TPM Vol. 31, No. S2, 2024
ISSN: 1972-6325
https://www.tpmap.org/

BEHAVIORAL BIASES, GEOPOLITICAL RISK, AND FINANCIAL MARKET VOLATILITY: AN INTERDISCIPLINARY STUDY OF PSYCHOLOGY, INTERNATIONAL RELATIONS, AND GLOBAL FINANCE (2024)

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ABSTRACT
The interaction between cognitive psychology, geopolitical uncertainty, and financial market dynamics is one of the most complicated and significant relations in the modern global economics. This qualitative research investigated the relationship between behavioral biases (overconfidence, loss aversion, herding and anchoring) and geopolitical risk variables to drive financial decision-making and trigger market volatility. Through purposive sampling approach, 15 participants were sampled in the professional and academic groups of financial analysis, behavioral economics, political risk advisory, and academic research. The collection of data was done using semi-structured, in-depth interviews that were facilitated by an open-ended protocol that aimed at obtaining rich and contextual accounts of participants. Thematic analysis was used to code and interpret the data systematically, and four broad themes were created, namely: (1) the psychological architecture of investor behavior in the face of geopolitical uncertainty; (2) mechanisms of amplification where behavioral biases translate geopolitical signals into market disruptions; (3) the moderators of institutional and structural moderation, which dampen or exacerbate bias-driven volatility; Results indicate that geopolitical events can be viewed as strong psychological stimuli that activate cognitive heuristics and emotional biases in a systematic way, and results in nonlinear and asymmetric market reactions that cannot be properly accounted by traditional rational expectations theory. The paper ends by providing a conclusion on implications of the study to financial practice, policy design, and future interdisciplinary studies at the intersection of psychology, international relations and global finance.
KEYWORDS: behavioral biases, geopolitical risk, financial market volatility, behavioral finance, loss aversion, herding behavior, overconfidence, cognitive heuristics, market psychology, political risk.

INTRODUCTION

The global financial system is at the crossroad between rational calculation and highly human irrationality. Although theoretically, decades of development have been based on the efficient market hypothesis and rational utility-maximizing agents, empirical studies have continued to record systematic non-rational behavior with major and often destabilizing impacts on financial markets (Shiller, 2015). The behavioral finance revolution, which was pioneered by their original prospect theory and heuristic-based judgment work by Kahneman and Tversky (1979) demonstrated that investors are susceptible to a variety of cognitive biases (recurring, predictable patterns of thinking that are normatively irrational) and that these cognition biases have empirically identifiable impact on asset prices, trading volumes, and market dynamics.

At the same time, the literature on international relations has been well aware of the fact that geopolitical risk is a major factor of economic status and financial market success. Uncertainty is created by wars, diplomatic crises, sanctions regimes, political instability, and terrorist attacks and spreads through global supply chains, currency markets, commodity prices, and equity valuations (Caldara & Iacoviello, 2022). The connection between geopolitics events and financial markets is not that mechanical, though. The size, persistence and direction of market reactions to geopolitical shocks are vastly different and cannot be accounted for by the simple risk-factor models. This variability implies that psychological and behavioral mechanisms - how market participants perceive, interpret, and emotionally react to geopolitical information - mediate this relationship, which is insufficiently represented in current theoretical models.

The inter-disciplinary area of behavioral psychology, international relations, and global finance has been gaining increasing academic interest, but has limited empirical data based on the day-to-day experience of the practitioners who daily practice in the nexus. The unique knowledge that financial analysts and portfolio managers need to convert the outcomes of geopolitical developments into investment choices, political risk advisors who explain instability to financial customers and behavioral economists who investigate the cognitive foundations of market dynamics each contribute a unique knowledge to this complex relationship. Their combined views provide an exclusive and to a large extent unexploited source of knowledge which qualitative inquiry is especially equipped to tap into.

This research has filled that gap by conducting an exploratory qualitative research on the interaction between behavioral biases and geopolitical risk to affect financial decision-making and market volatility. Through interaction with practitioners and academics in the center of this interdisciplinary field, the research aimed to establish a sensitive, empirically-based explanation of the psychological and situational processes by which geopolitical uncertainty is converted into financial market responses. The study falls within the wider academic debate on behavioral finance and at the same time builds on the ideas and theories of political psychology, international relations theory, and world financial economics.

Background and Rationale

The rising number and severity of geopolitical shocks in the twenty-first century (September 11 attacks, the global financial crisis of 2008, the European sovereign debt crisis, Brexit, the COVID-19 pandemic and the Russia-Ukraine conflict) have increased the practical urgency of learning about the psychological aspects of geopolitical risk in financial markets. All of these events had market reactions, which manifested as panics selling, heightened volatility spikes, herding, and seemingly irrational departures of fundamental valuation, which behavioral finance theory predicts but quantitative models usually fail to predict or explain (Nofer et al., 2021). The 2008 financial crisis, especially, revealed how deeply unsatisfactory risk models based on the assumption that investor behavior is rational and stable, and as a result, triggered a radical reevaluation of the behavioral and psychological assumptions underlying the financial theory and regulations practice (Akerlof & Shiller, 2009).

