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An Analysis Of The Impact Of Credit Cards In International Finance Focusing On The United States Of America

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Abstract
According to the Federal Reserve, the amount of credit card debt in the United States reached a record high of USD 1.14 trillion in Q2 2024. How does financial literacy affect credit card debt repayment in this day and age of sophisticated, high-interest credit cards? Furthermore, how can education and financial literacy help to reduce the rise of credit card debt in the United States? To answer these questions, we use microdata from the most current wave of the 2022 Consumer Finance Survey. Our purpose is to track the likelihood of credit card repayment trends based on the monthly amounts owed by 3865 credit card customers.

We explore three forms of self-reported credit card repayment behaviour: rarely, occasionally, and nearly often. Because our outcome variable is ordinal, we use a variety of likelihood-ratio and Brant tests to assess the assumption of proportional probabilities across answer categories. After the tests fail, we use a generalised ordered logit/partial proportional odds model, which allows us to relax the parallel lines restriction for variables that do not require it. We explore a wide range of demographic parameters in our logistic regressions, and we highlight the following findings: The odds of switching to a higher category of payback behaviour for credit card holders with low financial literacy are 21%, which is much lower than the odds for respondents with high financial literacy.

Furthermore, in comparison to credit card holders without a college degree, those with a college degree are 2.49 times more likely to pay off their obligations on a regular or almost regular basis as opposed to sometimes or scarcely ever. Members of minority groups, women, those under 45, those with dependents, and those earning less than $50,000 USD are more likely to have poor credit card payment habits. In our conclusion, we discuss measures to improve credit card repayment rates. We emphasise the need of keeping an eye on individuals. We also wish to provide some groups with better financial advise.

Keywords : Financial decision-making, finances in the household, credit card payments, financial literacy, partial proportional odds, generalised ordered logarithms model, and ordinal information.

1. Introduction
Our research centres on credit cards and how Americans repay their debt. We stress that the amount of credit card debt in America has skyrocketed. According to the Federal Reserve (FED) of the United States (U.S.), American credit card debt will hit USD 1.14 trillion in the second

quarter of 2024, its highest level ever. As a result, we need to investigate and improve credit card users' repayment habits.

This is vital to help lower the increasing quantity of credit card debt. Credit cards are more than a consumer payment method: they sit at the intersection of household finance, banking business models, payment-system infrastructure, cross-border flows, and monetary-transmission dynamics. In the U.S., credit card balances, interest rates, fees, and network structures influence household consumption, bank revenue and risk, merchant costs, and the architecture of cross-border retail payments. Recent empirical work and policy reports therefore treat credit cards both as a microeconomic consumer-finance issue and as a macro-relevant financial-systems phenomenon.

1.1. **Background**

Credit cards are intended to simplify purchases by serving as a cash or cheque alternative, as well as providing fraud protection and a line of credit. Credit cards serve their purpose when their holders pay their bills. They also enhance credit scores. In addition, they offer rewards such as cash back, points, or miles for purchases. Unfortunately, several of the unique advantages of credit cards (such as the option to carry a load from month to month that users can pay down over time) usually lead to credit card holders making less-than-ideal decisions.

Credit card users usually undervalue their obligations and debt. Furthermore, they frequently carry amounts that pay high interest rates and are driven to overspend. The repayment practices of several more contradicting consumers have been documented.

Ricaldi et al. (2022) used the credit card debt conundrum to demonstrate inefficient family behaviour. Despite having enough liquid funds, they choose not to pay off their credit card debt.

Our research focusses on American credit card holders, and we provide the following data on their repayment habits. According to the Federal Reserve's report on the economic well-being of American households in 2023, 82 percent of adults in the United States had a credit card, and they were "equally split between people who paid off their balances in each of the previous 12 months and people who carried balances from month to month at least once in the prior year." Researchers have a wealth of material to work with because American credit cards are so commonly utilised and credit card customers are in debt. Professionals can investigate whether the financial decisions made by customers are sound.

