JAVStudies Journal of Academic Value Studies

Available online at http://dx.doi.org/10.29228/javs.88307
ISSN: 2149-8598

Research Article

# Borrowing and Financial Worries in Turkic Countries

Ainura Turdalieva[1], Raziyahan Abdieva[2]

[1] *Department of Economics, Kyrgyz-Turkish Manas University, Bishkek, Kyrgyzstan, aynura.turdaliyeva@manas.edu.kg (Corresponding Author)*
[2] *Department of Economics, Kyrgyz-Turkish Manas University, Bishkek, Kyrgyzstan.*

**Abstract**

In recent years, rising living costs, limited social protection, and the COVID-19 pandemic have intensified financial concerns among households in developing and emerging economies. This study examines how financial worries influence borrowing behavior in five Turkic countries: Azerbaijan, Kazakhstan, Kyrgyzstan, Türkiye, and Uzbekistan. Using microdata from the Global FINDEX 2021 survey and logistic regression analysis, the paper evaluates the effects of various financial concerns while controlling for key socioeconomic characteristics. The results show that employment and education are the most consistent predictors of borrowing, reflecting greater financial inclusion among individuals with stable jobs and higher levels of human capital. Age effects are nonlinear, with middle-aged individuals more likely to borrow, while gender and rural–urban residence exhibit heterogeneous patterns across countries. Financial worries significantly shape borrowing behavior, often serving as a coping strategy under economic vulnerability. Concerns about medical expenses strongly increase borrowing, particularly in Kyrgyzstan, Uzbekistan, and Azerbaijan, while concerns about old-age security and monthly bills matter in specific contexts. Overall, borrowing reflects both structural access to finance and necessity-driven responses to financial stress, highlighting the importance of affordable credit, financial literacy, and stronger social protection systems.

**Keywords:** Financial worry, Borrowing behavior, Turkic countries, Behavioral economics.

**For Citation:** Turdalieva, A., Abdieva, R. (2025). Borrowing and Financial Worries in Turkic Countries. *Journal of Academic Value Studies, 11*(4), 374-391. http://dx.doi.org/10.29228/javs.88307

Received: 12.11.2025 Accepted: 28.12.2025 This article was checked by ***intihal.net***

## 1. Introduction

Financial worry is conceptualized as negatively emotion-laden repetitive thoughts about the uncertainty of one's future financial situation (Magwegwe et al., 2023). Such worry often emerges when individuals lack sufficient financial capability (Sherraden, 2013)—a combination of financial knowledge, confidence, and access to financial services. From a behavioral economics perspective, stress and uncertainty can significantly influence individuals' economic behaviors, including borrowing, saving and consumption choices. Behavioral finance integrates insights from psychology and economics to analyze how cognitive biases, emotional responses, and social influences systematically affect financial decision-making and market outcomes, leading to deviations from the predictions of traditional rational-agent models (Barberis, Shleifer, & Vishny, 1998; Thaler, 1999).

The relationship between borrowing behavior and financial worries is most effectively explained by Prospect Theory within the behavioral finance framework. Prospect Theory posits that individuals evaluate financial outcomes relative to a reference point and exhibit loss aversion, whereby losses are weighted more heavily than equivalent gains (Kahneman & Tversky, 1979). When households experience financial worries—such as income uncertainty, health shocks, or rising living costs—they are more likely to perceive themselves as operating in a loss domain, which alters their risk preferences and decision-making processes.

In this context, financially stressed individuals become more willing to engage in borrowing, including high-cost or short-term credit, as a means of avoiding immediate losses or stabilizing consumption, even if such borrowing increases long-term financial vulnerability (Kahneman & Tversky, 1979; Thaler, 1999). This behavior is further reinforced by mental accounting, whereby households compartmentalize debt obligations and underestimate future repayment burdens under stress (Thaler, 1985). Additionally, emotional factors such as anxiety and fear reduce cognitive capacity and increase reliance on short-term coping strategies, strengthening the link between financial worries and necessity-driven borrowing (Gennaioli, Shleifer, & Vishny, 2018).

Recent global evidence shows that households rely on a variety of mechanisms to protect themselves against financial stress, such as liquid assets, savings, credit cards, loans and social networks (Zhao et al., 2023; Lusardi et al., 2011; Collins & Gjertson, 2013). In settings where formal financial systems are underdeveloped or inaccessible, borrowing, particularly informal borrowing, serves as a primary tool for mitigating financial shocks. While borrowing can promote financial inclusion and stabilize spending, it can also increase vulnerability, particularly when undertaken in a state of distress.

In recent years, financial concerns have become a prominent feature of household economic life in both developing and emerging economies. Rising costs of living, limited social protection, and the COVID-19 pandemic have heightened household concerns about their ability to cover essential expenses, maintain financial security, and cope with unexpected events. According to the 2021 Global FINDEX database, over 63% of adults in developing countries reported being very worried about one or more common financial obligations, compared with 33% in high-income countries (Ansar et al., 2022). Among them nearly 50% of adults in developing countries are extremely concerned about covering medical expenses in the event of a serious illness or injury. In fact, 36% cite medical expenses as their main financial concern. Widespread financial anxiety related to the pandemic also exists, with 82% of adults in developing countries remaining very or somewhat concerned about its ongoing economic impact.

Besides Turkiye, the Turkic republics of Azerbaijan, Kazakhstan, Kyrgyzstan and Uzbekistan share a number of structural characteristics that make financial anxiety a particularly pressing economic and social problem. These include moderate income levels, limited financial access, high out-of-pocket healthcare costs and limited social insurance.

Despite the economic and policy relevance of this issue, there is limited empirical research examining how financial worries shape borrowing behavior in the Turkic Republics. Existing research from global contexts focuses primarily on financial stress, liquidity constraints, coping strategies, and subjective financial well-being, but few studies systematically analyze how different domains of financial worry—medical costs, old age, education, bills, or COVID-19—translate into borrowing decisions. This gap is particularly significant in the context of the Turkic region, where financial markets are developing, but are not equally accessible.

This study investigates the relationship between financial worries and borrowing behavior in the five Turkic Republics such as Azerbaijan, Kazakhstan, Kyrgyzstan, Turkiye and Uzbekistan, using microdata from the Global FINDEX 2021 survey. Specifically, the study aims to answer the following research questions:

- What demographic and socioeconomic factors influence individuals' likelihood of borrowing?
- How do different domains of financial worry, such as old age, medical costs, education expenses, monthly bills, and concerns relating to the impact of the COVID-19 concerns—affect the probability of formal or informal borrowing?

By addressing these questions, the study makes three substantive contributions to the existing literature. First, it offers one of the earliest systematic cross-country comparative analyses of the relationship between financial worry and borrowing behavior in the Turkic region, an area that remains underexplored in empirical research. Second, the study integrates insights from behavioral economics and financial capability theory. Third, the findings yield clear and policy-relevant implications for strengthening financial sustainability and advancing financial inclusion. In particular, the results highlight the importance of reforms in social protection and healthcare systems, which can play a critical role in mitigating financial distress and reducing reliance on borrowing as a coping mechanism in these countries.

Based on the theoretical framework discussed above, the study formulates four testable hypotheses. First, individuals experiencing higher levels of financial worry are more likely to engage in borrowing than those reporting lower or no financial worry (H1). Second, the effect of financial worry on borrowing behavior is heterogeneous across domains, with different types of concern—such as medical expenses, old-age security, education costs, monthly bills, and COVID-19–

related uncertainty—differentially influencing both the likelihood and the type of borrowing (H2). Third, financial capability, reflected in income, education, and access to formal financial services, is expected to mitigate the positive relationship between financial worry and borrowing behavior (H3). Finally, the association between financial worry and borrowing is hypothesized to be stronger in institutional settings characterized by weaker social protection systems and limited access to formal credit, leading to greater reliance on informal borrowing (H4).

The paper is structured as follows: Section 2 analyses household borrowing patterns and financial worries in selected countries, Section 3 reviews the literature, Section 4 presents the data, methodology and discusses the results, and Section 5 concludes with policy implications.

## 2. Household Borrowing Patterns and Financial Worries in Selected Turkic Countries

Understanding the landscape of household financial behavior is essential for identifying the determinants of borrowing, particularly in regions where access to finance is uneven and socio-economic vulnerability is widespread. This subsection uses Global FINDEX data from 2014, 2017, 2021, 2022 and 2024 to provide a comparative overview of borrowing behaviors and financial concerns in Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan. The analysis summarizes country averages across survey waves and uses a series of thematic maps and time-series graphs (Figures 1–3) to highlight significant trends. These descriptive insights provide valuable context for the subsequent empirical analysis.

