"The Effect of Credit Advertising on Subprime Borrowing Outcomes

Among Low-Income Households"

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The disparities in financial outcomes and access to credit between the poor and the non-poor have been widely documented. For example, relative to the non-poor, the poor are more likely to repeatedly borrow at high interest rates and use high-interest credit products such as payday loans, to be liquidity-constrained and have limited access to formal credit, have bills sent to third party collection agencies due to non-payment, and be categorized as high-risk or sub-prime borrowers.[1] These differences in the use of and access to credit can have profound welfare effects on low-income individuals and impede their ability to invest in their future and in their children, potentially limiting intergenerational economic mobility and further entrenching poverty.

A major concern for these disparities is the potential targeting of low-income households with subprime lending products. Comprehensive surveys[2] show that financial literacy levels are lowest among poor and minority households, making them naturally more vulnerable to deceptive advertising of high-risk credit products. In the aftermath of the housing crisis, several lawsuits arose alleging that lenders misled low-income and minority families into borrowing expensive high-risk mortgages.[3] Follow up studies on the subprime mortgage market have found evidence that lenders expanded more quickly across subprime zip codes and sold more expensive products to high-risk borrowers (Mian and Sufi, 2009; Gurun et al. 2016). While these results suggest lenders play a role in high-risk credit decisions across vulnerable populations, examining the effect of advertising on borrowing decisions is nearly impossible without comprehensive direct data on both advertising and household credit decisions. Uncovering these effects can have profound policy implications, however, on how or whether these subprime credit markets should be regulated.[4]

In this paper, we aim to evaluate the role of advertising of subprime credit products on household borrowing behaviors by combining Nielsen's advertising expenditure and impressions/ratings data ("ad intel data") with a comprehensive panel of household borrowing decisions. Specifically, we propose combining the ad intel data from Nielsen with a large, national panel of credit bureau data from Experian and new alternative lending administrative data from Clarity Services. Experian credit report data contain several hundreds of variables describing credit market interactions including credit limit, debt by type (credit card, auto loan, mortgage, student loans, etc), delinquency (30, 60, 90, and 120+ days past due), and unpaid bills (such as medical

[1] See, for example, Rhine, Greene and Toussaint-Comeau (2006), Dobbie and Skiba (2013), Brevoort, Grimm and Kambara (2015), Adams, Einav, and Levin (2009), and Finkelstein et al (2012).
[2] See Lusardi and Mitchell (2007).
[3] For example, in October 2012, ACLU filed a lawsuit against Morgan Stanley for targeting African-Americans with subprime mortgages. In July 2012, Wells Fargo was fined $85 million by the Federal Reserve Board for subprime targeting.
[4] The FDIC and FTC implemented regulations specifically on mortgage advertising in 2008 and 2011 respectively.

or utility bills) under third party collection. The Experian credit report data thus includes not only mortgage loan decisions, but also a complete profile of borrowing decisions for any loan application that requires a standard credit check. Data from Clarity Services provides an even further extensive picture into any alternative forms of credit that are common among long income borrowers such as payday borrowing, returned checks, use of rent-to-own credit, check cashing, and defaults on any short-term loans (both storefront and online).

We propose combining these two data sources to evaluate the impact of advertising for loan products on utilization of such products and consumers' financial health. We propose two empirical strategies to identify the effect of advertising on consumers' financial choices. First, we will rely on the zip-code level information contained in the Experian/Clarity credit report data to evaluate consumers in zip codes that border designated market areas (DMA) in a spatial regression discontinuity model. Two consumers may live in similar areas but experience significantly different exposure to advertisement based on their location relative to the DMA border. This approach is similar to, e.g., Shapiro (2015) and Spenkuch and Toniatti (2015). Second, we will examine policy shock that likely affected loan advertising that occurred on October 1, 2007: the Military Lending Act (MLA). This law prohibited the lending to active duty service members, their spouses, and dependents with interest rates above 36 percent. This cap likely reduced advertising for subprime loan services in DMAs with large active military populations, particularly those with high population bases. For consumers living far from the military base, access to payday loans was unlikely to be directly affected, but by virtue of being grouped within the same DMA as the base, they may have experienced a change in advertising exposure as a result of the law. We will use this law as a negative shock to subprime loan advertising for consumers that live in a different county, but within the same DMA, as a large military base.[5] We plan to embed this variation in a difference-in-differences framework, using consumers bordering the affected DMA as a comparison group.

Data Sources and Specific Aims

In this proposal, we request the use of Nielsen ad intel data for the "Misc Financial Inst. Services & Products" brands (PCC B159) with quarterly information on DMA, expenditure, and impressions/ratings for brands in these categories.

We will combine this data with our own panel data purchased from the credit bureau Experian. Our data contain 5 million randomly-selected individuals that we observe in 2001 and 2006-2016.[6] These data contain extensive information on borrowing and delinquency, as well as data

[5] Specifically, we will evaluate those living within the DMAs of the 5 largest military bases in the United States: Fort Bragg, Fort Campbell, Fort Hood, Fort Lewis, and Fort Benning. All of these bases have populations of over 200,000, with the exception of Fort Benning, that has a population of 107,627.

[6] If we are selected for a Nielsen project, we will try to extend this to cover 2001-2016 in order to have a sufficient pre-period to evaluate the MLA. We anticipate we should be able to do this with internal funds.

on third party collection efforts (e.g., for utility or hospital bills). They also contain zip code of residence for the individual. The panel tracks individuals over time based on their social security number, so we can observe individuals even if they move to different DMAs.

The Experian panel is linked at the individual by year level to data on "alternative" borrowing through Clarity Services, a credit bureau that specializes in alternative/subprime markets. The Clarity data contain information on check cashing services, title loans, storefront and online payday loans, rent-to-own and similar services for 2009 through 2016. We will attempt to expand this panel to earlier years if we are selected for a Nielsen project.

Evaluating these data sources will allow us to answer two specific questions:

1. **Is advertising of subprime credit products concentrated among low-income and minority neighborhoods?** We will begin by providing descriptive evidence of the neighborhood characteristics that are predictive of advertisement targeting for different sub categories. This will allow us to establish stylized facts about where financial intermediaries target advertising dollars for different products.
2. **Does greater exposure of subprime credit advertising lead to greater take-up of high-risk or high cost credit products, or lower credit worthiness?** Using the two strategies described above (DMA border spatial regression discontinuity and differences-in-differences using the MLA), we will estimate the causal impact of exposure to advertisements for financial services on financial well-being for individuals in our Experian panel as measured by delinquencies, debt, and third party collections. Using the DMA border spatial regression discontinuity strategy, we will also assess how exposure to advertisement affects the use of alternative, high-cost lending products such as title and payday loans.

Research Team

The investigative team consists of Dr. Sarah Miller (University of Michigan Ross School of Business and NBER) and Dr. Cindy Soo (University of Michigan Ross School of Business). This team is highly qualified and has substantial experience using the data and methods of the proposed research. Dr. Miller has conducted analysis on credit market outcomes among low-income individuals and its relationship to participation in Medicaid. Dr. Soo specializes in the role of media in household financial decisions and household finance topics more generally, and has published work on financial literacy and household financial well-being using large-scale data.

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