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COVID-19 Pandemic's Impact on the Shift From Cash to Credit Cards and Mobile
Payments by Income Level

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ABSTRACT

The coronavirus disease (COVID-19) was declared a pandemic on March 11, 2020 (CDC, 2022). The COVID-19 pandemic has had immense impacts on many different fronts of people's lives, infecting over 640 million and taking the lives of over six million people worldwide. One aspect of the pandemic that has not been heavily researched is the pandemic's impact on consumer usage rates of mobile and contactless payments (credit/debit cards), specifically the general shift away from cash in terms of payment methods, as well as what impact income has had on this shift. Prior studies have investigated consumer behavior and its change during the pandemic, the severity of the pandemic's impact by income level, as well as the topic of cash usage and mobile and contactless payments usage rates.

This paper aims to bridge the gap between the research that has been done regarding cash and cashless payments and the research done regarding the pandemic's impact on low-income households to see if this general shift away from cash has stronger impacts on some communities when compared to others. In effect, the aim of this paper is to view the shift from cash to credit cards by income level, to see if those individuals in lower-income brackets are transitioning to mobile and contactless payments at rates slower than that of higher-income individuals.

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Chapter 1

Introduction

Mobile and contactless payments have become increasingly popular in the past decade, with the emergence of varying payment apps and platforms such as Venmo, PayPal, Apply Pay, and Cash App all rising massively in popularity due to their ease of use and ease of access for consumers in America. Not only have these apps and platforms become more prevalent today, but credit and debit card usage have also seen considerable increases as an alternative to using cash. Paired closely with this, the rise of technology in this same time frame is unprecedented to any other point in history. With more and more people having access to credit cards, banking, and access to smartphones, the shift away from the usage of cash seems to be a strong possibility.

As mentioned above, there has been a distinct drop in the rates at which cash has been used since the year the pandemic began in March 2020. When looking at the share of payments for all payments in America, we see that 27% of payments were cash in 2016, and 22% were cash in 2019. Comparing this decrease of -5% in three years to recent times, we see that in the year 2020 cash usage rates were 21% for payments in America, a decrease of 1% in a single year from 2019 (Federal Reserve Bank of Atlanta). The full impact of this shift away from cash is yet to be observed, as data regarding cash use throughout the COVID-19 pandemic has either not been fully released or obtained. I will attempt to run my own regressions regarding the use of cash in recent years.

When thinking of the pandemic's impact, it is evident that the pandemic has had stronger impacts on lower-income households in terms of financial losses, employment levels, and mental health issues when compared to their higher-income counterparts. Because of this, it is important to investigate whether this shift from cash payment to mobile and contactless payments is occurring faster in higher-income households relative to lower-income households so policy can be made moving forward aiding those in need who may not have access to credit, banking, or financial literacy information.

Before analysis, a proper overview must be given of the rates of change from cash to cashless payments in relation to income levels, as well as how consumer behavior has changed as a result of the COVID-19 pandemic. This will serve to give background to the emergence of mobile and contactless payments and to be used moving forward in analysis when looking at the impacts of the pandemic on varying households.

In essence, the goal of this thesis is to view whether the transition from cash to mobile and contactless payments was or is occurring at greater rates within high-income households. Once this is done, it will set the stage for future research regarding potential causes behind this shift so we can begin to view future impacts, the main impact being a welfare handicap to lower-income individuals if moving forward institutions begin shifting away from using cash payments as the dominant form of payments.

Chapter 2

Literature Review

Cash and Consumer Behavior Changes During and After the Pandemic

The pandemic has had significant effects on how people consume, with occurrences such as online shopping becoming more popular and financial strains to some demographics, it is important to look at the initial consumer behavior changes and differentiate the initial changes from those which we think will be lasting. This field of study has already been moderately researched, and findings generally conclude similar trends and ideas.

In part due to technological development, some trends were observed before the pandemic began, and were accelerated by both lockdowns and restrictions. It was seen that in the past ten years, there has been a rise in currency in circulation as well as a fall in transactional use of cash; this trend was accelerated by COVID-19. (Caswell et al., 2020). COVID-19 was able to accelerate this preexisting trend via government spending and policy and limiting consumers' access to institutions that accept cash during the lockdown, pressuring them to switch to online payments (Foster and Greene, 2021). Whether this trend will remain is unclear as of now, but if institutional change away from cash has begun it will likely last, although by less than the initial dip in cash use seen.

Consumer behavior during the pandemic shifted away from in-store shopping and towards online shopping. This is partially due to COVID-19 lockdowns and their reduction on

peoples' mobility and consumption mentioned before (Bounie et al., 2020). We also see that according to the Reserve Bank of Australia; transactional cash demand has fallen due to health concerns regarding passing banknotes (2021). Looking further into consumer behavior during the pandemic, one study used data from ATM machines and found that cash withdrawals have dropped in comparison to debit card transactions. They also saw that the virus reduced the value of cash withdrawals when compared with the value of card payments, and consumers performed a smaller number of cash transactions in comparison to card transactions. (Sayyida et al., 2021)

Another aspect of cash that has been altered by the pandemic is its acceptability. We see a slow shift away from the acceptance of cash and towards mobile and contactless payments in some retail stores. The 2020 Diary of Consumer Payment Choice stated that of those surveyed who reported making a payment in-person between March 10th and their spring survey response date, 7 percent said that a merchant had refused to accept cash (Kim et al., 2020). This is a considerable amount and has increased since the initial pandemic diary in 2020, as in the 2021 Diary of Consumer Payment Choice they concluded that less in-person shopping was occurring, but a larger share of merchants advised against the use of cash. Quantifying this point, it was said that approximately 45% of in-person shoppers reported that some of the time merchants encouraged consumers to avoid using cash (Coyle et al., 2021).