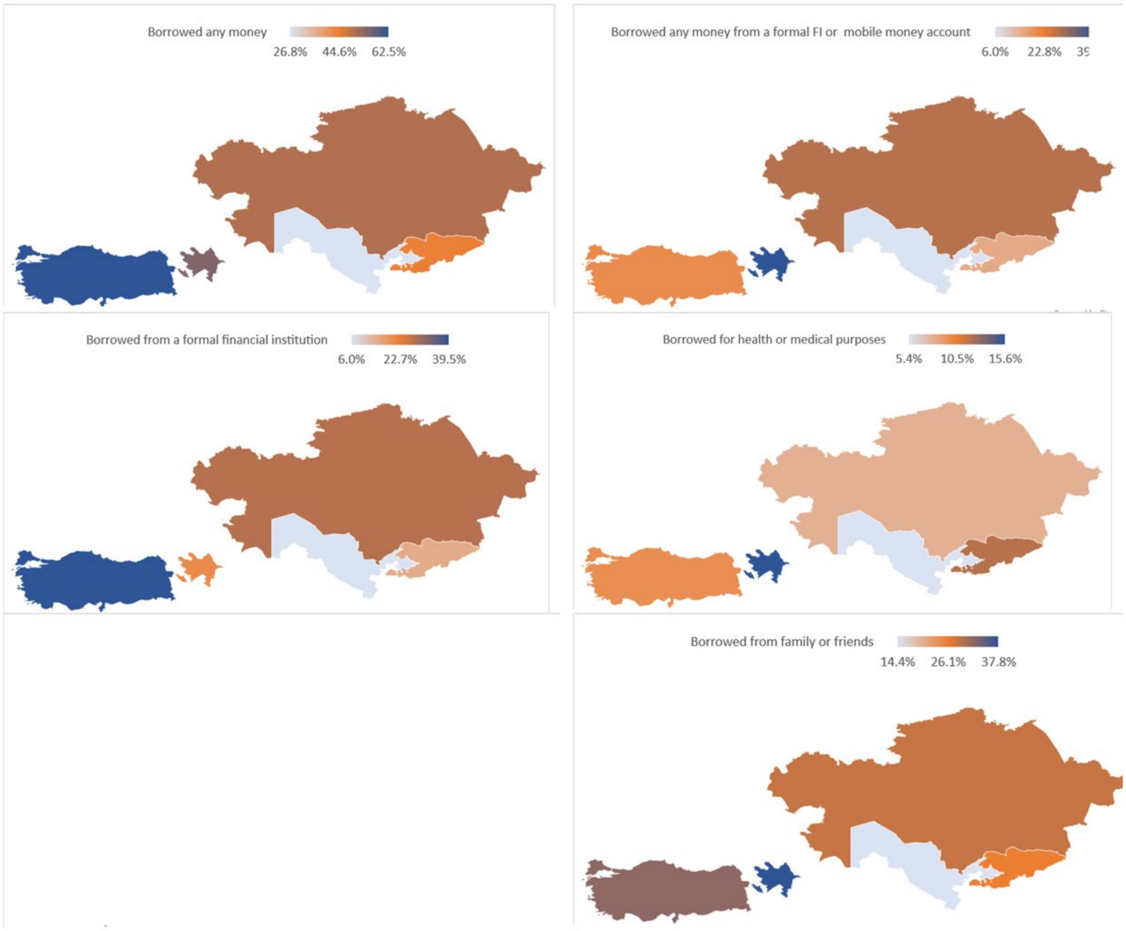
### 2.1 Borrowing Participation and Sources of Credit

There is substantial variation in borrowing participation across the five countries. Turkey has the highest borrowing rate, with an average of 62.5% of adults reporting that they borrowed money at least once during the period. Azerbaijan (54.5%) and Kazakhstan (50.2%) also demonstrate relatively high levels, whereas the Kyrgyz Republic (44.1%) and Uzbekistan (26.8%) report much lower rates of participation. These differences reflect underlying macroeconomic and financial sector conditions, as well as cultural norms surrounding the use of credit.

Despite moderate overall borrowing, the share of adults borrowing from formal financial institutions remains considerably lower and more uneven (Figure 1). Türkiye again stands out with 39.5%, followed by Kazakhstan (27.6%) and Azerbaijan (20.3%), whereas the Kyrgyz Republic (15.1%) and Uzbekistan (6.0%) lag significantly behind.

These findings point to the persistence of financial exclusion in Central Asia, where limited branch networks, documentation burdens, informality in employment, and distrust of banks constrain households' access to formal credit. The EBRD's 2022 Transition Report similarly emphasizes that formal financial penetration in Central Asia remains well below global averages, particularly for low-income and rural households.

Figure 1. Borrowed from a Formal Financial Institution (% of Adults, 2014–2024 Average)




*Note:* Values represent country averages for FINDEX survey years 2014, 2017, 2021, 2022, and 2024.
*Source:* World Bank. 2025. "The Global Findex Database 2025: Data Download and Documentation."

When formal borrowing is extended to include mobile money accounts, the underlying patterns remain largely unchanged. Although mobile-enabled borrowing has grown in countries such as Kazakhstan and the Kyrgyz Republic, it still constitutes a small overall share. Mobile financial services are primarily used for payments and transfers rather than for credit purposes.

One of the most policy-relevant indicators is the proportion of adults who borrow money to pay for healthcare. This form of borrowing indicates vulnerability to health-related financial difficulties and the inadequacy of insurance or social protection mechanisms.

Azerbaijan (15.6%) and the Kyrgyz Republic (11.9%) show the highest reliance on credit for medical costs, followed by Türkiye (9.6%) and Kazakhstan (7.9%), with Uzbekistan (5.4%) at the lowest end. These patterns align with findings from the WHO and World Bank (2021), which identify out-of-pocket health costs as a leading cause of financial stress and impoverishment in Eastern Europe and Central Asia. Countries with weaker insurance coverage and limited access to quality health services tend to have greater dependence on informal payments and borrowing to cover medical costs, particularly for acute conditions and hospitalization.

Figure 2 illustrates the evolution of borrowing behaviours in Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan from 2014 to 2024 using Global Findex surveys. The six panels track changes in:

(i) overall borrowing;

(ii) formal and mobile money borrowing;

(iii) borrowing from financial institutions;

(iv) health-related borrowing;

(v) borrowing from family or friends; and

(vi) borrowing for business.

The figure clearly shows differences between countries, the growing importance of formal credit in certain economies and the ongoing importance of informal borrowing networks. These patterns provide context for the subsequent empirical analysis, showing how access to finance and reasons for borrowing evolved during a decade characterised by currency fluctuations, rising living costs and the impact of the global pandemic.

Figure 2. Household Borrowing Indicators in Turkic Countries, 2014–2024


Source: World Bank. 2025. "The Global Findex Database 2025: Data Download and Documentation."

The upward trend in borrowing observed in most countries toward 2024—particularly in Kazakhstan and the Kyrgyz Republic—coincides with post-COVID consumption pressures, rising inflation, and increasing household dependence on credit for daily financial management. Similar patterns have been noted in ECA region assessments by the World Bank (2023), which report a growing reliance on credit as a coping mechanism amid declining real incomes.

Notably, time-series figures reveal a spike in medical-related borrowing around 2021 in several countries—especially the Kyrgyz Republic and Türkiye—consistent with COVID-19 impacts on household health expenditures.

Across the region, informal borrowing remains a central mechanism for household liquidity management (Figure 1). Azerbaijan (37.8%) and Türkiye (31.9%) report the highest reliance on loans from family and friends, while Kazakhstan (28.5%) and the Kyrgyz Republic (26.0%) follow, with Uzbekistan (14.4%) significantly lower.

Informal loans fulfil several functions: they are often interest-free, require minimal documentation and can be accessed quickly in an emergency. Earlier studies (World Bank, 2019; IMF, 2022) have shown that informal borrowing often substitutes for formal credit amid financial exclusion, low trust in banking systems and a cultural reliance on extended family networks.

Borrowing to start or run a business is exceptionally rare, ranging from 2% to 6% of adults in all countries. This is consistent with broader evidence from the Global Findex and Enterprise Surveys, which document significant limitations in SME financing in Central Asia, including high collateral requirements, a lack of formal credit histories and limited financial literacy. Even in more financially developed countries such as Turkey and Kazakhstan, business-oriented credit remains low at the household level, suggesting that entrepreneurship is often financed through personal savings rather than formal loans.

## 2.2. Financial Worries and Emerging Vulnerability

The maps in Figure 3 illustrate the distribution of key financial worries among adults. Across all five countries, the most prevalent financial concern is the ability to cover monthly expenses and bills. Such financial strain is particularly pronounced in Kazakhstan (36.4%) and the Kyrgyz Republic (27.1%), and is also notable in Türkiye (26.5%), Azerbaijan (21.9%), and Uzbekistan (22.1%).

