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# Geopolitical Uncertainty and Spending Behavior: Examining the Roles of Consumer Risk Perception, Coping Appraisal, and Resilience

**Vilte Auruskeviciene** (corresponding author)
*ISM University of Management and Economics, Lithuania*
*vilaur@ism.lt*
*https://ror.org/05rky1t53*

**Eimante Survilaite**
*ISM University of Management and Economics, Lithuania*
*eimsur@ism.lt*
*https://ror.org/05rky1t53*

**Dalius Misiunas**
*ISM University of Management and Economics, Lithuania*
*dalmis@ism.lt*
*https://ror.org/05rky1t53*

**Joseph Reardon**
*ISM University of Management and Economics, Lithuania*
*jkr@unc.edu*
*https://ror.org/05rky1t53*

**Abstract.** *Nowadays consumers increasingly navigate uncertainties arising from cross-border conflicts, commercial tensions, and political instability, which pose threats not only to their mental well-being but also financial security. While existing research documents shifts in spending patterns and increased price sensitivity during geopolitical uncertainty, the psychological mechanisms driving these changes remain underexplored. This study applies Protection Motivation Theory (PMT) to examine how psychological*

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*factors shape spending patterns during periods of geopolitical uncertainty, with particular attention to the moderating role of individual resilience. Using structural equation modeling (SEM) on survey data from 1000 Lithuanian consumers, we find that both threat appraisals (perceived vulnerability and severity) and coping appraisals (self-efficacy and response efficacy) significantly influence conservative spending behaviors. Notably, individual resilience buffers the impact of perceived vulnerability on spending patterns and enhancing both response and self-efficacy.*

*Our findings advance understanding of consumer responses to geopolitical uncertainty in three ways: by providing a theoretical framework for individual-level psychological responses, identifying resilience as a key moderating factor, and offering insights from a smaller economy's perspective. These results have important implications for policymakers and businesses seeking to maintain economic stability during periods of geopolitical turbulence.*

**Keywords:** *spending behavior, geopolitical uncertainty, protection motivation theory, risk perception, coping appraisal, psychological resilience*

## 1. Introduction

Geopolitical risk, defined as the risk associated with wars, terrorist acts, and interstate tensions that disrupt peaceful international relations (Caldara & Iacoviello, 2022), has intensified significantly over the current decade. These disruptions, ranging from Russia's invasion of Ukraine to the Israeli-Palestinian conflict and potential shifts in US foreign policy following Trump's presidential victory in the 2024 elections, have created a high level of geopolitical instability. Within the interconnected global economy, these tensions have triggered cascading effects across supply chains, energy markets, and financial systems (Mbah & Wasum, 2022).

Beyond the political and economic context, the ramifications of growing geopolitical instability have also manifested in the consumption domain. Macroeconomic models traditionally examine consumption through aggregate indicators like GDP growth, inflation, and consumer confidence (e.g., Caldara & Iacoviello, 2022; Khan et al., 2023), however, they fail to capture the psychological mechanisms driving individual spending behavior. As a result, Akerlof and Shiller (2010) argue that standard macroeconomic models overlook animal spirits, namely emotions, perceptions, and psychological responses, resulting in an incomplete understanding of consumer behavior during geopolitical uncertainty. The impact of geopolitical uncertainty extends beyond macroeconomic indicators into everyday consumer behavior.

Following Russia's 2022 invasion of Ukraine, supposedly driven by Ukraine's aspirations for NATO membership and broader regional security concerns (Mearsheimer, 2022), research has examined a number of shifts in spending behavior across multiple domains. Grunert et al. (2023) identified increased price sensitivity as consumers adopted various adaptive strategies, including reduced spending, switching to cheaper brands, changing shopping venues, and eliminating certain product categories from

their shopping lists. Beyond immediate price responses, Petrariu et al. (2023) found that consumers implemented precautionary measures through voluntary reductions in energy consumption, responding to both supply uncertainties and price volatility. These behavioral changes extend beyond specific product categories, as Fossung et al. (2021) demonstrated a broader reallocation of consumer spending from discretionary purchases toward essential goods and necessities. However, while these studies offer valuable insights, they do not explain the psychological mechanisms driving these behaviors.

This gap in the literature motivates the present study, which examines how psychological factors influence consumer spending during geopolitical uncertainty. To address this research gap, we develop and test a research model of how psychological factors shape consumer spending patterns during geopolitical uncertainty. Using Russia's invasion of Ukraine as our research context, our study builds upon previous research that has established links between geopolitical risk and decreased consumer confidence (e.g., Demir & Danisman, 2021). Our approach also extends recent findings by Engstrand et al. (2023), who documented increased price sensitivity, economic anxiety and restricted consumer choices during 2020-2023, while highlighting the need to understand underlying psychological coping mechanisms. Expanding on this, we employ Protection Motivation Theory (PMT) (Rogers, 1975) as our theoretical foundation, examining how threat and coping appraisals influence spending behavior. We also test the impact of personal resilience, how it affects both consumer vulnerability and coping capabilities during periods of geopolitical uncertainty.

