



# How Does Government Support Influence U.S. Household's Debt Repayment Behavior Under the COVID-19 Pandemic?

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01. INTRODUCTION

02. DATA & METHOD

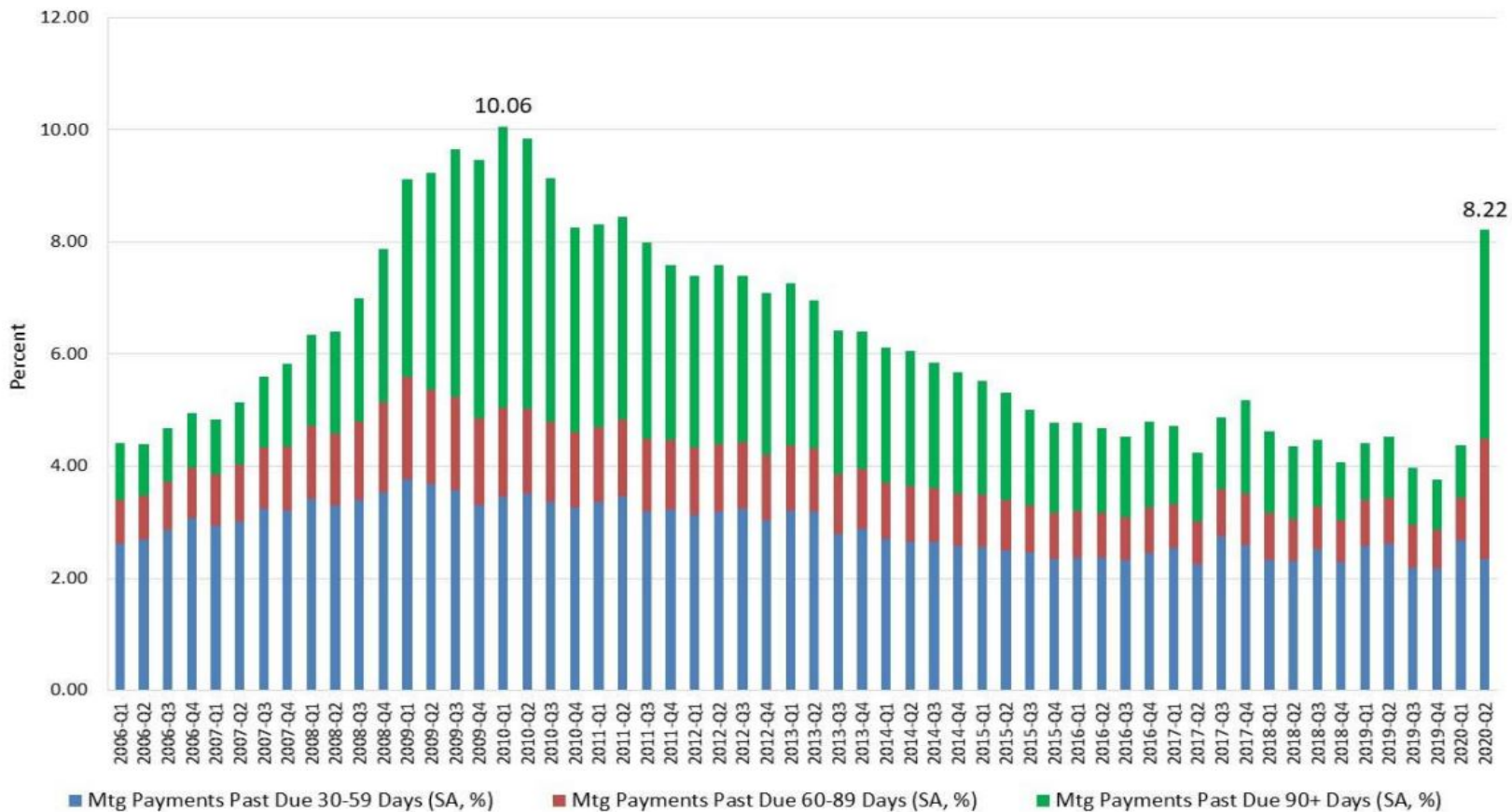
03. RESULTS

04. DISCUSSION



# Mortgage Delinquency Rates

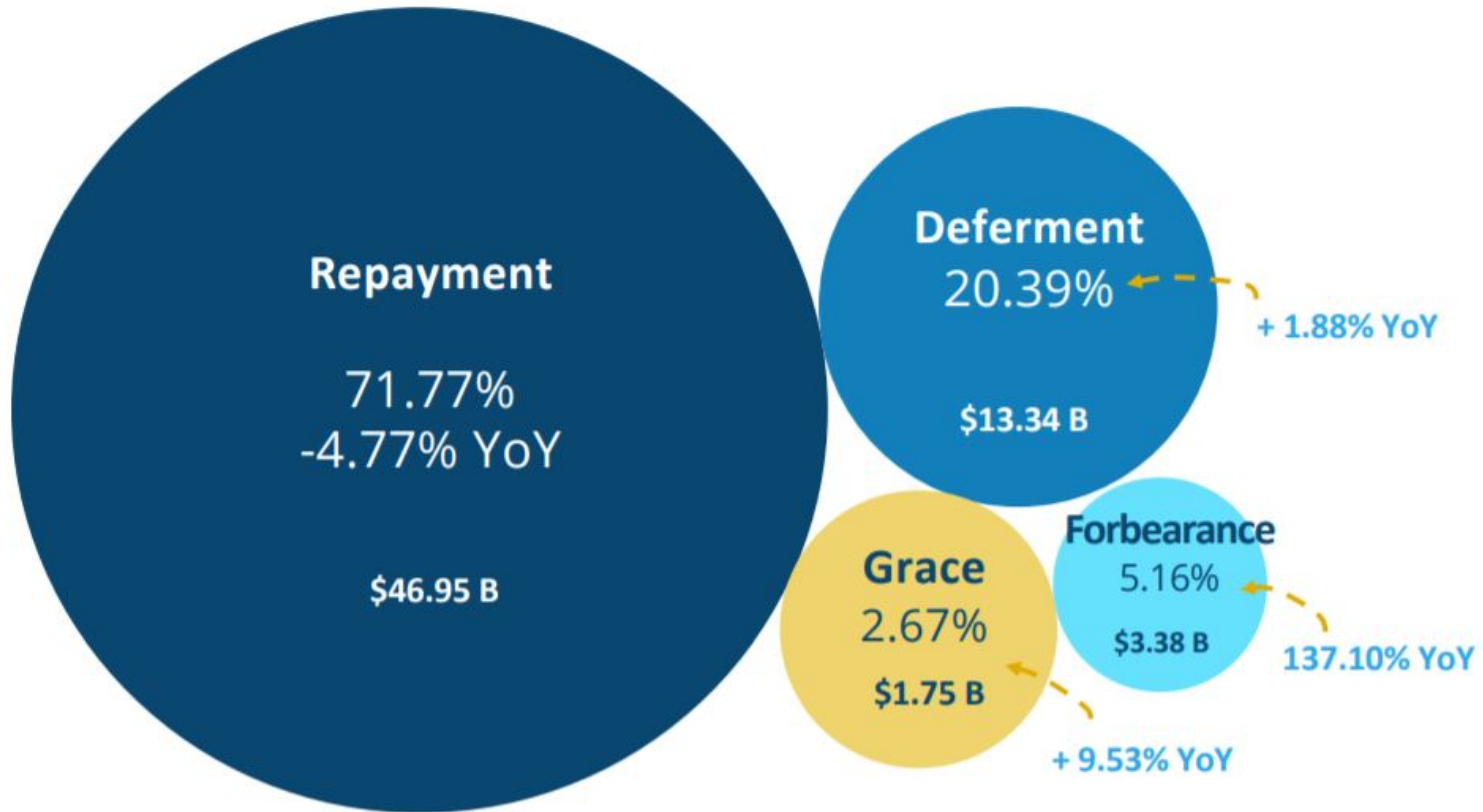
## Seasonally adjusted, excludes loans in foreclosure



Source: MBA's National Delinquency Survey

## Distribution by Loan Status (% of Total Outstanding Balance) As of end-Q1 2020

Total Outstanding Balance: \$65.42 B



## RESEARCH QUESTION

How does U.S households' debt repayment behavior associated with goveremental supports?



