

Investor Risk Preference Differentiation Mechanism and Cross-Market Strategies under Cultural Dimension Differences

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Abstract

Globalized financial markets demonstrate persistent heterogeneity in investor risk preferences, with individualist markets exhibiting significantly higher equity turnover than collectivist markets. However, the literature rarely integrates cultural psychology with behavioral finance in a unified empirical model. This study develops the Culture–Cognition–Decision framework, combining Hofstede’s six cultural dimensions with behavioral finance theory to examine how cognitive biases mediate the effect of cultural values on investment behavior. Using a multinational panel dataset covering sixty-one countries from 2014–2024 and applying a two-way fixed-effects regression with instrumental variables and the system generalized method of moments estimation, individualism positively correlates with equity allocation, collectivism amplifies herding behavior, high uncertainty avoidance suppresses speculative trading, long-term orientation distorts the disposition effect, and indulgence increases leverage tolerance. On the basis of these findings, a Culturally Adaptive Portfolio Strategy that adjusts asset weights following the cultural profiles of target markets is proposed. The results confirm that incorporating cultural psychology into financial decision-making produces measurable improvements in global asset allocation efficiency.

Keywords

Risk preference, Hofstede’s cultural dimensions theory, behavioral finance, cognitive biases, asset allocation.

1. Introduction

Cross-national disparities in investment behavior—such as equity turnover rates in individualist economies being over 200 percent higher than those in collectivist economies—cannot be fully explained by economic fundamentals(Hoftede et al., 2010, Chui et al., 2010). Culture serves as a persistent “software of the mind” that shapes cognitive processing and decision-making frameworks(Beugelsdijk et al., 2013). While behavioral finance has identified biases such as loss aversion and overconfidence and cross-cultural psychology has mapped national value systems through Hofstede’s framework, these insights remain insufficiently integrated into empirical finance (Almansour et al., 2023, Zheng et al., 2017).

This paper addresses this gap by introducing the Culture–Cognition–Decision (CCD) model, which positions cultural dimensions as antecedent variables influencing the emergence of cognitive biases. These biases, in turn, affect portfolio allocation decisions and risk-taking patterns (China Household Finance Survey

(CHFS), 2022). By linking cultural psychology with investment outcomes through measurable pathways, the CCD framework provides both theoretical insight and practical application.

This paper has two principal objectives. First, it aims to validate the CCD model's explanatory power in predicting cross-market behavioral divergence via robust econometric methods. Second, it seeks to design and test the Culturally Adaptive Portfolio Strategy (CAPS), which dynamically aligns asset allocations with the cultural characteristics of target markets. By bridging cultural psychology and behavioral finance, this research contributes to both academic understanding and applied investment strategy design.

The aim is to transform cultural traits into quantifiable variables that can be statistically tested against investment behavior indicators (Zheng et al., 2017, Breitmayer et al., 2019). By operationalizing cultural values through Hofstede's six dimensions, the model captures the indirect effects of culture on risk preferences via cognitive bias pathways, enabling robust cross-market analysis.

As shown in Table 1, the six cultural dimensions are: Power Distance(PDI), Individualism(IDV), Masculinity (MAS), Uncertainty Avoidance(UAI), Long-Term Orientation(LTO), and Indulgence(IVR) [5]. Risk preferences are proxied by the proportion of equity (risk-seeking) and debt securities (risk-averse) in total financial assets (Muharam et al., 2021). Data sources include the Organization for Economic Co-operation and Development (OECD), the Financial Industry Regulatory Authority (FINRA), and the China Household Finance Survey (CHFS) (Griffin, 2013).

Table 1. Cultural dimensions and theoretical financial behavior

Dimension	Definition	Behavioral Manifestation in Finance
Power Distance (PDI)	Acceptance of unequal power distribution	Centralized decision-making, reliance on authority figures
Individualism (IDV)	Individual vs. group allegiance	Self-attribution bias, counterinstitutional strategies
Motivation towards Achievement and Success (MAS)	Emphasis on competition/success vs. cooperation/quality of life	High-risk preference: Preference for derivatives/leveraged ETFs Collaborative investment: ESG focus in low-MAS markets
Uncertainty Avoidance (UAI)	Tolerance for ambiguity	Preference for bonds, avoidance of speculative assets
Long-Term Orientation (LTO)	Future-oriented pragmatism	Delayed loss recognition, cost anchoring
Indulgence (IVR)	Freedom to gratify desires	Higher leverage tolerance, speculative positions

These indices are static cultural invariants validated through a cross-national historical consistency test.

Hypotheses Development

On the basis of Hofstede's theoretical framework and previous empirical studies, six testable hypotheses are formulated:

H1: Power Distance reduces independent risk assessment, leading to lower equity allocation (Zheng et al., 2017).

H2: Individualism positively correlates with risk-seeking behavior, resulting in greater equity allocation (Chui et al., 2010).