When considering the future of cash and whether these trends will continue, the consensus is that it is believed cash use will continue to decline, but we are not fully confident in this belief. The Federal Reserve Bank of Philadelphia wrote a paper on the future of cash, speaking of what trends in history have been and applying them to today's state of cash. This paper concluded that the era of cash may almost be over, but it entirely depends on many factors

such as where our future policies lead us and whether we truly want to get rid of cash as a payment method (Tarlin, 2021). Niklas Arvidsson took a related route by looking at whether a cashless future is a possibility. He concluded that while it is a possibility, we have a long way to go considering how much cash is in circulation and how much we currently rely on it for policy (Arvidsson, 2018).

These papers set a good background for how consumers are currently behaving and how they may continue to behave. The work done on this topic shows that consumers are definitively shifting away from cash and towards mobile or contactless payments, but what these papers all fail to look at is whether this shift was stronger or weaker in households that are of lower income. This paper's goal is to first determine whether there is a stronger decrease in cash used in lower-income households and then to provide a reason if that is the case.

Mobile and Contactless Payments

Whether looking at mobile payments or contactless payments, their commonplace is that they are both cashless. As we are about to see, the pandemic shifted consumers away from using cash as a form of payment by a significant amount in relation to cashless payments. Prior research done in this field is minimal but growing steadily. Tomasz Wisniewski et al. (2021) surveyed 5,504 respondents from 22 European countries and examined preferences regarding cash and cashless payments at the point of sale throughout the pandemic. This study gave important insight into the use of cashless payments and technology's impact on this transition. In this study, it was found that respondents who were more prone to believing handling cash could result in the transmission of illness were more likely to switch to cashless payments.

Furthermore, they found that these individuals were more likely to change their behavior after the COVID-19 pandemic as future intentions of behaving without cash were imprinted on the respondents. Regarding technological change as a causation for switching to cashless payments, they found that the shift towards cashless payments can also be attributed to online payments, but to a lesser degree.

They concluded that overall, a shift towards cashless payment methods was indisputable. A final important note that they found within their study was that there were reasons some people remained using cash, including technological literacy and receiving salaries in form of cash. This paper has quite strong arguments and conclusions; it set a strong foundation and shows evidence that there is change occurring regarding payment methods. However, it does not look at income level and view whether that influenced access to contactless payments in any form, this paper's goal is to uncover further reasoning behind these conclusions when considering income level.

Another study further backing and then building from the conclusions above was one based on daily payments of Dutch consumers collected between January 2018 and December 2021 by Nicole Jonker et al. (2022). This study viewed the two lockdowns that have occurred within the Netherlands and their impact on the shift away from cash as a preferred payment method. It also viewed this shift in relation to age and income which is more important when thinking of this paper. The results of this study found that containment measures from the pandemic accelerated the preexisting shift towards debit card usage, with debit card usage increasing initially by twelve percentage points, but overall, by between three and four percentage points at the point of sale. When thinking of age and income levels and the shift away

from cash, it was found that the lockdowns did not have homogenous effects on consumer behavior. It concluded that those persons in low-income groups did not shift towards debit card usage, but their preferences remained the same. This is critical to the thinking behind this paper, as we will be exploring whether this trend is occurring within America as well. This paper does fail to give reasoning behind low-income groups not shifting towards cards rather than cash, which will hopefully be explained later in this paper.

One more important aspect to look at when considering the adoption of contactless payments is how widespread the adoption of contactless payments must be to make it an effective influence. Research on this topic is limited but one study was found. This study looked at a retail bank's adoption of contactless debit cards, and the rate at which they were adopted or used. They found that "...rather than the specific local merchant infrastructure – it is the regional prevalence of the new payment technology - which impacts on consumer payment behavior" (Brown et al., 2022). This gives slight insight as to how much influence it takes to shift consumers away from an old payment method and into a new one such as contactless or mobile payments.

Impact on Low-Income Households

It is evident that the pandemic had the highest impact on low-income households across America. We saw that from 2019 to 2020 the median income within low-income households decreased by three percentage points (Kochhar and Sechopoulos, 2021). Without ample savings to fall back on, those who lived paycheck to paycheck were forced to try and remain working despite sickness or health concerns. Unfortunately, it was mostly these unskilled and low-wage

workers that were laid off when the lockdown began (Bateman and Ross, 2021). Backing this fact, the Federal Reserve found that in July 2020, 81% of adults with no employment disruption indicated doing okay financially compared to 63% of those indicating doing okay financially who had some form of employment disruption (Federal Reserve, 2021).

A stronger negative impact of the pandemic on low-income households has direct ties to access to technology and credit. Those in low-income households tend to have less financial literacy and less access to banks and credit cards; if these individuals are put in an even worse situation via the pandemic, their access to credit and technology will only decline. Showing that low-income individuals have limited financial knowledge, it was found that when applying for unemployment insurance benefits during COVID-19, roughly 66% did not apply due to belief that they were not eligible, and nearly 25% did not apply simply because they did not know how to (Benton et al., 2021).

The most applicable research done on this topic in relation to this paper comes from the 2022 Diary of Consumer Payment Choice. The Federal Reserve Bank of San Francisco conducted the study for the year 2022 and had a couple of key conclusions. Firstly, they found that “...the share of cash use for consumers in households making less than \$25,000 was approximately three times higher (36 %) than that of those living in households making more than \$150,000 (11%)” (Cubides and O’Brien, 2022). They also state that consumers in households making less than \$25,000 relied heavily on cash and did not change their mix of payments throughout the pandemic. This shows that these households are either less willing or less able to substitute mobile or contactless payments for cash. What this study fails to provide is

the reasoning behind lower-income households using more cash than their higher-income counterparts. This paper will attempt to provide some form of an explanation for this trend seen.