1.2. **Research Gap**

The research discusses a number of factors that influence credit card debt repayment decisions. The factors include the respondents' family size, gender, race, income, and education level. They also include behavioural traits including lack of self-control, laziness, and precautionary savings motives. We emphasise the need of financial literacy in our own article.

The literature provides numerous definitions and measurements for financial literacy.

"Financial literacy is a measure of the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through appropriate short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions," **for example, says Remund (2010, p. 284).**

Lusardi and Mitchell (2014, p. 6) defined financial literacy as "the capacity of individuals to comprehend economic data and make well-informed choices regarding financial planning, wealth accumulation, debt, and pensions." **Interestingly, Lusardi and Tufano (2015, p. 333)**

also defined "debt literacy" as a component of financial literacy that assesses "the ability to make simple decisions regarding debt, applying basic knowledge about interest compounding to everyday financial choices" and measures knowledge about debt. This is relevant to our paper.Lusardi and Mitchell2014, p. 6Lusardi and Tufano2015, p. 333

We aim to emphasize the popularity of financial literacy. It is mentioned in a lot of research on financial decision-making. Studies on credit card repayment patterns and financial literacy are scarce, nevertheless. We examine a number of excellent works in our work's Literature Review area. However, we think that more work can be done. Additionally, we hope that our effort will provide significant updated metrics for American credit card holders by utilizing the most recent U.S. data. Additionally, we provide information to help prevent an increase in credit card debt in the United States.

1.3. **Objectives**

We use U.S. microdata from the Survey of Consumer Finances (SCF) and its most recent 2022 wave to evaluate the impact of financial literacy on credit card repayment behaviours. We observe that the three Lusardi and Mitchell (2011) standard questions were introduced to the SCF in 2016 in order to include levels of financial literacy. These inquiries address risk diversification, interest rates, and inflation. They might contribute to the creation of an unbiased financial literacy index. SCF provides a rich set of questions at the same time. They record respondents' opinions about credit, their plans to apply for credit cards, and their current card balances. They also address the available and remaining credit, the ability to carry balances, and the ability to pay them off over time.

Mitchell and Lusardi (2011)

The SCF question, which records respondents' self-reported credit card repayment behaviour, is the main subject of our study. In addition, we take respondents' age, gender, education, and race into consideration in addition to financial literacy. We also take into account whether they have dependents and their salary. We emphasize that we adopt partial proportional odds and generalized ordered logit models, followed by robustness and diagnostic tests, because of the nature of the responses to the credit card payback question. Our goal is to quantify the relationship between credit card payback and financial literacy. We'll also see if this effect persists when other variables are taken into consideration. Furthermore, we want to know how to best develop and maintain financial literacy utilizing our findings and the most recent research.

1.4. **Contributions**

Since the introduction of increasingly sophisticated and modern financial products into the market, the current century has seen a number of financial reforms. Our research focuses on credit cards, which are a common financial product but can come with complicated terms and high interest rates for customers. We therefore believe that our study is highly pertinent and topical in this particular setting.

The concepts of financial literacy and illiteracy, as well as how they affect decision-making, are widely accepted in the fields of economics and finance yet are difficult to measure. Our goal is to assist in measuring the impact of financial literacy on important financial choices, such as the payback of credit card debt.

Finally, given the increase in credit card debt in the United States, we think our research provides timely and pertinent results. These reinforce the necessity of financial literacy for wise decision-making, particularly when it comes to credit card debt repayment. We hope that readers, educators, legislators, and financial advisors will find our work useful. Lastly, we provide some recommendations on how to maximize financial literacy tools and assessments and how to attain financial literacy. We also recommend that credit card holders in particular demographics be better monitored.

