CONSUMER FINANCIAL PROTECTION BUREAU | MARCH 2023

Consumer Use of Buy Now, Pay Later

Insights from the CFPB Making Ends Meet Survey

Summary: This report explores the consumer financial profiles of Buy Now, Pay Later (BNPL) borrowers using the Bureau's Making Ends Meet survey and its association with credit bureau data. While many BNPL borrowers who we observed used the product without any noticeable indications of financial stress, BNPL borrowers were, on average, much more likely to be highly indebted, revolve on their credit cards, have delinquencies in traditional credit products, and use high-interest financial services such as payday, pawn, and overdraft compared to non-BNPL borrowers. BNPL borrowers had higher credit card utilization rates and lower credit scores. However, many differences between BNPL borrowers and non-borrowers pre-date BNPL use. Further, contrary to the widespread misconception, BNPL borrowers generally have access to traditional forms of credit. In fact, they were more likely to borrow using credit and retail cards, personal loans, student debt, and auto loans compared to non-BNPL borrowers. Finally, the report estimates that a majority of BNPL borrowers would face credit card interest rates between 19 and 23 percent annually if they had chosen to make their purchase using a credit card.

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Cortnie Shupe, Greta Li, and Scott Fulford prepared this report.

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1. Introduction

"Buy Now, Pay Later" (BNPL) began gaining ground in the United States in 2019, but between 2019 and 2021, the number of BNPL loans issued to consumers increased by almost tenfold.[1] Yet despite this rapid growth, little is known about the characteristics of consumers who borrow using the pay-in-four product and how the use of BNPL relates to their traditional credit and savings behavior. This report draws on new data from both survey and administrative sources to provide a picture of the consumers who use BNPL and their credit use.

Historically, most forms of credit have involved buying something now and paying for it later. Consequently, many different loan products have been marketed as BNPL. For the purposes of this report, BNPL refers exclusively to the zero-interest, pay-in-four (or fewer) installment loan that facilitates purchases at the point of sale. These credit products differ from traditional installment loans in important ways: the average loan amount is $135 over six weeks compared to $800 for traditional installment loans over a period of 8-9 months;[2] and BNPL is offered at zero percent interest, while traditional installment loans often carry a positive interest rate.

We use consumer responses to the 2022 Making Ends Meet survey to identify pay-in-four borrowers.[3] We then explore differences across demographic groups as well as the credit and savings behavior of these BNPL borrowers. The survey's association with the CFPB Consumer Credit Panel (CCP), an anonymized sample of credit bureau records, provides further insights into BNPL users' experiences with traditional forms of credit. Finally, we explore consumer use of alternative financial services such as payday or pawn loans using survey responses.

We find that BNPL use varied widely across the population. On average, 17 percent of consumers borrowed using BNPL at least once in the year prior to the survey. Black, Hispanic and female consumers and those with household income between $20,001-50,000 were significantly more likely to borrow using BNPL compared to white, non-Hispanic and male consumers, or those with household income below $20,000. In contrast, those with at most a high school degree were less likely than consumers with at least a bachelor's degree to use BNPL

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[1] See Martin Kleinbard, Jack Sollows and Laura Udis, "Buy Now, Pay Later: Market Trends and Consumer Impacts," Consumer Financial Protection Bureau, September 2022, https://files.consumerfinance.gov/f/documents/cfpb_buy-now-pay-later-market-trends-consumer-impacts_report_2022-09.pdf (hereinafter Kleinbard et al. 2022).

[2] See Kleinbard et al. 2022 and McKinsey & Co (2021). "Buy now, pay later: Five business models to compete." Available at: https://www.mckinsey.com/industries/financial-services/%20our-insights/buy-now-pay-later-five-business-models-to-compete.

[3] The survey question reads, "In the past year, have you purchased something using a "buy now, pay later" option, in which you did not pay for the full price at the time of purchase, but rather paid in four interest-free installments? (Some retailers offer these payment plans through companies such as Affirm, Afterpay, and Klarna.)"

and consumers with a super-prime credit score are less likely than those with a deep subprime score to borrow using BNPL.

Using the panel nature of the CCP, we show that BNPL borrowers have lower average credit scores than consumers who did not borrow using BNPL and that this difference in credit scores existed even before the pay-in-four product became widespread in the United States. Despite lower scores, the majority of BNPL borrowers have access to traditional credit.[4] In fact, during the survey look-back period from February 2021-February 2022, they were more likely than non-BNPL borrowers to use traditional credit products including credit cards, retail cards, personal loans, auto loans, and student debt. Conditional on having an open account for any of those products, they were 11 percentage points more likely than non-BNPL borrowers to have a delinquency of at least 30 days on their credit record.

BNPL borrowers have lower liquidity and savings on average compared to consumers who did not use BNPL. Approximately 25 percent of BNPL users and non-users alike have zero credit card liquidity, but six percent of BNPL users compared to three percent of non-users with a credit card have negative liquidity, meaning that their debt balances on all credit cards are higher than the sum of their credit card limits, indicating particularly high levels of indebtedness among these consumers.

BNPL borrowers exhibit measures of financial distress that are statistically significantly higher than non-users. Some examples include higher credit card debt and utilization rates, a higher likelihood of having an overdraft, a higher likelihood of revolving on at least one credit card, and higher utilization rates of alternative financial services that charge high interest rates.

Sixty-nine percent of BNPL borrowers were revolving on at least one credit card at the time of the survey, meaning that they carried over a credit card balance from one billing cycle to the next. For credit card revolvers, the interest rate starts immediately for a purchase, so even for a six-week, pay-in-four purchase, credit cards are much more expensive than a zero-interest BNPL loan. BNPL borrowers therefore may choose zero-interest BNPL financing over revolving on a credit card with relatively high interest that compounds over time. For non-revolvers, the proposition of BNPL is generally at most a two-week, interest-free extension on the deadline for repayment, as non-revolvers do not begin paying interest until the end of the grace period, which is typically a billing cycle.

Using a complementary dataset of general-purpose credit cards, we find that general-purpose credit card accounts of consumers with similar credit scores as the average BNPL user are being charged an average interest rate of 22-24 percent for those who are revolving on their credit

[4] This statement is true even if we assume that all consumers without a credit record use BNPL (see footnote 19).

card. Consequently, BNPL financing may be particularly attractive to consumers with lower credit scores because the alternative average percentage rate (APR) interest on credit card debt is particularly high for this group compared to consumers with higher credit scores.

This study has three notable limitations. First, identification of BNPL use is based solely on consumer self-reporting and reported for only one point in time. Since these loans do not appear in the credit bureau data, we are unable to cross-reference these responses, but some evidence suggests that consumers may report traditional installment loans as BNPL rather than the pay-in-four product. [5] This confusion likely arises because of the widespread marketing of products similar to BNPL and the fact that some of the same firms offering the pay-in-four product also offer traditional installment financing.[6] For this reason, we expect that BNPL use is measured with some error. Second, because the sample frame for the Making Ends Meet survey encompasses consumers with a credit record, this report necessarily omits information on the estimated 11 percent of consumers without a credit record. Third, the data in this report do not allow us to distinguish the direction of causality – namely whether consumers in distress are more likely to use BNPL, for instance, in order to substitute away from high-interest loans that they already have, or whether BNPL use leads consumers to increase borrowing using other non-BNPL products. This question remains an important area for future research.