The COVID-19 pandemic was another, even more graphic manifestation of the interdependence between the uncertainty of geopolitical scale and market dynamics of behavior. The first market crash of February-March 2020 and the extraordinary recovery of the last part of March, which were more a matter of sentiment, fear, and herd behavior than a matter of fundamental values, demonstrated the primacy of psychology in increasing and occasionally decoupling market behavior to underlying economic realities (Baker et al., 2020). These developments have highlighted the need to establish theoretical models and empirical evidence to incorporate psychological, political and financial aspects in explaining market volatility.

Research Objectives

This paper had four main goals: (1) to understand how financial practitioners and scholars conceptualize the linkage between behavioral bias and geopolitical risk in financial markets; (2) to determine the cognitive and emotional processes by which geopolitical events trigger or exacerbate the effects of behavioral bias in investors and other market participants; (3) to investigate how institutional structures, market design characteristics, and professional practices mediate the impact of bias

Importance of the Research

The study contributes to the body of knowledge and practice in a number of ways. Theoretically, it proceeds the assimilation of behavioral finance, political psychology and international relations by offering empirically-based information about the mechanisms behind the association between geopolitical risk and behavioral bias to market results. In practice, the results provide actionable advice to financial professionals who wish to enhance the quality of decisions in the face of geopolitical uncertainty, to risk managers who wish to create systems to detect and address the amplification of behaviors due to geopolitical shocks, and to the policy maker who may consider intervention to alleviate the systemic effects of bias-driven market volatility. The research also has a methodological contribution to the field since it reveals the usefulness of qualitative research in the field of study where quantitative methods have dominated, thus creatings.

LITERATURE REVIEW

Cognitive Biases and behavioral Finance

Behavioral finance is a relatively new discipline that developed in the 1970s and 1980s as scholars started to systematically record how investor behavior deviated in the forecasts of rational expectations theory and the efficient market hypothesis. The primeval work of Kahneman and Tversky (1979) who proposed prospect theory as an empirically-based alternative to expected utility theory, established that people compare outcomes to reference points instead of using absolute terms and that losses are psychologically larger than equal gains- a phenomenon known as loss aversion. This skewed sensitivity to gains and losses has been demonstrated to create substantial distortions in investment behavior, such as the widely-reported disposition effect in which investors hold losing positions too long and sell winning positions too early (Odean, 1998).

Another omnipresent and omnifarious bias in financial markets is overconfidence. The studies of various methodological designs have always concluded that the investors, the professionals included, are systematic in overestimating the accuracy of their predictions and the levels of their knowledge when compared with those of other market players (Barber and Odean, 2001). Excessive trading, under diversification and the systematic mispricing of assets have been attributed to overconfidence especially during a period of market exuberance where positive feedback between increasing prices strengthens confidence. The connection between overconfidence and geopolitical risk is especially thorny, since geopolitical uncertainty can both repress certain types of overconfidence and trigger others, namely, overconfidence in predicting geopolitical events or their implications on the market.

The third behavioral bias that can have major implications on the volatility of the market is herding behavior, or tendency of investors to follow the footsteps of other investors instead of taking independent actions based on analysis. Theoretical models of herding differentiate between rational herding where following the crowd is a logical reaction to information asymmetry and irrational herding where people are motivated by the pressure to conform psychologically and fear of being out of the crowd (Bikhchandani and Sharma, 2001). Empirical research has established that herding exists in the equity markets, foreign exchange markets and the bond markets and the degree of herding tends to be greater in times of market stress and uncertainty, which are exactly the circumstances that geopolitical crises are likely to bring (Chiang and Zheng, 2010). The interplay between herding and geopolitical risk is therefore a possible formidable amplification mechanism of market volatility.

Other biases reported in the behavioral finance literature are anchoring, the tendency to over-rely on salient reference points in numerical judgments; availability heuristic, the tendency to over-weight information that is cognitively accessible because of its recency or emotional vividness; and confirmation bias, the selectivity with which information is processed to support pre-existing beliefs (Tversky and Kahneman, 1974). All these biases could be relevant to the processing of geopolitical information by market participants, implying that there are a number of psychological pathways through which geopolitical events can influence financial behavior.

Financial Markets and Geopolitical Risk.

The quantitative measurement and evaluation of geopolitical risk as a financial market outcome driver has progressed greatly through the creation of quantitative geopolitical risk indices. Caldara and Iacoviello (2022) created a powerful Geopolitical Risk (GPR) index that reflects how often the terms related to geopolitical risk appear in newspapers, which showed strong correlations between high GPR scores with lower investment, downward stock returns, and higher stock volatility. Their work offered valuable empirical support to the intuition that geopolitical uncertainty is a specific risk factor that cannot be well represented by standard volatility or macroeconomic measures of uncertainty.

Asymmetric market reactions to geopolitical events have been reported in the literature financial economics, where negative geopolitical events such as wars, terrorist attacks, political crises, tend to produce more and quicker market responses than positive geopolitical events such as peace agreements or diplomatic breakthrough (Kollias et al., 2011). This asymmetry is in line with the behavioral prediction that loss aversion magnifies responses to negative information, but that standard financial literature has been slow to assimilate behavioral explanations of these asymmetries, instead attributing them to rational risk premium corrections as opposed to psychological mechanisms.