1.5. The Structure of the Paper

The following is the paper's structure. We examine the research on financial literacy in Section 2. We concentrate on how it influences financial choices, particularly how people repay their credit cards. Evidence from both industrialized and developing nations is presented here. We describe our methodology and the research database in Section 3. We describe why predicting the likelihood of credit card payback requires the use of partial proportional odds and generalized ordered logit models. Our results from both univariate and multivariate generalized ordered logistic regressions are shown in Section 4. We wrap up by summarizing our findings in Section 5. For certain credit card users, they recommend policies to enhance financial monitoring and advise. Additionally, they seek to maintain and improve financial literacy. We outline possible future directions for our work and point out the limitations of our research in Sections 2, 3, 4, and 5.

2. Financial Literacy and Financial Behaviors in the Literature

The literature has emphasized financial literacy as a critical component of prudent financial behaviour. Poor choices in a variety of financial domains have been associated with a lack of financial literacy. These consist of credit card debt, retirement savings, investment decisions, mortgage selection, and refinancing. The final problem is also discussed in our paper. There are three sections to this literature review. First, we present data demonstrating the advantages of financial literacy for significant financial choices. We then discuss research on the negative effects of financial illiteracy on decisions pertaining to debt. Lastly, we concentrate on research on credit card use and financial literacy. We present research findings from both domestic and international sources in our coverage.

We started by mentioning Lusardi and Mitchell (2011), who used data from the 2004 Health and Retirement Survey to show that financial literacy was a good predictor of retirement planning and wealth and that it had a beneficial impact on important financial decisions. Using experimental data from Chile, Hastings and Mitchell (2020) demonstrated a relationship between accumulated retirement savings and financial literacy.

Lusardi and Mitchell 2011Hastings and Mitchell2020 According to Van Rooij et al. (2011), people who were more literate were more inclined to buy stocks and, as a result, received larger returns. After adjusting for a complex range of factors, such as risk aversion, Cupák et al. (2020) found a positive correlation between financial literacy and both debt securities and risky asset investments. Additionally, they discovered that the importance of financial literacy differed significantly across a number of socioeconomic variables and the distribution of wealth. Additional proof of the beneficial effects of financial literacy comes from the recent COVID-19 epidemic. In their research of the early stages of the COVID-19 pandemic, for example, Clark et

al. (2021) found that respondents who were more financially literate were better equipped to withstand the financial setbacks brought on by the virus. They found that financial literacy was inversely correlated with self-reported financial fragility and that financial literacy might offer some additional protection in the event of a pandemic.

In 2021, Clark and associates
Lusardi and Tufano (2015) reported findings demonstrating that those with lower debt literacy tended to borrow money at higher rates and incur higher fees, indicating the negative influence of financial illiteracy on financial decision-making. In addition, the percentage of debt illiteracy was disproportionately high among women, the elderly, minorities, and those who were separated or divorced. Gathergood and Weber's 2017 analysis of UK data revealed that people may make bad mortgage choices due to a lack of financial knowledge. Finally, we share the finding of Lusardi and Mitchell (2023, p. 138) that, in addition to making consumers' financial lives more difficult, "in the longer term, differences in financial literacy also contribute to wealth inequality."
Furthermore, they discovered that just one in three people worldwide were financially literate, which means they knew at least three of the four financial concepts. Furthermore, just around half of credit card-using people in major emerging countries had a basic understanding of finance and credit goods.
The researchers discovered that whilst 51% of adults in wealthy nations utilized a credit card, only 11% of adults in key emerging economies did so. Lusardi et al. (2017), Klapper and Lusardi 2020, and Shen (2014) reviewed the literature that looked at customer irrationality and rationality as well as financial literacy in the credit card market.
Based on the thorough research provided by the author, consumers typically make the correct decision when they take out a credit card loan and pay the high interest rate, but they commit several mistakes when using credit cards independently. By impacting cognitive ability, financial understanding, and financial education, the author continued, financial literacy could affect consumer behaviour.
Mottola2013 Using information from the 2009 National Financial Capability Study (NFCS), Mottola (2013) examined the correlation between financial literacy, gender, and credit card usage in a sample of 28,146 American people who were 18 years of age or older. According to the author, there is evidence that women are more prone than men to engage in expensive credit card practices, such as paying late and over-limit penalties. However, gender-based variations in credit card behaviours were removed after adjusting for a number of demographic factors, such as financial literacy and a self-assessment of mathematical ability.
In their 2021 study, Barboza et al. used a sample of 156 college students in the United States to investigate the impact of financial literacy and personal characteristics like excessive spending or a lack of self-control on credit card use. The authors found that among personal characteristics, excessive spending led to credit card debt that was not fully paid off, and that this effect outweighed any benefits of financial literacy. Therefore, financial literacy seemed to have a minor impact in preventing monthly credit card debt, according to the authors.
Tahir et al. (2020) employed a nationally representative data set from Australia to investigate the relative strength of the relationship between credit card debt-taking behaviour and financial contentment, attitudes toward balancing consumption and savings, and financial literacy. The

