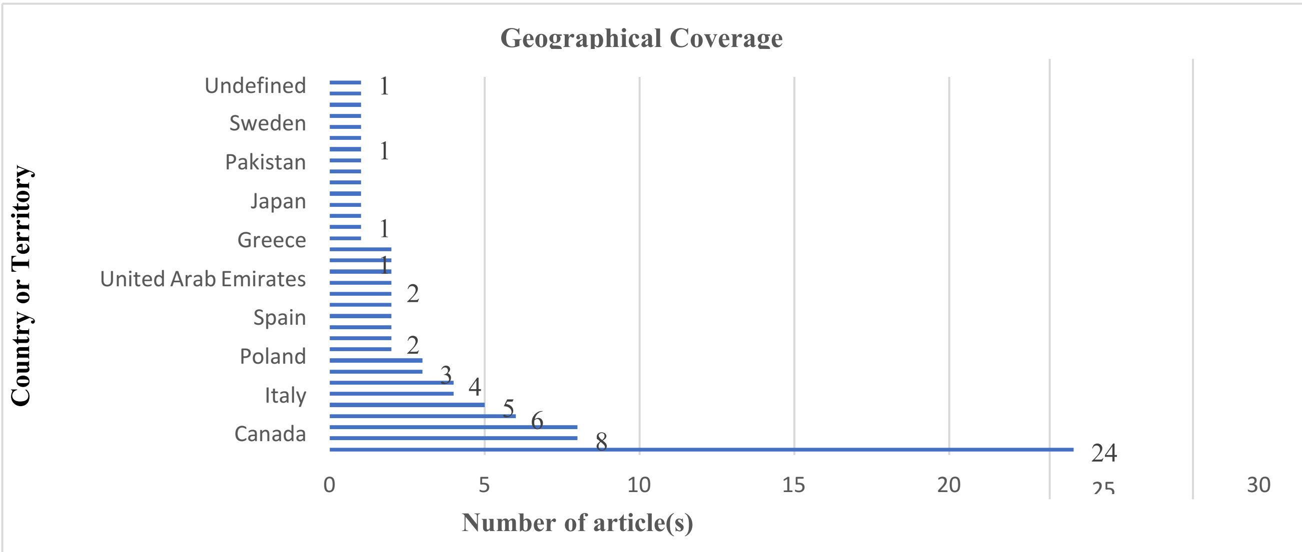

Figure 6 *Classification of Studies Across Different Countries.*

4.3 Classification by Nature of Economy

Figure 7 represents that most of the studies on sin stocks are associated with developed economy, followed by developing and mixed economy in decreasing order.

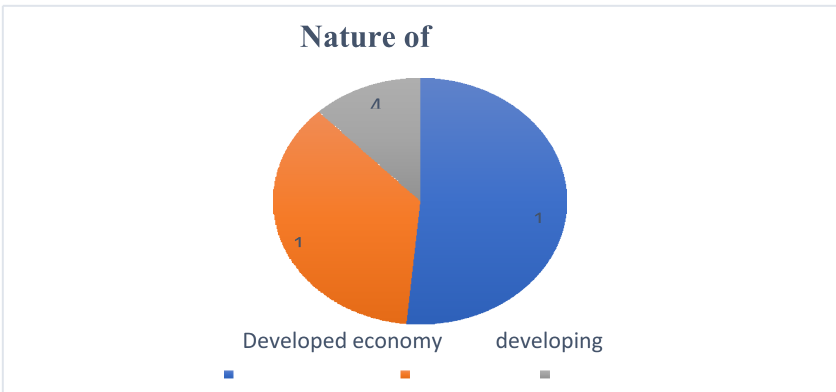

Figure 7 *Classification of Studies According to the Nature of the Economy (Developed/ Emerging).*

4.4 Classification by Journals

Figure 8 depicts the articles corresponding to a journal where International Journal of Business Ethics, Journal of Investing, International journal of Managerial Finance has published maximum number of articles on sin stocks.

