

# Consumer complaints throughout the credit life cycle, by demographic characteristics

Consumer Complaint Research Brief

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# 1. Introduction

This *Consumer Complaint Research Brief*<sup>1</sup> analyzes consumers who submit complaints to the Consumer Financial Protection Bureau (CFPB).<sup>2</sup> It is the first in-depth analysis published by the CFPB that seeks to understand which communities are submitting complaints and whether differences exist across various demographic and socio-economic groups.<sup>3</sup> Understanding such differences is important as consumer complaints are one of the primary ways the CFPB hears from consumers. Their complaints—and how companies respond—inform the CFPB’s efforts in supervising companies, enforcing federal consumer financial laws, writing rules and regulations, and educating consumers.

To better understand which communities are submitting complaints and whether differences exist across several demographic and socio-economic groups, we match census tract-level consumer complaint data to data from the U.S. Census 2019 American Community Survey (ACS).<sup>4</sup> Using ACS tract-level data as a proxy is necessary because the CFPB only collects limited demographic information via the complaint process. Given this approach, our analysis is best thought of as comparing different American communities. Additionally, our ability to link consumers across complaints using a consumer’s identifying information, which is not available to the public, allows us to better account for consumers with issues that span multiple products or companies, as well as consumers that submit multiple complaints about a single issue. The data set includes three years of data—from 2018 to 2020. In total, more than 63,000 tracts, out of more than 74,000 total tracts, had at least one complaint in the data.

We map complaints to a credit life cycle consisting of loan origination; servicing of performing loans (“performing servicing”); delinquent and distressed servicing and collections (“delinquent servicing”); and credit reporting (Figure 1). This approach allows us to examine consumers’

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<sup>1</sup> This research brief was prepared by Lewis Kirvan and Robert Ha.

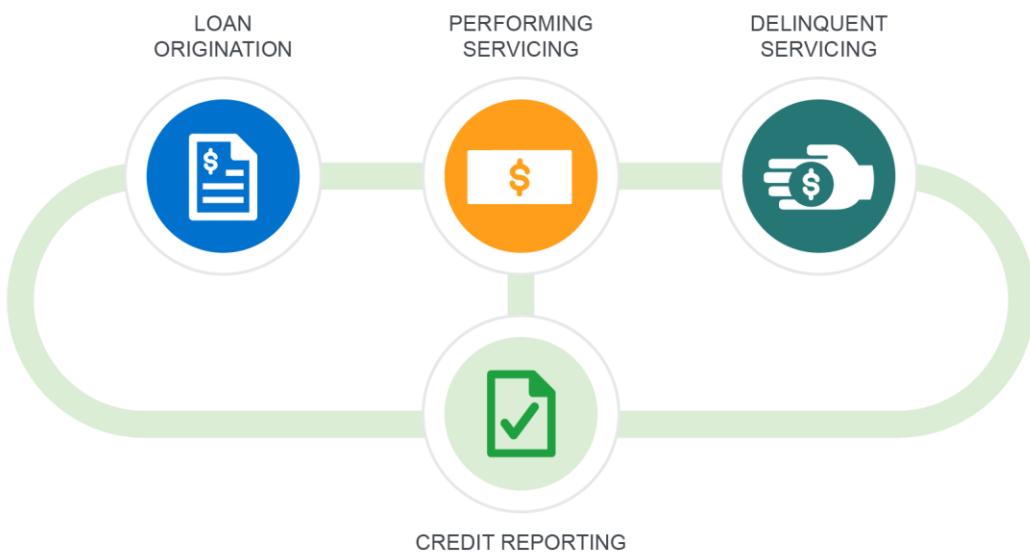
<sup>2</sup> The Dodd-Frank Wall Street Reform and Consumer Protection Act directed the CFPB to facilitate the centralized collection of, monitoring of, and response to consumer complaints regarding consumer financial products or services. See Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203 (Dodd-Frank Act), Section 1013(b)(3); see also § 1002(4) (“The term ‘consumer’ means an individual or an agent, trustee, or representative acting on behalf of an individual.”).

<sup>3</sup> The CFPB published a complaint bulletin that summarized complaints at the county-level. See Consumer Fin. Prot. Bureau, Complaint Bulletin: County-level demographic overview of consumer complaints (Apr. 2021), [https://files.consumerfinance.gov/f/documents/cfpb\\_complaint-bulletin\\_county-level-demographic-overview-consumer-complaints\\_2021-04.pdf](https://files.consumerfinance.gov/f/documents/cfpb_complaint-bulletin_county-level-demographic-overview-consumer-complaints_2021-04.pdf).

<sup>4</sup> U.S. Census 2019 American Community Survey (“2019 American Community Survey” or “ACS Survey”), <https://www.census.gov/programs-surveys/acs> (The American Community Survey provides a wide range of important statistics—e.g., race, ethnicity, education, language, employment, etc.—for every community in the nation).

financial experiences more broadly, rather than attempting to address all 13 products, and more than 40 sub-products about which consumers can submit complaints. Credit reporting, unlike other products and services, occurs throughout the credit lifecycle (e.g., creditors rely on credit reports at origination; servicers furnish payment activity; debt collectors may furnish delinquencies; etc.). Figure 1 reflects this unique feature.

**FIGURE 1:** THE CREDIT LIFE CYCLE



This research brief analyzes the relationship between census characteristics of a community and the share of consumers complaining about each stage of the credit life cycle in that community. In doing so it extends and qualifies prior research on complaints by using the CFPB's non-public data and matching to census information at a more precise level, by using consumers as our main unit of analysis instead of complaints, and by utilizing domain expertise to classify consumers' complaints into an overarching credit life cycle. We believe that these differences allow us to paint a more accurate picture of how complaints vary with the demographic characteristics considered. Our approach is explained in the next section.

Throughout the report, we analyze complaint submission rates (i.e., the number of consumers who complain per resident in a census tract). Some key findings from this report include:

- Lower income census tracts, and census tracts with a greater concentration of minority populations are associated with greater rates of submitting credit reporting complaints and delinquent servicing complaints.

- Higher income census tracts tend to submit a greater share of complaints about loan origination and performing servicing than lower income census tracts.
- A large increase in complaints about loan originations in 2020 (driven by mortgage complaints) was centered in higher income census tracts and census tracts with fewer minorities.
- Census tracts with the highest share of white, non-Hispanic consumers submit complaints about loan originations at more than twice the rate as the census tracts with the highest share of Black or African American consumers.
- Census tracts with the highest share of Black or African American consumers submit the most complaints per resident.
- Census tracts with a median income between 80% and 120% of their metropolitan statistical area (MSA) or county median tend to submit fewer complaints than census tracts with median incomes less than 80% of their MSA or county median and fewer complaints than census tracts with median incomes greater than 120% of their MSA or county median.<sup>5</sup>

This research brief is organized as follows. Section 2 of this report discusses the use of complaints and demographic information. We describe our approach and contrast it with recent work that other researchers have done combining complaints with demographic information. Section 3 provides a high-level overview of the dataset. Section 4 develops our analysis further and looks at how the differences in the use of products by demographic groups has changed from 2018 to 2020. Section 5 provides two case studies on specific geographic areas to show some trends and issues we identify in prior sections. Finally, Section 6 offers concluding remarks and contemplates future engagements about this research.

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<sup>5</sup> We compared tract-level income to an enclosing area's median income. For example, we compare tracts within a metropolitan area to the metropolitan median income. For rural areas we compare tracts to their counties. Section 2.3 describes this calculation.

## 2. Consumer complaints and demographic information

On July 21, 2011, the CFPB began accepting consumer complaints. Since then, consumers have submitted more than three million complaints to the CFPB about a variety of consumer financial products and services.<sup>6</sup> About a quarter of these—more than 700,000 complaints—have been submitted since the declaration of the coronavirus (COVID-19) national emergency on March 13, 2020. The CFPB has published several Complaint Bulletins analyzing these complaints.<sup>7</sup>

Consumer complaints are integral to the CFPB’s work. By collecting, investigating, and responding to consumer complaints, the CFPB hears directly from consumers and can better understand the types of challenges they are experiencing in the marketplace. The CFPB also has insight into how companies are responding to their customers’ concerns. Our public release of consumer complaint data, including complaint narratives, through the public Consumer Complaint Database (Database)<sup>8</sup> is, increasingly, being used in a variety of research contexts. Complaint data have been used to understand consumers’ experiences in the mortgage marketplace,<sup>9</sup> firms’ responses to changing administrations,<sup>10</sup> the relationship between a consumer’s affect and their understanding of the complaints process, and even as a source for educational resources on developing supervised machine learning models using text data.<sup>11</sup>

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<sup>6</sup> When consumers submit complaints to the CFPB, the CFPB routes their complaints—and any documents they provide—directly to financial companies, and works to get consumers a timely response, generally within 15 days. See Consumer Fin. Prot. Bureau, Learn how the complaint process works, [www.consumerfinance.gov/complaint/process/](https://www.consumerfinance.gov/complaint/process/).

<sup>7</sup> See e.g., Consumer Fin. Prot. Bureau, Complaint Bulletin: COVID-19 issues described in consumer complaints (Jul. 2021), [https://files.consumerfinance.gov/f/documents/cfpb\\_covid-19-issues-described-consumer-complaints\\_complaint-bulletin\\_2021-06.pdf](https://files.consumerfinance.gov/f/documents/cfpb_covid-19-issues-described-consumer-complaints_complaint-bulletin_2021-06.pdf); Consumer Fin. Prot. Bureau, Complaint Bulletin: Mortgage forbearance issues described in consumer complaints (May 2021), [https://files.consumerfinance.gov/f/documents/cfpb\\_mortgage-forbearance-issues\\_complaint-bulletin\\_2021-05.pdf](https://files.consumerfinance.gov/f/documents/cfpb_mortgage-forbearance-issues_complaint-bulletin_2021-05.pdf).

<sup>8</sup> See Consumer Fin. Prot. Bureau, Consumer Complaint Database, <https://www.consumerfinance.gov/data-research/consumer-complaints/>.

<sup>9</sup> See Taylor A. Begley & Amiyatosh Purnanandam, Color and Credit: Race, Regulation, and the Quality of Financial Services, 141 Journal of Financial Economics, 48–65 (2021), <https://doi.org/10.1016/j.jfineco.2021.03.001>.

<sup>10</sup> See Charlotte Haendler & Rawley Heimer, The Financial Restitution Gap in Consumer Finance: Insights from Complaints Filed with the CFPB (Jan. 2021), <http://dx.doi.org/10.2139/ssrn.3766485>.

<sup>11</sup> See Pamela Foohey, Calling on the CFPB for Help: Telling Stories and Consumer Protection, 80 Law and Contemporary Problems 177–209 (Jun. 2017), <https://scholarship.law.duke.edu/lcp/vol80/iss3/8/>.

## 2.1 External work

Several recent studies conducted by external and other government researchers have connected consumer complaints from the CFPB’s Database with proxy demographic data to estimate the race, ethnicity and economic circumstances of consumers who have submitted complaints to the CFPB.

A working paper by Davesh Raval of the Federal Trade Commission’s (FTC) Bureau of Economics examined consumer complaints submitted from 2014 to 2018 using data from Consumer Sentinel,<sup>12</sup> a database that aggregates complaints submitted to federal and state government agencies, such as the CFPB and the FTC, and to private entities like the Better Business Bureaus (BBBs).<sup>13</sup> Using the addresses linked to the consumer complaints, Raval connected the complaints with ZIP code-level U.S. Census demographic data from the 2008-2012 ACS.<sup>14</sup>

Using these proxy demographic data, Raval found that greater complaint rates were associated with communities that were more heavily Black or African American, more educated, higher income, older and more urban. Lower complaint rates, on the other hand, were associated with communities that were predominantly Hispanic or Latino and had larger household sizes. In reaching these conclusions, Raval warns that “because the demographic information is at the ZIP code-level, any inferences on demographics are best thought of as reflecting differences between different types of American communities.”<sup>15</sup>

Another working paper, conducted by researchers Taylor Begeley from the Washington University in St. Louis and Amiyatosh Purnanandam from the University of Michigan, examined consumer complaints submitted from 2012 to 2016 to analyze indications of mortgage product quality as determined by complaints citing fraud, mis-selling, and poor customer service. Like Raval, these researchers linked the consumer complaints to U.S. Census Data (i.e., 2010 Census and the 2012 ACS) at the ZIP code-level.<sup>16</sup>

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<sup>12</sup> See Devesh Raval, *Which Communities Complain to Policymakers? Evidence from Consumer Sentinel*, Economic Inquiry, Vol. 58, Issue 4, pp. 1628-1642 (Oct. 2020), <http://dx.doi.org/10.1111/ecin.12838>.

<sup>13</sup> Dodd-Frank Act, *supra* note 2, at Section 1013(b)(3)(D) (“the Bureau shall share consumer complaint information with...the Federal Trade Commission”). See also Federal Trade Comm., Consumer Sentinel Network, <https://www.ftc.gov/enforcement/consumer-sentinel-network> (last visited Sep. 7, 2021).

<sup>14</sup> More granular data, such as ZIP code information, is available to CFPB analysts and researchers, as well other users of complaint data, such as the researchers at the FTC.

<sup>15</sup> See Raval, *supra* note 12.

<sup>16</sup> See Begley & Purnanandam, *supra* note 9.

Looking exclusively at mortgage complaints, Begeley and Purnanandam found that there were more complaints in ZIP codes with lower incomes and educational attainment and larger minority populations, after controlling for mortgage lending rates.

Another recent study, a working paper by Charlotte Haendler and Rawley Heimer of Boston College, looks at differences in company responses to complaints across different communities and under different political administrations. The researchers examined consumer complaints submitted from January 2014 through March 2020, and the rates at which firms provided relief over this period. This paper also relied on ZIP code matching to census data to approximate socioeconomic demographics of the consumers who submitted these complaints.<sup>17</sup>

Haendler and Heimer found that consumer complaints submitted to the CFPB from zip codes associated with low socioeconomic status (i.e., low median household incomes and high shares of residents who are African American) were less likely to be closed with financial restitution than those from zip codes associated with high socioeconomic status. For reference, the researchers defined complaints closed with financial restitution as those labeled “closed with monetary relief” in the Database.

The researchers also found that their observed disparity in complaint outcomes existed despite no major socioeconomic differences in submission rates. They observed that this socioeconomic gap in financial restitution increased significantly under the Trump administration.

### 2.1.1 Discussion

The CFPB welcomes scholarship using consumer complaint data.<sup>18</sup> All three papers extend our collective knowledge of the financial marketplace, consumers’ use of the complaint process, and financial firms’ behavior, as revealed by complaints.

This research brief uses our access to non-public identifying and address information. Our internal complaint database includes personal information and unique identifiers that enable improvements upon what can be accomplished with our public release of data. For example, all complaints are routinely geocoded and matched to corresponding census geographies. This additional information allows us to extend and qualify this prior external research in several ways. We can perform more precise census area matching. We can track consumers across multiple complaints, enabling us to focus our analysis on consumers. And because of significant domain knowledge and experience reading and reviewing complaints, we can use a novel

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<sup>17</sup> See Haendler & Heimer, *supra* note 10.

<sup>18</sup> Indeed, it was one of several rationales for making complaint data available to the public. See e.g., Disclosure of Certain Credit Card Complaint Data, 76 FR 76628 (Dec. 8, 2011).

approach to classifying complaints. We believe that these differences allow us to paint an accurate picture of how community level complaint submission varies with the demographic characteristics considered. While we do offer some limited discussion of possible interpretations of this data, this report does not seek to test any of the possible causal explanations for the differences we identify.

### **CENSUS AREA MATCHING**

All three studies make analytical assumptions in linking the location data available on the Database to U.S. Census demographic data. But this might be problematic for several reasons. To begin, there is a lack of standard correspondence between the U.S. Census' ZIP code tabulation areas (ZCTA) and the U.S. Postal Service's ZIP code recorded on the Database. To reduce reidentification risk, some of the U.S. Postal ZIP codes available on the Database are truncated to the first three digits.

The researchers varied in their approaches to this issue. Raval linked the complaints' ZIP codes with the U.S. Census ZCTA data and conceded that not all complaints lined up perfectly. Begeley and Purnanandam instead aggregated census tract-level population data to the ZIP code-level by calculating the proportion of the population that resided within the tracts in the given ZIP code. They filtered out complaints mapped to a three-digit ZIP code. Lastly, Haendler and Hiemer mapped the ZIP codes of complaints to county-level U.S. Census data. When a complaint on the Database is mapped to a three-digit ZIP code, Haendler and Hiemer averaged the demographics of the potentially corresponding counties by population.

This research brief uses data from the CFPB's internal complaint database, matching complaints with a valid address (nearly all complaints) to U.S. Census tracts. Thus, we bypass any difficulties in reconciling complaints to census geography. Moreover, by using demographic data at the census tract-level, our demographic approximations should be more precise than those at the ZIP code- or county-level.<sup>19</sup>

### **ANALYZING COMPLAINTS VS ANALYZING CONSUMERS**

All three of these studies use consumer complaints as the base measure to reference with demographic data. This measure poses limitations, as some problems may prompt consumers to submit complaints about multiple companies related to a single issue or problem. For example, a consumer's problem with a credit or consumer report may prompt them to submit complaints about a data furnisher and one or more consumer reporting agencies. Access to non-public identifying information allows us to avoid double counting when the consumer submits multiple complaints about the same product life cycle. As shown in Figure 3 below in section 3, the

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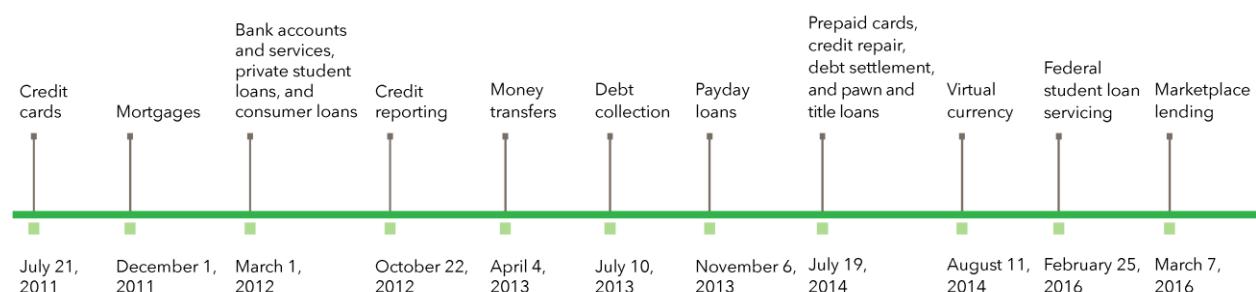
<sup>19</sup> See U.S. Census Bureau, Standard Hierarchy of Census Geographic Entities (Nov. 2020), <https://www.census.gov/housing/hvs/files/currenthvspress.pdf> (last accessed Sep. 7, 2021).

number of consumer complaints and unique consumers has diverged over time, especially for credit reporting complaints. As explained more fully in the next section, this research brief measures the complaint-submitting behavior of individual consumers.