Chapter 3

Methodology

Data Collection

The data used in this analysis is microdata resulting from the Survey of Consumer Payment Choice from the years 2017 and 2020. While the Survey and Diary of Consumer Payment Choice are complementary, it is important to note their differences. The Survey of Consumer Payment Choice is an annual payment study that aims to record details of specific transactions and payment choices of individuals. This survey has been conducted since the year 2009. The Diary of Consumer Payment Choice is a study done annually by the Federal Reserve with goals of providing insights into US consumer behavior and their change year over year using the data from the Survey of Consumer Payment Choice. This diary has been released since the year 2012. The reasoning behind choosing the year 2017 and 2020 are as follows: the 2017 survey consists of pre-pandemic data and also has a large amount of respondents and the 2020 survey is the most recent published dataset that contains COVID-19 influenced data (2021 and 2022 are not yet available to view).

The data used in both the Diary and Survey of Consumer Payment Choice is collected and obtained by the Understanding America Study (UAS). The UAS was founded in 2014 and is funded by the Social Security Administration (SSA) and the National Institute on Aging as part of a cooperative agreement. The Understanding America Study is a panel of households that

reside near the University of South Carolina which are representative of the United States. This panel of households consisted of roughly 6,000 respondents in 2018 and roughly 10,000 respondents in 2023. They conduct over fifty survey modules on varying topics, with consumer payment choice being one of them.

This survey, like all surveys done by UAS, is an Internet Panel, meaning that respondents answer on a computer, tablet, or smartphone wherever and whenever they wish to participate. If an individual does not have access to either a device or the internet, they were provided said resources. The quality of the data is entirely up to the respondents to the survey and the answers that they wished to provide. This microdata is private, and one must apply to gain access to it in order to protect the identity of the respondents and upkeep the quality of research being done with the data. In total, the Survey of Consumer Payment Choice itself consisted of 3,189 individuals in the year 2018, 3,414 individuals in the year 2019, and 1,962 individuals in 2020. All respondents to the survey were 18 or older at the time of the survey.

In each survey year, every household and individual within a given household are represented using a unique household identifier (ID) and unique individual ID respectively. This also means, and it is important to note, that the person who is represented within the dataset may not be the one responding to the survey. This could have implications for discrepancies in responses and their accuracy if an individual is answering questions on behalf of another member of their household. It is also important to note that if a respondent failed to answer the question asked their answer is marked as “.e”, and if they do not view the question their response is marked as “.a”. This is also important when considering issues within the survey’s dataset which will be discussed shortly.

Aggregate Cash and Credit Card Use Versus Income in 2020

It is important to first look at aggregate trends in data, view the shortcomings and strengths, and then to move forward from there. When thinking of total expenditures, it is important to define what expenditures are captured by the Survey of Consumer Payment Choice and which expenditures are used in the regressions done below. Expenditures that were captured in this survey include person to person payments, non-essential retail payments, retail payments, and bill payments. The types of payment methods used for these expenditures are separated into the following categories: cash, credit cards, debit cards, money order, check, bank account, and online banking. Credit cards and cash are of interest when looking at trends by income level for this paper so those are what are looked at in the following regressions, but all forms of payments are used in finding relative use of cash and credit cards.

All the forms of expenditure mentioned were summed and used in later regressions using the following code where variables were created for each type of expenditure. It is important to note that there are more variables for credit cards than cash because of payment options of online and online banking. The following variables were created to regress the log of yearly cash/credit card expenditure with the log of the yearly income of the respondents:

$$\text{LogYearlyCashExpenditure} = \log\left(\frac{\text{YearlyCashExpenditure}}{\text{YearlyCashExpenditure} + \text{YearlyCreditExpenditure} + \text{YearlyDebitExpenditure} + \text{YearlyMoneyOrderExpenditure} + \text{YearlyCheckExpenditure} + \text{YearlyBankAccountExpenditure} + \text{YearlyOnlineBankingExpenditure}}\right) * 100$$

$$\text{LogYearlyCreditExpenditure} = \log\left(\frac{\text{YearlyCreditExpenditure}}{\text{YearlyCashExpenditure} + \text{YearlyCreditExpenditure} + \text{YearlyDebitExpenditure} + \text{YearlyMoneyOrderExpenditure} + \text{YearlyCheckExpenditure} + \text{YearlyBankAccountExpenditure} + \text{YearlyOnlineBankingExpenditure}}\right) * 100$$

The main issue run into while running these regressions was that of a lack of a response from the survey respondents. Only a small share of all individuals taking the survey responded to all questions regarding what was needed to run the regression, with most of those individuals missing in the results being low-income individuals. To account for this, the values of those with responses of those who did not respond (.e) were replaced with the value zero so they may be included in the model and those who did not see the questions (.a) were omitted from the regression. It was tough to decide between omitting these individuals and replacing those missing respondents with the mean values of the data or with zeroes, as it is impossible to tell when someone consciously chose to skip the question in comparison to those who left it blank because they do not use the payment method in the question. This is something I cannot determine due to the nature of the survey. Due to this, the results from the regressions will still be analyzed and considered but cannot be taken too seriously as they are rather inaccurate.