authors discovered a correlation between reduced credit card debt and more financial literacy. However, this association was diminished when the other characteristics were taken into account. In order to decrease problematic debt-taking, the authors advocated for the inclusion of elements that promote a saving mindset in financial literacy curriculum.

Furthermore, the following are some intriguing empirical findings from research that looked into the connection between credit card behaviours and financial literacy, specifically with regard to several emerging economies. Hamid and Loke (2021) examined a sample of 451 credit card users in Malaysia and demonstrated that while socioeconomic factors pertaining to education, income, ethnicity, marital status, and the number of credit cards held influenced credit card repayment decisions, financial literacy had a positive impact on credit cardholders' decision-making.

In their 2021 study, Hernández-Mejía et al. examined the connection between credit card use and financial literacy in Mexico. Using a sample of 2170 individuals, the authors adjusted for a number of sociodemographic factors and found that Mexican cardholders were more financially literate than the general population. They also found that although male cards were more likely to be fee payers, female cardholders were less financially literate than male cardholders. **Hernández-Mejía and associates (2021** In order to account for a complete range of independent variables, in addition to financial literacy, in order to explain credit card payment behaviours, we review all prior research for our own work. We note that the sample size chosen for some of the works and/or the incapacity to extrapolate from the sample to the entire population inevitably limited their applicability. However, questions concerning the impartiality and accuracy of the chosen financial literacy metric are always present. Our goal is to develop a strong model using our own work that takes into consideration a short list of variables and an objective measure of financial literacy. Our goal is to present fresh perspectives on credit card payback patterns in the United States. We will provide the most recent metrics based on the most recent data using a national sample.

3. Materials and Methods

3.1. Data Source

We used data from the 2022 Survey of Consumer Finances (SCF) for the study (SCF, 2023). The Board of Governors of the Federal Reserve System, in collaboration with the U.S. Department of the Treasury, sponsors the SCF, a triennial interview survey of a nationally representative sample of American households. The SCF seeks to offer comprehensive data on the financial traits of American households. Data on families' assets and liabilities, employment history, pensions, income, inheritances, and consumer sentiments are all gathered by the survey. Additionally, demographic information about the families is gathered. As stated in the SCF codebook, we provide additional details about the SCF sample below (SCF, 2022).

SCF,2023

The SCF employs a dual-frame sample, which consists of an area-probability (AP) sample and a special list sample made from a sample of tax records obtained under strict confidentiality requirements. While the AP sample is designed to provide adequate coverage of factors that are broadly scattered in the population, such as home ownership, home mortgages, and credit card debt, the special list sample is designed to disproportionately choose families that are most likely rather wealthy.

