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Credit standards in the PLUS student loan program: Examining access and equity

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Introduction

In the United States, college students and their families borrow nearly $100 billion annually from the federal government (Baum et al., 2018). A growing portion of this federal debt is borrowed by students' parents and by graduate students through the PLUS Loan Program. A key distinction of the PLUS program relative to most other federal student loan programs is that borrowers must pass a special credit check in order to be eligible for PLUS loan credit. The credit check is based on an individual's "adverse credit history," or negative events such as bankruptcy, collections, or delinquency on existing loans. Over the past ten years, the standards used to determine whether a prospective borrower has an adverse credit history for PLUS loans have substantively changed twice. In 2011, an administrative correction to an error in the application of the standards resulted in stricter standards for many families. In 2014, these stricter standards were partially relaxed. In this report, we examine the potential implications of these changes and adverse credit standards more generally, highlighting the tradeoffs between the stringency of the standards and access to credit, particularly among students from underrepresented sociodemographic groups.

One reason the federal government offers publicly subsidized student loan programs is to guard against a potential underinvestment in postsecondary education because of credit constraints. Prior to the federal government's entry into the student loan market, students who needed to borrow to finance postsecondary education expenses would typically seek funds from private sources, such as non-governmental financial institutions or family and friends. But, because the "asset" financed with a student loan (i.e., human capital) cannot be used to secure the loan, there are limited recovery options for the lender in the event of debtor default, making it costly for lenders to lend to prospective students and limiting the amount of private credit available to students. Moreover, credit from private lenders is typically most accessible to applicants with robust, unblemished credit records, something that many students and their families do not tend to have (e.g., Darolia & Ritter, 2019). Since research consistently demonstrates that college improves social welfare beyond the private returns to the student (e.g., Avery & Turner, 2012; Card, 1999; Oreopolous & Salvanes, 2011; Moretti, 2004; Wolfe & Haveman, 2003), limited access or high costs of borrowing can lead individuals to attend college at a lower rate than is socially optimal.

For these reasons, access to, and the price of, credit in most of the largest federal student loan programs do not depend on borrower characteristics or expected default risk criteria as long as an applying student attends an eligible institution. The PLUS loan program is an exception to this, where only those without an "adverse credit history" gain access to PLUS credit. Government officials have defended credit standards in the PLUS program as being necessary to protect taxpayers and students (Nelson, 2012). Another justification for conditioning access to

Parent PLUS loans is that the Parent PLUS loan borrower (i.e., the parent) does not see a direct return on their investment. Rather, it is their children who accrue the gains from education in enhanced human capital and higher earnings, and so parents themselves are unlikely to receive an income boost directly as a result of taking on the parent debt.

Nonetheless, the adverse credit standards in the PLUS loan program potentially lead to credit constraints that necessitate more burdensome financing options or deter students from seeking higher education. If these constraints are not evenly distributed among students and prospective students, PLUS loans could exacerbate inequalities in access to postsecondary education. Additionally, if parents—who do not directly benefit from the earnings gains from education—cannot repay their PLUS loans, the intergenerational family as a whole could be worse off even while expanding access for students. On the other hand, if students obtain education of sufficiently high value, parents' repayment challenges might be worthwhile for the family unit as a whole. Taken together, these considerations – and others – illustrate the complexity of designing reasonable parent loan programs. Our paper contributes to an increased understanding of some of the tradeoffs involved.

We first describe the changes in credit standards implemented in 2011 and 2014 and their implications for borrowing and access to credit, focusing on high poverty and high share non-white Census tracts. We then use a nationally representative sample of anonymized credit bureau records to explore the implications of adverse credit standards in the PLUS loan program. We cannot identify PLUS loans in the data with precision, so we use age as a proxy for loans taken out by parents of undergraduate students. We ask how various standards applied individually and in conjunction with each other would affect the proportion of individuals who appear to fail that standard based on the presence of negative events in their credit files. We end with analyses that consider how a number of simple, hypothetical stringency standards and borrowing limits might affect access to federal student and parent credit. We caution that are not recommending these alternatives but merely illustrating their challenges and consequences.

Our findings reveal a tension between stricter standards and potential access to credit in the PLUS loan program. As credit standards were tightened in 2011, fewer consumers living in areas with high poverty, high shares of non-white residents, and high shares of Black residents were likely to have access to that credit, potentially exacerbating inequities in access to higher education. Our analysis of hypothetical policy proposals suggests that capping PLUS loan amounts might provide a more equitable approach to balancing risk and access than relying on adverse credit standards. Such caps may help some students and their families avoid burdensome debt balances but may still push some borrowers toward more expensive forms of credit or students to pursue less education. We note that while our analysis focuses on access to credit,

the full welfare implications of adverse credit restrictions and borrowing caps are unclear without additional analyses of the repayment and educational outcomes of marginal borrowers, especially in relation to alternatives potentially available in the broader higher education finance system.

Background and context

The federal government is currently the largest provider of student loan credit in the United States, accounting for about 90 percent of the approximately $110 billion disbursed each year (Baum et al., 2018). Most federal student loan programs offer relatively attractive terms and conditions. For example, there are effectively no underwriting criteria under the largest federal student loan program, Stafford Loans, as long as an applying student attends an eligible institution. In other words, a student's loan approval does not depend on borrower characteristics or individual expected default risk. It is also typical that interest rates in federal student loan programs are subsidized and do not vary with a student's risk of default. Some federal loan programs also offer benefits such as the ability to postpone or reduce payments and/or interest accrual during times of college enrollment or hardship, or access to flexible payment plans such as income-based repayment.

Graduate and professional students can borrow federal student loan moneys through only some federal loan programs, including unsubsidized Stafford loans and the Direct PLUS loan program (commonly referred to as "Grad PLUS"). Funds through the PLUS loan program are also accessible to parents of undergraduate students (commonly referred to as "Parent PLUS" – the "PLUS" acronym originally stood for "Parent Loans for Undergraduate Students"). The program was created as part of the 1980 reauthorization of the Higher Education Act (HEA), with the goal of providing liquidity to parents who might not be able to meet their "Expected Family Contribution" (EFC) under federal student aid programs (Baum, Blagg, & Fishman, 2019). Up until 2010, PLUS loans could be originated under two different programs: the Direct Loan program, where loans were issued by the Department of Education (as all loans are today), and the Federal Family Education Loan (FFEL) program, where loans were issued by banks but backed by the government. The terms, conditions, and credit standards for PLUS loans were supposed to be the same under both programs and for the most part, they were. However, as we describe in detail in the next section, the credit standards under these two programs diverged for a period of time, while all other terms remained the same (Fishman 2018).

Parent PLUS loans allow biological, adoptive, and in some cases, stepparents, to borrow PLUS loans for a dependent undergraduate student enrolled at least half time at an eligible school.[1] When the program began, PLUS loans had a cap of $3,000 and no credit check, but the 1992 HEA reauthorization generated important changes to the PLUS program that remain in place today. Most importantly, the $3,000 borrowing cap was lifted and adverse credit standards were instituted.

Unlike Direct Loans for undergraduate students, today, PLUS loans have no universal annual or cumulative maximum; instead, parents and graduate students can borrow up to the cost of attendance, less other financial assistance. Since tuition, fees, books, transportation, room and board, and other living expenses count toward the cost of attendance, PLUS loan borrowers face caps on borrowing that have been criticized as too expansive (e.g., Kreighbaum, 2019). Interest rates are fixed over the life of the loan, but PLUS loans generally have higher interest rates than other federal student loan programs and they also come with an origination fee. For example, for the 2019-2020 academic year, PLUS loans had an interest rate of 7.08%, as compared with 4.53% for Direct subsidized and unsubsidized loans for undergraduate students and 6.08% for Direct loans for graduate or professional students.

Another central element of the PLUS loan program that distinguishes it from other federal aid programs is that potential borrowers must pass a specific credit check in order to be eligible. In response to growing borrowing in the PLUS loan program, US Department of Education officials argued that adopting credit standards reflects a commitment "to managing taxpayer dollars and to ensuring that families aren't taking on debt beyond what they can afford" (Nelson, 2012). There are some ways around the restrictions for savvy borrowers; for example, a borrower can get a cosigner who does not have an adverse credit history, or they may apply for an exemption based on documented extenuating circumstances. We detail the recent changes to these adverse credit standards and then explore their implications in the next sections. Of particular concern is that the adverse credit constraints—and successful appeals—are not equitably distributed among students and prospective students: we investigate this concern further below.

In Figure 1, we display federal student loan dollars disbursed from 2000-01 to 2017-18, by loan program and by whether the money was disbursed for undergraduate (UG) or graduate (GR) student expenses. Nearly $24 billion in PLUS loan funds were disbursed in the most recent year, an increase of over 70% from a decade earlier, comprised of about $13 billion disbursed to parents and almost $11 billion to graduate students. PLUS loans share of all federal loan

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1. Grandparents and guardians are ineligible for parent PLUS loans unless they have legally adopted the dependent student. There are other basic eligibility requirements for qualifying for federal aid, such as qualifying based on nationality (see https://studentaid.ed.gov/sa/resources/eligibility-text).

disbursements have also grown over time, growing from about 14 percent of disbursements in the 2008-2009 academic year to about 25 percent in the 2017-2018 academic year. Average annual loan amounts per borrower in the Parent ($16,408) and Grad PLUS ($24,782) programs are relatively higher than other federal loan programs, such as the Stafford program which has annual and cumulative loan limits ($8,767 total including subsidized and unsubsidized loans) (Baum et al., 2019). In total in 2017-18, about 416,000 graduate students took out Grad PLUS loans and 779,000 parents of undergraduates borrowed under Parent PLUS (Baum et al., 2018, p.17).

PLUS loan take up varies by sector, with higher take up in private institutions—particularly for-profits—relative to publics. As of 2015-16 (the latest year for which data are available), the parents of about 15% of dependent degree and certificate recipients had borrowed PLUS loans. Among private college graduates, the analogous figure is 32% for for-profit students and 23% for nonprofit students. Take up in public institutions is much lower, with just 3% public two-year students graduating with parent PLUS loans and 17% among students leaving four-year publics (Baum et al., 2019, p.24). Interest rates and amounts are also much higher among bachelor's degree recipients than for dropouts and sub-baccalaureate students. Among dependent students who eventually received a bachelor's degree, 20% of parents had borrowed a PLUS loan at some point during the student's undergraduate years, with average amounts borrowed among this group of $36,800 (Baum et al., 2018, p. 18).

Adverse credit standards in the PLUS loan program

In Table 1, we document adverse credit standards in the PLUS loan program and their changes over time. Historically, PLUS loan applicants were considered to have an adverse credit history—and therefore ineligible—if they had outstanding delinquent loan balances (defined as 90 or more days past due), had been subject to a default determination, had discharged debts in bankruptcy, experienced a foreclosure or repossession, were subject to a tax lien or wage garnishment, or had a lease or contract terminated in the past 5 years. Importantly, the regulations also stipulated that applicants should be denied if they had loans that were charged off or in collections.[2]

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2. A borrower could still potentially qualify for the loan if they agreed to loan counseling and either obtained a cosigner (called an "endorser") who did not have an adverse credit history or if they applied for an exemption based on documented extenuating circumstances.

However, the standards for collections and charge-offs were not uniformly applied. PLUS loans originated by banks under the FFEL program adhered to the standards. Anecdotal evidence suggests that some banks adopted even more stringent credit standards – an option allowed under the statute (Kantrowitz 2009). In contrast, PLUS loans that were originated by the Department of Education under the Direct Loan program were mistakenly approved for parents with charge-offs and collections (Fishman 2018) even though those borrowers were 90 or more days past due on loans in collections or charged off. The result was that, in 2007-2008, an estimated 42 percent of applicants for parent PLUS loans through the FFEL program were denied, compared with just 21 percent for Direct Loans (Kantrowitz 2009). This high denial rate suggests that many applicants may not have understood, or were not aware of, the underwriting restrictions – otherwise many of these applicants presumably would not have applied. On the other hand, some may have applied (or been encouraged by their college to apply) due to the possibility of an appeal, exception, We draw our data from a nationally representative, 5% sample of anonymized credit bureau records from the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP) in our analysis. To allow for 5-year lookbacks for many of the adverse credit criteria (e.g. bankruptcy), we examine a period from the first quarter of 2008 through the fourth quarter of 2017 (or second quarter of 2018, for analyses through academic year 2017-2018). For computational efficiency, we restrict our attention to a 2% subsample of the CCP (a 0.1% random sample of the overall credit bureau population), representing nearly 270,000 credit file observations per quarter.