The time period covered by the survey and CCP was also a tumultuous economic period. Both online shopping and BNPL use expanded rapidly since 2019. Many new BNPL borrowers may be experimenting with a new product and others may start to use it after the survey. In addition, the COVID-19 pandemic changed many consumers' finances.[7] Many people spent less and government support, including Economic Impact Payments and expanded unemployment benefits, increased incomes. These actions caused savings to increase and debt to decrease. Our results may not be representative of BNPL use as the product continues to evolve or during less tumultuous economic times.

Despite these limitations, our results show that BNPL is mostly used by consumers with substantial access to and use of other forms of credit. However, most of these credit sources would be much more expensive than BNPL for the typical user, so BNPL appears to be a less expensive borrowing option, not the only option.

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[5] See Tom Akana, "Buy Now, Pay Later: Survey Evidence of Consumer Adoption and Attitudes," (June 2022) available at https://www.philadelphiafed.org/consumer-finance/consumer-credit/buy-now-pay-later-survey-evidence-of-consumer-adoption-and-attitudes (hereinafter Akana 2022).

[6] Affirm and Klarna are two examples.

[7] Scott Fulford and Cortnie Shupe, "Consumer finances during the pandemic," CFPB Data Point No. 2021-3, December 2021, available at: https://files.consumerfinance.gov/f/documents/cfbp_making-ends-meet-survey-insights_report_2021-12.pdf.

2. Data and Sample

2.1 The Making Ends Meet Survey and Consumer Credit Panel

The data for this report stem from the Making Ends Meet survey, which was fielded from January-March 2022. The CFPB Consumer Credit Panel (CCP) is the sample frame for the Making Ends Meet survey. The CCP is a national 1-in-48 sample of de-identified credit records maintained by one of the three nationwide consumer reporting agencies (NCRAs). Consumers appear in the sample if they have at least one traditional credit tradeline, hard inquiry, a collection, or a public record. Consequently, the sample is generally representative of adults with a credit record but does not capture the estimated 11 percent of consumers considered "credit invisible."[8] Nevertheless, the sample is adjusted for survey non-response using credit characteristics in the CCP as well as demographic information provided anonymously by respondents. The weighted survey sample produces results similar to population estimates in the 2019 American Community Survey.[9]

2.2 Consumer Use of BNPL

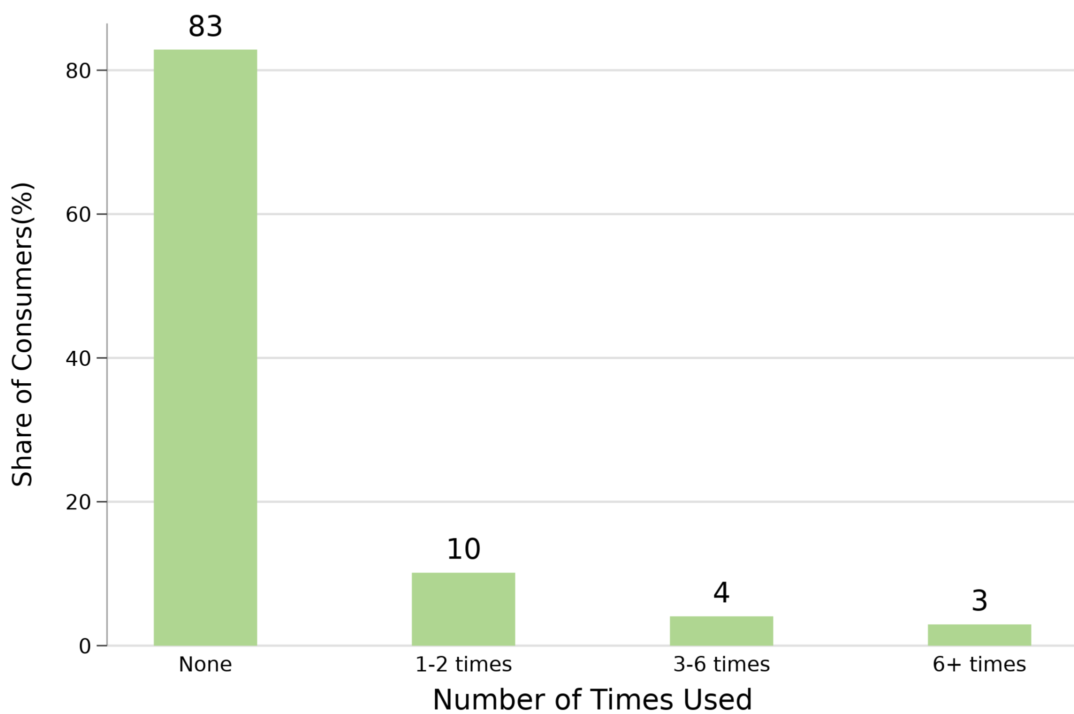
Seventeen percent of 2,036 consumers in the Making Ends Meet survey indicated that they had made at least one purchase using BNPL in the 12 months prior to taking the survey, i.e. between February 2021 and February 2022.[10]

[8] See Kenneth P. Brevoort, Philipp Grimm, and Michelle Kambara, "Data Point: Credit Invisibles," CFPB Office of Research, May 2015. Available at http://www.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf.

[9] See Scott Fulford, Samyak Jain, Greta Li, Elizabeth Saunders and Eric Wilson, "Making Ends Meet in 2022: Insights from the CFPB Making Ends Meet Survey," CFPB Office of Research Publication No. 2022-9, December 2022, https://www.consumerfinance.gov/data-research/research-reports/insights-from-making-ends-meet-survey-2022/.

[10] This number represents a weighted mean using sample weights. Of the 2,125 respondents in the MEM survey, 2,040 answered the question about BNPL use and 2,032 answered the question regarding BNPL use frequency. We drop four observations of consumers who indicated they spent over $10,000 on BNPL in only 1-2 purchases. These purchase amounts are likely indicative of traditional installment loan products rather than the pay-in-four product.

FIGURE 1: FREQUENCY OF BNPL USE AMONG CONSUMERS IN THE MAKING ENDS MEET SURVEY



Source: 2022 MEM survey. Weighted means using sample weights. Number of observations = 2,028.

Figure 1 illustrates the frequency at which consumers report using BNPL. In line with a recent study by the Federal Reserve Bank of Philadelphia, we find that the majority of BNPL borrowers used the product only one or two times, perhaps experimenting with it.[11] Ten percent of consumers (58 percent of BNPL borrowers) reported this frequency of use. Approximately 23 percent of BNPL borrowers (4 percent of all respondents) said they used the product three to six times and approximately 17 percent of BNPL borrowers (3 percent of all respondents) used BNPL six or more times in the previous year.

Drawing on the demographic information in the survey, Figure 2 explores the likelihood of having borrowed using BNPL at least once in the previous year among different groups of consumers. The data show variation in use related to age, income, gender, education, race, ethnicity, and homeowner status. Weighted means are demarcated with a diamond, along with a band that shows a 95 percent confidence interval for each mean.

