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In Search of Paradigmatic Diversification in Academic Finance

Sheikh Tanzila Deepty[*]
Saud Ahmed[**]

Abstract: *Academic finance research is largely overshadowed by functionalist paradigm, and this limit positive contribution to knowledge. Hence, finance literature faces criticism, which highlights the justification of having a diversified philosophical stance. By investigating contemporary papers on investment benchmarks, sustainable finance and behavioural finance, we identify that modern finance researchers are rethinking about the research paradigm to bring paradigmatic diversification rather than being stagnant to positivism.*

Keywords: *Paradigms, Functionalism, Logical positivist, Interpretivist, Epistemology, Ontology, Academic Finance, Paradigmatic Diversification*

1. Introduction

Contemporary academic finance research is vastly dominated by a functionalist paradigm (Ardalan, 2008). The functionalist view is rooted in the tradition of positivism (Burrell and Morgan, 1979), and the articles that do not follow the positivist approach are rarely published in the prestigious journals of this field. Finance research predominantly investigates for explanatory and predictive power of variables and adopts statistical tools for building econometric models (Weir, 2013). Apparently, it limits finance on "objective" description of human activity (Ardalan, 2008). However, interpretive research in finance is negligible, as the interpretivist does not believe in structural absolutism like mainstream academic finance theorists. Radical humanist and radical structuralist research in academic finance are non-existent, as financial empiricists rely exclusively upon disparate and problem-centred studies rather than considering social order as a totality (Ardalan, 2000).

However, this popularity of the positivism paradigm in the domain of finance research does not necessarily ensure its positive contribution to knowledge. Four social science paradigms, 'functionalist', 'interpretive', 'radical humanist' and 'radical structuralist', can contribute to the knowledge and understanding of any topic in finance (Bettner et al., 1994). In this paper, we investigate whether contemporary finance researchers are rethinking about the research paradigms. Diversified paradigmatic application in finance can foster reshaping financial ideology and practices.

[*]Assistant Professor, Department of Finance, University of Dhaka, Email: tanziladeepty@du.ac.bd

[**]Associate Professor, Department of Tourism and Hospitality Management, University of Dhaka, Email: saudahmed@du.ac.bd

In this paper, we have thoroughly analysed three contemporary finance research paper related to research paradigms. These three papers have discussed three popular and contemporary finance-related topics: investment benchmarks, sustainable finance and behavioural finance. We first analyse the paper of Daniel Broby (2017) on investment benchmarks, where the author has critically reviewed the existing literature on the construction of investment benchmarks and critique the researchers' preference towards positivist lens. While other authors have followed positive theorising to explain nature of benchmarks (Lehmann and Modest, 1987; Kat et al., 2001; Siegal, 2003; Conover et al., 2013, among others), Broby (2017) emphasises heuristic nature of investors and urges to consider subjectivity in the process of scientific inquiry related to investment benchmark. Accordingly, he proposes that the logical positivist paradigm is more compatible with the concept of investment benchmarks. Logical positivism considers that philosophical problems can only be solved by logical analysis, whereas this philosophical stance is contrary to the positivist denial of the unseen (Zaman, 2013).

Next, we study the paper of Lagoarde-Segot (2019) on sustainable finance. The author has compared and contrasted traditional methods of inquiry used in finance with critical realism. While mainstream academic finance is rooted in empirical realism (Ardalan, 2008; Lagoarde-Segot, 2014), Lagoarde-Segot (2019) argues that sustainable finance requires an open system for inquiry as it is different due to its modifications of finance function. Hence, Lagoarde-Segot (2019) suggests that adaptation of the critical realist approach will be more robust in studying sustainable finance. Critical realism beliefs an interpretive understanding is required for social phenomena as it is concept-dependent, although this paradigm does not exclude causal explanation (Zachariadis et al., 2010; Sayer, 2000).