## CFPB INTAKE OF COMPLAINTS

Lastly, the process for consumers to submit complaints has evolved since the CFPB first opened and started collecting complaints in 2011. The types of products and sub-products available on the CFPB complaint form expanded through 2016 as new products were introduced (Figure 2). For instance, the CFPB began accepting complaints for prepaid cards, credit repair, debt settlement, and pawn and title loans in July 2014, virtual currency in August 2014, and federal student loan servicing in February 2016.

**FIGURE 2: TYPES OF COMPLAINTS OVER TIME**



The consumer complaint form, used by most consumers who submit complaints, was revised in April 2017 to streamline and reorganize some product and issue options, as well as to make some plain language improvements.<sup>20</sup> In addition, changes to the form gave consumers with credit reporting complaints the option to identify each company involved in the problem and have the complaint sent to each company simultaneously. As a result of this 2017 revision, some products and issues experienced notable changes in complaint volume. Because companies may triage complaints based on the products and issues that are cited in them, changes in complaint intake could have produced downstream effects on consumer outcomes.

As the intake of complaints has not been constant, it is difficult to exclude the possibility that form revision played a role in any differences observed between the periods before and after the revision. For research projects that span this period, special care should be taken to account for changes to these products and issues. To mitigate these potential issues, our analysis relies only

<sup>20</sup> See Consumer Fin. Prot. Bureau, CFPB Summary of product and sub-product changes (Apr. 24, 2017), [https://files.consumerfinance.gov/f/documents/201704\\_cfpb\\_Summary\\_of\\_Product\\_and\\_Sub-product\\_Changes.pdf](https://files.consumerfinance.gov/f/documents/201704_cfpb_Summary_of_Product_and_Sub-product_Changes.pdf).

on complaints submitted through the online form or over the phone during the 2018-2021 period.

## 2.2 The credit life cycle

This report takes a novel approach to classifying and analyzing complaints. The CFPB accepts complaints in 13 major product areas, many sub-products, and many issues and sub-issues. This level of granularity provides rich and specific information across the spectrum of products that consumers use and about the issues they have with those products. This brief is intended to provide a broader view of consumers' experiences—it is about the forest of peoples' experiences with borrowing, not the trees.

Accordingly, based on the consumer's choice of products and issues, we map complaints onto one of four broader problem areas that correspond to the potential life cycle of a range of credit products. These areas are loan origination, performing servicing loans, delinquent servicing, and credit reporting. This mapping is available in the Appendix. Complaints about bank accounts, money transfer services, and other financial products that do not primarily involve the extension of credit are excluded from this mapping. Because short-term lending products have a life cycle that differs from other types of credit in substantial ways, they were also excluded.

Additionally, to account for the differing behavior of complaint submitters across products, this analysis does not focus on total complaints. Rather, within each census tract, we count each unique consumer once per year for each credit life cycle category about which they submitted a complaint. This method accounts for the complexity of some complaints that touch on multiple aspects of the credit life cycle as well as the tendency of consumers to submit multiple complaints in some product areas. For example, if a single consumer had a mortgage servicing issue that led to negative credit reporting, and the consumer submitted a mortgage servicing complaint against their mortgage servicer and a credit reporting complaint against each of the nationwide credit reporting agencies, they would be counted for two stages of the credit life cycle—once for performing servicing and once for credit reporting. This method allows us to make statements about the shares of consumers in a given census tract who complained about each life cycle category.

Table 1 below shows total complaints and the total unique consumers for each of these life cycle categories. We use a combination of full name and email to identify unique consumers in the dataset. Because we rely on product and issue selection our sample is also limited to complaints

submitted through the online form or over the phone (i.e., those complaints where consumers affirmatively made a product and issue selection).<sup>21</sup>

TABLE 1: COMPLAINTS AND CONSUMERS ACROSS THE CREDIT LIFE CYCLE. ALL VALUES ARE IN THOUSANDS.

Life cycle category	2018 Complaints	2018 Consumers	2019 Complaints	2019 Consumers	2020 Complaints	2020 Consumers
Loan origination	6,763	6,162	7,482	6,711	9,651	8,825
Performing servicing	29,117	25,866	30,164	26,851	33,548	29,494
Delinquent servicing	53,194	38,025	49,652	35,306	54,554	36,643
Credit reporting	99,505	38,587	131,032	49,098	271,134	86,171

## 2.3 Demographics

This report relies on matching consumer address information to census tracts. We consider four tract-level demographic measures: percentage of area median income (AMI), share of Black or African American residents, share of Hispanic or Latino residents, and share of Asian American or Pacific Islander residents.<sup>22</sup> We treat the community-level differences described in this report as reflective of differences in communities' use of the complaint process. We believe these differences do reflect some aspects of consumers' experiences of the credit marketplace but should be interpreted with care as they may reflect several other factors, including the availability of products and services, different patterns of use by different groups, and different communities' propensity for, or ability, to complain.

To calculate the percentage of AMI, we compare census tract median income to a larger enclosing area's median income. Core-Based Statistical Areas (CBSAs) are used to identify relevant medians for this comparison; where census tracts do not fall within CBSAs, county-level medians are used. For example, a tract with a median income of \$74,000 in a CBSA with a median income of \$100,000 is at 74% of the area's median income. Bins for this measure are less than 80%, between 80 and 120%, and greater than 120% of area medians.

To understand how communities with different racial or ethnic characteristics experience the credit marketplace differently, we group the census tract level share of residents for a particular

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<sup>21</sup> We exclude a small number of complaints that are received via direct mail.

<sup>22</sup> Asian American or Pacific Islander includes two census categories: Asian and Pacific Islander. We also sometimes provide information about white, non-Hispanic share for comparison or baseline.

race or ethnicity, and comparisons are made between census tracts with the highest share of a race or ethnicity and census tracts with the lowest share of a race or ethnicity.<sup>23</sup> This table shows the raw population totals, number of census tracts, and share of minority populations for the groups.<sup>24</sup> Throughout the rest of this report, we will refer to these groups as “high,” “medium,” and “low.” The highest group is the group with the greatest share of a minority population or the highest area median income.

A detailed table, providing complaint and population information for these bins across the credit life cycle, is included in the Appendix.

**TABLE 2:** MINORITY POPULATION AND TOTAL NUMBER OF TRACTS FOR UNIVARIATE CLUSTERING BINS FOR DEMOGRAPHIC GROUPS. ALL VALUES ARE IN THOUSANDS.

Group	Bin	Minority population total	Number of tracts	Share minority total
Black or African American				
	High (> 54%)	14,961,255	5,646	35.95%
	Mid (between 17% and 54%)	15,522,547	11,388	37.29%
	Low (< 17%)	11,137,516	56,264	26.76%
Hispanic or Latino				
	High (> 56%)	25,121,229	6,694	40.68%
	Mid (between 20% and 56%)	21,414,846	12,970	34.68%
	Low (< 20%)	15,219,214	53,634	24.64%
Asian American or Pacific Islander				
	High (> 33%)	4,796,927	1,956	25.89%
	Mid (between 9% and 33%)	7,668,970	9,268	41.39%
	Low (< 9%)	6,064,686	62,074	32.73%

<sup>23</sup> We use univariate clustering to identify appropriate cut points for our bins. This method of binning is designed to identify groups of tracts that have a more concentrated minority population, compared with simple quantiles. The breaks for the groups are identified in Table 2. With this method the cutoffs are determined by clustering the census tract level shares using the k-means algorithm with three clusters. This method of clustering univariate data is often used in mapping contexts because it identifies natural breaks that can make choropleth maps more readable and accurate. Compared with bins that cut tracts based on a fixed share (i.e., thirds), this method increases the difference in percentage share between the high and low bins, while also increasing the number of tracts and total population in the highest concentration bin.

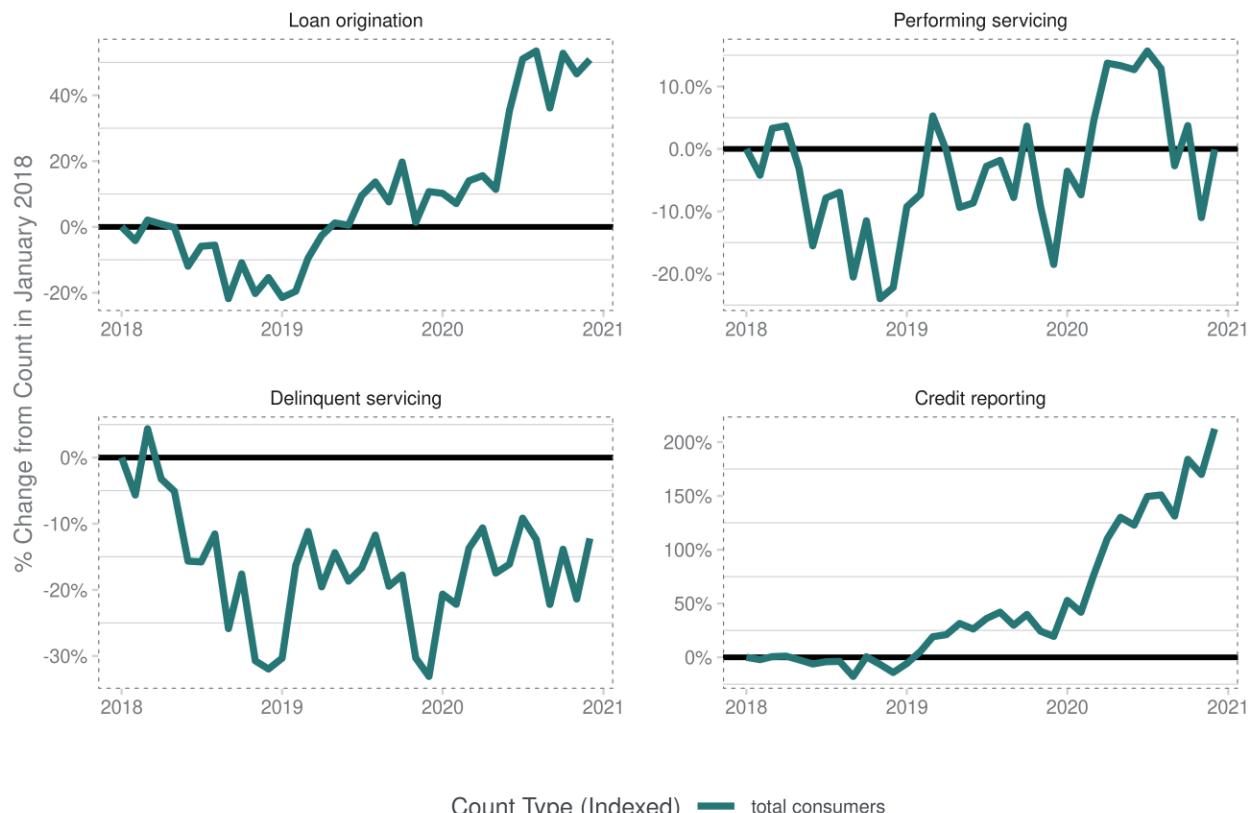
<sup>24</sup> As mentioned above, for the three years of complaint data included in this report, approximately 10,000 census tracts (out of more than 74,000) were not observed. These tracts were coded as having zero complaints and zero complaining consumers but were included in the binning process for income and race or ethnicity.

### 3. Data overview

The volume of consumers submitting complaints to the CFPB has increased significantly over the last 18 months, from February 2020 to July 2021. In particular, we saw large increases in the volume of consumers with credit reporting and loan origination complaints that roughly coincided with the declaration of COVID-19 national emergency in March 2020.

Figure 3 is indexed to January 2018 and includes monthly time series of total consumers submitting complaints to the CFPB for each of the credit life cycle categories. The top left plot, which contains information for loan origination, shows large increases in monthly complainant volume, with steep upticks starting in the summer of 2020. The volume of consumers with loan origination complaints, driven mainly by mortgage complaints, is now around 50% higher than it was at the beginning of 2018. Much of this volume appears to be related to refinancing of existing mortgages as consumers try to take advantage of historically low interest rates.

**FIGURE 3:** INDEXED MONTHLY TIME SERIES OF CREDIT LIFE CYCLE STAGES FOR NUMBER OF CONSUMERS. SERIES ARE INDEXED TO JANUARY 2018 VALUES.



The number of consumers with credit reporting complaints increased even more. Beginning in March 2020, the number of consumers with credit reporting complaints increased rapidly from levels that were already elevated in 2019.<sup>25</sup> Because of its unique role in the credit life cycle, downstream from past credit and upstream from new credit, the increase in the number of consumers with credit reporting complaints may also bear some relationship to consumers' attempts to improve credit scores as they seek new credit, especially given current mortgage interest rates.

The number of consumers with servicing complaints temporarily increased following the onset of the pandemic. Many of these complaints involved consumers attempting to resolve credit card disputes for transactions, such as travel plans that were cancelled because of the pandemic.<sup>26</sup> The number of consumers with delinquent servicing complaints have declined slightly from their 2018 levels and remained low throughout 2020. This decline suggests that the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which became effective in March 2020 and provided relief for struggling homeowners with federally backed mortgages have been effective.<sup>27</sup>

Student loan servicing complaints in particular saw large declines in volume. Beginning in March 2020, the U.S. Department of Education's Office of Federal Student Aid and the CARES Act provided relief to borrowers with government-owned federal student loans.<sup>28</sup> Relief included suspension of loan payments, a 0% interest rate, and stopped collections on defaulted loans.

We also look at how complaint submission rates vary with the demographic characteristics we are considering. But, before we do, a word of caution on interpretation of these results.

Differences in the complaint submission rates of communities with differing demographic characteristics do not necessarily reflect only differences in the incidence of issues consumers

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<sup>25</sup> See Consumer Fin. Prot. Bureau, Consumer Response Annual Report (Mar. 2021) at Section 4.1, [https://files.consumerfinance.gov/f/documents/cfpb\\_2020-consumer-response-annual-report\\_q3-2021.pdf](https://files.consumerfinance.gov/f/documents/cfpb_2020-consumer-response-annual-report_q3-2021.pdf).

<sup>26</sup> *Id.* at Section 4.3.

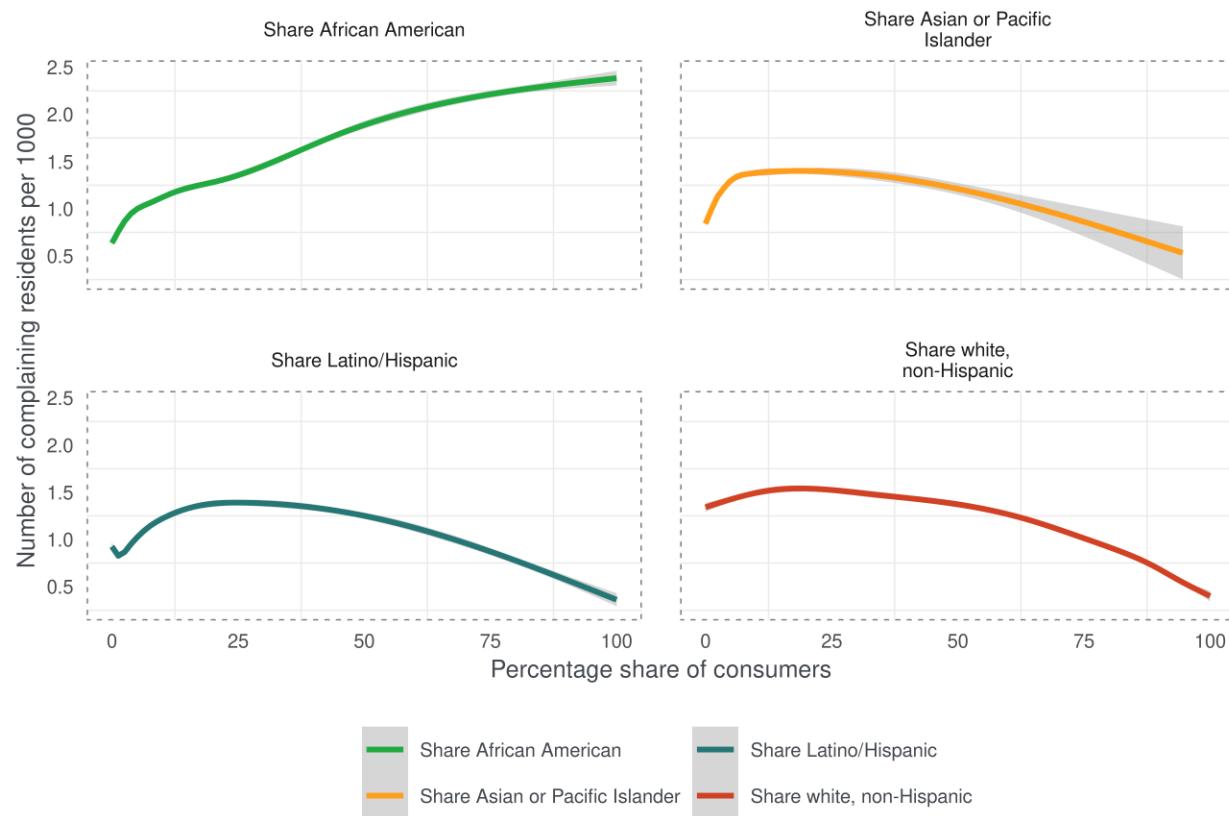
<sup>27</sup> In March 2020, Congress passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act that, among other things, provided relief to homeowners. Under the CARES Act, homeowners with an eligible mortgage who had experienced financial hardship due to the pandemic had the right to request and obtain a forbearance on their mortgage for up to 180 days. Homeowners additionally had the right to request and obtain an extension for up to another 180 days (for a total of up to 360 days). The CARES Act also established a moratorium on mortgage foreclosures. *See* 15 U.S.C. § 9056(c). Borrowers with certain types of mortgages who requested additional forbearance were able to extend their forbearance for up to 18 months. *See* Consumer Fin. Prot. Bureau, Learn about mortgage relief options and protections, <https://www.consumerfinance.gov/coronavirus/mortgage-and-housing-assistance/mortgage-relief/> (last accessed Sep. 7, 2021). *See also* Consumer Fin. Prot. Bureau, Complaint Bulletin: Mortgage forbearance issues described in consumer complaints, *supra* note 7.

<sup>28</sup> See U.S. Department of Education, Coronavirus and Forbearance Info for Students, Borrowers, and Parents: History of the COVID-19 Emergency Relief Flexibilities, <https://studentaid.gov/announcementsevents/coronavirus> (last accessed Sep. 7, 2021). *See also* Consumer Fin. Prot. Bureau, Complaint Bulletin: COVID-19 issues described in consumer complaints, *supra* note 7, at Section 2.

are having. These differences almost certainly reflect several distinct factors: credit products' availability in a particular community and the terms on which it is offered, the patterns of use of those products by different groups of consumers, the incidence of different problems in those communities, and the rate at which different consumers come to the CFPB with the problems that do occur. More fully addressing the range of causal factors that give rise to the differences we observe in different community's tendency to submit complaints is beyond the scope of this report, which is focused primarily on providing a thorough description of these differences. Given these unknowns, we treat the community-level differences described in this report as reflective of differences in communities' tendency to use the complaint process for a particular issue or product. These differences do reflect aspects of consumers' differing experiences of the credit marketplace but should be interpreted with caution given these limitations.