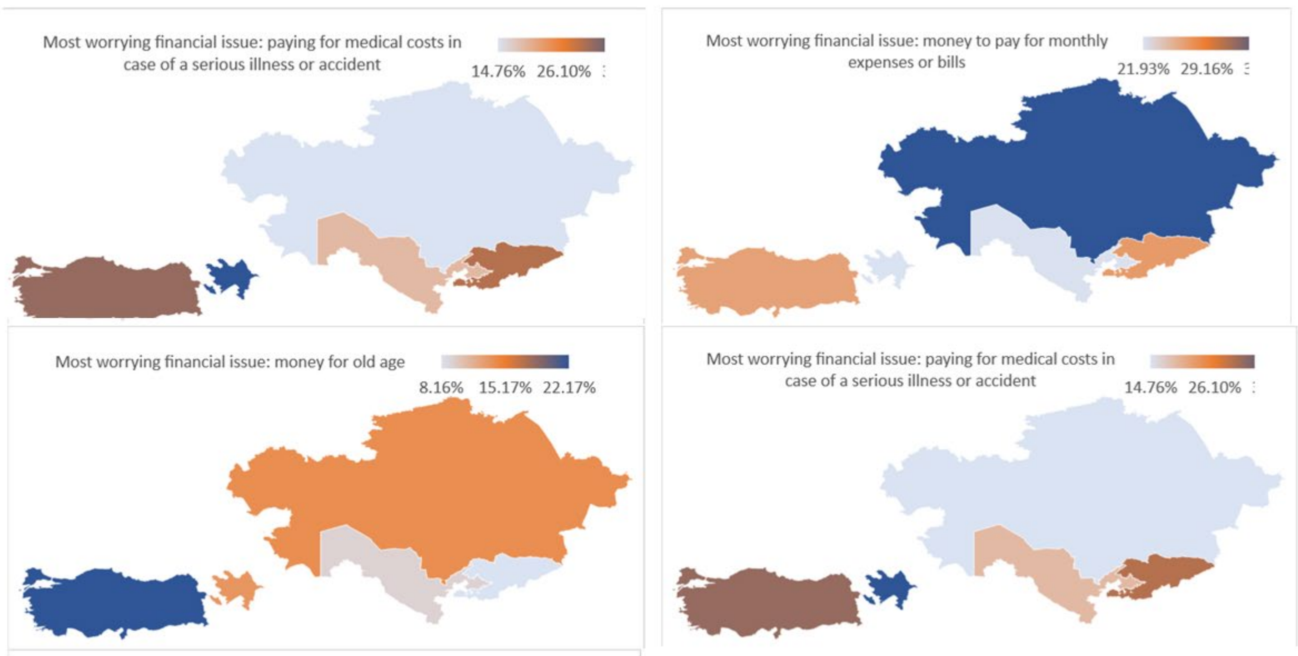
This pattern reflects rising inflation and declining purchasing power across the region—especially since 2020—as documented in the IMF Regional Economic Outlook (2023) and the World Bank Macro Poverty Outlooks (2024). Elevated food and energy prices intensify financial stress even among middle-income households.

A second major concern is the ability to pay for medical expenses in the event of serious illness or accident. This worry is reported by more than one-third of individuals in Azerbaijan (37.4%), Türkiye (31.3%), and the Kyrgyz Republic (29.5%). These figures indicate weak financial protection against health shocks and low coverage of effective insurance schemes.

Financial worries related to old age and retirement security are most prevalent in Türkiye (22.2%) and Kazakhstan (14.0%), reflecting concerns regarding pension adequacy, long-term savings, and financial security in later life.

Concerns related to education expenses are moderate across all countries (9–12%), though they remain significant given the share of such costs in household budgets.

### Figure 3. Financial Worries and Perceived Vulnerability (2024)




**Source:** World Bank. 2025. "The Global Findex Database 2025: Data Download and Documentation."

The descriptive patterns show that financial vulnerability is shaped by a combination of structural factors—informal labor markets, limited insurance coverage, inflation shocks, and uneven financial development. At the same time, borrowing behaviors differ sharply by source: (i) formal borrowing remains constrained, especially for low-income and rural households; (ii) informal borrowing continues to serve as a critical safety net; (ii) health shocks and basic consumption needs are central drivers of financial worry and likely shape borrowing decisions.

These insights justify the focus of the empirical analysis on the relationship between financial worries and borrowing behavior, both formal and informal. The descriptive maps and time-series figures underscore the relevance of examining how households' perceptions of vulnerability—and specific concerns such as medical expenses or monthly bills—translate into borrowing decisions across different financial systems.

## 4. Literature Review

A growing body of theoretical and empirical evidence demonstrates that borrowing can serve as a resource for coping with financial worries, temporarily compensating for a lack of funds and helping to maintain the stability of meeting individual needs.

Financial worry is an important aspect of financial well-being and complements such indicators as access to finance and financial resilience. Financial resilience is shaped by the ability to mobilize financial resources in response to unexpected expenses, while its absence generates financial stress. According to the Global Findex Database 2021 (Ansar, Demirgüç-Kunt, Klapper, & Singer, 2022), such worry often arises when households lack sufficient financial buffers—such as savings, insurance, or stable income—to meet their daily needs or cope with emergencies.

In economic literature, financial anxiety is often defined as a negatively valenced, repetitive cognitive process focused on uncertainty and potential threats to future financial conditions (Magwegwe et al., 2023; Fa-Kaji et al., 2023; Li, Yao & Cho, 2025). According to de Bruijn and Antonides (2022), financial anxiety typically emerges when individuals perceive insufficient financial competence or limited access to financial tools that ensure stability. It manifests as persistent cognitive preoccupation with actual or potential financial events that may result in adverse future outcomes.

Since financial stress represents sustained worry regarding one's financial situation, it acts as a psychological stressor that shapes decision-making and behavioral responses (Monat & Lazarus, 1991; Ray et al., 1982; Islam et al., 2022). Theoretical research in behavioral psychology emphasizes that financial worries are not only an emotional reaction to a lack of resources but also a complex process of adaptation to economic constraints (Hamilton et al., 2019; Carver, Scheier, & Weintraub, 1989).

While psychological research highlights stress and adaptation mechanisms, economic theory provides a complementary explanation of borrowing behavior. Life cycle theory (Modigliani, 1986) emphasizes that individuals aim to maintain a stable level of consumption over their lifetime. When current income falls below the expected lifetime average, households rationally rely on borrowing to smooth consumption. In this framework, consumption decisions depend on lifetime resources—defined as the present value of future labor income and potential bequests—rather than on current income. Therefore, borrowing enables consumers to sustain a standard of living that would not be affordable based solely on their current income.

Drawing on interdisciplinary research, Rona-Tas and Guseva (2018) show that borrowing can increase stress, create debt burdens, and reduce subjective well-being. Approaches that view debt as a rational choice are based on the idea that if borrowing helps individuals cope with income fluctuations and financial stress, it can serve as a psychological support (Haushofer & Fehr, 2014). In an experiment conducted in South Africa, Karlan and Zinman (2010) randomly assigned applicants to receive a short-term high-interest loan and found that those who obtained the loan subsequently experienced improvements not only in their economic situation but also in their mental well-being compared to those who were denied credit. The study by Dwyer et al. (2011) further showed that among students from low- and middle-income families, debt can play a psychologically supportive role by strengthening their sense of control through the positive social recognition associated with being creditworthy.

Empirical evidence shows that attitudes toward debt are shaped by context—from the type of indebtedness and prevailing social norms to historical circumstances and social class. Consequently, debt can have either a supportive or a destabilizing effect, and its impact depends on the specific conditions under which borrowing occurs (Clayton et al., 2015; Kalousova & Burgard, 2013; Gathergood, 2012; Gonzalez, 2015; Dunn & Mirzaie, 2016; Dwyer et al., 2016; Dwyer et al., 2011).

These contextual differences in how debt is experienced and evaluated are closely related to broader patterns in households' selection of coping strategies under financial stress. Empiric literature suggests that individuals and households choose coping strategies based on available resources and constraints. Murakami (2022) shows that low-income households tend to reduce or restructure consumption, large households increase labor supply by sending family members to work or expanding self-production, while wealthier households rely on asset liquidation to buffer shocks in urban settings (Murakami, 2017; Bartfeld & Collins, 2017).