We cannot identify PLUS loans in the data with precision, so we use age as a proxy since PLUS loans are taken out by parents and graduate students. For this analysis with a focus on Parent PLUS loans, we largely restrict our analysis to those who are 45 or older at the time of a new student loan origination. Our proxy for PLUS lending is thus measured with error; for example, we miss Parent PLUS loans originated by those under 45 years old that care for college-age dependents and include non-PLUS student loans originated by older debtors. Our sample of student loan borrowers 45 or older also likely includes private loan borrowers. Nonetheless, we believe the age proxy allows us to identify a reasonable sample of PLUS loan debtors.[3]

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3. We believe that our sample of consumers aged 45 or older with new student loans consists primarily of Parent PLUS borrowers and private loan borrowers/co-signers. In our data, approximately $22 billion loans were originated to individuals age 45 or older in 2017. The MeasureOne private loan market analysis reports approximately $12 billion originated by private lenders. In that same year, the Department of Education reports originations of $13 billion under Parent PLUS and $10 billion under Grad PLUS. Separately, the Department of Education reports approximately $15 billion originated to borrowers 35 and older (under any program), which leads us to believe that most of the $15 billion to borrowers 35 and older consists of Parent PLUS loans. Therefore, we conclude that most of the $22 billion in 2017 annual originations in our data is a blend of Parent PLUS and private loans, and only a small share of Parent PLUS loans belongs to those younger than 45.

or potential eligibility for additional other types of loans if their parents were denied a PLUS loan.

In July of 2010, the FFEL program was eliminated and federal student lending under this program was switched to Direct Loans, resulting in more PLUS loan approvals. In 2010-11, the first year when all Parent PLUS loans were Direct Loans, the Department of Education approved 72 percent of applicants and denied 28 percent (Nelson 2012).

In November of 2011, the Department of Education discovered the discrepancy and clarified the adverse credit standard. We list the "new" (or newly implemented) standard in column (4) of Table 1. The intention was to bring the standard in line with the previous definition of adverse credit history under FFEL that had not been implemented in practice for Direct Loans:

> Specifically, the Department determined that PLUS loan applicants who had debts that were in collection or charged off were passing the adverse credit history check even though these applicants were 90 or more days delinquent on a debt, which constitutes an adverse credit history under the Department's regulations. Once the inconsistency was identified, the Department modified its procedures in November 2011 so that borrowers with debts in collection or which were charged off would be considered to have an adverse credit history. (Federal Register 2014, p. 46641)

The result was that any accounts charged off or in collections in the past five years would now count against applicants for PLUS loans, if not repaid (Nelson, 2012). The change was made quietly, but it had a big impact: denials for PLUS loans jumped to 38 percent in 2011-12 and some Historically Black Colleges and Universities (HBCUs) reported even sharper increases in denials. For example, at Philander Smith College, an HBCU in Arkansas, denials reportedly jumped 75% that year (Nelson 2012). We assess the implications of this 2011 administrative change for equity and access in the next sections.

In 2014, standards were once again altered, as shown in column (5). The change was a response to heavy lobbying by HBCUs and was designed to exempt low-balance charge-offs and collections (Stratford 2014). Specifically, borrowers with accounts 90 days or more past due, or that were placed in collections or charged off within the past two years—but with combined balances below (or equal to) a threshold of $2,085—would no longer be barred from accessing PLUS loans. The $2,085 threshold reflected the estimated median debt level for all debts placed in collections or charged off within two years or more than 90 days delinquent, from all parent

PLUS loan denials based on credit checks conducted in 2012-13. It also reflected "current operational practice" in the appeals process (Federal Register 2014, p. 46645).[4]

Data

Descriptive statistics

In Table 2, we detail the credit profile characteristics of debtors in our most recent period (as of the 4th quarter of 2017). To provide a sense of credit quality across different groups, we display measures for all consumers in our sample, all student loan debtors, debtors age 45 or over with student loan debt, and finally, those who originated student loans after age 45 and therefore most likely to be PLUS loan borrowers. The first row shows the mean Equifax Risk Score ("Risk Score") for each group. The Risk Score is a form of a credit score, ranging from roughly 280-850, with larger numbers signifying less risk or more credit-worthiness.[5] Student loan debtors, as a total group, generally have worse credit profiles than the averages of the total consumer group. The mean Risk Score for student loan debtors in our sample is 643 (column 2), compared with 702 among all consumers in the first column. Student loan debtors are also more likely to have a Risk Score less than 620 and less likely to have a Risk Score greater than 720 but have relatively similar bankruptcy rates (3% vs. 4%). Part of the reason for their relatively poorer credit profiles is because of debtor age, as the student loan debtors are on average younger (37) than the average age among all consumers in the sample (52).

Considering student loan debtors age 45 and over, the older consumers (column 3) and the older student loan originators (column 4) have better Risk Scores on average and are slightly less likely to be currently or ever delinquent on their student loan debt than all student debtors (column 2), although they are more likely to ever have had a bankruptcy. Average outstanding student loan debt is considerably higher among the three groups of student loan borrowers, ranging from about $22,700 to $36,700, than for all consumers. Although the age of borrowers is different by construction, the age of newest student loan across groups is quite similar across all categories of borrowers in columns (2)-(4). In the bottom three rows, we see that the average

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4. The threshold rises with inflation, based on the Consumer Price Index for all urban consumers.

5. The Equifax Risk Score relies on a proprietary algorithm to predict the likelihood of a consumer becoming 90+ days delinquent within 24 months. The algorithm takes into account the consumer's length of credit history, depth of credit information, and delinquency history, but not personal or demographic characteristics (such as gender or race) of the consumer. Generally speaking, although the Risk Score uses a distinct algorithm compared with other credit scores, it broadly aligns with other mainstream scores – such as the FICO score – in terms of share of consumers in generally accepted score ranges.

Census tract proportion non-white race/ethnicity, proportion Black, and proportion in poverty are similar across all groups, at about 37%, 12%, and 10%, respectively.

Analysis sample and interpretation

Our main analysis sample includes all consumers age 45 or older. Using age as a criterion allows us to create a stable group of *prospective* PLUS loan borrowers. Considering only student loan borrowers would miss two important subgroups: a) consumers who applied for a PLUS loan, but were denied, and b) consumers who never applied for a PLUS loan in the past but might apply under a different adverse credit standard. Since our paper illustrates the potential effects of different hypothetical adverse credit standards, we find it important to err on the side of being overly inclusive of prospective applicants for the PLUS loan program. We caution that our results must be interpreted carefully. Prospective student loan borrowers are less creditworthy, on average, than our core analysis sample – all consumers aged 45 and older – and any negative effects on access to credit that we detect are likely to be *stronger* for PLUS loan applicants. [6,7]

Adverse credit standard in the data

We can observe some, but not all of the PLUS loan adverse credit standards in the data. We have detailed data on the incidence and amount of past due payments, collections, default, foreclosures, charge-offs, repossessions, and tax liens. However, we cannot precisely tell whether collections and charge-offs are new (within 2 years) or old and thus construct this

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6. For a more technical explanation: Consider that, out of the universe of consumers 45 and older in our data, some consumers will apply for a PLUS loan over the course of our sample, while most will not. On average, PLUS loan applicants are *less creditworthy* than all consumers aged 45 and over. Then, out of consumers who do apply for PLUS loans, only those approved who ultimately take up the loan will be reported as having an outstanding PLUS loan in our data. Since the adverse credit standard screens the most risky borrowers out of the program, PLUS loan borrowers are *more creditworthy*, on average, than PLUS loan applicants. As we showed in Table 2, consumers who owe student loan are less creditworthy, on average, than all consumers aged 45 or older, such that the selection on application (applicants are less creditworthy than all consumers 45 and older) outweighs the selection on approval (borrowers are more creditworthy than applicants).

7. We provide key results for consumers who are 45 or older and have borrowed student loans in the Appendix. However, since a) student loan borrowers aged 45 and over in our data are a blend of parent PLUS borrowers and private loan borrowers – the latter of whom tend to be low risk borrowers –, and b) PLUS loan borrowers are positively selected out of PLUS loan applicants, negative effects on access are likely to be even stronger for PLUS loan applicants than for the student loan borrowers considered in our Appendix tables.

measure.[8] The standards we cannot explicitly observe are wage garnishment, voluntary surrender, deed in lieu of foreclosure, claim paid defaulted loan, or lease/contract terminated by default. Of the criteria we cannot observe, we believe that only wage garnishment would be somewhat commonplace; however, for our purposes, concerns about missing data about this factor should be mitigated because individuals who have wage garnishments are highly likely to also trigger one or more of the other criteria that we observe. Most important for our analysis, the set of criteria we cannot observe is common over time and across the different adverse credit standards – and will therefore will not contribute to variation across different underwriting standards – as detailed in Table 1.

Trends in borrowing by debtors over 45

In Figures 2 through 5 we show trends in borrowing among student loan debtors age 45 and over. First, consider Figure 2, which displays the total amount of debt originated to debtors aged 45 and over nationally in each year from 2008 to 2017. The vertical lines correspond to the PLUS loan underwriting changes in 2011 and 2014. New student loan volume declined from around $22 billion per year in 2010 to $16 billion in 2013. Originations by this group then rose back to nearly pre-2011 levels by 2017. The early decline is mirrored by a sharp decline in the number of new student loan borrowers age 45 years and over in Figure 3. While the number of borrowers rebounded somewhat after 2014, the increases in aggregate debt seen during the latter half of our analysis period were driven by an increase in average student loan amounts, as shown in Figure 4. Average student loan amounts from 2008 to 2010 were around $15,000, rose slightly in 2011 to 2012 after the transition from FFEL to Direct Loan program, dropped slightly in 2013, and rose to over $18,000 on average by the end of the period. The declines we observe in all of these figures between 2011 and 2014 are supported by information from other sources. In a single year between 2011-12 and 2012-13, the total volume of Parent PLUS loans declined by $1.47 billion—or about 13 percent—and the number of Parent PLUS borrowers declined by more than 158,000.[9]

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8. Amount of new collections/chargeoffs in each quarter is calculated by subtracting the amount of the relevant debt owed in the previous quarter from the amount of debt owed in the current quarter, but only in quarters where the number of collections/chargeoffs accounts and balance owed *both* increased. Estimated amounts of new collections/chargeoffs are summed over the preceding 2 years to determine the total amount of new collections/chargeoffs that were added to the credit file over that time period.

9. Authors' tabulations of data from Baum et al. (2016), Table 1, and data from the College Board reported here: https://money.usnews.com/money/personal-finance/family-finance/articles/2018-02-14/infographic-trends-in-parent-plus-borrowing (Hellman, 2018).

Next, consider Risk Scores of debtors in our focal group, displayed in Figure 5. Risk Scores dipped by nearly 30 points from 2008 to 2011, corresponding with national credit profile weakening related to the Great Recession. Post-2011, Risk Scores of student loan borrowers aged 45 and over rose about 20 points and then dipped slightly after 2014, as we would expect with the tightening and subsequent relaxation of credit standards. We see a corollary pattern among the proportion of consumers with relatively low Risk Scores (increased from 2008 to 2011, decreased from 2011 to 2014 and then rose slightly post-2014) or high Risk Scores (decreased from 2008 to 2011, increased from 2011 to 2014 and then stayed relatively flat).

The trends and inflection points in Figures 2 through 5 appear to correspond with adverse credit standard changes in the PLUS program and are consistent with patterns reported elsewhere (Nelson 2012, Fishman 2018). However, we are cautious not to draw a causal link between credit standard changes and borrowing, as other concurrent changes could contribute to these trends. For example, the improvement in credit profiles among older student loan borrowers post-2011 could be a function of restricted credit standards in the PLUS program; but, it could also be attributable to improving economic conditions as consumers recovered from the Great Recession. In ongoing work, we attempt to recover causal estimates of the effect of PLUS program underwriting standard changes on borrowing and financial health of older Americans (Cellini, Darolia, and Ritter 2020).

