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Buy Now, Spend More, Pay Later: Behavioural Mechanisms of Buy Now Pay Later Products *

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Abstract

We study the behavioural effects of Buy Now, Pay Later (BNPL), a rapidly expanding form of consumer credit. Through an experiment conducted with a nationally representative sample in Ireland, we find that participants spend, on average, 4.39% more when using BNPL for purchases compared to debit cards. We demonstrate mental accounting effects where an inflated perception of available funds due to prior BNPL usage leads to a 22.2% higher likelihood of spending on a discretionary product. In parallel, we show the importance of anticipatory effects of such a credit innovation, whereby the mere expectation of future access to BNPL increases current debit card spending by 3.1%. While salient risk disclosures improve understanding of BNPL risks, they do not significantly affect usage or spending patterns. These findings highlight the dual psychological impact of BNPL on spending, support the rationale for consumer protection efforts, and establish the relevance of BNPL as a financial product of interest to macroeconomic policymakers.

JEL classification: G4, G51, G41.

Keywords: Mental Accounting, Consumer Credit, Behavioural Finance, Deferred Payments.

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1 Non-Technical Summary

Buy Now, Pay Later (BNPL) has become increasingly ingrained in retail checkouts, with consumer usage expanding globally. BNPL typically allows consumers to spread the cost of their purchases over three or four equal instalments, offering flexible, short-term and often interest-free credit. BNPL can potentially enhance financial inclusion as it offers credit to many consumers who can't access traditional credit cards or personal loans. However, consumer advocacy groups and regulators in many countries have expressed concerns that financially vulnerable consumers may not fully appreciate the risks and could become financially overburdened by taking on multiple BNPL loans or combining them with other forms of credit. To address such risks, many countries have sought to regulate BNPL, including Ireland, where regulation was introduced in 2022.

This study aims to understand the impact of BNPL on consumer spending, identify the role of behavioural mechanisms and then estimate the effect of concise disclosures. We analyse how both access to and use of BNPL affects spending patterns compared to traditional debit card payments, specifically investigating whether the use of BNPL leads to an inflated budget perception that influences future spending. We also investigate how information about BNPL availability shapes spending with non-deferred payment methods, such as debit cards, to understand the broader impact of BNPL beyond its direct use. Finally, we assess whether concise risk disclosures provided at the point of purchase enhance consumer understanding of BNPL terms and whether these disclosures affect BNPL usage and spending behaviour.

We conducted a nationally representative survey and online shopping experiment with 3,000 Irish consumers in December 2023, mimicking a real shopping experience. Participants were presented with a hypothetical scenario in which they were planning for an upcoming holiday during the month and needed to make several purchases with a budget of €1,000. They chose between two products in the first three shopping rounds and chose whether or not to purchase a discretionary product in the fourth round. Participants were divided into five random groups that varied by BNPL availability, BNPL use, information about BNPL availability, and the presence of risk disclosures - i.e. we varied the payment methods they could use and the information available to them. Importantly, participants' remaining budget was displayed prominently throughout and this

remaining budget was effected by both the payment method they used and their product choices.

While we do not observe significant effects of BNPL availability on overall spending patterns, possibly due to the low take-up of BNPL or our limited number of shopping rounds, we find that participants spend, on average, 4.39% more when they use BNPL compared to those who use a debit card. We find that those who used BNPL in the first three rounds were 22.2% more likely to purchase a discretionary item in the fourth round - worth over a quarter of their budget - than debit card users, indicating that BNPL usage leads to an inflated perception of remaining balance. Information about future BNPL availability increases current non-BNPL spending (i.e. debit card spending) by 3.1%, providing evidence that consumers mentally incorporate anticipated credit access into their present budget. Finally, we find that prominently presenting concise BNPL disclosures right at the point of decision making increases consumer comprehension by 10%. However, this improvement in understanding does not translate into changes in BNPL usage or participants' overall spending patterns within our experiment.

Taken together, our findings suggest that consumers rely on simple budget cues that can be systematically biased by payment deferral mechanisms like those inherent in BNPL. Moreover, we find evidence that consumers mentally incorporate anticipated credit access into their present budget constraints. This suggests that such credit innovations could increase aggregate consumer spending, with potential implications for household debt levels if consumers use other credit products to repay overdue BNPL instalments. Our findings in relation to disclosure suggest that while improvements in consumer understanding are beneficial, they may not be sufficient to address the risk of consumer over-indebtedness, supporting ongoing regulatory interventions to enhance consumer safeguards. These include forthcoming EU regulations which will apply to the creditworthiness assessments conducted by BNPL providers, as well as various additional protections that apply to BNPL under the Revised Consumer Protection Code in Ireland.

2 Introduction

Buy Now, Pay Later (BNPL) services have emerged as a prominent alternative to traditional credit products, allowing consumers to purchase goods and defer payments over multiple interest-free instalments, effectively relaxing liquidity constraints, but with fewer eligibility requirements (Guttman-Kenney et al., 2023). Existing literature on payment deferral mechanisms shows that deferring payments can increase spending through several channels, such as the decoupling of benefits and costs, weaker payment transparency, lessening the immediacy of wealth depletion, and inaccurate recall, beyond the explanation of liquidity constraints relaxation (Prelec and Simester, 2001; Raghubir and Srivastava, 2008; Thaler, 1999; Prelec and Loewenstein, 1998; Soman, 2001, 2003).

However, it remains unclear how previous use of payment deferral shapes consumers' perceptions of their budget and influences their future spending decisions. Unlike debit cards, where the full purchase amount is immediately deducted from the consumer's account, BNPL spreads payments out, leaving consumers with an inflated sense of their available funds. Such mental accounting has the potential to distort spending behaviour, encouraging consumers to spend more than they otherwise would (Thaler, 1999).

When liquidity-deepening credit products like BNPL are introduced, often with marketing emphasising the ease of future borrowing and flexible payment plans, it remains unknown whether simply anticipating the option to use BNPL in future affects how consumers allocate their current budgets. If spending increased in anticipation of future access to BNPL, it would align with the Life-Cycle Hypothesis (Modigliani and Ando, 1963) and, in particular, extensions to this model that suggest consumers alter their consumption in response to changes in credit access (Zeldes, 1989). Understanding this forward-looking response is crucial: if consumers increase their spending today solely based on the expectation of future credit, policymakers must be aware of the ex-ante psychological macro effects of emerging credit innovations, along with the in-the-moment mental accounting effects of deferred payment innovations.

BNPL's relative novelty means that many consumers, especially those with lower financial sophistication, may not fully understand the terms and conditions associated with its use (CFPB, 2022; OECD, 2025). Taking on multiple BNPL loans, combining them with

other forms of credit, and incurring late fees can lead to serious financial strain over time. This suggests a role for clear and accessible information to help consumers make informed decisions (Lusardi and Mitchell, 2014; Hilchey et al., 2023). As a result, regulators in various countries, including Ireland, are closely monitoring BNPL, focusing on providers credit checks and whether disclosures clearly communicate the risks to consumers.[1]

This paper aims to experimentally understand the impact of BNPL, identify the role of behavioural mechanisms and estimate the effect of salient disclosures. Through an online shopping experiment using an Irish nationally representative sample, we analyse how both access to and use of BNPL affects spending patterns compared to traditional debit card payments, specifically investigating whether payment deferral leads to an inflated perception of available funds that influences future spending. We investigate how information about BNPL availability shapes spending with non-deferred payment methods, such as debit cards, to understand the broader impact of BNPL beyond its direct use. Finally, we assess whether salient risk disclosures provided at the point of purchase enhance consumers' understanding of BNPL terms and whether these disclosures affect BNPL usage and spending behaviour.

While we do not observe significant effects of BNPL availability on overall spending patterns, possibly due to the low takeup of BNPL or shorter tracking period in our study, we find that participants spend, on average, 4.39% more when using BNPL compared to using debit cards. Shedding light on the mechanism of an inflated perception of remaining balance due to prior BNPL use, we find that participants who used BNPL for their purchases in the first three shopping rounds were 22.2% more likely to purchase a discretionary item than the group that used a debit card. This finding suggests that consumers rely on simple budget cues that can be systematically biased by payment deferral, contradicting the rational fungibility of money and supporting behavioural models of spending (Prelec and Simester, 2001; Raghubir and Srivastava, 2008; Thaler, 1999; Prelec and Loewenstein, 1998; Soman, 2001, 2003). An inflated perception of remaining balance due to prior BNPL use affecting subsequent purchase decisions is consistent with the bottom dollar effect described by Soster et al. (2014), whereby the psychological

[1] See for example, Central Bank of Ireland, 2023, UK Citizens Advice and Financial Conduct Authority (FCA), US Consumer Financial Protection Burea (CFPB), Australian Securities and Investments Commission (ASIC) and Dutch Authority for the Financial Markets (AFM).

discomfort of spending increases as one's available budget approaches depletion.

Further, we find evidence that consumers mentally incorporate anticipated credit access into their present budget constraints. Specifically, information about future BNPL availability increases current non-BNPL spending (debit card spending) by 3.1%. Unlike realised BNPL access, which directly relaxes liquidity constraints at checkout, this effect operates through expectations and forward-looking budgeting. This result aligns with the life cycle hypothesis model by showing that even information about future credit can shape current spending through anticipatory channels, influencing spending decisions beyond contemporaneous access to credit.

These findings underscore the importance of improving consumer understanding to support informed decision-making. In our study, prominently presenting BNPL risk disclosures at the payment stage, beyond simply offering a traditional long form of terms and conditions, increased consumer comprehension by 10%, emphasising the importance of clear, concise risk disclosures made salient at the point of decision-making. However, this improvement in understanding did not lead to changes in BNPL usage or participants' overall spending patterns in our experiment, supporting the need for regulatory oversight and legislative amendments to enhance the adequacy of BNPL providers' credit checks (Directive, 2023/2225; EBA, 2024).

The findings of this study contribute to the literature on consumer credit and behavioural finance in several ways. First, we extend the payment mode literature by providing evidence of an underlying process that helps to explain the effect of payment deferrals in increasing spending. While prior research has shown that deferred payments increase spending through various mechanisms, our study offers novel insight into how past payment structures shape future spending via budget perception. Building on Soman (2001), who found that past payments strongly reduce future purchase intentions when the payment mechanism involves immediate wealth depletion, we demonstrate how such immediate depletion is incorporated into consumers' perceptions of budget availability for future purchases. Moreover, we contribute to the "bottom dollar effect" literature (Soster et al., 2014) by demonstrating that payment deferral reduces the pain of paying by delaying budget depletion, and in turn, leading to an inflated perception of the remaining balance.

Second, we contribute to the literature on the liquidity insurance effect of credit access. Existing studies examine the impact of actual credit availability on consumers' expectations of future liquidity, making it difficult to distinguish whether spending responses stem from the immediate borrowing option or from information about future liquidity. For instance, Soman and Cheema (2002) shows that individuals interpret higher credit card limits as signals of future earnings potential, which in turn increases spending. Similarly, Ji et al. (2023) documents a significant BNPL effect on spending even among consumers who do not draw on the credit line, demonstrating BNPL's liquidity insurance effect beyond debt accumulation. Our study isolates the informational channel by holding actual liquidity constant while varying only expectations about future credit availability. This advances understanding of how marketing practices for credit products can shape spending behaviour beyond actual credit use.

Finally, this paper contributes to the literature on consumer protection and financial literacy by evaluating the effect of risk disclosures on consumer comprehension and spending patterns (Lusardi and Mitchell, 2014; Bertrand and Morse, 2011; Adams et al., 2022b). While Adams et al. (2022b) examines the impact of disclosures on consumers' decisions to use BNPL products, we extend this analysis by simulating repeated purchase scenarios to evaluate how disclosures affect spending intensity over time. We add to the evidence on the effectiveness of clear, timely disclosures in shaping informed decision-making for digital financial products, where information overload and attention constraints are common challenges.

This paper proceeds as follows. Section 3 outlines the institutional background to the BNPL market. Section 4 outlines the experimental design and hypotheses. Section 5 outlines the data and empirical strategy, followed by Section 6, which describes the results. Section 7 concludes.

3 Institutional Background

In recent years, BNPL has seen substantial growth, with Gross Merchandise Value processed through BNPL schemes globally increasing more than sixfold between 2019

and 2023 (Cornelli and Pancotto, 2023).[2] In some mature markets, BNPL represents a non-trivial share of overall e-commerce activity, reaching 25% market share in Sweden, 20% in Germany, 10% in Australia and 6% in the US.[3] In Ireland, the BNPL market is relatively small and nascent compared to traditional forms of non-mortgage consumer credit (Gaffney and Lyons, 2024). A survey by the Central Bank of Ireland in 2023 found that roughly 15% of consumers in Ireland have already used BNPL, with almost a quarter saying they would consider using BNPL in the future (CBI, 2023). By comparison, 17% of UK consumers had used it in 2022 (FCA, 2023) and 20% in the US in 2024 (CFI, 2025).

BNPL offers financial benefits to consumers through short-term, no-interest credit, along with operational advantages such as ease of access and a simple, automatic repayment process. If repaid on time, it can be a more cost-effective way to finance purchases compared to traditional loans or credit cards. While many BNPL loans have zero annual percentage rates (APRs) once instalments are not late, the APRs on outstanding personal loans of up to one year and overdrafts in Ireland were around 11%, while credit card APRs varied between 13.8% and 22.9%.[4] If BNPL instalments are overdue, providers charge late fees of somewhere between €3 and €9, but late fees (€7) and compound interest also apply for credit cards issued by the main retail banks in Ireland.

Data from the United States show that consumers are increasingly shifting from credit cards to BNPL products for making payments (Di Maggio et al., 2022). Similarly, Irish survey data show that 60% of BNPL users or potential users perceive BNPL as more affordable than credit cards (CBI, 2023). BNPL can also serve as a more economical alternative to unregulated or high-cost moneylenders where APRs are at least 23%, particularly for consumers who might otherwise resort to such sources, with 68% reporting BNPL to be more affordable than loans from a moneylender (CBI, 2023).

BNPL products are either offered directly to consumers by BNPL providers before

[2] The Global Payments Report, 2022 and 2025

[3] Figures based on a report from Visa Consulting and Analytics, 2022 and for the US from DIGITALSILK Buy Now, Pay Later Market Trends & Statistics, Albert Badalyan, June 24, 2025

[4] As of March 2025. See Table B.1.2 - Rates, Central Bank of Ireland, for personal loans and the CCPC for credit cards.

purchase or are offered at the point of sale by retailers who partner with a BNPL provider. The retailer pays a fee to the BNPL provider to access a wider pool of customers, to transfer the credit risk to the BNPL provider, and to benefit from higher conversion rates of shopping baskets into sales (Cornelli and Pancotto, 2023; Lux and Epps, 2022).[5] For example, a study with a German retailer finds that sales increase by 20% with BNPL availability (Berg et al., 2023).