A related strand of research focuses on health shocks as a key driver of borrowing. When financial resources are limited, borrowing frequently serves as a coping strategy. This is particularly common in situations involving medical expenses (Kim, Yoon & Zurlo, 2012), basic consumption needs, lack of savings or social support, and when accessible formal or informal borrowing channels are available. The authors, using six biennial waves of data from the Health and Retirement Study from 1998 to 2008, analyze the impact of health shocks on unsecured debt among middle-aged and older Americans. Using fixed-effects models and mediation analysis, they find that new health problems significantly increase unsecured debt—by 6.3–9.3 %, with about 20 % of this increase attributable to out-of-pocket medical expenses. These results also demonstrate that severe health shocks increase debt levels among individuals aged 50–64 but have no significant effect on those aged 65+, highlighting the protective role of the Medicare program. Overall, the study suggests that health shocks are an important driver of consumer debt in the United States, particularly among pre-retirement individuals without adequate insurance coverage.

Nguyen et al. (2025) found that health shocks are a key driver of debt growth for rural households in developing countries. Using longitudinal survey data, they showed that although households are able to smooth out their normal consumption, health-related expenses undermine their financial resilience and force them to resort to informal borrowing. Furthermore, health insurance significantly reduces the need for borrowing following a health shock, highlighting its important role in preventing debt burdens among vulnerable households.

Supporting evidence from Murphy, McGowan, McKee, and Suhrcke (2019) indicates that in low- and middle-income countries, households frequently borrow to finance chronic disease expenses. While such borrowing offers temporary relief, it also deepens long-term vulnerability, especially among low-income and rural families.

Similarly, Arnold et al. (2010) examined how households in Bishkek, cope with the economic burden of diabetes, tuberculosis, and their combined prevalence. Using coarsened exact matching and logistic regression to cross-sectional survey data from 309 patients, the authors found significant differences in socioeconomic status and coping strategies between patient groups. Patients with diabetes and comorbidity face higher out-of-pocket medical expenses and are more likely to experience catastrophic health spending, whereas younger patients with tuberculosis rely primarily on income or savings. The study highlights that underfunding of the State Guaranteed Benefit Package makes patients with diabetes and comorbidities, especially those from lower socioeconomic groups—highly vulnerable to financial hardship.

Supporting this concern, Murphy et al. (2019) conducted a systematic review of household strategies used to cover out-of-pocket medical expenses for chronic illnesses in low- and middle-income countries. After examining 47 studies published between 2000 and 2018, the authors identified a wide range of coping strategies, including borrowing, selling assets, cutting spending on food and education, and withdrawing children from school. The review shows that poorer households and patients with more severe illnesses are most vulnerable to harmful strategies.

Beyond medical expenses, difficulties in meeting monthly bills also contribute to financial strain. Complementing this, Canatan and İpek (2025) examined the determinants of economic anxiety in Turkey. Using cross-sectional data from the 2016 KONDA survey, they constructed an economic anxiety index using principal component analysis and a generalized ordered logit model. The results show that higher levels of education significantly reduce economic anxiety, while borrowing increases life anxieties. The study's findings indicate the insufficient effectiveness of existing social support programs in reducing economic anxiety among vulnerable groups. The study highlights the limited effectiveness of current social assistance mechanisms in mitigating financial insecurity.

However, in many settings where insurance coverage is limited, households continue to rely on borrowing. Financial fragility persists into older age, illustrating shifts in financial anxiety over the life course. Lusardi et al. (2011) find that many pre-retirement adults lack emergency liquidity, often turning to borrowing against retirement accounts, asset sales, or family support. Older adults, especially women, face liquidity risk despite assets and resort to borrowing to meet basic or medical needs.

A study by Butrica and Mudrazija (2020) shows that, despite a general decline in debt among those over 50 following the Great Recession, debt is increasing among adults 70+, primarily due to mortgages, accompanied by worsening credit health. The authors also emphasize that older residents of disadvantaged areas maintain debt longer, while those in more affluent areas experience a gradual decline in debt. Furthermore, credit cards are the riskiest type of debt, closely associated with episodes of low credit scores.

Loibl et al. (2022) analyzed the impact of different types of debt on the financial stress of older Americans. Using data from the Health and Retirement Study for 2004–2016, the authors showed that unsecured consumer debt—especially credit cards—most significantly increases material and psychological stress, while mortgage debt has a more moderate impact. Furthermore, increasing mortgage debt after age 62 exacerbates bill-paying difficulties, while reducing it reduces both types of stress. The study indicates that the impact of debt on financial well-being in old age depends on the type of debt and when it was incurred.

Financial concerns about education often require substantial expenditures. A study by Acar, Günalp, and Cilasun (2016) shows that education expenditures account for a large share of Turkish household budgets. However, the composition of these expenditures varies significantly across income groups. Using budget survey data and an Engel curve model, the authors find that the income elasticity of expenditures is higher among middle-income households and lower among the poorest and richest. Furthermore, the elasticity increases over time, reflecting the growing importance of investment in education for Turkish families.

Households often encounter significant challenges during the loan repayment process. A systematic review based on Scopus bibliometric analysis by Bhandary et al. (2024) shows that the key factors influencing student loan repayment include low financial awareness, a weak loan management system, and limited employment opportunities. In medicine, wages are a decisive factor in repayment, and government programs that encourage employment in underserved areas increase the likelihood of loan repayment. The authors emphasize the importance of promoting student loans, developing customized products, and integrating insurance.

This literature review demonstrates that the topic remains insufficiently researched. Taken together, the reviewed literature demonstrates that financial anxiety is a central component of financial well-being, closely linked to insecurity, low resilience, and coping strategies. It arises when individuals lack financial knowledge, savings, or stable credit mechanisms.

Across contexts, borrowing often serves as a response to shocks, especially medical or income-related, but typically reinforces long-term vulnerability. Evidence from both high- and low-income countries (Lusardi et al., 2011; Kim et al., 2012; Murphy et al., 2019; Canatan & İpek, 2025) shows that financial anxiety and borrowing form a self-reinforcing cycle in settings with weak social protection and limited credit access. Thus, reducing financial anxiety requires policies aimed at strengthening short-term financial resilience, expanding access to affordable credit, and developing behavioral and institutional tools that reduce reliance on debt as a coping strategy.

## 4. Data Set, Variables and Empirical Findings

### 4.1. Data Set

This study uses the Global FINDEX Database that was conducted in 2021 by World Bank. This survey measures financial inclusion, digital payments, and financial resilience across more than 120 countries. The survey provides micro-level information on adults aged 15 and older and captures such topics as access to formal and informal financial services, borrowing patterns, savings behavior, and financial attitudes.

In our analysis, we used the data of five Turkic countries—Azerbaijan, Kazakhstan, Kyrgyzstan, Türkiye, and Uzbekistan. From every country, 1,000 respondents answered, and approximately 5,000 respondents from the indicated five countries participated in the survey. The data is balanced and representative by gender, income group, and urban–rural residence.

### 4.2. Comparative Analysis of Financial Concerns Across Selected Countries

In the FINDEX 2021 survey respondents indicated financially most worried topics. The analysis of Turkic Republics showed that in all five countries respondents are most worried about paying for medical costs in case of a serious illness or accident: in Kyrgyzstan 62.9%, in Turkiye 38.1% and in other countries about 50% of respondents.

**Table 1. Financially most worried in Turkic Republics (%)**

| | Azerbaijan | Kazakhstan | Kyrgyzstan | Turkiye | Uzbekistan |
|---|---|---|---|---|---|
| Respondent is most worried about not having enough money for old age | 10.91 | 24.25 | 11.5 | 19.13 | 17.95 |
| Respondent is most worried about paying for medical costs in case of a serious illness or accident | 49.9 | 43.9 | 62.9 | 38.13 | 48.83 |
| Respondent is most worried about money to pay for monthly expenses or bills | 26.8 | 16.93 | 12.39 | 22.75 | 16.88 |
| Respondent is most worried about paying school or education fees | 9.23 | 3.59 | 9.4 | 17.13 | 11.67 |

| | | | | | |
|---|---|---|---|---|---|
| Don't know | 2.7 | 2.3 | 3.24 | 2.0 | 3.59 |
| Refused to answer | 0.39 | 0.88 | 0.44 | 0.88 | 1.08 |
| Total (%) | 100 | 100 | 100 | 100 | 100 |
| Total (respondents | 779 | 697 | 678 | 800 | 557 |

Source: FINDEX 2021, the World Bank.

Concerns about financial security in old age is concern of 24.3% of respondents in Kazakhstan, 19.1% of Turkiye and 18% in Uzbekistan, in Azerbaijan and Kyrgyzstan about 10 %. Worry about meeting monthly expenses or bills higher in Azerbaijan (26.8%) and Türkiye (22.75%), highlighting ongoing pressures related to living costs and household budgeting. On the contrary, respondents in Kyrgyzstan (12.39%) and Uzbekistan (16.88%) expressed relatively little concern in this area. Financial worry on the cost of education is a particularly significant issue in Turkey (17.13%) and Uzbekistan (18%). This may indicate a greater emphasis on education as a financial priority or higher private education costs. Generally, the findings highlight that health-related expenses are the primary financial concern in the region.

