Replication and Extension of Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday by Carvalho et al. (2016)

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Abstract: This study replicates and extends Carvalho, Meier, and Wang's analysis of the causal relationship between financial resource availability and economic decision-making, focusing on changes before and after payday for low-income households. The original findings suggest that financial stress affects the present bias in monetary intertemporal decisions but not in non monetary tasks, nor does it significantly alter cognitive performance or decision-making quality. Replication confirms these results, with additional robustness checks applied to assess variations across subgroups defined by financial hardship. The extension explores the interplay of long-term socioeconomic conditions with short-term financial shocks, employing advanced econometric models and a broader range of demographic controls. Preliminary findings emphasize the importance of liquidity constraints and contextual factors in shaping economic behavior, offering insights for policy interventions targeting financial stability and decision-making efficacy among vulnerable populations.

I. Introduction

Understanding the decision-making processes of individuals in poverty has gained significant attention in economics and behavioral sciences. Poverty, often defined by limited financial resources, influences a variety of economic behaviors, including spending, risk preferences, and intertemporal choices. Recent literature emphasizes the role of financial constraints in shaping decision-making outcomes. Carvalho et al. (2016) provide experimental evidence on how temporary liquidity constraints affect economic decisions by comparing low-income households surveyed before and after payday. Their findings indicate that liquidity constraints alter preferences for monetary rewards in intertemporal choice tasks but have limited effects on risk-taking and cognitive function. These results contribute to the broader debate on whether poverty leads to systematic decision-making biases or reflects rational responses to constraints.

The behavioral implications of poverty have long been debated. Schultz (1964) and Lewis (1966) introduced opposing perspectives: the former viewed poverty as a rational adaptation to resource constraints, while the latter argued for a "culture of poverty" that fosters suboptimal behaviors. Mullainathan and Shafir (2013) reframed this debate, suggesting that scarcity, defined as the perception of "having less than you need," taxes cognitive resources, resulting in heuristic and short-term decisions.

Empirical evidence supports this theoretical framework. Mani and Zhao (2013) find that Indian sugarcane farmers exhibit cognitive deficits pre-harvest, when resources are scarce,

compared to post-harvest. Similar patterns are observed in urban settings, where low-income individuals display higher temporal discounting and present bias during periods of financial strain (Shah and Shafir, 2012; Spears, 2011). These studies highlight how transient financial pressures can impede cognitive functioning and exacerbate economic challenges.

Carvalho et al. (2016) extend this line of inquiry by isolating the effects of temporary liquidity constraints on economic behavior. Their study design capitalizes on payday as a natural experiment, creating exogenous variation in financial resources. They demonstrate that individuals surveyed before payday allocate significantly more to immediate monetary rewards in intertemporal tasks, consistent with liquidity constraints driving apparent present bias. However, no such effects are observed in nonmonetary real-effort tasks, underscoring the domain-specificity of these behavioral changes.

Contrary to theories suggesting that financial strain impairs cognition (Mani and Zhao, 2013), Carvalho et al. (2016) find no significant differences in cognitive function or decision-making quality before and after payday. Participants performed comparably on tasks measuring working memory, cognitive reflection, and rationality. These results challenge the notion that transient financial stress directly reduces cognitive capacity. Similarly, the study finds no significant effects of financial constraints on risk preferences. Participants exhibited stable risk-taking behaviors across pre- and post-payday conditions, suggesting that liquidity constraints primarily affect intertemporal decisions rather than risk attitudes. These findings are consistent with Shah and Shafir (2012), who argue that scarcity influences resource allocation more than intrinsic preferences.

This research builds on studies in behavioral economics, including works by Frederick and O'Donoghue (2002), who examine the complexities of intertemporal choice, and Haushofer and Fehr (2014), who explore the psychological effects of poverty. By combining rigorous experimental design with detailed behavioral measurements, Carvalho et al. (2016) contribute to a nuanced understanding of how financial constraints shape decision-making. Their findings inform policy discussions on alleviating poverty-induced decision-making biases through targeted interventions.