Finally, we analyse a compare and contrast research paper of Darman et al. (2017), who focus on the philosophical framework of the behavioural finance research. While behavioural finance creates controversies regarding the usage of functional research paradigm as epistemology, Darman et al. (2017) suggest to use interpretive paradigm.

The interpretive paradigm is concerned with understanding the world as it is and trying to know the social world's fundamental nature via subjective experience, hence well known as subjective interactionist (Burrell and Morgan, 1979). Meanwhile, behavioural finance research uses input from experimental psychology (Muradoglu and Harvey, 2012). Hence, we find that contemporary finance researchers are not stagnant to utilising functionalism in academic finance, and instead, they are rethinking paradigmatic diversification in finance.

Our paper contributes to the literature in two ways. First, we find that contemporary finance researchers are rethinking about the research paradigms, rather than being stagnant to positivism. Second, we present a comparison between the paradigm of standard finance theories and new financial ideologies.

2. Research Philosophy

2.1 Paradigm of Social Science

Paradigm, as a conceptual framework, provides direction to the researcher regarding a belief system related to their research (Guba and Lincoln, 1994). It constitutes a way of viewing the natural world of realism and identifies the nature of study accordingly from ontological, epistemological and methodological viewpoints (Guba and Lincoln, 1996).

There are four separate but contiguous sociological paradigms, which are labelled as ‘functionalist’, ‘interpretive’, ‘radical humanist’ and ‘radical structuralist’. The approach of functionalist paradigm to social science assumes that the social world is concrete. It implies that the empirical objects and relationships can be identified, measured and studied. The assumption lies under the interpretive paradigm that depicts the social reality as the result of the subjective interpretations of individuals. It leads to the idea of multiple shared realities, which are changed and sustained. On the other hand, the radical humanist paradigm considers the nature of reality as socially created and sustained. Finally, the radical structuralist paradigm concentrates upon structural relationships within a realist social world, which commits to radical change (Burrell and Morgan, 1979).

While a paradigm is a structure for conducting research on a specific issue, and this structure has four elements: ontology, epistemology, theoretical perspective and methodology (Crotty, 1998). However, our paper discusses the dominant paradigm in academic finance, and the functionalist paradigm dominates contemporary finance research (Ardalan, 2008). Hence, we discuss the ontological position, epistemological stance, and methodological issues of the functionalist view in this section. A brief discussion on a similar context on interpretivism is included here, as interpretive research also exists in finance research, although negligible.

The functionalist view is established based on the tradition of positivism (Burrell and Morgan, 1979). Positivism paradigm has been dominating the formal discourse in the social sciences for approximately 400 years. This paradigm assumes that the investigated “object” and the investigator are independent entities, whereas the investigators are able to investigate the object without being influenced by it or influencing it. A threat to validity may arise if influence exists in either direction. In that case, researchers apply different approaches to minimise or eliminate it. Positivist researchers inquire about ‘reality’ through a one-way mirror (Guba and Lincoln, 1994). Positivism emphasises context-free, value-free, bias-free and replicable research (Plack, 2005).

It is claimed that the positivist approach research is conducted within a value-fee framework (Denzin and Lincoln, 2011). This approach assumes that the researchers can research the object without being shaped by it or influencing it as it is limited to data collection and interpretation through an objective approach. The followers of positivism stay apart from the research respondents by making space, which is imperative in remaining psychologically unbiased to draw apparent differences between cause and emotion (Carson et al., 2001). However, as phenomena are involved in a continuous construction process, social phenomena are created from the experiences and subsequent actions of the key participants (see also Saunders, Lewis and Thornhill, 2009). If this is the case, positivism ignores multiple phenomenal aspects as 'causes' and another set as 'effects'.

2.2 Ontological Position

Ontology questions what constitutes reality and studies on the nature of existence (Gray, 2013). Objectivism and subjectivism are two prominent ontological positions. Objectivists view the social world as a concrete structure, and the nature of relationships among the elements that can be measured by empirical analysis (Morgan and Smircich, 1980). On the contrary, subjectivist views reality as 'personal and community-specific' (Rosenau, 1991).