The literature has also differentiated the impact of geopolitical risk on various asset classes, whereby evidence has indicated that gold, sovereign bonds of politically stable countries and some pairs of currencies are more likely to be the targets of safe-haven flows in case of geopolitical stress whereas equities, especially in emerging markets are the most severely impacted (Baur and Lucey, 2010). Such flight-to-safety effects are empirically consistent with behavior models of increased loss aversion and risk perception, but it is a contentious issue to what extent such effects can be attributed to rational portfolio rebalancing vs. biased overreaction.

Psychological Aspects of Political Risk Processing

Political psychology provides valuable knowledge as to how people process information on political and geopolitical events, which supplements the behavioral finance perspective. The studies in the area have already found that emotional states, motivated reasoning, and identity-based cognition play a major role in political information processing (Lodge and Taber, 2013). The people who have strong prior beliefs regarding the political world, such as

beliefs about whether certain governments are stable, whether certain states are hostile, or whether certain conflicts in the region will escalate, process new geopolitical information through the lens of those beliefs, and tend to reassess rather than update those judgments.

Affect has been a much underre searched area of political judgment, with the results of affective states and reactions on political judgment subject to a wide range of studies based on the affective intelligence framework by Marcus et al. (2000) which suggests that anxiety responses to threatening political stimuli trigger surveillance behavior and information seeking, whereas enthusiasm responses to familiar political contexts trigger dispositional reliance on habits and heuristics. This theory has straightforward implications on the behaviour of investors in response to geopolitical events: those events that can be construed as being new and threatening should result in information-seeking, risk-averse behaviour, whereas those events that can be construed as familiar, even when objective risk is actually high, should result in heuristic-driven behaviour that underprices actual risk levels. The political psychology and financial behavior have been intersected in an increasing body of research on how the political identity of investors, their ideological orientation and trust in political institutions affect portfolio choice and market participation (Kaustia & Torstila, 2011). These papers indicate that the behavioral reaction to geopolitical events does not have standardized reactions among investors but is predetermined by the systemic influence of variables of political psychology that are generally overlooked by mainstream financial models. This diversity of behavioral reactions to the same geopolitical events bears significant consequences on aggregate market behaviors because the combination of the diverse psychologically conditioned reactions can result in emergent market behaviors that cannot be predicted by the behavior of a particular investor.

Interdisciplinary Frameworks and Research Gap

Although the literature on behavioral finance is rich and growing, geopolitical risk in financial markets and political psychology, the synthesis of these three areas of knowledge into a coherent interdisciplinary synthesis has not been achieved yet. Current literature analyzes two relationships: behavioral biases and financial markets, or geopolitical risk and financial markets, without taking into account the three-way interaction between psychology, geopolitics, and finance that represents the reality of financial decision-making (Nofer et al., 2021). The few interdisciplinary integration studies which do exist, are tended to be quantitative, and their power lies in the establishment of statistical relationships, less appropriate in shedding light on the mechanisms, contextual contingencies, and experiential aspects of the phenomena of interest.

There is a relative paucity of qualitative research at this interdisciplinary nexus. Empirical data that can be tapped only partially is the experiential knowledge of practitioners who are forced to operate in the complex interplay of behavioral, political, and financial factors in real-time decision-making. Knowledge of the conceptualizations, coping, and occasional failure of expert practitioners to handle the psychological issues of financial decision-making in the face of geopolitical uncertainty is of direct concern not only in theory development but also in practice enhancement. This work aimed at filling this gap by conducting qualitative research in a systematic manner based on the testimonies of professionals who are at the head of interdisciplinary financial analysis and risk management.

METHODOLOGY

Research Design

This was a qualitative research design that was based within an interpretive epistemological paradigm, which assumed that the best way to generate knowledge regarding complex social and psychological phenomena was to do so by systemically interpreting human experience and meaning-making instead of measuring objective variables (Creswell and Poth, 2018). The interpretive position was deemed especially sensible to the research goals of this study that aimed at not only knowing what relationships were present between behavioral biases, geopolitical risk, and market volatility, but how experienced practitioners cognized and managed these relationships in their practice. The reason behind adopting an exploratory design is that the interdisciplinary framework was relatively new, and previous qualitative studies on the same topic were limited, in line with the suggestion that exploratory designs are to be implemented when the aim is to generate theory and build an understanding, instead of testing a hypothesis (Merriam and Tisdell, 2016).

Sampling Strategy and participant selection

To select the participants who could give information-rich narratives that would support the research objectives, purposive sampling was used (Patton, 2015). Qualification guidelines outlined that the participants should have professional or academic jobs that require direct interaction with the interaction of behavioral aspects, geopolitical risk, and financial markets. The sample of participants was varied to have breadth of view: financial analysts and portfolio managers who have worked in geopolitically sensitive markets (n = 5); political risk analysts and advisors who work in a financial context (n = 4); behavioral economists and financial psychologists (n = 3); and academic researchers who study behavioral finance, international political economy, or other interdisciplinary areas (n = 3). This is a cross-disciplinary, purposive sampling approach that made it possible to compare the responses of individuals

of different professional views and yet all participants were people with appropriate expertise. Recruitment was done via professional networks, contacts in academic departments and LinkedIn connections to professionals who had the required credentials and snowballing of participants. The process of sampling was repeated until the theoretical saturation was achieved, which was considered the point when no substantively new codes or themes were obtained to be included by further interviewing (Lincoln and Guba, 1985). The 13th interview was used to approach saturation that was confirmed by the 14th and 15th.