Cash and Credit Card Use In 2020 by Income Level

Due to the issues with the data mentioned above, what was done instead was analyzing individual change in credit card and cash use by income level in two separate survey years to see the change. This was done in part due to my work and with the help of the previous work done by the Federal Reserve Bank of San Francisco as their overall trend seen below is what

motivated me to look further into what is happening by income level over time. Their graph is shown below:

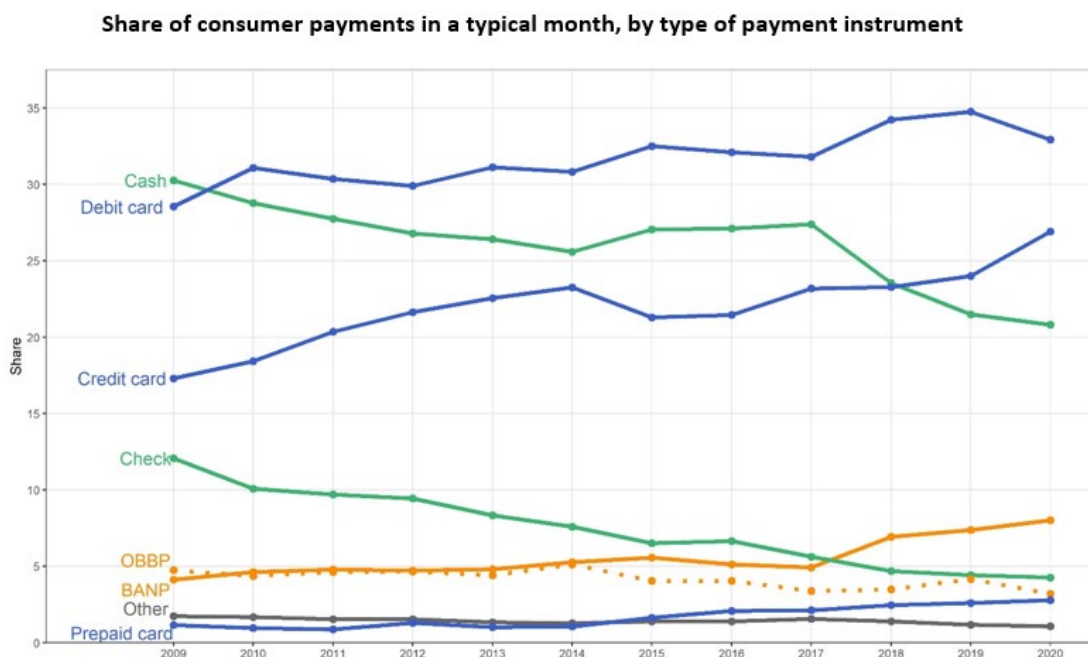


Figure 1: Share of consumer payments per month by payment method (FED)

We see that since 2009, the share of cash being used has decreased significantly while forms of payments like credit cards have increased. This was the main motivation for looking into changes over time by income level instead of using aggregate data as before. In order to do this, I separated the survey respondents in the year 2020 into three income brackets being under \$50,000 yearly income, \$50,000 to \$100,000 yearly income, and then over \$100,000 of yearly income. The reason for three income brackets is that I felt it best represented the income ranges without the income level separations becoming too tedious with too many income ranges to account for. I chose the year 2020 as it is the most recent survey year that represents the pandemic. Once this was done, expenditures for each payment type were summed up in relation

to all other expenditures as before, with the focus being on cash and credit card use over time but all forms of expenditure were looked at by these income ranges.

Chapter 4

Results and Discussion

The first regression ran was that of the variables Log Yearly Income and Log Yearly Cash Expenditure for survey years 2017 and 2020, these results for the year 2020 are seen below.