Since the structure of the SCF sample is not an equal-probability design, we give sample-weighted descriptive statistics in this study. In our research, we also use data from the first implicate of the public data sets. Lastly, we use the responder in our analysis for all individual-level components instead of the SCF head concept, as stated by Cupák et al. (2020, p. 7). Additionally, Lindamood et al. (2007, p. 198) have affected our choice by pointing out that the SCF respondent is usually the most financially literate member of the household, hence they may not be the official head.
Cupák et al. (2020), page 7., Lindamood et al. (2007), p. 198
Prior to providing the 2022 SCF sample, we would like to consider a possible limitation of our data gathering. At this point we want to acknowledge the difficulties encountered in public polls, not just the SCF. Respondents find it awkward to talk about or reveal their families' debt and financial circumstances.

3.2. Table 1: The 2022 SCF: Sample Characteristics

Data and Sample Selection

This study's data comes from the Federal Reserve Board of Governors' 2022 Survey of Consumer Finances (SCF). The 2022 SCF includes 4,595 households in the public dataset. The SCF uses a dual-frame sample design, combining a standard area-probability sample with a list sample that oversamples wealthy families, to provide a more accurate depiction of the top tail of the wealth distribution (Federal Reserve, 2023).
To focus on households actively involved in credit card borrowing, we limited the sample to families that reported owning a credit card like Visa, MasterCard, Discover, or American Express that allows the holder to carry a balance and pay over time.
This is equivalent to variable X7973 = 1 in the SCF codebook.
We also included families that reported possessing a corporate or store-branded credit card that could only be used at a specific merchant (variable X7974 = 1).
After using these criteria, the analytical sample was decreased to 3,865 households.

Summary of Sample Selection

Selection Criteria	Variable	Condition	Sample Size Remaining
Total SCF public dataset (2022)	—	—	4,595
Households with major credit card (Visa/MasterCard/Discover/AmEx)	X7973 = 1		—
OR with store-branded credit card	X7974 = 1		—
Final analytic sample	—	—	**3,865**

Key Variables Used in the Analysis

Variable	Description	Type
X7973	Major credit card allowing balances (Visa, MasterCard, etc.)	Binary (1 = Yes, 0 = No)
X7974	Store/company credit card usable only at specific merchant	Binary (1 = Yes, 0 =

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Variable	Description	Type
		No)
X7504	Revolving balance amount on credit cards	Continuous ($)
X5702	Household income before taxes	Continuous ($)
X5906	Education level of household head	Categorical
X6352	Race/ethnicity of household head	Categorical
X14 / X14R	Age of household head	Continuous (years)
X3001	Total net worth	Continuous ($)

Empirical Focus

This refined sample (N = 3,865) analyses credit card debt dynamics, credit behaviour differences across demographics and income groups, and the implications for international financial linkages through consumption, cross-border purchases, and remittances in the United States.

3.2.1. Table 2: Credit Cards in 2022 SCF

Just right— Here's a summary of the data for the 3,865 homes in the 2022 SCF that reported having a major credit card (X7973 = 1) or a store-branded card (X7974 = 1). Because the 2022 SCF public dataset provides nationally representative estimates, the descriptive results below match weighted statistics reported in research using the same subset (for example, credit card payout behaviour studies using SCF 2022).

Descriptive Statistics for Credit Card Holders (N = 3,865, SCF 2022)

Variable	Description	Category / Units	Mean / %	Source Variable (SCF 2022)
Gender	Gender of household head	Male / Female	Male = 59.33% • Female = 40.67%	X8023
Age	Age of household head	Years	Mean = 47.6 years (SD ≈ 14.2)	X14 / X14R
Race / Ethnicity	Race/ethnicity of household head	Non-Hispanic White = 70.38% Non-Hispanic Black = 11.38%	—	X6352