Figure 4, below, shows estimates of the number of consumers complaining per every thousand residents, across the range of demographic characteristics. For groups other than Black or African Americans, as the share of a race or ethnicity increases the rate of submitting first increases and then slowly declines. By contrast, as the share of African American residents increases, the rate of submitting complaints continues to increase across virtually the whole range of shares. This difference is substantial, but it is unclear what factors contribute to the higher rates of submission in communities with a high share of Black or African American residents. One possible explanation is that it reflects neighborhood "learning" of some kind—i.e., information about the complaint process may have spread significantly in some Black or African American communities.

**FIGURE 4:** ESTIMATED MEAN NUMBER OF RESIDENTS SUBMITTING COMPLAINTS PER 1000 RESIDENTS FOR TRACTS FROM ZERO TO HUNDRED PERCENT SHARE OF RACE. CONDITIONAL MEANS ARE ESTIMATED USING CUBIC REGRESSION SPLINES. CONFIDENCE INTERVALS ARE 95%.

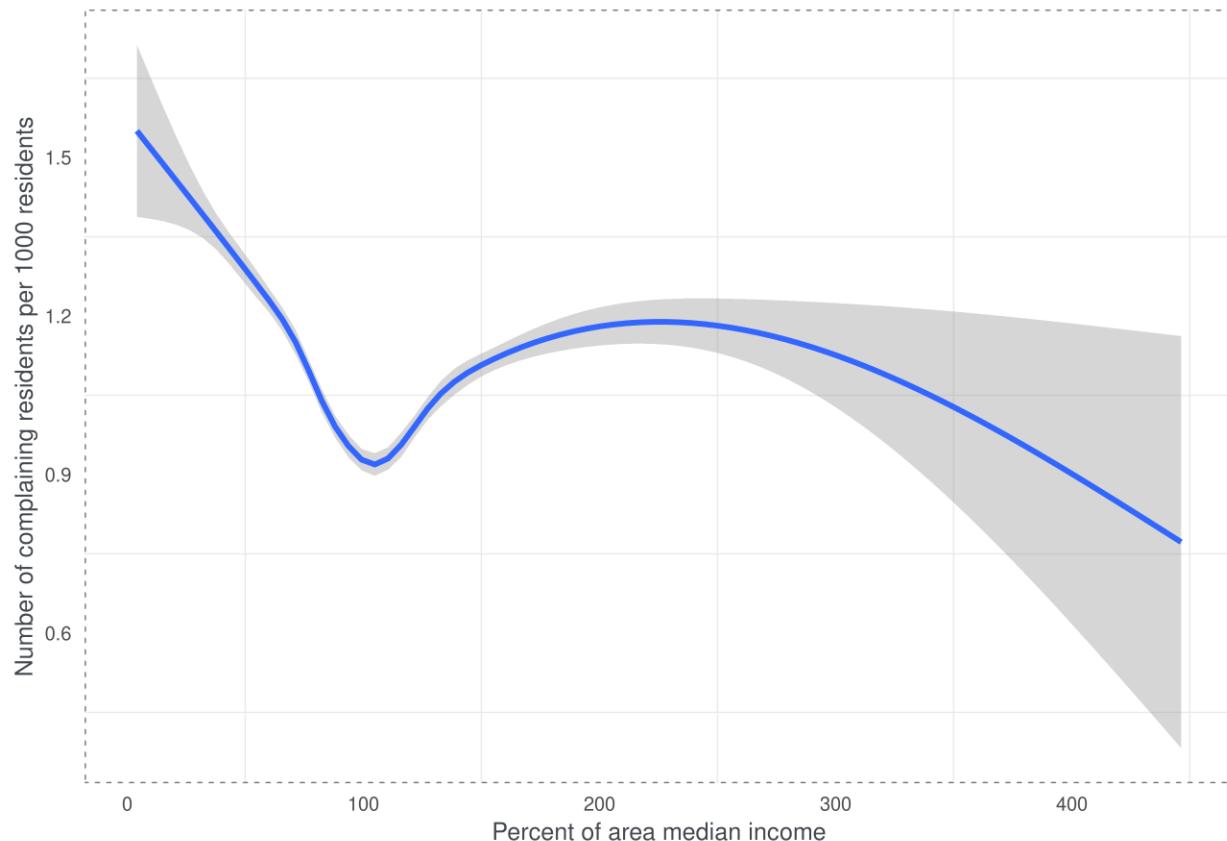


For the share of Black or African American residents, the estimated number of residents submitting complaints per thousand peaks at nearly 2.4 for tracts with the greatest percent share of Black or African Americans. Census tracts with the greatest shares of Black or African Americans (over 95%) have estimated complaint rates that are double the rates for tracts where around 5% of residents are Black or African American. By contrast, the number of residents submitting complaints peaks at around 1.4 complaining consumers per thousand residents, for tracts that have around 25% Hispanic or Latino residents. The average number of consumers submitting complaints for tracts that are 95% Hispanic or Latino is around half the average number of complainants in the least concentrated tracts.

Looking across the values of AMI in Figure 5, below, provides insight into which consumers submit complaints to the CFPB. The lowest-income census tracts submit the most complaints; census tracts with median incomes around 40% of the enclosing area's median income have around 1.3 consumers submitting complaints per thousand residents. Census tracts at around 100% of AMI have only one resident submitting complaints per thousand residents. The number of complainants again increases in census tracts with median income around 200% of the larger

area's median income, with roughly 1.2 consumers submitting complaints per thousand residents.

**FIGURE 5:** ESTIMATED MEAN NUMBER OF CONSUMERS SUBMITTING COMPLAINTS PER 1000 RESIDENTS FOR TRACTS ACROSS THE VALUES OF PERCENTAGE OF AREA MEDIAN INCOME. CONDITIONAL MEANS ARE ESTIMATED USING CUBIC REGRESSION SPLINES.



The Appendix to this report provides additional detail about how demographic characteristics vary across the credit life cycle. We include this appendix to provide additional context to help better understand how census tract-level demographic characteristics vary with different shares of complaints about the credit life cycle. It presents a series of plots depicting the coefficients of models fit to each year of the data. Each model predicts the census tract-level demographic characteristic using the shares of consumers in each life cycle. Each plot is also accompanied by relevant predictive comparisons.

# 4. Analysis

This section takes a deeper look at how the demographic characteristics of communities vary across credit life cycle stages. In each demographic bin, we examine the share of consumers submitting complaints about a particular life cycle stage. Because consumers can, and often do, submit complaints about more than one life cycle category, the total shares in this section do not sum to 100%. We also calculate and consider the relative difference in these shares between the high bin (i.e., the bin with the highest income or share of race) and the low bin (i.e., the bin with the lowest income or share of race). The relative difference is calculated as follows:

$$RD = (high - low)/low$$

By looking at these relative differences, we can compare the credit life cycle categories, even where there is a large difference in the overall share of consumers submitting complaints between categories, because all the values are on the same scale.<sup>29</sup> We then look at how these percentage differences have evolved over the last three years.

## 4.1 Income

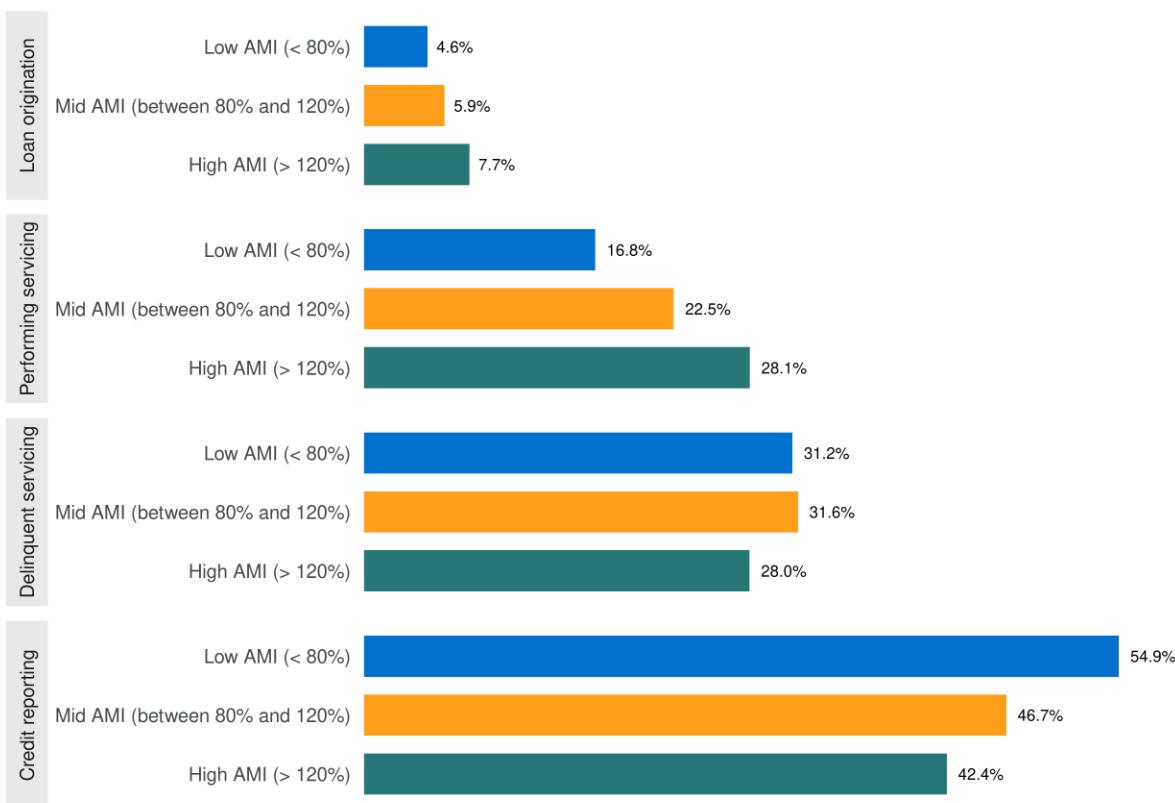
We first examine the relationship between a community's percentage of AMI with the share of consumers in those communities who have submitted complaints about each credit life cycle category.

As shown in Figure 6, below, there are noticeable differences in the shares of consumers submitting complaints about each credit life cycle category between AMI percentage bins, with large differences across all categories between the lowest AMI bin (i.e., an AMI percentage lower than 80%) and the highest (i.e., an AMI percentage higher than 120%).

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<sup>29</sup> For example, roughly ten times as many consumers complain about credit reporting as complain about loan originations.

**FIGURE 6:** SHARES OF CONSUMERS FROM DIFFERENT RELATIVE INCOME CATEGORIES WHO SUBMITTED COMPLAINTS ABOUT EACH CREDIT LIFE CYCLE CATEGORY



As the graph shows, 5% of consumers from the lowest AMI bin submitted complaints about loan origination versus 8% from the highest AMI bin.

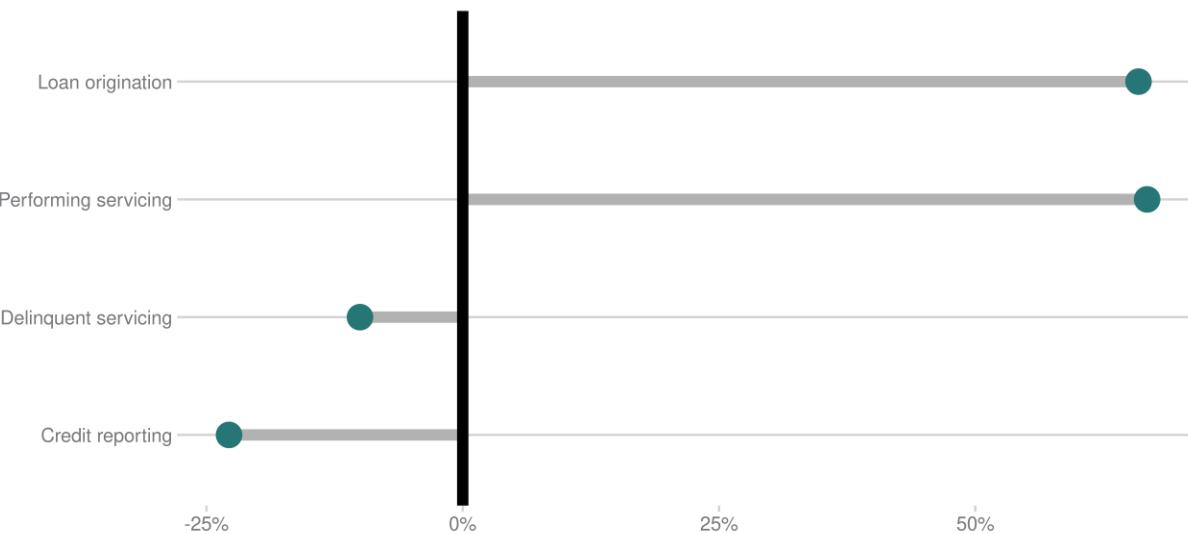
In addition, credit reporting was the credit life cycle category that captured the biggest share of consumers for all income bins: 55% share of consumers from the lowest AMI bin versus 42% from the highest AMI bin.

The credit life cycle category shares from the middle AMI groups are generally situated between the low and high AMI groups and highest AMI, except in the case of delinquent servicing. This suggests that the other credit lifecycle categories share decreases or increases dependent on that life cycle groups median income. For communities with relatively high incomes, complaints about loan originations and performing servicing are relatively more common and complaints about credit reporting and delinquent servicing are relatively less common.

The relative difference in shares between the high and low income bins, depicted in Figure 7, provide a measure of the degree to which complaints about a particular lifecycle category are

present in communities with higher income at a greater rate (positive values) or present at a lesser rate (negative value).

**FIGURE 7: RELATIVE DIFFERENCE IN SHARES BETWEEN TRACTS WITH 120% OR GREATER OF THE AREA MEDIAN INCOME AND TRACTS WITH 80% OR LESS OF THE AREA MEDIAN INCOME FOR THE STAGES OF THE CREDIT LIFE CYCLE**

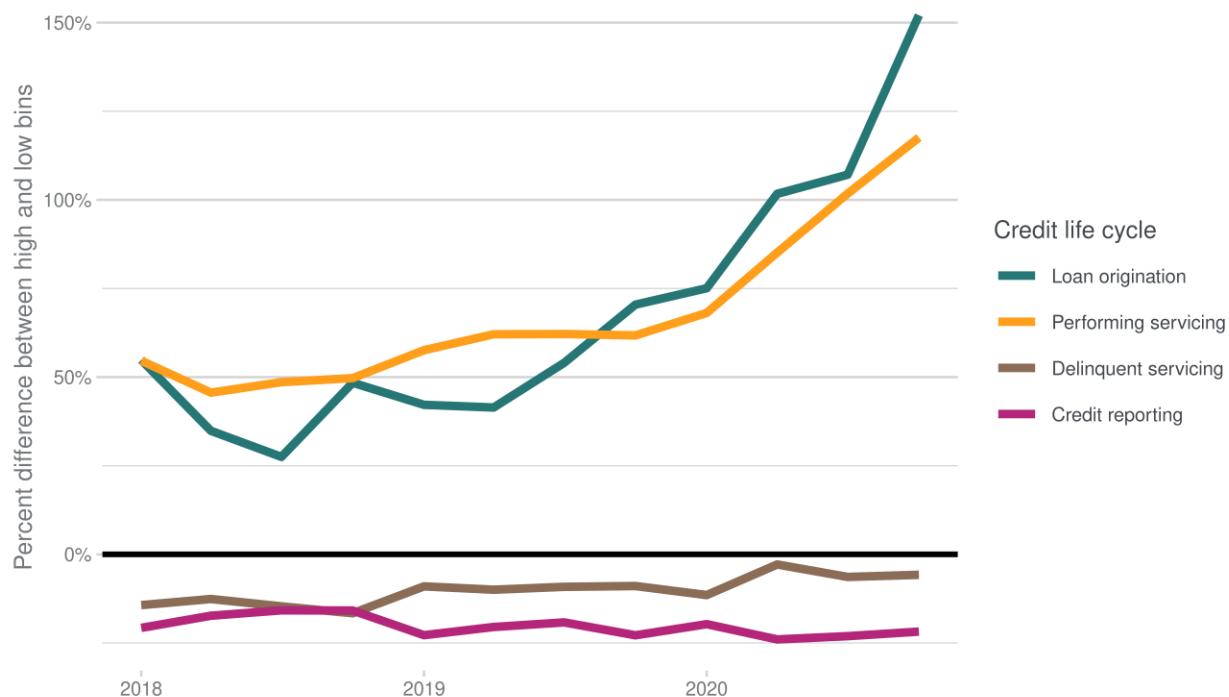


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Positive values mean tracts with AMI > 120% residents have a greater share. Negative values mean tracts with AMI < 80% residents have a greater share.

Communities with the highest AMI submitted complaints about performing servicing at a frequency of 67% greater than those from the lowest AMI bin. On the other end of that spectrum, the share of consumers from the highest AMI bin submitting complaints about credit reporting was 23% lower than for the lowest AMI bin. Credit reporting is the credit life cycle category that is the most underrepresented in the highest AMI bin.

**FIGURE 8:** MONTHLY TIME SERIES OF RELATIVE DIFFERENCE BETWEEN CENSUS TRACTS WITH HIGHEST INCOMES AND CENSUS TRACTS WITH LOWEST INCOMES FOR THE STAGES OF THE CREDIT LIFE CYCLE



Positive values mean tracts with AMI > 120% residents have a greater share. Negative values mean tracts with AMI < 80% residents have a greater share.

Figure 8, above, shows how differences between the highest AMI bin and the lowest increased substantially during 2020 for loan origination and performing servicing. The main issues accounting for these changes relate to applying for—or refinancing—an existing mortgage, closing a mortgage, and issues getting a credit card.

The relative difference in share between the high and low bins declined for delinquent servicing somewhat in 2019 and 2020. This trend is in line with other research suggesting that lower income consumers are using stimulus payments to pay-off debts at a fairly high rate.<sup>30</sup>

<sup>30</sup> See Olivier Armantier et al., “How Have Households Used Their Stimulus Payments and How Would They Spend the Next?,” Federal Reserve Bank of New York, Liberty Street Economics (Oct. 2020), <https://libertystreeteconomics.newyorkfed.org/2020/10/how-have-households-used-their-stimulus-payments-and-how-would-they-spend-the-next.html>.