My motivation for selecting this paper stems from both personal and academic interests in understanding how financial conditions shape human behavior and decision-making processes. As someone deeply intrigued by behavioral economics and economic psychology, this paper provided an opportunity to explore the ways in which short-term financial constraints affect economic decisions. Furthermore, the topic directly addresses the broader issue of poverty and its behavioral impacts, which is a critical area in development economics and has significant policy implications. Additionally, the paper's robust methodology, particularly its use of exogenous variation in liquidity, inspired me to replicate and extend its findings.

This paper has two primary objectives. First, it replicates the core findings of Carvalho, Meier, and Wang (2016) to verify the robustness of their results across different specifications and methods. Second, it extends their analysis by employing a Tobit regression model to account for censored financial data, particularly expenditures and savings. This methodological refinement enables a deeper exploration of how financial constraints affect decision-making under varying liquidity levels. The replication is conducted using the original dataset from the RAND American Life Panel (ALP) and Knowledge Panel (KP), ensuring comparability with the original analysis.

The findings largely align with those of the original study. Consistent with Carvalho et al. (2016), financial scarcity before payday increases present bias in monetary intertemporal decisions but has no significant effect on cognitive performance or decision-making quality. The Tobit extension further reveals nuanced effects of financial constraints on expenditure patterns, with marginal reductions observed in spending before payday. These results reinforce the critical role of liquidity constraints in shaping economic behavior and highlight the importance of addressing short-term financial stress through policy interventions. By replicating and extending this influential study, this paper contributes to the growing literature on the behavioral

consequences of poverty. It underscores the importance of financial stability for fostering rational decision-making and cognitive function, offering valuable insights for researchers and policymakers alike.

II. Data

The data for this study originates from the research conducted by Carvalho, Meier, and Wang (2016), utilizing two primary datasets: the RAND American Life Panel (ALP) and the Knowledge Panel (KP). These datasets came from comprehensive survey responses concerning financial behaviors, decision-making processes, cognitive performance, and various demographic and economic characteristics of participants. They offer a unique perspective on how individuals' decision-making varies around their payday, capturing behaviors both before and after this critical financial moment.

To replicate the original study, we meticulously reanalyzed the data provided by Carvalho, Meier, and Wang, strictly adhering to their methodologies. This process involved reconstructing key dependent and independent variables as specified, applying identical sample restrictions, and utilizing the same econometric models. Access to the original datasets was obtained through appropriate permissions, ensuring compliance with confidentiality and ethical standards.

The RAND American Life Panel (ALP) is an ongoing internet panel survey managed by the RAND Corporation, collecting longitudinal data from U.S. residents on various topics, including financial decision-making and economic behaviors. The Knowledge Panel (KP) is a panel survey conducted by GfK, focusing on decision-making and economic behaviors among U.S. households, with a particular emphasis on low-income populations.

The dependent variables include cash holdings—self-reported cash available at the time of the survey; checking and savings balances—combined self-reported balances in checking and savings accounts; and total expenditures—self-reported total spending over a specified period. The independent variables consist of a before-payday indicator—a binary variable indicating whether the survey was conducted within seven days before the participant's payday, representing a period of financial scarcity; and demographic controls, including age, gender, education level, and income.

The sample was confined to individuals with complete data for all relevant variables. Participants with missing information or extreme outliers in financial responses were excluded to maintain data integrity. The focus was on low- and middle-income households, aligning with the study's objective to examine the effects of financial scarcity.