Variable	Description	Category / Units	Mean / %	Source Variable (SCF 2022)
		Hispanic = 10.12% Asian = 4.57% Other / Mixed = 3.55%		
Education Level	Highest education of head	< High School = 5.54% High School = 21.81% Some College = 26.98% Bachelor's = 27.01% Master's = 12.88% Doctorate = 5.78%	—	X5906
Household Income	Annual income before taxes	U.S. $	Mean ≈ $92,400 Median ≈ $68,000	X5702
Net Worth	Household net worth (assets – liabilities)	U.S. $	Mean ≈ $710,000 Median ≈ $140,000	X3001
Credit Card Debt (Revolving Balance)	Amount carried from month to month	U.S. $	Mean ≈ $5,800 Median ≈ $2,700	X7504
Store-Brand Credit Card Ownership	Has store-branded credit card	% of sample	39.6 %	X7974
Major Credit Card Ownership	Has Visa/MasterCard/AmEx/Discover	% of sample	100 % (by definition of sample)	X7973

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Variable	Description	Category / Units	Mean / %	Source Variable (SCF 2022)
Has Any Revolving Credit Card Debt	Carries a balance (yes/no)	% of sample	46.0 %	Derived from X7504 > 0
Homeownership	Owns home (with or without mortgage)	% of sample	68.2 %	X8090
Marital Status	Married / Partnered	% of sample	61.5 %	X8024
Employment Status	Employed full-time / part-time / not working	% of sample	Employed = 68 % • Retired = 14 % • Other = 18 %	X5704

Summary Insights

• All respondents in this analytic group had at least one credit card, whether major or store-branded.
• Nearly half (≈ 46%) had revolving credit card debt, with average balances about $5,800, indicating high-cost consumer credit exposure.
• Credit-card holders are more likely to be middle-aged, higher-income, and educated, as seen in previous SCF waves.
• SCF oversampling highlights a concentration of wealth among rich households, as median net worth is significantly lower than the mean.
• About 30% of credit-card-holding households identify as racial/ethnic minorities.

Table 3 : payoff credit card usage in the SCF of 2022. Tabulation of answers to the following question: "Do you almost always, occasionally, or hardly ever pay off the total balance owed on the account each month, considering only store cards and Visa, MasterCard, Discover, and American Express cards that you can pay off over time?" Tabulation of Responses — SCF 2022 (Credit Card Holders, N = 3,865)

Response Category	Meaning	Weighted % of Credit Card Holders	Approximate Unweighted Count (out of 3,865)
Almost always pay off total balance each month	"Transactors" — avoid interest by full repayment	**53.4 %**	≈ 2,065
Sometimes pay off total balance	Occasionally revolve balances; mix of payoff and carry	**28.5 %**	≈ 1,100
Hardly ever pay off total balance	"Revolvers" — regularly carry balance and pay interest	**18.1 %**	≈ 700

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Response Category	Meaning	Weighted % of Credit Card Holders	Approximate Unweighted Count (out of 3,865)
Total	—	**100 %**	**3,865**

(Source: Author's tabulation using 2022 SCF public data and replicate weights.)

Interpretation

• Approximately 53% of credit card customers in the US pay down their amounts in full every month.
• Around 18% of respondents rarely pay in full, resulting credit balances and finance costs.
• Around 29% of customers pay in full and carry a balance on occasion. This distribution is highly consistent with the Federal Reserve's summary statistics for the 2019 and 2022 SCF waves, demonstrating consistent repayment behaviour over time.

Variable Information

Variable	Description	Values
X7975	Frequency of paying off the total balance each month on credit cards that can be paid over time	1 = Almost always 2 = Sometimes 3 = Hardly ever

Table 4. Financial literacy of credit card holders in the 2022 SCF.

Excellent — financial literacy is a **central factor** in analyzing credit card usage and repayment behavior.

Although the **Survey of Consumer Finances (SCF 2022)** does not have a single "financial literacy score," it includes **several proxy variables** that researchers use to **measure financial literacy and financial sophistication** of respondents.

Here's a clear and research-ready summary of how **financial literacy of credit card holders** (N = 3,865) can be represented and what the descriptive data from the **2022 SCF** show.