Figure 8 *Classification by Journals/Sources*

4.5 Classification by Journal Frequency

Figure 9 provides the overview of the top 15 sources of selected articles. This suggests that a significant portion of articles originate from reputable journals such as Journal of Business Ethics, Finance Research Letters,Journal of Asset Management, Journal of Investing, underscoring the impact and relevance of the research articlesselected in the current study.

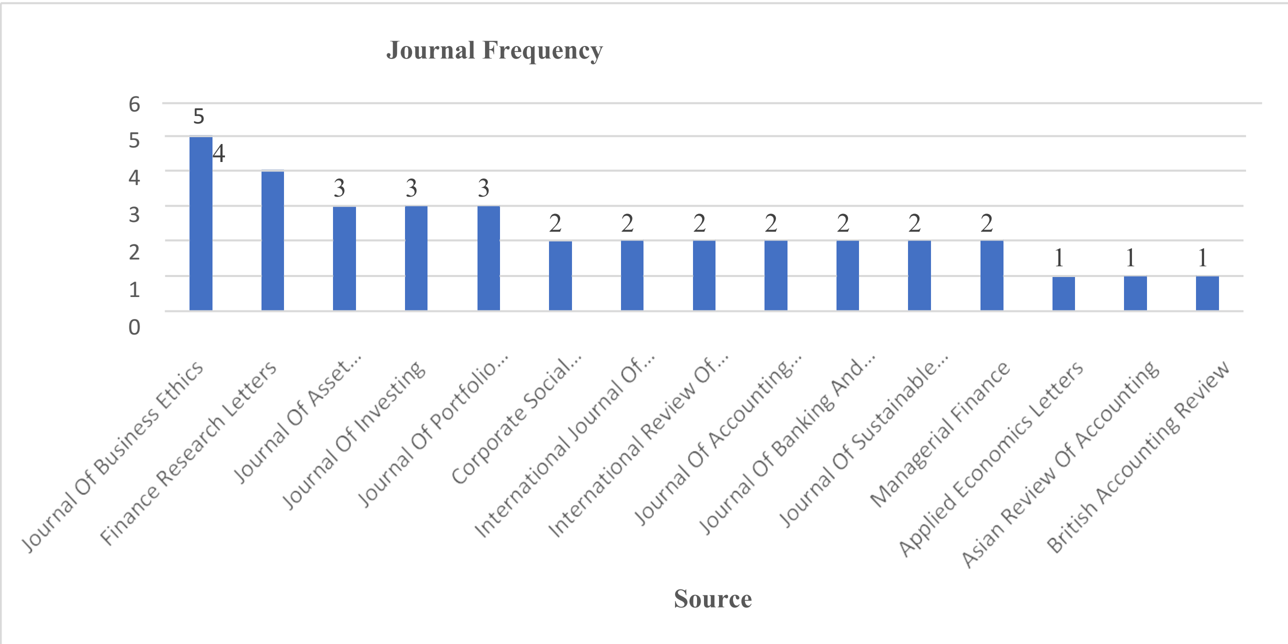

Figure 9 *Journal Frequency of the SELECTED ARTICLES on Sin Stocks from 1993-2024*

4.6 Classification of Documents by Subject Area

Figure 10 depicts the categorization of documents, subject wise. The majority of the articles are being published in the business management area, followed by Economics which has the second largest stake. The other two areaswhich is tapping the research opportunities in sin stocks in relation to ESG are social sciences and Decision science.