BNPL is most prevalent among consumers with income above $20,000, but less than $50,000 annually and least popular among those with annual income above $200,000, with a difference

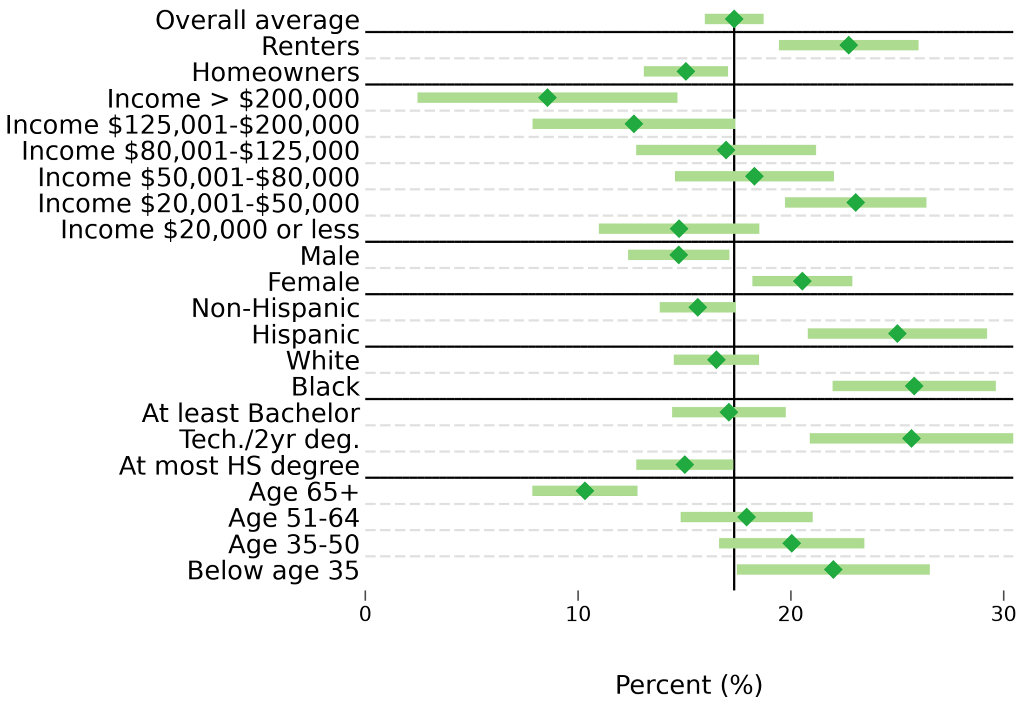
[11] See Akana 2022.

of 14 percentage points. BNPL financing may appear more attractive to lower-income consumers who find the interest-free installments more affordable than making the entire purchase at once. At the same time, the lowest income group may have insufficient disposable income for consumption in general, including that financed through BNPL. The lower likelihood of utilization among those with the lowest income, $20,000 and lower, may also be attributed to supply factors such as where BNPL is advertised or the share of applications approved in this income group, or other factors.

It is worth noting that although higher income groups are less likely to use BNPL, still 9 percent of consumers with incomes above $200,000 annually and 12 percent of consumers with incomes between $125,000-$200,000 borrowed at least once using BNPL financing in the previous year. Use patterns are less clear for educational attainment, which is correlated with income.

Women are more likely to borrow using BNPL (20 percent) compared to men (14 percent), Black (26 percent) consumers are more likely than white (16 percent) consumers and Hispanic (24 percent) consumers are more likely than non-Hispanic (15 percent) consumers to have made a purchase using BNPL. The data show that BNPL financing is not as prevalent among consumers age 65 and older compared to consumers younger than 65. Nearly 22 percent of consumers below the age of 35 borrowed using BNPL, in contrast to approximately 10 percent of those over the age of 65. Finally, 22 percent of renters used BNPL compared to 15 percent of homeowners.

FIGURE 2: PERCENT OF EACH GROUP THAT USED BNPL



Source: 2022 MEM survey, unconditional weighted means of each subgroup with a 95 percent confidence band. Each category shown separately does not control for correlations with other demographic characteristics.

These group averages are unconditional and do not control for other characteristics of consumers that are correlated with BNPL use.[12] Appendix A provides insights into the characteristics most strongly associated with BNPL use after controlling for income and demographic characteristics in a multivariate regression. After controlling for other factors, having at most a high school degree and a super-prime credit score[13] are most negatively associated with the likelihood of BNPL use. Being Black, Hispanic, female, and having household income between $20,001 and $50,000 annually are characteristics positively associated with the likelihood of having borrowed using BNPL. All other characteristics listed in Figure 2 are not statistically significant in the multivariate framework.

[12] For example, renters on average have lower incomes, are younger, and more likely to be female. See Alexandra Dobre, Marie Rush and Eric Wilson, "Financial Conditions for Renters before and during the COVID-19 Pandemic," September 2021, available https://files.consumerfinance.gov/f/documents/cfpb_financial-conditions-for-renters_report_2021-09.pdf.

[13] We take the average of the quarterly credit score for each individual over the year prior to the survey look-back period, in 2020. Because we only observe BNPL use once during the survey look-back period, the credit score in this exercise may stem from before or after the consumer used BNPL for the first time. Figure 3 shows credit scores both during and before the expansion of the pay-in-four product in the United States.

3. Traditional Credit Availability and Delinquencies

BNPL can provide consumers an alternative means of financing certain purchases, potentially substituting for using cash, a credit card, or another form of credit. This section describes the credit profiles and alternatives available to BNPL users and offers more context for the role BNPL may play in their financial lives.

3.1 Credit Scores

Credit scores are one central factor credit providers use to assess creditworthiness and to assign interest rates to applicants. While the pay-in-four product generally does not carry interest, credit scores are informative of the availability of traditional credit products that are potential alternatives for BNPL. Moreover, most BNPL providers do use credit scores for first-time borrowers, in addition to other information to underwrite purchases.[14]

Figure 3 compares average credit scores for consumers who reported using BNPL at least once in the previous 12 months with those of consumers who reported zero BNPL use. The gray band denotes a 95 percent confidence interval around the weighted mean in each month. Consumers who did not use BNPL have consistently higher credit scores on average compared to those who did; the group of non-users had an average credit score classified as near-prime (670-739), while BNPL users had an average score in the sub-prime category (580-669). This observation holds for periods before reported usage and before the pay-in-four product was widely used in the United States (beginning in 2019), suggesting that the group of BNPL users had a lower average creditworthiness rating prior to their first time using the product.

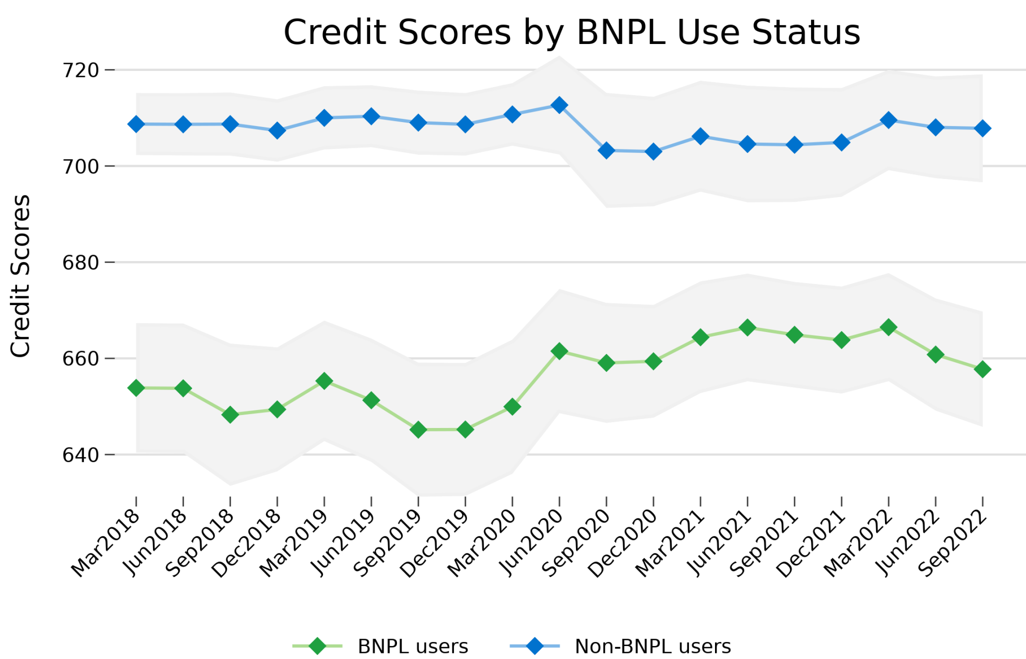
During the pandemic, average credit scores increased in particular for consumers with below-median credit scores. A study by the Federal Reserve Bank of Boston found that this upward shift in average scores was driven by decreases in credit card balances and utilization rates.[15] Many consumers spent less or paid back some of the debt on their credit cards during this time and experienced a positive shift in their credit score. As Section 3.3 discusses in more detail,