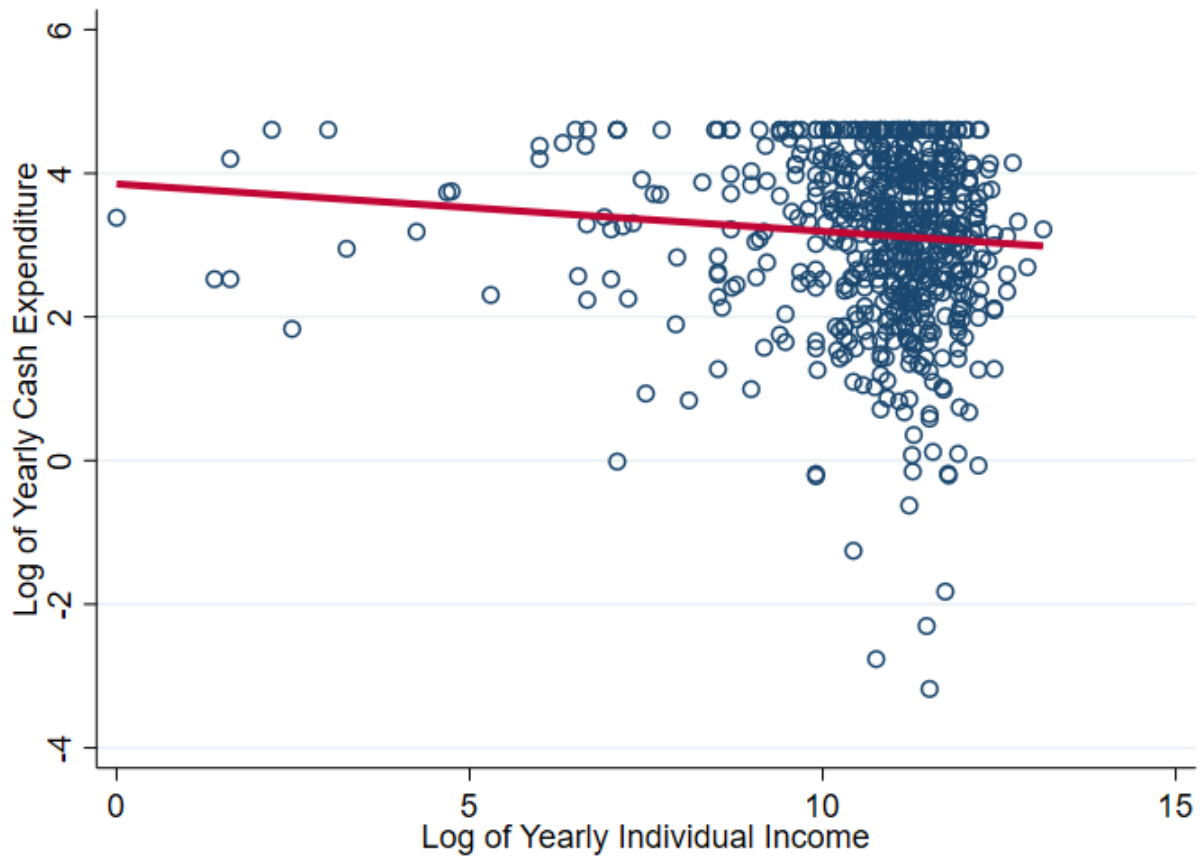


Figure 2: 2020 Log Yearly Cash Expenditure vs. Log Yearly Income

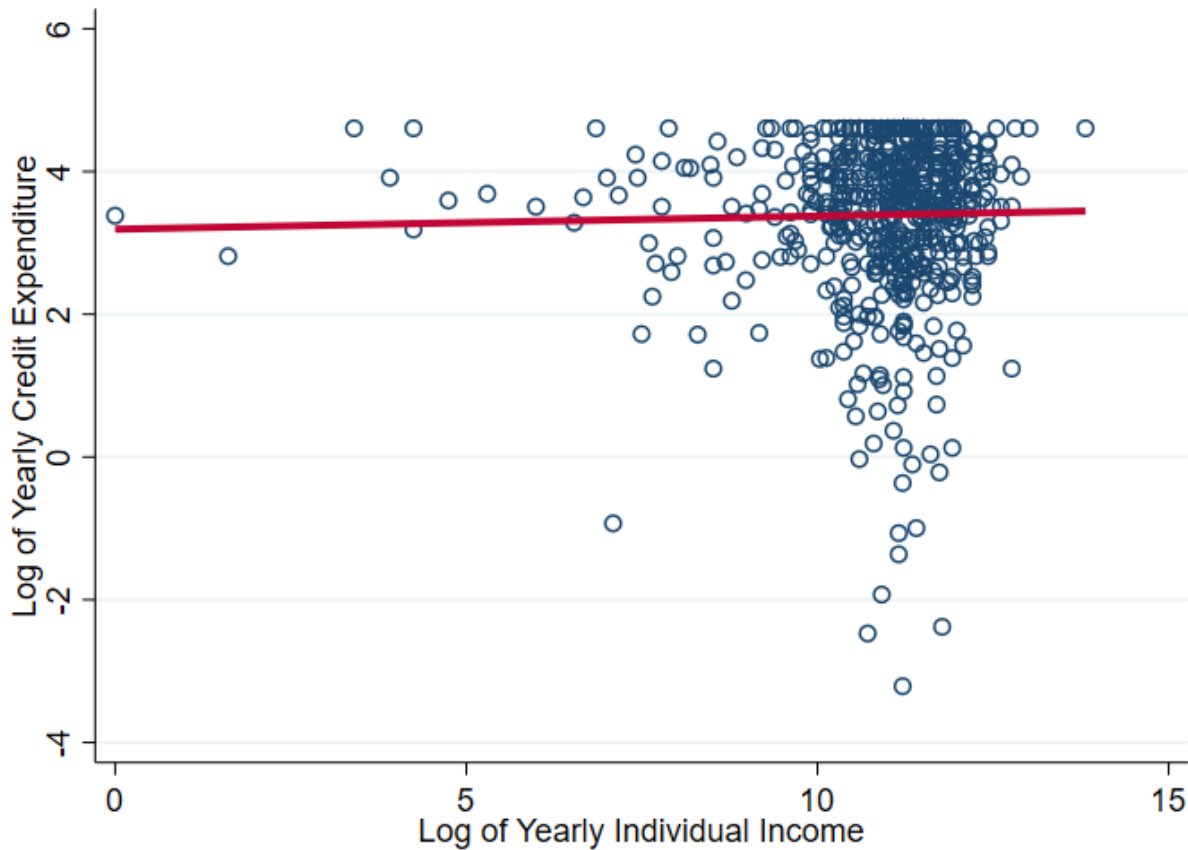


Figure 3: 2020 Log Yearly Credit Expenditure vs. Log Yearly Income

We see in these regressions a slight trend which indicates that lower-income households use more cash and less credit cards, and that higher-income households use more credit cards and less cash. These same regressions were run for the year 2017 and are seen below. It is important to note that the survey question about income level changed in the way it was asked between 2017 and 2020, which is apparent after seeing the results of the regression. Respondents were given less income level options to choose from in 2017 when compared to 2020.