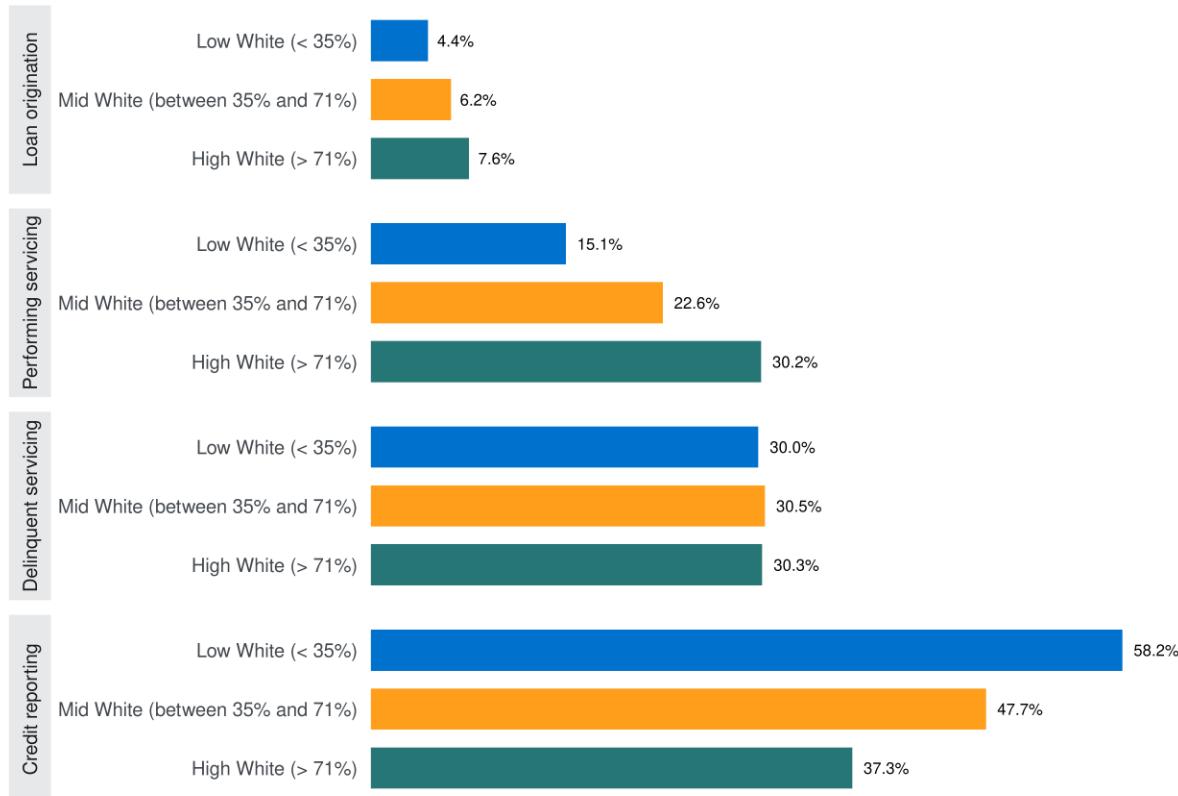
## 4.2 Race and ethnicity

This section focuses on the three largest minority groups in the U.S.: Black or African Americans, Latinos or Hispanics, and Asian American or Pacific Islanders. We also include information about white, non-Hispanic residents for comparison. This section follows the same approach used with income, by first looking at differences in credit life cycle categories for these groups and looking at how these differences have evolved over the last three years.

We first examine the relationship between a community's percentage of white, non-Hispanic residents with the share of consumers submitting complaints about each credit life cycle category.

As shown in Figure 9, below, there are noticeable differences in the shares of consumers submitting complaints about a credit life cycle category between each white, non-Hispanic percentage bin, with the largest differences being between the lowest white, non-Hispanic percentage bin (i.e., a percentage less than 35%) and the highest (i.e., a percentage greater than 71%). The trends match those we saw when we analyzed community AMI—wealthier census tracts and census tracts with more white, non-Hispanic residents both have a greater share of consumers with loan origination and performing servicing complaints, and a lower share of consumers with credit reporting and delinquent servicing complaints.

**FIGURE 9:** SHARE OF CONSUMERS WITH COMPLAINTS ABOUT EACH CREDIT LIFE CYCLE CATEGORY FOR CENSUS TRACTS WITH DIFFERENT CONCENTRATIONS OF WHITE, NON-HISPANIC RESIDENTS.



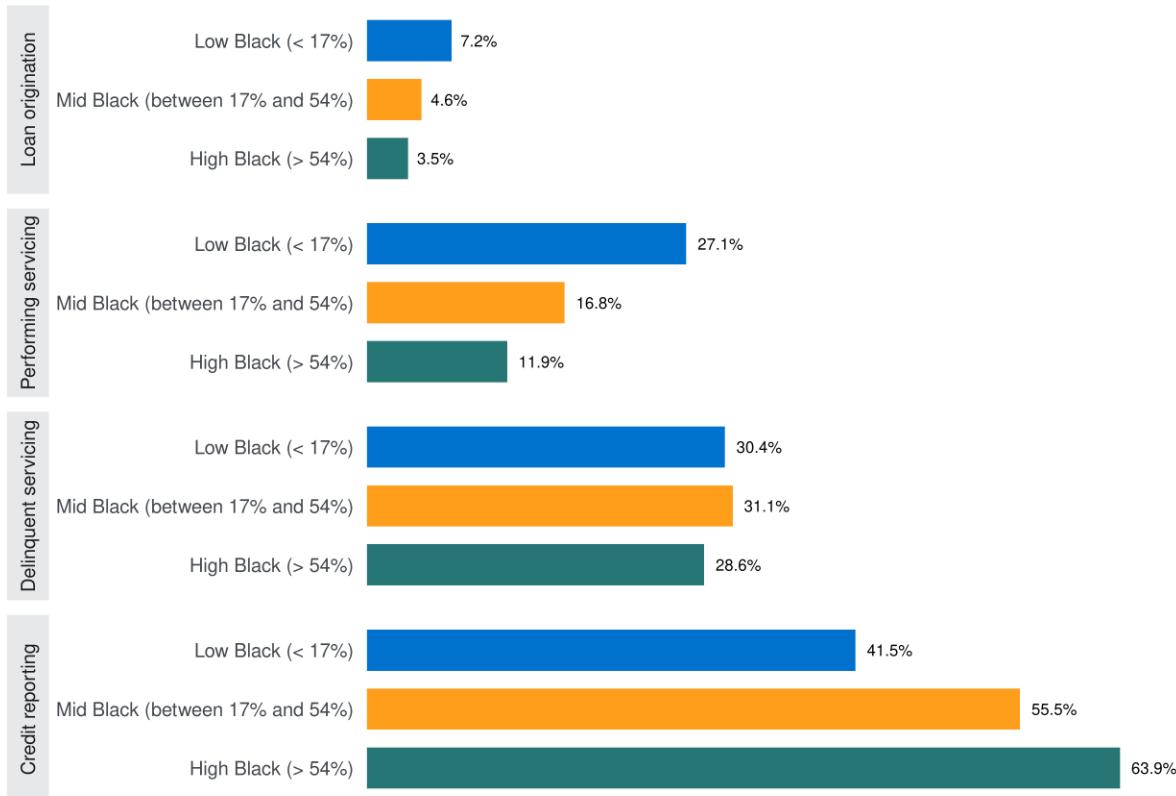
As the graph shows, 4% of consumers from the lowest white, non-Hispanic percentage bin submitted complaints about loan origination versus 8% from the highest.

The same graph shows that the credit life cycle category that captured the biggest share of consumers for all white, non-Hispanic percentage bins—similar to the income bins—was credit reporting: 58% of consumers from the lowest white, non-Hispanic percentage bin submitted complaints about credit reporting versus 37% from the highest.

Similar again to income, the credit life cycle category shares from the middle white, non-Hispanic percentage bin are, aside from delinquent servicing, between the shares of the lowest and highest white, non-Hispanic percentage bins. As such, it appears as though a credit life cycle category share of consumers in a bin also decreases or increases dependent on that bin's white, non-Hispanic percentage.

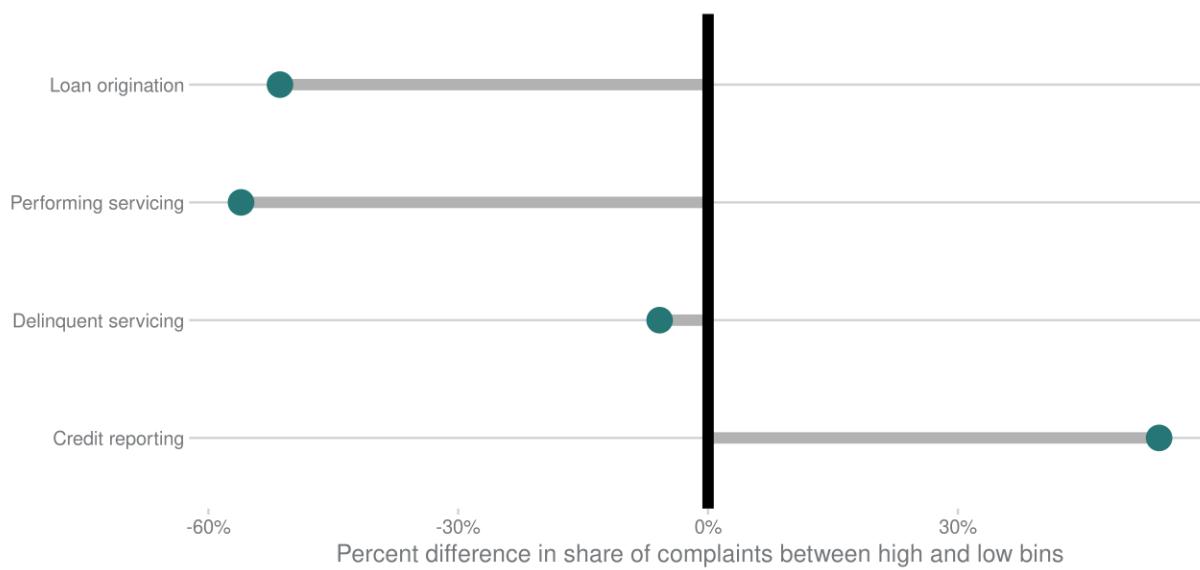
With that point of comparison established, we look at the credit life cycle shares for minority demographics, starting with Black or African American population percentages.

**FIGURE 10:** SHARE OF CONSUMERS WITH COMPLAINTS ABOUT EACH CREDIT LIFE CYCLE CATEGORY FOR COMMUNITIES WITH DIFFERENT CONCENTRATIONS OF BLACK OR AFRICAN AMERICAN RESIDENTS



In Figure 10, above, the relationships between the tracts with the highest share of Black or African Americans residents and those with the lowest share are consistently inverted from that of white, non-Hispanic population shares across the credit life cycle categories. The credit life cycle categories overrepresented in the highest AMI and white, non-Hispanic percentage bins are underrepresented in the highest Black or African American percentage bin (i.e., loan origination and performing servicing) while the categories underrepresented in the highest AMI and white, non-Hispanic percentage bins are overrepresented in the highest Black or African American percentage bin (i.e., credit reporting). A large share of complaints from high Black or African American census tracts concern credit reporting.

**FIGURE 11: RELATIVE DIFFERENCE IN SHARE OF CONSUMERS SUBMITTING COMPLAINTS BETWEEN COMMUNITIES WITH THE HIGHEST CONCENTRATION OF BLACK OR AFRICAN AMERICAN RESIDENTS AND COMMUNITIES WITH LOWEST CONCENTRATION OF AFRICAN AMERICAN RESIDENTS FOR THE CREDIT LIFE CYCLE STAGES**

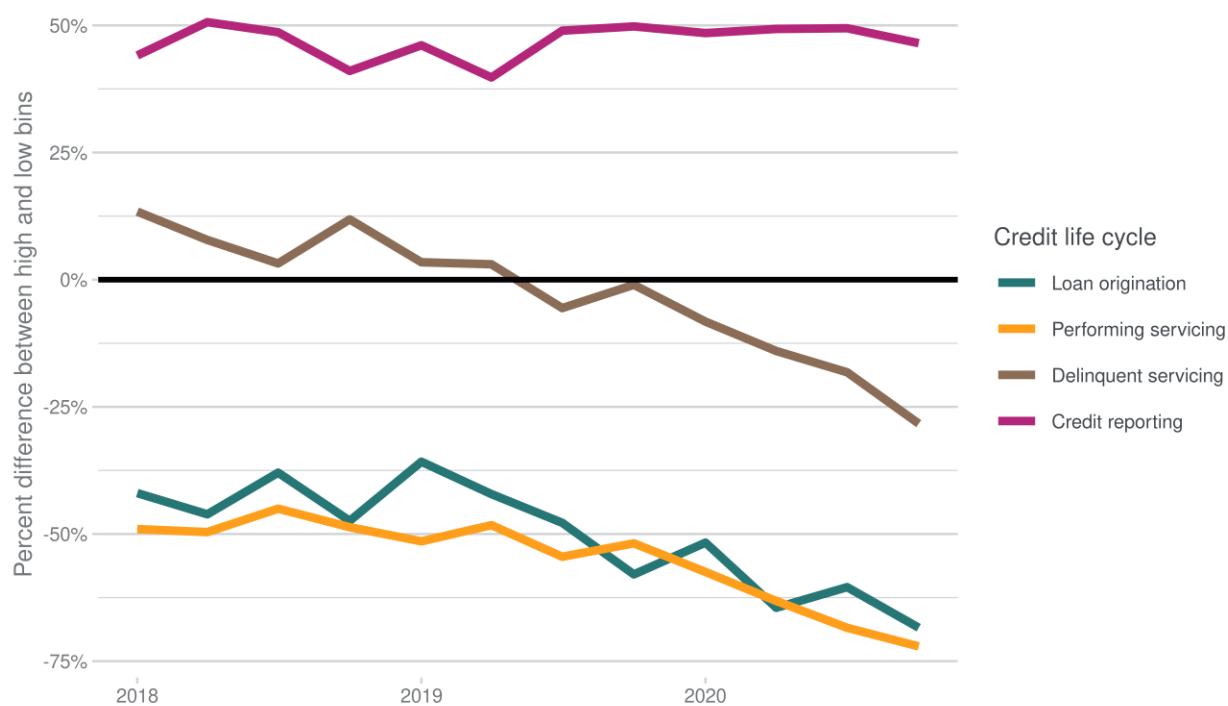


Positive values mean tracts with predominantly Black or African American residents have a greater share.

Negative values mean tracts with lowest concentration of Black or African American residents have a greater share.

Out of the four credit life cycle categories, percentage differences between the highest Black or African American percentage bin and the lowest were the following: loan origination (-51%), performing servicing (-56%), delinquent servicing (-6%), and credit reporting (54%).

**FIGURE 12:** MONTHLY TIME SERIES OF RELATIVE DIFFERENCE BETWEEN CENSUS TRACTS WITH THE HIGHEST CONCENTRATION OF BLACK OR AFRICAN AMERICAN RESIDENTS AND CENSUS TRACTS WITH LOWEST CONCENTRATION OF BLACK OR AFRICAN AMERICAN RESIDENTS FOR THE STAGES OF THE CREDIT LIFE CYCLE.



Positive values mean tracts with predominantly Black or African American residents have a greater share.

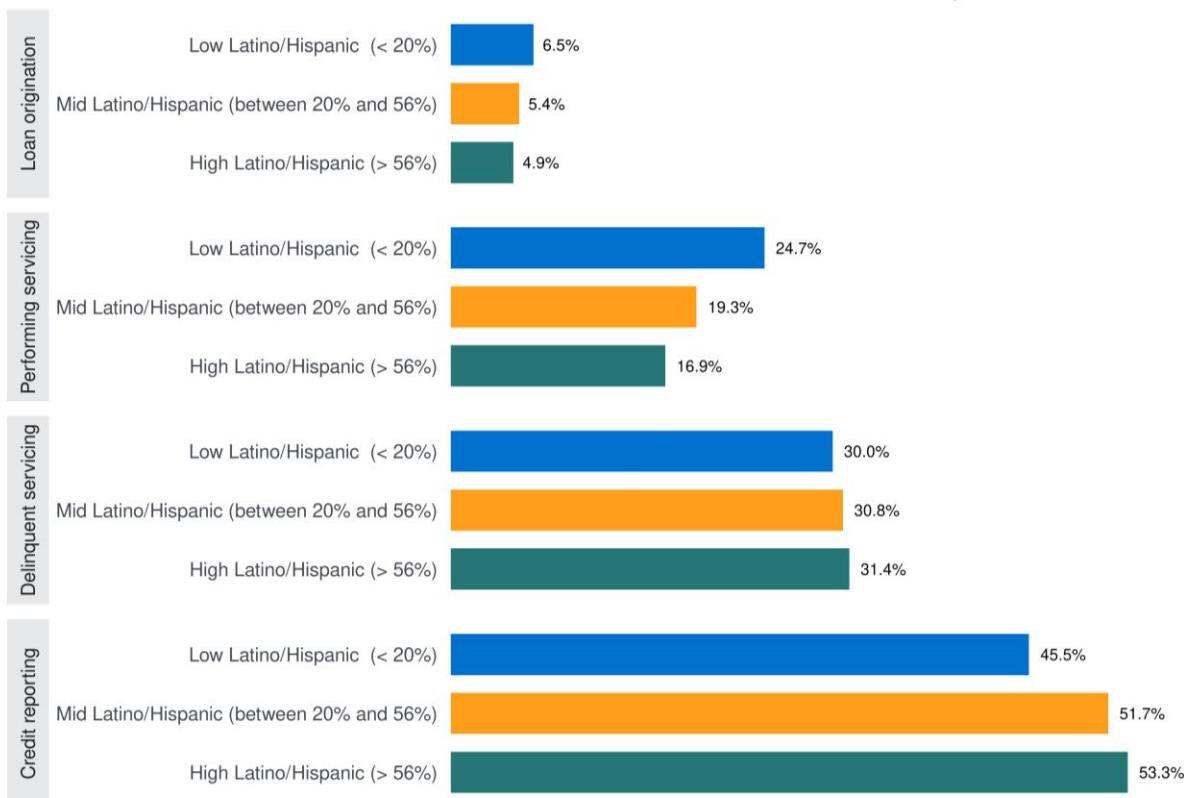
Negative values mean tracts with lowest concentration of Black or African American residents have a greater share.

The declining percentage difference for loan origination and performing servicing indicates an increasingly large gap between Black or African American communities and other communities in complaints about performing loan servicing and new loan originations. The large and increasing concentration of these complaints in communities with a smaller Black or African American population may reflect differences in access to credit, especially given that the pandemic may have inspired a “flight to safety” among some lenders.<sup>31</sup> Persistently high differences in rates of submitting credit reporting complaints suggests that Black or African

<sup>31</sup> See e.g., Akos Horvath et al., “The COVID-19 Shock and Consumer Credit: Evidence from Credit Card Data,” Finance and Economics Discussion Series 2021-008. Washington: Board of Governors of the Federal Reserve System (Feb. 2021), <https://doi.org/10.17016/FEDS.2021.008> (documenting a tightening of credit supply to less credit worthy borrowers). See also Alanna McCargo & Jung Hyun Choi, “Closing the Gaps: Building Black Wealth through Homeownership,” Housing Finance Policy Center. Urban Institute (December 2020), [https://www.urban.org/sites/default/files/publication/103267/closing-the-gaps-building-black-wealth-through-homeownership\\_0.pdf](https://www.urban.org/sites/default/files/publication/103267/closing-the-gaps-building-black-wealth-through-homeownership_0.pdf) (showing that African Americans tend to have lower credit scores).