Table 2. Descriptive Statistics

| | Azerbaijan | Kazakhstan | Kyrgyzstan | Turkiye | Uzbekistan |
|---|---|---|---|---|---|
| Y- Borrowed | 0.53 | 0.43 | 0.52 | 0.68 | 0.31 |
| Gender (Female) | 0.63 | 0.61 | 0.57 | 0.45 | 0.68 |
| Age1 (17-29) | 0.20 | 0.24 | 0.25 | 0.36 | 0.21 |
| Age2 (30-50) | 0.39 | 0.40 | 0.45 | 0.44 | 0.39 |
| Employed | 0.45 | 0.48 | 0.63 | 0.64 | 0.47 |
| Rural | 0.25 | 0.41 | 0.33 | 0.49 | 0.18 |
| Education 2 (Secondary) | 0.62 | 0.67 | 0.53 | 0.49 | 0.79 |
| Education 3 (Tertiary) | 0.14 | 0.18 | 0.40 | 0.27 | 0.10 |
| Financially high worried: old age | 0.48 | 0.18 | 0.20 | 0.52 | 0.16 |
| Financially moderate worried: old age | 0.18 | 0.36 | 0.40 | 0.24 | 0.28 |
| Financially High Worry on medical cost | 0.59 | 0.35 | 0.27 | 0.51 | 0.23 |
| Financially Moderate Worry on medical cost | 0.19 | 0.38 | 0.45 | 0.24 | 0.32 |
| Financial High Worry on bills | 0.52 | 0.19 | 0.18 | 0.46 | 0.21 |
| Financial High Worry on Education expenses | 0.25 | 0.12 | 0.13 | 0.40 | 0.12 |
| Financial Moderate Worry on Education | 0.11 | 0.30 | 0.29 | 0.20 | 0.22 |
| Financially High Worry due to COVID 19 | 0.49 | 0.45 | 0.21 | 0.53 | 0.28 |
| X11-Financial Moderate due to COVID 19 | 0.25 | 0.45 | 0.56 | 0.28 | 0.37 |

Source: Source: FINDEX 2021, the World Bank.

Descriptive statistics for the five countries analyzed show that access to finance, or the debt ratio, is highest in Türkiye (0.68), followed by Azerbaijan (0.53), Kyrgyzstan (0.52), and Kazakhstan (0.43). This suggests that people in these regions rely more heavily on credit or informal borrowing in these economies. However, in Uzbekistan, the debt ratio is 0.31, indicating limited access to credit.

Females constitute the majority of respondents in all countries more than 60%, except Uzbekistan (0.45) and Kyrgyzstan (0.57). Middle-aged respondents (30–50) comprises about and more than 40% of respondents in all selected countries. While younger adults aged 17–29 are most represented in Türkiye (0.36) and in other countries this category consist of about 20% of respondents.

Employment rates are highest in Türkiye (0.64) and Kazakhstan (0.63), while in other countries this rate is above 45%. Türkiye (0.49) and Kyrgyzstan (0.41) have the most rural respondents, while Uzbekistan (0.18) is predominantly urban. Respondents with secondary education form the majority in every country, particularly in Uzbekistan (0.79), Kazakhstan (0.67) and Azerbaijan (0.62). While tertiary education is most common in Kyrgyzstan (0.40) and Türkiye (0.27).

Patterns of financial worries vary markedly across the five countries. High worry about old age is most pronounced in Türkiye (0.52) and Azerbaijan (0.48), at the same time Kyrgyzstan (0.18) and Uzbekistan (0.16) show much lower concern. But moderate worry about financial situation in old age is higher in Kyrgyzstan (0.40) and Kazakhstan (0.36).

Similarly, regarding medical costs, the share of respondents who indicated that they have high financial worries on medical costs in case of a serious illness or accident both in Azerbaijan (0.59) and Türkiye (0.51) high, but share of respondents that expressed moderate worry on medical cost is highest in Kyrgyzstan (0.45).

Financial high worry on bills is highest in Azerbaijan (0.52) and Türkiye (0.46), indicating stronger day-to-day financial pressure in these countries. When it comes to education costs, Türkiye (0.40) records the greatest worry, reflecting its higher reliance on private education. Finally, the financial impact of COVID-19 was felt most acutely in Türkiye (0.53) and Azerbaijan (0.49), while Kazakhstan (0.21) experienced the least severe effects; however, moderate COVID-related concern was more prevalent in Kyrgyzstan (0.56) and Kazakhstan (0.45).

### 4.3. Model

Logistic regression analysis was implemented to explore the effect of financial worries on borrowing in Turkic Republics (Wooldridge, 2005):

$$P(\gamma_i=1|x_i|)=G(\beta_0+\beta_1 x_1+\cdots+\beta_k x_k)=G(\beta_0\ +\ x\beta)$$

$$G(z)=\exp(z)/[1+exp(z)]\ =\ \Lambda(z)$$

where G is the logistic function, $\boldsymbol{y}_{\mathrm{i}}$ is a discrete dependent variable that takes the value of zero or one, indicating the probability of an individual borrowed from formal financial institutions or informal institutions as relatives of friends; $\boldsymbol{x}_{\mathrm{i}}$ is a vector of indicators that include socio-demographic factors, employment status, residence and financial worries on medical cost, expenses on education, financial situation in old age and financial worries related COVID-19 pandemic. Thus, household financial behavior is used as the explanatory variable. Households that borrowed during the past 12 months are marked as “1,” while those that did not borrowed are marked as “0.”

### 4.4. Empirical Findings

The logistic regression model was estimated separately for Azerbaijan, Kazakhstan, Kyrgyzstan, Türkiye, and Uzbekistan to identify the main factors influencing the probability of households borrowing money. The results are expressed as marginal effects, representing the change in the probability of borrowing associated with a one-unit change in each explanatory variable.

**Table 3. Marginal effects of independent variables**

| Independent Variables | Marginal Effect Azerbaijan | Marginal Effect Kazakhstan | Marginal Effect Kyrgyzstan | Marginal Effect Turkiye | Marginal Effect Uzbekistan |
|---|---|---|---|---|---|
| Employed | 0.180 (0.817)*** | 0.116 (0.538)*** | 0.126 (0.558)*** | 0.095 (0.494)** | 0.062 (0.316)** |
| Rural | -0.109 (-0.497)*** | -0.040 (-0.188) | 0.055 (0.245)* | - | -0.035 (-0.180) |
| Female | - 0.034 (-0.155) | 0.043 (0.202) | - 0.018 (-0.080) | -0.117 (-0.609)*** | - 0.054 (-0.275**) |
| Secondary Education | 0.072 (0.326)** | 0.159 (0.736)** | 0.111 (0.492)** | 0.103 (0.532)*** | 0.056 (0.289) |
| Tertiary Education | 0.128 (0.518)** | 0.235 (1.088)*** | 0.110 (0.483)* | 0.072 (0.399)*** | 0.151 (0.772)* |
| X8-Age1 (18-29) | - 0.011 (-0.054) | 0.228 (1.055)*** | 0.034 (0.151) | -0.111 (-0.578)*** | 0.093 (0.477)** |
| Age 2(30-45) | 0.038 (0.175) | 0.086 (0.861)*** | 0.086 (0.382)** | -0.011 (-0.056) | 0.114 (0.581)*** |
| Financially high worried: old age | 0.168 (0.212) | 0.094 (0.438)* | -0.104 (-0.464)** | 0.004 (0.022) | -0.009 (-0.047) |
| Financially moderate worried: old age | - | 0.145 (0.671)*** | - | -0.018 (-0.093) | - |
| Financially High Worry on medical cost | 0.084 (0.384)** | 0.044 (0.203) | 0.226 (1.003)*** | 0.024 (0.126) | 0.198 (1.009)*** |
| Financially Moderate Worry on medical cost | - | - | 0.134 (0.595)*** | 0.065 (0.337) | 0.138 (0.702)*** |

| | | | | | |
|---|---|---|---|---|---|
| Financial High Worry on bills | 0.054<br>(0.248) | -0.062<br>(-0.284) | 0.065<br>(0.290) | 0.103<br>(0.567)*** | 0.065<br>(0.335) |
| Financial High Worry on Education expenses | -0.025<br>(-0.130) | 0.029<br>(0.134) | 0.033<br>(0.148) | - | 0.005<br>(0.028) |
| Financial Moderate Worry on Education | - | 0.078<br>(0.374)** | 0.048<br>(0.214) | 0.068<br>(-0.335) | - |
| Financially High Worry due to COVID 19 | 0.091<br>(0.393)*** | 0.075<br>(0.350)* | 0.009<br>(0.044) | 0.162<br>(0.895)*** | 0.055<br>(-0.282) |
| cons | -0.971*** | -2.282*** | -1.800*** | -0.142 | -1.910*** |

(**%5 confidence interval; * %1 confidence interval)

Employment has a positive and statistically significant effect on borrowing in all countries, with employed individuals more likely to access credit, reflecting greater financial credibility. Rural–urban effects are mixed: rural residents are less likely to borrow in Azerbaijan but more likely to do so in Kyrgyzstan, possibly due to reliance on informal or microcredit sources, while effects are insignificant elsewhere. Gender disparities persist, with women less likely to borrow in Türkiye and Uzbekistan, though effects vary across countries. Education strongly increases borrowing, particularly for tertiary graduates in all countries. Age effects are heterogeneous: younger individuals borrow more in Kazakhstan and Uzbekistan, while middle-aged respondents are more likely to borrow in Kazakhstan, Kyrgyzstan, and Uzbekistan, consistent with life-cycle financial needs.