[14] See Kleinbard et al. 2022.

[15] See Michal Kowalik, Lily Liu and Xiyu Wang, "Credit Scores Since the COVID-19 Outbreak," Federal Reserve Bank of Boston Working Paper SRA 21-04, October 2021. Available at https://www.bostonfed.org/publications/risk-and-policy-analysis/2021/credit-scores-since-the-covid-19-outbreak.aspx.

average credit card utilization rates among BNPL borrowers did decrease slightly during the pandemic, but overall credit and retail debt did not, and several measures of financial distress remained higher than average for this group. Consequently, it is perhaps unsurprising that average credit scores among BNPL borrowers did not increase during the pandemic.

FIGURE 3: AVERAGE CREDIT SCORES BY BNPL STATUS



Source: BNPL use is identified one time using the MEM response, with a look-back period from February 2021-February 2022 and historic credit scores stem from the CCP March 2018-June 2022 for consumers observed using BNPL between February 2021 and February 2022. The gray band shows a 95 percent confidence interval around the mean credit score each month.

Supply factors may also contribute to lower average credit scores among BNPL borrowers compared to non-BNPL borrowers. As large fintech firms, many BNPL lenders collect and leverage consumer data to underwrite specific purchases.[16] They may rely on information obtained from a "soft pull"[17] at an NCRA in addition to the consumer's purchase and repayment history with their company. Using this additional data allows BNPL providers to approve around 70 percent of applications on average while maintaining a charge-off rate below 4

[16] Ibid.

[17] See Consumer Financial Protection Bureau, *What's a credit inquiry?* (September 4, 2020), *available at* https://www.consumerfinance.gov/ask-cfpb/whats-a-credit-inquiry-en-1317.

percent.[18] This practice may contribute to the lower average credit score among BNPL borrowers if providers approve more applications with a lower average credit score requirement compared to that for traditional loan products.

3.2 Use of Traditional Credit Products

The previous section provided suggestive evidence that BNPL may expand credit availability for point-of-sale purchases particularly for consumers with lower credit scores. This section explores the extent to which BNPL borrowers already have access to, and use, traditional credit products during the same time period in which they used BNPL.

Figure 4 displays the percent of BNPL users and non-users with an open account in each credit product category and the percent of consumers with a delinquency, conditional on having the corresponding product during the survey look-back period. A higher percent of BNPL users have open accounts in almost all credit products compared to non-BNPL users, with the exception of mortgage products, for which the opposite is true. The largest differences can be seen for the share of BNPL users compared to non-users who also have an open personal loan (19 percentage points more), retail card (18 percentage points more) or student loan (16 percentage points more). Perhaps surprisingly 88 percent of BNPL users have an open credit card – 13 percentage points more than non-users. This data point indicates that the vast majority of BNPL users do in fact have access to a credit card.[19]

Conditional on having at least one open account in the corresponding account type, the right panel of Figure 4 shows that BNPL borrowers are 11 percentage points more likely to have been delinquent on at least one of those accounts at some point during the past year. The difference in delinquency rates is largest for retail and credit cards; 9 percent of BNPL users with a credit card were at least 30 days delinquent in paying their bill compared to 3 percent of non-users and 8 percent of BNPL borrowers were delinquent on at least one retail card compared to 1 percent

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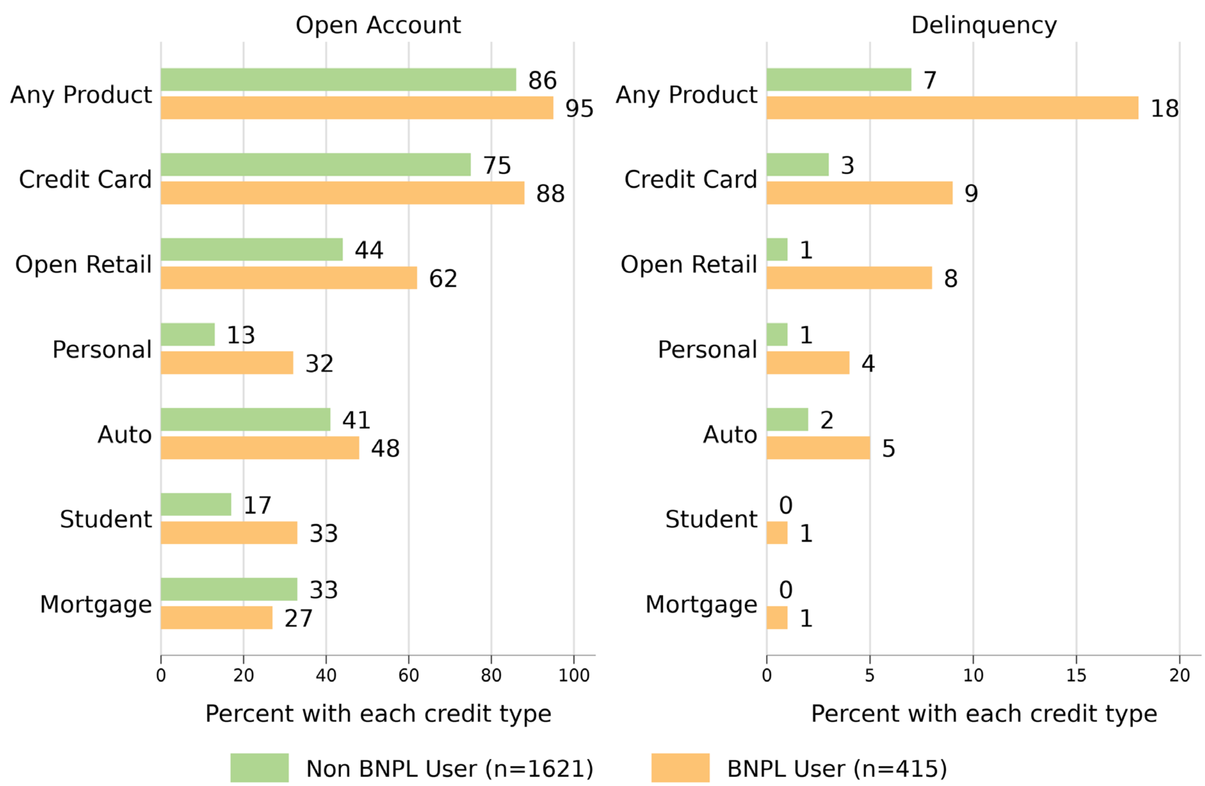
[18] This charge-off rate is an average across five firms. In contrast, approval rates for general-purpose credit cards are lower on average, around 40 percent between 2017-2020, and even lower for consumers with a credit score below near-prime, as is the case for the average BNPL user. Charge-off rates are slightly higher, around 6 percent (See CFPB 2021, "The Consumer Credit Card Market Report," www.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2021.pdf).