In Ireland, BNPL is offered for both online and in-store purchases by three main providers, as is the case in many OECD jurisdictions, as well as the UK and US (FinCoNet, 2024; FCA, 2023; CFI, 2025). Humm entered the market in late 2020, followed by Klarna in 2021 and Revolut in 2022. Similar to the US and UK, BNPL offerings differ subtly across providers, particularly in terms of credit limits, instalment structures, interest rates, late fees, and other charges. Typically, there are three equal instalments in Ireland, compared to four in the US and three or four in the UK, although in all three regions, some longer-term BNPL credit products are available with features more akin to traditional unsecured personal loans.

Survey data suggests that most Irish BNPL purchases are below €500, with 42% below €250 (CBI, 2023). As Irish credit providers are not required to conduct checks against the Central Credit Register for loans under €500, BNPL providers offering credit below €500 rely on soft credit checks based on internal repayment data or access to customers' bank accounts and personal information.[6] While access to further BNPL credit is often restricted if a repayment is missed, financially overstretched consumers may still obtain credit below €500 from a different BNPL provider. (Jose and Kelly, 2025) find that some Irish consumers take on multiple loans across different providers and that this pattern is more prevalent among individuals exhibiting characteristics consistent with financial vulnerability. In cases of default, additional charges such as debt collection fees may apply, and the outstanding debt can be passed on to a third-party collection agency.

[5] (Cornelli and Pancotto, 2023) calculate average retailer fees of somewhere between 3% and 5% across broad geographical regions and and note that BNPL merchant fees frequently exceed credit card fees. Fees range between 2% and 8% according to another source, varying by merchant and product type.

[6] A European Banking Authority fact-finding exercise in 2024 found deficiencies in the credit assessment processes of a significant number of surveyed non-bank lenders (EBA, 2024)

BNPL was initially unregulated, but many countries have introduced (e.g., Australia, US, Sweden), or are moving towards regulation (UK 2025/26, EU 2026+). In Ireland, BNPL became subject to regulation in May 2022, with a number of provisions from the Consumer Protection Code becoming applicable, mainly relating to creditworthiness assessments and advertising. The Central Bank also completed a review of the terms and conditions of the largest BNPL firms in 2023 and engaged directly with the firms involved to make the terms and conditions clearer for customers.[7] The revised Consumer Protection Code 2025 further extends the provisions applicable for BNPL providers in Ireland so that the same requirements now apply for BNPL as for all other personal loans.[8] The revised EU Consumer Credit Directive applicable from November 2026 onwards, will also strengthen consumer protections, including the requirements for creditworthiness assessments (Directive, 2023/2225).

4 Experimental Design and Hypotheses

We conducted a hypothetical online shopping experiment via Gorilla, an online experiment builder (Anwyl-Irvine et al., 2020), recruiting a nationally representative sample of 3,001 respondents in Ireland in December 2023. To be eligible for the study, the participant had to be aged between 18 and 65 years and must have shopped online previously. The online survey took approximately 20 minutes to complete, including a baseline survey, an online shopping task and an endline survey. The baseline survey captured demographic and financial characteristics, while the endline survey (which came after the online shopping task) collated information on participants' understanding of BNPL terms and conditions and their intentions regarding future use of BNPL products.[9]

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[7] See Central Bank of Ireland Press Release November 2023

[8] See, for example, Consumer Protection Code 2025, Part 3, as well as the new Standard for Business and Guidance on Securing Customers' Interests, which states that "A regulated entity shall secure its customers' interests by [inter alia] ensuring that its financial services are not designed to unfairly exploit the behaviours, habits, preferences or biases of customers leading to customer detriment."

[9] The experiment was pre-registered under RCT ID AEARCTR-0012765 in the AEA RCT registry.

At the outset of the online shopping task, participants were told to imagine that they were planning for a holiday and that they needed to make a number of purchases for their trip later that month.[10] They were further told that they would have a total budget of € 1,000 to spend on their purchases, and that they would need to purchase three items. Importantly, participants were reminded that they would need to set aside some money from their budget for holiday spending. Prior to each shopping round, the participant's remaining budget was saliently presented. During each of the three shopping tasks, the participant was asked to choose between a generic or a luxury version of a product.

Figure A2 demonstrates the first round of the shopping task, where participants had to choose between expensive designer sunglasses priced at € 180 and a cheaper generic alternative priced at € 90. The second and third shopping rounds were similarly designed, with the participant asked to choose between a luxury branded or generic item when purchasing headphones (round 2) and shoes (round 3).[11] Upon completion of the third shopping round, participants were presented with a fourth shopping task, where they could choose to buy an additional discretionary product, a concert ticket for their favourite artist in the city they would be visiting for their holiday, at a cost of € 270. While participants were asked to select one product out of two (a generic or a luxury version) in the first three shopping rounds, in the fourth round, they could opt to purchase or not, mimicking the purchase of a discretionary product in real life. If the participant chose to buy the discretionary product, they could use either a debit card or BNPL.

At the outset, participants were randomly assigned to five equally sized groups: "Debit Only," "Debit/BNPL," "BNPL Only," "BNPL Later," and "Debit/BNPL with Disclosures." Figure 1 summarises the timeline and the different experimental conditions in the study.

Participants in the "Debit Only" group were restricted to using a debit card for payments across all three compulsory shopping rounds. Whenever a participant in this group made

[10] See Figure A1 for the screen introducing the shopping task to the participant. The details on the payment method differed depending on the payment method available for the purchase of the first three items.

[11] For the second round of shopping, participants had to choose between headphones worth € 240 and € 120. For the third round of shopping, participants had to choose between shoes worth € 210 and € 90.

a purchase, the full price of the chosen product was immediately deducted from their budget, and the updated remaining amount was displayed for the subsequent round.

Participants in the "Debit/BNPL" group could choose between paying with a debit card or using BNPL in each round. For those selecting BNPL, only one-third of the product's price was deducted from their available budget at the time of purchase, with the remaining balance displayed at the start of each subsequent round, simulating a deferred payment mechanism in which only the first instalment was reflected in their current account balance. For all groups offered BNPL, the instalment structure and zero-interest feature of BNPL were clearly communicated before the shopping rounds began.[12]

4.1 Hypotheses

Comparing spending patterns between the "Debit/BNPL" and "Debit Only" groups during the first three shopping rounds allows us to isolate the effect of BNPL availability on spending. Prior research shows that payment deferral mechanisms increase spending (Feinberg, 1986; Prelec and Simester, 2001; Raghubir and Srivastava, 2008; Meier and Sprenger, 2010). Recent studies focusing specifically on BNPL similarly find that BNPL availability raises spending (Guttman-Kenney et al., 2023; Di Maggio et al., 2022; Ashby et al., 2025). Related to this, our first hypothesis is as follows:

Hypothesis 1: Relaxation of liquidity constraints through payment deferral mechanisms increases consumer spending.

4.2 Testing the existence of a "mental-budget" constraint

The next group of participants, the "BNPL Only" group, were required to use BNPL for all three compulsory rounds. For each purchase, only one-third of the price was deducted at checkout, and the remaining balance shown to participants reflected this first instalment structure. Comparing spending patterns between the "BNPL Only" and "Debit Only" groups during the first three shopping rounds allows us to estimate the impact of BNPL

[12] The terms and conditions of the BNPL product presented in the experiment are motivated by those of a typical BNPL product in Ireland. For example, the late fee for the hypothetical BNPL contract in the experiment was calculated based on the average late fee for the three main providers in Ireland.

use compared to debit card use.

While the relaxation of liquidity constraints is a central explanation for the increase in spending when payment deferral methods like BNPL are used, evidence also points to additional behavioural mechanisms beyond pure liquidity expansion (Prelec and Simester, 2001; Soman, 2001, 2003). Drawing on the concept of mental accounting (Thaler, 1999), it is plausible that deferred payments create an inflated perception of remaining budget compared to payment methods that immediately deplete funds, providing a more accurate sense of available resources. We test for the existence of this "mental-budget" channel by examining whether consumers form their perceived budget based on the balance visible in their current account. Under our setup, the "mental budget" for participants who used BNPL ("BNPL Only" group) will be higher than for those who only used a debit card ("Debit Only" group), because deferred payments postpone the visible depletion of funds (Figure A4). We included this feature to replicate the real-life scenario of a deduction from one's current account when buying a product using BNPL compared to using a debit card. To isolate the role of liquidity constraints versus the "mental-budget" effect, we examine participants' likelihood of purchasing a discretionary product during the fourth round of shopping, where all participants were given the option to pay using either a debit card or BNPL, regardless of their original group assignment. At this stage, the only difference across participants was the remaining balance displayed on their screens, which depended on the payment methods they had used in the previous rounds.

We hypothesise that this difference in perceived remaining funds due to prior BNPL use will influence subsequent discretionary spending decisions, providing causal evidence on the role of "mental-budget" constraints in driving spending under payment deferral mechanisms.

Hypothesis 2: Deferring payments increases spending. An inflated perception of the remaining budget due to prior payment deferrals explains the observed increase in spending when payments are deferred.

4.3 Adjusting current consumption based on future credit access

The literature on credit access shows that access to credit can influence spending not only through the direct relaxation of liquidity constraints but also via expectations about future income. Gross and Souleles (2002) show that increases in credit card limits lead to higher spending even among consumers who are well below their existing limit, suggesting that expanded credit access acts as a form of insurance against future income shocks. Soman and Cheema (2002) complements this by showing that consumers often interpret a higher credit limit as a credible signal of higher future earnings, which increases their willingness to spend — even in the absence of immediate need. This anticipatory channel means that even individuals who do not actively use credit may adjust their current consumption if they view credit access as insurance against future liquidity shortfalls (Ji et al., 2023). Building on this literature, we examine whether information about future credit access influences consumers' current spending through non-credit means, compared to when such information is not provided. The "BNPL Later" group were informed from the outset that BNPL would become available from round three, but they had to use a debit card in the first two shopping rounds. By comparing the amount spent during the first two rounds of shopping between the "BNPL Later" group and the "Debit Only" group, we can estimate the anticipation effect of expected future credit access.

Hypothesis 3: Information about future relaxation of credit will affect current spending (non-credit spending).

4.4 Testing the effectiveness of disclosures

Given the implications of credit relaxation on consumer spending and the potential risk of over-indebtedness among consumers, we investigate the effectiveness of risk disclosures on consumer comprehension and spending patterns. The fifth group, "Debit/BNPL with Disclosures," could choose between a debit card and BNPL payments but received a disclosure box at each checkout summarising key BNPL risks, such as late fees and the possibility of referral to a debt collection agency, using a distinct font and colour. This disclosure design was informed by best practices for effective consumer disclosures (KFST, 2021; ACM, 2021; BIT, 2019; Balebako et al., 2015) and was displayed prominently at the decision point (Figure A6). We hypothesise the following effect of disclosures.

Hypothesis 4: Salient risk disclosures improve consumer comprehension and reduce consumer spending and debt.

While prior research has examined how financial disclosures influence broad borrowing decisions (Bertrand and Morse, 2011) and how financial literacy interventions shape overall financial behaviour (Lusardi and Mitchell, 2014), we investigate whether the delivery of such information matters for improving consumer financial decision-making. Existing studies have explored, for instance, the effectiveness of condensed warning boxes that highlight the most unexpected and unfavourable terms (Ayres and Schwartz, 2014; Garrison et al., 2012), consumer preferences for the timing of information provision (McDonald and Lowenthal, 2013), and the impact of disclosure timing for digital products in general (Esposito et al., 2017; Benartzi, 2017). However, research that specifically connects the timing of disclosure delivery with financial decision-making remains limited.

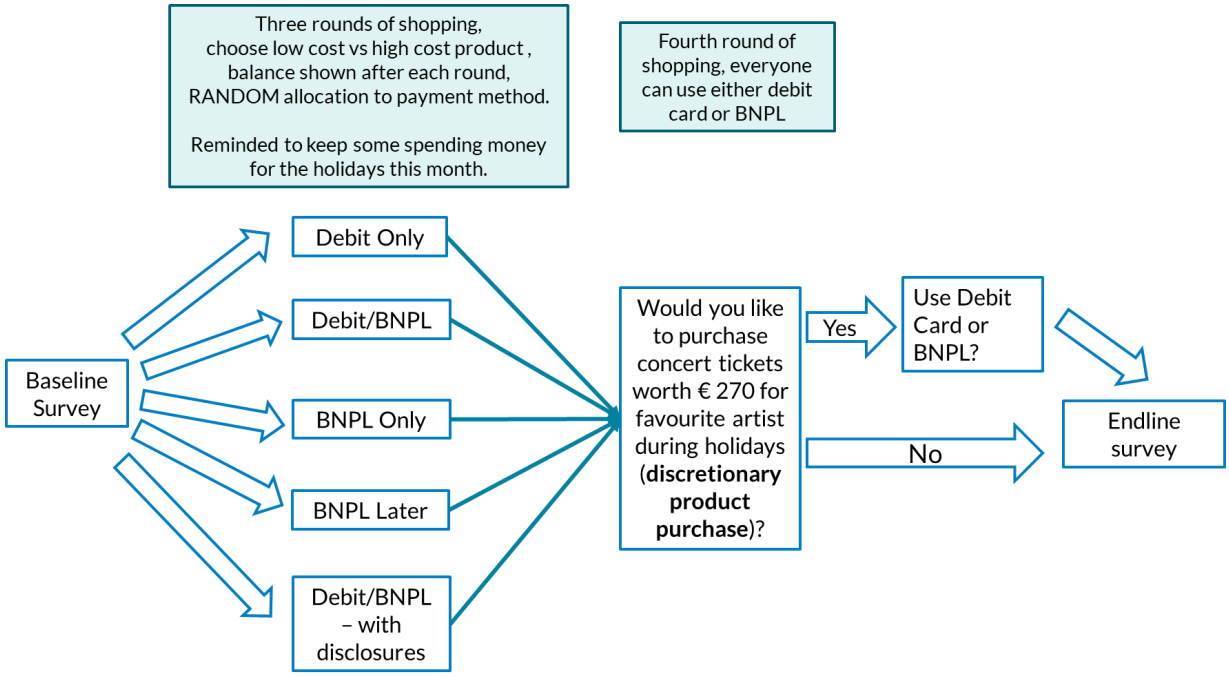
Using an online experimental approach allows for the precise manipulation of conditions, such as BNPL availability, usage, timing of access, and the prominence of risk disclosures, so that we can effectively identify the causal behavioural mechanisms driving BNPL usage that can often be obscured in observational or administrative data (Falk and Heckman, 2009; Ludwig et al., 2011). For instance, only in an experimental setting can we randomly assign BNPL usage to one group and cleanly isolate the information effect of future credit availability. As Ludwig et al. (2011) and Lunn and Choisdealbha (2018) argue, mechanism-focused experiments like ours are not only complementary to simple outcome evaluations that use field or administrative data but are often necessary to interpret them, as they yield more generalisable insight into how specific mechanisms operate. Moreover, our use of a nationally representative sample enhances the generalisability of the findings, addressing common concerns about the external validity of online experiments that rely on narrower convenience samples or small sample sizes (Kessler and Vesterlund, 2014; Harrison and List, 2004).