Data Collection

The main method of data collection was semi-structured, in-depth interviews. The rationale behind the choice of this approach is that it will produce rich, contextually-grounded data without being overly structured to guarantee uniform coverage of the main themes of the research among the participants (Brinkmann and Kvale, 2015). The interview guide was created in an iterative fashion based on the literature review and narrowed down through two pilot interviews with qualified professionals who were not included in the sample of the main study. The guide included four thematic areas: (1) professional experience and views of participants on behavioral bias in financial contexts; (2) their knowledge and experience of the presence of geopolitical risk on financial markets; (3) how behavioral bias interacts with geopolitical events in influencing market dynamics and personal decision-making; and (4) their reflection on institutional, structural, and practice-based factors that moderate or enhance these relationships. Each section had open-ended questions that were succeeded by probing questions to get elaboration, specific examples, and critical reflection.

The interviews were all conducted one-on-one over secure videoconferencing platforms between February and June 2024. Participants were given an informative sheet about the details of the interview and signed informed consent before each interview. The interviews took 45 to 75 minutes, with a mean time of about 58 minutes, according to the quality and complexity of the input of the participants. Audio-recordings were made during all the interviews with the consent of the participants and transcribed word-for-word. Participants received transcripts to member check, i.e., to check transcripts against reality and ensure they had accurately recorded their accounts, and slight corrections before analysis was done (Creswell and Poth, 2018). All subsequent data handling and reporting was to be confidential, participants were given unique alpha numeric identifiers.

The additional data collection technique was a documentary analysis, involving 18 secondary documents such as research articles, risk reports by the industry, reviews of financial stability by central banks, guides to behavioral finance by practitioners, and guides to policy by institutional investors. The sources were consulted in order to offer contextualization of the results of the interviews and to facilitate the triangulation of the results of the interviews with the institutional practices recorded and the existing professional models (Bowen, 2009).

Data Analysis

Thematic analysis was done in accordance with the 6-stage model of Braun and Clarke (2006), chosen due to its methodological openness, versatility, and adaptability to elicit a rich theoretical understanding of qualitative evidence. Phase 1 involved the researcher in a profound familiarisation with the data by repeatedly reading all 15 transcripts and additional documents and writing initial analytic observations in reflective memos. Phase 2 Systematic open coding was carried out on the entire dataset with NVivo qualitative data analysis software, which produced an initial codebook of 104 discrete codes representing meaningful units of data both at semantic and latent levels of meaning. Phase 3 involved sorting and organizing codes into candidate themes that reflected patterns of meaning in the dataset, which yielded an initial thematic map including seven tentative themes. At Phase 4, themes were checked against all the coded data extracts and all the data to evaluate their internal coherence and how they contrasted with each other, which led to the integration of seven provisional themes into four strong overarching themes with eight sub-themes. In Phase 5, each theme was named and defined with precision to convey its analytical essence. The final report was created in Phase 6, and thematic findings were represented by the selected quotes of participants that were picked due to their representativeness, clarity, and analytical value.

A second researcher was used to independently code a 25 percent subsample of the transcripts so as to achieve rigor in the analytical process. The two sets of codes were checked against one another and the differences were deliberated upon and consensus reached, which increased the reliability of the thematic structure. During the analysis process, the researcher kept a reflective journal containing analytic choices and possible sources of interpretive bias, which adds to the confirmability of the results.

Trustworthiness

Credibility was achieved by using four criteria of Lincoln and Guba (1985). Prolonged interaction with the data, member checking of transcripts and triangulation of both interview data and documentary sources and between groups of participants helped to support credibility. The transferability was enabled by thick, rich description of the research situation, participants, and the methods of analysis, allowing the readers to evaluate how the results can be applied in other circumstances. Reliability was ensured by an extensive audit trail that documented all the methodological

choices, including sampling characteristics, to analytic options. Confirmability was also dealt with by reflexive journaling and peer debriefing with a peer who had been dealing with qualitative financial research.

Ethical Considerations

Data collection was started and approved by the corresponding institutional review board regarding ethical considerations. Informed consent was given by all participants after reading a comprehensive information sheet that contained details of the purpose of the study, methods, approximate study time, possible risks and their right to withdraw without any consequences. Data records and publications were all done under pseudonymous participant codes to ensure confidentiality. Transcripts and audio tapes were placed in encrypted institutional servers, which could only be accessed by the research team. Reporting was anonymised to ensure participant confidentiality and still provide information to support the contextual information. Those participants who brought up sensitive or commercially sensitive information were explicitly warned that the information would be reported in non-attributable and generalized form.

FINDINGS AND ANALYSIS

Thematic analysis of the interview transcripts and additional documentary materials resulted in four broad themes. These themes are discussed one by one, each is accompanied by the representative quotes of participants and integrated commentary. It consisted of four themes that included: (1) Psychological Architecture of Investor Behavior Under Geopolitical Uncertainty; (2) Amplification Mechanisms Linking Behavioral Bias and Geopolitical Signals; (3) Institutional and Structural Moderators of Bias-Driven Volatility; and (4) Towards Interdisciplinary Frameworks of Geopolitical-Behavioral Risk

Theme 1: Psychological Architecture of Investor Behavior Under Geopolitical Uncertainty.