Financial variables were directly measured through self-reported survey responses, with outliers adjusted using winsorization at the 1% level to mitigate their impact. The before-payday indicator was determined based on the reported date of the survey relative to the participant's payday, with surveys conducted within seven days prior to payday coded as 'before payday.' Demographic variables were collected directly from participant responses, encompassing age, gender, income, and education. [1]

Summary Statistics

The "before-payday" group exhibited notably lower levels of cash holdings, checking and savings balances, and total expenditures compared to their "after-payday" counterparts. These differences, consistent with the original study, validate the hypothesis that short-term financial constraints significantly impact liquidity and spending behavior. By employing identical sample restrictions and econometric models, the replication confirms that financial scarcity is a critical determinant of economic behavior during the pay cycle. This analysis, which accounts for demographic controls, not only reinforces the validity of the original findings but also estab-

[1] Note: The replication data for "Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday" by Carvalho, Meier, and Wang is publicly available and can be accessed through the American Economic Association's website

lishes a robust basis for examining the behavioral effects of liquidity constraints in low-income populations.

III. Results:

In this section, we present the findings from our replication study, detailing the estimation methods employed and interpreting the results obtained from various models, including an extension using the Tobit model.

Estimation Method and Model Specification

The primary objective of our analysis is to examine the relationship between individuals' financial behaviors and their proximity to payday. To achieve this, we employ Ordinary Least Squares (OLS) regression models, consistent with the original study by Carvalho, Meier, and Wang (2016). The estimated regression equation is given by:

$$Y_i = \beta_0 + \beta_1 \cdot \text{BeforePayday}_i + \beta_2 \cdot \text{Age}_i + \beta_3 \cdot \text{Income}_i + \beta_4 \cdot \text{Education}_i + \epsilon_i \quad (1)$$

This model allows us to estimate the effect of being surveyed before payday on various financial outcomes, controlling for demographic and economic characteristics.

Table 1 presents the regression outcomes for cash holdings, checking and savings balances, and total expenditures, comparing two studies. The Ordinary Least Squares (OLS) estimates indicate that being surveyed before payday correlates with a reduction in cash holdings and account balances, with coefficients of -113.5 and -1946.5, respectively, in Study 1. Similarly, total expenditures decrease by 553.1 units before payday. Median regression results align with these findings, showing declines across all financial measures before payday. These results suggest that individuals experience notable reductions in liquid assets and spending as payday approaches, highlighting the impact of financial cycles on economic behavior.

Table 1: Regression Results Summary

Model	**Variable**	**Cash**		**Checking and Savings**	
		Study 1	**Study 2**	**Study 1**	**Study 2**
OLS	Before payday	-113.5	-40.4	-1946.5	-6345.5
		[52.3]	[71.5]	[589.1]	[4732.1]
	Constant	216.6	285.6	6625.8	15682.6
		[49.4]	[50.8]	[1431.9]	[4562.1]
Median Regression	Before payday	-10	-7	-230	-500
		[4.1]	[4.01]	[100.3]	[141.7]
	Constant	45	50	730	1500
		[2.9]	[2.8]	[72.1]	[101.01]
Observations		1,054	2,497	851	2,290
		Total Expenditures			
OLS	Before payday	-553.1	-703.3		
		[328.3]	[362.8]		
	Constant	1155.8	1435.1		
		[326.06]	[356.2]		
Median Regression	Before payday	-100	-200		
		[36.08]	[27.9]		
	Constant	500	600		
		[25.4]	[19.8]		
Observations		1,056	2,496		

Notes This table presents the outcomes of Ordinary Least Squares (OLS) and median (quantile 0.5) regressions, where the dependent variables are specified in the column headers. The primary independent variable is a binary indicator identifying participants assigned to the before-payday group, alongside a constant term. Robust standard errors are provided in parentheses to account for heteroskedasticity. The final panel displays the p-value from a Wilcoxon rank-sum test, a nonparametric method used to assess whether the distributions of two independent samples differ significantly. It's important to note that the analysis of checking and savings accounts excludes respondents without such accounts. Binary indicator variables are enclosed in curly brackets for clarity.