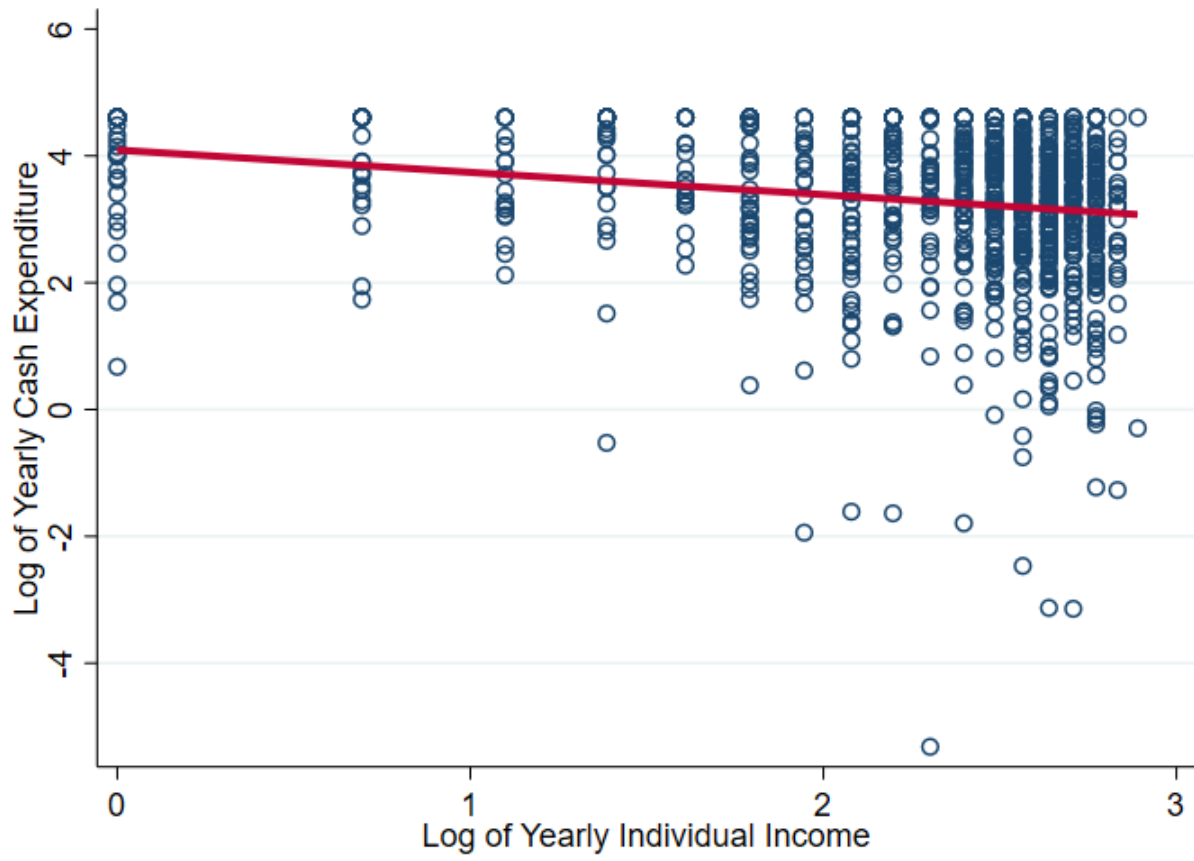


Figure 4: 2017 Log Yearly Cash Expenditure vs. Log Yearly Income

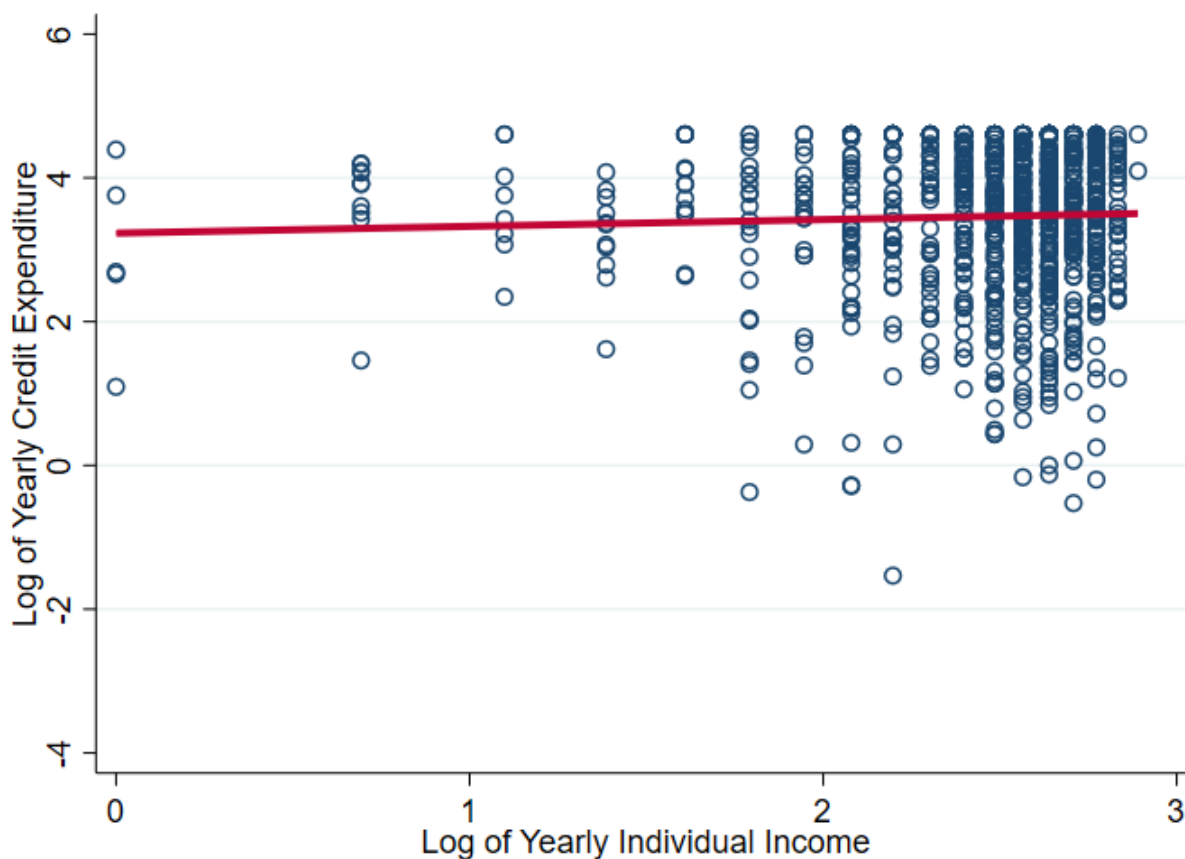


Figure 5: 2017 Log Yearly Credit Expenditure vs. Log Yearly Income

We see in these regressions from 2017 similar trends to those of 2020 above. It is unclear if the correlation between income and cash and credit card use differs greatly between 2017 and 2020, so regression results are shown in the table below.