4.5 Power Analysis

Our power analysis (detailed calculations in Table A1) indicated that, with a sample of 600 participants per group, the minimum detectable treatment effect on the amount spent

due to BNPL availability and BNPL use would be 8.1 percentage points. This assumes spending of € 250 when using a debit card, 80% power and a significance level of 95%.[13] Equivalently, with baseline BNPL usage of 15%, our power analysis on the effect of the disclosure treatment on BNPL usage indicates that we would be able to detect a minimum effect size of 16.2 percentage points with a sample of 600 per group, 80% power and a 95% significance level.

Figure 1. Experiment Flow



5 Data and Empirical Strategy

5.1 Descriptive Statistics

We recruited participants for this study through an online panel provider with participants only identifiable using a randomly generated ID number.[14] The sample recruited was constructed to be representative of the general population in Ireland to ensure the external validity of our findings. National representativeness was ensured in terms of

[13] According to (CBI, 2023), almost 42% of the people who used BNPL purchased items worth under € 250.

[14] The online panel of participants was recruited by RedC (redcresearch.com), a leading online panel provider in Ireland. An informed consent was obtained from every participant before the online survey, and only those who agreed to be surveyed became part of the online experiment.

gender, age, social grade, and the regional location profile of the Irish population. We compare the sample means with the population means across these key demographics (available on request). Reweighting the sample to further align it with national benchmarks does not significantly alter the main findings.[15] While our eligibility criteria required participants to have previously shopped online, this criterion only excluded 14 individuals from participating in the survey, thereby maintaining the external validity of our results. Moreover, since BNPL is primarily an online product, the sample recruited through an online survey method can be considered appropriate and well-suited to the context of the study.

Table 1 reports summary statistics for socio-demographic and financial characteristics of participants in our sample. On average, our sample had 23% of adults below 35 years of age, 57% of them were female, 28% lived in Dublin, and 71% were employed. Participants in our sample owned an average of 40.56% digital financial products out of 11 digital products listed, such as internet banking, digital wallets, Buy Now Pay Later, etc. and 36% of financial products out of 11 products we listed, such as current accounts, savings accounts, personal loans, etc.

Table 1. Descriptive Statistics

	Full Sample	Debit Only	Debit/BNPL	BNPL Only	BNPL Later	Debit/BNPL -With Disclosures
Below 35	0.23	0.25	0.24	0.21	0.26	0.21
	(0.42)	(0.43)	(0.43)	(0.41)	(0.44)	(0.41)
Female	0.57	0.55	0.59	0.58	0.58	0.58
	(0.49)	(0.50)	(0.49)	(0.49)	(0.49)	(0.49)
Dublin	0.28	0.30	0.26	0.27	0.27	0.29
	(0.45)	(0.46)	(0.44)	(0.44)	(0.44)	(0.45)
Third level Education	0.68	0.65	0.68	0.69	0.69	0.69
	(0.47)	(0.48)	(0.47)	(0.46)	(0.46)	(0.46)
Employed	0.71	0.68	0.70	0.72	0.73	0.71
	(0.45)	(0.47)	(0.46)	(0.45)	(0.44)	(0.46)
Digital Financial Use (%)	40.56	39.64	40.92	40.33	40.24	41.64
	(15.61)	(15.88)	(15.40)	(15.39)	(15.47)	(15.88)
Financial Product Use (%)	36.02	35.82	36.17	36.02	35.97	36.15
	(15.38)	(15.10)	(15.63)	(16.00)	(15.07)	(15.15)
Ever Used BNPL	0.20	0.19	0.19	0.20	0.20	0.19
	(0.40)	(0.39)	(0.40)	(0.40)	(0.40)	(0.39)
N	3001	600	600	600	600	601

Notes: Mean and standard deviation of full sample and different groups reported. Standard deviation in parenthesis.

[15] Results available on request.

We formally test for random assignment and the balance of treatment status across observables. Table 2 shows the results of pairwise t-tests for basic demographic variables and the results of a joint orthogonality test to check if the variables jointly determine the treatment status. We find balance in participant characteristics between the respective treatment and control groups.

Table 2. Balance between Treatment Groups and their Respective Control Groups

	(1)	(2)	(3)	(4)	(5)
Variable	Control Debit Only Mean/(SE)	T1-C Pairwise t-test Mean difference	T2-C Pairwise t-test Mean difference	T3-C Pairwise t-test Mean difference	T4-T2 Pairwise t-test Mean difference
Below 35	0.247	0.008	0.035	−0.010	0.032
	(0.018)				
Female	0.547	−0.042	−0.033	−0.032	0.009
	(0.020)				
Dublin	0.297	0.040	0.027	0.030	−0.031
	(0.019)				
Third level Education	0.650	−0.025	−0.045*	−0.040	−0.019
	(0.019)				
Employed	0.677	−0.028	−0.045*	−0.055**	−0.002
	(0.019)				
High Income	0.474	0.005	−0.037	−0.049	−0.012
	(0.021)				
Digital Financial Use (%)	39.636	−1.288	−0.697	−0.606	−0.718
	(0.648)				
Financial Product Use (%)	35.818	−0.348	−0.197	−0.152	0.015
	(0.616)				
Ever Used BNPL	0.190	−0.003	−0.013	−0.012	0.004
	(0.016)				
F-test of joint significance (F-stat)		0.998	1.340	1.441	0.617
F-test, number of observations		1094	1100	1108	1109

Notes: Column (1) reports mean and standard deviation of “Debit Only" group and column (2)-(5) report results from pariwise t-tests between treatment groups “Debit/BNPL", “BNPL Only" “BNPL Later", “With BNPL Disclosures" with their respective control groups. F-test and p value from joint orthogonality test is reported. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

5.1.1 BNPL Usage in Ireland

Our baseline survey provides insights on the demographic and financial characteristics of BNPL users in Ireland. On average, 20% of our sample have used BNPL before. BNPL use is predominantly concentrated among individuals aged 18 to 44. Notably, BNPL usage is more common among women compared to men, with 22% of women and 16% of men reporting its use. Similarly, a higher proportion of employed individuals (22%) utilise BNPL than unemployed individuals (13%) (Figure 2). However, no statistically significant differences in BNPL usage trends are observed when disaggregated by education level or income group.

Regarding financial characteristics, BNPL usage is closely associated with lower levels

of financial sophistication and riskier borrowing behaviours. We examine how various indicators of financial and borrowing behaviour predict the likelihood of BNPL usage by employing a logit regression model to predict changes in the likelihood of BNPL usage associated with relevant financial behaviours, controlling for the influence of demographic variables included in the model. All regressions include a set of demographic controls selected through a double LASSO procedure, where relevant covariates from a list of variables chosen for their economic significance in predicting the dependent variable were systematically identified.[16] We find that high self-control is associated with a 7 percentage point decrease in the likelihood of BNPL use, controlling for other financial and demographic characteristics (Figure 3). Similarly, more than a median level of financial literacy and low financial distress each reduces the likelihood of BNPL usage by 8 percentage points. High financial self-efficacy is also associated with a lower likelihood of using BNPL by 4 percentage points. Other behavioural traits, such as attention, risk preferences, and overconfidence, are not significantly linked to having ever used BNPL. In Figure 4, we find that all indicators of financial distress related to past borrowing behaviour significantly predict BNPL usage, except for more than median usage of credit cards. The most influential factors for using BNPL in the past year are having an above-median number of loans and being denied credit from other sources, by 12 and 10 percentage points, respectively. Being late on a loan repayment and having experienced difficulty in making a loan repayment in the past year are associated with increases in BNPL use of 5 and 6 percentage points, respectively.[17]

5.2 Empirical Strategy

To estimate the causal effect of treatments in this study, we perform the following empirical specification for participant i:

$$Y_i = \alpha + \beta T_i + \epsilon_i \tag{1}$$

[16] The demographic variables considered include age, gender, region, education, employment, income, a financial product usage score and a digital financial product usage score.

[17] These results broadly align with the findings from (Jose and Kelly, 2025) that individuals with lower financial sophistication and riskier borrowing behaviours are more likely to use BNPL to a greater extent, more frequently and simultaneously across multiple providers, as well as participants' BNPL choices during the experiment itself (results available on request).

Figure 2. Ever Used BNPL (Average) by Demographic Characteristics

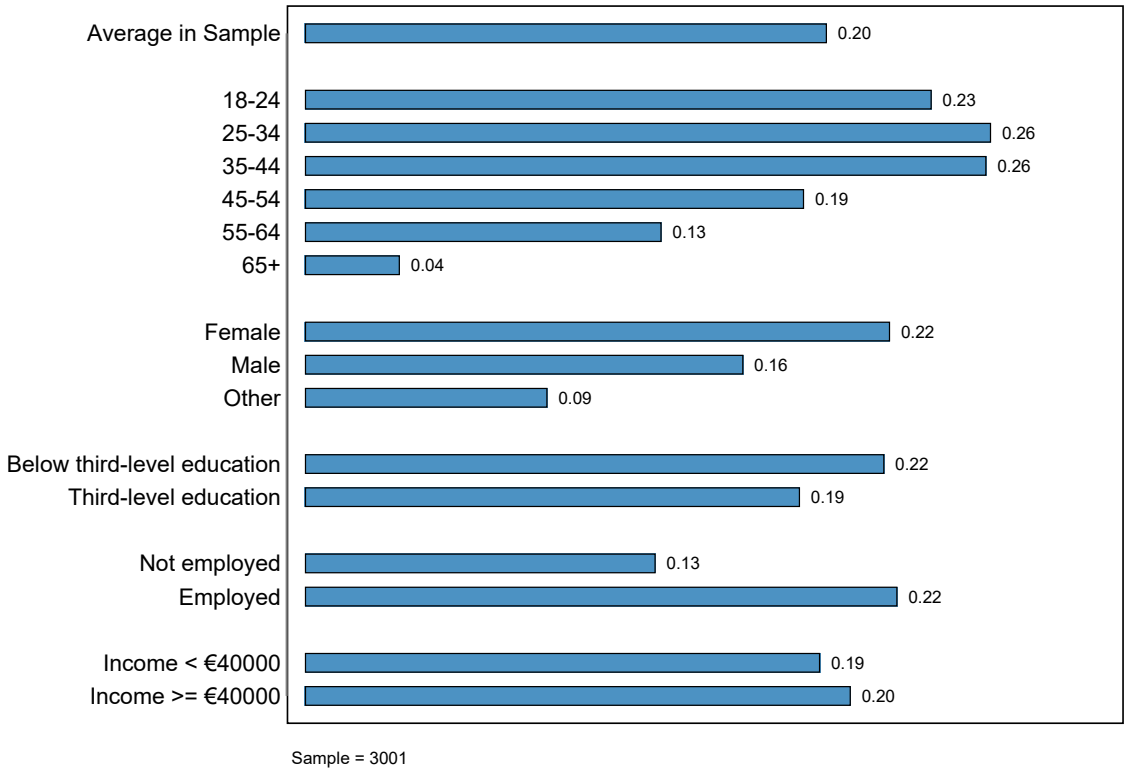


Figure 3. Association between BNPL Usage and Financial Behaviours

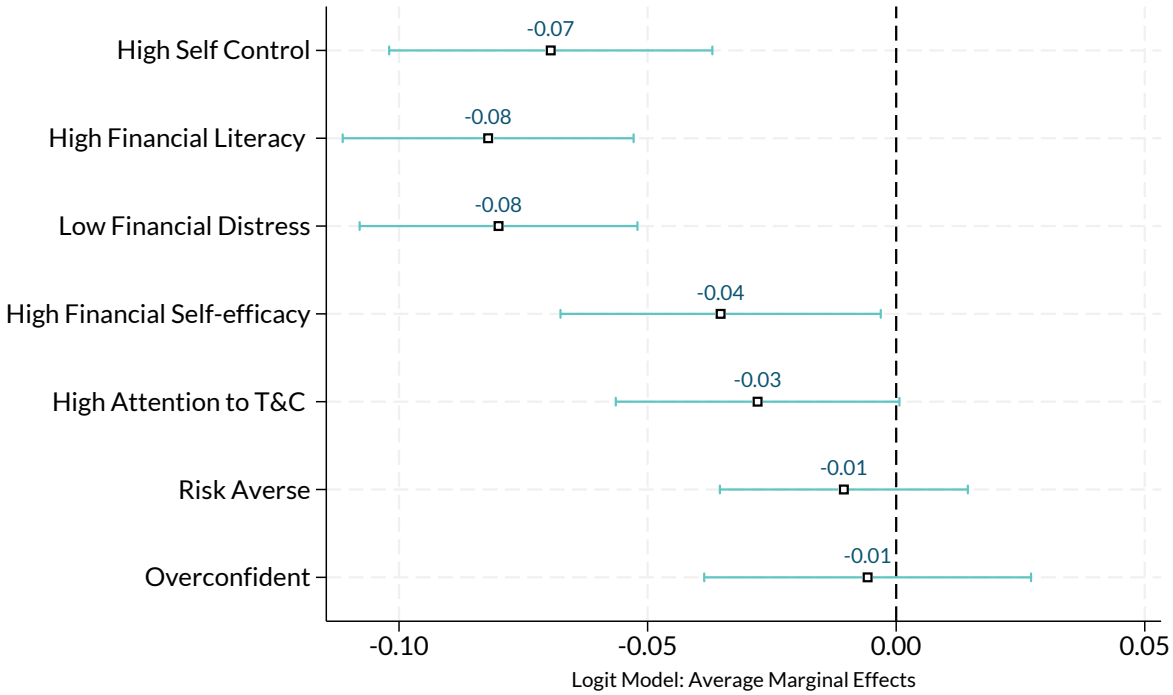
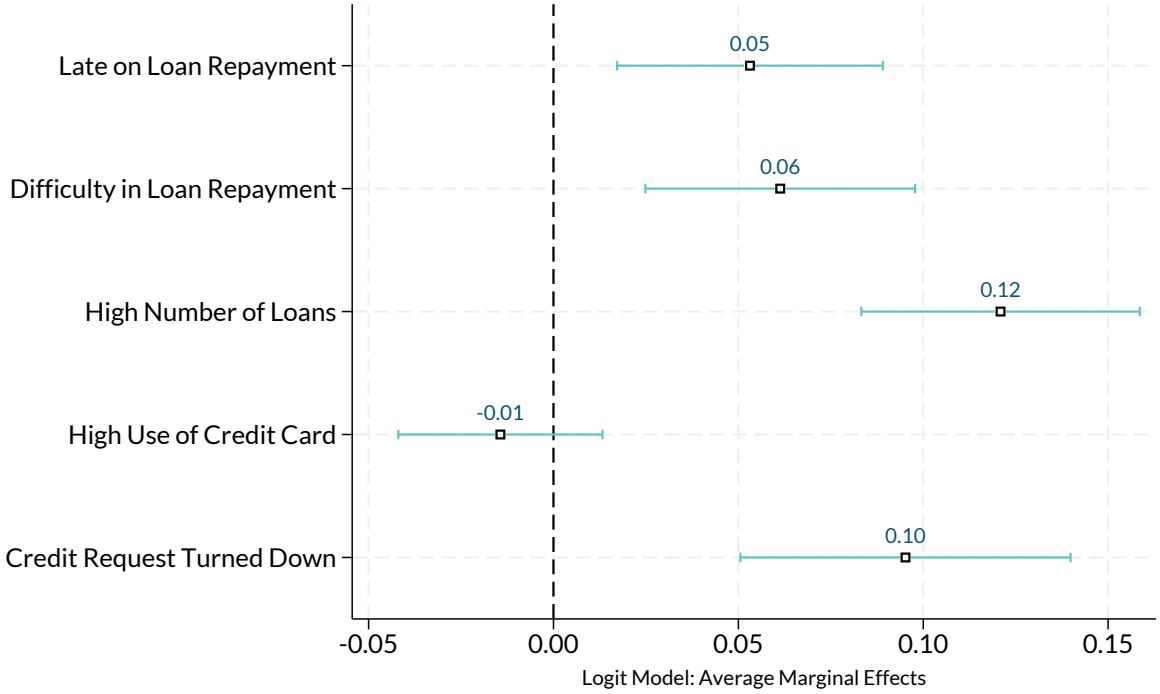