Adverse credit standards, access, and equity

The figures presented in the prior section provide suggestive evidence that credit standard changes might affect who has access to PLUS loan credit. In this section, we consider how the nature and stringency of credit standards relates to who may have access to these loans. We cannot observe the income, race, or ethnicity of individuals in our data, so we rely on the characteristics of the individuals' Census tracts of residence as a proxy. To assess differences by income, we focus on consumers who live in "high poverty" areas (defined as tracts with poverty rates greater than or equal to 20%) and "low poverty" areas (defined as tracts with poverty rates less than 5%). To assess differences by race/ethnicity, albeit imperfectly, we identify individuals living in "majority non-white" Census tracts (defined as 50%-75% of residents identify neither as white race, nor Hispanic ethnicity) and "high non-white" tracts (defined as 75% or more of residents identify as neither white nor Hispanic race/ethnicity).[10] We also look specifically at Census tracts with high shares of Black residents, defined similarly, as "majority Black" Census tracts, where 50%-75% of residents identify as Black, and "high Black" Census tracts, where

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10. Note that racial/ethnic minorities are based on the Census definitions to include individuals from Black, Asian, Native American, and other non-white racial groups, as well as individuals of Hispanic ethnicity (of any race).

75% or more of residents identify as Black. Although Census tract-based definitions are imprecise proxies for race and income of any particular individual, they help us to characterize the impact of adverse credit standards in certain communities more broadly.

To give a sense of whether different groups of older consumers would have had access to PLUS loans under different circumstances, we consider the proportion of consumers aged 45 and over under different historical and potential adverse credit standards who would have the presence of an adverse credit event, thus potentially being ineligible for a PLUS loan. We intentionally consider the potential consequences for all consumers aged 45 and over, regardless of whether they actually applied for the PLUS loan program or ultimately took out a PLUS loan, while also providing statistics for student loan borrowers aged 45 or older in the Appendix. As discussed in section 4.2., actual effects on PLUS loan applicants are likely to be stronger than results presented in our tables due to the various potential selection into PLUS application and loan take-up.

We classify consumers as those who "fail" the adverse credit standard if their credit files contain at least one element of the adverse credit standard in effect in the particular year – again, regardless of whether or not they applied for a PLUS loan. Throughout the paper, we use "incidence of adverse credit," "adverse credit rates," "failures," and "failure rates" among consumers aged 45 and older interchangeable to refer to the incidence of adverse credit events in consumer credit files out of *all consumers* (i.e., not just applicants/borrowers), unless otherwise noted.[11] As a result, our figures represent the share of consumers that would not qualify for loans if everyone in the sample were to apply, which – again – would be higher for actual PLUS loan applicants than our consumers aged 45 and over.

Figure 6 reveals striking patterns of how changes in the adverse credit standard affected potential access to PLUS loans by consumers aged 45 or older by poverty and race/ethnicity. First, consider credit records in Panel A by tract poverty rates. Consumers in high poverty rate Census tracts had the highest rates of adverse credit throughout the period, while borrowers in low poverty rate tracts had the lowest rates of adverse credit. As credit standards tightened, the failure rates in high poverty areas rose much more sharply than in low-poverty areas. In high poverty areas, failure rates tripled, from about 11% in 2010 to about 32% in 2012 and 2013. Next, consider adverse credit rates by tract non-white share in Panel B. As credit standards tightened, failure rates in majority non-white communities increased from about 16% to about 28% from 2010 to 2012, and from about 13% to nearly 33% high non-white communities. In

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11. We recognize that individuals with adverse credit histories (i.e., those who "fail" the adverse credit standard) can obtain a PLUS loan if they present a co-signer without an adverse credit history, or if they apply for an exemption based on documented extenuating circumstances. Nevertheless, the presence of adverse credit events in their credit files will present obstacles to obtaining loans which we consider important to document in our failure rate statistics.

Panel C, we see even sharper increases and declines in failure rates among Census tracts with high proportions of Black residents. The incidence of adverse credit doubled from about 20% to 40% between 2010 and 2102 for the Census tracts with the highest shares of Black residents. Similarly, sharp increases are evident in majority Black areas as well, with just slightly lower levels (failures rose from roughly 18% to 35% between 2010 and 2012). The patterns observed in these figures echo the experiences of parents and HBCUs: sharp increases in loan denial rates for PLUS loans when the most stringent underwriting standard was implemented in 2011.

In summary, in all three panels we observe increases in the rates of adverse credit between 2011 and 2014 for all groups, but the highest poverty (Panel A), high non-white (Panel B), and high Black Census tracts (Panel C) have much higher peaks than others—reaching 30-40% failure rates in 2012 for all three groups. In 2015, we see a return to more similar rates of adverse credit among groups.

We next document the proportion of individuals aged 45 and older who fail each criterion in the adverse credit standard individually and would fail all criteria in conjunction with each other (or, rather, would fail if all were to apply), based on more recent data to assess the implications of adverse credit standards today. In Panel A of Table 3, we break down the characteristics of debtors aged 45 and over who would be subject to various adverse credit standards as of the 4th quarter of 2017. In the top row, we observe individuals with the key standards that were changed in 2014—debt 90 or more days past due with collections or charge-offs within the previous two years of more than the $2,085 (inflation-adjusted) threshold. In column (1), we see that 12.8 percent of all consumers 45 or older group would fail this standard. In low poverty tracts, only 9.8 percent of individuals would fail this standard, whereas 22.2 percent would fail in high poverty tracts (see columns (2)-(3)). In majority non-white Census tracts, the analogous figure is 15.7 percent. It climbs to 17.8 percent in high non-white Census tracts (columns (4)-(5)). Even more striking, in majority Black Census tracts (column (6)), 19.6 percent of individuals would fail the adverse credit standard today and more than one in four (22.2%) would fail in Census tracts where more than 75% of the residents identify as Black (column (7)).

In the second, third, and fourth rows of Panel A, we observe the incidence of foreclosures, bankruptcies, and tax liens. Foreclosures and tax liens are relatively rare across all groups, although they are somewhat higher in Census tracts with high shares of non-white and Black residents. Chapter 7 bankruptcy rates are about 25% higher in high poverty areas relative to low poverty areas.

In Panel B, we document the proportion of individuals who fail 1, 2, 3, or 4 of the adverse credit criteria, where 4 is the total number of observable adverse credit markers in our data (and listed in Panel A). Among all debtors, about 12% would fail at least one of the four adverse credit criteria we observe in our data, but only about 1% would fail two of them and almost no one

would fail three or more. This pattern of a relatively high percentage potentially failing any one criterion, but very few potentially failing two or more, generally holds across all groups. However, for the highest share poverty, non-white, or Black tracts, the share potentially failing three criteria rises to around 2-3%, nearly double the rate of the full sample. The share potentially failing three criteria remains under 0.1% for all groups.

The characteristics described in Table 3 and trends shown in Figure 6 reveal a clear tension between stricter standards and access to credit in the PLUS loan program. As standards get stricter, disproportionately fewer consumers living in high poverty and non-white (and especially high Black) areas will have access to that credit, potentially limiting college access for these groups and exacerbating inequities in higher education. In the Appendix, we present equivalent results for the group of consumers who have ever borrowed student loans ("ever student loan borrowers") in Table A1 and Figure A1. As expected, the failure rates are higher across the board for that sample, reaching 50-60% for consumers in high poverty, high non-white, and high Black tracts.

Alternative credit standards and caps

To illustrate the complex tradeoffs between credit standards, access to PLUS loans, and equity more deeply, we consider the characteristics of older consumers potentially excluded from the credit market under a number of hypothetical adverse credit checks of varying degrees of simplicity and stringency. These simplified, hypothetical standards take inspiration from criteria used by lenders in an underwriting context and must be carefully analyzed for appropriateness in the PLUS loan program. For example, we are aware that most lenders (and certainly lenders in the student loan space) would not underwrite on a credit score alone, so readers can interpret our hypothetical standard utilizing a Risk Score cutoff as an illustration of the access effects from a "summary" metric of creditworthiness compared with other types of hypothetical standards. As before, we focus on all older borrowers in order to consider the broadest set of potential applicants to the PLUS loan program.

Hypothetical standards based on credit indicators

In Table 4 we present the characteristics of consumers who would fail (have elements of) or pass (have no elements of) different hypothetical adverse credit standards. To start, in column (1) we present statistics for the current adverse credit standard in the PLUS loan program based on the $2,085 combined threshold (adjusted for inflation after 2014) for collections, charge offs, and delinquencies. Panel (A) shows the percentage of individuals age 45 and over in latest

observed period (Q4 2017) who would fail the standard if they chose to apply. Under the current standard, roughly 12% of all older individuals would fail the current adverse credit standard, and about one-fifth (22%) of all residents in high Black Census tracts would fail. In Panel (B), we present the average characteristics and credit profiles of those who would fail, including a Risk Score distribution. Credit scores represent an industry recognized estimate about relative risk of repayment for credit generally and are typically used in combination with additional credit bureau and/or ability to repay information in the pricing and underwriting of consumer credit. However, as we discuss later, measures of general credit risk are not necessarily adequate substitutes for portfolio- and product-specific outcome metrics (e.g. loan loss rates) and we consider these Risk Score distributions in Panel (B) only suggestive of later outcomes.

The average Risk Score of those who would fail the current adverse credit standard is 606, and 49% have a Risk Score below 620—a threshold that is often used by lenders as an implicit or explicit cutoff for borrowers considered "risky." In other words, using a 620 Risk Score cut off as a loose approximation to identify risky borrowers, about half of the consumers who would fail would be considered risky borrowers. Approximately 7% of those who would fail do not have a Risk Score and 35% (Panel B, col. 1) have relatively fair or good credit profiles between 620 and 730. About 9% of consumers who would fail the current adverse credit standard have Risk Scores over 720, which is generally considered a very good or excellent credit profile. Turning to those who would pass current standards (Panel C, col. 1), about 7% of consumers have Risk Scores lower than 620 and 17% have no Risk Score. On average, those who would pass have a Risk Score of 752.

One straightforward policy adjustment might be to raise the limit on the exemption for collections, charge-offs, and serious delinquency. In column (2) we consider raising the threshold for this exemption to $5,000. This policy option lowers the percentage of all individuals potentially failing the standard by 1 percentage point (from 12 to 11), but it lowers the failure rate by 5 percentage points each in high poverty and high Black Census tracts. Although the changes are small, they likely reduce inequities relative to the current $2,085 exemption (adjusted for inflation). Here we see that the proportion of risky borrowers who would fail the hypothetical standard in column (2) drops 3 percentage points as compared with the current standard (49% to 46%), while the share of risky borrowers in the pool of consumers that would pass the hypothetical standard increases by about one percentage point. The average Risk Score for consumers who would pass declines slightly to 747.

In column (3), we look at a simple hypothetical policy: using a low credit score as the sole adverse credit standard.[12] Using a cutoff of 620 for our Risk Score appears to somewhat exacerbate inequities relative to the current adverse credit standard, with nearly 29 percent of individuals in high Black Census tracts failing the standard and 22 percent in high poverty areas failing if they were to apply. At the same time, the characteristics of those who would pass improves, with average Risk Score rising eleven points to 762 (as compared with the current standards) and no consumers with Risk Scores less than 620 by definition. That said, it is clear that a hypothetical credit standard based on a univariate Risk Score cutoff is clearly correlated with the existing standard in terms of its effects on access to PLUS loans, which is unsurprising since many of the same negative credit history indicators that form the current adverse credit standard (bankruptcy, delinquency, etc.) are also ingredients in the Risk Score – and credit scores more generally. Overall, it is important to note that this simple, intuitive test is neither an improvement over the current standard in terms of the characteristics of the excluded consumers, nor appropriate in a credit model development framework; no private lender would ever consider using a credit score alone in such an underwriting setting, and neither should the Department of Education. In fact, the results of the exercise in column (3) further illustrate our opinion that simplicity is no substitute for careful and thoughtful analysis of the PLUS portfolio's repayment and loan loss metrics compared with potential disparate impact on protected populations when devising an appropriate adverse credit standard.