The original and the most fundamental theme that appeared out of the data was the way in which the participants perceived the psychological mechanisms that make investors react to geopolitical events. Throughout the groups of participants, it was convergently acknowledged that geopolitical events did not just serve as information inputs to their rational valuation models, but as powerful psychological stimuli that triggered deep-seated cognitive and emotional response systems with implications to the individual quality of decision and market collective behaviour.

The first trigger is the geopolitical events as a psychological trigger.

Participants regularly explained geopolitical developments, especially high-salience crises like military conflicts, sudden regime shifts, and significant diplomatic breaks as operating as psychological stimuli that prompted automatic, affect-laden response mechanisms, which predated and frequently overshadowed deliberative analysis. The sample financial analysts reported a characteristic phenomenology of processing geopolitical news whereby an initial emotional response, most frequently, fear or anxiety, was followed and influenced subsequent analytical thinking. P2, an experienced portfolio manager working in emerging market equities, expressed it in the following dynamic: 'When a big geopolitical event occurs, what strikes you first is emotion. Your gut just tightens and you are already thinking down before you have even read a line of analysis. That emotional state determines all that comes after- what you seek to know, how you give it weight, what situations you give serious attention. This description was quite consistent with the dual-process theoretical model in which System 1 affective thinking is a precursor and determinant of System 2 deliberation (Kahneman, 2011), indicating that the psychological influence of geopolitical events is mediated by the primacy of emotional response.

A similar view was provided by the political risk consultants in the sample, who indicated that their customers, institutional investment firms and corporate treasury units, tended to request geopolitical risk analysis not with the purpose of providing information but with the psychological role of assuaging anxiety. P9 who is a political risk consultant commented: A large portion of what we offer is not information, but a structured story that makes the uncertainty appear manageable—often clients have access to the same raw information we do. The spike in demand towards our services during the geopolitical crises is not due to the increase in the gap in information, but rather due to the increase in the level of anxiety. Clients require one to inform them what the uncertainty means so that they can take action. This finding identified a phenomenon of information demand in geopolitical crisis management as a result of anxiety, and it has significant implications on geopolitical risk assessment production and consumption.

1.2 Risk aversion and asymmetric risk perception.

Loss aversion was the behavioral bias found most often and by the participants to affect them during geopolitical crises. The 15 respondents all mentioned loss aversion - sometimes with the terms of behavioral finance in mind, sometimes not formally, and in others without the formal term mentioning its functional manifestations. The asymmetric psychological effect of possible losses as compared to the same gains generated systematic distortions in risk assessment and in portfolio decision-making during geopolitically stressed times. Respondents recounted a typical tendency whereby the fear of loss precipitated disproportional defensive repositioning, that is, selling equities, minimizing leverage, and raising cash levels, to geopolitical indicators whose perceived risk implications were not known and in many cases later judged to have been overblown.

P4, a behavioral economist, placed such a pattern in the context of the prospect theory in general: Loss aversion does not merely make investors more cautious, it makes them more cautious nonlinearly. A 10% loss causes psychological pain that is not merely two times that of a 5% loss, it is a more intense, more visceral pain. That nonlinearity implies that investors in situations where geopolitical events may result in large losses are prepared to pay a very large premium to get out of risk, whereas the rational expected value calculation may not justify such a price. It is there that you will find prices going to levels which are difficult to justify in terms of fundamentals. This account was corroborated by documentary evidence of central bank financial stability reviews, which recorded a series of episodes where the equity market corrections in response to geopolitical crises were more than what would be justified subsequently by adjustments in underlying earnings expectations.

1.3 Availability heuristic and Vividness Effect

The availability heuristic (the propensity to give estimates of the likelihood of events based on how easily examples of interest can be retrieved) was found to be an especially crucial mediating variable between geopolitical events and investor behavior. Respondents explained that worst-case outcomes in geopolitical crises became cognitively highly accessible due to the focus of the mass media and social attention on such events, whereby individuals were increasingly exposed to the perceived likelihood of disastrous consequences. P7, a political economy academic, found: 'The geopolitical risk processing shows a strong availability effect. At the start of the Russia-Ukraine war in February 2022, the striking and traumatizing imagery of the war was all around, and World War II parallels were made everywhere in media commentary. That vividness and disastrous historical analogy is what made the tail risk, or the risk of wider European conflict, seem to most geopolitical analysts much more likely than in fact it was, and market pricing reflected that exaggerated tail risk in the short run.'

The relationship between media coverage intensity, narrative framing, and the availability heuristic were found to be critical amplification pathways by various participants. According to financial analysts, the same underlying geopolitical development might elicit materially different market reactions, depending on the way it was packaged in high-visibility media, in dramatic, apocalyptic terms, which elicit the availability-based fear responses that more moderate or measured framings did not elicit. This discovery has significant implications to the practice of financial communication but to the influence of the media institutions in the determination of the market dynamics in the event of geopolitical crisis.

Theme 2: Magnifying Mechanisms between Behavioral Biases and Geopolitical Signals

The second theme dealt with how exactly the behavioral biases translate geopolitical cues into market shock, frequently exaggerating the responses to an underlying geopolitical fact much more than it deserves. The participants found three main amplification mechanisms, which were herding and social proof cascades, confirmation bias and narrative lock-in, and anchoring effects on volatility expectations.