Figure 4. Association between BNPL Usage and Borrowing Behaviours



where Y_i represents the outcome variable of interest, such as spending, purchase of the discretionary product, use of BNPL to purchase the discretionary product, and BNPL comprehension. T_i is a dichotomous variable equal to 1 if the participant i is in the treatment group, and 0 otherwise. ϵ is the error term. Since our randomisation was successful, we do not control for individual-level demographic characteristics in the main specification. However, as a robustness check, we report results both with and without controls for individual-level demographic characteristics. Individual-level demographic characteristics include age, gender, region, education, employment status, non-digital and digital financial product use, an indicator variable for ever using BNPL and the level of financial distress to proxy for income.[18]

While we capture the effect of BNPL availability by comparing the “Debit Only" and the “Debit/BNPL" groups using (1), in order to estimate the effect of BNPL availability for BNPL users (Local Average Treatment Effect (LATE)), we use an instrumental variable approach

[18] We use the level of financial distress as a proxy for income due to missing observations for income as some respondents choose “prefer not to say". Hence, to keep the power of the analysis with and without controls the same, we use the level of financial distress. This captures whether the respondent considers repayment of debts a financial burden, struggles to keep up with bills, and whether they run out of money before the end of the week or month and needed to use a credit card or overdraft to get by.

where we instrument for BNPL use using the random allocation of the participant to the “Debit Only" or “Debit/BNPL" group. The exclusion criteria are satisfied in our set-up due to the random allocation of participants into treatment and control groups and the fact that there is no correlation between spending patterns and BNPL availability outside of its effect through BNPL use. The first stage in the LATE analysis estimates BNPL usage ($BNPL_i$) as a function of the instrument, which is the random assignment to the "Debit/BNPL" group (Z_i) :

$$BNPL_i = \alpha_0 + \alpha_1 Z_i + \epsilon_i$$

where $BNPL_i$ is an indicator for whether the participant used BNPL, Z_i is an instrument equal to 1 if the participant is in the "Debit/BNPL" group and 0 otherwise, and ϵ_i is the error term.

The second stage estimates the effect of BNPL use on spending patterns (Y_i) using predicted BNPL usage $(\hat{BNPL_i})$ from the first stage:

$$Spending_i = \beta_0 + \beta_1 \hat{BNPL_i} + \eta_i$$

where β_1 captures the causal effect of BNPL use on spending, under the assumption that BNPL use is exogenously determined by random assignment to the "Debit/BNPL" group.

We also carry out heterogeneous treatment effect analysis based on demographic and financial characteristics of the participants to evaluate if the results are being driven by certain subgroups.

6 Results

6.1 Effects of BNPL availability (“Debit/BNPL" vs “Debit Only")

First, we present results testing Hypothesis 1, which examines whether the relaxation of liquidity constraints through payment deferral mechanisms increases consumer spending relative to when no borrowing opportunity is available (Table 3, Row 1). When a debit card is the only option to pay, participants spend € 334.75 out of a budget of € 1,000 during the first three rounds of shopping. On average, 35% of participants in the “Debit Only" group purchase an additional discretionary product, and 65% of them purchase the additional

product using BNPL. When BNPL is made available, we do not observe a significant impact on total spending, the purchase of an additional discretionary product or the use of BNPL to purchase the additional discretionary product. One of the potential channels through which we hypothesise BNPL availability would increase consumer spending is the mechanism of mental accounting (Thaler, 1999). As noted in section 4.2, we expected that the display of an inflated balance in the account of participants who use BNPL in the first and/or second rounds, compared to participants in the “Debit Only" group who always paid the full amount for their purchase immediately, would drive up spending in round three and the purchase of an additional discretionary product in round 4. However, we could not capture the effects of BNPL availability on spending based on this channel, possibly due to the low take-up of BNPL in the first and second shopping rounds (18.3% used BNPL in round 1 and 24.5% used BNPL in round 2).

The lack of evidence we observe contrasts with other studies that use transactional data to capture the effect of BNPL availability on spending (Bian et al., 2023; Di Maggio et al., 2022; Berg et al., 2023). These studies argue that BNPL access leads individuals to spend more once they are granted a BNPL credit line, and hence reduce their precautionary savings. A possible reason for our lack of evidence on the change in consumer spending patterns is that we observe consumers for only the three rounds of shopping in our experimental setting, compared to the longer time period during which consumers are observed in these studies. We also do not find evidence on the effect of BNPL access on spending patterns based on demographic or financial characteristics, as shown in Table A7 and Table A8. Exceptions are the findings that BNPL availability increases the likelihood of a purchase of a discretionary product for participants aged over 35 compared to individuals aged below 35 (by 17.3 percentage points) and, for participants who are less likely to use short-term credit products compared to those who are more likely to do so (by 9.2 percentage points). Detailed definitions of the variables used for heterogeneity analysis are provided in Table A6.

Withstanding the plausible issue of low power due to low take-up of BNPL, we estimate the Local Average Treatment Effect (LATE) of BNPL availability on BNPL users. As previously discussed, we do so by using an instrumental variable (IV) approach. The first stage of the IV is satisfied as participants in the “Debit/BNPL" group are more likely to use BNPL than the “Debit Only" group (Table A2). In Table A3, we estimate the effect

of BNPL availability among participants who used BNPL in round 1 on their spending in subsequent rounds and their choices regarding the purchase of the discretionary product. We find that, conditional on BNPL usage in round 1, BNPL availability leads to a 22.9% increase in spending in round 2 and no effect on spending in round 3 or on the purchase of a discretionary product. This supports our hypothesis that the perception of an inflated account balance resulting from the use of BNPL in round 1 affects spending in subsequent rounds. However, BNPL availability does not increase spending in round 3 or result in a discretionary product purchase for those who used BNPL in the first and/or second rounds. We additionally checked for a BNPL availability effect for those who used BNPL at least once in the three rounds, more than once, and more than twice in the three rounds, and found no statistically significant effect on spending patterns (Table A4).

6.2 Effect of BNPL Use (“BNPL Only" vs “Debit Only")

While we predominantly find no evidence of BNPL availability effects on those who used BNPL (LATE estimates above), we separately assess the impact of BNPL use on consumer spending patterns by comparing participants in the “BNPL Only" and “Debit Only" groups. Through this analysis, we test hypothesis 2, which posits that using payment deferral methods increases spending. The participants in the “BNPL Only" group can be thought of as participants who use BNPL for their purchases when it is available. Participants spend 4.39% more on average when BNPL is used as a payment method instead of a debit card (Table 3, Row 2). Investigating if the increase in spending is driven by just one shopping round or more, we find an increase in spending across all three rounds, whereby spending increases by 3.47% in round 1, 5.35% in round 2 and 4.04% in round 3 (Results available on request).

To distinguish whether the higher spending observed in the “BNPL Only” group reflects relaxed credit constraints or alternatively a mental-accounting channel, where deferred payments inflate perceived available balances, we focus on behaviour in the fourth shopping round. In this round, all participants faced identical credit constraints, with both BNPL and debit cards available. We find that participants who used BNPL in the first three shopping rounds (i.e. “BNPL Only") were 22.2% more likely to purchase the discretionary product compared to participants who used a debit card for the first three rounds (i.e.

“Debit Only"). This discretionary purchase was worth 27% of their total budget (€ 270 of the € 1000). The combined effect of BNPL use in the first three rounds (4.39%) and during the discretionary purchase round (22.2% times 0.27 = 5.99%) can be considered economically significant, and shows the extent to which BNPL usage can drive future spending decisions. From a comparative perspective, however, the magnitude of the BNPL effects in our setting are smaller than documented for other payment deferral instruments. For instance, (Prelec and Simester, 2001) report that willingness to pay using credit card payments can be up to 100% higher than with cash, while Gross and Souleles (2002) estimate an average marginal propensity to consume of 10–14% following increases in US credit card limits.

Previous literature on payment deferrals have shown possible explanations of increased spending when payments are deferred beyond the liquidity constraint explanation. These include decoupling of payments and benefits, inaccurate recall of payments, immediacy of wealth depletion and perceptions of financial constraints when payments are in a lumpsum instead of instalments (Prelec and Simester, 2001; Prelec and Loewenstein, 1998; Soman, 2001; Maesen and Ang, 2024). We add a further explanation to this list by causally establishing how past payment mechanisms might shape subsequent perceptions of budget availability and influence future spending behaviour. Thus, our results support Hypothesis 2, suggesting that payment deferral can indeed lead to higher spending by affecting consumers’ perception of their available budget.

After the shopping simulation, when asked about the total amount spent during the four shopping rounds and the amount of BNPL debt, participants in “BNPL Only" group were 16.2% less likely to recall the total amount spent and 51.2% less likely to recall their future credit commitments when compared to the “Debit Only" group (Table 4). Indeed, the “BNPL Only" group were 14.7% more likely to underestimate the total amount spent, and the amount of underestimation was around € 41. Such an underestimation could be driven by the instalment structure when using BNPL compared to a full payment when using a debit card.

Interestingly, when participants had the option to choose between BNPL and a debit card for their discretionary purchase, participants in the “BNPL Only" group were 29.5% less likely to use BNPL compared to participants in the “Debit Only" group, shedding light on

a unique spending pattern: rather than forming a habitual reliance on BNPL, consumers with a higher remaining balance due to prior BNPL usage tended to spend using a debit card which involved an immediate deduction of the full amount from their budget. BNPL users observed a higher balance in their accounts than debit card users when they were making the decision whether to purchase and what payment method to use for their discretionary product purchase (Figure A4). Using BNPL in the first three rounds may have created the impression that they had more money available in their account for purchasing discretionary products. This behaviour is in line with the bottom dollar effect as described by Soster et al. (2014), where the psychological discomfort of spending rises as one's budget nears depletion. In our case, even though a participant in the "BNPL Only" group may have purchased the same items as an individual in the "Debit Only" group during the first three rounds, the perceived higher available balance could have created a false sense of financial security, leading them to reduce their caution regarding keeping spending money for the holidays. Alternatively, this pattern could reflect an aversion to accumulating additional debt, prompting participants in the "BNPL Only" group to prefer using debit cards for the discretionary purchase after relying on BNPL in the previous three rounds. Our analysis in Table A10 helps us rule out this explanation. We find that the observed reduction in BNPL usage for the discretionary product purchase is primarily driven by participants who are more likely to utilise short-term credit. If debt aversion were driving the decreased use of BNPL for the discretionary product purchase, we would expect this behaviour to be more pronounced among participants who are less inclined to use short-term credit in real life.

To further examine whether the effect of BNPL use on spending patterns varies depending on demographic and financial characteristics, we analyse findings in Table A9 and Table A10. Our results show that individuals over the age of 35 are 12.8 percentage points more likely to purchase discretionary products after using BNPL compared to those aged 35 or younger. Additionally, unemployed participants are 10.6 percentage points more likely than employed individuals to make discretionary purchases after using BNPL. Examining discretionary product purchases across different financial characteristics, we find that individuals with higher financial sophistication are 11 percentage points more likely to make discretionary purchases than those with lower financial sophistication. This group is also 18.2 percentage points more likely to use BNPL for the discretionary product purchase, suggesting a potential habit-formation mechanism from repeated BNPL use

among this group. Conversely, high-risk borrowers are 19.1 percentage points less likely to use BNPL for discretionary purchases compared to low-risk borrowers. We find that individuals who are more likely to use short-term credit are 13 percentage points less likely to purchase discretionary products after using BNPL. Moreover, if they do purchase a discretionary product, they are 22.2 percentage points less likely to use BNPL as the payment method for that purchase. This suggests that individuals who are more inclined to use short-term credit may actually become more cautious after using BNPL.

6.3 Effect of Information on Future BNPL Availability (“BNPL Later" vs “Debit Only")

Extending on the findings of Ji et al. (2023), which suggest that BNPL availability increases overall spending even for those not directly using BNPL, we investigate whether such effects are driven by liquidity access or informational effects about the future availability of deferred payment options (hypothesis 3). By randomly varying whether consumers are informed about upcoming BNPL availability before any credit is offered, we isolate the distinct mechanism of the effect of information about future BNPL access on current non-BNPL (debit card) spending from the relaxation of liquidity explanation. We compare spending behaviour between participants in the "BNPL Later" group and the "Debit Only" group during the first two rounds, where both groups were limited to using a debit card for their purchases, and the only difference was that participants in the "BNPL Later" group were informed that BNPL would become available in the third round.

We find that participants with information about future BNPL availability spend 3.1% more during round one and two than those unaware of the future BNPL option (Table 3, Row 3). Additionally, once BNPL became available, this group was 19.1% more likely to purchase the discretionary product. The observed increase in debit card spending among participants informed about future BNPL access suggests that consumers internalise anticipated credit as a form of forward-looking liquidity insurance. This behaviour is consistent with models in which consumers smooth consumption by mentally incorporating expected future liquidity into their present budget constraints. Unlike prior work that links liquidity insurance to current access to credit, our results show that anticipated credit access can similarly relax perceived constraints. However, such

increased spending may be more pronounced for some groups of consumers than others. As shown in Table A11, participants with below-median income spent 10.86 percentage points more after learning about future BNPL availability. Furthermore, when BNPL became available, individuals who are less likely to use short-term credit were 10.5 percentage points more likely to buy the discretionary product than those who use short-term credit more frequently (Table A12). This suggests that those less inclined to rely on short-term credit may view zero-interest BNPL credit as attractive and purchase discretionary products when BNPL becomes available.