Column (4) of Table 4 considers the least stringent hypothetical adverse credit standard in the table and serves as a lower bound for our conceptual exercise. Individuals would fail this hypothetical standard only if they had a serious event – bankruptcy, foreclosure, or tax lien – in the last two years. About 5% of all individuals age 45 and over fail this standard, with fairly similar percentages across groups, ranging from 4% to 5%. In Panel B, we see that for this standard, the group of individuals who would fail have an average Risk Score of 642—higher than for the other standards. This is at least in part because the Risk Score – and credit scores more generally – weights more recent negative events more heavily, so people with adverse events further in the past (as is often the case with these serious credit derogatories) are more likely to have Risk Scores that have already somewhat recovered. Nonetheless, we see that this standard produces a poll of those who would pass (in Panel C) that has the lowest average Risk Score (736) and the highest proportion of consumers with Risk Scores less than 620.

. . .

12. Recall that only evidence of "adverse" credit events is cause for denial, so individuals with no Risk Score would be eligible for a loan and are present in the "pass" category.

Our conclusions above generally hold for the sample of borrowers who have ever borrowed student loans (see Table A2 in the Appendix). The magnitude of the described effects is generally higher, reflecting the previously discussed worse credit histories of older student loan borrowers relative to all older consumers.

Hypothetical standard based on loan amount caps

Several proposals for reforming the PLUS loan program have focused on capping the maximum loan amount allowed and/or considering a parent's ability to repay (e.g., Baum, Blagg, & Fishman, 2019). To begin to understand how these types of changes might affect potential PLUS loan borrowing, we break down our sample of consumers 45 and older according to the amount of student loan debt they originated in an academic year in Table 5. We use five categories based on annual borrowing: from about 0-$6.5K (the lowest 25%); second and third quartiles ranging from $6.5K-$10.5K and $10.5K-$19K, respectively; 75th to 90th percentile (about $19K-$30K); and the top decile of student loan originations (greater than about $30K). In the top two rows we see that the proportion of new borrowers who are residents of low poverty tracts increases from 34% to 57% as loan amount category increases. Conversely, the share of borrowers from high poverty tracts decreases from 14% in the lowest loan amount category to 5% in the top decile. Since students and their families can borrow PLUS loan money up to the cost of attendance, this is likely a function of higher income students attending relatively expensive schools.

There is relatively less variation by race/ethnicity than by poverty across the first four loan origination amount categories, with about 8%-16% percent of the borrowers originating loans in high non-white Census tracts. Only about 3-4 percent of borrowers come from majority Black tracts across different loan amount categories, and 2-6% come from high Black tracts, with shares of borrowers from these tracts steadily decreasing as loan amounts increase.

In the lower panel of Table 5, we also find that some credit profile characteristics are similar for loan origination amount categories up to the 90th percentile. Of course, it is not surprising that individuals originating larger loans have more outstanding and new debt. Credit profiles generally improve as loan amounts grow and are the best for the largest loan amount group in the final column – again, likely because higher income students tend to attend relatively expensive schools. In addition, since our sample of older borrowers is a mix of parent PLUS and private loan borrowers, the relatively higher Risk Scores for the top decile might be influenced by the relatively high amounts borrowed by parents in the private loan market.

Discussion and conclusion

Public student loan programs can guard against a potential underinvestment in postsecondary education due to credit constraints. These credit constraints can be particularly acute for students with low incomes or assets, as they likely also have restricted access to the private student loan market and few family resources. Access to credit for some students and their families is critical for college enrollment and attainment, and an increasing body of evidence suggests that access to student loan credit can be beneficial to the educational outcomes of some students (e.g., Black et al., 2020; Marx & Turner, 2017).

The PLUS loan program has a unique position in the debate about public student loan programs because of its use of adverse credit standards to screen borrowers for eligibility based on serious negative events in their credit histories. Most federal student loan programs do not consider credit profiles of students or parents, so long as the applying student attends a Title IV eligible institution and enrolls in an appropriate course of study. In contrast, students and their families cannot access funds in the PLUS program if they have an adverse credit history such as a recent bankruptcy or serious delinquency on outstanding debt.

A tension arises in the PLUS loan program between the goal of providing liquidity to students and their families so that they can afford college and trying to reduce default in the program by raising credit standards or preventing "overborrowing" in an effort to protect students, their families, and public funds. For traditional student loans, expected repayment is based on the accumulation of human capital in college that increases the probability of employment and raises earnings. Of course, parents do not directly reap these benefits of enhanced human capital—students do—making Parent PLUS loans more complicated and repayment less certain, as parental incomes are unlikely to rise as a direct result of the investment in their child's human capital. Moreover, with no lending cap, PLUS loans can lead to relatively higher levels of borrowing compared with other public loan programs that might further decrease the likelihood of repayment. Parents who are unable to repay PLUS loans suffer the consequences of damaged credit and can be subject to wage garnishment and reductions in social security and tax returns. Unlike loans issued directly to students, Parent PLUS loans are not typically eligible for income-driven repayment plans or many of the other protections that are associated with federal student loans.

Assessing the likelihood of repayment is the key challenge in balancing access, controlling loan losses, and limiting over-borrowing. The adverse credit standards we study here are an attempt to limit PLUS loans to families who may be more likely repay, but the standards are based largely on repayment history, and many students and their families do not have robust, unblemished credit records (e.g., Darolia & Ritter, 2019).

Our analysis of credit bureau data demonstrates that derogatory events in an individual's credit file – like those considered by the PLUS loan program – are much more widespread in high poverty communities relative to low poverty communities. Further, we show that having credit profiles that would fail the PLUS loan recent adverse credit standards is much more common in communities with a high proportion of non-white and Black residents, relative to those with lower proportions. As credit standards became more stringent in 2011, the proportion of older individuals who would fail those standards more than doubled in the Census tracts with the highest percentage of poor, non-white, and Black residents. In the year after the policy change, some 30-40% of individuals in each of these communities would have failed the standards if they applied for a PLUS loan. These patterns were most dramatic in Census tracts with a high proportion of Black residents: in these communities, 35-40% of individuals would have been ineligible for a PLUS loan (without filing an appeal or obtaining a cosigner) when standards tightened.

The evidence we present raises concerns that, as adverse credit standards in the PLUS loan program become stricter, eligibility restrictions are likely to disproportionately restrict access to credit among students who come from relatively low-income households, students who identify as non-white, and Black students especially. Our descriptive results echo evidence that the PLUS loan program restrictions in 2011 had a disproportionate impact on the enrollment of Black students and students who attend HBCUs (e.g., Britton, 2016; Nelson, 2012). The loosening of credit restrictions in 2014 brought adverse credit standard failure rates for high poverty and high non-white communities closer to the averages for all consumers, but they remain elevated. Although we find suggestive evidence that average credit quality improved with the 2011 restrictions among student loan borrowers, we caution that a causal analysis that takes into account selection into college going and borrowing is necessary to investigate the effect of such restrictions. We also note that the welfare implications of adverse credit restrictions are unclear without additional analyses of the repayment, default, and educational outcomes of marginal borrowers based on more detailed loan repayment data. We urge researchers to undertake causal analyses of the impact of Parent PLUS loans on parents, students, and household units to assess whether they generate aggregate gains or losses for families.

Considerations of hypothetical credit standards imposed on today's borrowers suggest that equity improvements may be possible. Increasing the exemption amount from $2,085 to $5,000 would potentially yield slight increases in credit access for poor or non-white students. A less stringent approach of considering only bankruptcy, foreclosure, or tax lien as adverse credit events, would open credit access to more students, including those from non-white, Black, and low-income communities. At the same time, it could result in some parents taking on more debt without the ability to afford such obligations in the future.

One commonly proposed amendment to the PLUS program is to cap the amount of loan money available to students and their families, either annually or in aggregate. Such caps may directly address concerns about borrowing large sums as compared with adverse credit standards but may also prevent credit-constrained individuals from investing in high-return, expensive programs (e.g. medical degrees). Unlike many other federal loan programs, PLUS loans have a more expansive maximum, limited only by the cost of attendance. Our results suggest that PLUS loan amounts appear to be somewhat more evenly distributed across racial/ethnic groups than elements either of the 2014 adverse credit standard or most of the hypothetical standards we consider. In this way, annual or cumulative loan limits to PLUS borrowing might protect taxpayers, students, and their families—by reducing the magnitude of exposure to potentially damaging default—without disproportionately penalizing poor and non-white students and their families. Therefore, caps on loan amounts might provide a more equitable approach to balancing risk and access than changes to adverse credit standards and may help some students and their families avoid burdensome large debt balances. As mentioned previously, however, loan maximums also run the risk of restricting access to funds that some families may need in order to attend and succeed in college, and thus such caps could be accompanied with expanded access to funds for those with need through alternate methods.

One potential way to maintain access to funds for students in the face of restrictions on parent borrowing would be to raise caps on federal student loans that students themselves can borrow—essentially re-routing the need for additional funds, and thus borrowing, from parents back to students. While this may increase the risk of some students borrowing more than they can reasonably expect to repay, it more directly ties the financial investment and risk to the party most likely to benefit from improved labor market outcomes related to education. Even more promising would be expansions in the Pell Grant program or other grant programs that reduce the net price of attending college for those with most need, and thus could moderate borrowing. A simple and obvious administrative improvement would be to ensure that students exhaust other federal student loans with more attractive terms before turning to PLUS loans, as these loans offer the benefits of lower interest rates and greater protections, including access to income-driven repayment plans and various types of loan forgiveness.

In addition to re-directing funding for parents back to students, some of the challenges surrounding balancing access and repayment in the Parent PLUS loan program could be addressed with other reforms. For example, evidence does not support assumptions of systematic manipulative behavior by families that motivate student loan non-dischargeability policies (Darolia & Ritter, 2020); therefore, easing the barriers for PLUS loans, and student loans more broadly, to be discharged in bankruptcy could lessen burdens on struggling families. Furthermore, accountability policies that restrict borrowing at colleges where students are more likely to have difficulty repaying student loans – such as at for-profit colleges that charge high tuition without

generating commensurate improvements in labor market outcomes – could guard against costly default. Such accountability policies have been shown to shift most students from high-default for-profit institutions to local public institutions with better student loan repayment outcomes (Cellini, Darolia, & Turner, 2020). Moreover, since PLUS loans are currently excluded from cohort default rate calculations, adding them to these existing accountability rules would provide incentives for institutions to ensure that parents can repay.

Finally, if credit standards are to be maintained in the PLUS or other federal loan programs, it is important for researchers, with the support of policymakers, to undertake detailed default modeling to identify optimal adverse credit standards and evaluate other reforms. We suggest a program- and product- specific approach to developing future standards that would draw on the rich application and loan performance data available to the Department of Education as part of its loan servicing platform. Any modifications to adverse credit standards should rely on rigorous, empirically derived, and statistically sound default models developed using established best practices in risk modeling to arrive at a set of rules that have the least possible disparate impact on vulnerable communities while maximizing credit access for borrowers in need.

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Tables and figures

Table 1: Adverse Credit Standards over Time

Criterion	Pre-2010		2010-11	2011-14	2014-present
	FFEL Loans	Direct Loans	All	All	All
Delinquency: Currently 90+ Days Past Due	Yes	Yes	Yes	Yes	Current Delinquency or Collections/Charge Offs within 2 years; combined balance > $2,085
Collections	Yes, within 5 years, any amount	**No**	**No**	Yes, within 5 years, any amount	
Charge Offs	Yes, within 5 years, any amount	**No**	**No**	Yes, within 5 years, any amount	
Bankruptcy Ch 7, 11, 12 in past 5 years	Yes	Yes	Yes	Yes	Yes
Repossession in past 5 years	Yes	Yes	Yes	Yes	Yes
Foreclosure in past 5 years	Yes	Yes	Yes	Yes	Yes
Tax Lien in past 5 years	Yes	Yes	Yes	Yes	Yes
Voluntary Surrender in past 5 years	Yes	Yes	Yes	Yes	Yes
Deed in Lieu of Foreclosure in past 5 years	Yes	Yes	Yes	Yes	Yes
Wage Garnishment in past 5 years	Yes	Yes	Yes	Yes	Yes
Claim Paid Defaulted Loan in past 5 years	Yes	Yes	Yes	Yes	Yes
Lease/Contract Terminated by Default in past 5 years	Yes	Yes	Yes	Yes	Yes

Source: Department of Education and Federal Register (2014).