[19] This calculation does not include consumers without a credit record, collection or public record, currently estimated to be 11 percent of the adult population. However, if every consumer without a credit record used BNPL, at least 80 percent of all consumers who use BNPL would also have a credit card (89 x 100 / 111). Since Kleinbard et al. find that 99.7 percent of BNPL loans among the 5 largest providers in the US are repaid using a debit (89 percent) or credit (10.1 percent) card, 0.6 percent with a bank transfer and only 0.3 percent with a prepaid card, it follows that the vast majority of BNPL borrowers are not unbanked and given the large overlap between the unbanked and those without a credit record, the true share of adults without a credit record who are using BNPL is likely much lower than 11 percent.

of non-BNPL users. Overall, BNPL borrowers appear not only to have access to traditional credit, but to be using it in addition to BNPL at higher rates than non- BNPL-consumers.

FIGURE 4: PERCENT OF CONSUMERS WITH EACH CREDIT PRODUCT BY BNPL AND ACCOUNT STATUS FROM FEBRUARY 2021-FEBRUARY 2022



Source: BNPL use is identified in the MEM survey for the period of February 2021-February 2022. All other variables are from the CCP between February 2021-February 2022. Delinquency is defined as having a delinquency of at least 30 days during the look-back period of the survey. The values shown are weighted averages over the 12 months of the survey look-back period.

3.3 Liquidity, Savings and Debt

The Making Ends Meet survey asks respondents to recall their total BNPL spending in the previous 12 months as well as how much non-retirement savings and cash they had available for unexpected expenses or emergencies as of the survey date. Additionally, we calculate available credit card liquidity in the CCP using the average difference between the total credit card limit on all credit cards of each consumer and their total credit card balances from March-December 2021. Together, this information provides insights into the scale of BNPL borrowing relative to other possible sources of liquidity. Table 1 shows these average amounts for two subgroups:

those who indicated they used BNPL during the survey look-back period and those who indicated they did not.

Table 1 shows that BNPL users have, on average, $11,981 less in non-retirement savings and cash compared to consumers who did not use BNPL in the previous year. They also have $4,057 less liquidity available on credit cards. These differences are large and statistically significant. Our data does not allow us to distinguish whether BNPL leads consumers to have lower levels of liquidity and savings or whether people with lower levels of liquidity and savings are more likely to use BNPL.

TABLE 1: SAVINGS, BNPL SPENDING AND LIQUIDITY AMONG BNPL USERS AND NON-USERS

Average amount: Q1 2021-Q1 2022	BNPL Users	BNPL Non-Users	Difference (Users - Non-Users)
Total BNPL amount	$2,085	0	$2,085***
Non-retirement savings	$3,887	$15,868	-$11,981***
Credit card liquidity	$13,980	$17,916	-$4,057**
Observations	415	1,621	

Source: MEM 2022 and CCP March-December 2021. Means include zero values; ** indicates 95 percent confidence and *** indicates 99 percent confidence.

Because the averages listed in Table 1 mask a great deal of differences across the population, the box plot in Figure 5 displays the full distribution of savings, liquidity and BNPL spending (excluding outliers[20]) for consumers who used BNPL at least once in the previous 12 months. The box encompasses 50 percent of weighted observations, with the triangle demarcating the median amount, the edge of the box the 25th and 75th percentile and the end of each whisker the minimum and maximum excluding outliers.

Among consumers who indicated that they used BNPL in 2021, the median sum of all of their reported BNPL purchases throughout the year amounted to $1,000. The median current cash and savings reported by BNPL users at the time of the survey was also $1,000, with roughly 25 percent of BNPL users reporting zero non-retirement savings and cash that could be used for emergencies. In comparison, 16 percent of non-BNPL borrowers have zero cash and savings (not shown).

The greatest amount of heterogeneity across consumers can be found in credit card liquidity. Twenty-five percent of BNPL users have zero credit card liquidity, including the share of

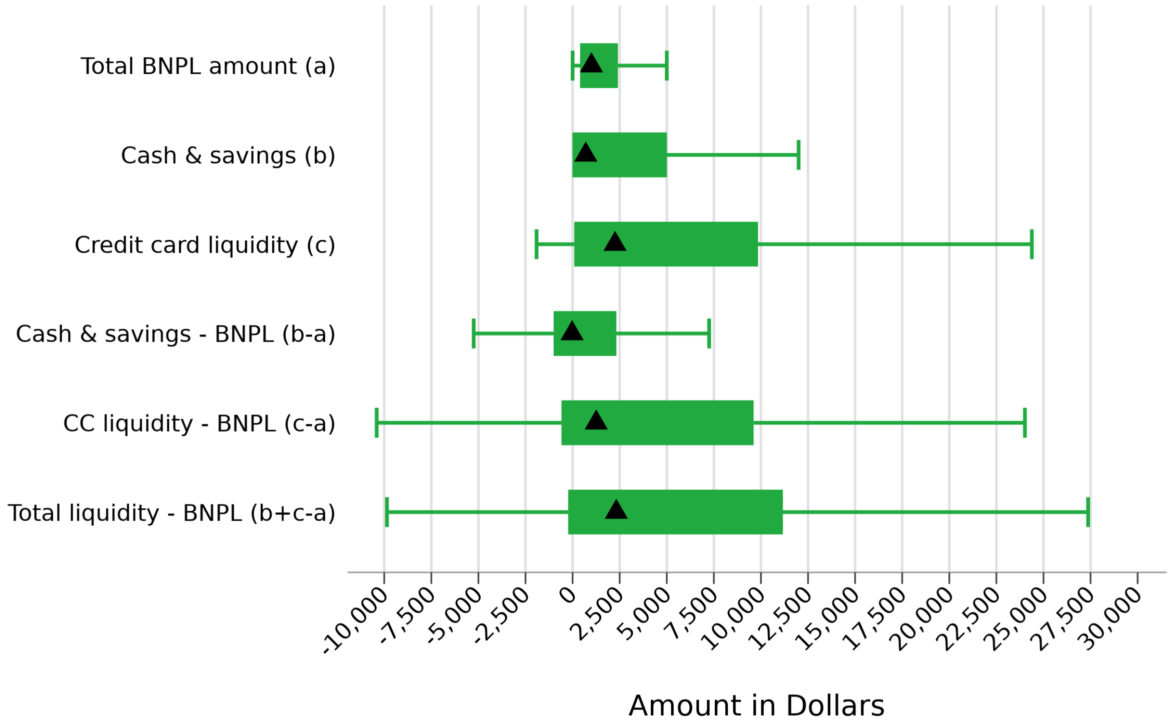
[20] Outliers are defined as being larger than the 75th percentile by more than 1.5 times the interquartile range or lower than the 25th percentile by the same amount. They are used to calculate the distribution shown, but omitted from the box plot for exhibition purposes.

individuals without an open credit card. To complement this figure, we additionally calculate the share of consumers with negative credit card liquidity, conditional on having an open account. Such a situation arises when a consumer misses a credit card payment and accumulates debt that is higher than the credit card limit. Six percent of BNPL borrowers with a credit card and 3 percent of non-BNPL borrowers exhibit this extreme degree of over-indebtedness on their credit cards. At the same time, the 25 percent of BNPL users with the most credit card liquidity had anywhere from $12,500-$30,000 available to them during the same time period when they made their BNPL purchases.[21]

The last three rows of Figure 5 subtract the total amount of BNPL purchases from each consumer's reported amount of cash and savings, credit card liquidity and total liquidity (the sum of cash, savings and credit card liquidity). The median BNPL user had approximately the same amount of cash and non-retirement savings at the time of the survey as the total amount she spent on BNPL purchases in the previous 12 months. As such, about half of the sample of BNPL users had less cash and savings than the merchandise value they purchased the previous year using BNPL. Twenty-five percent of BNPL users had more than $2,500 in cash and non-retirement savings than the amount they purchased with BNPL. Finally, the median BNPL user had $2,121 in credit card liquidity more than their total BNPL purchases, but 25% of users had negative credit card liquidity less BNPL purchases.