This study contributes to existing knowledge in three significant ways. First, we provide a theoretical framework that explains the psychological mechanisms underlying consumer financial decisions during geopolitical uncertainty. By shifting the focus from traditional macro-level analyses, which rely on aggregate economic indicators like GDP, inflation, and consumer confidence (e.g., Caldara & Iacoviello, 2022; Khan et al., 2023), our study provides a more individual-level perspective, capturing how risk perception, coping strategies, and resilience influence consumer behavior. Second, we introduce resilience as a crucial moderating factor, offering insights into why consumers with similar threat perceptions may exhibit different spending behaviors. Third, our study provides insights into how consumers in small economies adapt to global uncertainties, using Lithuania as an illustrative case. Small economies, often characterized by a high degree of trade openness, limited domestic markets, and geopolitical exposure, are likely to exhibit different consumer responses compared to larger economies. Unlike large economies that often have diversified economic structures and stronger social safety nets, small economies are more vulnerable to geopolitical uncertainties (International Monetary Fund, 2023), which can trigger stronger precautionary financial behaviors among consumers. For example, in Lithuania and other small economies, economic uncertainty has been linked with greater consumer focus on essential goods and reduced spending on luxury goods particularly during crises (Loxton et al.,

2020). Finally, from a practical perspective, our findings have important implications for policymakers and businesses. Understanding the psychological factors that influence spending patterns during geopolitical uncertainty can inform the development of targeted interventions that maintain economic stability.

## 2. Theoretical Underpinnings

### *2.1 Theoretical Background*

Our study integrates three complementary theoretical perspectives to explain consumer spending behavior under geopolitical uncertainty: protection motivation theory (PMT), prospect theory, and behavioral decision theory.

Protection motivation theory serves as our primary theoretical framework, explaining how threat and coping appraisals influence protective behaviors. Additionally, prospect theory provides additional insights into how consumers are more motivated to avoid losses than gain the same amount.

**2.1.1 Protection Motivation Theory (PMT).** Protection Motivation Theory (PMT), developed by Rogers (1975), is a model that explains which elements predict risk adaptive behavior and that can be used for effective risk protection communication, aimed at attitude and behavior change. Initially focused on health behaviors such as cigarette smoking and disease prevention (Maddux & Rogers, 1983; Rogers, 1975), PMT has since evolved into a widely applicable model for understanding protective behaviors across multiple domains. At its core, PMT is based on the assumption that while making decisions, people balance different risks, benefits and their own abilities (Bockarjova & Steg, 2014). This process of deliberation and decision-making does not have to be explicit or conscious and it might have some delay due to different reaction and/or processing time (Rogers, 1975, 1983). The theory proposes that two primary pathways link individual perceptions to protective behavior: threat appraisal and coping appraisal (Rogers, 1975).

Threat appraisal is a cognitive process that essentially involves answering the following question: Is the existing risk threatening, and if so, to what degree? (Floyd et al., 2000). It includes two factors, namely, assessment of the perceived severity of the current threat and the perceived vulnerability to the current threat (Kim & Im, 2022). Perceived severity of the threat reflects how serious an existing risk is perceived to be; perceived vulnerability reflects perceptions of how susceptible one is to the existing threat (Kim & Im, 2022). These cognitive evaluations are generally made regarding valuable assets such as health, financial resources, personal welfare, or social standing (Safa et al., 2015). According to PMT, higher perceived severity and vulnerability are likely to promote risk adaptive behavior (Milne et al., 2000).

Coping appraisal is another cognitive process that plays a role in one's motivation to engage in risk adaptive actions. The major question during coping appraisal is: Will

my action help avoid or decrease the threat? It is answered through two elements: perceived self-efficacy and perceived response efficacy. Self-efficacy, first conceptualized by Bandura (1977), refers to an individual's belief in their capability to execute behaviors necessary to produce positive results. While similar to the concept of perceived behavioral control in the Theory of Planned Behavior (TPB), self-efficacy in PMT specifically focuses on one's perceived ability to cope with threats and carry out protective behaviors (Rippetoe & Rogers, 1987). Unlike TPB's broader focus on general behavioral control, PMT's self-efficacy is context-specific, relating to threat response capabilities (Maddux & Rogers, 1983). Studies have demonstrated that individuals with higher self-efficacy are more likely to engage in adaptive coping strategies and exhibit lower anxiety in response to threats (Bandura, 1983). Furthermore, self-efficacy plays a crucial role in complying with protective behaviors across various domains, such as health and financial decision-making (Taylor & May, 1996). In our study, self-efficacy specifically refers to consumers' perceived ability to manage their financial resources effectively during periods of geopolitical uncertainty, which is in line with previous findings demonstrating its influence on behavior in high-risk contexts (Bandura et al., 1980). In addition, response efficacy relates to a person's belief that risk-adaptive behavior will work and actually reduce the risks (Ellen et al., 1991). Overall, higher perceived self-efficacy and response efficacy have a positive effect on risk adaptive behavior (Milne et al., 2000).

PMT suggests that an individual's response to a threat is formed based on a combined evaluation of threat appraisal and coping appraisal (Floyd et al., 2000). The theory predicts that individuals will be motivated to engage in protective behaviors when they perceive higher levels of threat and have sufficient coping resources (Farooq et al., 2020; Woon et al., 2005). It is also important to note that both appraisals are based on how individuals perceive the risks and benefits of protective behavior, which is different from an objective assessment of these elements and may differ depending on an individual (Bockarjova & Steg, 2014).

In addition to its traditional application involving health-related protective behaviors (e.g., Floyd et al., 2000; Hedayati et al., 2023; Milne et al., 2000), PMT has proven effective in explaining responses to both acute and slow-onset risks (Bockarjova & Steg, 2014). In acute risk scenarios, such as natural hazards like wildfires and earthquakes, PMT has helped understand and encourage protective actions (Bubeck et al., 2018; Ong et al., 2021). Through its assessment of threat and coping appraisals, the theory has identified key factors, including social norms and information access, that influence households' preparedness and adaptive behaviors.