Table 2: Credit Profile Characteristics, Select Samples, Q4 2017

	All Consumers (1)		All Student Loan Debtors (2)		Student Loan Debtors Age ≥ 45 (3)		Originated Student Loan after Age ≥ 45 (4)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Risk Score	702	105	643	108	665	113	703	106
% with Risk Score < 620	19	39	38	48	33	47	21	40
% with Risk Score >= 720	45	50	27	44	37	48	50	50
% with a Chapter 7/13 Bankruptcy	3	18	4	21	8	27	6	24
Outstanding Student Loan Debt ($)	5,427	22,032	32,631	45,065	36,740	48,566	22,119	40,253
% Currently Delinquent on SL Debt	3	16	15	36	14	35	6	24
% Ever Delinquent on SL Debt	9	29	40	49	41	49	27	44
Debtor Age	52	20	37	13	56	9	60	9
Age of Oldest Student Loan (Years)	17	11	12	8	21	9	23	10
Age of Newest Student Loan (Years)	3	5	1	2	2	2	2	3
Tract % Non-white	37	29	38	29	37	29	34	29
Tract % Black	12	20	15	22	15	23	13	21
Tract % in Poverty	10	10	10	10	9	9	9	9
% of Sample	100%		17%		4%		5%	

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: All figures are as of the end of the 4th quarter of 2017. The first group (column 1) includes all consumers in our sample as of the end of the 4th quarter of 2017, whether or not they have ever taken out student loans. The second group (column 2) includes all debtors who owe student loan debt as of the end of the 4th quarter of 2017. The third group (column 3) includes all debtors who are 45 or older who owe student loan debt as of the end of the 4th quarter of 2017. The fourth group (column 4) includes all debtors who as of the end of the 4th quarter of 2017 originated student loan debt after the age of 45. Non-white tract residents identify neither as white race nor Hispanic ethnicity.

Table 3: Consumers with Elements of the 2014 Adverse Credit Standard, Age 45 or Older, Q4 2017

	All Tracts	Low Poverty	High Poverty	Majority Non-white	High Non-white	Major-ity Black	High Black
Panel A: Individual Credit Standards							
% with 90-180 DPD, Collections, Charge-Offs > $2,085	7.1	4.7	11.7	9.5	11.7	13.8	15.7
% with a Foreclosure in past 5 years	0.5	0.5	0.5	0.7	0.6	0.8	0.9
% with a Chapter 7 Bankruptcy in past 5 years	6.4	5.5	6.9	7.0	6.9	7.0	7.6
% with a Tax Lien in past 5 years	0.3	0.3	0.3	0.3	0.3	0.4	0.6
Panel B: Cumulative Credit Standards							
% Fails 0 Credit Standards	87.2	90.2	82.2	84.3	82.2	80.4	77.8
% Fails 1 Credit Standard	11.5	8.7	16.1	14.1	16.2	17.3	19.7
% Fails 2 Credit Standards	1.3	1.0	1.6	1.6	1.5	2.3	2.5
% Fails 3 Credit Standards	0.0	0.0	0.0	0.0	0.0	0.1	0.1
% Fails 4 Credit Standards	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% of Sample	100%	38%	12%	13%	14%	3%	3%

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers who are age 45 or older in the latest observed period (4th quarter of 2017). The adverse credit standard examined is the one in effect at the time of the snapshot, i.e. the 2014 adverse credit standard. DPD = Days Past Due. The threshold of $2,085 is adjusted for inflation. Low poverty Census tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%. "Majority non-white" Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; "high non-white" tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity. "Majority Black" Census tracts are those where 50%-75% of residents identify as Black; "high Black" Census tracts are those where 75% or more of residents identify as Black.

Table 4: Characteristics of Consumers Who Fail Hypothetical Adverse Credit Standards, Age 45 or Older, Q4 2017

	Adverse Credit: Current Definition	Adverse Credit: Current w/ >$5,000 90+ DPD	Adverse Credit: Risk Score < 620	Adverse Credit: Bankruptcy, Foreclosure, or Tax Lien (2 yrs)
Panel A. % Potentially Failing the Standard				
All Individuals	12	11	12	5
Low Poverty Tracts	10	9	8	4
High Poverty Tracts	18	14	22	5
Majority Non-white Tracts	16	13	16	5
High Non-white Tracts	18	14	21	5
Majority Black Tracts	20	15	25	5
High Black Tracts	22	17	29	5
Panel B. Characteristics of Consumers Who Potentially Fail				
Average Risk Score	606	612	550	642
% with No Risk Score	7	7	0	6
% with Risk Score < 620	49	46	100	29
% with Risk Score >= 620 & <720	35	37	0	53
% with Risk Score >= 720	9	10	0	11
% with Bankruptcy in past 5 years	30	37	9	86
Average Outstanding Student Debt ($)	6,866	7,404	8,148	5,928
% Currently Delinquent on Student Loan	6	7	8	2
% Ever Delinquent on Student Loan	15	15	20	11
Panel C. Characteristics of Consumers Who Potentially Pass				
Average Risk Score	752	747	762	736
% with No Risk score	17	17	18	17
% with Risk Score < 620	7	8	0	11
% with Risk Score >= 620 & <720	15	15	20	16
% with Risk Score >= 720	60	59	61	56

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers who are age 45 or older in the latest observed period (Q4 2017). The statistics reflect the average characteristics of the individuals who fail the hypothetical standard. Low poverty Census tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%. “Majority non-white” Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; “high non-white” tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity. “Majority Black” Census tracts are those where 50%-75% of residents identify as Black; “high Black” Census tracts are those where 75% or more of residents identify as Black.

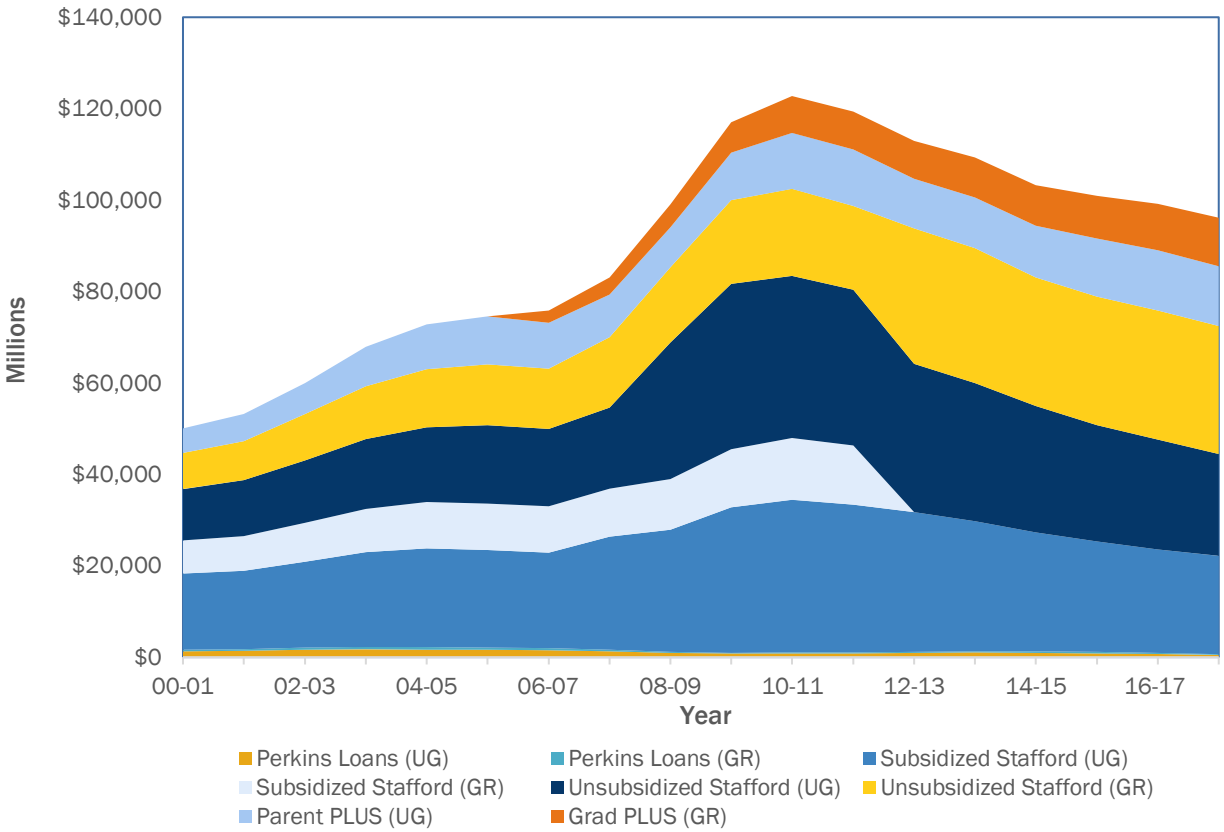
Table 5: Characteristics of Borrowers by Annual Student Loan Origination Amounts, Age 45 or Older, 2008-2017

	Annual Loans ≤ 25th Percentile $0 - $6,500	25th Percentile < Annual Loans ≤ 50th Percentile $6,501 - $10,670	50th Percentile < Annual Loans ≤ 75th Percentile $10,671 - $18,780	75th Percentile < Annual Loans ≤ 90th Percentile $18,781 - $30,000	Annual Loans > 90th Percentile $30,001 +
Panel A. % of Borrowers					
High Poverty Tracts	14	12	9	7	5
Low Poverty Tracts	34	42	47	53	57
Majority non-white	12	12	12	11	10
High non-white	16	14	12	10	8
Majority Black Tracts	4	4	4	4	3
High Black Tract	6	5	4	3	2
Panel B. Borrower Characteristics					
Average Risk Score	673	673	690	696	698
% with Risk Score	2	1	1	1	1
% with Risk Score < 620	30	30	23	21	21
% with Risk Score >= 620 & <=720	30	29	30	30	27
% with Risk Score > 720	38	40	45	48	51
% 90-180 DPD	4	5	4	4	4
Average Amount 90-180 DPD	1,871	2,886	3,004	2,895	3,916
% Bankruptcy in past 5 years	13	13	11	10	11
% Currently Severely Derogatory	10	11	7	7	7
Average Outstanding Debt ($)	11,044	16,508	22,590	32,763	54,343
Average New Debt ($)	4,120	8,457	12,995	20,241	46,104
% of Sample	25%	25%	25%	15%	10%

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Loan originations were aggregated to the approximate academic year, spanning July of one year through June of next year. Sample includes borrowers who were 45 years old or older in the particular quarter. The statistics reflect the average characteristics of the individuals in each sample at time of loan origination. Low poverty Census tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%. Majority non-white tracts are defined as those with 50-75% non-Hispanic whites, while high non-white tracts are defined as those with >=75% non-Hispanic whites. Majority Black tracts are defined as those with 50-75% Black residents, while high Black tracts are defined as those with >=75% Black residents.