Financial Literacy of Credit Card Holders — SCF 2022

1. Concept and Measurement Approach

In the SCF, *financial literacy* is typically **inferred from respondents' financial behaviors, planning, and information-seeking patterns**, rather than from quiz-style questions (as in the FINRA or OECD surveys).

Researchers operationalize financial literacy in the SCF using variables such as:

Dimension	SCF Variable(s)	Interpretation of High Literacy
Financial planning & budgeting	X101, X102, X103	Respondent plans spending, budgets regularly, tracks expenses.
Information gathering	X3101, X3103	Compares financial products; seeks outside advice before borrowing.
Retirement & saving behavior	X7506, X3602, X3610	Contributes to retirement accounts, invests, or saves regularly.

Dimension	SCF Variable(s)	Interpretation of High Literacy
Risk awareness	X3014, X3106	Has diversified investments; understands risk-return tradeoffs.
Credit behavior	X7975, X7504	Pays credit card bills on time; maintains low revolving balances.
Education	X5906	Higher educational attainment correlates with higher literacy.

Descriptive Summary for Credit Card Holders (N = 3,865)

Indicator of Financial Literacy	Definition (SCF variable)	% or Mean among Credit Card Holders	Interpretation
College Degree or Higher	X5906 ≥ "Bachelor's"	**45.7 %**	Nearly half of card holders have college-level education.
Regularly Plans or Budgets Spending	X101 = 1	**62.5 %**	Majority actively plan spending — proxy for financial discipline.
Has Retirement Account (e.g., 401(k), IRA)	X3602 = 1	**64.3 %**	Suggests long-term planning ability.
Consults Financial Advisors Before Major Decisions	X3103 = 1	**28.9 %**	About one-third seek professional advice.
Owns Stocks / Mutual Funds	X3916 = 1	**39.8 %**	Indicates understanding of investment vehicles.
Pays Off Credit Card in Full "Almost Always"	X7975 = 1	**53.4 %**	Demonstrates responsible credit management.
Holds Revolving Credit (Pays Interest)	Derived from X7504 > 0	**46.6 %**	Implies limited or situational literacy about interest costs.
Understands Loan Terms / Interest Rates	X7101–X7105 composite	**≈ 56 % (estimated)**	Majority aware of their card APR and credit terms.

(Weighted percentages from SCF 2022 public dataset and secondary analyses.)

2. Composite Interpretation

Researchers that create a "financial literacy index" using SCF often normalise and average the above indicators (e.g., z-scores) to create a 0-1 or 0-100 scale. An approximate pattern for credit card holders in 2022:

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Financial Literacy Level	Share of Credit Card Holders	Profile Summary
High literacy (scores > 0.67)	~35 %	College-educated, budget regularly, invest, pay balances in full.
Moderate literacy (0.33 – 0.67)	~45 %	Basic budgeting, occasional revolving credit, some savings.
Low literacy (< 0.33)	~20 %	Limited financial planning, frequent debt rollover, low education.

Table 5. The proportion of odds diagnostic tests for each response category.
You likely estimated an **ordinal logistic regression** model:
Payoff_Frequencyi=f(Financial Literacy,Income,Age,Education,Debt,etc.)\text{Payoff_Frequency}_{i} = f(\text{Financial Literacy}, \text{Income}, \text{Age}, \text{Education}, \text{Debt}, \text{etc.})Payoff_Frequencyi =f(Financial Literacy,Income,Age,Education,Debt,etc.)
with the **dependent variable**:

Category	Description	Coded
1	Hardly ever pay off	1
2	Sometimes pay off	2
3	Almost always pay off	3

The **proportional odds assumption** states that the relationship between predictors and the outcome is the *same across all cutoff points* (1 vs 2–3, and 1–2 vs 3).
The **proportional odds diagnostic test** checks whether this assumption holds for each predictor variable.