Table 3. Effect of varying levels of BNPL availability and use

	Spending		Purchase Discretionary Product		Use BNPL for Purchasing Discretionary Product	
	(1)	(2)	(3)	(4)	(5)	(6)
Debit/BNPL vs Debit Only	2.250	1.675	0.037	0.029	-0.039	-0.023
	(3.96)	(3.88)	(0.03)	(0.03)	(0.05)	(0.05)
N	1200	1200	1200	1200	443	443
BNPL Only vs Debit Only	14.700***	14.679***	0.078***	0.078***	-0.192***	-0.177***
	(4.30)	(4.25)	(0.03)	(0.03)	(0.05)	(0.04)
N	1200	1200	1200	1200	475	475
Control Mean	334.75	334.75	0.35	0.35	0.65	0.65
	Spending in the First Two Rounds		Purchase Discretionary Product		Use BNPL for Purchasing Discretionary Product	
BNPL Later vs Debit Only	7.000**	6.595**	0.067**	0.054**	-0.061	-0.057
	(2.77)	(2.70)	(0.03)	(0.03)	(0.05)	(0.05)
N	1200	1200	1200	1200	457	457
Control Mean (First 2 Rounds)	225.75	225.75	0.35	0.35	0.65	0.65
Individual Controls	No	Yes	No	Yes	No	Yes

Notes: Columns (1) and (2) indicate the effect of treatments on spending during the first three rounds of shopping, except for the third row (BNPL Later vs Debit Only) when it is only spending during the first two rounds. Columns (3) and (4) indicate the effect of treatments on whether the participant purchases the discretionary product (1/0) and if they do, columns (5) and (6) indicate the effect of treatments on whether they use BNPL for purchasing the additional discretionary product. The control group for all calculations are the participants in the Debit Only group. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses. Controls include individual characteristics such as age, gender, region, education, employment status, whether the participant experiences lower than median financial distress, a score for digital financial products owned, a score for financial products owned and if the participant ever used BNPL. Regressions with and without individual controls are reported. Regressions with and without individual controls are reported.

6.4 Effect of Salient Risk Disclosures ("Debit/BNPL with Disclosures" "Debit/BNPL without Disclosures")

While BNPL can serve as a beneficial financial tool for liquidity-constrained consumers seeking to spread payments across instalments, it is critical that consumers fully understand the associated risks before using it. In the absence of salient risk disclosures during the payment checkout process, participants achieved an average comprehension

Table 4. Effect of BNPL use on recall of total amount spent and their future BNPL commitment

	Recall of total amount spent		Underestimated total amount spent		Level of underestimation of total amount spent		Recall of future BNPL commitment	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
BNPL Only vs Debit Only	-0.162***	-0.162***	0.147***	0.140***	41.004***	39.659***	-0.512***	-0.518***
	(0.03)	(0.03)	(0.03)	(0.03)	(10.25)	(10.41)	(0.02)	(0.02)
N	1200	1200	828	828	828	828	1200	1200
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Control Mean	0.38	0.38	0.34	0.34	38.41	38.41	0.75	0.75

Notes: Dependent variables: Columns 1 and 2 indicate the participant's likelihood of to recalling the total amount spent during the first three rounds of shopping (1/0). Columns 3 and 4 indicate whether the participant underestimated the amount spent (1/0), while columns 5 and 6 report coefficients from is a continuous variable capturing the level of underestimation. Columns 7 and 8 indicate the participant's likelihood of to recalling the amount of future commitments to repay any credit they have taken during the four rounds of shopping (1/0). * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses. Controls include individual characteristics such as age, gender, region, education, employment status, whether the participant experiences lower than median financial distress, a score for digital financial products owned, a score for financial products owned and if the participant ever used BNPL. Regressions with and without individual controls are reported.

score of only 57% across three key risk components related to BNPL.[19] Notably, participants demonstrated a high understanding (79%) that BNPL is indeed a credit product; however, comprehension regarding late fees and the possibility of debt collection was considerably lower, with only 49% and 45% respectively of respondents answering correctly. This aligns with an earlier nationally representative survey indicating that 45% of BNPL users were unaware of late fee charges (CBI, 2023).

When key BNPL risk disclosures are presented prominently at checkout, comprehension improves by 10% (Table 5). Examining consumer comprehension across each of the three questions asked, we observe that our results are mainly driven by improved comprehension about late fees and debt collection agencies (results available on request). There is a 23.06% and 17.55% improvement in understanding about late fees and debt collection agencies, respectively. By controlling for whether participants accessed the regular terms and conditions document, we are able to provide evidence on the importance of salient risk disclosures at key decision making points over and above the traditional lengthy terms and conditions format, which can be perceived as cumbersome and difficult to comprehend.[20]

[19] Author calculations from (CBI, 2023).

[20] Participants in the "Debit/BNPL without Disclosures" group and the "Debit/BNPL with Disclosures" group were not statistically different in opting to read the document and hence we can be confident that the treatment effects we observe are true estimations of saliently presenting risk disclosures at the payment checkout. 33% of participants in the "No Disclosure" group and 35.25% of participants in the "Disclosure" group opted to read the lengthy traditional BNPL terms and conditions document.

However, this increase in comprehension does not translate into changes in BNPL usage or overall spending patterns. This may be due to a perceived low risk among participants, who might remain overconfident about their ability to repay on time, believing that they are unlikely to face potential penalties. Additionally, BNPL usage in this experiment was already low at 21% among participants without disclosure prompts and therefore floor effects may be more pertinent than in a context where BNPL usage was more widespread.[21] It is important to note that it is hard to argue on the optimal use of short-term credit products, and our results suggest that salient risk disclosures at decision-making points can help consumers make informed decisions without necessarily shifting spending and borrowing behaviours. These findings partially support Hypothesis 4, consistent with (Adams et al., 2022b), who find that similar disclosure boxes increase comprehension without affecting BNPL usage. One limitation of our online experimental setting is that attention may be more scarce in a real-world scenario. Further research on the impact of disclosures at the point of decision-making in real-world settings can shed light on this issue.

Examining the heterogeneous effects of disclosures on comprehension, we find that comprehension improves by 7.9 percentage points less for employed individuals than for unemployed individuals (Table A13). Comprehension increases by 6.2 percent among women and this corresponds with a 11.2 percentage point reduction in their purchase of discretionary products compared to men. Comprehension improves by 8 percentage points among participants with low financial sophistication and by 3.6 percentage points among those with high financial sophistication, although the difference between these groups was not statistically significant (Table A14). This suggests that disclosures can benefit consumers across varying levels of financial capabilities. Similarly, comprehension increased by a statistically significant 8.6 percentage points for high-risk borrowers, highlighting the role of disclosures in educating risk-prone consumers who might otherwise overlook important credit terms. However, the difference in the effect of disclosures on comprehension was not statistically significant between high-risk and low-risk groups. We also observe that disclosures increased comprehension by 11.5 percentage points more

[21] The low usage of BNPL (21%) is broadly in line with BNPL usage in Ireland, with (CBI, 2023) finding 15% of Irish adults use BNPL and 24% reporting they would consider using it in future to fund a purchase.

for participants who exhibited overconfidence in their financial literacy compared to those who did not. This also led to a behavioural effect: overconfident individuals who received the disclosure were 28.2 percentage points less likely to use BNPL for discretionary product purchases if they decided to buy a discretionary item. These findings suggest that salient risk disclosures can be particularly effective for overconfident consumers, not only enhancing their understanding of BNPL risks but also influencing their borrowing behaviour in a more cautious direction. Overall, these results highlight the potential of behaviorally informed disclosures at key decision points to enhance comprehension and improve decision-making, particularly among groups that may be more susceptible to the risks of BNPL use.

Table 5. Effect of Disclosures on Comprehension

	Comprehension Score		Total Spending		BNPL Use		Purchase Discretionary Product		Use BNPL for Purchasing Discretionary Product	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Disclosures	0.057***	0.054***	1.554	1.753	0.009	0.004	0.013	0.015	0.018	0.016
	(0.02)	(0.02)	(4.14)	(4.08)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)
N	1201	1201	1201	1201	1201	1201	1201	1201	474	474
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Control Mean	0.57	0.57	337.00	337.00	0.21	0.21	0.39	0.39	0.61	0.61

Notes: Dependent variables: Average comprehension score out of 3 for disclsoure box related questions; total amount spent by participant during the three rounds of shopping; proportion of number of times BNPL was used during the three rounds of shopping; dichotomous variable indicating if the participant purchased the additional discretionary product , and dichotomous variable indicating if the participant used BNPL to purchase the discretionary product. The control group are the participants in the Debit/BNPL group. All regressions include a control for whether the participant clicked to open the long version of a terms and conditions document. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses. Controls include individual characteristics such as age, gender, region, education, employment status, whether the participant experiences lower than median financial distress, a score for digital financial products owned, a score for financial products owned and if the participant ever used BNPL. Regressions with and without individual controls are reported.

7 Conclusion

This study provides key insights into the behavioural dynamics underlying BNPL and its impact on consumer spending patterns. We demonstrate that an inflated perception of available funds due to prior BNPL usage, rather than just easier access to credit, is a major driver of increased spending among BNPL users. By providing reminders to consumers of their upcoming BNPL payment schedules and deduction dates, BNPL providers can help consumers to get a clearer view of their future financial obligations (AFM, 2024). We also illustrate that information about future BNPL access encourages consumers to increase spending without debt accumulation, and in so doing highlight the potential role of novel credit products in increasing aggregate consumer spending.

Our findings should be interpreted in light of two limitations. First, the magnitude of the observed effects may be sensitive to the relative price levels of the products offered in our online trial setting. Since BNPL operates in part through the liquidity relief provided during checkout, different price anchors could amplify or attenuate the spending response. Second, product preference heterogeneity may also be relevant. Participants' individual tastes for the specific goods in the experiment could influence their purchase decisions independently of BNPL availability. While randomisation should, in principle, balance unobserved characteristics such as product preferences across treatment groups, some residual heterogeneity may remain. Future research could address these issues by varying the price spectrum and product categories to test whether the observed effects generalise across different consumption contexts.

Our findings underline the importance of clear and accessible disclosures at the point of sale to help consumers make more informed decisions about BNPL. However, based on our study, the effectiveness of these disclosures in changing behaviour is limited, suggesting that additional safeguards, such as mandatory credit checks, could enhance consumer protection and reduce the likelihood of financial distress.

In conclusion, BNPL presents both opportunities and risks. It offers a flexible payment option, but its potential to distort spending behaviour through mental accounting and liquidity perceptions necessitates careful regulation. Beyond individual outcomes, our findings suggest that such credit innovations could increase aggregate consumer spending, with potential implications for household debt levels. While such an increase in aggregate spending may stimulate short-term economic activity, it can also contribute to higher household debt burdens if consumers use other credit products, such as credit cards or overdrafts, to repay BNPL instalments when cash flows tighten. By providing clearer disclosures, and implementing additional safeguards, policymakers and financial institutions can help to ensure that BNPL remains a sustainable financial tool that serves the needs of consumers without compromising their financial well-being.

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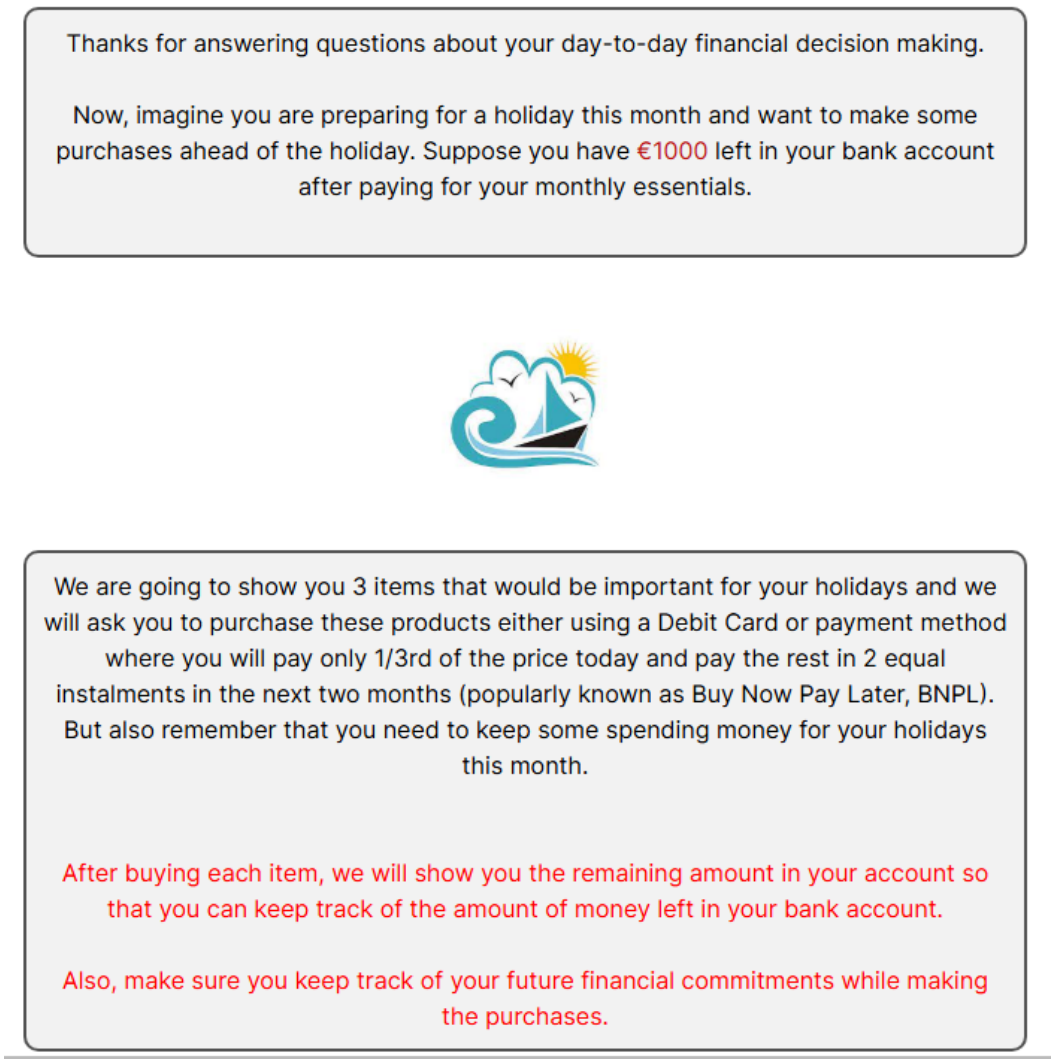
Appendix

Snapshots from the online experiment tool

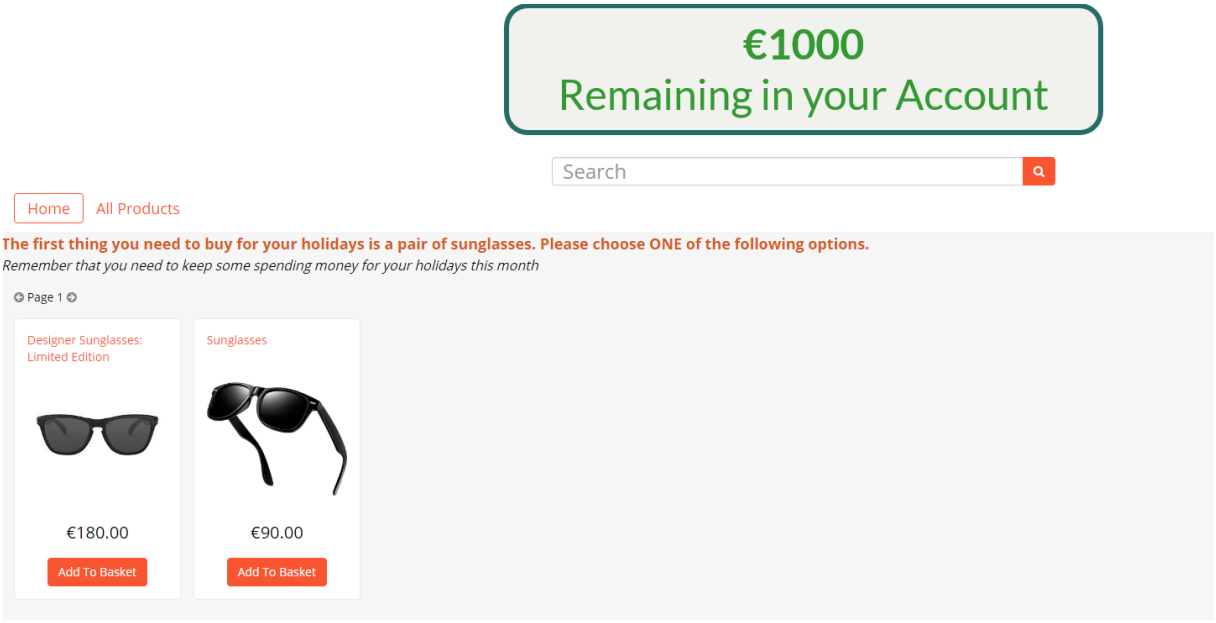
Figures A1 - A6 shows various screenshots from the online experiment tool used (Gorilla).