In recent decades, PMT's application has expanded to slow-onset risks, particularly in environmental contexts (Kothe et al., 2019) and digital security (Haag et al., 2021). However, PMT has not yet been applied to understand how individuals modify their spending behavior in response to geopolitical instability to protect their financial well-being. This study addresses this knowledge gap by providing, to the best of our

knowledge, the first application of PMT in explaining adaptive consumer spending behavior under geopolitical uncertainty.

**2.1.2 Prospect Theory.** Prospect Theory explains why consumers might exhibit different levels of risk aversion in their spending decisions during geopolitical uncertainty. The theory suggests that individuals are more sensitive to potential losses than equivalent gains (Kahneman & Tversky, 1979). Stemming from this, individuals are more motivated to take action to avoid losses than to achieve gains. This loss aversion tendency lends support as to why consumers might adopt conservative spending behaviors even when the actual probability of negative outcomes is relatively low.

### *2.2 Crisis-Induced Spending Behavior*

Crisis-induced spending behavior is a consumer's adaptive response to heightened environmental uncertainty during large-scale external events like economic recessions, natural disasters, or pandemics (Hampson & McGoldrick, 2017; Sarmento et al., 2019). This behavior manifests as shifts in both purchasing and financial planning, characterized by reduced overall consumption, decreased non-essential purchases, and increased focus on necessities and savings, motivated by a need to mitigate perceived risks (Di Crosta et al., 2021). Unlike responses to personal financial hardship, these changes reflect broader adaptations to external uncertainties.

Research shows that during crises such as COVID-19, consumers typically switch to lower-cost products, delay discretionary purchases, and prioritize essentials (Di Crosta et al., 2021; Rayburn et al., 2022). This adaptive behavior aligns with behavioral decision theory, where individuals adjust their behavior based on risk perception (Slovic et al., 1984). When external events challenge existing consumption patterns, consumers shift both their purchasing behaviors and their financial mindsets toward preserving resources and minimizing exposure to further financial risk. Similarly, research during periods of high inflation and international conflict highlighted how consumers in Eastern Europe became increasingly price-sensitive, favoring essentials over hedonic purchases in response to rising prices and economic instability (Maurya et al., 2023).

### *2.3 Conceptualizing PMT to Explain Spending Behavior to Cope with Geopolitical Risk*

Perceived vulnerability, in this context, represents consumers' assessment of their exposure to geopolitical risks and the potential impact on their financial stability. According to PMT's framework, individuals who perceive higher vulnerability tend to adopt protective behaviors. We predict that consumers respond to perceived vulnerability by modifying their spending patterns through adjustments in their financial behavior. These modifications may manifest through increased savings rates and postponement of major discretionary purchases (among others) to create a financial buffer against potential geopolitical disruptions. The relationship between perceived vulnerability

and protective financial behaviors finds support in previous research. O'Connor et al. (2019) provide a framework on consumer financial vulnerability, demonstrating that individuals who feel financially vulnerable are more likely to adopt conservative financial strategies, particularly increasing savings, to build a buffer against perceived risks. Complementing these findings, Lu et al. (2020) demonstrate that elevated geopolitical risk discourages private sector credit, pushing consumers towards lower-risk financial strategies and investment decisions. Based on the discussed theoretical foundation and empirical evidence, we hypothesize:

**H1**: *Higher perceived vulnerability to geopolitical threats is positively associated with conservative spending behaviors.*

Perceived severity refers to an individual's assessment of the potential harm or negative consequences to one's financial security resulting from geopolitical threats. In the context of this study, perceived severity manifests as the evaluation of potential negative outcomes from maintaining current spending patterns during periods of geopolitical instability. According to PMT's framework, higher perceived severity intensifies motivation for protective actions, leading consumers to modify their financial behaviors through increased emergency savings, reduced discretionary spending, strategic shifts toward safe, high-value assets or perform other activities. Studies have shown that rising geopolitical risks can intensify financial stress and push individuals to adopt protective financial behaviors. For instance, in emerging markets, geopolitical instability correlates with reduced domestic credit availability, as citizens and financial systems prioritize stability over risky investments (Lu et al., 2020; NguyenHuu & Örsal, 2024). Similarly, analyzing consumer confidence and spending during periods of high geopolitical risk in countries such as Turkey, Mansour-Ichrakieh and Zeaiter (2019) have shown that perceived geopolitical severity directly correlates with reduced discretionary spending, bolstering emergency savings as a strategic financial response. Thus, we hypothesize:

**H2**: *Higher perceived severity of geopolitical threats is positively associated with conservative spending behaviors.*

Self-efficacy, first conceptualized by Bandura (1977), represents an individual's belief in their capability to execute behaviors necessary to achieve specific outcomes. In financial contexts, this construct has demonstrated significant influence on protective financial behaviors through multiple theoretical mechanisms. Individuals with higher self-efficacy exhibit greater confidence in their ability to navigate financial complexities, allowing them to process information more effectively and assess risks systematically (Farrell et al., 2016). Consequently, this cognitive advantage translates into enhanced financial planning, with high self-efficacy individuals demonstrating greater resilience and long-term financial foresight, particularly in volatile economic conditions (Asebedo & Seay, 2018; Howlett et al., 2008). During periods of economic and geopolitical instability, self-efficacy plays a critical role in shaping financial decision-making. Re-

search suggests that individuals with high financial self-efficacy are more adept at calculated risk assessment, leading to increased engagement in protective financial behaviors such as budgeting, saving, and reducing discretionary spending (Schwarzer & Warner, 2013; Tang & Baker, 2016). The protective motivation aspects of self-efficacy become particularly relevant in response to heightened uncertainty, as individuals with stronger self-efficacy demonstrate greater discipline in their financial behaviors, proactively adjusting their spending patterns to mitigate potential financial risks (Farrell et al., 2016). Moreover, evidence suggests that these individuals engage in strategic financial planning rather than reactive cutbacks, reinforcing the notion that conservative spending behaviors stem from informed decision-making rather than fear-driven responses. Given this theoretical foundation and empirical evidence, we propose:

**H3**: *Higher level of self-efficacy is positively associated with conservative spending behaviors.*

Response efficacy in PMT represents an individual's belief that recommended protective actions will effectively reduce or eliminate threats (Rogers, 1983). In the context of geopolitical uncertainty, response efficacy specifically refers to consumers' beliefs that modifying spending behavior (e.g., reducing discretionary spending, increasing savings) will help protect their financial well-being. The link between response efficacy and conservative spending can be explained through two mechanisms. To start with, when individuals believe that conservative spending behaviors are effective protective measures, they are more likely to adopt these behaviors as coping strategies (Rogers & Prentice-Dunn, 1997). For example, research on household financial behavior during economic crises shows that consumers who believe in the effectiveness of precautionary saving are more likely to build emergency funds (Sarmento et al., 2019). Second, higher response efficacy reduces psychological barriers to adopting protective behaviors. When people are confident that spending adjustments will effectively protect their financial security, they are more willing to make short-term sacrifices in consumption for long-term protection (O'Connor et al., 2019). This explains why during periods of geopolitical instability, consumers who perceive conservative financial strategies as effective protection mechanisms are more likely to implement such strategies, even if they involve immediate consumption constraints. With this in mind, we hypothesize:

**H4**: *Higher level of response efficacy is positively associated with conservative spending behaviors.*

### *2.4 Role of Resilience in Managing Threat Perceptions*

Individual resilience, defined as the capacity to withstand adversity and recover from challenges (Smith et al., 2008), serves as a critical moderator in our framework. Studies have demonstrated that high resilience buffers the negative impact of perceived threats, allowing consumers to maintain consistent spending patterns despite heightened vulnerability or severity perceptions (Bonanno, 2004). Resilient consumers may often be better equipped to manage uncertainties due to geopolitical instability, reducing the

likelihood of drastic behavior shifts (Rutter, 1987). For example, Szmigin et al. (2020) discuss how European consumers exhibited persistent resilience in response to austerity measures after the global financial crisis. This resilience enabled consumers to continue stable spending behaviors, adapting through strategies like discount shopping and mindful consumption to maintain balance despite economic adversity (Szmigin et al., 2020). Similarly, Glonti et al. (2015) have identified resilience as one of the factors that enables individuals to buffer against health and financial stressors, thus maintaining more stable behaviors despite economic pressures. Recent studies have further highlighted the interaction between resilience and consumer behavior during uncertainty. Ingram et al. (2024) explore consumer resilience across multiple countries, finding that during the COVID-19 crisis, consumers exhibited resilience through adaptive coping strategies and altered spending patterns, helping them manage uncertainty. Rew and Minor (2018) find that resilience positively affects attitudes toward traumatic events, supporting the idea that resilient consumers maintain stable behaviors even in response to stressful events like natural disasters. Therefore, resilience reduces the impact of perceived vulnerability on behavioral change. Resilient consumers are predicted to be less likely to enact conservative spending changes even under heightened vulnerability, as they possess confidence in their ability to navigate uncertainties. Based on this reasoning, we propose:

**H5**: *Individual resilience will moderate the relationship between perceived threat vulnerability and spending behavior, with higher resilience leading to less conservative changes in spending patterns.*

Beyond self-efficacy, resilience also promotes response efficacy by reinforcing individuals' trust in the effectiveness of specific coping strategies. For instance, individuals with greater resilience are more likely to believe that precautionary measures such as financial planning during economic downturns or adherence to medical treatments in chronic illness are effective in achieving positive outcomes. Xu et al. (2022) provide evidence of this effect during the COVID-19 pandemic, showing that resilient college students not only exhibited higher self-efficacy but also had greater confidence in their protective behaviors, such as social distancing and hygiene practices, as effective means of reducing risk. This suggests that resilience strengthens the perceived effectiveness of protective actions across different domains, from education to health and crisis management.

Drawing on these arguments, we hypothesize:

**H6**: *Individual resilience has a positive impact on both response efficacy and self-efficacy.*

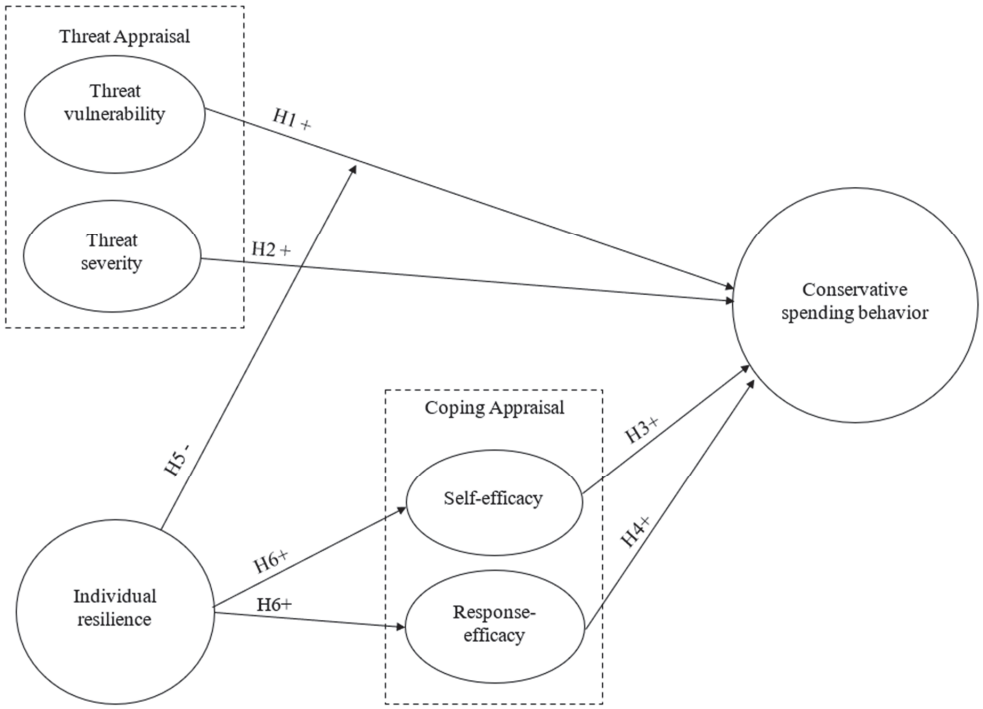
## 3. Methodology

### *3.1 Conceptual Model and Measures*

Our conceptual model is built on the analysis of the literature discussed in the previous section. Threat vulnerability, threat severity, self-efficacy and response efficacy are independent variables. The role of individual resilience is twofold. It functions as a moderating variable, affecting one's perception of threat vulnerability; it is also an independent variable, affecting one's coping appraisal perception. Spending behavior is the dependent variable. The conceptual model is presented in Figure 1.

**Figure 1**

*Conceptual Model*




The variables were measured using validated scales from prior studies, adapted to the context of this research. As data collection took place in Lithuania, the questionnaire items were translated into Lithuanian using a back translation process to ensure that the translated items accurately reflected the intended meaning (Brislin, 1986). For all items in the questionnaire, a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7), was used.

Perceived vulnerability and severity were measured using scales from Zhao et al. (2016). Items measuring self-efficacy and response efficacy were adapted from Min et al. (2021). Individual resilience was assessed with a scale developed by Smith et al. (2008).

The initial pool of items to measure crisis-induced spending behavior was created through several stages, as proposed by DeVellis (2011). The process began with semi-structured interviews conducted with 14 consumers across diverse demographics (age and income groups) to explore changes in spending patterns in the face of increasing uncertainties stemming from international conflicts or political volatility. This stage yielded the initial pool of items based on real-world consumer behaviors and attitudes (Barbopoulos & Johansson, 2017).

To enrich the understanding of consumer responses, these interviews were complemented by academic literature on consumer behavior during economic uncertainties. This approach aligns with established scale development frameworks that incorporate multiple data sources for item generation, as seen in Bhatia and Jain's (2017) development of the Green Consumer Behavior Scale.

From this combined process, an initial pool of 18 items was identified. Subsequently, a panel of seven experts, including four consumer behavior researchers, two economists, and one behavioral finance expert, evaluated each item's relevance, clarity, and conceptual fit using a structured 5-point scale. Items with an average relevance score below 4.0 were eliminated, and those needing clarification were revised.

Through this expert validation, the scale was narrowed to six key items, capturing both behavioral changes and psychological adaptations in spending patterns. Factor analysis confirmed a unidimensional structure with high internal consistency (Cronbach's alpha > 0.89), a level consistent with reliability thresholds observed in other multi-item consumer scales. The final items, which include statements like "I purchase less" and "I changed my spending priorities and started saving more," received strong endorsement from experts for both research and applied use, and were therefore used in our study.

### *3.2 Data*

Data were collected through a professional international market research firm using an online survey administered in Lithuania. To achieve the target sample of 1000 respondents, 1138 questionnaires were distributed. After excluding incomplete responses, the final sample consisted of 1000 valid questionnaires, yielding an effective response rate of 87.9%. The sample included 53.5% females and 46.5% males. 58.5% of respondents reported having a bachelor's degree or higher. In terms of age distribution, 7.8% of participants were between the ages of 18 and 24; 15.5% were between the ages of 25 and 34; 17.5% were between the ages of 35 and 44; 16.7% were between the ages of 45 and 54; 17.9% were between the ages of 55 and 64; and 24.6% were between the ages of 65

and over. Table 1 presents a more detailed summary of demographic information about the individuals.