American communities tend to submit complaints to address past issues they have had with credit as well as past victimization by identity thieves.<sup>32</sup> These facts, taken together, may reflect differences in communities' ability to take advantage of financial opportunities (such as low mortgage interest rates). Given the scale and persistence of the racial wealth divide,<sup>33</sup> these differences are hardly surprising—but they do highlight the active role that consumers in Black or African American communities take in trying to address credit issues.

**FIGURE 13:** SHARE OF CONSUMERS SUBMITTING COMPLAINTS ABOUT EACH CREDIT LIFE CYCLE CATEGORY FOR CENSUS TRACTS WITH DIFFERENT CONCENTRATIONS OF HISPANIC OR LATINO RESIDENTS



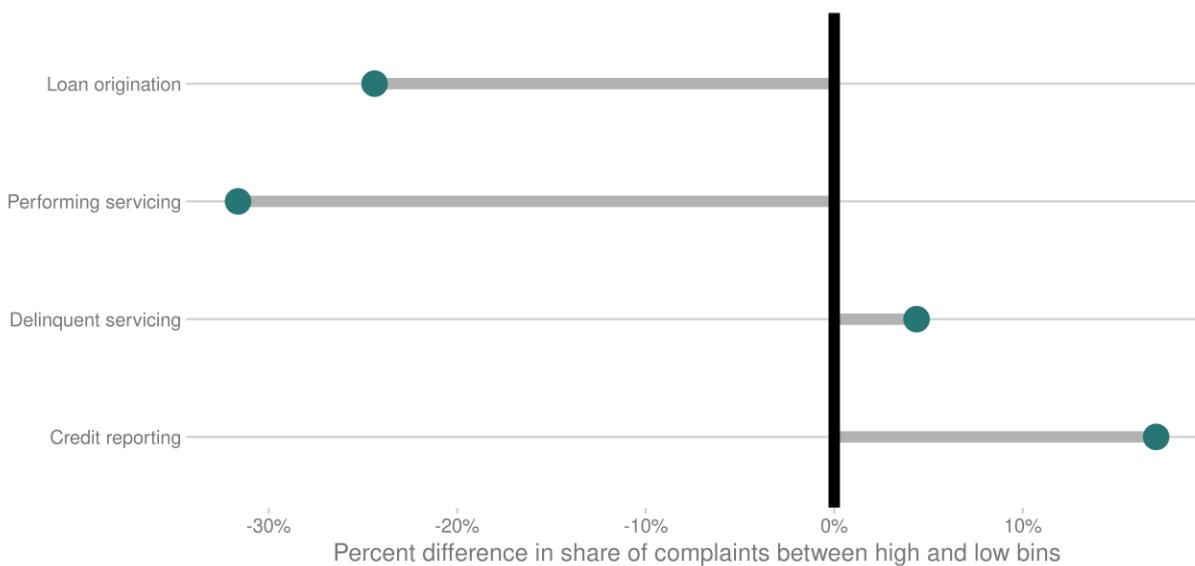
Similar to the Black or African American percentage bins, the relationships between the different Hispanic or Latino percentage bins are inverted from that of the AMI percentages and the white, non-Hispanic percentages (see Figure 13 above). The credit life cycle categories

<sup>32</sup> A large share of complaints about credit reporting involve claims that information on a consumer's report is not theirs. These differences may reflect past problems with credit as well as higher rates of victimization for some kinds of identity theft.

<sup>33</sup> See e.g., Neil Bhutta et al., "Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances," Federal Reserve Board (Sep. 2020), <https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-wealth-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances-20200928.htm>.

overrepresented in the highest AMI and white, non-Hispanic percentage bins are underrepresented in the highest Hispanic or Latino percentage bin (i.e., loan origination and performing servicing) while the categories underrepresented in the highest AMI and white, non-Hispanic percentage bins are overrepresented in the highest Hispanic or Latino percentage bin (i.e., credit reporting). While not insubstantial, these differences are less pronounced than they were for Black or African Americans residents.

**FIGURE 14: RELATIVE DIFFERENCE IN SHARE OF CONSUMERS SUBMITTING COMPLAINTS BETWEEN CENSUS TRACTS WITH THE HIGHEST CONCENTRATION OF HISPANIC OR LATINO RESIDENTS AND CENSUS TRACTS WITH LOWEST CONCENTRATION OF HISPANIC OR LATINO RESIDENTS FOR THE CREDIT LIFE CYCLE STAGES**

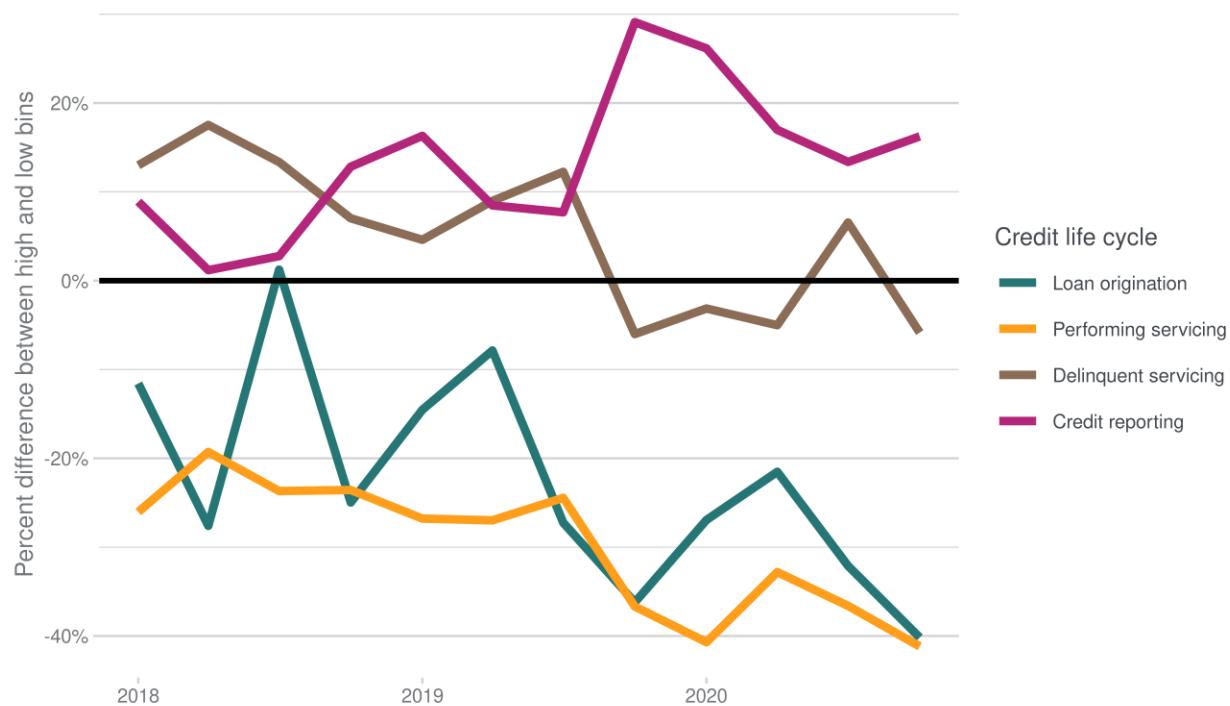


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Positive values mean tracts with predominantly Hispanic or Latino residents have a greater share of consumers complaining about the life cycle category. Negative values mean tracts with lowest concentration of Hispanic or Latino residents have a greater share of consumers complaining about the life cycle category.

Out of the four credit life cycle categories, percentage differences between the highest Hispanic or Latino percentage bin and the lowest were the following: loan origination (-24%), performing servicing (-32%), delinquent servicing (4%), and credit reporting (17%). For all credit life cycle categories, the percentage differences (in absolute value) for the Hispanic or Latinos percentage bin were less than that between the Black or African American percentage bins.

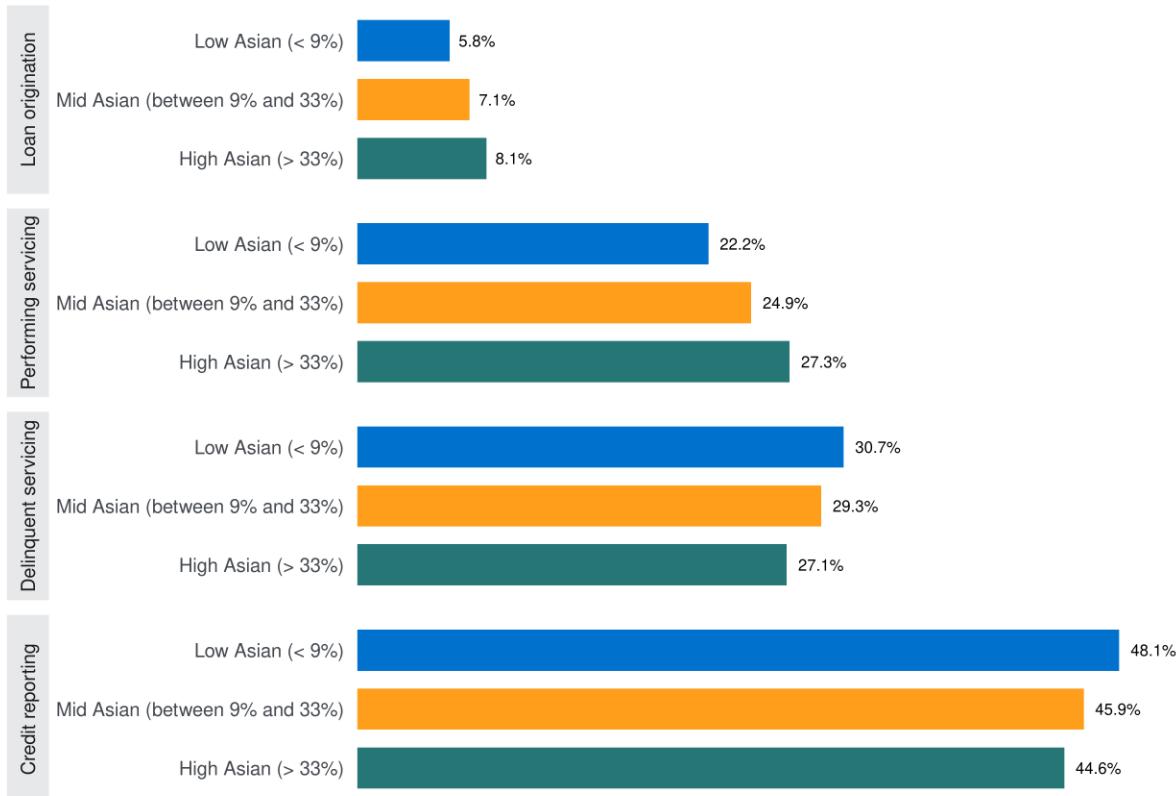
**FIGURE 15:** MONTHLY TIME SERIES OF RELATIVE DIFFERENCE BETWEEN COMMUNITIES WITH THE HIGHEST CONCENTRATION OF HISPANIC OR LATINO RESIDENTS AND COMMUNITIES WITH LOWEST CONCENTRATION OF HISPANIC OR LATINO RESIDENTS FOR THE STAGES OF THE CREDIT LIFE CYCLE



Positive values mean tracts with predominantly Hispanic or Latino residents have a greater share of consumers complaining about the life cycle category. Negative values mean tracts with lowest concentration of Hispanic or Latino residents have a greater share of consumers complaining about the life cycle category.

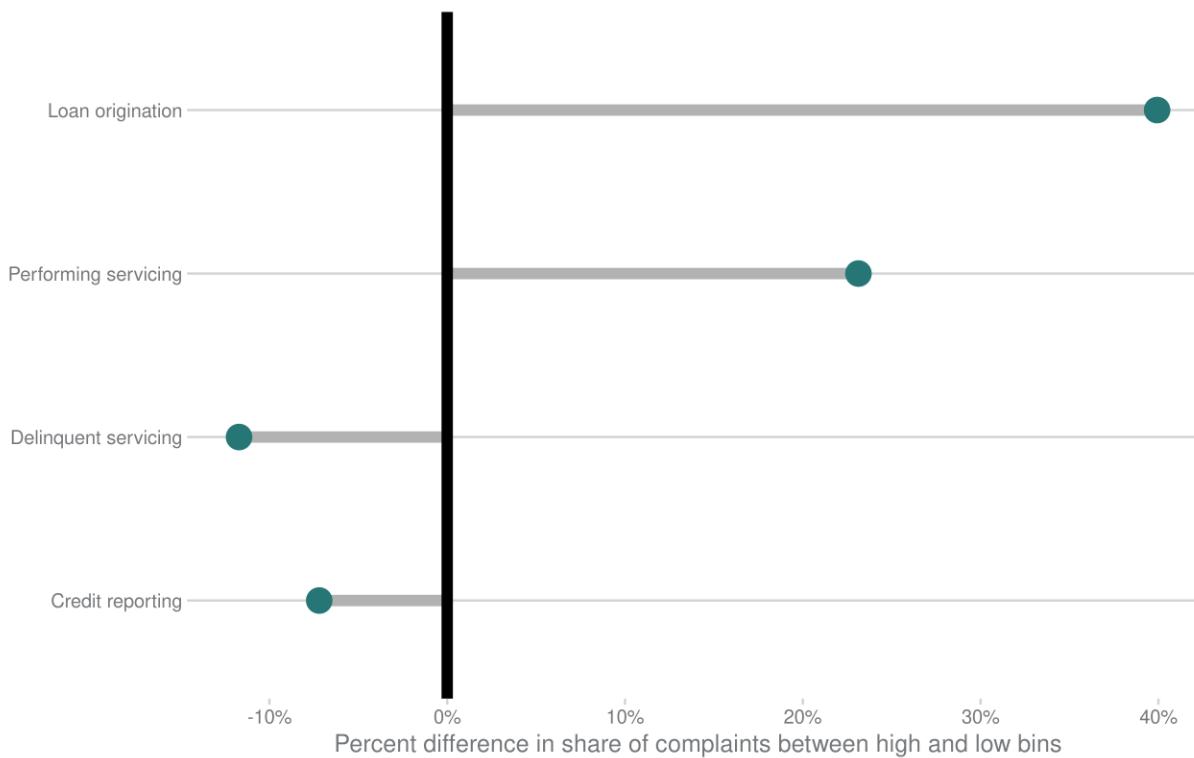
The trends over time for Hispanic or Latino communities are generally similar to those for Black or African American communities. But the percent difference in share of credit reporting complaints increased somewhat over the course of 2019 and 2020 (see Figure 15, above). Performing servicing in particular saw a large percentage decline from 2018 to 2020 (from approximately -20% to approximately -40%).

**FIGURE 16:** SHARE OF CONSUMERS SUBMITTING COMPLAINTS ABOUT EACH CREDIT LIFE CYCLE CATEGORY FOR COMMUNITIES WITH DIFFERENT CONCENTRATIONS OF ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS



Although directionally similar to white, non-Hispanic consumers—communities with the greatest share of Asian American or Pacific Islander residents also have greater shares of performing servicing complaints and loan origination complaints and fewer credit reporting complaints—there are some noteworthy differences. Specifically, the most concentrated Asian American or Pacific Islander census tracts have rates of submitting complaints about credit reporting that are much higher than the most concentrated white, non-Hispanic census tracts and also have a lower share of complaints about delinquent servicing.

**FIGURE 17: PERCENT DIFFERENCE IN SHARE OF CONSUMERS SUBMITTING COMPLAINTS BETWEEN COMMUNITIES WITH THE HIGHEST CONCENTRATION OF ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS AND COMMUNITIES WITH LOWEST CONCENTRATION OF ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS FOR THE CREDIT LIFE CYCLE STAGES**

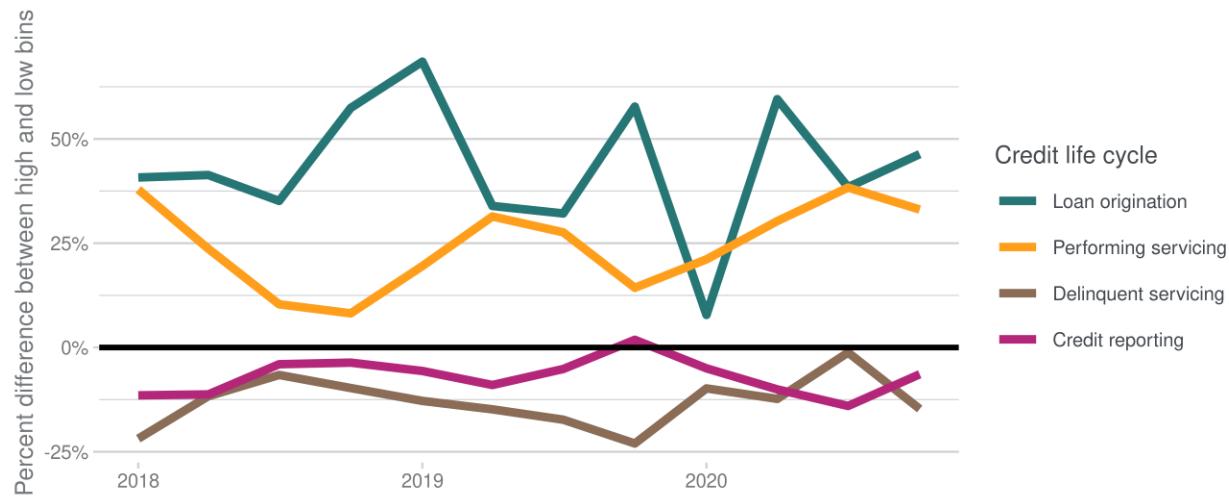



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Positive values mean tracts with predominantly Asian American or Pacific Islander residents have a greater share of consumers complaining about the life cycle category. Negative values mean tracts with lowest concentration of Asian American or Pacific Islander residents have a greater share of consumers complaining about the life cycle category.

For the four credit life cycle categories, percentage differences between the highest Asian American or Pacific Islander percentage bin and the lowest were the following: loan origination (40%), performing servicing (23%), delinquent servicing (-12%), and credit reporting (-7%). The size of differences, while not as large as for income, are fairly large. But given the relatively small number of observations for the most concentrated tracts, it is worth interpreting the size of these differences with some caution. Figure 18, below, does not show any major trends over this three-year period.

**FIGURE 18:** MONTHLY TIME SERIES OF PERCENTAGE DIFFERENCE BETWEEN COMMUNITIES WITH THE HIGHEST CONCENTRATION OF ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS AND COMMUNITIES WITH LOWEST CONCENTRATION OF ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS FOR THE STAGES OF THE CREDIT LIFE CYCLE




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Positive values mean tracts with predominantly Asian American or Pacific Islander residents have a greater share of consumers complaining about the life cycle category. Negative values mean tracts with lowest concentration of Asian American or Pacific Islander residents have a greater share of consumers complaining about the life cycle category.