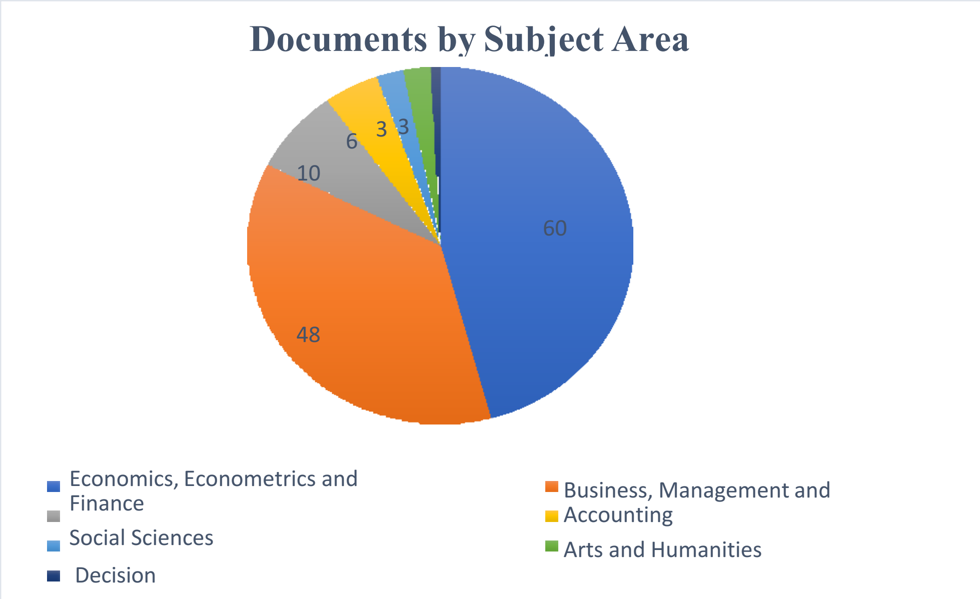

Figure 10 *Classification of Studies Across Different Subject Area*

5. Results and Discussion

As per Cayón, E., & Gutierrez, J. C. ,(2021), ESG performance of sin stocks is positively correlated with future ESG. It has also been observed from this studies that potential bias creeps into ESG composite scores due to "social screening" by sin stocks. CSR disclosures are an integral part of the strategic goal of" sinful" companies todivert attention from controversial activities, reduce the negative consequences of stigmatization and neutralize the impact of litigation.

Alessandrini, F., & Jondeau, E. (2019),used ESG scores of a large number of firms, covered by MSCI ESG database from January 2007 to December 2018.Each firm was assessed on the basis of three major exposures a firm usually face: (1)environmental, which consists of change in climate ,natural resources, pollution and otherd;(2)social, which includes human capital, stakeholder opposition, product liability and social opportunities;(3)governance, which includes corporate governance and corporate behavior. They found that exclusion leads to better scores by initially standard portfolios but exclusion also implies regional and sectoral tilts and risk exposures of the portfolios.

Assumption of sin stocks risker than non-sin stocks is misleading. Significant effects of social norms on the investing environment of ''sin'' stocks. There is a significant price effect on the order of 15-20% from institutional investors shunning sin stocks. Moreover, these stocks that are neglected by a sufficiently large fraction of investorsare traded at a lower price and earn a higher return.

Because of limited risk-sharing, idiosyncratic risk becomes priced for these stocks. Certainly, when discussing Corporate Social Responsibility (CSR) and the concept of "sin" industries, it's important to consider the institutional and cultural differences that shape perceptions and practices around these issues.

6. Conclusion

Sin industries often have relatively inelastic demand, meaning that changes in price don't significantly affect demand. This can make them more resistant to economic downturns compared to other sectors. Additionally, social and regulatory barriers may discourage new competitors from entering the market, further protecting these industries during tough economic times. With fewer competitors due to social and regulatory barriers, sin industries can enjoy higher profit margins and more stable profits. This lack of competition allows established players to maintain their dominance in the market. Due to their negative social image, sin firms may be undervalued by analysts and institutional investors. Thiscan create investment opportunities for those willing to look beyond the stigma associated with these sectors. The economic importance of social norms and their behavioral effects in the equity market is explored as social normsare not homogeneous across diverse nations like India nor completely defined by religious views. The findings suggested the significant effects of social norms on the investing environment of ''sin'' stocks. There is a significant price effect on the order of 15-20% from institutional investors shunning sin stocks. Given the unique dynamics and controversies surrounding sin industries, there's a growing need for scholarly research to understand the complexities and implications of investing in these sectors. This research can inform both investors and policymakers about the risks and opportunities associated with sin stocks.

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