[21] We do not observe the exact timing of each purchase and cannot exclude the possibility of some consumption smoothing occurring during times of low liquidity within the same year. See Marco Di Maggio, Justin Katz and Emily Williams, "Buy Now, Pay Later Credit: User Characteristics and Effects on Spending Patterns," SSRN Working Paper Nr. 4198320. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4198320. However, note that this paper combines traditional installment loans with the pay-in-four product.

FIGURE 5: SAVINGS AND LIQUIDITY OF BNPL USERS IN 2021



Note: The triangle is the median, the edge of the box the 25th and 75th percentile, and the end of each whisker the minimum and maximum excluding outliers. This figure omits outlier observations and those over $50,000 for exhibition purposes (2 percent of sample). Total BNPL amount and cash and savings amounts stem from the MEM survey. CC = credit card. Credit card liquidity is observed in the CCP and includes the total from all open general-purpose credit cards from March-December 2021. Zero values included.

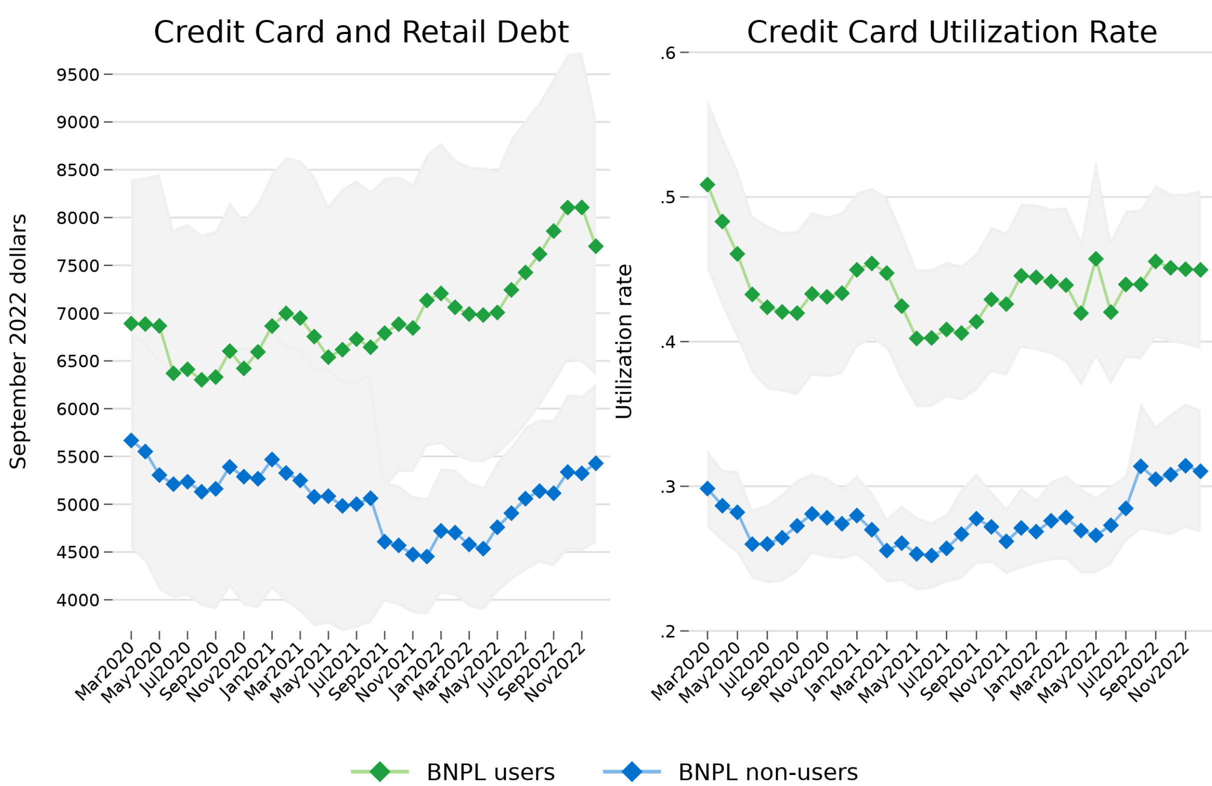
In addition to having lower savings and liquidity, respondents who reported using BNPL in the previous 12 months showed higher levels of credit card debt and rates of credit card utilization compared to non-BNPL users. Figure 6 displays these numbers for BNPL users and non-users between February 2020 and December 2022.

Credit card utilization rates are defined as the credit card balance divided by the limit on all open, general-purpose credit cards in each month. Utilization rates above 30 percent can adversely impact credit scores and are one sign of financial distress.[22] The group of BNPL users maintained a credit card utilization rate between 40 and 50 percent from March 2020 and December 2022. During this same time period, the utilization rate for consumers who did not use the pay-in-four product hovered around 30 percent. The difference between the two groups

[22] See, e.g., Credit Karma, "Credit Card Utilization and Your Credit Scores," available at https://www.creditkarma.com/credit-cards/i/credit-card-utilization-and-your-credit-score. Accessed August 30, 2022.

is statistically significant at a confidence level of 95 percent. Credit card debt was also higher for BNPL users, with the difference between users and non-users growing slightly during 2022. Due to the large variance in credit card debt and our relatively small sample, we cannot say with confidence whether the overall difference in debt amounts is statistically significant during most of these months.

FIGURE 6: CREDIT CARD DEBT AND UTILIZATION RATES OF BNPL USERS AND NON-USERS



Source: BNPL use is identified in the MEM survey. Credit card debt balances and utilization rates stem from the CCP. Weighted means with the gray band denoting a 95 percent confidence interval.

Among BNPL users, the median sum of credit card balances during the same time period between February 2021-February 2022 amounted to $24,679. In comparison, the median sum of BNPL purchases of $1,000 over 12 months remains a small fraction of credit card debt amounts.

3.4 Credit Card Interest Costs for Revolvers

The most common form of financing retail debt in the United States is through credit cards. Therefore, this section explores the average cost of this form of credit as an alternative to BNPL purchases for the types of consumers who borrow using BNPL and who are revolving on at least one credit card, meaning that they did not pay their last credit card balance in full and are therefore paying interest on each purchase.[23] Based on responses to the Making Ends Meet survey, 69 percent of all BNPL users and 42 percent of non-BNPL users were revolving on at least one credit card at the time of the survey in February 2022.