In his work, he discusses the concept of cascade dynamics, or herding.

The most influential mechanism of amplification that was found in geopolitically stressed markets was herding behavior, which is the disposition of investors to mimic others in times of uncertainty. The respondents of the financial analysis and portfolio management groups all reported the first-hand observation of the herding effect in geopolitical crises, and the fact that the data they provided was consistent in the response to geopolitical stress across the different crises indicated that herding as a reaction to geopolitical stress was a strong and recurrent market effect and not a one-off event.

The phenomenology of herding as reported by participants was a rational-appearing but ultimately inapt response to informational uncertainty. When geopolitical happenings left basic values in actual doubt, investors who were not certain about their own geopolitical analysis reasonably turned to the conduct of others, especially of big, noticeable institutional investors, as informational guidelines. This information-based herding might quickly develop into the cascade dynamics of momentum as selling pressure increases, and selling pressure in turn becomes a source of selling, as more investors who might not have a direct perception of the geopolitical situation, but have high incentives to avoid being caught in the wrong side of a developing trend, join in. The self-reinforcing logic of cascade dynamics was epitomized by P1, a senior portfolio manager: In a geopolitical crisis, people are looking at screens and looking at one another. When you find big names selling, you wonder: do they have any information I do not have? And even with the most probable answer being no, the stakes of being incorrect are so high that you too sell, and then everybody is questioning you. The market turns into a replica and what it reflects is what whatever the last to move was doing.'

The contribution of algorithmic and systematic trading strategies to heightening the effects of herding dynamics was noted by several of the participants, who noted that momentum-following algorithms had the capacity to identify and mechanically reinforce the effects of human herding behavior, accelerating price changes and temporarily decoupling market prices and underlying values during times of crisis. This observation indicates a significant role of behavioral and structural market characteristics in the generation of market disruptions that are driven by geopolitics.

2.2 Narrative Lock-In and Confirmation Bia.

The mechanism of confirmation bias which refers to the predisposition to process information in a specific manner aligned with prior preconceived notions was identified as a factor that might lead to initially formed behavioral reactions to geopolitical happenings becoming fixed and difficult to reverse by conflicting information. The way in

which the development of a geopolitical narrative in the initial phases of a crisis, be it a narrative of the expansion of conflict to wider war, or a narrative of immediate resolution and stabilization, produced intense psychological opposition to later facts that disproved the prevailing narrative, was described by participants. P12, a political risk consultant noted: 'Once a story about a geopolitical state of affairs gets into the market consciousness, it is incredibly hard to refute even when faced with counter-evidence. In the early days of the COVID pandemic, the market narrative was that it would be like SARS, it will be short, contained, and manageable. The information that did not support that story was always underemphasized until the conflicting information became overwhelming to the extent that it could no longer be ignored. The harm of that that period of confirmation bias was enormous.'

The institutional channels through which confirmation bias may be enhanced were found to be the professional relationships of investment committees and risk management institutions. Respondents explained how social aspects of group decision-making, such as deference to senior members, unwillingness to question dominant evaluations and reputational cost of being the dissenter whose dissenting opinion was proven false, could reinforce confirmation bias on an organizational level. In line with this observation, which is in line with other studies of groupthink in decision making within organizations (Janis, 1982), behavioral interventions should not only target individual cognition but also the social and institutional arrangements that influence collective judgment.

2.3.3 Anchoring on Historical Analogies.

An anchoring effects- the excessive impact of salient reference points on later judgment- were found to be a particular and contingent process by which historical geopolitical experiences influenced market reactions to present crises. Participants also noted a recurring strategy of market players anchoring themselves on high-salience historical analogies, such as the 2008 financial crisis, the dot-com crash, the 1997 Asian financial crisis, or particular military conflicts, in understanding current geopolitical events, and that these anchors influenced the direction and the strength of market responses in ways that were not necessarily sensitive to the similarity of historical and contemporary situations. P6, a veteran financial analyst, responded: 'Each new geopolitical crisis is refracted through the prism of history, and the decision of historical analogy can lead to radically different market reactions to objectively similar behavior. When you present a local conflict as the start of a world war, markets will value disastrous outcomes. Markets scorn, when you put it in the form of a local conflict. One of the most underestimated processes in the volatility of the market in case of geopolitical events is likely to be the anchoring effect of historical analogies.

Theme 3: Moderators of Bias-Driven Volatility Institutional and Structural.

The third theme dealt with the moderating factors that determine the translation of behavioral biases into market volatility, which both risk-enhancing and risk-reducing structures and practices at the institutional and market design levels. This theme produced especially abundant data among the participants of risk management and regulatory functions, who had a firsthand work experience in systemic interventions in the dynamics of markets driven by bias.

3.1 Debiasing Mechanisms: Risk Management Structures.

The participants have outlined various formal risk management frameworks and procedures that can reduce the impact of behavioral biases on investment behavior at times of geopolitical stress. These involved systematic processes of scenario analysis that explicitly took into account multiple geopolitical end-points instead of basing itself on a single narrative; devil advocate procedures that required systematic formulation of the counterargument to any dominant investment narrative; investment committee procedures that took on board a variety of views in order to prevent groupthink; and pre-commitment mechanisms which laid down rules on how to make decisions in particular geopolitical circumstances in advance of their happening, and reduced Chief risk officer of a big asset management company, P11, explained the rationale behind pre-commitment strategies: 'We have a geopolitical crisis playbook, which has had no emotion added to it so far, when the winds are calm. When a crisis strikes, we resort to the playbook, not to make decisions ad hoc in a high-anxiety condition. It does not do away with behavioral bias but it does go a long way in lessening the extent to which our responses are dictated by fear rather than by our pre-crisis analytical judgment.