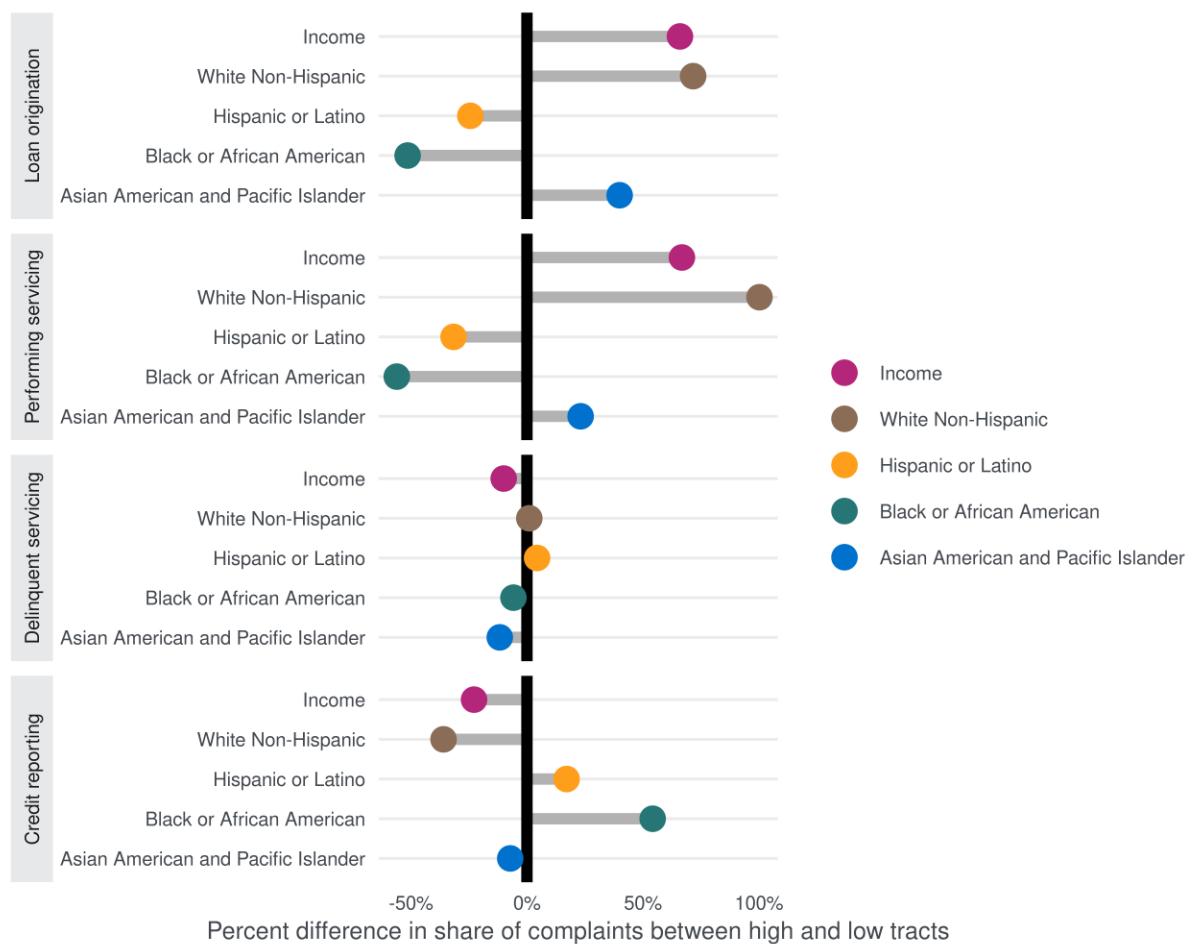
#### 4.2.1 Discussion

Communities with different demographic characteristics differ substantially in the types of complaints they submit to the CFPB. Consumers from some communities—those with lower incomes and higher shares of Black or African Americans and Hispanic or Latinos—submit complaints about past financial issues and identity theft victimization. By contrast, communities with higher incomes and communities with a greater share of white non-Hispanic residents tend to submit complaints about current issues they are having with lenders and servicers. These differences are summarized in Figure 19, below.

The different experiences of these communities, as evidenced in complaints, suggest structural differences in access to credit are important in determining what kinds of complaints we received from different communities. That white, non-Hispanic consumers complain about loan originations at more than twice the rate of Black or African American consumers likely reflects differences in access to credit—with differences in complaints about mortgage credit playing an

outsized role.<sup>34</sup> These differences serve as one more reminder of the starkness of the racial wealth divide in the United States and its relationship to credit access, especially housing finance. Past barriers limiting access to mainstream credit for racial minorities, the long-term impact of the 2008 mortgage crisis, and continued inequality in access continue to determine the types of opportunities consumers have—and these contexts shape consumer interactions with the CFPB.

**FIGURE 19: PERCENT DIFFERENCE BETWEEN HIGH AND LOW GROUPINGS FOR ALL FOUR DEMOGRAPHIC CHARACTERISTICS**



Positive values mean tracts with highest concentration of the race or ethnicity, or greatest AMI, have a greater share of consumers complaining about the life cycle category, negative values mean tracts with

<sup>34</sup> In 2019, HMDA data shows that African Americans were more than twice as likely to be denied for mortgage credit than average. See Consumer Fin. Prot. Bureau, Data Point: 2019 Mortgage market activity and trends (Jun 2020), [https://files.consumerfinance.gov/f/documents/cfpb\\_2019-mortgage-market-activity-trends\\_report.pdf](https://files.consumerfinance.gov/f/documents/cfpb_2019-mortgage-market-activity-trends_report.pdf).

lowest concentration of the race or ethnicity or lowest AMI tracts, have a greater share of consumers complaining about the life cycle category.

Especially concerning is the growing gap between communities that have higher white, non-Hispanic populations and/or are higher income and communities with higher minority populations and/or lower incomes. This increasing gap suggests that new credit, especially mortgages and mortgage refinances, may be disproportionately available to consumers from communities with higher AMIs and a greater share of white, non-Hispanic residents. Although other factors may be at play (e.g., a greater propensity among higher income or white non-Hispanic consumers to complain about loan originations), given the tendency we see for lower income tracts to submit more complaints overall per resident, we think that our interpretation is more likely. The combination of existing disparities in homeownership rates,<sup>35</sup> tightening of credit standards,<sup>36</sup> and historically low interest rates,<sup>37</sup> are all at play in driving these differences. For example, while lower interest rates help consumers looking for new loans as well as those that are seeking to refinance existing loans, gaps in homeownership rates between the minority populations considered in this report mean that there is a larger pool of white, non-Hispanic and higher income consumers seeking home loans.

Importantly, high rates of credit reporting complaints indicate that minority and lower income communities are not passive—they are actively engaged in improving their credit, so that they can take advantage of the same types of financial opportunities available to wealthier and whiter communities.<sup>38</sup> Seen in this light, both phenomena—high relative rates of credit reporting complaints in less wealthy and minority communities, and higher and rising rates of loan origination complaints in wealthier and whiter communities—are two sides of the same coin.

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<sup>35</sup> See Andrew Haughwout et al., “Inequality in U.S. Homeownership Rates by Race and Ethnicity,” Federal Reserve Bank of New York, Liberty Street Economics (Jul. 2020), <https://libertystreeteconomics.newyorkfed.org/2020/07/inequality-in-us-homeownership-rates-by-race-and-ethnicity/>.

<sup>36</sup> See Horvath, *supra* note 31.

<sup>37</sup> See Freddie Mac, 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis, <https://fred.stlouisfed.org/series/MORTGAGE30US> (last accessed Aug. 12, 2021).

<sup>38</sup> See Lisa Rice and Deidre Swesnik, “Discriminatory Effects of Credit Scoring on Communities of Color,” Suffolk University Law Review (2013), [https://cph-us-e1.wpmucdn.com/sites.suffolk.edu/dist/3/1172/files/2014/01/Rice-Swesnik\\_Lead.pdf](https://cph-us-e1.wpmucdn.com/sites.suffolk.edu/dist/3/1172/files/2014/01/Rice-Swesnik_Lead.pdf) (discussion of the factors that may result in lower scores and more negative information reported on communities of color). See also Lisa Rice and Deidre Swesnik, “Discriminatory Effects of Credit Scoring on Communities of Color,” National Fair Housing Alliance (Jun. 2012), available at <https://nationalfairhousing.org/wp-content/uploads/2017/04/NFHA-credit-scoring-paper-for-Suffolk-NCLC-symposium-submitted-to-Suffolk-Law.pdf>.

# 5. Area case studies

We also look at how these dynamics surface in the context of particular geographies by developing two case studies. To do this we produced maps of New York City, NY and St. Louis, MO that show where race or income vary with the intensity of complaint submission about different stages of the credit life cycle. The first case study looks at income in New York City and how census tract-level AMI varies with performing servicing and credit reporting complaints. The second case study, about St. Louis, shows how the census tract-level share of Black or African American residents varies with performing servicing and credit reporting complaints.<sup>39</sup>

The goal of these case studies is to orient the trends noted above in particular contexts, so that we can better understand what these trends mean for consumers. The maps in this section use a color scale that allows us to visualize two different binned characteristics; for each map we look at a demographic measure from the U.S. Census along with a measure of the share of consumers with complaints in one of the life cycle stages. Each case study contains two maps, with each map examining the same demographic characteristic, but for different stages of the credit life cycle. We also include scatterplots with census tracts colored to correspond to the map colors. We hope that by providing both charts the reader will be able to better understand what the differences described mean for consumers.

## 5.1 New York City: Income

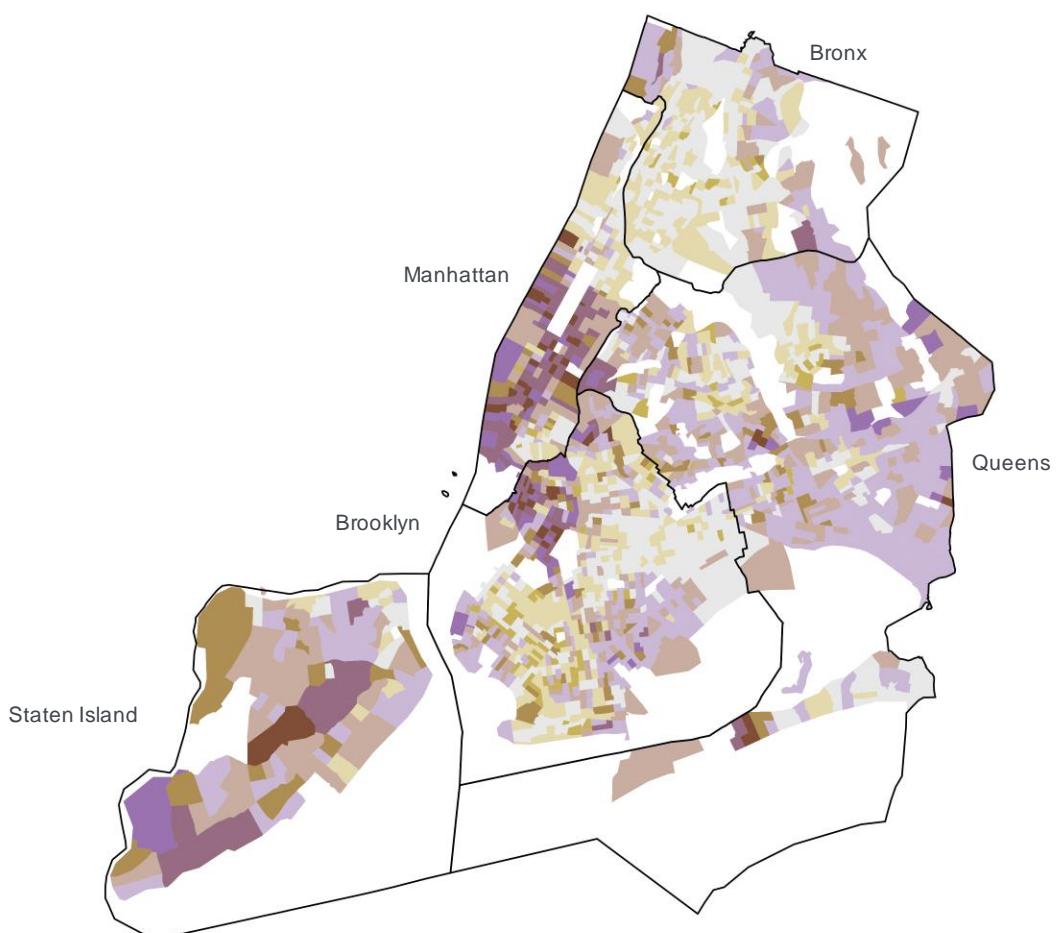
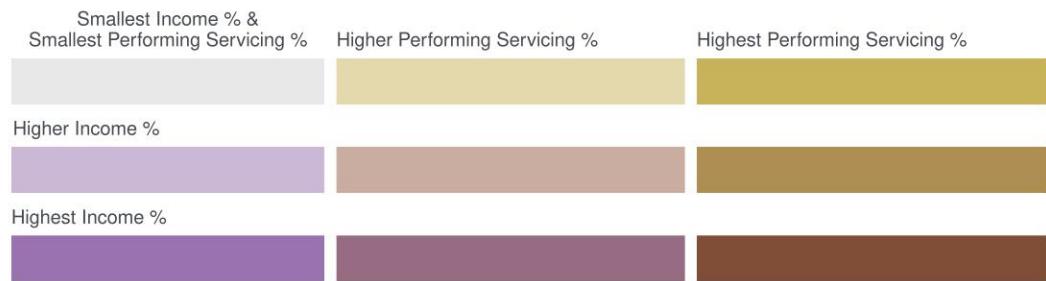
### Income and performing servicing complaints:

In Figure 20, unique consumers residing in census tracts that generally have lower incomes in New York City (i.e., census tracts that are shaded grey, most of which are in upper Manhattan, Queens, and to a lesser extent, Brooklyn) did not submit as many complaints related to performing servicing as those residing in higher income census tracts (i.e., census tracts in lower Manhattan).

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<sup>39</sup> Our analysis only includes St. Louis County and St. Louis City and excludes East St. Louis, Illinois. We exclude the counties in Illinois because their size, relative to the total number of complaints, makes the resulting maps difficult to read when including these areas.

**FIGURE 20:** CENSUS TRACT LEVEL MAP OF NEW YORK CITY, INCOME AND PERFORMING SERVICING.

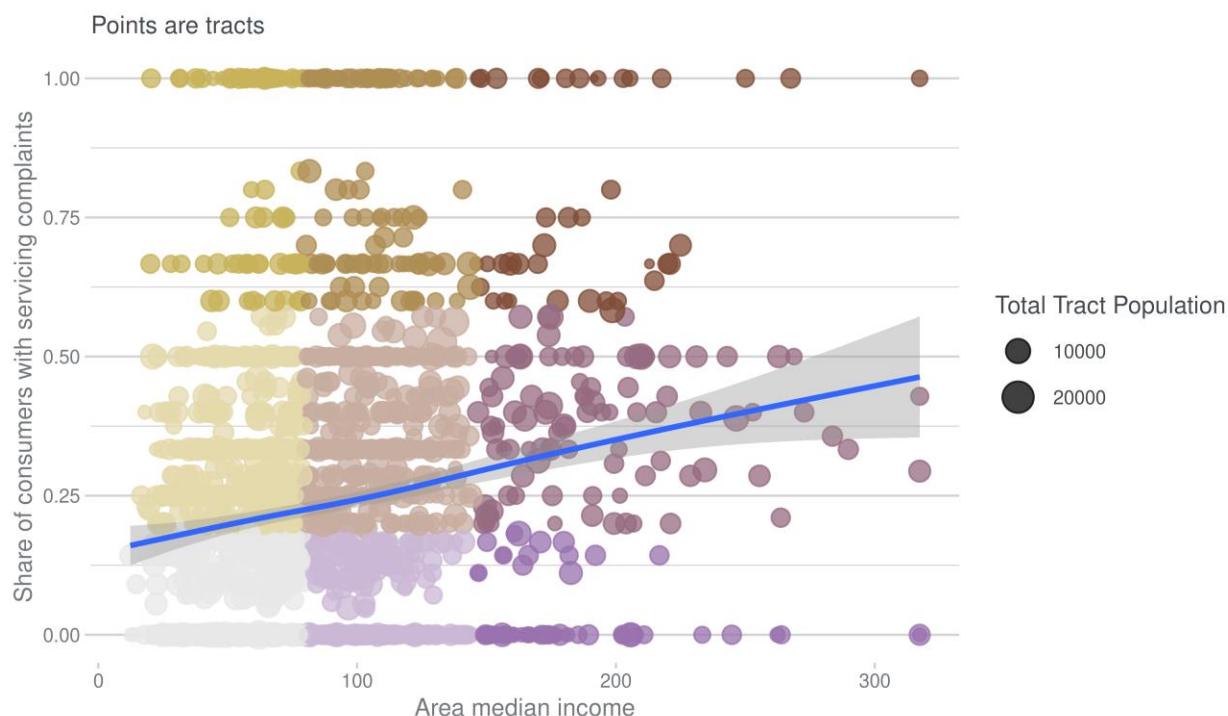


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Increasing saturation of yellow tones indicates higher incidence of consumers with performing servicing issues. Increasing saturation of purple indicates increasingly high-income levels. The most saturated purple thus indicates highest income and lowest performing servicing share. The most saturated yellow indicates highest performing servicing share and lowest income. Brown indicates highest income and highest incidence of consumers with performing servicing issues.

This relationship—in which a higher AMI percentage for a tract correlates to lower shares of complaining consumers with performing servicing related complaints—is further evident in the scatterplot in Figure 21. Each point represents one census tract, with the color replicated from the map above. As shown by the smoothed average line, higher AMI census tracts also have a greater share of consumers submitting performing servicing complaints (e.g., complaints about disputed transactions on a credit card).

**FIGURE 21:** SCATTERPLOT OF TRACTS WITHIN NEW YORK CITY COMPARING PERCENTAGE OF AREA MEDIAN INCOME WITH SHARE OF CONSUMERS WITH COMPLAINTS ABOUT PERFORMING SERVICING, 2018-2020.