Financial worries significantly influence borrowing behavior across countries. Concerns about old-age security increase borrowing in Kazakhstan, suggesting gaps in pension and social security systems, but reduce borrowing in Kyrgyzstan, while effects elsewhere are weak or insignificant. Medical expense worries strongly increase borrowing in Azerbaijan, Kyrgyzstan, and Uzbekistan, particularly at high concern levels, indicating the importance of health-related financial risks in contexts with limited healthcare coverage. Concerns about covering monthly bills are significant only in Türkiye, reflecting higher utility costs. Education-related worries show weak and heterogeneous effects, whereas COVID-19–related financial concerns significantly increase borrowing in Türkiye, Azerbaijan, and Kazakhstan, highlighting the role of pandemic-induced uncertainty in driving credit use.

**Table 4. Results of Hosmer-Lemeshow test and correctly classified value for logit models**

| | Azerbaijan | Kazakhstan | Kyrgyzstan | Turkiye | Uzbekistan |
|---|---|---|---|---|---|
| Predicted value (hat) | 1.0648***<br>(0.000) | 0.9064***<br>(0.009) | 0.9064***<br>(0.009) | 0.7174***<br>(0.001) | 0.9064***<br>(0.009) |
| Square of predicted value (hatsq) | 0.0246<br>(0.816) | -0.0306<br>(0.776) | -0.0306<br>(0.776) | 0.1955<br>(0.128) | -0.0306<br>(0.776) |
| Hosmer–Lemeshow $\chi^2(8)$ | 9.58 | 7.57 | 8.79 | 7.76 | 2.76 |
| p-value (Prob > $\chi^2$) | 0.296 | 0.4769 | 0.3601 | 0.4576 | 0.9482 |
| Correctly classified values | 62.5% | 67.8% | 62.6% | 69.2% | 70.3% |

The logistic regression model of borrowing of all analyzed countries demonstrates good overall fit and moderate predictive performance. Across multiple specifications, the Hosmer–Lemeshow goodness-of-fit test indicates no evidence of lack of fit, with $\chi^2$ statistics ranging from 2.76 to 9.58 and corresponding p-values between 0.296 and 0.948. Classification results show that classification accuracy lies between 62% and 70%, demonstrating that the model captures borrowing behavior moderately well but with trade-offs between correctly identifying borrowers and non-borrowers. These results suggest that the model is well calibrated and informative for analyzing borrowing decisions, though caution is warranted in using it for precise prediction or targeting.

## 5. Discussion

*Employment*

Employment has a positive and statistically significant effect on borrowing in all countries. Access to finance for employed people is higher by 18% in Azerbaijan, by 12% in Kyrgyzstan and Kazakhstan, by 9.5% in Turkey, and by 6% in Uzbekistan. This shows that individuals with stable employment are more likely to access credit, possibly due to higher financial credibility and repayment capacity.

*Residence*

The rural–urban variable shows mixed effects. In Azerbaijan, for example, rural residents are less likely to borrow, which may reflect limited access to financial institutions. Conversely, in Kyrgyzstan (0.055), rural respondents are more likely to borrow, perhaps due to their reliance on informal credit networks and the widespread accessibility of microcredit institutions in rural areas. The effect is statistically insignificant in Kazakhstan and Uzbekistan.

*Gender*

The effect of gender varies by country. In Turkiye and Uzbekistan, the likelihood of borrowing is 11.7% and 5.4% lower, respectively. This suggests the existence of potential gender disparities in access to credit. In Azerbaijan and Kazakhstan, women have lower access to finance, but this is not statistically significant in Kazakhstan. However, the effect in Kyrgyzstan is positive, albeit not statistically significant (0.043), suggesting more equal borrowing opportunities.

*Education*

The results showed that education has a positive impact on borrowing. Individuals with a secondary education are more likely to borrow money in all countries except Uzbekistan. Thus, the likelihood of secondary school graduates borrowing is higher by 16% in Kazakhstan, 11% in Kyrgyzstan, 10% in Turkey and 7% in Azerbaijan. Tertiary education significantly increases the likelihood of borrowing in all the selected countries: by 24% in Kazakhstan, 15% in Uzbekistan, 12% in Azerbaijan, 11% in Kyrgyzstan and 7% in Turkey. Therefore, we can conclude that the level of education is significantly and positively correlated with access to finance in the Turkic Republics.

*Age*

According to the results of the logistic regression analysis, access to finance for younger respondents (18–29 years old) is higher in Kazakhstan and Uzbekistan, at 23% and 9.3% respectively. In Turkey, however, it is lower, at 11%, than for other age groups. In Azerbaijan, the likelihood of this group of respondents borrowing is lower, whereas in Kyrgyzstan it is higher, albeit not statistically significant.

In Kazakhstan, Kyrgyzstan and Uzbekistan, middle-aged individuals (30–45 years old) are more likely to borrow. This is consistent with the greater financial obligations associated with this life stage. At the same time, the likelihood of borrowing among this group is lower in Turkey and higher in Azerbaijan, but not statistically significant.

*Financial Worries and Borrowing Motives*

Logistic regression results showed that financial worries significantly affect individuals' borrowing decisions. Respondents who were moderately or highly worried about old age were 9.4% and 14.5% more likely to borrow money in Kazakhstan, respectively. However, in Kyrgyzstan, such concerns reduce the likelihood of borrowing by 10.4%. In Azerbaijan, the likelihood of borrowing among respondents highly worried about old age increased by 17%, by 0.4% in Turkey, and this indicator was negative but statistically insignificant in Uzbekistan.

In all countries except Turkey and Kazakhstan, high concern about medical costs significantly increases the likelihood of borrowing. In Kyrgyzstan and Uzbekistan, both high and moderate levels of concern about medical costs significantly increase the likelihood of borrowing. For example, people who are highly concerned about medical costs are 22.6% more likely to borrow in Kyrgyzstan and 20% more likely to borrow in Uzbekistan. Respondents with moderate concerns about medical costs are also 13% more likely to borrow in Kyrgyzstan and Uzbekistan, with a statistically significant level of 0.01. In Azerbaijan, high financial worries increase the likelihood of borrowing by 8.4%. Overall, concern about medical expenses is one of the main reasons why individuals borrow money, especially in countries where there are problems in the healthcare sector.

Statistically significant impacts are only observed in Turkiye for high worries about covering monthly bills. It increases the likelihood of borrowing by 10.3%. This suggests that energy prices, such as those for gas and electricity, are much higher in Turkiye than in other Turkic republics.

Concerns about educational expenses have a weak or inconsistent effect across the region. Thus, high levels of concern about educational costs increase the likelihood of borrowing in Kazakhstan, Kyrgyzstan and Uzbekistan, but this effect is statistically insignificant. Moderate concerns about educational costs have a statistically significant positive impact on borrowing only in Kazakhstan (7.8%). Financial worries related to COVID-19 significantly increase likelihood of borrowing in Türkiye by 16%, Azerbaijan 9.1%, and Kazakhstan 7.5%, suggesting that pandemic-related uncertainty led to higher reliance on credit.

The empirical results largely support first hypothesis: H1: *Financial worry increases the likelihood of borrowing*. Across the sample countries, individuals reporting higher levels of financial worry are generally more likely to engage in borrowing. In particular worries related to medical expenses, old-age security, and COVID-19–related uncertainty are associated with statistically significant increases in borrowing probabilities. These findings align with behavioral finance theories suggesting that financial stress shifts individuals into a loss domain, increasing their willingness to borrow as a coping mechanism.