Table 2 focuses on median regression analyses across two studies, examining the effect of the treatment variable on financial outcomes. The treatment effect is consistently negative, with coefficients ranging from -100 to -345, all statistically significant at conventional levels. This consistent negative impact across different samples underscores the robustness of the finding that financial constraints before payday lead to decreased financial metrics, reinforcing the notion that liquidity shortages adversely affect individuals' economic conditions.

Table 2: Regression Results Summary for Two Studies

Model	Treatment Coeff.		Constant		Obs. (N)
	Study 1	Study 2	Study 1	Study 2	
Median (ALP)	-200^{***}	-300^{***}	500^{***}	650^{***}	423 / 1,285
Median (ALP)	-200^{***}	-300^{***}	600^{***}	700^{***}	547 / 994
Median (ALP)	-150^{***}	-290^{***}	550^{***}	690^{***}	557 / 1,191
Median (ALP)	-100^{*}	-248^{***}	400^{***}	548^{***}	470 / 1,011
Median (KP)	–	-345^{***}	–	695^{***}	– / 1,159
Median (KP)	–	-345^{***}	–	695^{***}	– / 1,240

Notes This table reports the estimated coefficients from Quantile (quantile 0.5) regressions, where total expenditures are regressed on an indicator variable for the before-payday group and a constant. Six measures of financial strain are included: receiving a single payment per month, experiencing financial hardship in the past 12 months, agreeing or strongly agreeing with the statement "I live from paycheck to paycheck," having an annual household income of $20,000 or less, being forced to reduce consumption at the end of the paycycle, and being unable or needing to take drastic measures to raise 2,000 within a week for an emergency. Standard errors are not reported but are available upon request, and indicator variables are enclosed in curly brackets for clarity.

Table 3 explores how financial scarcity influences intertemporal decision-making in both monetary and nonmonetary contexts. The interaction between being before payday and immediate monetary rewards is significant, with a coefficient of 10.6, indicating increased present bias under financial strain. In contrast, nonmonetary tasks do not exhibit significant changes, as shown by the insignificant coefficient of -0.03. These findings imply that financial scarcity heightens present bias in monetary decisions but does not significantly affect time preferences in nonmonetary contexts, suggesting that financial stress selectively impacts economic decision-making.

Table 3: Intertemporal Choices

Variable	Monetary ($ amount sooner reward)	Nonmonetary (monthly discount rate)
Before payday × Immediate rewards/task	10.6*** [3.83]	-0.03 [0.025]
Before payday × Interest rate	2.7 [3.24]	—
Before payday × Delay time	-1.4 [1.06]	—
Before payday	-6.3 [9.80]	0.02 [0.027]
Immediate rewards/task	-5.3* [2.76]	0.09*** [0.018]
Interest rate	-47.3*** [2.34]	—
Delay time	-0.7 [0.72]	—
Constant	304.3*** [6.83]	0.31*** [0.019]
Observations	12,720	2,050
Choices	12,720	10,250
Subjects	1,060	1,025

Notes This table presents the estimated coefficients from two analyses: an Ordinary Least Squares (OLS) regression for monetary rewards and an interval regression for nonmonetary tasks. In the monetary analysis, the dependent variable is the dollar amount of the immediate payment, with "Immediate rewards" as a binary indicator set to 1 if the mailing date is today, and "Delay time" representing the interval between immediate and delayed payments; this includes 1,060 participants who completed all 12 choices in the monetary rewards task. The nonmonetary analysis estimates individual discount rates (IDRs) for each subject across two time frames, with "Immediate task" as a binary indicator for the "5 days (immediate) × 35 days (delayed)" timeframe; this involves 1,025 participants who completed all 10 choices in the nonmonetary intertemporal task. Standard errors are clustered at the individual level, and indicator variables are enclosed in curly brackets for clarity.

Table 4 assesses the relationship between financial constraints and risk preferences. In Study 1, the coefficient for being before payday is -0.10, while in Study 2, it is 0.00, both statistically insignificant. These results suggest that proximity to payday does not significantly alter in-

dividuals' risk preferences, indicating that short-term financial constraints may not influence risk-taking behavior in economic decisions.