Figure A1. Introduction to the shopping task (for Debit/BNPL group)



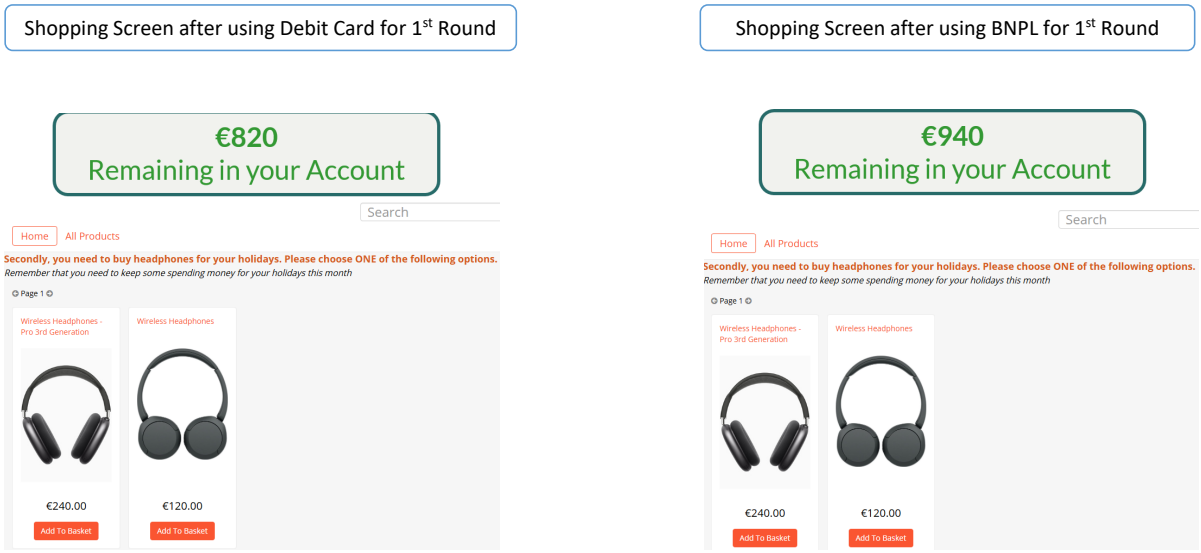
Note: Participants in the “Debit/BNPL" group were shown the above introduction before the shopping task. Other groups of participants were also shown similar text except the instruction related to payment methods were different depending on the group they were randomly allocated to. For example, “BNPL Only" group were shown the following instruction related to payment “We are going to show you 3 items that would be important for your holidays and we will ask you to purchase these products using a payment method where you will pay only 1/3rd of the price today and pay the rest in 2 equal instalments in the next two months (popularly known as Buy Now Pay Later, BNPL)."

Figure A2. Shopping Choice Task: Round 1



Note: The figure above is the screen all the participants were shown during the first round of shopping, except for “BNPL Later" group who were also reminded that they will have access to BNPL during the third round (Figure A5).

Figure A3. Remaining Balance for Debit Card Users and BNPL Users after € 180 purchase in 1st round



Note: The picture on the left and right represents the balance if the participant purchases sunglasses worth € 180 using debit caqrd and BNPL, respectively.

Figure A4. Example of Remaining Balance for “Debit Only" group and “BNPL group" during the Fourth Round

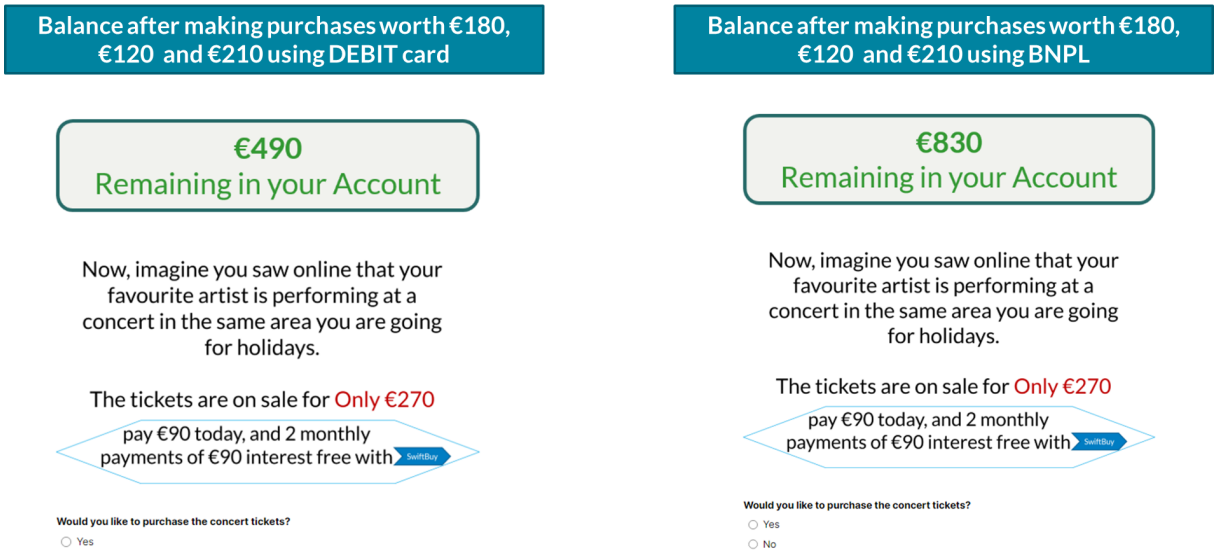
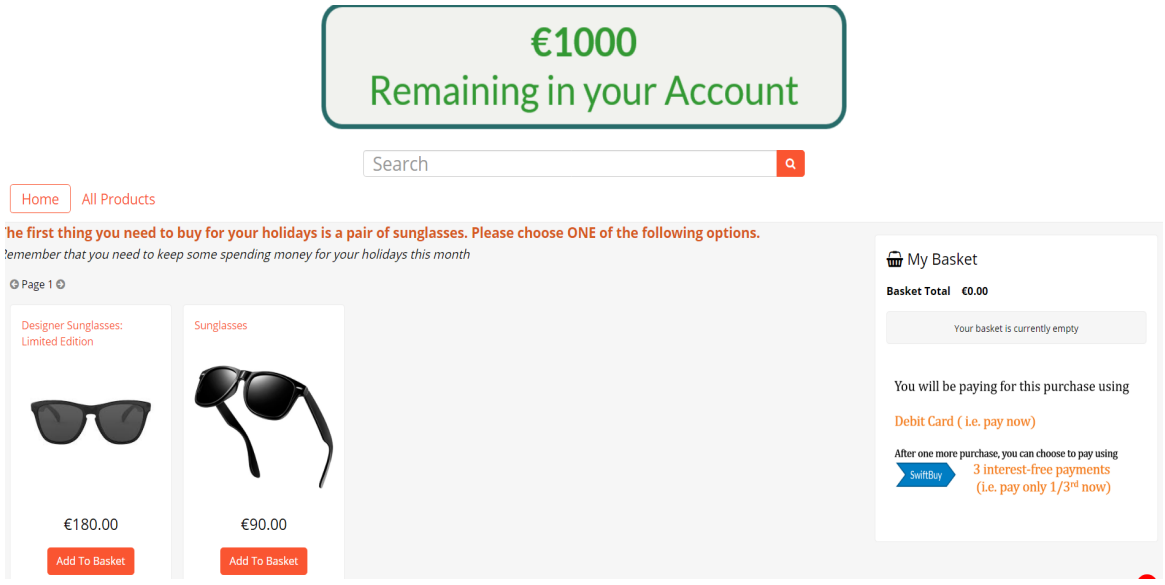
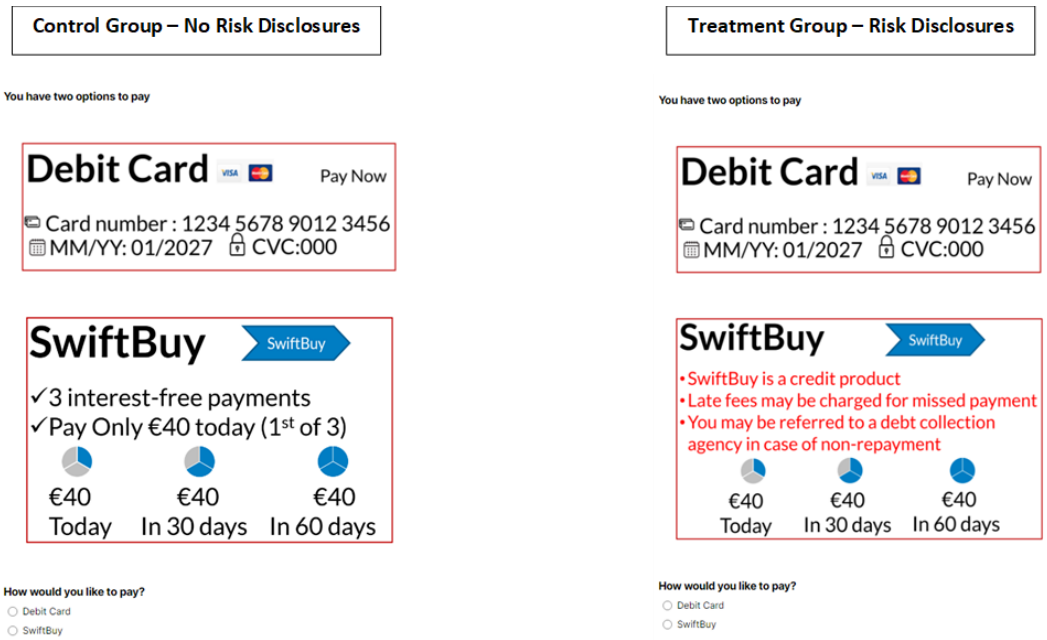


Figure A5. Shopping Choice Task: Round 1 for “BNPL Later" group



Note: Apart from the instruction that the “BNPL Later" group received before the shopping rounds on payment methods (“You will be paying for the first two items using a Debit Card. However, from the third item onwards, in addition to Debit Card, you will be provided with an option to pay only 1/3rd of the price today and pay the rest in 2 equal instalment in the next two months (popularly known as Buy Now Pay Later, BNPL)."), they were reminded about the availability of BNPL in the third round during the first two rounds as shown above.

Figure A6. Payment Checkout Screen for “Debit/BNPL" and “Debit/BNPL with disclosures" group



Note: While the “Debit/BNPL" group were shown only the benefits of BNPL (zero interest), “Debit/BNPL with disclosures" group were shown risk-related disclosures saliently.

Power Calculation

Table A1 summarises the Minimum Detectable Effect Size (MDES) for each outcome of interest. We report MDES across a range of assumptions by varying the mean and standard deviation of the outcome variables. This allows us to illustrate how sensitivity to underlying data distributions affects the detectable treatment effect in our setting. MDES is calculated assuming an 80% power, a 0.05 significance level and a sample size of 600 each in the control and the treatment group.

Table A1. Power calculation

Outcome Variable of Interest	Mean of Control Group	Standard Deviation	MDES (in percentage points)
Spending during shopping (in euros)			
	250	50	8.1
	250	100	16.2
	500	50	8.1
	500	100	16.2
Comprehension of T&Cs			
	0.22	1	0.162
	0.22 (based on stats from Adams et al. (2022b))	0.5	0.081
	0.5	1	0.162
	0.5	0.8	0.0.081
BNPL Use			
	0.15 (Based on (CBI, 2023) data)	1	0.162
	0.15	0.5	0.081
	0.30	1	0.162
	0.30	0.5	0.081

Notes: All power calculations done using Stata package "power" comparing two means, assuming 80% power, significance level of 0.05 and sample size of 600 per group.

Effect of BNPL availability on those who use BNPL (LATE Estimates)

Table A2. Effect of BNPL availability on its takeup

	Round 1 (1)	Round 2 (2)	Round 3 (3)
BNPL as an additional payment option	0.183***	0.245***	0.202***
	(0.02)	(0.02)	(0.02)
N	1200	1200	1200
F	134.469	194.377	151.313
Control Mean	0.00	0.00	0.00

Notes: This table shows the effect of having BNPL as an additional payment option to a Debit Card on take-up of BNPL. The comparison group is the group of participants who had a Debit Card as the only option for payment. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A3. Effect of BNPL availability on participants who used BNPL in Round 1

	Spending in Round 2 (1)	Spending in Round 3 (2)	Spending in Round 2 and 3 (3)	Purchase Discretionary Product (4)	Use BNPL for Purchasing Discretionary Product (5)
Used BNPL in round 1	22.909*	-16.364	6.545	0.200	-0.164
	(11.77)	(13.46)	(18.65)	(0.15)	(0.20)
N	1200	1200	1200	1200	443
Control Mean	130.80	109.00	239.80	0.35	0.65

Notes: This table shows LATE estimates of BNPL availability for participants who used BNPL in the first round of the shopping task. The coefficients estimate the spending choices that participants make during the second and third round of shopping, and for purchasing the discretionary product. The comparison group is the group of participants who had a Debit Card as the only option for payment. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Effect of Disclosures - Further Analysis

Definitions of Variables of Interest

Table A6 provides definition for variables used to study heterogenous effects of the treatment conditions across various financial characteristics.

Table A6. Definition of variables used in the study

Variable	Definition
High financial sophistication	Dichotomous variable equal to 1 if the participant's score (created using polycoric principal component analysis) for financial sophistication, measured by the following items are greater than the median participant, and 0 otherwise.