The results strongly confirm second hypothesis too: H2: The effect of financial worry on borrowing is heterogeneous across domains. Different types of financial worry exert distinct effects on borrowing behavior. Concerns about medical expenses show the most consistent and pronounced impact, especially in Kyrgyzstan and Uzbekistan. Old-age worries increase borrowing in Azerbaijan and Kazakhstan but reduce it in Kyrgyzstan, while worries about monthly bills are significant primarily in Türkiye. In contrast, concerns related to education expenses display weak or statistically insignificant effects across most countries. This heterogeneity highlights the importance of distinguishing between domains of financial worry when analyzing borrowing decisions.

But evidence in support of third hypothesis is mixed: H3: Financial capability mitigates the relationship between financial worry and borrowing. Indicators of financial capability—such as employment status, education level, and age—are positively associated with borrowing, reflecting improved access to credit. However, even among financially capable individuals, worries about medical costs and pandemic-related uncertainty continue to drive borrowing, particularly in countries with limited social insurance coverage. This suggests that financial capability moderates but does not fully offset the influence of financial worry on borrowing behavior.

The findings support also forth hypothesis: H4: Institutional context shapes the strength of the worry–borrowing relationship. But by revealing substantial cross-country differences which is In Kyrgyzstan and Uzbekistan, the strong effect of medical cost worries points to necessity-driven and likely informal borrowing, reflecting weaker social protection and limited access to formal credit. In contrast, borrowing in Türkiye and Kazakhstan is more closely linked to concerns over monthly expenses and pandemic-related uncertainty, consistent with broader access to formal financial services. These patterns underscore the critical role of institutional and policy environments in shaping how financial worry translates into borrowing behavior.

Overall, the findings suggest that employment, education and age are significant socio-demographic factors influencing borrowing behaviour. At the same time, however, gender and rural–urban disparities remain evident, reflecting unequal access to credit opportunities across the region. Financial concerns such as worries about medical costs and old age have a significant positive impact on borrowing. Meanwhile, concerns about the costs of the pandemic have fostered borrowing in Kazakhstan and Turkey, showing patterns consistent with formal credit access. In contrast, Kyrgyzstan and Uzbekistan exhibit signs of informal or necessity-driven borrowing.

## 6. Conclusion and Policy Recommendations

This study examined the relationship between financial worries and borrowing behaviour in five Turkic countries: Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey and Uzbekistan. The empirical results showed that employment and education significantly improve access to credit. At the same time, gender and rural–urban disparities remain evident, reflecting unequal access to credit opportunities across the region. The results confirm that financial worries impact borrowing behavior. Financial worries relating to medical costs, old age, educational expenses, and costs related to the pandemic have encouraged individuals to borrow money. Therefore, it can be suggested that borrowing is accepted as a coping mechanism rather than a deliberate financial strategy.

Medical expenses remain a primary source of financial anxiety, particularly in countries with weaker healthcare and social protection systems, such as Kyrgyzstan and Uzbekistan. In Kazakhstan, financial worries about old age, educational costs and expenses related to the pandemic foster borrowing among individuals. In Azerbaijan, financial worries about medical costs and expenses related to the pandemic increase the likelihood of borrowing. In Turkey, financial concerns about bill payments and costs related to the pandemic also encourage people to borrow money.

Based on the empirical results, it is recommended that governments and financial institutions expand access to affordable credit, particularly for women and rural households. At the same time, they should promote financial literacy and responsible borrowing through targeted educational programmes. Additionally, developing emergency savings and health insurance schemes can reduce reliance on debt during economic crises. Strengthening national social protection and healthcare systems is essential for building financial resilience and ensuring equitable access to financial stability for all.

Regional cooperation among the Turkic countries is recommended as an effective solution to the indicated problems. The strong and effective healthcare and social protection system in Turkey can serve as an excellent model for other Turkic republics, while the rich energy resources of other countries can provide an alternative energy source for Turkey. Such cooperation can establish more resilient financial ecosystems and improve household financial security.

Several limitations should be acknowledged. First, the analysis relies on cross-sectional data from the Global Findex 2021 survey, which limits the ability to establish causal relationships or capture dynamic changes in financial behaviour over time. Second, financial worries and borrowing decisions are measured using self-reported indicators, which may be subject to recall bias or social desirability bias. Third, while the study controls for key socioeconomic characteristics, unobserved factors—such as informal social support networks, cultural norms, or local credit market conditions—may also influence borrowing behaviour but cannot be fully captured in the data. Finally, the focus on five Turkic countries, while offering valuable regional insights, may limit the generalisability of the findings to other developing or emerging economies.

Despite these limitations, the study provides robust comparative evidence on the behavioural dimensions of borrowing in the Turkic region. Future research could build on these findings by employing panel data, exploring the role of informal finance, and examining the long-term welfare implications of borrowing as a coping strategy. Regional cooperation among Turkic countries remains a promising avenue for policy coordination, where Türkiye's experience in healthcare and social protection reform and the energy resources of other regional partners can jointly contribute to more resilient financial ecosystems and improved household financial security.

## Ethical Declaration / Etik Beyanı

It is declared that scientific and ethical principles were adhered to during the execution and writing of this study, and that all sources used have been appropriately cited. / Bu çalışmanın yürütülmesi ve yazılması sırasında bilimsel ve etik ilkelere bağlı kalındığı ve kullanılan tüm kaynakların uygun şekilde alıntılanmış olduğu beyan edilir.

## Declaration Regarding the Use of Artificial Intelligence / Yapay Zeka Kullanımı ile İlgili Beyan

The authors commit to adhering to ethical principles, transparency, and responsibility in the use of artificial intelligence tools, ensuring their academic responsibility. / Yazarlar, yapay zeka araçlarının kullanımında etik ilkelere, şeffaflığa ve sorumluluğa bağlı kalarak akademik sorumluluklarını yerine getireceklerini taahhüt ederler.

## Declaration of Conflicting Interests / Çıkar Çatışması Beyanı

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. / Yazarlar, bu makalenin araştırması, yazarlığı ve/veya yayınlanması ile ilgili herhangi bir çıkar çatışması olmadığını beyan etmişlerdir.

## Funding / Fon Kullanımı

The authors received no financial support for the research, authorship, and/or publication of this article. / Yazarlar, bu makalenin araştırması, yazarlığı ve/veya yayınlanması için herhangi bir finansal destek almamışlardır.

## Authors' Contributions / Yazarların Katkıları

Design of the Research / Araştırmanın Tasarımı: A. Turdalieva (+), R. Abdieva (+)

Data Collection / Veri Toplama: A. Turdalieva (+), R. Abdieva (+)

Data Analysis / Veri Analizi: A. Turdalieva (+), R. Abdieva (+)

Article Writing / Makale Yazımı: A. Turdalieva (+), R. Abdieva (+)

Article Submission and/or Revision / Makale Yükleme ve/veya Revizyonu: A. Turdalieva (+), R. Abdieva (+)

Note: The + and - symbols indicate whether authors contributed or did not contribute, respectively. / + ve - sembolleri sırasıyla yazarların katkıda bulunduğunu veya katkıda bulunmadığını gösterir.

## References


Acar, E. Ö., Günalp, B., & Cilasun, S. M. (2016). An empirical analysis of household education expenditures in Turkey. *International Journal of Educational Development, 51*, 23–35. https://doi.org/10.1016/j.ijedudev.2016.03.007

Ansar, S., Demirgüç-Kunt, A., Klapper, L., & Singer, D. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1897-4

Arnold, M., de Jong, M., Veen, J., Holleman, M., & Owino, E. (2016). Coping with the economic burden of diabetes, tuberculosis and co-prevalence: Evidence from Bishkek, Kyrgyzstan. *BMC Health Services Research, 16*(1), 1–12. https://doi.org/10.1186/s12913-016-1369-7

Barberis, N., Shleifer, A., & Vishny, R. (1998). A model of investor sentiment. *Journal of Finance, 49*(2), 307–343.

Bartfeld, J., & Collins, J. M. (2017). Food insecurity, financial shocks, and financial coping strategies among households with elementary school children in Wisconsin. *Journal of Consumer Affairs, 51*(4), 992–1022. https://doi.org/10.1111/joca.12162

Bhandary, R., Shenoy, S. S., Shetty, A., et al. (2024). Education loan repayment: A systematic literature review. *Journal of Financial Services Marketing, 29*, 1365–1376. https://doi.org/10.1057/s41264-023-00248-2

Borgogna, N. C., McDermott, R. C., & Krantz, L. H. (2023). Financial insecurity, stress, and resiliency: A moderated mediation analysis. *Occupational Health Science, 7*(1), 15–24. https://doi.org/10.1038/s41542-022-00130-y

Butrica, B. A., & Mudrazija, S. (2020). Financial security at older ages. *Center for Retirement Research at Boston College Working Paper, 2020-19*. https://doi.org/10.2139/ssrn.3786232 (doi.org in Bing)

Canatan, A., & İpek, N. (2025). Investigating the impact of social assistance and borrowing behavior on reducing economic worries. *Eurasian Academy of Business and Economics Journal, 2025*(2), 291–300. https://doi.org/10.21121/eab.20250203-3989955

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*(2), 267–283.