Figure 1: Federal student loan debt dollars disbursed, 2000-2017



Source: Trends in Student Aid 2019

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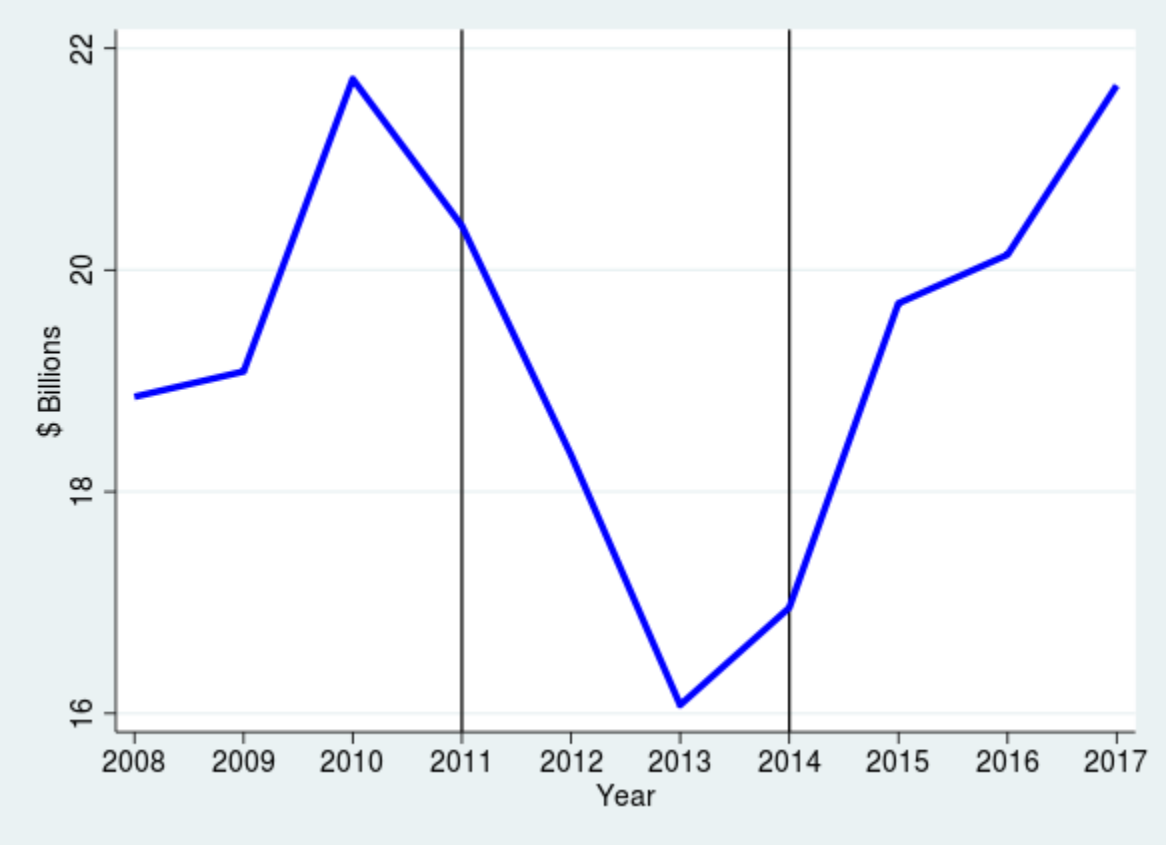
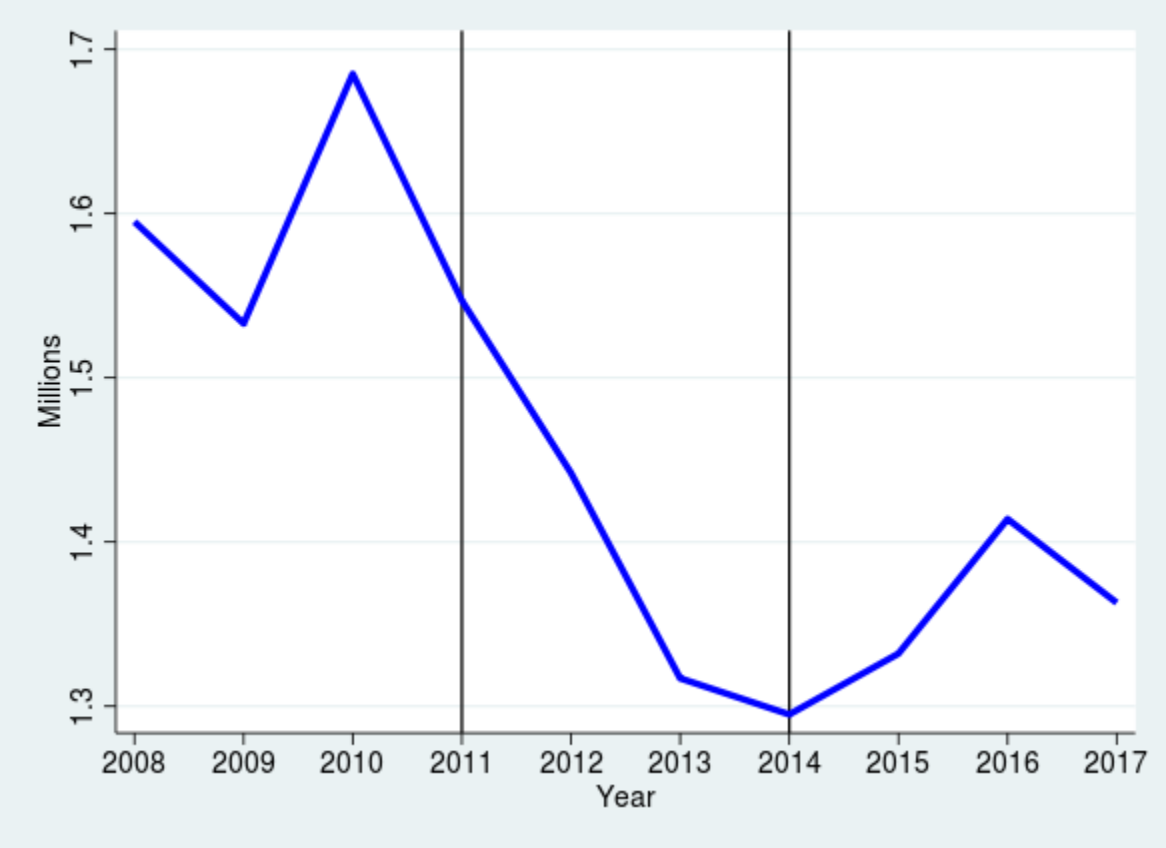
Figure 2: Student Loan Debt Dollars Originated by Debtors Age 45 or Older, 2008-2017



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel

Note: Sample includes all debtors who originated student loan debt after the age of 45.

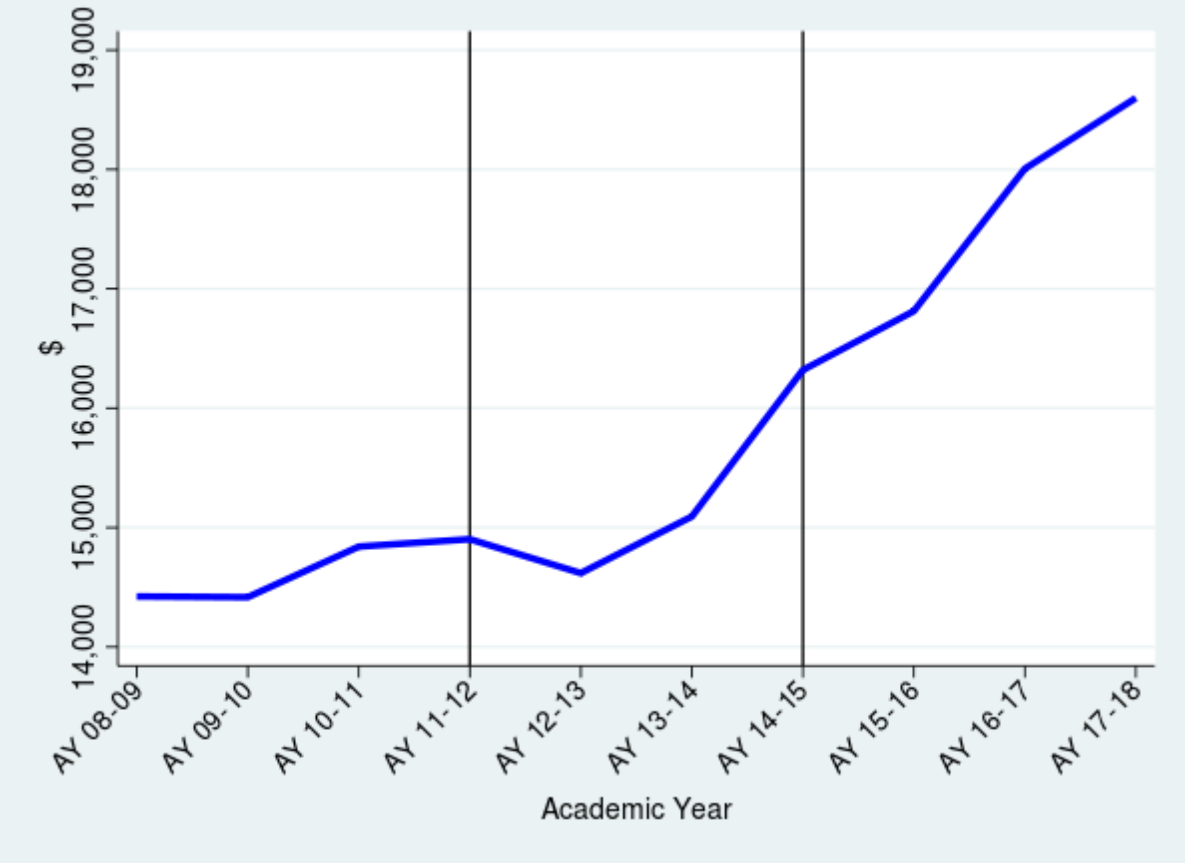
Figure 3: Number of Borrowers Age 45 or Older Who Originated Student Loans, 2008-2017



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel

Note: Sample includes all debtors who originated new student loans after the age of 45.

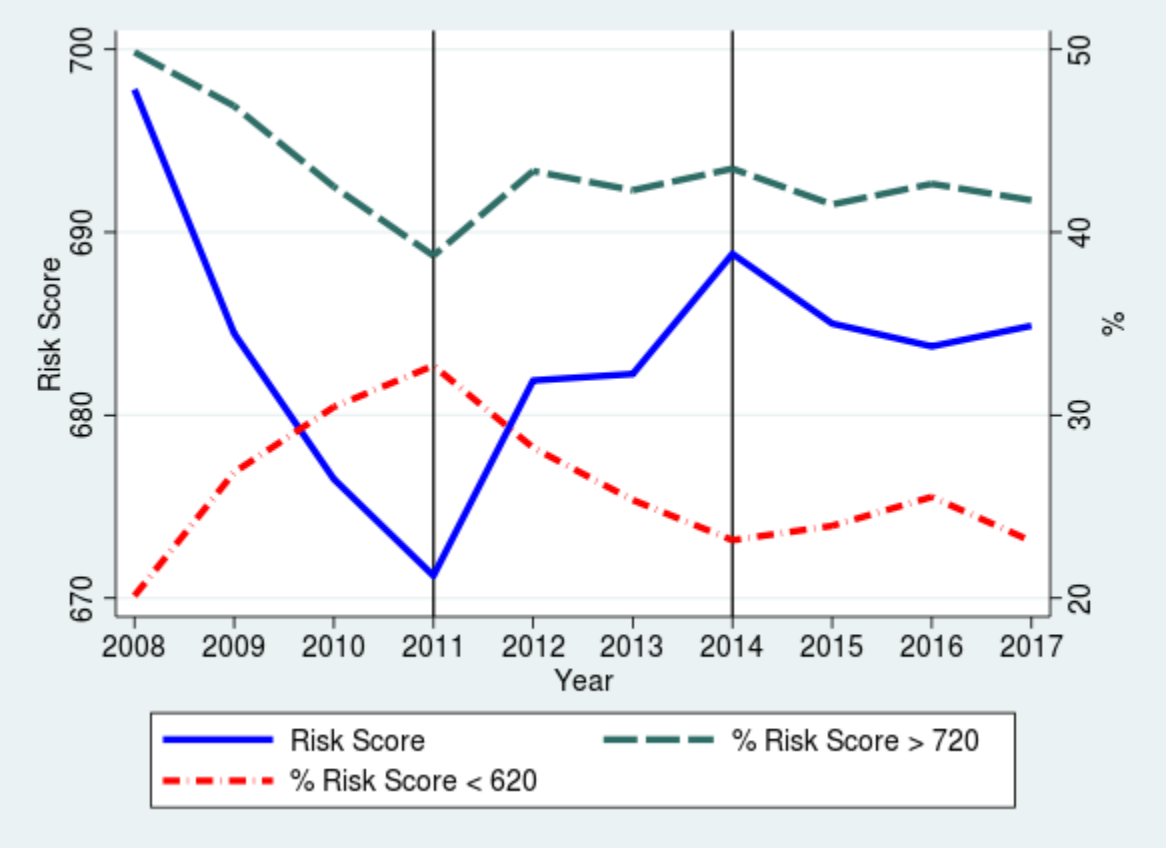
Figure 4: Average Annual Student Loan Originations to Debtors Age 45 or Older, AY 2008-2017



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel

Note: Sample includes all debtors who originated student loan debt after the age of 45.