**Table 1**

*Sample Profile*

| Variable | N (Total = 1000) | % |
|---|---|---|
| **Gender** | | |
| Female | 535 | 53.5 |
| Male | 465 | 46.5 |
| **Age** | | |
| 18-24 | 78 | 7.8 |
| 25-34 | 155 | 15.5 |
| 35-44 | 175 | 17.5 |
| 45-54 | 167 | 16.7 |
| 55-64 | 179 | 17.9 |
| Over 65 | 246 | 24.6 |
| **Education level** | | |
| High school or less | 314 | 31.4 |
| College | 98 | 9.8 |
| University degree | 515 | 51.5 |
| PhD | 70 | 7.0 |
| Other | 3 | 0.3 |
| **Nationality** | | |
| Lithuanian | 946 | 94.6 |
| Pole | 33 | 3.3 |
| Belarusian | 2 | 0.2 |
| Russian | 11 | 1.1 |
| Other | 8 | 0.8 |
| **Income** | | |
| Less than 500 EUR | 108 | 10.8 |
| 500-1000 EUR | 351 | 35.1 |
| 1001-1500 EUR | 188 | 18.8 |
| 1501-2000 EUR | 91 | 9.1 |
| More than 2000 EUR | 68 | 6.8 |
| Prefer not to answer | 194 | 19.4 |

### *3.3 Analysis and Measurement Model*

Our study applied Structural Equation Modeling (SEM) to test the research model and the hypothesized relationships. SEM is particularly suitable in models such as ours. It effectively handles latent constructs measured through multiple items while accounting for measurement error, which is crucial in survey-based consumer research where self-reported measures are prone to both systematic and random errors (MacKenzie, 2001). Consequently, SEM provides more precise parameter estimates compared to

traditional regression techniques by incorporating these measurement errors in its estimation procedures (Hair et al., 2019). Additionally, SEM is advantageous for simultaneous testing of complex direct and indirect relationships in one model, eliminating the need for separate multiple regression analyses (Bernards, 2021; Kline, 2023).

The results of the analysis are reported below. Confirmatory Factor Analysis (CFA) was initially conducted to validate the measurement model, confirming good model fit. SEM then assessed the structural model, examining direct and indirect relationships among variables. The moderating impact of Individual Resilience (IR) on the direct effect of Threat Vulnerability (TV) on spending behavior was modeled as an interactive term using the method in which the second order CFA latent values for IR as well as the CFA measures of the latent factors for TV are saved from the CFA analysis. The resultant latent factor scores are multiplied to create interactive measure terms (for similar treatment see Magnusson et al., 2015; Reardon et al., 2017). Then the complete SEM model was computed.

Confirmatory factor analysis (CFA) was conducted to verify that survey items accurately represented their intended constructs, an essential step before examining causal relationships through structural equation modeling (Thompson, 2004). The analysis revealed a good model fit, with a Root Mean Square Error of Approximation (RMSEA) of 0.063 (Hair et al., 2006). Additional fit indices were satisfactory (NNFI = 0.935; CFI and IFI = 0.941), exceeding the acceptable threshold of 0.9 (Byrne, 2005; Medsker et al., 1994).

The construct reliability and validity of all measurement items used in our study are presented in Table 2. The factor-loading degree represented by the standardized coefficient associated with each item was estimated to examine the convergent validity of constructs. Discriminant validity was tested by examining that the average variance extracted (AVE) exceeded the shared variance (Fornell & Larcker, 1981). Convergent validity was tested by examining the factor loadings. The estimated factor-loading measures are bound within the range between 0.617 and 0.911 and all are significant with *t*-values, indicating acceptable convergent validity (Bagozzi, 1981; Chin, 1998; Hair et al., 2013). In addition, the AVE values exceeded 0.50 for all constructs (Fornell & Larcker, 1981). Values for composite reliability (CR) ranged between 0.83 and 0.92, exceeding the recommended threshold of 0.7 (Malhotra, 2020). Cronbach's alpha coefficients demonstrated good or excellent internal consistency results, ranging from 0.824 to 0.922. Overall, these checks confirmed the validity of the measurement instruments employed.

**Table 2**

*Construct Validity and Reliability*

| Factor/Items | Loading | Cronbach's alpha | CR | AVE |
|---|---|---|---|---|
| **Perceived vulnerability** (Zhao et al., 2016) | | 0.915 | 0.91 | 0.79 |
| I am vulnerable because of the Russia–Ukraine war. | 0.903 | | | |
| My family is vulnerable because of the Russia–Ukraine war. | 0.911 | | | |
| I could become a victim of the war. | 0.815 | | | |
| **Perceived severity** (Zhao et al., 2016) | | 0.913 | 0.89 | 0.72 |
| The consequences of war are serious. | 0.822 | | | |
| War poses a major threat. | 0.887 | | | |
| War causes great concern. | 0.857 | | | |
| I take the threat of war very seriously. | 0.736 | | | |
| **Self-efficacy** (Min et al., 2021) | | 0.922 | 0.92 | 0.72 |
| I can find ways to protect my finances during geopolitical instability. | 0.774 | | | |
| It is easy for me to adjust my spending habits in response to global tensions. | 0.749 | | | |
| I am able to make necessary financial adjustments during international crises. | 0.861 | | | |
| It is easy for me to cope with the challenges caused by geopolitical events. | 0.873 | | | |
| Compared to other people, it is not difficult for me to adapt my financial behavior to global instability. | 0.871 | | | |
| **Response efficacy** (Min et al., 2021) | | 0.861 | 0.85 | 0.61 |
| Adjusting spending behavior helps protect financial well-being during global crises. | 0.692 | | | |
| Making financial adaptations is effective in reducing economic vulnerability. | 0.768 | | | |
| Taking protective financial measures helps minimize the impact of geopolitical events. | 0.751 | | | |
| Modifying spending habits can positively impact personal financial stability. | 0.784 | | | |
| Individual financial adjustments can help cope with economic uncertainty. | 0.667 | | | |
| **Individual resilience** (Smith et al., 2008) | | 0.824 | 0.83 | 0.67 |
| I have a hard time making it through stressful events. (R) | 0.801 | | | |
| It is hard for me to snap back when something bad happens. (R) | 0.796 | | | |
| I tend to take a long time to get over set-backs in my life. (R) | 0.748 | | | |
| **Spending behavior** | | 0.894 | 0.85 | 0.65 |
| I purchase less. | 0.773 | | | |

| Factor/Items | Loading | Cronbach's alpha | CR | AVE |
|---|---|---|---|---|
| My desire to spend money on new things has decreased. | 0.843 | | | |
| I began only buying the most necessary items. | 0.811 | | | |
| I started saving more for the future. | 0.746 | | | |
| The war in Ukraine reminded me that it is important to have savings set aside. | 0.617 | | | |
| I changed my spending priorities and started saving more. | 0.796 | | | |