Clayton, M., Linares-Zegarra, J., & Wilson, J. O. (2015). Does debt affect health? Cross-country evidence on the debt–health nexus. *Social Science & Medicine, 130*, 51–58.

Collins, J. M., & Gjertson, L. (2013). Emergency savings for low-income households: Evidence from the Refund to Savings initiative. *Social Service Review, 87*(4), 653–681.

de Bruijn, E.-J., & Antonides, G. (2022). Determinants of financial worry and rumination. *Journal of Economic Psychology, 93*, 102545. https://doi.org/10.1016/j.joep.2022.102545

Dunn, L. F., & Mirzaie, I. A. (2016). Consumer debt stress, changes in household debt, and the Great Recession. *Economic Inquiry, 54*(1), 201–214.

Dwyer, R. E., McCloud, L., & Hodson, R. (2011). Youth debt, mastery, and self-esteem: Class-stratified effects of indebtedness on self-concept. *Social Science Research, 40*(3), 727–741.

Dwyer, R. E., Neilson, L. A., Nau, M., & Hodson, R. (2016). Mortgage worries: Young adults and the US housing crisis. *Socio-Economic Review, 14*(3), 483–505.

European Bank for Reconstruction and Development. (2022). *Transition report 2021–22: System upgrade – Delivering the digital dividend*. London: EBRD.

European Bank for Reconstruction and Development. (2023). *Transition report 2023–24: Transitions big and small*. London: EBRD.

Fa-Kaji, N. M., Silver, E. R., Hebl, M. R., King, D. D., King, E. B., Corrington, A., & Bilotta, I. (2023). Worrying about finances during COVID-19: Resiliency enhances the effect of worrying on both proactive behavior and stress. *Occupational Health Science, 7*(1), 111–142. https://doi.org/10.1007/s41542-022-00130-y

Gathergood, J. (2012). Debt and depression: Causal links and social norm effects. *The Economic Journal, 122*(563), 1094–1114.

Gennaioli, N., Shleifer, A., & Vishny, R. (2018). *A crisis of beliefs: Investor psychology and financial fragility*. Princeton University Press.

Gonzalez, F. (2015a). *Micro-foundations of financialization: Status anxiety and the expansion of consumer credit in Chile* (Doctoral thesis). Universität Köln, Germany.

Hamilton, R. W., Mittal, C., Shah, A., Thompson, D. V., & Griskevicius, V. (2019). How financial constraints influence consumer behavior: An integrative framework. *Journal of Consumer Psychology, 29*(2), 285–305. https://doi.org/10.1002/jcpy.1074

Haushofer, J., & Fehr, E. (2014). On the psychology of poverty. *Science, 344*(6186), 862–867.

Hunt, S., Wisocki, P. A., & Yanko, J. (2003). Worry and use of coping strategies among older and younger adults. *Journal of Anxiety Disorders, 17*(5), 547–560. https://doi.org/10.1016/S0887-6185(02)00229-3

International Monetary Fund. (2022). *Regional economic outlook: Middle East and Central Asia*. Washington, DC: IMF.

International Monetary Fund. (2023). *Regional economic outlook: Europe*. Washington, DC: IMF.

Islam, M. M., & Khoj, H. (2022). Coping mechanisms and quality of life of low-income households during the COVID-19 pandemic: Empirical evidence from Bangladesh. *Sustainability, 14*, 16570. https://doi.org/10.3390/su142416570

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–291.

Kalousova, L., & Burgard, S. A. (2013). Debt and foregone medical care. *Journal of Health and Social Behavior, 54*(2), 204–220.

Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. *Review of Financial Studies, 23*(1), 433–464.

Kim, H., Yoon, W., & Zurlo, K. A. (2012). Health shocks, out-of-pocket medical expenses and consumer debt among middle-aged and older Americans. *Journal of Consumer Affairs, 46*(3), 357–380. https://doi.org/10.1111/j.1745-6606.2012.01236.x

Li, Z., Yao, R., & Cho, S. H. (2025). Economic insecurity, perceived stress, and depressive symptoms: A longitudinal study on mental health. *Applied Research in Quality of Life, 20*(1), 1611–1628. https://doi.org/10.1007/s11482-025-10485-3

Loibl, C., Moulton, S., Haurin, D., & Edmunds, C. (2022). The role of consumer and mortgage debt for financial stress. *Aging & Mental Health, 26*(1), 116–129. https://doi.org/10.1080/13607863.2020.1843000

Lusardi, A., Schneider, D. J., & Tufano, P. (2011). Financially fragile households: Evidence and implications. *Brookings Papers on Economic Activity, 2011*(1), 83–134. https://doi.org/10.1353/eca.2011.0002

Magwegwe, F. M., MacDonald, M. M., Lim, H., & Heckman, S. J. (2023). Determinants of financial worry. *Journal of Consumer Affairs, 57*(1), 171–221. https://doi.org/10.1111/joca.12496

Modigliani, F. (1986). Life cycle, individual thrift, and the wealth of nations. *Science, 234*(4777), 704–712. https://doi.org/10.1126/science.234.4777.704

Monat, A., & Lazarus, R. S. (1991). Stress and some of its effects. In A. Monat & R. S. Lazarus (Eds.), *Stress and coping: An anthology* (pp. 1–13). New York, NY: Columbia University Press.

Murakami, E. (2017). *Household consumption risk and coping strategies in Tajikistan: Evidence from household surveys (ADBI Working Paper)*. Tokyo: Asian Development Bank Institute.

Murphy, A., McGowan, C., McKee, M., & Suhrcke, M. (2019). Coping with healthcare costs for chronic illness in low-income and middle-income countries: A systematic literature review. *BMJ Global Health, 4*(4), e001475. https://doi.org/10.1136/bmjgh-2019-001475

Nguyen, L. D., Nguyen, T. T., Nguyen, T. T., & Grote, U. (2025). Health shock and indebtedness: Does having access to health insurance reduce the reliance on borrowing as a shock coping strategy? *Applied Economic Perspectives and Policy, 47*(2), 823–862. https://doi.org/10.1002/aepp.13495

Ray, C., Lindop, J., & Gibson, S. (1982). The concept of coping. *Psychological Medicine, 12*(2), 385–395. https://doi.org/10.1017/S0033291700046729

Rona-Tas, A., & Guseva, A. (2018). Consumer credit in comparative perspective. *Annual Review of Sociology, 44*, 55–75. https://doi.org/10.1146/annurev-soc-060116-053653

Sherraden, M. (2013). Building blocks of financial capability. In J. Birkenmaier, M. Sherraden, & J. Curley (Eds.), *Financial capability and asset building: Research, education, policy, and practice* (pp. 3–43). Oxford University Press.

Simonse, O., Van Dijk, W. W., Van Dillen, L. F., & Van Dijk, E. (2024). Economic predictors of the subjective experience of financial stress. *Journal of Behavioral and Experimental Finance, 42*, 100933. https://doi.org/10.1016/j.jbef.2024.100933

Thaler, R. H. (1985). Mental accounting and consumer choice. *Marketing Science, 4*(3), 199–214.

Thaler, R. H. (1999). The end of behavioral finance. *Financial Analysts Journal, 55*(6), 12–17.

World Bank. (2019). *Global financial development report 2019/2020: Bank regulation and supervision a decade after the global financial crisis*. Washington, DC: World Bank.

World Bank. (2021). *Tracking universal health coverage: 2021 global monitoring report*. Washington, DC: World Bank & WHO.

World Bank. (2022). *Global FINDEX Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. Washington, DC: World Bank.

World Bank. (2023). *Europe and Central Asia economic update*. Washington, DC: World Bank.

World Bank. (2024). *Macro poverty outlook: Europe and Central Asia*. Washington, DC: World Bank.

World Health Organization & World Bank. (2021). *Global monitoring report on financial protection in health 2021*. Geneva: WHO.

World Health Organization. (2021). *Global Health Expenditure Database*. Geneva: WHO.

Zhao, T., Chen, K., Wang, Q., & Luo, C. (2023). Financial literacy, liquidity constraints and household risk asset allocation. *Finance Research Letters, 58*, 104555.