For credit card revolvers, interest starts accruing immediately for a purchase, so even for a 6 week pay-in-four purchase, credit cards are much more expensive. BNPL borrowers may therefore choose zero-interest BNPL financing over revolving on a credit card with relatively high interest that compounds over time. The proposition is not as straight-forward for non-revolvers (i.e. cardholders that pay their entire balance in full each month), as these consumers typically do not pay interest on balances because of a grace period.[24]

Because the CCP does not include information on the interest rate consumers pay when revolving on their credit cards, we supplement the analysis in this section with information from a 40 percent random sample of the "Y-14M" (Y-14, Credit Card Data Base) data of the Federal Reserve Board.[25] Using a 40 percent random sample of this data, the right panel of Figure 7 displays average interest rates for revolving general-purpose credit card accounts, stratified by credit score category.[26] The average is taken across all accounts and one consumer may have several accounts in the dataset, but the average is likely a reasonable estimate of the interest rate faced by a typical credit card revolver in each corresponding credit score category.

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[23] An exception to this rule would be if a consumer has a promotional offer on their credit card that allows them not to pay interest for a certain period of time.

[24] A grace period is the period between the end of a billing cycle and the date your payment is due. For more detail, see Consumer Financial Protection Bureau, "What is a grace period for a credit card?" Available at https://www.consumerfinance.gov/ask-cfpb/what-is-a-grace-period-for-a-credit-card-en-47/.

[25] The Y-14 data contain de-identified information collected monthly by the Board from bank holding companies with total consolidated assets exceeding $50 billion. Accounts are not linked across account holders. For more information, refer to Board of Governors of the Federal Reserve System, *Report Forms FR Y-14M*, https://www.federalreserve.gov/apps/reportforms/reportdetail.aspx?sOoYJ+5BzDYnbIw+U9pka3sMtCMopzoV or Consumer Financial Protection Bureau, "The Consumer Credit Card Market," September 2021, available at https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-card-market-report_2021.pdf.

[26] We define revolving accounts as those in which the actual payments are less than the non-zero billing cycle beginning balance and in which a finance charge was levied.

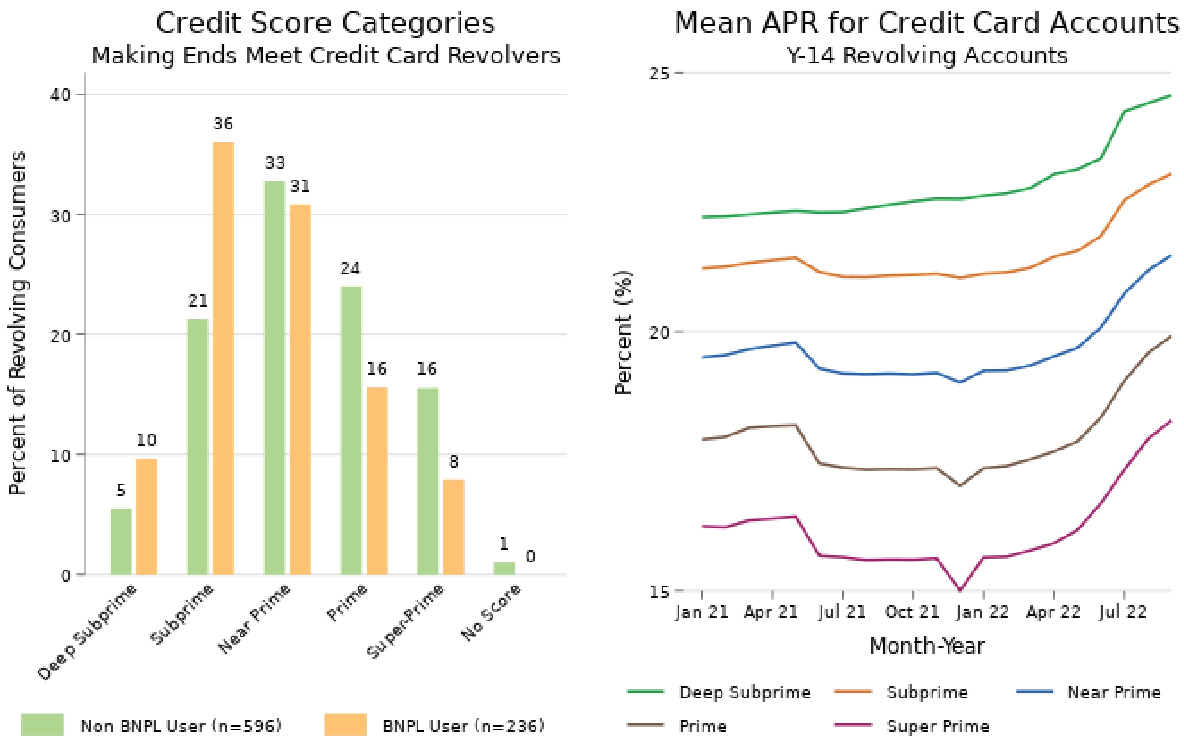
Average APRs remained relatively constant within each credit score category over the course of the survey look-back period.[27] Accounts of consumers in the lowest credit score group consistently have the highest mean APR, with the interest rate paid on revolving accounts decreasing as creditworthiness increases.

The left panel of Figure 7 characterizes the distribution of credit scores among BNPL borrowers and non-borrowers who are revolving on at least one credit card. The 77 percent of BNPL revolvers (53 percent of all BNPL borrowers) who have below-prime creditworthiness would face an alternative interest rate approximately between 19-23 percent if they made the same purchase on their credit card. Even for prime and super-prime borrowers who are revolving, interest rates on credit card debt are more than 15 percentage points higher than the zero percent APR offered by the pay-in-four product, conditional on the consumer making payments on time. In contrast, if BNPL borrowers do not make their payments on time, providers may charge late fees, which, in some circumstances, could make the pay-in-four product more expensive than a credit card, depending on how long it takes the consumer to repay the debt. [28]

[27] More recently, APRs have increased across the board in line with Federal Reserve increases to the federal funds rate, which generally raises the cost of credit in the economy.

[28] One extreme example would be if the consumer makes the minimum payment on a credit card, but would not have had sufficient funds in their bank account at the time of the scheduled BNPL payment. If the BNPL charges a late fee and the consumer additionally pays an insufficient funds fee for the transaction, the BNPL option would likely prove more expensive than a credit card purchase of the same amount.

FIGURE 7: CREDIT SCORE CATEGORIES AND AVERAGE APR ON CREDIT CARD ACCOUNTS



Source: 2022 Making Ends Meet survey and the Consumer Credit Panel (left panel), 40 percent random sample of the Y-14 data, monthly averages from January 2021-September 2022 (right panel). Deep subprime refers to a credit score below 580, subprime 580-669, near prime 669-739, prime 740-799 and super-prime 800-850. No score indicates that the consumer has a thin file lacking sufficient information for a traditional credit score.

4. Alternative High-Interest Loan Products

The pay-in-four product is referred to as a small-dollar loan due to the small value of the typical purchase price of $135. Other small-dollar credit products include overdraft, payday, pawn and auto title loans. [29] However, in contrast to the generally high-interest-rate products, the pay-in-four product is typically a zero-interest loan. Nevertheless, consumers who borrow using BNPL may be more likely than non-BNPL users to also borrow using other small dollar products due to lower credit scores and income on average. We explore this question in Table 2 and include revolving credit card debt as a traditional, but likewise high-interest credit product.