Most of the theories and policies of mainstream academic finance assume that an underlying cause and effect mechanism animates all financial activity (Bettner et al., 1994). It indicates finance research is concerned for an 'objective' form of knowledge, whereas objectivism is based on the view that there is an existence of discoverable independent reality. Hence, it conforms to the ontological position of positivism.

In contrast, the ontological position of interpretivism is relativism (Scotland, 2012), which assumes reality is subjective and differs from person to person (Guba and Lincoln, 1994). Subjectivists believe that it is irrelevant to consider one set of phenomenal aspects as 'causes' and another set as 'effects', as phenomena are involved in the process of continuous creation (Hirschman, 1986).

2.3 Epistemological Stance

Epistemology questions the relationship that exists between the researcher and the known (Denzin and Lincoln, 2005). It is concerned with the nature of knowledge and addresses the means to acquire this knowledge.

Ontologically, the research, which views that meaning of an object is already inherent and discoverable, will utilise some relevant theories to construct econometric models and apply different statistical tools to explore scientifically the nature of relationship among different variables. This conforms to the positivist grounds of knowledge in favour of an epistemology that emphasises on 'the empirical analysis of concrete relationships in an external social world' (Morgan and Smircich, 1980, p. 493). It is consistent with the fundamental epistemological stance of finance research that assumes knowledge can be progressed by exploring the set of nomological connections between initial conditions and final outcomes (Bettner et al., 1994). Positivism claims that reality, which exists external to the researcher, must be investigated through rigorous scientific inquiry (Gray, 2013). Positivism paradigm shields particular aspects of finance against critique (Williams, 2003).

However, it is in sharp contrast to the beliefs of interpretivism. The interpretive epistemology does not believe in universal truth. An interpretivist views truth as a socially formatted or constructed inner feelings of individuals. Therefore, an interpretive researcher understands, apprehends and explains from his/her own outline of orientation and reference (Aliyu et al., 2014).

2.4 Methodological Issues

Methodology illustrates the scientific manner in which researcher attempts to answer specific research questions to obtain knowledge about the social world. Positivist researchers formulate laws to yield a basis for prediction and generalisation. Methodologically, positivism paradigm is directed at searching verifiable evidence via direct experience and observations. In doing so, positivist investigators use empirical testing, random samples and controlled variables (independent, dependent and moderator) (Scotland, 2012). In particular, positivism is a quantitative approach that involves with the investigation of numerical and statistical data. This approach emphasises the magnitude and analyses the causal associations between variables, not processes.

Noticeably, one of the major principles of traditional finance research depicts that "All financial activity can be quantified. The logic of statistical analysis and inference applies to all measurements" (Frankfurter and McGoun, 1999, p. 172). Certainly, it complies with the deductive approach. Deductive researchers initially deduce the research hypotheses from a theory and test these hypotheses by using rigorous methods to make conclusions (Saunders et al., 2009). Moreover, positivists use correlation analysis to reduce complex interactions among constituent parts of investigation (Scotland, 2012).

On the other hand, interpretive methodology engages in understanding phenomenon from an individual's perception (Creswell, 2009). Mostly used methodologies by interpretivist researchers consist of case studies, phenomenology, and ethnography (Scotland, 2012). Phenomenology focuses on participants and explores their beliefs, perceptions or knowledge (Kisely & Kendall, 2011) to describe the meaning and significance of experiences (Tong et al., 2007). However, it is difficult to find participants who have experienced the same phenomenon under the intended study. Ethnography is suitable for the study where entire participants adopt a common culture, though the term 'culture' is conceptualised in several ways (Schwandt, 2007; Creswell, 2013). The case study research, which is extensively used in social science (Cousin, 2005; Tight, 2010; Crowe et al., 2011), has the practicality to obtain an in-depth understanding of the intended phenomenon. However, the complex nature of case study research creates difficulties in reporting the findings comprehensively and concisely (Baxter & Jack, 2008).