3.2 Market Design Features and Circuit Breakers

Structural interventions such as trading halts, circuit breakers, position limits, and margins requirements were found to be market design features that would break cascades and allow behavioral responses to geopolitical events to be tamed by deliberative analysis. Interviewees provided subtle evaluations of these processes, both recognizing their success in breaking momentum-based selling cascades and also observing some possible side effects such as increasing uncertainty due to the signaling effect of signals of halts. P13, an experienced financial stability regulator, commented: Circuit breakers purchase time, and time is precious because most behavioral reactions to geopolitical events are time-sensitive, the anxiousness is greatest during the initial hours and days of a crisis, and to the extent that you can disrupt the mechanical implementation of fear-driven trades during that time, you give deliberative processes a chance to run up the learning curve. The difficulty lies in the fact that pauses themselves can be taken as an indicator of panic which exacerbates the mood when the trade is resumed. This observation underscored the intricacy in the design of behavioral interventions within financial markets and the necessity to implement them in a context-dependent manner.

3.3 Information Architecture and Communication.

The moderating role of information architecture, such as the timing, framing and credibility of the sources of geopolitical risk communication, was found to be a critical one in the process of translation of geopolitical events to market behavior. Participants stressed that it was not necessarily the events of geopolitics, but the interpretive frames and discourses by which such events were mediated by authoritative voices in the market. Communication by central banks, especially, was cited as an effective moderating factor: effective, credible central bank communication in geopolitical crises had shown the ability to peg market expectations and lessen the amount of panic volatility that the same events would otherwise have created. Economist P3 noted: The communication by the Fed during the market crisis in COVID in March 2020 was of enormous significance not only in its substantive content the promise of unlimited quantitative easing but also in its psychological role as a source of an authority anchor in an environment of utter uncertainty. It was thought that since an institution with the power to take decisive action had evaluated the situation and resolved to take action shook the catastrophizing that was being generated by the availability-bias driven early market dynamics.

Theme 4: Towards Interdisciplinary Approaches to Geopolitical-Behavioral Risk.

The fourth theme reflected the prospective views of the participants on the creation of more advanced, interdisciplinary models of perception and management of the interplay between behavioral biases, geopolitical risk and market volatility. There were three sub-themes: behavioral integration calls in mainstream risk models, practitioner debiasing competencies development, and the promise of new technologies to aid behavioral risk management.

Respondents in all of the professional groups cited the continuing divide between behavioral finance and conventional financial risk modeling as an important structural issue in the ability of the field to predict and address the geopolitically caused market-shocks. Quantitative risk models such as Value at risk and its variants were characterized as systematically understating tail risks due to behavioural amplification of geopolitical shocks because they were calibrated on past datawhich failed to sufficiently measure dynamic behavioral aspects during crisis periods. P5, a quantitative risk researcher, explained the fundamental weakness: 'The assumption of normally distributed returns is already tenuous in calm markets--when geopolitical crises are happening, and herding and loss aversion are giving rise to extreme, correlated movements, it becomes ludicrously insufficient. Risk models that have behavioral parameters - measures of market sentiment, herding, and loss aversion that are parameterized using real-time data are needed to work under the environment they are most needed.

Behavioral economists and academic participants listed the development of particular practitioner competencies in behavioral self-awareness and cognitive bias reduction as a priority. Formal training modules based on psychological profiling of personal bias, simulation experiences of geopolitical crisis situations and mentoring relationships based on debiasing ability as opposed to investment performance were suggested as agents of the development of the debiasing skills that formal financial education has always overshadowed. Respondents also reported new uses of natural language processing and sentiment analysis in detection of real-time behavioral indicators in financial market data, such as herding intensity, narrative coherence of analyst commentary and indicators of anxiety using trading behavior data, which might be used to detect bias-driven market dynamics in a more timely manner.

DISCUSSION

The results of the given study make a significant contribution to the comprehension of the psychological mechanisms of geopolitical risk converting to financial market fluctuations, as it demonstrates a complex system of cognitive, emotional, social, and institutional processes that traditional rational expectations models are not well-placed to explain. The four themes identified in the thematic analysis are an overall multi-level framework of explanation of geopolitical-behavioral market dynamics that encompasses individual psychological processes, social amplification processes, institutional moderating structures and the larger context of integration of interdisciplinary knowledge.

The geopolitical events in the first theme as documented and being psychological triggers activating affect-based, System 1 processing prior to deliberative analysis being possible, can be extended to the context of geopolitical information processing in financial markets and is the extension of the dual-process theoretical framework (Kahneman, 2011) to that context. Theoretical implications of this finding are significant: according to it, the fact that financial markets do not react to geopolitical events as strongly as they should is not merely a problem of information asymmetry or uncertainty about value, but is determined by the neuropsychological structure of human thinking in the presence of a threat and uncertainty. The dominance of emotional in this architecture, as recorded by participants of all professional groups, implies that behavioral reactions to geopolitical events are systematically and predictably biased in a manner that generates exploitable patterns to the sophisticated investors as well as systemic vulnerability, which has to be overcome by regulators and risk managers.