Table 2 shows the likelihood that consumers who borrowed using BNPL also borrowed using a high-interest loan product, compared to consumers who indicated they did not use BNPL. All of these outcome variables stem from questions in the MEM survey. The survey asks respondents about their use of alternative financial services such as payday, pawn and auto title loans in the previous 12 months, as well as whether they have had an overdraft in the past 12 months or revolved on a credit card during the last payment cycle. The table includes an overarching category to indicate any alternative financial service usage, in which payday, pawn and auto title loans are grouped together.

TABLE 2: PERCENT OF BNPL USERS AND NON-USERS WITH VARIOUS HIGH-INTEREST CREDIT

Percent of consumers with at least one:	BNPL Users	BNPL Non-Users	Difference (Users - Non-Users)
Overdraft	42.8	17.3	25.5***
Payday loan	11.5	2.9	8.6***
Pawn loan	8.6	1.6	6.9***
Auto title loan	7.2	5.0	2.1
Any alternative financial service	20.1	8.7	11.5***
Revolving credit card debt	68.9	41.6	27.2***
Observations	415	1,621	

Source: MEM survey 2022. Weighted means using sample weights. *** indicates statistical significance at a level of 99 percent.

[29] See Scott Fulford and Cortnie Shupe, "Consumer Use of Payday, Auto Title, and Pawn Loans: Insights from the Making Ends Meet Survey,". CFPB Research Brief No. 2021-4. Available: https://www.consumerfinance.gov/data-research/research-reports/consumer-use-of-payday-auto-title-and-pawn-loans-insights-making-ends-meet-survey/.

Consumers who used BNPL were 26 percentage points more likely to have had an overdraft, 12 p.p more likely to have used alternative financial services (driven by payday and pawn) and 27 percentage points more likely to indicate that they revolved on their credit card in the past billing cycle. Furthermore, 69 percent of BNPL users indicate that they are revolving on at least one credit card. Given the average sub-prime credit score among BNPL users between February 2021 and February 2022, the alternative borrowing opportunity with a credit card would cost approximately 22-24 percent (APR).

Overall, these results paint a consistent picture of BNPL borrowers exhibiting high levels of financial distress that are statistically significantly higher than non-users. Our data do not provide further insights into the causal direction of this association. We cannot distinguish whether consumers in distress are more likely to use BNPL, for instance, in order to substitute away from high-interest loans that they already have, or whether BNPL use leads consumers to increase borrowing using other non-BNPL products. This question remains an important area for future research.

5. Conclusion

Between the first quarter of 2021 and the first quarter of 2022, seventeen percent of consumers borrowed using BNPL. Consumers of every age and income group, education level, race, ethnicity, and credit score used BNPL, but some groups were much more likely than others to borrow using BNPL. In particular, Black, Hispanic and female consumers had a much higher probability of use compared to the average, as did consumers with annual household income between $20,001-$50,000 and consumers under the age of 35.

While many BNPL borrowers who we observed used the product without any noticeable indications of financial stress, BNPL borrowers were, on average, much more likely to be highly indebted, revolve on their credit cards, have delinquencies in traditional credit products and use high-interest financial services such as payday, pawn, and overdraft compared to non-BNPL borrowers. They are more likely to also have traditional credit products like credit and retail cards, personal loans, and student loans, but have lower liquidity and savings compared to non-BNPL borrowers. However, markers of financial distress were apparent for these consumers even prior to the widespread usage of BNPL starting in 2019. An important question for future research is whether BNPL improves the financial health of consumers in distress or exacerbates these differences.

APPENDIX A: MULTIVARIATE REGRESSION RESULTS

Figure 2 of this report reported the unconditional means of BNPL use for different demographic groups. The purpose of this appendix is to better understand who uses BNPL by reporting the likelihood of BNPL use across different groups after controlling for other observable characteristics. Table A.1 shows this correlation. . The first two columns present marginal coefficients from an OLS regression and columns three and four show marginal coefficients from a probit model.

Having at most a high school degree is associated with a 15 percentage point decrease in the probability of using BNPL. Having a super prime credit score prior to the year covered by the survey is likewise associated with an 18 percentage points (17 percentage points in the probit model) decrease in the likelihood of BNPL use. Being Black, Hispanic or female is associated, respectively, with an 11 (10) percentage points, 8 percentage points and 6 (5) percentage points increase in the likelihood of use, conditional on all other characteristics. Household income between $20,001-$50,000 is associated with a 9 (8) percentage points higher likelihood of BNPL use compared to consumers with income of $20,000 or less. All other differences from Figure 2 – for example between renters and owners or age groups – can be explained by other observable characteristics.

Given the population average of 17 percent of consumers with a credit record who use BNPL, the predictive power of the above characteristics is strong, even after controlling for age and income. For instance, Black consumers have a 65 percent higher probability of borrowing using BNPL compared to the population average, after controlling for other characteristics. Hispanic consumers are 47 percent more likely and female consumers 35 percent more likely than the average to use BNPL.

TABLE A.1: REGRESSION RESULTS FOR THE PROBABILITY OF USING BNPL

	OLS		Probit	
Explanatory variables	**Marginal coefficient**	**Standard error**	**Marginal coefficient**	**Standard error**
Age 19-34	0.025	0.034	0.034	0.034
Age 35-50	0.025	0.035	0.033	0.035
Age 51-64	0.028	0.027	0.042	0.03
Income $20,001-$50,000	0.091***	0.034	0.082***	0.03
Income $50,001-$80,000	0.057	0.041	0.058	0.036
Income $80,001-$125,000	0.064	0.042	0.058	0.039
Income $125,001-$200,000	0.031	0.047	0.026	0.043
Income > $200,000	0.001	0.055	-0.01	0.051
At most HS degree	-0.150***	0.033	-0.153***	0.033
Tech. or 2-yr deg.	-0.011	0.03	-0.013	0.026
Subprime credit score	-0.003	0.079	0.006	0.078
Near prime credit score	-0.087	0.08	-0.079	0.079
Prime credit score	-0.102	0.076	-0.093	0.077
Super-prime credit score	-0.178**	0.078	-0.170**	0.078
Unscored	-0.162*	0.094	-0.155*	0.092
White	0.032	0.034	0.025	0.031
Black	0.113**	0.046	0.104**	0.047
Hispanic	0.079**	0.033	0.076**	0.031
Female	0.057***	0.022	0.051**	0.021
Renter	0.037	0.046	0.039	0.047
Homeowner	-0.007	0.042	0.001	0.043
Rural residence	0.025	0.038	0.031	0.04
1 child in household	-0.016	0.037	-0.008	0.033
2+ children in household	-0.001	0.034	0.004	0.029
2 adults in household	0.01	0.035	0.015	0.032
3+ adults in household	0.061*	0.036	0.055*	0.033
Observations	1,878		1,878	

Source: 2022 MEM survey. Weighted regression results from OLS estimation using sample weights and robust standard errors. * denotes 90 percent confidence, ** 95 percent confidence and *** 99 percent confidence. Omitted groups for categorical variables: age 65+, income below $20,000, at least Bachelor's degree, deep subprime, no children in household, one adult in household. White, Black, Hispanic and female are dummy variables, such that the omitted categories are non-white, non-Black, non-Hispanic and male. Rural residence is defined as having a rural-urban continuum code of 6-10 in 2013 (See https://www.ers.usda.gov/webdocs/DataFiles/53251/ruralurbancodes2013.xls?v=6424.3).