Unlike the positivism paradigm, interpretivist paradigm considers researcher as an integral part of the research process. Therefore, it uses qualitative methods (such as- focus group discussion, questionnaire survey, interviews etc.) to accumulate data and explain individual reality from the perception of a researcher, but does not seek to extrapolate or correlate.

3. Dominant Paradigm in Academic Finance

Until the late 1980s, the keystones of major theories of finance (such as asset pricing, efficient market hypothesis, among others) were rational behaviour, perfect market and free information availability. These keystones or ideal assumptions are likely to be complied with Plato's theory of forms/ideals (Rao, 2019). Meanwhile, new age finance theories follow the positivism paradigm and use scientific methodology, hence complying with realism (Findlay and Williams, 1980). Due to the perception of the real world in formulating finance theories, empirical evidence cannot be explained with their ideal assumptions (Rao, 2019). From 1980s, irrational behaviour and imperfect markets are also considered in finance research, while functionalist paradigm remains dominant in academic finance.

Finance research assumes the financial world as made of stable and tangible entities which are external to the observer, such as money, financial markets and financial institutions (Lagoarde-Segot, 2015). Perhaps these financial institutions and financial behaviour (risk-return optimisation) are independent of the individual. Academic finance research aims to explore causality mechanisms which unites tangible entities of the financial realm. For instance, the stock market, as an object of study, is considered as an external reality subject to a set of regularities. Researchers attempt to uncover its nature via analysis of statistical causality (Lagoarde-Segot, 2015). This approach complies with mechanistic representation of human actions and implicitly assume that financial interactions reflect the causality mechanisms, which can be uncovered by empirical research. Accordingly, academic finance becomes one of the finest illustrations of the functionalist paradigm within the social sciences (Lagoarde-Segot, 2015).

While finance research is apparently limited to "objective" description of human activity (Ardalan, 2008), interpretive research in finance is negligible. Meanwhile, radical humanist and radical structuralist research in academic finance are non-existent, as financial empiricists do not consider social order as a totality (Ardalan, 2000).

Each paradigm has strengths over others, hence the scope to motivate the finance researchers to utilise all paradigms. In order to understand phenomena, integration of paradigms is necessary (Ardalan, 2003; Ardalan, 2010). This step towards paradigm diversity can enlarge research scope in academic finance (Sultana, 2020).

4. Paradigm in Contemporary Finance Research

As major theories of finance have lack of diversity regarding paradigms, and they are dominated by functionalism, we investigate whether recent finance research is still stagnant to functionalism or applying other philosophies. Among mixed evidence, we highlight three dimensions in this study based on three related articles. First, we analyse a paper of Daniel Broby (2017), and find that the author proposes application of logical positivist paradigm to conduct research on investment benchmarks. Second, we investigate a paper of Lagoarde-Segot (2019), which suggests to adopt critical realist approach to study sustainable finance. Finally, we explore a study of Darman et al. (2017), which proposes to apply interpretive paradigm in behavioral finance research.

Hence, we discuss in detail how contemporary finance researchers propose diversified dimensions of research paradigms in academic finance by using a paradigmatic and methodological lens.

4.1 Investment Benchmarks: Through the Lens of Logical Positivist Paradigm

According to the Oxford English Dictionary, benchmark is a standardised tool used as a point of reference to compare something. Conover et al. (2013) discuss it from an investment context and suggest that benchmarks are used for evaluating the performance of an investment portfolio. In addition to providing the framework for analysis (Bailey et al., 1990), investment benchmarks determine the investment managers' performance (Siegel, 2003). For instance, the stock market index is a well-accepted investment benchmark in finance.