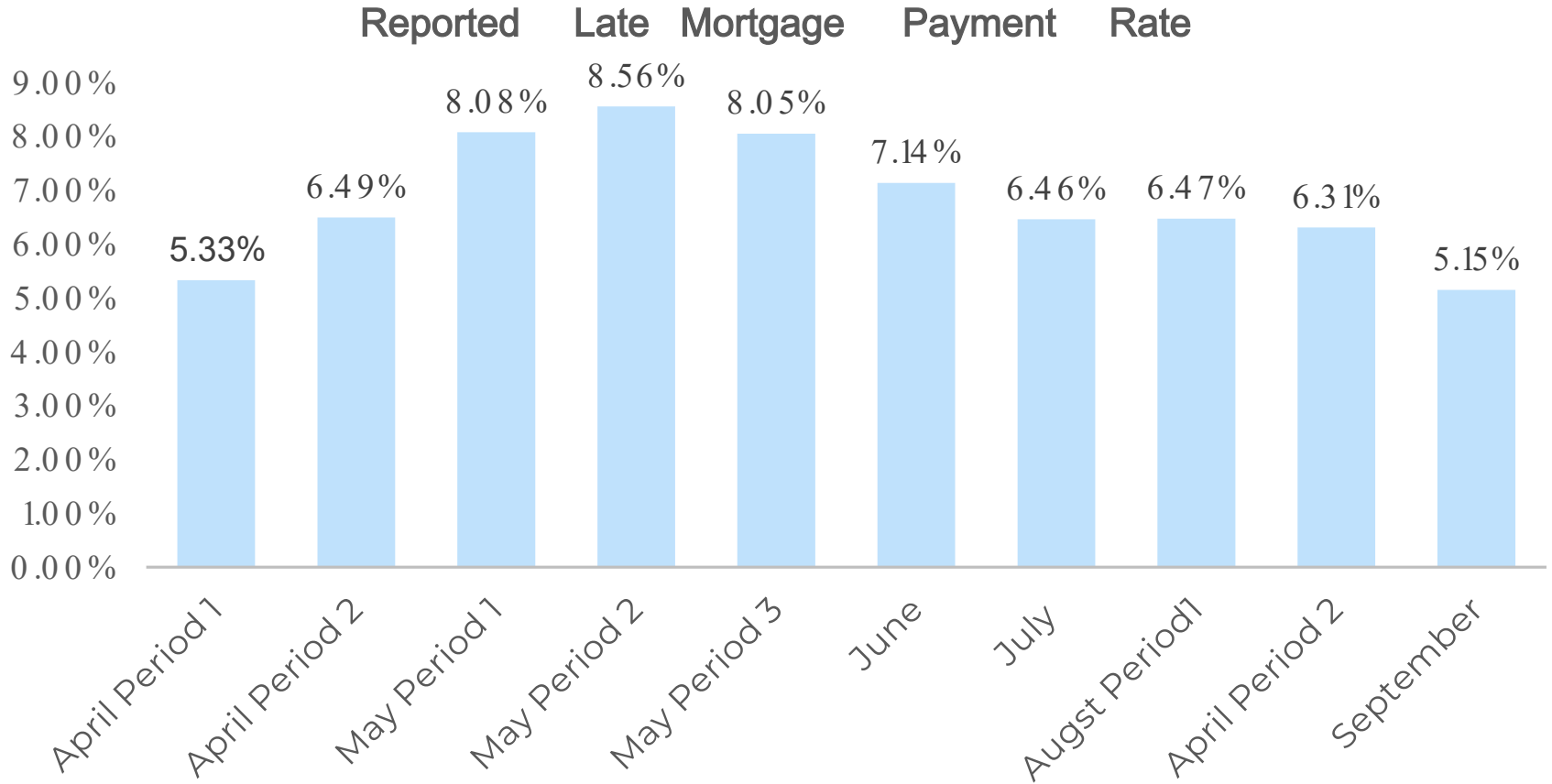
## DATA

- Understanding America Study's Understanding Coronavirus in America (“COVID”) survey.
- This study uses the national panel survey data, starting with the 2nd wave launched in April 2020 until the 13<sup>th</sup> wave in September, 2020.
- The 7<sup>th</sup> wave and 9<sup>th</sup> wave are not included in the longitudinal data file and thus are excluded from this study.

## DATA

- To observe households' mortgage repayment behavior, we focus on those who currently have mortgages. The final analysis sample size is **3,226** for 10 waves after control variables.
- To observe households' student loan repayment behavior, we focus on those who currently have student loans. The final analysis sample size is **1,743** for 10 waves after control variables.