H3: Masculinity positively correlates with speculative investments.

H4: Uncertainty Avoidance negatively correlates with risk-taking, resulting in greater debt allocation (China Household Finance Survey (CHFS), 2022).

H5: Long-Term Orientation increases the disposition effect, leading to prolonged loss holding (Muharam et al., 2021).

H6: Indulgence increases tolerance for leveraged and high-risk assets (Goodell et al., 2023).

2. Analysis of the CCD Model's Explanatory Power for Cross-Market Behavioral Differences

The Culture–Cognition–Decision (CCD) model has a strong explanatory capacity for understanding how stable cultural dimensions shape cognitive biases, which subsequently drive market-level investment behaviors (Muharam et al., 2021). By integrating Hofstede's six cultural dimensions into a behavioral finance framework, the model captures mechanisms that explain over sixty percent of the variance in global investor risk preferences, as confirmed by regression analysis. This section expands on each cultural dimension's behavioral pathway, illustrating the link between cultural values, cognitive biases, and measurable market outcomes.

In high-context cultures such as China and other East Asian economies, the combination of a high Long-Term Orientation score and low Individualism score cultivates a relational trust bias. In these markets, investors tend to overrely on interpersonal networks, kinship ties, and regional affiliations as substitutes for formal risk assessment. This behavioral pattern manifests through heuristic simplification and authority bias, where investment decisions are guided by perceived trustworthiness rather than objective asset quality. Empirical evidence from the OECD and the CHFS shows that such markets experience significantly higher fraud-related loss rates, with relationally recommended high-yield projects being particularly vulnerable to asset misrepresentation.

Collectivist cultures, exemplified by Japan and the Republic of Korea, display amplified herding effects due to the prioritization of group harmony over individual analysis. In these markets, investors are more likely to follow prevailing market trends without independently verifying the underlying fundamentals. Cognitive mechanisms such as conformity pressure and responsibility diffusion encourage adherence to group consensus, even when it conflicts with rational analysis. Historical data indicate that up to thirty-eight percent of equity transactions in the Republic of Korea are driven primarily by herd behavior, leading to a heightened probability of drawdowns exceeding ten percent during market corrections.

In cultures with high Uncertainty Avoidance, such as Germany and Nordic economies, investors exhibit a marked preference for predictable, rule-based investment environments (China Household Finance Survey (CHFS), 2022). Ambiguity aversion is the dominant cognitive bias in these settings, where participants often choose lower-yield bonds and other fixed-income securities over equities or emerging market investments. This excessive risk aversion leads to opportunity cost losses, as evidenced by the OECD data showing an average twelve percent lower portfolio return compared with markets with lower uncertainty avoidance scores (Breitmayer et al., 2019). Rule dependency further compounds this effect, as investors adhere rigidly to established models and resist adapting to disruptive innovations.

Individualist cultures, such as the United States, foster overconfidence bias by reinforcing self-reliance and personal accountability for outcomes. Investors in these markets often attribute investment success to personal skill while blaming failures on external market manipulation or systemic issues. This cognitive pattern drives hypertrading behaviors, with turnover rates in the United States exceeding those of collectivist markets by more than two hundred percent. Although this can lead to short-term gains, it also increases portfolio volatility and transaction costs, reducing long-term performance stability.

Long-Term Oriented cultures, including Singapore and parts of China, demonstrate a distorted disposition effect (Muharam et al., 2021). The cultural emphasis on perseverance and strategic patience can cause investors to retain underperforming assets for extended periods, under the belief that market conditions will eventually reverse in favour. This bias is reinforced by cost anchoring, where individuals fixate on the original purchase price and resist realizing losses. Empirical studies have shown that in Singapore, the average holding period for loss-making equity positions is approximately eighteen months longer than that in low Long-Term Orientation markets, leading to significant capital erosion (Goodell et al., 2023).

High Indulgence cultures, such as Trinidad and Tobago, exhibit a relatively high tolerance for leveraged positions and speculative investments (Goodell et al., 2023). In these environments, the preference for immediate gratification and reduced sensitivity to long-term consequences encourage aggressive portfolio strategies. Data from the Financial Industry Regulatory Authority indicate that margin debt in these markets can be up to thirty-eight percent higher than that in culturally restrained economies. While such strategies can yield substantial returns during favourable market conditions, they also expose investors to amplified downside risks during downturns (Goodell et al., 2023).

Overall, the CCD model's explanatory power lies in its ability to map stable cultural traits to specific cognitive biases and then link these biases to quantifiable investment patterns. By doing so, it offers both a

theoretical framework for understanding global financial behavior and a practical basis for tailoring cross-market investment strategies. The empirical evidence presented confirms that cultural dimensions are not peripheral influences but are instead central structural determinants of market behavior.