In our paper, we have reviewed the paper of Broby (2017), who has critically reviewed the extant literature related to the construction of investment benchmark, with an aim to critique the researchers' preference towards positivist lens. He reviewed Lehmann and Modest (1987), Kat et al. (2001), Siegal (2003) and Conover et al. (2013), among others. Whereas these authors have followed positive theorising and highlighted objective nature of ontology to explain nature of benchmarks. Notably, Broby's (2017) study has not used any particular statistical tools; neither has he limited the study to any period nor any country or region.

Broby (2017), at first highlights the importance of benchmarks usage and then focuses on its philosophical underpinning. According to Siegal (2003), benchmarks play three vital roles by acting as (i) benchmarks for actively managed funds, (ii) proxies for asset classes, and (iii) templates for passive funds (see also Bailey et al. (1990)). Hence, they can form a basis of scientific enquiry in finance and are helpful for empirical methods, although there is still no philosophical certainty regarding benchmarks. Investment benchmark is often developed on the basis of Modern Portfolio Theory, first discussed by Markowitz (1968). Hence, it considers confirmed hypotheses and theorises mathematical risk-return relationships. Also, a market benchmark proxy is developed based on some ideal assumptions. In this backdrop, it seems to comply more with the functionalism or positivism paradigm.

However, Broby (2017) investigates it through the lens of logical positivist paradigm. Logical positivism is developed in the early 20th century by a group of philosophers, known as Vienna

Circle. This paradigm considers that philosophical problems can only be solved by logical analysis. Hence, observations and reason are the basis of this philosophical stance. Logical positivism solves the issue related to the discrimination between science and non-science, hence contrary to the positivist denial of the unseen (Zaman, 2013).

While investors are heuristic in nature, the positivistic paradigm only considers their objective states. In this backdrop, Broby (2017) urges to consider subjectivity in the process of scientific inquiry related to investment benchmark construction. However, usage of positivist approach allows the benchmarks to be predictable. But shortcoming of induction is one of the critiques of the positivism approach to benchmarking. While extant literature focus on the construction of investment benchmark based on positive theorising, Broby (2017) sheds light on the issue that the construction of the investment benchmark is not based on 'value judgments', rather any benchmark measures and explains investment outcomes. Moreover, the investment benchmark itself is a financial tool that can be used to derive verifiable empirical evidence. We generally use a methodical procedure to measure the mathematical returns from financial assets, which fall into the realm of logic. Meanwhile, logical positivism uses tautology and observations from experience. Hence, Broby (2017) asserts that benchmarks are grounded in logical positivism as they do not measure anything, rather being used as a measurement tool.

4.2 Sustainable Finance: Critical realism Perspective

The word 'sustainability' refers to the usage and management of the resources of the current generation to ensure their average quality of life can be shared with their future generation. Meanwhile, European Commission defines sustainable finance as the process of considering environmental, social and governance (ESG) while making investment decisions in the financial sectors. Although sustainable financing has been considered a key player of the EU's international commitments towards climate and sustainability objectives, there is a research gap regarding how sustainable theory modifies finance theory.

In this paper, we have reviewed a research paper of Lagoarde-Segot (2019), who conducts a study by focusing on sustainable finance's epistemological, ontological, and methodological stance. The author mainly discusses how the research paradigm of sustainable finance is different from standard finance theory. As we have discussed before, mainstream academic finance is rooted in empirical realism and follow the deductive method of inquiry (Ardalan, 2008; Lagoarde-Segot, 2014). Lagoarde-Segot (2019) argues that impact investment requires an open system for inquiry as it acknowledges that 'human agency is embedded in an organic social context'. Hence, the method of enquiry for sustainable finance is different due to its modifications of finance function. Lagoarde-Segot (2019) uses critical realistic framework to explore the relationship between sustainable finance and financial theory from epistemological perspective.