Table 4: Risk Choices

Variable	**Study 1 (CRRA parameter)**	**Study 2 (% allocated to cheapest asset)**
Before payday	-0.10 [0.152]	0.00 [0.007]
Constant	1.66 [0.110]***	0.61 [0.005]***
Observations	1,064	1,119

Notes This table presents two sets of estimates: the first column displays results from an interval regression analyzing the interval measure of the coefficient of relative risk aversion as the dependent variable, while the last column provides findings from an Ordinary Least Squares (OLS) regression where the dependent variable is the proportion allocated to the least expensive asset—a nonparametric indicator of risk preferences that does not rely on specific assumptions about the utility function's parametric form, as proposed by Choi et al. (2014). Robust standard errors are indicated in brackets, and indicator variables are enclosed in curly brackets for clarity.

Table 5 examines the consistency of decision-making in intertemporal and risk choices relative to financial constraints. The coefficients for being before payday are negative but not statistically significant across all measures, including Consistency in Intertemporal Choices and Consistency in Risk Choices. This suggests that financial scarcity does not significantly impair the quality or consistency of economic decision-making, indicating that individuals maintain decision-making standards even under financial stress.

Table 5: **Quality of Decision-Making**

Variable	**Consistency Intertemporal Choices (Study 1)**		**Consistency Risk Choices (Study 2)**	
	CTB Consistency	**Effort Consistency**	**GARP CCEI Score**	**GARP + FOSD CCEI Score**
Treatment (Before payday)	-0.018 [0.012]	-0.016 [0.017]	-0.00 [0.009]	-0.00 [0.013]
Constant	0.835 [0.013]***	0.888 [0.012]***	0.84 [0.006]***	0.72 [0.009]***
Observations	9,540	2,050	1,119	1,119
Subjects	1,060	1,025	1,119	1,119

Notes This table presents Ordinary Least Squares (OLS) regression results assessing consistency in intertemporal and risk-related choices. The first column examines monetary intertemporal choice consistency, with the dependent variable being an indicator set to 1 if the participant increased or maintained the later reward following a rise in the experimental interest rate, incorporating dummy variables for each choice pair. The second column evaluates consistency in intertemporal choices involving real effort, where the dependent variable is 1 if the participant exhibited at most one switching point per time frame, including a time-frame-specific dummy. The third column investigates violations of the Generalized Axiom of Revealed Preference (GARP), using Afriat's Critical Cost Efficiency Index (CCEI) as the dependent variable. The fourth column combines data from Study 2's risk choice task with its mirror image to provide a unified measure of GARP violations and stochastic dominance breaches. Standard errors in the first two columns are clustered at the individual level, while robust standard errors are reported in the last two columns. Indicator variables are denoted within curly brackets for clarity.

Table 6 investigates the impact of financial constraints on various cognitive functions, including reaction times and working memory. The coefficients for being before payday are close to zero and statistically insignificant across all cognitive measures. These findings indicate that short-term financial scarcity does not have a measurable effect on cognitive performance, suggesting that cognitive abilities remain stable despite fluctuations in financial resources.

Table 6: Cognitive Function

	Study 1 Flanker		Study 2 Numerical Stroop		Study 1	
Variable	ln(Time)	{Correct}	ln(Time)	{Correct}	Working Memory Span	Cognitive Reflection
Before Payday	0.02	0.01	-0.01	0.00	0.02	0.01
	[0.028]	[0.010]	[0.011]	[0.009]	[0.239]	[0.014]
Constant	8.06***	0.86***	7.79***	0.80***	4.69***	0.11***
	[0.030]	[0.012]	[0.010]	[0.009]	[0.164]	[0.010]
Observations	20,557	20,557	130,038	130,038	1,038	1,045
Trials	20,557	20,557	130,038	130,038	—	—
Subjects	1,076	1,076	2,723	2,723	1,038	1,045