## 4. Results

### *4.1 Structural Model Fit*

The structural model for this study was evaluated using SEM, yielding a robust fit and supporting all hypotheses. Goodness-of-fit indices for the overall model demonstrated acceptable values, with RMSEA at 0.0755 and NFI, NNFI, CFI, and IFI all exceeding 0.90, indicative of a strong model fit.

### *4.2 Hypotheses Results*

Overall, the findings indicate that perceived threat vulnerability and severity significantly influence conservative spending behaviors such as increased savings and reduced discretionary spending (H1, t = 5.7; H2, t = 2.57). High levels of self-efficacy and response efficacy are also significant predictors of spending behaviors. Self-efficacy led to proactive financial planning (H3, t = 3.06), and response efficacy influenced the likelihood of purchasing insurance or secure assets (H4, t = 2.83). Resilience moderated the effect of perceived vulnerability on spending, with higher resilience leading to more stable spending patterns despite perceived threats (H5, t = -2.35). Finally, resilience was found to positively impact both response efficacy (H6, t = 3.96) and self-efficacy (t = 7.38), underscoring its role in strengthening consumers' belief in their ability to manage potential risks. This model fit and significant t-values demonstrate the utility of Protection Motivation Theory (PMT) in capturing consumer responses to geopolitical uncertainty, revealing how resilience, coping mechanisms, and threat appraisals collectively influence adaptive or conservative spending behavior during periods of perceived threat. The results of hypotheses testing are summarized in Table 3.

**Table 3**

*Empirical Model Results*

| Hypothesis | Linkage | Estimate (t-value) | *p*-value | Result |
|---|---|---|---|---|
| H1 | Threat vulnerability → Spending behaviour | $t = (5.70)$ | $p < 0.001$ | Supported |
| H2 | Threat severity → Spending behaviour | $t = (2.57)$ | $p < 0.001$ | Supported |
| H3 | Self-efficacy → Spending behaviour | $t = (3.06)$ | $p < 0.001$ | Supported |
| H4 | Response efficacy → Spending behaviour | $t = (2.83)$ | $p < 0.001$ | Supported |
| H5 | Resilience*Threat vulnerability → Spending behaviour | $t = (-2.35)$ | $p < 0.001$ | Supported |
| H6 | Resilience → Response efficacy<br>Resilience → Self-efficacy | $t = (3.96)$<br>$t = (7.38)$ | $p < 0.001$ | Supported |

### *4.3 Additional Insights*

Model 4 in PROCESS (Hayes, 2022) was also additionally used to test whether coping appraisal dimensions mediate the link between individual resilience and conservative spending behavior. While both self-efficacy and response efficacy were examined as potential mediators, only self-efficacy emerged as a significant mediating mechanism (see Table 4). The analysis showed a significant positive direct effect of resilience on spending behavior ($\beta = 0.1452$, $p < 0.0001$), coupled with a smaller but significant negative indirect effect through self-efficacy ($\beta = -0.0263$, 95% CI [-0.0447, -0.0114]). In contrast, response efficacy showed no significant mediating effect as the 95% confidence interval did not include zero ($\beta = -0.0078$, 95% CI [-0.0190, 0.0024]), indicating that the perceived effectiveness of conservative spending strategies does not explain the relationship between resilience and actual spending behavior. These findings highlight the importance of personal capability beliefs over outcome expectations in translating resilience into financial behavior during turbulent geopolitical times.

**Table 4**

*Mediation Analysis Results*

| Mediator | Pathway | Effect | | 95% confidence interval | |
|---|---|---|---|---|---|
| | | β | p | LLCI | ULCI |
| Self-efficacy | Direct effect *R – SB* | 0.1452 | 0.0000 | 0.0830 | 0.2075 |
| | Indirect effect *R – SE – SB* | -0.0263 | | -0.0447 | -0.0114 |
| Response efficacy | Direct effect *R – SB* | 0.1267 | 0.0001 | 0.0655 | 0.1879 |
| | Indirect effect *R – RE – SB* | -0.0078 | | -0.0190 | 0.0024 |

## 5. Discussion and Conclusions

The current study employed Protection Motivation Theory (PMT) to examine how perceived geopolitical threat influences spending behavior through four key dimensions: perceived vulnerability, severity, self-efficacy, and response efficacy. We extended the original theoretical framework by incorporating resilience as a moderating factor, which yielded important theoretical and practical insights.