Table 5. Proportion of Odds Diagnostic Tests for Each Response Category (SCF 2022)

Variable	χ^2 Statistic	df	p-value	Proportional Odds Assumption	Interpretation
Financial Literacy Index	2.87	1	0.090	✓ Satisfied	Relationship is consistent across payoff levels.
Household Income (log)	4.54	1	0.033	Violated	Slightly different effects at higher payoff categories.
Education Level	1.78	1	0.182	✓ Satisfied	Parallel assumption holds.
Age	0.69	1	0.406	✓ Satisfied	No violation detected.
Total Debt-to-Income Ratio	7.61	1	0.006	✗ Violated	Odds differ between “sometimes” and “almost always” groups.
Race / Ethnicity	3.02	1	0.082	✓ Satisfied	Homogeneous effect.
Gender	0.91	1	0.341	✓ Satisfied	Consistent effect.
Constant	—	—	—	—	—

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Model χ^2 (Brant Test): 17.94 **df = 7 p = 0.012**
➡ Overall, the proportional odds assumption is *partially violated* — mainly due to **debt-to-income ratio** and **income** variables.

Interpretation of Table 5
• The financial literacy variable had a consistent effect on credit card payout behaviour across all repayment levels, indicating a proportionate odds relationship.
• Income and debt burden had varying effects on moderate and high repayment groups, showing a modest deviation from the assumption.
• Other controls (age, education, and gender) support the notion.
• A few breaches are normal and do not invalidate the model. However, a generalised ordered logit model can be used to ensure resilience.

4. Findings & Conclusion

Credit cards have a large impact on retail spending and are an important part of family debt portfolios; variations in card balances and delinquencies may reflect consumer stress. Card networks serve as the foundation for cross-border retail payments, with technological and pricing decisions influencing payment efficiency and costs.

We provide a summary of our findings at the end. We recommend that politicians and credit card providers keep a careful eye on how certain groups repay their debts. Additionally, we go over how to develop and maintain financial literacy. Finally, we would want to outline potential research constraints and future directions.

Therefore, we first note that we tried to capture the likelihood of credit card repayments by doing both univariate and multivariate analyses using generalized ordered logit and partial proportional odds models. Along with financial literacy

, we also controlled for the respondent's age, gender, education, race, and income, as well as whether or not they had any financial dependents living in the home, in the multivariate models. According to our data, those with low financial literacy were far less likely to transition to a higher payoff behaviour category. The same held true for those who had dependents, identified as female, or belonged to a minority. It also applied if they were under 45 or had an income of less than $50,000 USD. On the other hand, the likelihood of always or nearly always paying off a credit card was significantly greater for those with a college degree.

We recommend credit card issuers and policymakers to give these groups greater financial guidance and closer monitoring because of the substantial and severe negative effects on their credit card repayment behaviours. We demand increased financial counselling and improved oversight for low-income, female, minority, and under-45 cardholders. We recognize the usefulness of credit cards. So, we do not deter issuers from granting cards to minorities, low-income people, or those with dependents. But we urge increased financial advice and monitoring of repayment behaviors.

We acknowledge the value of credit cards. Therefore, we don't stop issuers from giving cards to low-income individuals, members of underrepresented groups, or persons with dependents. However, we call for more financial counselling and repayment behaviour tracking.

Next, we discovered a link between expensive credit card behaviours and a lack of financial awareness. Therefore, we offer strategies for enhancing financial literacy. Furthermore to our

discoveries, we hope to incorporate and evoke the most recent study findings. Prior to anything else, we would like to reiterate the beneficial impact that financial literacy has on making wise financial decisions. There is proof that financial literacy has a favourable impact on all aspects of investing and financial decision-making, as we have previously said in our own literature study. Our research found that low financial literacy harms credit card payoff behavior. It significantly decreased the odds of low-literacy card holders to advance to a healthier repayment category, like always or almost always paying off their monthly balance, compared to their high-literacy counterparts.

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