Variable	Estimate	Standard Error	Statistic	P-value
Cash Expenditure	-0.35212	0.0594	-5.93	0
Credit Expenditure	0.0943	0.0838	1.13	0.261

Table 1: 2017 Survey Year Income and Cash/Credit Card Expenditure Regression Results

Variable	Estimate	Standard Error	Statistic	P-value
Cash Expenditure	-0.0658	0.0301	-2.18	0.029
Credit Expenditure	0.0183	0.0348	0.53	0.597

Table 2: 2020 Survey Year Income and Cash/Credit Card Expenditure Regression Results

First, we see that when looking at income's effect on credit expenditure that in both 2017 and 2020 there are no statistically significant results. It is also interesting to see that when viewing income's impact on cash usage that the results are statistically significant in saying low-income individuals use relatively less cash when compared to higher-income households. The values of the estimate of -0.3521 in 2017 and -0.0658 in 2020 leave room for confusion as we would expect to see even less low-income individuals using cash as time goes on. I believe the explanation behind this is less respondents in lower-income ranges in the survey year 2020. The causes behind this are most likely not captured in the data, and due to a lack of respondents I chose not to investigate this as results would most likely be misleading. With more accurate and detailed data this could be looked at.

I wanted to take these results one step further by looking at the total payment shares and payment shares by income levels to see if there is any more information that we could conclude from the dataset used. In the figures below we see the results from running the code mentioned above, but instead of looking at payment method expenditures alongside income I only looked at the relative shares of payment methods compared to one another that were used in the survey year 2020.

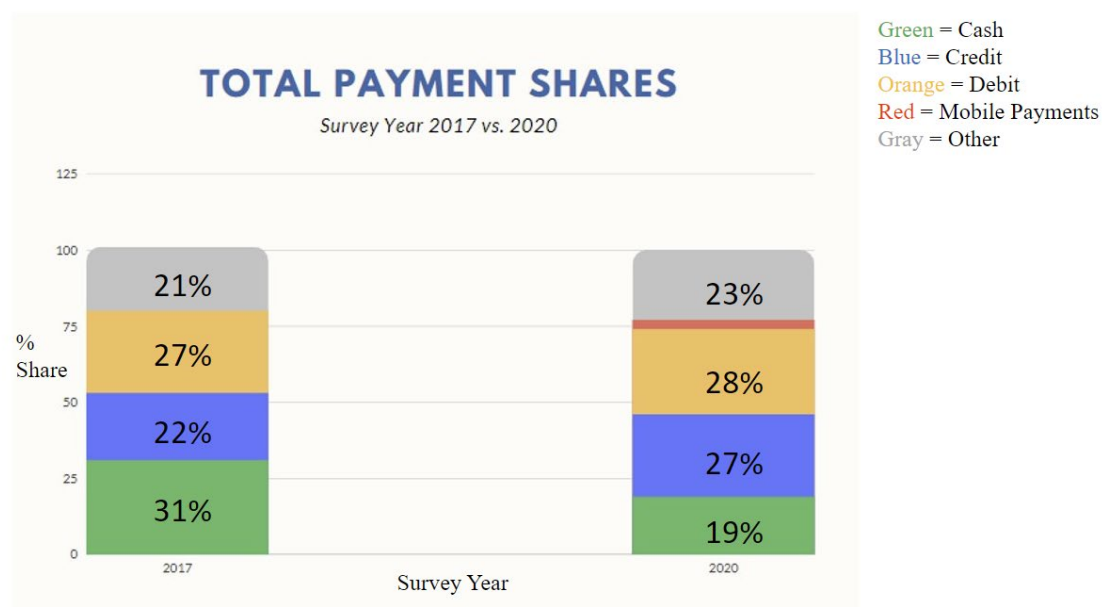


Figure 6: Total Payment Shares 2017 vs. 2020

We see that when comparing 2017 data to 2020 data, that people are using relatively less cash (31% to 19%) and more credit (22% to 27%). We also see the emergence of mobile payments as a form of payment method indicated by the red section on the bar graph. Now that I know some people are using more credit cards and less cash, I wanted to look at the survey year from 2020 by income level to view if lower-income households are using more cash and less credit cards when compared to their higher-income counterparts. This is seen below.