Continued on next page

Table A6: Definition of variables used in the study

Variable	Definition
	• High Self Control (Ray and Najman, 1986) - Dummy variable equal to one if respondent's score to three questions related to financial habits (ranging from strongly disagree to strongly agree) is below the median respondent score, and zero otherwise. • It is hard for me to resist buying things I cannot afford. • When someone gives me money, I prefer to spend it right away. • I manage my money well.
	• High Financial Literacy (Lusardi and Mitchell, 2014) - Dummy variable equal to one if the number of correct answers provided by the respondent to the three questions below measuring financial literacy is above the median respondent, and zero otherwise. 1. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? • More than today • Exactly the same • Less than today • I don't know 2. Imagine that someone puts €100 into a no fee, tax-free savings account with a guaranteed interest rate of 2% per year. They don't make any further payments into this account and they don't withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made? Enter -99 (minus 99) if "Don't Know". 3. It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares • Yes • No • Don't Know
	• Low Financial Distress (UK Financial Capability Survey, 2018) - Dummy variable equal to one if respondent's score to three questions related to financial distress is below the median respondent score and, zero otherwise: 1. Thinking about any consumer debts you have, to what extent is keeping up with the repayment of them and any interest payments a financial burden? Would you say it was: • A heavy burden • Somewhat of a burden • Not a problem at all • I have no consumer debts. 2. Which one of the following statements best describes how well you are keeping up with your bills and credit commitments at the moment? • Having real financial problems and have fallen behind with many of them. • Falling behind with some of them • Keeping up with all of them, but it is a constant struggle. • Keeping up with all of them, but it is a struggle from time to time. • Keeping up with all of them without any difficulties • Don't have any commitments. 3. In the past 12 months, how often have you run out of money before the end of the week or month and needed to use a credit card or overdraft to get by? • Always • Most of the time • Sometimes • Hardly ever • Never
	• High Financial Self-efficacy (Lown, 2011) - Dummy variable equal to one if respondent's score in relation to agreement to three questions related to financial self-efficacy (totally true to totally false) is below the median respondent score and, zero otherwise: 1. It is hard to stick to my spending plan when unexpected expenses arise. 2. When unexpected expenses occur, I usually have to use credit. I lack confidence in my ability to manage my finances.

Continued on next page

Table A6: Definition of variables used in the study

Variable	Definition
	• High Attention to T&C (adapted from Financial Capabilities Survey 2017, UK FCA)-Dummy variable equal to one if respondent read the terms and conditions carefully or briefly while making financial decisions using online services, and zero otherwise
High Risky Borrower	Dichotomous variable equal to 1 if the participant's score (created using polycoric principal component analysis) for financial sophistication, measured by the following items are greater than the median participant, and 0 otherwise. • Late on Loan Repayment (By the authors) Dummy variable equal to one if respondent ever made a late repayment for a loan in the past 12 months, and zero otherwise. • Difficulty in Loan Repayment (By the authors)-Dummy variable equal to one if respondent ever had difficulty in repaying a loan in the past 12 months, and zero otherwise. • High Number of Loans (By the authors)- Dummy variable equal to one if respondent's current number of loan are above the median respondent, and zero otherwise. • High Use of Credit Card (By the authors)-Dummy variable equal to one if respondent's uses credit card more than 2-3 times a week or more than 2-3 times a month, and zero otherwise.
Risk Averse Dohmen et al. (2011)	Dummy variable equal to one if respondent score for risk averse behaviour score ranging from 0 to 5 (low to high) is above the median respondent, and zero otherwise. Question used for measuring risk averse behaviour score: We would like to know how you would choose between Money For Sure and €100 with a 50% chance of receiving that amount. Which reward would you prefer? • €10 For Sure • €100 with a 50% chance Which reward would you prefer? • €20 For Sure • €100 with a 50% chance Which reward would you prefer? • €30 For Sure • €100 with a 50% chance Which reward would you prefer? • €40 For Sure • €100 with a 50% chance Which reward would you prefer? • €50 For Sure • €100 with a 50% chance Risk averse score equal to 5 if respondent chooses €10 For Sure, 4 if respondent chooses €20 For Sure, 3 if respondent chooses €30 For Sure, 2 if respondent chooses €40 For Sure, 1 if respondent chooses €50 For Sure, 0 if respondent chooses €100 with a 50% chance always
Overconfident (Lusardi and Mitchell, 2014)	Dummy variable equal to one if number of answers respondent thinks they got correct out of the three questions measuring financial literacy is above their actual score out of three, and zero otherwise.
More Likely to Use Short-term Credit	Dummy variable equal to one if reported probability of short-term credit use more than the median participant, and zero otherwise.

Table A4. Effect of BNPL availability on participants who used BNPL in round 1 and/or 2

	Spending in Round 3 (1)	Purchase Discretionary Product (2)	Use BNPL for Purchasing Discretionary Product (3)
Used BNPL in round 1 and 2	-21.951	0.268	-0.237
	(18.09)	(0.20)	(0.29)
Used BNPL in round 1 or 2	-10.286	0.126	-0.113
	(8.42)	(0.10)	(0.14)
N	1200	1200	443
Control Mean	109.00	0.35	0.65

Notes: This table shows LATE estimates of BNPL availability for participants who used BNPL in the first and/or second round of shopping task. The coefficients estimate the spending choices that participants make during third round of shopping, and for purchasing discretionary product. The comparison group is the group of partcipants who had Debit Card as the only option of payment. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A5. Effect of Disclosures on Comprehension

	Credit Product		Late Fees		Debt Collector		Interest Rate		Second Installment		Late Fee Amount	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Disclosures	-0.023	-0.029	0.113***	0.112***	0.079***	0.078***	-0.067**	-0.068**	0.022	0.016	-0.002	-0.001
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
N	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Control Mean	0.79	0.79	0.49	0.49	0.45	0.45	0.53	0.53	0.66	0.66	0.23	0.23

Notes: Dependent variables: Proportion of participants who answered the question about each topic correctly. All regressions include a control for whether the participant clicked to open the long version of a terms and conditions document. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses. Controls include individual characteristics such as age, gender, region, education, employment status, whether the participant experiences lower than median financial distress, a score for digital financial products owned, a score for financial products owned and if the participant ever used BNPL. Regressions with and without individual controls are reported.

Heterogeneity Analysis

Tables A7, A9, A11 and A13 shows the effect of various treatment conditions in the study across various demographic characteristics and Tables A8, A10, A12 and A14 shows the effect of various treatment conditions in the study across various financial characteristics outlined in Table A6.

Table A7. Heterogenous Effect of BNPL Availability Based on Demographic Characteristics

	Total Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
Below 35	-3.079		-0.093		-0.127	
	(9.13)		(0.06)		(0.08)	
Above 35		4.225		0.080**		-0.003
		(4.26)		(0.03)		(0.06)
Age:						
Below vs Above 35		-7.304		-0.173***		-0.124
		(10.08)		(0.07)		(0.10)
Female	2.860		0.048		-0.068	
	(5.17)		(0.04)		(0.06)	
Male		1.274		0.017		0.001
		(6.16)		(0.04)		(0.07)
Gender:						
Female vs Male		1.586		0.031		-0.069
		(8.05)		(0.06)		(0.09)
Third-level	5.687		0.021		-0.044	
	(5.13)		(0.03)		(0.05)	
Below Third-level		-5.703		0.066		-0.021
		(5.79)		(0.05)		(0.08)
Education: Above vs Below Third-level		11.390		-0.045		-0.024
		(7.73)		(0.06)		(0.10)
High Income	2.674		0.066		-0.028	
	(6.52)		(0.04)		(0.07)	
Low Income		0.866		-0.001		-0.046
		(5.49)		(0.04)		(0.07)
Income: High vs Low		1.808		0.067		0.018
		(8.52)		(0.06)		(0.10)
Employed	-0.448		0.027		-0.058	
	(5.06)		(0.03)		(0.05)	
Not Employed		6.795		0.047		0.031
		(5.90)		(0.05)		(0.10)
Employment: Employed vs Not		-7.244		-0.020		-0.090
		(7.78)		(0.06)		(0.11)
N	1200	1200	1200	1200	443	443
Control Mean: Below 35	355.95	355.95	0.53	0.53	0.67	0.67
Control Mean: Above 35	327.81	327.81	0.29	0.29	0.64	0.64
Control Mean: Female	335.21	335.21	0.37	0.37	0.68	0.68
Control Mean: Male	334.19	334.19	0.33	0.33	0.62	0.62
Control Mean: Below Third-level	327.86	327.86	0.32	0.32	0.58	0.58
Control Mean: Third-level	338.46	338.46	0.36	0.36	0.68	0.68
Control Mean: Low Income	332.83	332.83	0.36	0.36	0.66	0.66
Control Mean: High Income	340.23	340.23	0.36	0.36	0.63	0.63
Control Mean: Not Employed	321.34	321.34	0.25	0.25	0.59	0.59
Control Mean: Employed	341.16	341.16	0.39	0.39	0.67	0.67

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses.

Table A8. Hetergenous Effect of BNPL Availability Based on Financial Characteristics

	Total Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
High Financial Sophistication	3.096		0.048		0.039	
	(4.53)		(0.04)		(0.07)	
Low Financial Sophistication		1.513		0.025		-0.090
		(6.55)		(0.04)		(0.06)
Financial Sophistication: High vs Low		1.583		0.023		0.129
		(7.97)		(0.06)		(0.09)
High Risky Borrower	-0.713		0.009		-0.084	
	(7.54)		(0.05)		(0.06)	
Low Risky Borrower		3.092		0.048		-0.000
		(4.36)		(0.03)		(0.06)
Risky Borrower: High vs Low		-3.805		-0.039		-0.084
		(8.71)		(0.06)		(0.09)
Risk Averse	4.434		0.083**		0.002	
	(6.17)		(0.04)		(0.08)	
Risk-Loving		0.273		-0.005		-0.060
		(5.11)		(0.04)		(0.06)
Risk: Averse vs Loving		4.162		0.087		0.062
		(8.01)		(0.06)		(0.10)
Overconfident	10.786		-0.014		0.088	
	(10.67)		(0.07)		(0.10)	
Not Overconfident		0.170		0.048		-0.067
		(4.20)		(0.03)		(0.05)
Overconfident: Yes vs No		10.616		-0.062		0.155
		(11.47)		(0.07)		(0.12)
More Likely to Use Short-term Credit	4.287		-0.029		-0.061	
	(6.39)		(0.04)		(0.06)	
Less Likely to Use Short-term Credit		-1.922		0.064*		-0.018
		(4.80)		(0.04)		(0.07)
Likelihood to Use Short-term Credit: More vs Less		6.209		-0.092*		-0.043
		(7.99)		(0.06)		(0.09)
N	1200	1200	1200	1200	443	443
Control Mean: High Financial Sophistication	325.95	325.95	0.28	0.28	0.53	0.53
Control Mean: Low Financial Sophistication	344.22	344.22	0.42	0.42	0.73	0.73
Control Mean: Low Risky Borrower Behaviour	349.63	349.63	0.43	0.43	0.75	0.75
Control Mean: High Risky Borrower Behaviour	326.50	326.50	0.30	0.30	0.57	0.57
Control Mean: Risk Averse	330.87	330.87	0.27	0.27	0.57	0.57
Control Mean: Risk Loving	338.08	338.08	0.41	0.41	0.70	0.70
Control Mean: Overconfident	341.71	341.71	0.37	0.37	0.62	0.62
Control Mean: Not Overconfident	333.27	333.27	0.34	0.34	0.66	0.66
Control Mean: More Likely to Use Short-term Credit	341.66	341.66	0.47	0.47	0.72	0.72
Control Mean: Less Likely to Use Short-term Credit	329.92	329.92	0.26	0.26	0.56	0.56

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses.

Table A9. Hetergenous Effect of BNPL Use Based on Demographic Characteristics

	Total Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
Below 35	18.227*		-0.014		-0.242***	
	(10.98)		(0.06)		(0.08)	
Above 35		15.002***		0.114***		-0.172***
		(4.48)		(0.03)		(0.05)
Age:						
Below vs Above 35		3.225		-0.128*		-0.070
		(11.86)		(0.07)		(0.10)
Female	10.390*		0.054		-0.197***	
	(5.60)		(0.04)		(0.06)	
Male		20.571***		0.109***		-0.188***
		(6.71)		(0.04)		(0.07)
Gender:						
Female vs Male		-10.181		-0.056		-0.009
		(8.74)		(0.06)		(0.09)
Third-level	16.646***		0.061*		-0.216***	
	(5.46)		(0.03)		(0.05)	
Below Third-level		8.700		0.113**		-0.139*
		(6.69)		(0.05)		(0.08)
Education: Above vs Below Third-level		7.946		-0.053		-0.077
		(8.63)		(0.06)		(0.10)
High Income	13.746**		0.076*		-0.236***	
	(6.69)		(0.04)		(0.07)	
Low Income		12.278**		0.059		-0.140**
		(6.09)		(0.04)		(0.07)
Income: High vs Low		1.468		0.017		-0.096
		(9.05)		(0.06)		(0.09)
Employed	13.715**		0.042		-0.206***	
	(5.46)		(0.03)		(0.05)	
Not Employed		14.049**		0.149***		-0.139
		(6.46)		(0.05)		(0.10)
Employment: Employed vs Not		-0.334		-0.106*		-0.067
		(8.46)		(0.06)		(0.11)
N	1200	1200	1200	1200	475	475
Control Mean: Below 35	355.95	355.95	0.53	0.53	0.67	0.67
Control Mean: Above 35	327.81	327.81	0.29	0.29	0.64	0.64
Control Mean: Female	335.21	335.21	0.37	0.37	0.68	0.68
Control Mean: Male	334.19	334.19	0.33	0.33	0.62	0.62
Control Mean: Below Third-level	327.86	327.86	0.32	0.32	0.58	0.58
Control Mean: Third-level	338.46	338.46	0.36	0.36	0.68	0.68
Control Mean: Low Income	332.83	332.83	0.36	0.36	0.66	0.66
Control Mean: High Income	340.23	340.23	0.36	0.36	0.63	0.63
Control Mean: Not Employed	321.34	321.34	0.25	0.25	0.59	0.59
Control Mean: Employed	341.16	341.16	0.39	0.39	0.67	0.67

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses.