The results underscore PMT's robustness as a framework for understanding the impact of geopolitical instability on consumer behavior. The threat appraisal components perceived vulnerability and severity demonstrate significant influence on consumer decision-making related to spending. This result is consistent with the framework proposed by O'Connor et al. (2019), arguing that consumers who feel financially vulnerable tend to adopt conservative financial strategies. Regarding the coping appraisal dimension, consumers exhibiting high self-efficacy and response efficacy showed greater propensity for proactive financial planning and protective purchasing behaviors, suggesting that confidence in one's ability to cope with threats and belief in the effectiveness of protective measures are crucial determinants of adaptive consumer responses. This result aligns with prior findings by Asabedo and Payne (2019), Asabedo and Seay (2018), and Howlett et al. (2008). Overall, this relationship aligns with PMT's fundamental premise that high threat and coping appraisal perceptions motivate protective responses (Farooq et al., 2020; Rogers, 1975; Woon et al., 2005).

The role of resilience is particularly significant. Resilient consumers demonstrate superior threat management capabilities and maintain higher confidence levels in uncertain conditions. These findings are consistent with the results of previous studies, suggesting that resilience not only buffers the negative effects of perceived threats (Bonanno, 2004; Glonti et al., 2015; Rew & Minor, 2018) but also strengthens self-efficacy and response efficacy (Cassidy, 2015; Torabizadeh et al., 2019; Xu et al., 2022). Therefore, our results suggest that resilience not only buffers against perceived threats but also amplifies the effectiveness of coping mechanisms, leading to more balanced and adaptive consumer responses under geopolitical instability.

This study makes several significant theoretical contributions. It expands and empirically validates PMT's applicability beyond its traditional domains of health and environmental behavior into a new context of consumer behavior under geopolitical risk. This extension demonstrates the theory's versatility and robustness across different contexts. In addition, by integrating resilience as a moderator, this study reveals that resilience can reduce the intensity of perceived threat effects, enhancing consumers' adaptive responses. This integration broadens PMT's theoretical scope, underscoring resilience as a critical variable in understanding consumer behaviors under threat. Finally, our findings also contribute to the growing body of literature on consumer behavior under uncertainty by identifying specific pathways through which psychological factors influence spending decisions.

Results also have important practical implications. First, for policymakers and financial institutions, our findings suggest the need for a dual approach in communications during geopolitical uncertainty. While traditional messaging often focuses on the effectiveness of financial products or protective measures (response efficacy), our results indicate that building consumer confidence in their ability to navigate uncertainties (self-efficacy) is equally crucial. This could involve educational initiatives that enhance financial literacy and provide practical tools for financial decision-making during crisis periods. Financial institutions should develop programs that combine practical financial management skills with psychological resilience training, as our findings suggest this integrated approach is more effective than focusing solely on financial education.

Furthermore, marketers and policymakers could leverage resilience-focused messaging to help stabilize consumer behavior during times of geopolitical uncertainty. This might include showcasing success stories of individuals who effectively managed their finances during previous crises, or providing step-by-step guidelines that break down complex financial decisions into manageable actions. Such approaches can strengthen consumers' belief in their ability to handle financial challenges while maintaining rational spending patterns. Marketing communications should emphasize not only the protective features of financial products but also how these products enhance consumers' sense of financial control and capability. For instance, investment products could be marketed with an emphasis on how they help consumers maintain financial stability during uncertain times, while also building their confidence in making investment decisions.

All in all, this study highlights the relevance of PMT in understanding consumer responses to geopolitical threats and expands its theoretical foundation by integrating resilience. The results confirm that consumers who perceive high vulnerability and severity are more likely to engage in protective spending behaviors, while resilience enables them to maintain a more balanced approach. The model's strong fit indices further validate PMT as a framework for explaining adaptive or conservative behaviors in response to external threats, positioning resilience as an important factor in fostering consumer stability.

## 6. Limitations and Further Research

This study has several limitations that provide opportunities for future research.

First, this study adopted a cross-sectional research design, limited in establishing cause-and-effect relationships between perceived geopolitical threat and spending behavior. While our model draws on strong theoretical foundations that support the proposed relationships, using SEM with cross-sectional data cannot definitively establish causality between perceived geopolitical threats and consumer behavior. Future research could employ experimental designs to better explain causal mechanisms (Das & Ramalingam, 2022). Additionally, longitudinal panel studies could strengthen the

causal links implied in our model and expand the knowledge how consumer behavior evolves as geopolitical situations develop, particularly how resilience mechanisms adapt to prolonged periods of instability (Guèvremont et al., 2022).

Common method variance presents another limitation, as the reliance on single-source self-reported data may have inflated or deflated the relationships among key variables (Podsakoff et al., 2003). Although procedural remedies such as ensuring respondent anonymity and improving scale items were implemented, future studies could strengthen the validity of findings by incorporating objective consumption data reflecting their actual behavior (Chandon et al., 2005), such as actual purchase records, household spending data, or retail scanner data.

While the conceptual model in this study examined resilience as a moderator, other potentially significant factors, such as risk tolerance, financial literacy, and social capital, require further investigation. These variables might offer additional insights into consumer adaptive responses during geopolitical crises. In addition, our operationalization of consumer behavior primarily focused on consumer spending behavior. Future research could explore broader dimensions of crisis-induced consumption, including stockpiling behaviors, preference for domestic products, sustainable consumption patterns, and changes in luxury versus necessity purchases.

Lastly, as this study was conducted in Lithuania, the generalizability of the findings may be limited. Testing the conceptual model in countries with different social, cultural, and economic contexts could reveal how varying levels of institutional trust, economic development, and cultural dimensions influence consumer responses to geopolitical threats. Cross-cultural comparisons, especially between countries with different levels of exposure to geopolitical risks, could shed light on how contextual factors shape consumer behavior during periods of geopolitical instability.

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