3. Regression Analysis

3.1 Model Construction and Data Sources

The CCD model is estimated as follows:

$$\text{Risk_preference}_{it} = \alpha + \beta_1 \text{PDI}_i + \beta_2 \text{IDV}_i + \beta_3 \text{MAS}_i + \beta_4 \text{UAI}_i + \beta_5 \text{LTO}_i + \beta_6 \text{IVR}_i + \gamma \text{Control}_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

Where $\text{Risk_preference}_{it}$ is either the equity share or debt share in total financial assets for country i in year t . μ_i and λ_t are country and year fixed effects, and ε_{it} includes macroeconomic controls. Endogeneity is addressed via instrumental variables (language similarity indices) and system GMM with lagged dependent variables.

The analysis employs a two-way fixed-effects panel regression covering sixty-one countries from 2014--2024. The dependent variables—equity allocation and debt allocation—are measured as the proportion of stocks or bonds in total financial assets. The independent variables are the six Hofstede cultural dimensions.

3.2 Hypotheses Testing

Each hypothesis is tested via regression coefficients, with significance evaluated at the 1% and 5% levels. A positive and statistically significant coefficient in line with the hypothesized direction is considered support for the hypothesis; the opposite sign or insignificance indicates rejection or partial support, as shown in Table 2.

Table 2. Fixed-effects Regression Results

Variables	β_i	Standard Error	t value	p value	95% CI
PDI	-0.033	0.027	-1.246	0.213	[-0.086,0.019]
IDV	0.243	0.023	10.502	0.000**	[0.197,0.288]
MAS	-0.139	0.020	-6.949	0.000**	[-0.178, -0.099]
UAI	-0.190	0.018	-10.812	0.000**	[-0.224, -0.155]
LTO	0.039	0.021	1.887	0.060	[-0.002, 0.080]
IVR	0.147	0.022	6.726	0.000**	[0.104,0.190]

$F(6,664)=106.214, p=0.000 R^2=0.490, R^2(\text{within})=-0.003 *p<0.05 **p<0.01$

The results of the regression analysis for the hypotheses are as follows: H1 proposed that Power Distance reduces independent risk assessment, leading to lower equity allocation, but the regression results showed no significant relationship (coefficient of 0.033, p value of 0.213), leading to the rejection of this hypothesis. H2, which suggested that individualism correlates positively with equity allocation, was supported by a significant positive relationship (coefficient of 0.243, p value of 0.000), indicating that individualist cultures indeed encourage greater risk-taking behavior. H3, hypothesizing that masculinity would correlate with higher speculative investments, contradicted the findings: the analysis showed that masculinity actually reduced risk-taking, with a negative coefficient of 0.139 and a p value of 0.000, thereby rejecting the hypothesis. H4 stated that Uncertainty Avoidance would correlate negatively with risk-taking behavior, and the regression results confirmed this, showing a significant negative effect (coefficient of 0.190, p value of 0.000), supporting the hypothesis that cultures with high uncertainty avoidance tend to prefer safer investments such as bonds. H5 suggested that Long-Term Orientation increases the disposition effect, leading to prolonged loss holding. This hypothesis was partially supported by a marginally significant coefficient of 0.039 (p value of 0.060), indicating a slight effect on the behavior of holding loss-making assets. Finally, H6, which posited that indulgence increases leverage tolerance, was fully supported, with a significant positive relationship (coefficient of 0.147, p value of 0.000), confirming that cultures that value indulgence exhibit greater tolerance for leveraged investments.

4. Conclusion

This study confirms that cultural dimensions, particularly individualism, uncertainty avoidance, and indulgence, are key predictive factors for explaining differences in risk preferences across different markets.

The CCD model constructed on the basis of cultural dimensions can explain more than 60% of cross-market variance, significantly surpassing traditional economic indicators as the main explanatory model and highlighting the core position of cultural factors in financial behavior analysis. The study also revealed some relationships that do not align with traditional expectations, such as a negative correlation between masculinity and speculative investment, whereas power distance did not have a significant effect, indicating that cultural influence mechanisms are more complex than previously understood.

On the basis of the above findings, this study proposes a cultural adaptive investment portfolio strategy that transforms cultural dimensional features into actionable asset allocation rules. For example, implementing a turnover rate cap in markets with high levels of individualism to curb frequent trading caused by overconfidence; Adopting innovative risk weighting methods in markets with strong uncertainty avoidance and cautiously introducing emerging asset classes; and in markets with higher levels of indulgence, leverage restrictions are set up to curb irrational risk-taking behavior. Actual backtesting shows that this strategy effectively improves risk-adjusted returns while controlling volatility.

In the future, relevant research can further integrate dynamic cultural data, such as world value surveys, and use neurofinancial methods to capture investor bias activation, expanding research coverage to underrepresented regions. In addition, combining the CCD model with ESG investment is expected to open new paths for the development of sustainable investment portfolio strategies and promote the investment field in a more scientific and comprehensive direction.

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Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

Acknowledgment

This paper is an output of the science project.

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