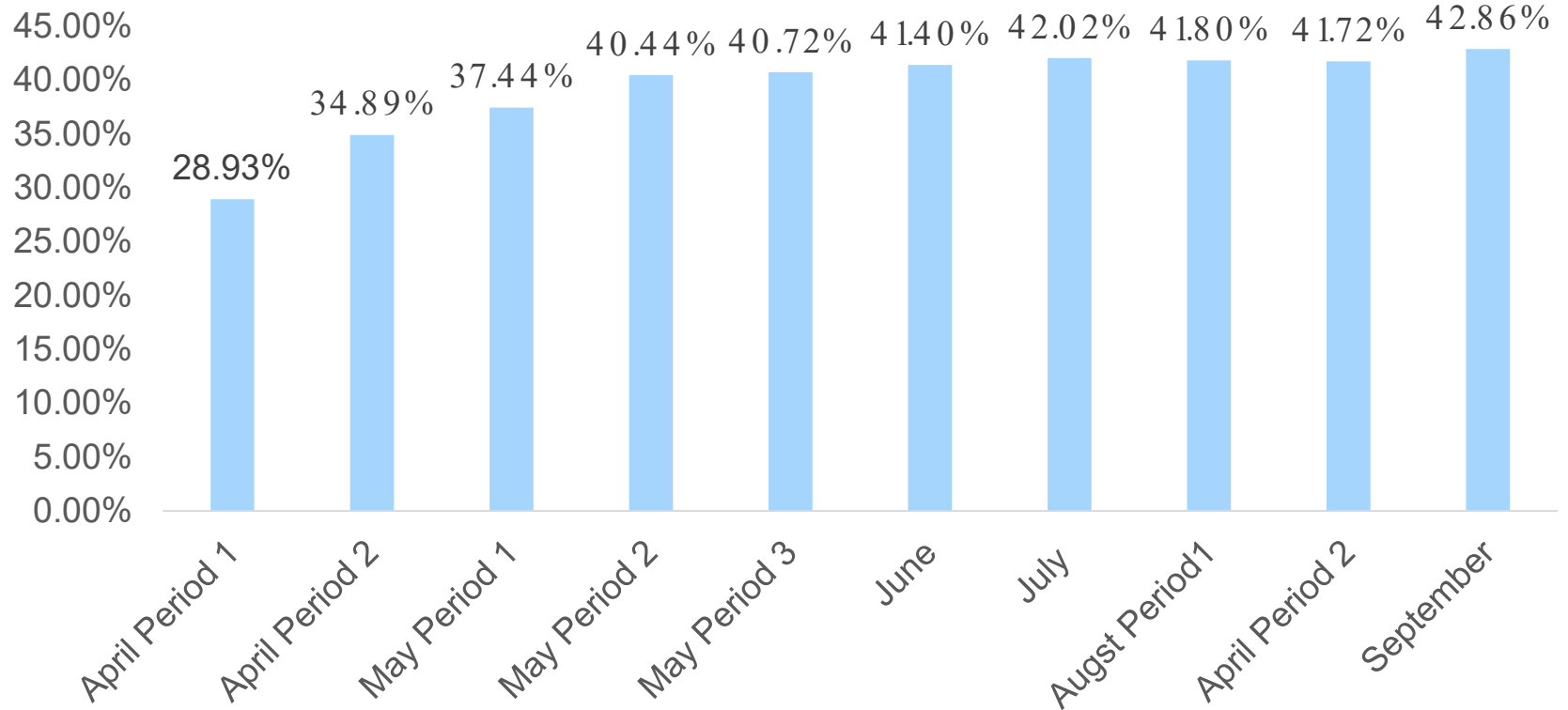
# DATA





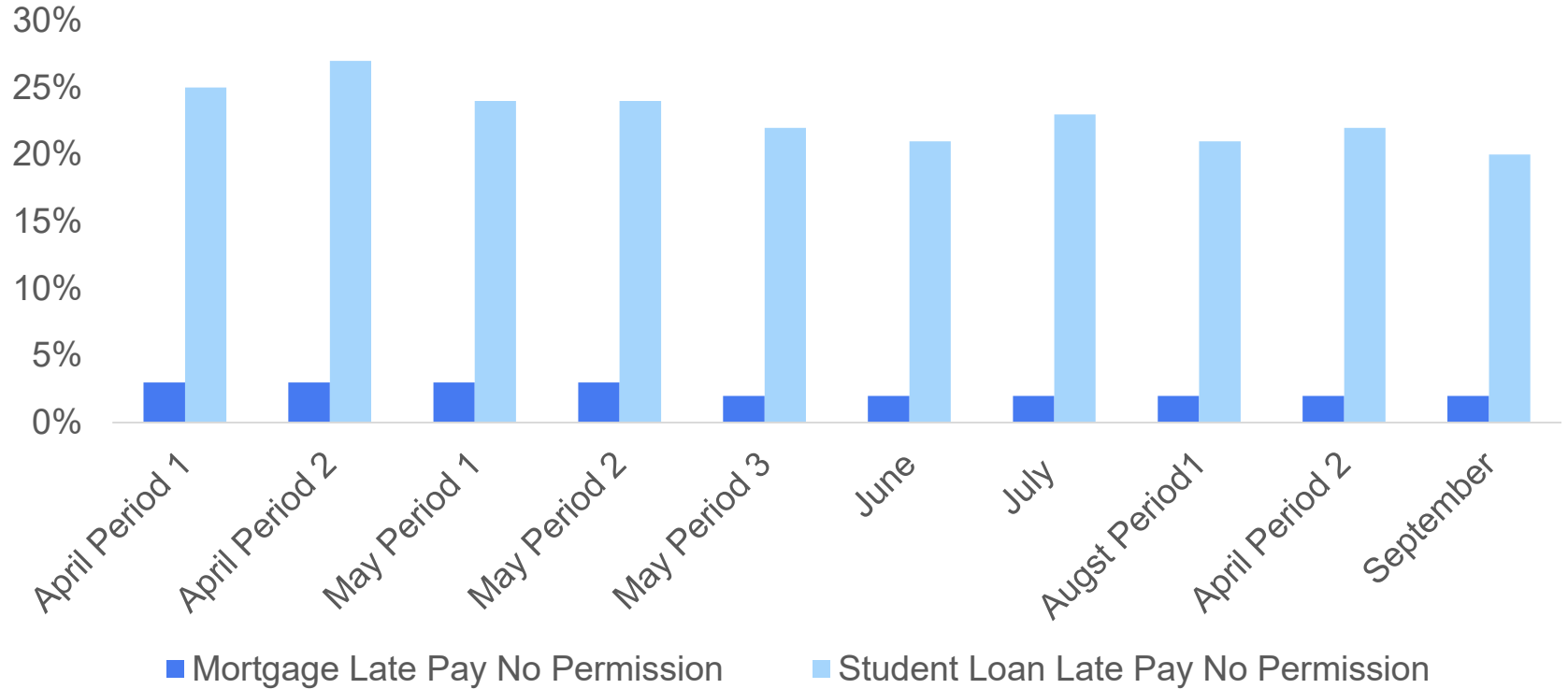
# DATA

## Reported Student Loan Late Payment Rate



# DATA

## Reported Late Payment Without Lender Permission



## Method

- **Dependent Variable** – Mortgage/Student Loan Late Payment
  - *“In the past month, did you miss or delay payment on your mortgage/student loan, or did you pay less than the full amount?”*
  - *Coded as 1 if respondent reported “Yes”, 0 other wise.*

## Method

- Independent Variable – Governmental Supports
  - *“In the past month, did you or anyone in your household receive any of the following government benefits?”*
    - *Economic stimulus funds (1,0)*
    - *Housing Assistance (e.g. Section 8 or vouchers) – Only used under mortgage model (1,0)*
    - *Temporary Assistance for Needy Families (TANF) (1,0)*
    - *Aid for people or businesses affected by the coronavirus epidemic(1,0)*

## Method

- Other Control Variables
  - Age
  - Sexual identity
  - Marital Status
  - Household Annual Income
  - Employment Status