Figure 5: Risk Scores of Student Loans Originated by Debtors Age 45 or Older, 2008-2017

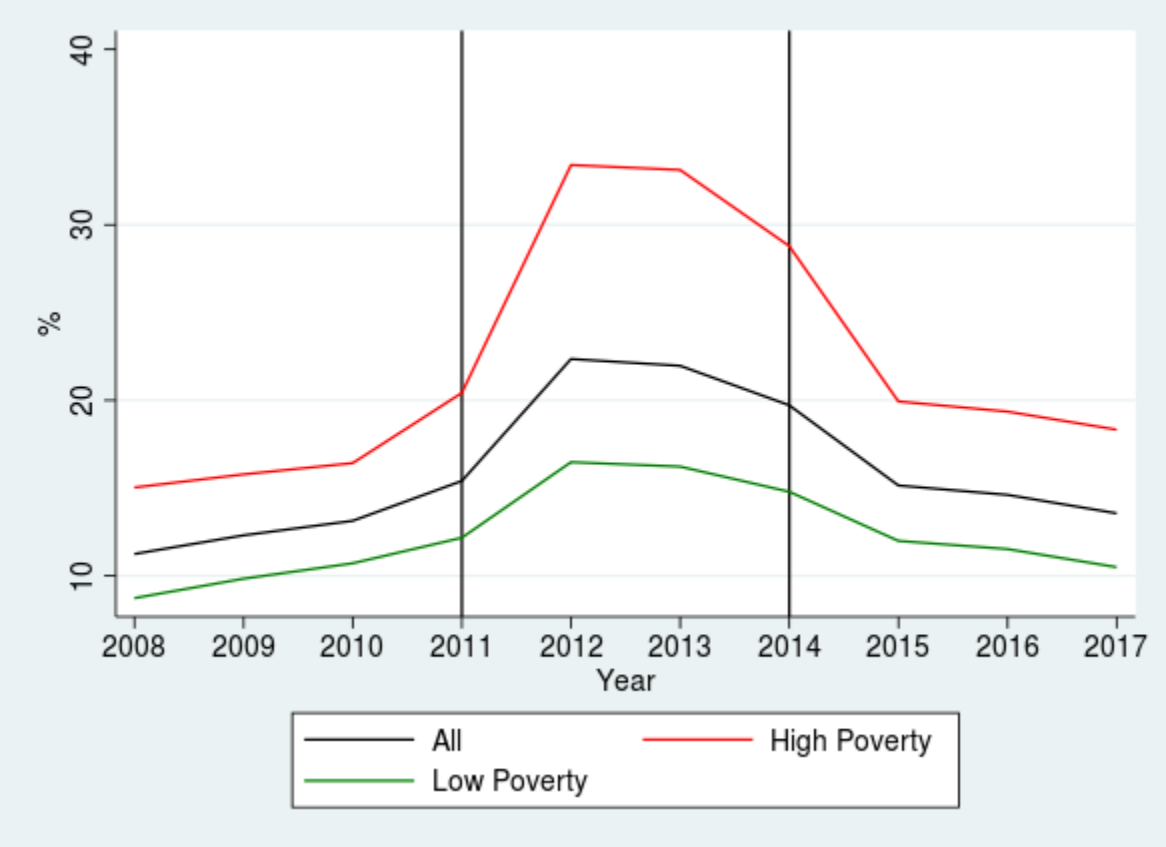


Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel

Note: Sample includes all debtors who originated student loan debt after the age of 45.

Figure 6: Share of Consumers Who Fail Adverse Credit Standard, 2008-2017

(A) By Tract Poverty

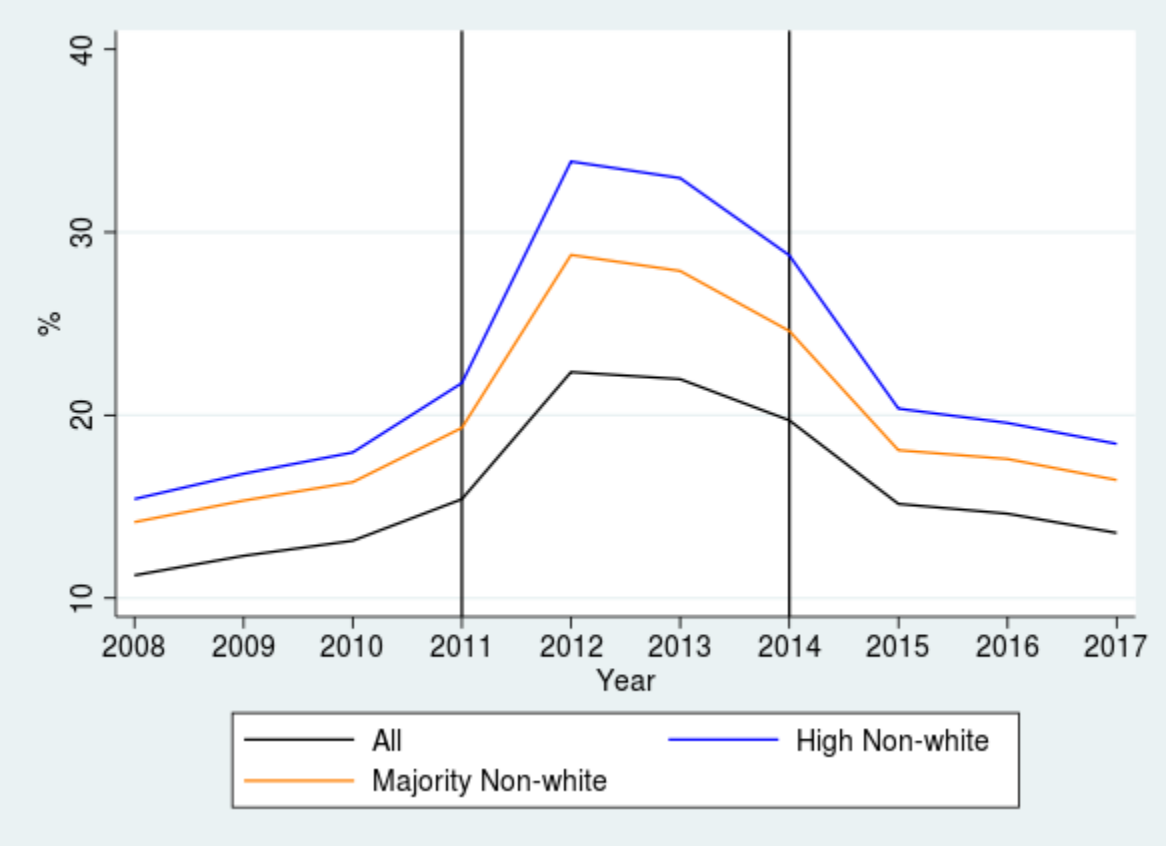


Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year. Low poverty tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%.

Figure 6: Share of Consumers Who Fail Adverse Credit Standard, 2008-2017

(B) By Tract Non-white Share

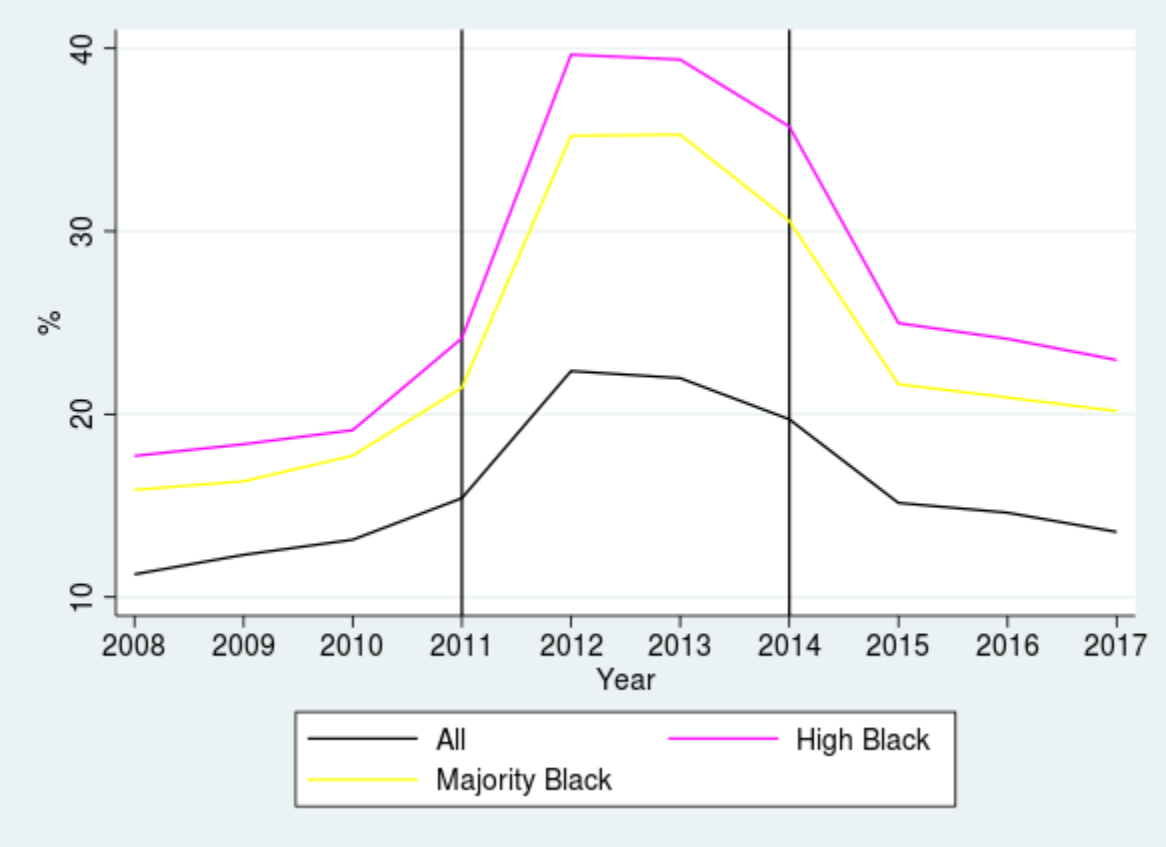


Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year. "Majority non-white" Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; "high non-white" tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity.

Figure 6: Share of Consumers Who Fail Adverse Credit Standard, 2008-2017

(C) By Tract Black Share



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year. "Majority Black" Census tracts are those where 50%-75% of residents identify as Black; "high Black" Census tracts are those where 75% or more of residents identify as Black.

Appendix A

Table A1: Ever Student Loan Borrowers with Elements of the 2014 Adverse Credit Standard, Age 45 or Older, Q4 2017

	All Tracts	Low Pov-erty	High Pov-erty	Major-ity Non-white	High Non-white	Major-ity Black	High Black
Panel A: Individual Credit Standards							
% with 90-180 DPD, Collections, Charge-Offs > $2,085	14.5	9.9	24.5	19.1	24.3	28.1	30.6
% with a Foreclosure in past 5 years	0.8	0.7	0.9	1.0	0.8	1.0	1.4
% with a Chapter 7 Bankruptcy in past 5 years	10.2	9.3	10.2	10.8	10.1	11.4	12.6
% with a Tax Lien in past 5 years	0.5	0.5	0.4	0.4	0.5	0.3	1.3
Panel B: Cumulative Credit Standards							
% Fails 0 Credit Standards	77.0	82.0	67.8	72.2	68.2	64.0	60.8
% Fails 1 Credit Standard	20.1	15.8	28.5	24.6	28.1	31.3	33.0
% Fails 2 Credit Standards	2.8	2.1	3.6	3.1	3.7	4.5	5.9
% Fails 3 Credit Standards	0.1	0.1	0.1	0.1	0.1	0.2	0.3
% Fails 4 Credit Standards	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% of Sample	100%	40%	11%	13%	15%	4%	4%

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes consumers who have ever originated student loans in our sample period and who are age 45 or older in the latest observed period (Q4 2017). The adverse credit standard examined is the one in effect at the time of the snapshot, i.e. the 2014 adverse credit standard. DPD = Days Past Due. The threshold of $2,085 is adjusted for inflation. Low poverty Census tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%. "Majority non-white" Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; "high non-white" tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity. "Majority Black" Census tracts are those where 50%-75% of residents identify as Black; "high Black" Census tracts are those where 75% or more of residents identify as Black.