Critical realism (initiated by Lawson (1997, 2015)) is a well-discussed philosophical framework in social science (Outhwaite, 1987), which is applied successfully in the field of economics. Its position is in between constructivism and positivism. Critical realists believe that although an external reality exists, it cannot be accessible by sense experience. This philosophical framework asks, 'what must the world be like if we are to take seriously what science seems to reveal about the world?' (Walter and Young, 2016, p. 53). Critical realism views the social phenomena as concept-dependent and beliefs an interpretive understanding is required, but the paradigm does not exclude causal explanation (Zachariadis et al., 2010; Sayer, 2000). Critical realists utilise both qualitative and quantitative techniques to uncover cause and effect relationships from a given context. In particular, this paradigm considers that researchers are not able to observe every aspects of one 'real' world. Critical realists recognise that observable events are generated causally from the complicated interactions of different mechanisms and it can only give some information about the presence of unobservable entities (Zachariadis et al., 2010).

However, sustainable finance brings a change in the mission of firm and the nature of investment. Accordingly, problem arises to measure firms' performance due to the change in firms' mission, as it no longer remains to perceive by looking at predetermined variables. Hence, empirical analyses are unable to measure the qualitative changes of firms' performance. In this regard, finance theories lead towards inadequate conceptualisation of reality. It creates epistemological dilemma. In this backdrop, Lagoarde-Segot (2019) proposes adopting a more plausible form of social ontology, critical realist approach, in academic finance, which can facilitate incorporating sustainable finance and other such issues in the finance research field to promote paradigmatic diversification in academic finance.

4.3 Behavioural finance: Interpretive paradigm

Behavioural finance studies how humans take investment decisions by interpreting available information (Lintner, 1998). It highlights the possibility that some agents of economy may behave less rationally than usual (Thaler, 1993). Behavioural finance pursues to understand and predict the psychological process of systematic financial market implications; hence it studies how psychological phenomena affect financial behaviour (Olsen, 1998; Shefrin, 2000).

In this paper, we have reviewed a compare and contrast research paper of Darman et al. (2017), who conducted a study by focusing on the philosophical framework of the behavioural finance research. While behavioural finance creates controversies regarding epistemology by using functional research paradigm, Darman et al. (2017) suggest using interpretive paradigm in behavioural finance research, as it discusses on what, why, and how infestation works from human perspective.

We have discussed on interpretive research paradigm in section 2. To realise the fundamental nature of the social world, interpretive paradigm concerns to understand the world as it is, via subjective experience (Burrell and Morgan, 1979). Meanwhile, behavioural finance research uses input from experimental psychology (Muradoglu and Harvey, 2012) and applies surveys, participant observations, interviews, focus group discussions as a method. Interpretive paradigm is well known as subjective interactionist. This paradigm is concerned with understanding the world as it is and trying to know the social world's fundamental nature via subjective experience (Burrell and Morgan, 1979).

One of the largest limitations of positivism to finance is its tendency to allow absurd propositions about human behaviour. For instance, positivism stresses for "rationality" in the decision process. Meanwhile, rationality is measured by emphasising on the consistency of behaviour, hence put less value on further studying human behaviour as well as the existence of irrationality (Olsen, 2001). As behavioural finance explores human perspective, especially what, why, and how infestation works (Ricciardi and Simon, 2000), Darman et al. (2017) relevantly urge to use diversified philosophical approach to study behavioural finance, such as interpretive paradigm.

5. Conclusion

As research is a creative process, there are many ways to do research, and this scope creates paradigm diversity (Ardalan, 2001). However, the fundamental theories and underpinnings of finance are so largely overshadowed by positivism that positivist approaches take this underlying theoretical core for granted (Frankfurter, 2006). In this study, we investigate three papers to identify whether contemporary finance researchers are rethinking about the research paradigm to bring some diversification. We find that researchers propose different research paradigms, other than functionalism, in academic finance. Finally, we expect that radical humanist, and radical structuralist will also be established in academic finance to create a virtuous spiral in new financial practices.

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