The amplification processes that are reported in the second theme, herding cascades, narrative lock-in due to confirmation bias, and anchoring on historical analogies, give a more detailed and mechanistically specified explanation of geopolitical-behavioral market dynamics than have been provided by theoretical frameworks. The observation that the herding behavior is partly rational, a reaction to actual informational uncertainty about geopolitical

events, but that this rational core is set in a bigger game of momentum following and cascade amplifying, which generates prices that are far out of touch with fundamentals, is consistent with and builds on theoretical work on information cascades (Bikhchandani and Sharma, 2001). The discovery of algorithmic trading as a human herding behavior amplifier can be viewed as a new and valuable addition, indicating a structural aspect of modern market microstructure that interacts with psychological processes in such a way that it may be increasing the magnitude of geopolitically based market disturbances to historical standards.

The institutional moderators that are present in the third theme are a valuable correction to the danger of inflating the deterministic effect of behavioral biases on market outcomes. The fact that pre-commitment mechanisms, organized scenario analysis, devil-advocate routines, and calibrated central bank communication can materially dampen the translation of behavioral biases into market disturbances, is an indication that the relationship between geopolitical events and market volatility is not merely a matter of universal psychological mechanisms but is instead heavily mediated by institutional and organizational norms that can be designed and improved. This result has immediate practical consequences on the risk management practice and regulatory policy, in the sense that the investment into behavioral governance structures, i.e. the organizational processes according to which the investment decisions are made, can have higher returns than further improvement of the quantitative risk models which are constructed on the basis of the behavioral assumption that the first two themes have been systematically violated in times of geopolitical crises.

The future-based thinking elicited by the fourth theme suggests the emerging agreement among those working in the very frontline of financial risk management that the discipline needs to experience a major paradigm shift in its approach to behavioral and psychological aspects. The integration of behavior in mainstream risk models advocated by him, should he be listened to, would be one of the greatest methodological innovations in financial risk management since the invention of the modern portfolio theory. The discovery of natural language processing and sentiment analysis as facilitating technologies to behavioral risk measurement in real time indicates a near-term research and development agenda that has a high commercial and regulatory potential.

CONCLUSION

This qualitative paper explored the multidimensional and interdisciplinary connection between behavioral biases, geopolitical risk, and financial market volatility in the views of 15 professional practitioners and researchers. The results, which were obtained by the systematic thematic analysis of semi-structured in-depth interviews and additional documents, indicate that the behavioral biases, especially loss aversion, herding, availability heuristic, and confirmation bias, serve as strong amplification processes according to which geopolitical events cause market disruption that is significantly larger than that predicted by rational valuation models. These biases are triggered by the affective and heuristic aspects of geopolitical information processing, reinforced by the dynamics of social herding and groupthink of an institution, and to some extent but meaningfully curbed by institutional structures being deliberately designed, market design, and calibrated public communication.

The interdisciplinary paradigm that has developed based on such findings, which is the combination of behavioral psychology, political psychology, and financial economics, provides a more complete and empirically-based explanation of the geopolitical-based volatility in the market than any of these fields can do on its own. The value of the study is not in recording the presence of these interactions, which has been predicted by theoretical literature, but in offering rich and mechanistic insight into how these interactions implement in practice as viewed by those who negotiate them in practice.

Implications for Practice

Financial practitioners are advised to make investment in evolution of behavioral self-awareness skills and technical analytical abilities, with conscious instruction in the identification and reduction of cognitive biases activated systematically by geopolitical phenomena . Organizational amplification of individual cognitive biases should be reduced with procedural safeguards incorporated in investment committees and risk governance structures, such as pre-commitment procedures, requirement of diversity of perspective, and structured scenario analysis. Behavioral parameters that are calibrated through real-time market data, such as sentiment indicators, measures of herding intensity, and volatility regime classifiers that can indicate when behavioral dynamics are likely to dominate price formation should be added to risk models.

Implications for Policy

The regulatory regulators need to be more explicit about the behavioral aspects of market design, such as the circumstances in which circuit breakers and trading halts are most successful in interrupting cascade behavior driven by panic and in reducing the risk of reinforcing uncertainty with halt signaling. Instead, central banks and other authoritative market institutions need to construct communication strategies that are clearly tuned to offer psychological anchoring in times of geopolitical crises, understanding that the behavioral role of authoritative

communication, which can be anxiety reduction and expectation anchoring, can be as significant as the informational content.

Limitations and Future Research Directions.

There are a number of limitations on this study. Although the purposive sample is suitable to qualitative inquiry, in future studies it is important to introduce practitioners in emerging market economies and non-western financial centres where the dynamics of behaviour and geopolitics may be very different. The cross-sectional design does not allow studying the evolution of the identified relations in this study over time and different geopolitical settings; longitudinal qualitative studies and mixed-methods research with the depth of qualitative and the breadth of quantitative aspects would offer significant supplementary information. The individual behavioral dynamics of various types of geopolitical event should also be studied in future studies, distinguishing, e.g., between military conflicts, electoral instability, economic sanctions, and pandemic risk, to formulate more situation-specific theoretical and practical advice.

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