Table A2: Characteristics of Ever Student Loan Borrowers Who Fail Hypothetical Adverse Credit Standards, Age 45 or Older, Q4 2017

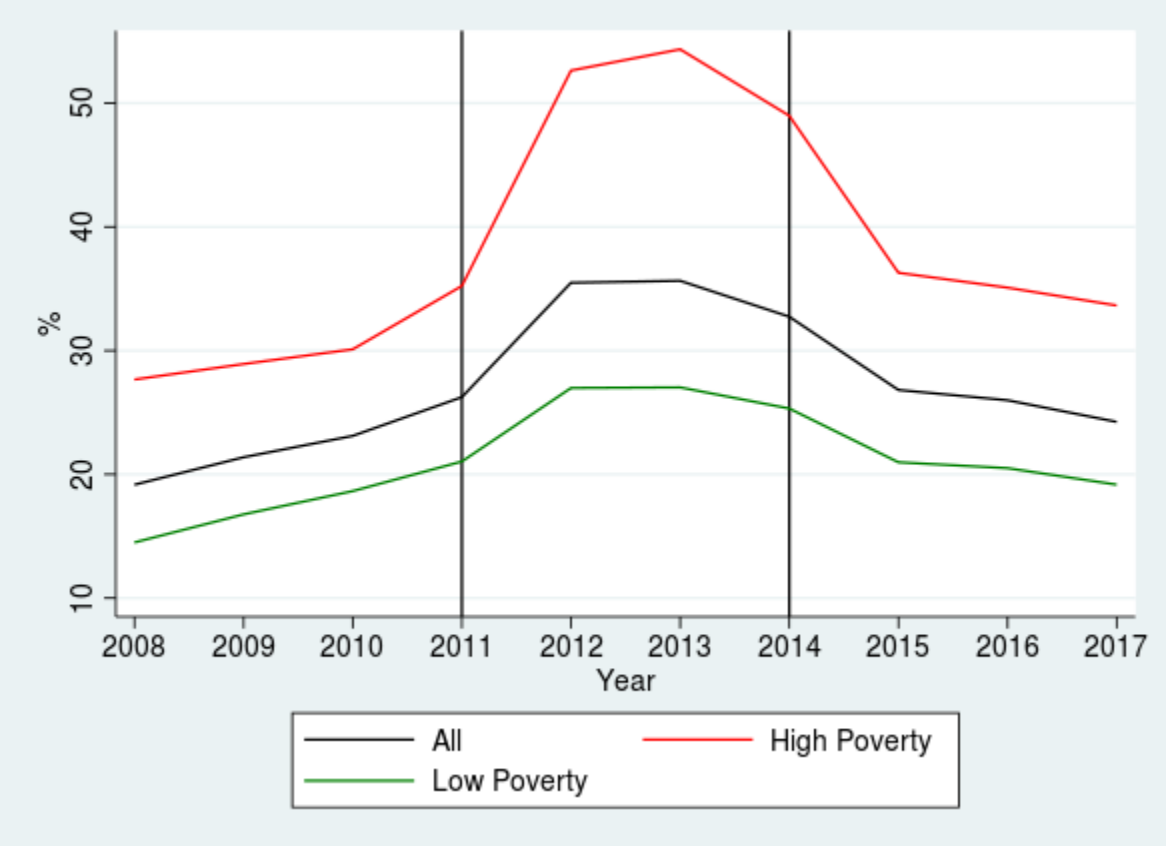
	Adverse Credit: Current Defi-nition	Adverse Credit: Current w/ >$5,000 90+ DPD	Adverse Credit: Risk Score < 620	Adverse Credit: Bankruptcy, Foreclosure, or Tax Lien (2 yrs)
Panel A. % Failing the Standard				
All Individuals	23	20	25	8
Low Poverty Tracts	18	16	16	7
High Poverty Tracts	32	26	43	7
Majority Non-white Tracts	28	23	32	8
High Non-white Tracts	32	26	41	8
Majority Black Tracts	36	31	49	9
High Black Tracts	39	32	49	10
Panel B. Characteristics of Consumers Who Fail				
Average Risk Score	577	581	537	618
% with No Risk Score	3	3	0	3
% with Risk Score < 620	63	60	100	42
% with Risk Score >= 620 & <720	29	31	0	49
% with Risk Score >= 720	5	6	0	7
% with Bankruptcy in past 5 years	29	34	11	86
Average Outstanding Student Debt ($)	28,014	29,293	29,490	25,438
% Currently Delinquent on Student Loan	25	27	28	9
% Ever Delinquent on Student Loan	64	62	76	48
Panel C. Characteristics of Consumers Who Pass				
Average Risk Score	726	719	745	697
% with No Risk Score	6	6	7	5
% with Risk Score < 620	13	16	0	23
% with Risk Score >= 620 & <720	24	24	33	23
% with Risk Score >= 720	57	55	60	48

Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: The statistics reflect the average characteristics of the individuals who fail the hypothetical standard. Low poverty Census tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%. “Majority non-white” Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; “high non-white” tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity. “Majority Black” Census tracts are those where 50%-75% of residents identify as Black; “high Black” Census tracts are those where 75% or more of residents identify as Black.

Figure A1: Share of Ever Student Loan Borrowers Who Fail Adverse Credit Standard, 2008-2017

(A) By Tract Poverty

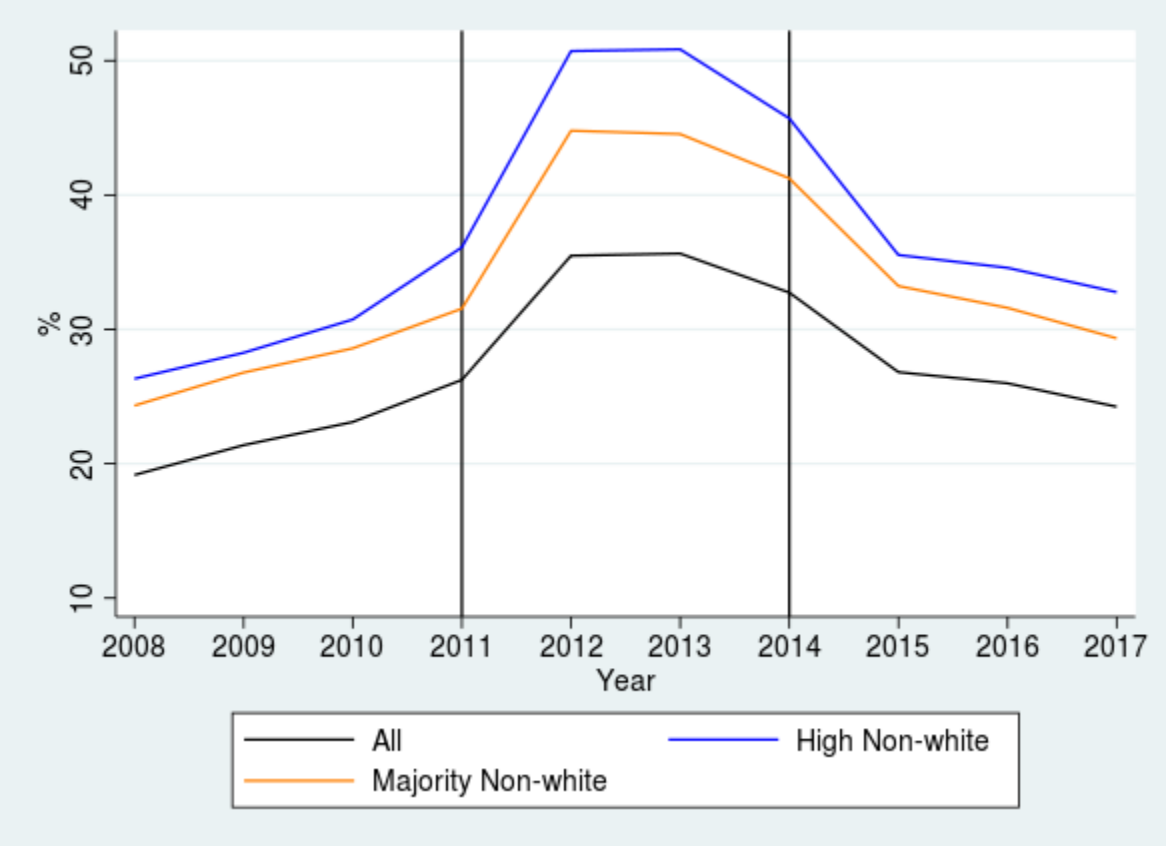


Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year who have ever borrowed student loans in our sample period. Low poverty tracts are defined as those with poverty rates <5%, while high poverty tracts are defined as those with poverty rates >=20%.

Figure A1: Share of Ever Student Loan Borrowers Who Potentially Fail Adverse Credit Standard, 2008-2017

(B) By Tract Non-white Share

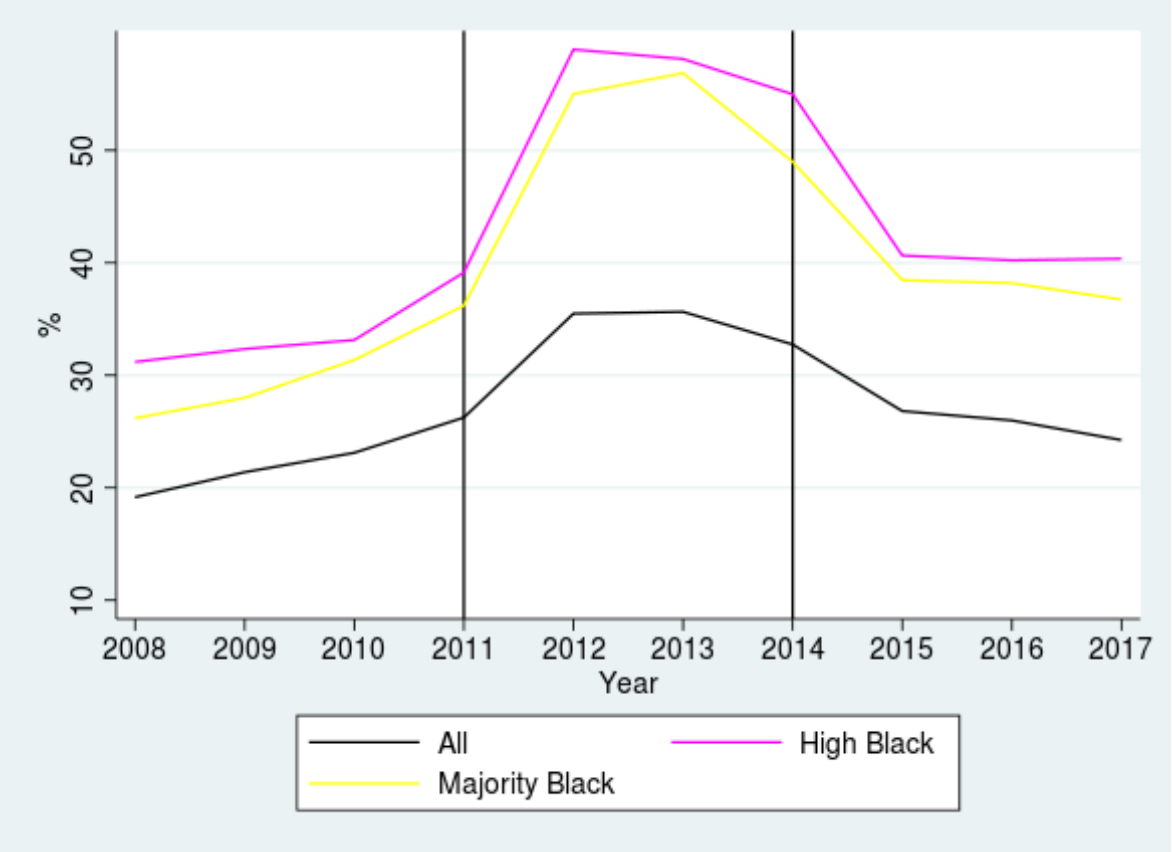


Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year who have ever borrowed student loans in our sample period. "Majority non-white" Census tracts are those where 50%-75% of residents identify neither as white race nor Hispanic ethnicity; "high non-white" tracts are those where 75% or more of residents identify as neither white race nor Hispanic ethnicity.

Figure A1: Share of Ever Student Loan Borrowers Who Potentially Fail Adverse Credit Standard, 2008-2017

(C) By Tract Black Share



Source: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and American Community Survey

Note: Sample includes all consumers age of 45 or older in each year who have ever borrowed student loans in our sample period. "Majority Black" Census tracts are those where 50%-75% of residents identify as Black; "high Black" Census tracts are those where 75% or more of residents identify as Black.

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