Table A10. Hetergenous Effect of BNPL Use Based on Financial Characteristics

	Total Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
High Financial Sophistication	11.524**		0.129***		-0.084	
	(5.21)		(0.04)		(0.07)	
Low Financial Sophistication		14.963**		0.019		-0.266***
		(6.65)		(0.04)		(0.06)
Financial Sophistication:						
High vs Low		-3.439		0.110**		0.182**
		(8.45)		(0.06)		(0.09)
High Risky Borrower	7.969		0.051		-0.297***	
	(7.65)		(0.05)		(0.06)	
Low Risky Borrower		17.630***		0.088**		-0.105*
		(5.09)		(0.03)		(0.06)
Risky Borrower:						
High vs Low		-9.661		-0.037		-0.191**
		(9.19)		(0.06)		(0.09)
Risk Averse	15.751**		0.082**		-0.231***	
	(6.74)		(0.04)		(0.07)	
Risk-Loving		13.672**		0.072*		-0.166***
		(5.53)		(0.04)		(0.06)
Risk: Averse vs Loving		2.079		0.011		-0.066
		(8.72)		(0.06)		(0.09)
Overconfident	16.371		0.012		-0.187*	
	(12.06)		(0.07)		(0.11)	
Not Overconfident		14.573***		0.091***		-0.196***
		(4.57)		(0.03)		(0.05)
Overconfident: Yes vs No		1.798		-0.080		0.009
		(12.90)		(0.08)		(0.12)
More Likely to Use Short-term Credit	13.531**		-0.000		-0.293***	
	(6.87)		(0.04)		(0.06)	
Less Likely to Use Short-term Credit		15.085***		0.130***		-0.071
		(5.48)		(0.04)		(0.07)
Likelihood to Use Short-term Credit:						
More vs Less		-1.554		-0.130**		-0.222**
		(8.79)		(0.06)		(0.09)
N	1200	1200	1200	1200	475	475
Control Mean:						
High Financial Sophistication	325.95	325.95	0.28	0.28	0.53	0.53
Control Mean:						
Low Financial Sophistication	344.22	344.22	0.42	0.42	0.73	0.73
Control Mean:						
Low Risky Borrower Behaviour	349.63	349.63	0.43	0.43	0.75	0.75
Control Mean:						
High Risky Borrower Behaviour	326.50	326.50	0.30	0.30	0.57	0.57
Control Mean:						
Risk Averse	330.87	330.87	0.27	0.27	0.57	0.57
Control Mean:						
Risk Loving	338.08	338.08	0.41	0.41	0.70	0.70
Control Mean:						
Overconfident	341.71	341.71	0.37	0.37	0.62	0.62
Control Mean:						
Not Overconfident	333.27	333.27	0.34	0.34	0.66	0.66
Control Mean:						
More Likely to Use						
Short-term Credit	341.66	341.66	0.47	0.47	0.72	0.72
Control Mean:						
Less Likely to Use						
Short-term Credit	329.92	329.92	0.26	0.26	0.56	0.56

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A11. Heterogenous Effect of Future BNPL Availability Based on Demographic Characteristics

	Total Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
Below 35	13.047*		-0.014		-0.137*	
	(6.83)		(0.06)		(0.08)	
Above 35		4.745*		0.091***		-0.022
		(2.84)		(0.03)		(0.06)
Age:						
Below vs Above 35		8.302		-0.106		-0.114
		(7.40)		(0.07)		(0.10)
Female	6.735*		0.084**		-0.034	
	(3.52)		(0.04)		(0.06)	
Male		7.593*		0.040		-0.115
		(4.44)		(0.04)		(0.07)
Gender:						
Female vs Male		-0.858		0.043		0.082
		(5.66)		(0.06)		(0.09)
Third-level	7.080**		0.076**		-0.066	
	(3.41)		(0.03)		(0.05)	
Below Third-level		6.502		0.042		-0.062
		(4.80)		(0.05)		(0.09)
Education: Above vs Below Third-level		0.578		0.034		-0.004
		(5.89)		(0.06)		(0.10)
High Income	0.730		0.053		-0.062	
	(4.42)		(0.04)		(0.07)	
Low Income		11.593***		0.042		-0.070
		(3.99)		(0.04)		(0.07)
Income: High vs Low		-10.863*		0.011		0.008
		(5.96)		(0.06)		(0.09)
Employed	4.861		0.046		-0.080	
	(3.56)		(0.03)		(0.05)	
Not Employed		10.216**		0.095*		0.006
		(3.97)		(0.05)		(0.10)
Employment: Employed vs Not		-5.355		-0.050		-0.086
		(5.33)		(0.06)		(0.11)
N	1200	1200	1200	1200	457	457
Control Mean: Below 35	235.14	235.14	0.53	0.53	0.67	0.67
Control Mean: Above 35	222.68	222.68	0.29	0.29	0.64	0.64
Control Mean: Female	224.36	224.36	0.37	0.37	0.68	0.68
Control Mean: Male	227.43	227.43	0.33	0.33	0.62	0.62
Control Mean: Below Third-level	224.14	224.14	0.32	0.32	0.58	0.58
Control Mean: Third-level	226.62	226.62	0.36	0.36	0.68	0.68
Control Mean: Low Income	222.27	222.27	0.36	0.36	0.66	0.66
Control Mean: High Income	232.56	232.56	0.36	0.36	0.63	0.63
Control Mean: Not Employed	217.11	217.11	0.25	0.25	0.59	0.59
Control Mean: Employed	229.88	229.88	0.39	0.39	0.67	0.67

Notes: Dependent variables: Debit Spending - total amount spend by participant in first two rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses.

Table A12. Hetergenous Effect of Future BNPL Availability Based on Financial Characteristics

	Debit Spending		Purchase of additional discretionary product		Use BNPL for purchasing discretionary product	
	(1)	(2)	(3)	(4)	(5)	(6)
High Financial Sophistication	5.543*		0.086**		0.027	
	(3.17)		(0.04)		(0.07)	
Low Financial Sophistication		7.625*		0.038		-0.121**
		(4.49)		(0.04)		(0.06)
Financial Sophistication: High vs Low		-2.082		0.048		0.148
		(5.50)		(0.06)		(0.09)
High Risky Borrower	5.114		0.018		-0.136**	
	(5.44)		(0.05)		(0.06)	
Low Risky Borrower		7.198**		0.090***		0.002
		(2.92)		(0.03)		(0.06)
Risky Borrower: High vs Low		-2.084		-0.072		-0.138
		(6.18)		(0.06)		(0.09)
Risk Averse	11.588***		0.097**		-0.071	
	(4.41)		(0.04)		(0.08)	
Risk-Loving		3.065		0.040		-0.044
		(3.49)		(0.04)		(0.06)
Risk: Averse vs Loving		8.523		0.057		-0.027
		(5.62)		(0.06)		(0.09)
Overconfident	9.910		0.023		-0.038	
	(7.83)		(0.07)		(0.11)	
Not Overconfident		6.196**		0.076**		-0.068
		(2.90)		(0.03)		(0.05)
Overconfident: Yes vs No		3.713		-0.053		0.030
		(8.35)		(0.07)		(0.12)
More Likely to Use Short-term Credit	6.443		0.004		-0.105*	
	(4.96)		(0.04)		(0.06)	
Less Likely to Use Short-term Credit		7.255**		0.109***		0.008
		(3.12)		(0.03)		(0.07)
Likelihood to Use Short-term Credit: More vs Less		-0.812		-0.105*		-0.113
		(5.86)		(0.06)		(0.09)
N	1200	1200	1200	1200	457	457
Control Mean: High Financial Sophistication	221.29	221.29	0.28	0.28	0.53	0.53
Control Mean: Low Financial Sophistication	230.55	230.55	0.42	0.42	0.73	0.73
Control Mean: Low Risky Borrower Behaviour	235.51	235.51	0.43	0.43	0.75	0.75
Control Mean: High Risky Borrower Behaviour	220.34	220.34	0.30	0.30	0.57	0.57
Control Mean: Risk Averse	224.84	224.84	0.27	0.27	0.57	0.57
Control Mean: Risk Loving	226.53	226.53	0.41	0.41	0.70	0.70
Control Mean: Overconfident	231.14	231.14	0.37	0.37	0.62	0.62
Control Mean: Not Overconfident	224.61	224.61	0.34	0.34	0.66	0.66
Control Mean: More Likely to Use Short-term Credit	233.20	233.20	0.47	0.47	0.72	0.72
Control Mean: Less Likely to Use Short-term Credit	220.54	220.54	0.26	0.26	0.56	0.56

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A13. Hetergenous Effect of Disclosures Based on Demographic Characteristics

	Comprehension Score		Total Spending		BNPL Use		Purchase Discretionary Product		Use BNPL for Purchasing Discretionary Product	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Below 35	0.030		15.160		0.002		0.089		0.002	
	(0.04)		(10.62)		(0.04)		(0.06)		(0.09)	
Above 35		0.060***		-1.108		0.010		-0.004		0.023
		(0.02)		(4.32)		(0.02)		(0.03)		(0.05)
Age:										
Below vs Above 35		-0.030		16.269		-0.008		0.092		-0.021
		(0.05)		(11.46)		(0.04)		(0.07)		(0.10)
Female	0.062**		-1.107		0.022		-0.034		0.010	
	(0.03)		(5.31)		(0.02)		(0.04)		(0.06)	
Male		0.048*		5.288		-0.007		0.078*		0.031
		(0.03)		(6.63)		(0.03)		(0.04)		(0.07)
Gender:										
Female vs Male		0.014		-6.395		0.029		-0.112**		-0.021
		(0.04)		(8.51)		(0.04)		(0.06)		(0.09)
Third-level	0.042*		-1.597		0.005		0.035		-0.005	
	(0.02)		(5.29)		(0.02)		(0.03)		(0.05)	
Below Third-level		0.088***		7.466		0.020		-0.035		0.063
		(0.03)		(6.28)		(0.03)		(0.05)		(0.08)
Education: Above vs Below Third-level		-0.045		-9.063		-0.016		0.070		-0.068
		(0.04)		(8.21)		(0.04)		(0.06)		(0.10)
High Income	0.023		2.145		0.020		-0.000		0.015	
	(0.03)		(6.53)		(0.03)		(0.04)		(0.06)	
Low Income		0.068**		-0.975		-0.013		0.025		0.030
		(0.03)		(5.89)		(0.03)		(0.04)		(0.06)
Income: High vs Low		-0.045		3.120		0.033		-0.025		-0.015
		(0.04)		(8.80)		(0.04)		(0.06)		(0.09)
Employed	0.033		2.190		0.016		0.008		0.001	
	(0.02)		(5.13)		(0.02)		(0.03)		(0.05)	
Not Employed		0.113***		-0.032		-0.007		0.024		0.068
		(0.03)		(6.77)		(0.03)		(0.05)		(0.09)
Employment: Employed vs Not		-0.079*		2.222		0.023		-0.016		-0.066
		(0.04)		(8.49)		(0.04)		(0.06)		(0.10)
N	1201	1201	1201	1201	1201	1201	1201	1201	474	474
Control Mean: Below 35	0.52	0.52	352.87	352.87	0.19	0.19	0.44	0.44	0.54	0.54
Control Mean: Above 35	0.59	0.59	332.04	332.04	0.22	0.22	0.37	0.37	0.64	0.64
Control Mean: Female	0.55	0.55	338.07	338.07	0.20	0.20	0.41	0.41	0.61	0.61
Control Mean: Male	0.61	0.61	335.47	335.47	0.22	0.22	0.34	0.34	0.62	0.62
Control Mean: Below Third-level	0.56	0.56	322.15	322.15	0.20	0.20	0.39	0.39	0.56	0.56
Control Mean: Third-level	0.58	0.58	344.15	344.15	0.21	0.21	0.38	0.38	0.64	0.64
Control Mean: Low Income	0.54	0.54	333.70	333.70	0.23	0.23	0.36	0.36	0.61	0.61
Control Mean: High Income	0.62	0.62	342.91	342.91	0.19	0.19	0.43	0.43	0.60	0.60
Control Mean: Not Employed	0.53	0.53	328.14	328.14	0.21	0.21	0.30	0.30	0.62	0.62
Control Mean: Employed	0.59	0.59	340.71	340.71	0.21	0.21	0.42	0.42	0.61	0.61

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parentheses.

Table A14. Hetergenous Effect of Disclosures Based on Financial Characteristics

	Comprehension Score		Total Spending		BNPL Use		Purchase Discretionary Product		Use BNPL for Purchasing Discretionary Product	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
High Financial Sophistication	0.036		2.591		0.004		0.034		0.023	
	(0.03)		(4.90)		(0.02)		(0.04)		(0.07)	
Low Financial Sophistication		0.080***		-0.638		0.004		-0.015		0.015
		(0.03)		(6.71)		(0.03)		(0.04)		(0.06)
Financial Sophistication: High vs Low		-0.043		3.230		0.001		0.049		0.008
		(0.04)		(8.33)		(0.04)		(0.06)		(0.09)
High Risky Borrower	0.086***		-2.474		0.010		0.027		-0.032	
	(0.03)		(7.54)		(0.03)		(0.05)		(0.06)	
Low Risky Borrower		0.039		4.148		0.010		0.005		0.058
		(0.02)		(4.78)		(0.02)		(0.03)		(0.06)
Risky Borrower: High vs Low		0.047		-6.622		-0.000		0.023		-0.090
		(0.04)		(8.93)		(0.04)		(0.06)		(0.09)
Risk Averse	0.070**		4.766		0.019		0.008		-0.002	
	(0.03)		(6.67)		(0.03)		(0.04)		(0.07)	
Risk-Loving		0.044*		-0.867		0.000		0.014		0.027
		(0.02)		(5.28)		(0.02)		(0.04)		(0.06)
Risk: Averse vs Loving		0.026		5.633		0.019		-0.006		-0.029
		(0.04)		(8.50)		(0.04)		(0.06)		(0.09)
Overconfident	0.151***		-7.453		-0.014		0.008		-0.216**	
	(0.05)		(11.51)		(0.04)		(0.06)		(0.11)	
Not Overconfident		0.035*		3.721		0.015		0.013		0.065
		(0.02)		(4.37)		(0.02)		(0.03)		(0.05)
Overconfident: Yes vs No		0.115**		-11.174		-0.029		-0.005		-0.282**
		(0.05)		(12.31)		(0.05)		(0.07)		(0.12)
More Likely to Use Short-term Credit	0.055**		-1.829		0.017		-0.007		0.004	
	(0.03)		(6.35)		(0.03)		(0.04)		(0.06)	
Less Likely to Use Short-term Credit		0.057**		4.486		-0.002		0.030		0.039
		(0.03)		(5.22)		(0.02)		(0.04)		(0.07)
Likelihood to Use Short-term Credit: More vs Less		-0.002		-6.316		0.019		-0.038		-0.034
		(0.04)		(8.22)		(0.04)		(0.06)		(0.09)
N	1201	1201	1201	1201	1201	1201	1201	1201	474	474
Control Mean: High Financial Sophistication	0.59	0.59	329.04	329.04	0.13	0.13	0.33	0.33	0.57	0.57
Control Mean: Low Financial Sophistication	0.55	0.55	345.73	345.73	0.29	0.29	0.45	0.45	0.64	0.64
Control Mean: Low Risky Borrower Behaviour	0.60	0.60	348.91	348.91	0.28	0.28	0.44	0.44	0.66	0.66
Control Mean: High Risky Borrower Behaviour	0.56	0.56	329.59	329.59	0.16	0.16	0.35	0.35	0.57	0.57
Control Mean: Risk Averse	0.53	0.53	335.30	335.30	0.18	0.18	0.35	0.35	0.57	0.57
Control Mean: Risk Loving	0.60	0.60	338.35	338.35	0.23	0.23	0.41	0.41	0.64	0.64
Control Mean: Overconfident	0.51	0.51	352.50	352.50	0.24	0.24	0.36	0.36	0.71	0.71
Control Mean: Not Overconfident	0.59	0.59	333.44	333.44	0.20	0.20	0.39	0.39	0.59	0.59
Control Mean: More Likely to Use Short-term Credit	0.60	0.60	345.95	345.95	0.26	0.26	0.45	0.45	0.66	0.66
Control Mean: Less Likely to Use Short-term Credit	0.55	0.55	327.99	327.99	0.15	0.15	0.32	0.32	0.54	0.54

Notes: Dependent variables: Total Spending - total amount spend by participant in three rounds of shopping; Purchase Discretionary Product - Binary variable indicating if the participant purchases discretionary product; Use BNPL for discretionary product purchase - Binary variable indicating if the participant purchases discretionary product using BNPL. * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

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