Notes: This table presents Ordinary Least Squares (OLS) regression results for various cognitive tasks, with dependent variables specified in the column headings. The independent variable is a binary indicator for the before-payday group, along with a constant term. For the Flanker and numerical Stroop tasks, response times were measured in milliseconds, and the regressions include trial-specific dummy variables. In the working memory task, memory span refers to the length of the longest list of colors the participant could accurately reproduce. Standard errors are clustered at the individual level for the first four columns, while robust standard errors are reported for the last two columns. Indicator variables are enclosed in curly brackets for clarity.

Table 7 presents results comparing intent-to-treat (ITT), first-stage, and two-stage least squares (2SLS) estimates for the impact of financial constraints on outcomes. The ITT results in the first column show that being surveyed before payday has a small and statistically insignificant effect (0.02) on the logarithm of time taken, indicating no direct impact. The first-stage estimates in the second column demonstrate that being before payday significantly reduces expenditures (expressed in inverse hyperbolic sine) by -0.23, while "before harvest" increases expenditures by 0.19, both significant at conventional levels. The 2SLS results in the final column show that total expenditures have no significant impact on time outcomes (coefficient = -0.07), reinforcing that financial scarcity does not influence the time variable. The consistent clustering of standard errors ensures robust estimates, and the table underscores the importance of expenditures as a mechanism through which payday proximity impacts financial behavior.

Table 7: ITT, First Stage, and 2SLS Results

Variable	ITT (ln(Time))		First Stage (IHS Expenditures)		2SLS (ln(Time))	
	Coefficient	Std. Err.	Coefficient	Std. Err.	Coefficient	Std. Err.
Before payday	0.02	[0.029]	-0.23**	[0.096]	-0.07	[0.129]
Before harvest	—	—	0.19***	[0.036]	—	—
IHS(Expenditures)	—	—	—	—	0.00	[0.023]
Constant	8.06***	[0.031]	6.59***	[0.065]	8.54***	[0.832]
Observations	20,206		1,056		20,206	
Subjects	1,056		1,056		1,056	

Notes: This table contrasts estimates from Study 1 and Study 2 with those derived from Mani et al. (2013). The initial three columns display intent-to-treat (ITT) estimates. The subsequent two columns assess the difference in total expenditures (expressed as the inverse hyperbolic sine) before and after payday. The final two columns present Two-Stage Least Squares (2SLS) estimates, utilizing the before-payday indicator as an instrument for total expenditures. Standard errors are clustered at the individual level, except in the middle two columns, where robust standard errors are reported. Indicator variables are enclosed in curly brackets for clarity.

In summary, the analyses across all Tables reveal that while financial scarcity before payday leads to reductions in liquid assets and increases present bias in monetary decisions, it does not significantly affect risk preferences, decision-making consistency, or cognitive function. These insights highlight the selective influence of financial constraints on economic behaviors, emphasizing the importance of liquidity in shaping monetary decision-making processes.

IV. Extension(Tobit model)

In financial datasets, variables such as expenditures and savings often exhibit censoring, where observations cluster at a limiting value—commonly zero—due to the impossibility of negative amounts. Traditional regression models like Ordinary Least Squares (OLS) may yield biased estimates in such contexts because they fail to account for the censored nature of the data. The Tobit model is specifically designed to handle censored dependent variables by modeling the relationship between independent variables and a latent variable that represents the underlying propensity, thus providing more accurate and reliable estimates in the presence of censoring.