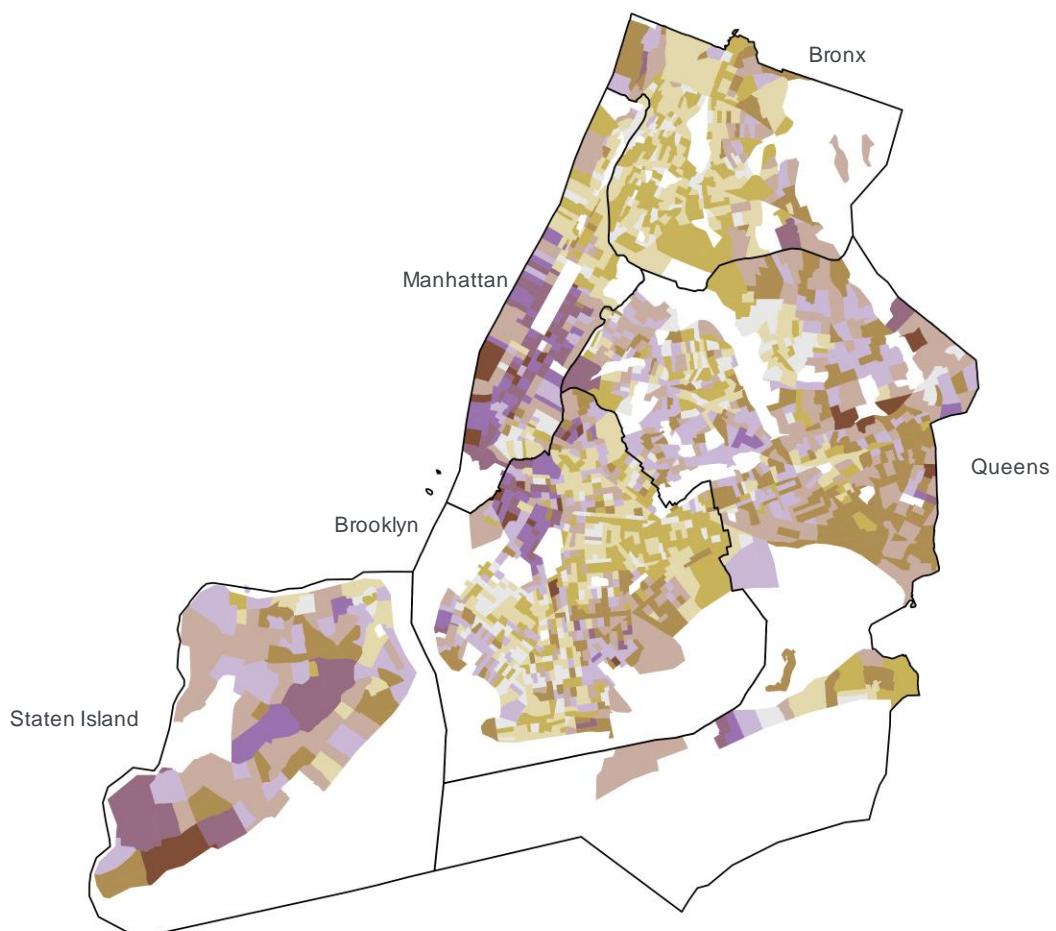
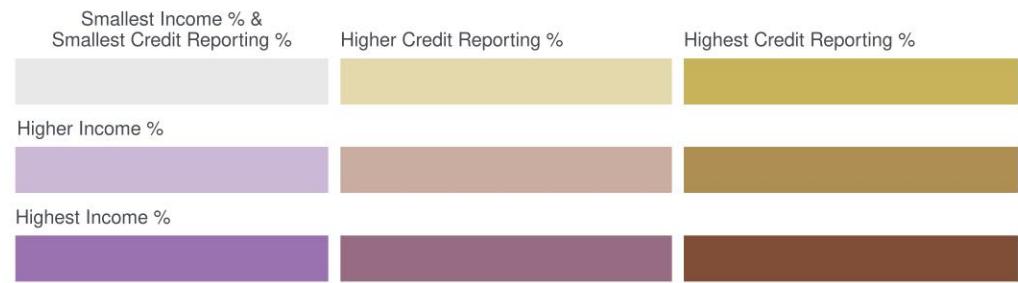
Colors are matched to the corresponding map of area median income and share of performing servicing.

Smoothed line is fit using cubic regression splines

## Income and credit reporting complaints

In Figure 22, below, unique consumers residing in census tracts that have generally higher incomes in New York City (i.e., mainly tracts in lower Manhattan) did not submit as many complaints related to credit reporting as those residing in lower income census tracts (i.e., tracts that are shaded grey, most of which are in upper Manhattan, Queens, and to a lesser extent, Brooklyn).

**FIGURE 22: CENSUS TRACT LEVEL MAP OF NEW YORK CITY, INCOME AND CREDIT REPORTING**

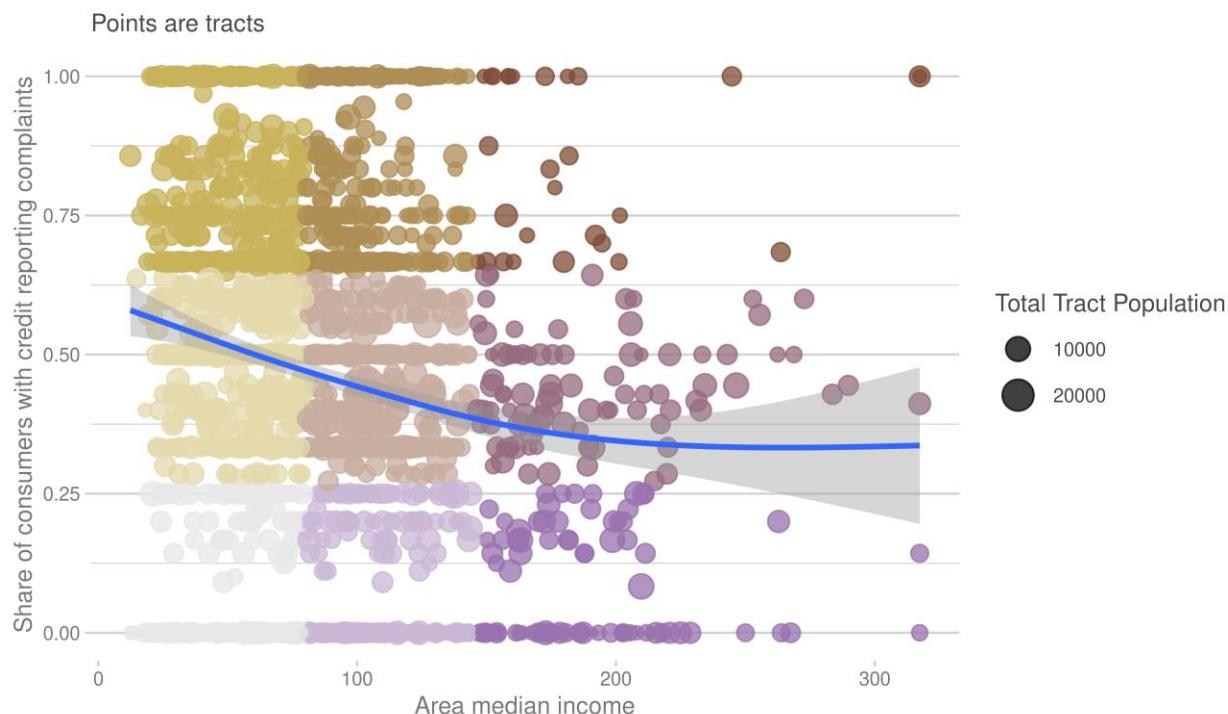


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Increasing saturation of yellow tones indicates higher incidence of consumers with credit reporting issues. Increasing saturation of purple indicates increasingly high-income levels. The most saturated purple thus indicates highest income and lowest credit reporting share. The most saturated yellow indicates highest credit reporting share and lowest income. Brown indicates highest income and highest incidence of consumers with credit reporting issues.

This relationship—one in which a lower AMI percentage for a tract correlates with higher shares of complaining consumers with credit reporting related complaints—is further evident in Figure 23, below, which displays each census tract from the map above with the corresponding color. As shown from the smoothed average line, lower AMI tracts also have a greater share of consumers submitting credit reporting complaints (e.g., complaints about inaccurate information or dispute investigations).

**FIGURE 23:** SCATTERPLOT OF TRACTS WITHIN NEW YORK CITY COMPARING PERCENTAGE OF AREA MEDIAN INCOME WITH SHARE OF CONSUMERS WITH COMPLAINTS ABOUT CREDIT REPORTING, 2018-2020




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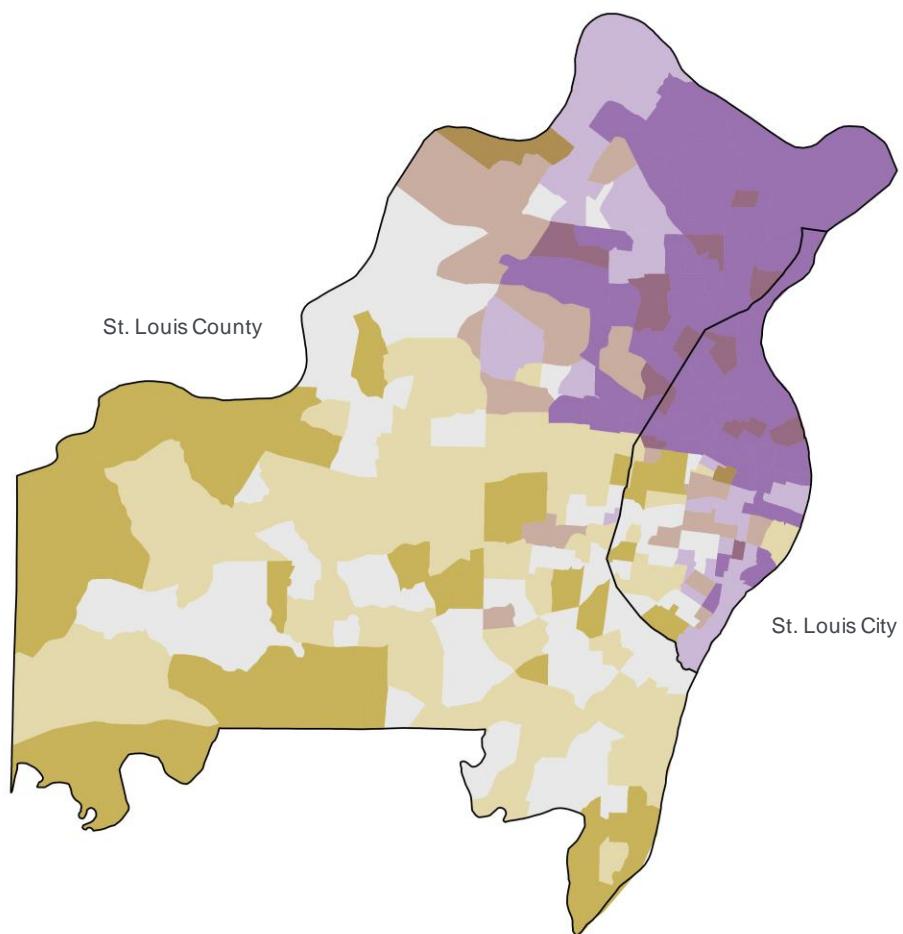
Colors are matched to the corresponding map of area median income and credit reporting shares.  
Smoothed line is fit using cubic regression splines.

## 5.2 St. Louis, Missouri: Share of Black or African American residents

Share of Black or African American residents submitting performing servicing complaints:

As shown in Figure 24, below, census tracts with a greater share of Black or African American residents (i.e., census tracts in the northeast portion of the city) did not submit as many complaints related to performing servicing as those in census tracts with a lower Black or African American population (i.e., primarily census tracts in the southwest quadrant). No census tracts were highest in both performing servicing complaints and share of Black or African American residents.

**FIGURE 24: CENSUS TRACT LEVEL MAP OF ST. LOUIS COUNTY AND ST. LOUIS CITY, MISSOURI, BLACK OR AFRICAN AMERICAN RESIDENTS AND PERFORMING SERVICING**

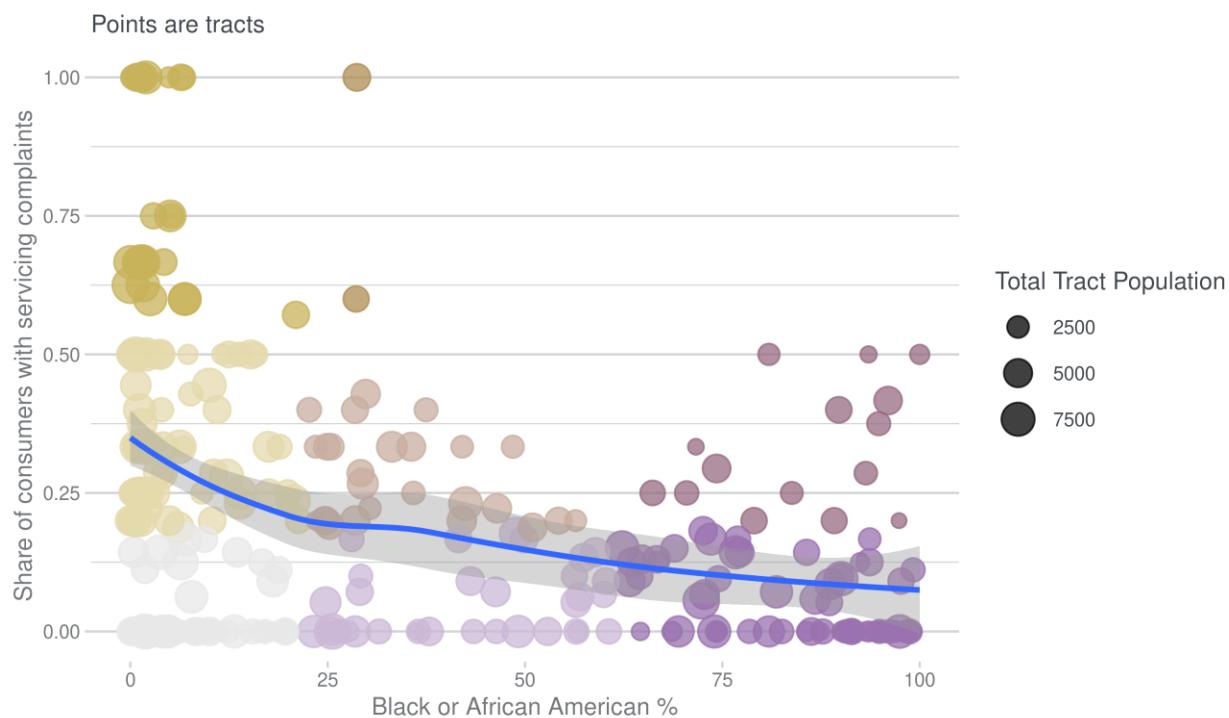


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Increasing saturation of yellow tones indicates higher incidence of consumers submitting complaints about credit reporting issues. Increasing saturation of purple indicates increasingly greater concentration of Black or African American residents. The most saturated purple indicates greatest concentration of Black or African American residents and lowest credit reporting complaint volume. The most saturated yellow indicates highest credit reporting volume and lowest concentration of Black or African American residents.

This relationship—one in which an increasing share of Black or African American residents in a community is associated with a lower share of complaining consumers with performing servicing complaints—is further evident in Figure 25, below, which displays each census tract from the map above with the corresponding color. As shown by the smoothed estimate of performing servicing share, census tracts with a greater share of Black or African American residents also tend to represent a smaller share of consumers submitting performing servicing complaints (e.g., complaints about disputed transactions on a credit card).

**FIGURE 25:** SCATTERPLOT OF CENSUS TRACTS WITHIN ST. LOUIS COUNTY AND ST. LOUIS CITY, MISSOURI COMPARING CONCENTRATION OF BLACK OR AFRICAN AMERICAN RESIDENTS WITH SHARE OF CONSUMERS SUBMITTING COMPLAINT ABOUT PERFORMING SERVICING, FOR 2018-2020.



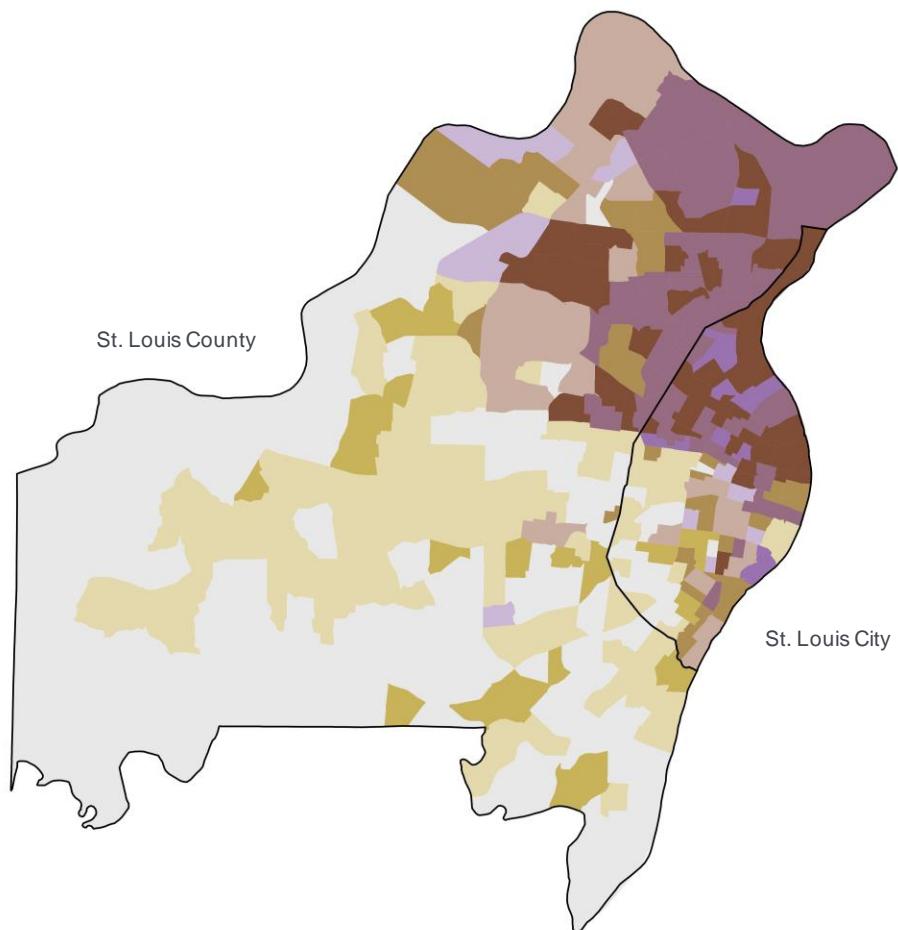
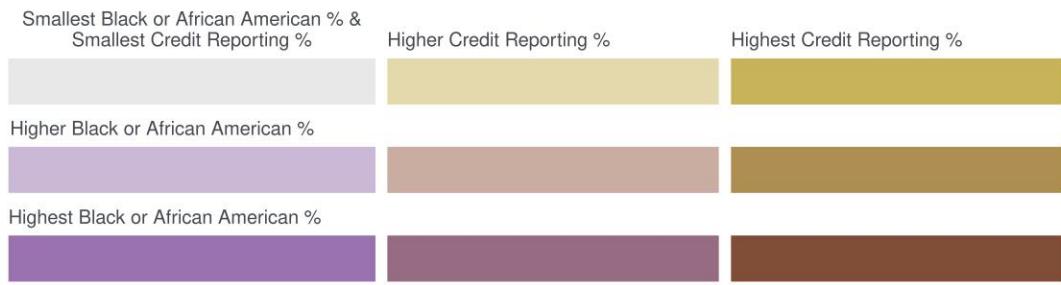

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Colors are matched to the corresponding map of area median income and share of performing servicing.  
Smoothed line is fit using local regression.