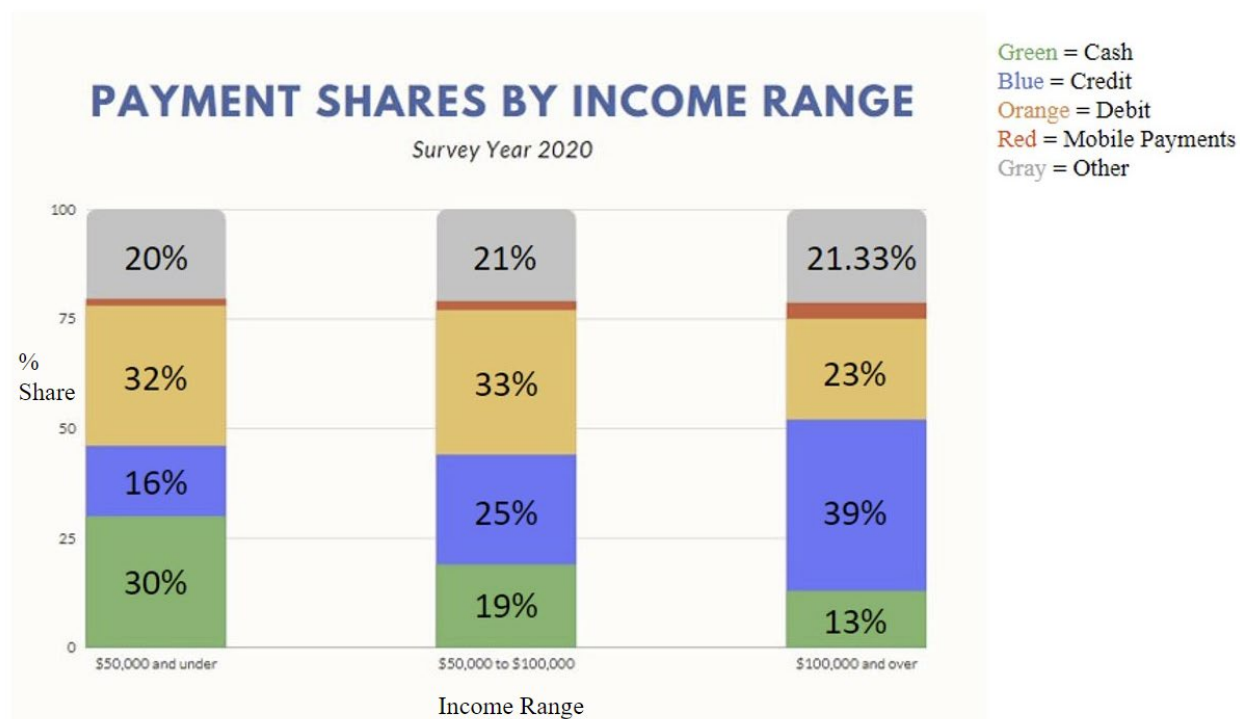


Figure 7: Payment Shares by Income Level in 2020

These results confirmed what was expected in that lower-income individuals are using more cash and less credit than higher-income individuals. It is also interesting to note that higher-income individuals are using more mobile payments than lower-income individuals. Once again it is important to note that these results are skewed as there were more high-income respondents than low-income respondents. This could make it so that the results are not as accurate as they would be with complete data.

Chapter 5

Conclusion

Additional Considerations

Looking back at the regressions and the data used, there are many areas for improvement. Firstly, this data was obtained from a survey of individuals who made personal responses about their past behavior. This alone leaves lots of room for error or bias when looking at the data as none of the data is verified to be accurate. Alongside this, hundreds of respondents either left many sections blank or did not view the questions in my study entirely. This brought the sample size from over 1,800 respondents to less than 600 (many of those non-respondents being low-income households), which could have disastrous effects on skewing the data. This is the main reason a clear trend could not be discovered when looking at the aggregate trends in the data. With more detailed and accurate data, trends could be better discovered and tested. It is also important to note that the majority of those who did not respond were in the lower-income ranges, as seen in the regression results. This also skews our results as we do not fully know the accurate shares of payment methods used over time.

The main requirement to discover these trends would be more accurate and more descriptive data that could be compared over time with the exact same respondents each year. We saw that there were over a thousand more respondents in 2017 when compared to 2020, so the quality of the data is questionable due to which individuals respond to given questions.

Due to the nature of the data described above, it is safe to say that the results from this paper cannot be safely broadened to encompass a larger group of individuals. While it does indicate that there may be more cash use in the same lower-income households relative to their higher-income counterparts year over year, we cannot comfortably say that this is true for all lower-income households across America. The relationship between income and cash and credit use should be further investigated as it can begin to provide insight as to how the welfare of lower-income households will change as we move away from cash and towards other payment methods as a society. It will also begin the journey of finding solutions for those with less access to credit once the causes are more clearly discovered.

It is also important to note once more that microdata was only available for 2020, and not more recent years. Once more recent data is published, the lasting effects of what is seen in this paper may be further discovered as well.

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ACADEMIC VITA

Matthew Monahan

EDUCATION

The Pennsylvania State University <i>Schreyer Honors College</i> Intended Bachelor of Arts in Economics Academic Excellence Scholarship	University Park, PA Class of May, 2023 President's Honor Roll, Dean's List
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WORK EXPERIENCE

Merck & Co. <i>Digital Channel Strategies & Services Intern</i>	Upper Gwynedd, PA <i>June 2022 – August 2022</i>
<ul style="list-style-type: none"> Rebranded Merck's Quality Resource Portal to the name HealthEQ Worked using an Agile framework to develop new material, update old content, and effectively work with third party vendors 	
Research Experiences for Undergraduates <i>Assistant Researcher</i>	University Park, PA <i>January 2022 – June 2022</i>
<ul style="list-style-type: none"> Worked closely with a faculty member in research and manipulating data, funded by Bates White LLC Completed weekly assignments and tasks to aid in research 	
Keenan Motors Mercedes <i>Valet & Detail Associate</i>	Doylestown, PA <i>May 2021 – August 2021</i>
<ul style="list-style-type: none"> Responsible for the care and maintenance of fleet and service vehicles In charge of safe and timely vehicle delivery to customers and to auction 	

LEADERSHIP

The National Society of Leadership and Success <i>Member</i>	University Park, PA <i>March 2021 – Present</i>
<ul style="list-style-type: none"> Engaged in activities and meetings and learned skills regarding leadership Developed ability to lead and cooperate with groups of differing backgrounds and skills 	

CAMPUS INVOLVEMENT

Economics Student Grader <i>Econ. 306 & Econ. 437 Student Grader</i>	University Park, PA <i>January 2022 – Present</i>
<ul style="list-style-type: none"> Received grading position for receiving top marks in the class and maintaining a good relationship with the professor Responsible for the grading and care of students' assignments 	
Phi Eta Sigma National Honor Society <i>Distinguished Member</i>	University Park, PA <i>December 2019 – Present</i>
<ul style="list-style-type: none"> First year honors society with goals of promoting leadership, integrity, and progression Participated in meetings and volunteer events for the benefit of the community 	

Memberships/Clubs:

- Running Club, Car Club, Tennis Club, Skiing Club

HONORS/SKILLS/INTERESTS

Honors: President's Freshman Award
 Skills: Self Starter, Follow-Up & Communication, Proficient in Spanish Language, Experience with Microsoft Excel and Stata Coding
 Interests: Marketing, Data Analytics, Consulting, Road and Trail Running, Skier and Tennis Player, Traveler