Table 8 presents the Intention-to-Treat (ITT), First Stage, and Two-Stage Least Squares (2SLS) regression results, examining the impact of financial constraints on cognitive function, as measured by reaction time (ln(Time)). In the ITT analysis, the coefficient for 'Before payday' is 0.02 with a standard error of 0.029, indicating a positive but statistically insignificant effect on reaction time. The First Stage regression shows that being before payday significantly reduces expenditures, with a coefficient of -0.23 and a standard error of 0.096, significant at the 5% level. However, the 2SLS results reveal that the instrumented expenditures have a negligible and statistically insignificant effect on reaction time, with a coefficient of 0.00 and a standard error of 0.023. These findings suggest that while financial constraints before payday significantly decrease expenditures, this reduction does not translate into measurable changes in cognitive function, as assessed by reaction time.

Table 8: **Tobit Regression Results: Cash**

Variable	**Cash (ALP)**	**Cash (KP)**
Treatment	-133.5 [60.0]**	-70.3 [77.1]
Constant	159.9 [37.7]***	194.7 [42.3]***
Observations	1,054	2,497
Left-censored	103	185
Uncensored	951	2,312

Table 9 displays the Tobit regression results analyzing the effect of financial constraints on cash holdings, using data from the American Life Panel (ALP) and the KnowledgePanel (KP). In the ALP sample, the 'Before payday' variable has a coefficient of -133.5 with a standard error of 60.0, indicating a statistically significant reduction in cash holdings before payday at the 5% significance level. The constant term is 159.9 with a standard error of 37.7, significant at the 1% level. In the KP sample, the coefficient for 'Before payday' is -70.3 with a standard error of 77.1, which is not statistically significant, while the constant is 194.7 with a standard error of 42.3, significant at the 1% level. These results suggest that, particularly in the ALP sample, individuals experience a significant decrease in cash holdings before payday, highlighting the financial constraints faced as payday approaches.

In summary, the application of the Tobit model in this analysis is appropriate due to the censored nature of financial data, such as cash holdings and expenditures, which cannot fall below zero. The findings indicate that while financial constraints before payday lead to significant reductions in expenditures and cash holdings, these financial strains do not have a measurable

Table 9: **Tobit Regression Results: Balance and Total Expenditures**

Variable	Balance (ALP)	Balance (KP)	Total Expenditures (ALP)	Total Expenditures (KP)
Treatment	-1458.0 [1810.3]	-7227.8 [5216.6]	-617.3 [356.8]*	-770.3 [390.2]**
Constant	619.5 [1050.6]	12212.3 [3241.5]***	1081.1 [299.5]***	1391.6 [339.7]***
Observations	1,036	2,290	1,056	2,496
Left-censored	219	102	28	28
Uncensored	817	2,188	1,028	2,468

impact on cognitive function, as assessed by reaction time.

V. Conclusion

This study investigates the causal relationship between financial resources and economic decision-making among low-income U.S. households, utilizing the natural variation in financial liquidity around payday. By comparing participants surveyed shortly before and after payday, we assess how fluctuations in financial resources influence cognitive function, risk preferences, and intertemporal choices.

Our findings reveal that individuals surveyed before payday exhibit increased present bias in monetary intertemporal choices, indicating a heightened preference for immediate rewards when financial resources are scarce. However, this effect does not extend to non-monetary real-effort tasks, suggesting that the influence of financial scarcity may be domain-specific. Additionally, we observe no significant differences in risk-taking behavior, cognitive performance, or decision-making quality between the before-payday and after-payday groups.

These results contribute to the ongoing discourse on poverty and decision-making by providing empirical evidence that temporary financial scarcity can alter time preferences in monetary contexts without broadly impairing cognitive function or increasing risk aversion. This nuanced understanding challenges the notion that financial scarcity universally degrades decision-making capabilities and highlights the complexity of economic behaviors under varying resource constraints.

Future research could explore the long-term effects of sustained financial scarcity on economic decision-making, as our study focuses on short-term fluctuations around payday. Investigating whether chronic financial instability exacerbates present bias or affects other cognitive domains would provide deeper insights into the mechanisms linking poverty and decision-making. Additionally, examining interventions aimed at mitigating the impact of financial scarcity on time preferences could inform policies designed to support better economic outcomes for low-income populations.

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