  - Emergency Fund Constraints (Confidence about coming up with \$2,000)
  - Late Payment Permission

## Method

- A random-effects probit model is estimated via maximum likelihood:

$$y_{it}^* = \beta X_{it} + v_i + \varepsilon_{it}$$

$$y_{it} = \begin{cases} 1 & \text{if } y_{it}^* > 0 \\ 0 & \text{if } y_{it}^* \leq 0 \end{cases}$$

$$\varepsilon \sim N(0, \sigma^2)$$

# Results

Mortgage Late Payment	Marginal Effect
Received Housing Assistant (Reference: Did not received)	-0.04 (0.02)*
Received Economic Stimulus Check (Reference: Did not received)	0.01 (0.004)**
Having Emergency Fund Constraints (Reference: Do not have Constraints)	0.02 (0.01)**
Lost job (Reference: Being employed)	0.04 (0.02)**
Received Late Payment Permission (Reference: Did not receive permission)	0.14 (0.01)***

*Note:*

*Stand Error in parentheses*

*\* Significant at 10% level; \*\*Significant at 5% level; \*\*\*Significant at 1% level*

## Student Loan Late Payment

Marginal Effect

Received Economic Stimulus Check (Reference: Did not received)

-0.02(0.01)\*

Having Emergency Fund Constraints (Reference: Do not have Constraints)

0.09(0.02)\*\*\*

Received Late Payment Permission (Reference: Did not receive permission)

0.24(0.02)\*\*\*

Household Income (Reference: Less than \$5,000)

\$15,000-\$19,999

-0.24(0.11)\*\*

\$20,000-\$24,999

-0.22(0.12)\*\*

\$25,000-\$29,999

-0.31(0.11)\*\*\*

\$30,000-\$34,999

-0.19(0.10)\*

\$35,000-\$39,999

-0.30(0.10)\*\*\*

\$40,000-\$49,999

-0.19(0.10)\*\*

\$60,000-\$74,999

-0.20(0.10)\*\*

\$75,000-\$99,999

-0.20(0.10)\*\*

\$100,000-\$149,000

-0.30(0.10)\*\*\*

More than \$150,000

-0.32(0.10)\*\*\*

Note:

Stand Error in parentheses

\* Significant at 10% level; \*\*Significant at 5% level; \*\*\*Significant at 1% level



## DISCUSSION

- Receiving governmental supports does have a positive effect on households' student loan repayments.
- Yes, households use Economic Stimulus Check to pay down debts but maybe not all types of debts.
- At least, some households behave strategically for their repayments to different types of debts.



Thank you!

Questions?