### Share of Black or African American residents and credit reporting complaints:

The map below (Figure 26) shows that tracts with a greater share of Black or African Americans residents (i.e., tracts in the northeast portion of the city) tend to submit more complaints related to credit reporting compared with tracts that have a smaller share of Black or African American residents (i.e., primarily tracts in the southwestern quadrant of the map).

**FIGURE 26: CENSUS TRACT LEVEL MAP OF ST. LOUIS COUNTY AND ST. LOUIS CITY, MISSOURI, BLACK OR AFRICAN AMERICAN RESIDENTS AND CREDIT REPORTING**



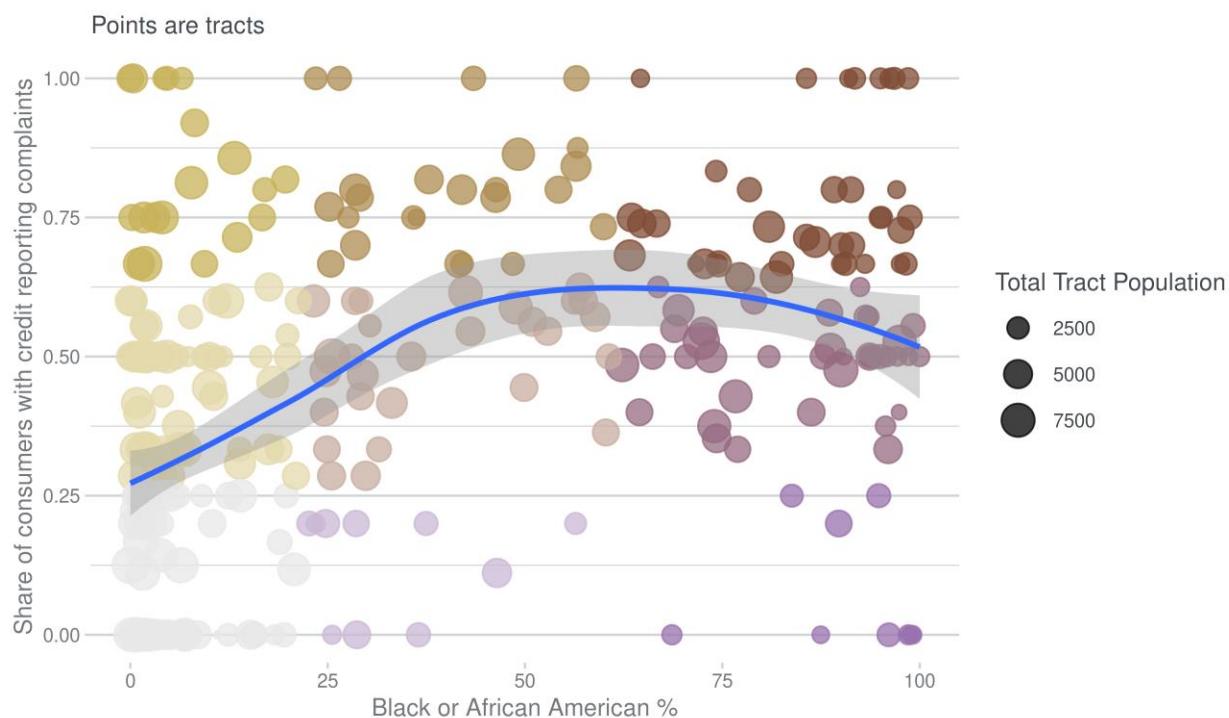
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Increasing saturation of yellow tones indicates higher incidence of consumers submitting complaints about credit reporting issues. Increasing saturation of purple indicates increasingly greater concentration of Black or African American residents. The most saturated purple indicates greatest concentration of Black or African American residents and lowest credit reporting complaint volume. The most saturated yellow indicates highest credit reporting complaint volume and lowest concentration of Black or African American

residents. Brown indicates the highest concentration of Black or African American residents and highest incidence of consumers with credit reporting issues.

This relationship—one in which a higher Black or African American population percentage in a tract correlates to lower shares of consumers with performing servicing related complaints—is further evident in Figure 27, which displays each census tract from the map above with the corresponding color. As shown by the smoothed estimate of credit reporting share, census tracts with a greater share of Black or African American residents also tend to have a greater share of consumers submitting credit reporting complaints.

**FIGURE 27: SCATTERPLOT OF TRACTS WITHIN ST. LOUIS COUNTY AND ST. LOUIS CITY, MISSOURI COMPARING CONCENTRATION OF BLACK AND AFRICAN AMERICAN RESIDENTS WITH SHARE OF CONSUMERS SUBMITTING COMPLAINTS ABOUT CREDIT REPORTING, FOR 2018-2020**



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Colors are matched to the corresponding map of area median income and share of credit reporting.  
Smoothed line is fit using local regression.

# 6. Conclusion

This research brief is part of an ongoing effort by the CFPB to understand the financial lives of consumers and how different groups use the CFPB's resources. The major findings of this report have implications for the CFPB's policy priority of racial and economic equity, particularly for strategies for engaging with vulnerable communities.

The research brief is also intended to engage with the growing body of research using our public complaints data in social science research. One of the key missions of the Office of Consumer Response is sharing data with the public—this includes sharing our expertise and experiences analyzing complaint data. We believe that engagement with external researchers, in both academia and industry, will lead to better and more useful research outcomes.

Finally, this research brief is intended to develop a baseline understanding of how different communities are using the complaint process. It is just the first step in a more thorough and longer-term research agenda. Enriching complaint data with other data that provide social and markets context, and utilizing powerful statistical tools, such as topic modeling, could further enrich our understanding of consumers' financial lives.

# 7. Appendix

## 7.1 Detailed table

Totals are not identical because complaints are not included when census information for a particular characteristic is not available for the associated tract. Totals are provided for the bins as described above.

**TABLE 3:** COUNTS OF COMPLAINTS AND CONSUMERS ACROSS THE CREDIT LIFE CYCLE, BINNED BY PERCENT OF AREA MEDIAN INCOME, SHARE OF BLACK OR AFRICAN AMERICAN, SHARE OF ASIAN AMERICAN AND PACIFIC ISLANDER, AND SHARE OF HISPANIC OR LATINO RESIDENTS. ALL VALUES ARE IN THOUSANDS.

ACS	Bin	Measure	LO = Loan Origination DS = Delinquent Servicing				S = Performing servicing CR = Credit Reporting							
			2018				2019				2020			
			LO	S	DS	CR	LO	S	DS	CR	LO	S	DS	CR
<b>Area Median Income</b>														
High (> 120%)	Complaints	2.6	11.5	15.5	28.9	2.9	11.8	14.7	36.6	4.1	13.7	15.2	71.3	228.90
	Consumers	2.4	10.2	11.6	12	2.7	10.6	10.8	14.6	3.8	12.2	10.8	23.9	114.10
	Population	-	-	-	-	-	-	-	-	-	-	-	-	96,522.10
Mid (between 80% and 120%)	Complaints	2.6	11.5	22.1	39.1	2.9	12	20	51	3.6	12.8	22	103.3	303.00
	Consumers	2.4	10.3	16	15.6	2.6	10.6	14.5	19.4	3.3	11.2	15	33	139.00
	Population	-	-	-	-	-	-	-	-	-	-	-	-	124,996.40
Low (< 80%)	Complaints	1.5	6.1	15.5	31.4	1.7	6.4	14.9	43.3	2	6.9	17.2	96.2	243.20
	Consumers	1.3	5.4	10.7	11.4	1.5	5.6	10.1	15.5	1.8	6.1	11.1	29.9	98.60
	Population	-	-	-	-	-	-	-	-	-	-	-	-	75,634.70
<b>Share African American</b>														
High (> 54%)	Complaints	0.6	2.1	7.3	18.5	0.6	2.2	6.9	23.9	0.8	2.3	8.2	59.5	132.80
	Consumers	0.5	1.8	4.8	5.9	0.5	1.9	4.4	8.1	0.7	2	4.9	17.7	46.90
	Population	-	-	-	-	-	-	-	-	-	-	-	-	18,890.80
Mid (between 17% and 54%)	Complaints	1.2	4.9	12.7	25.4	1.3	5.2	11.7	35.4	1.6	5.5	14.2	78.6	197.80
	Consumers	1.1	4.3	8.7	9.3	1.1	4.5	7.9	12.5	1.5	4.8	8.9	24	78.80
	Population	-	-	-	-	-	-	-	-	-	-	-	-	48,802.50
Low (< 17%)	Complaints	5	22.1	33.2	55.6	5.5	22.7	31	71.7	7.2	25.7	32.2	133	445.00
	Consumers	4.6	19.8	24.7	23.6	5	20.4	23	28.8	6.7	22.6	23	45.1	224.80
	Population	-	-	-	-	-	-	-	-	-	-	-	-	229,578.20
<b>Share Asian American or Pacific Islander</b>														
	Complaints	0.3	1.2	1.6	3.1	0.4	1.2	1.5	4.4	0.4	1.4	1.7	8.2	25.50

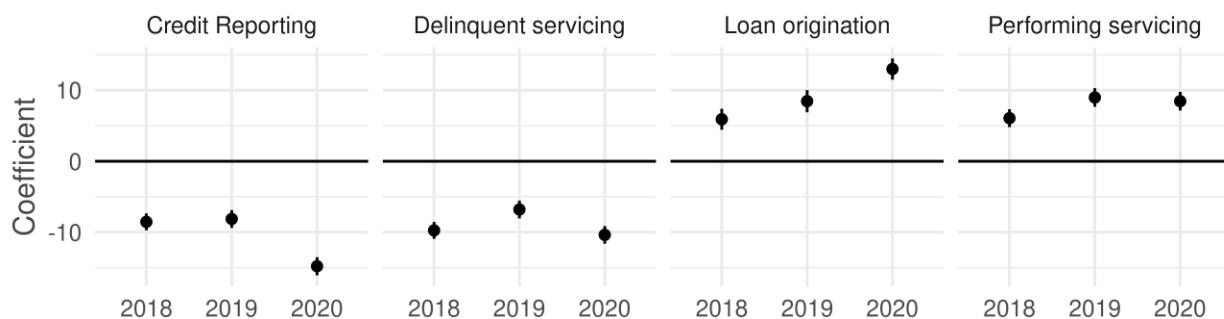
ACS	Bin	Measure	2018				2019				2020				Total	
			LO = Loan Origination DS = Delinquent Servicing				S = Performing servicing CR = Credit Reporting									
			LO	S	DS	CR	LO	S	DS	CR	LO	S	DS	CR		
High (> 33%)	Consumers	0.3	1	1.1	1.2	0.3	1.1	1	1.5	0.4	1.2	1.1	2.6	11.50		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	9,493.40		
	Complaints	1.4	5.7	9	16.9	1.6	5.9	8.8	22.7	2.1	6.9	9.9	44.9	135.70		
Mid (between 9% and 33%)	Consumers	1.2	5	6.5	6.9	1.4	5.2	6.1	8.8	1.9	6	6.6	14.5	62.90		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	44,989.30		
	Complaints	5.1	22.2	42.5	79.5	5.5	23	39.4	104	7.1	25.2	42.9	217.9	614.40		
Low (< 9%)	Consumers	4.6	19.9	30.6	30.6	5	20.6	28.3	39	6.6	22.3	29	69.4	275.20		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	242,788.80		
Share Latino or Hispanic																
High (> 56%)	Complaints	0.4	1.6	4	6.8	0.4	1.7	3.7	10.7	0.6	1.8	4.4	25.6	61.60		
	Consumers	0.4	1.4	2.8	2.7	0.4	1.5	2.7	3.9	0.5	1.6	2.9	7.7	25.60		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	27,399.60		
Mid (between 20% and 56%)	Complaints	1.5	6	13.5	25.6	1.7	6.4	12.6	37.1	2.1	7.1	14.4	77	205.00		
	Consumers	1.3	5.4	9.4	9.7	1.5	5.7	8.7	13.1	1.9	6.2	9.4	23.9	86.10		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	59,928.20		
Low (< 20%)	Complaints	4.9	21.5	35.7	67.1	5.4	22.1	33.3	83.2	7	24.7	35.7	168.5	509.00		
	Consumers	4.5	19.1	26	26.4	4.8	19.8	24.1	32.3	6.4	21.8	24.5	55.1	238.30		
	Population	-	-	-	-	-	-	-	-	-	-	-	-	209,943.70		

## 7.2 Regression analysis

This section shows the results of regression models, with models fit to each year of the data. For each of these models we are predicting the relevant census characteristic based on shares of each lifecycle stage.<sup>40</sup> Coefficient plots are provided to allow for easy comparison of products and years. Average predictive comparisons (i.e., average predicted values over the range of the data) are provided to demonstrate the magnitude of these differences on the scale of the data.

<sup>40</sup> All models were fit using Markov chain Monte Carlo sampling via Stan and the RStanArm package. We chose this specification to reduce the attraction of thinking about these models in causal terms.

**FIGURE 28: AREA MEDIAN INCOME: ESTIMATED COEFFICIENTS +/-1 STANDARD ERROR (68% INTERVALS). COEFFICIENTS FOR MODELS OF AREA MEDIAN INCOME, FIT TO EACH YEAR OF THE DATA 2018-2020. VALUES OF SHARES AND AREA MEDIAN INCOME ARE BOTH EXPRESSED IN PERCENTAGE TERMS.**



We fit a simple linear regression model to each year of the data for income. Because each of the predictor variables is a percentage ratio, the interpretation of these coefficients is straightforward. For example, the credit reporting coefficient for 2020 is around -15. This means that, when comparing two tracts, one with no consumers that had credit reporting issues, and another where every single consumer had credit reporting issues, we would expect area median income to fall by around 15% with a standard error of 1.3%. We can also think about comparing predictions of interesting data points. For example, in 2020 the average predicted income ratio for census tracts with only loan origination consumers is 125% of the area median income, compared with 97% for tracts with only credit reporting consumers, a difference of nearly 28%. Averaging over all of the other data for 2020, the average predictive difference for tracts with 100% of consumers having loan origination concerns compared with tracts with 0% of consumers having credit reporting concerns is nearly 20%.

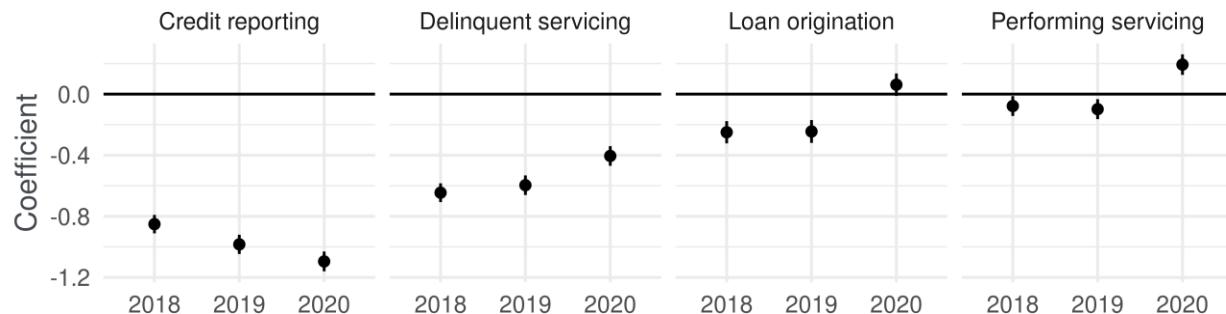
We also fit logistic regression models at the tract level to get a sense of how the share of racial and ethnic populations varies with the types of complaints consumers in those tracts are submitting. For each of these regressions we predict the binary outcome of whether each tract was in the most concentrated minority bin (e.g., greater than 54% for the regressions using Black or African American share, and greater than 56% for the regressions using the Hispanic or Latino share).

As with the plot above, the coefficient plot for models predicting race or ethnicity below, show the range of coefficients and how they have changed over time. However, because these are logistic regression models, the coefficients are not on the scale of the data and can be harder to interpret. Each model description below compares useful point predictions as well as average predictions (i.e. predictions averaged over the actual data) to get a sense of what these coefficients mean in terms of probability of a tract being in the target highest concentration bin.

Until 2020 the tracts with the highest percentage of white, non-Hispanic residents had lower shares of consumers complaining about all of the credit life cycle stages. In 2020 this changed—the coefficients for loan origination and performing servicing both flipped to positive. One noteworthy difference between the most concentrated white, non-Hispanic tracts and the most concentrated tracts for other communities is that a larger share of these tracts is in outlying counties and rural areas.

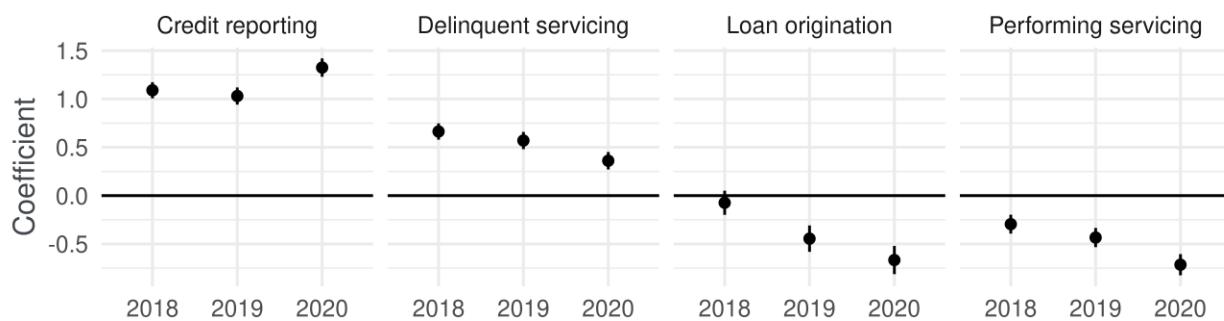
Suppose there are two tracts in 2020, one where all associated complaints were about credit reporting complaints and one where all associated complaints were about loan origination. The probability that the tract with loan origination complaints has the highest concentration of white, non-Hispanic residents (71% or greater) is 28% greater than the probability for the tract with only credit reporting complaints. Averaging over all the other data from 2020 and comparing a tract where no consumers complained about credit reporting to a tract where all the consumers complained about credit reporting, our models suggest a 26% decline in the probability that a tract has greater than 71% white, non-Hispanic residents.

**FIGURE 29: SHARE OF WHITE, NON-HISPANIC RESIDENTS: ESTIMATED COEFFICIENTS +/- 1 STANDARD ERROR (68% INTERVALS). COEFFICIENTS FOR LOGISTIC REGRESSION MODELS PREDICTING WHETHER TRACTS HAVE GREATER THAN 71% SHARE WHITE, NON-HISPANIC RESIDENTS. MODELS ARE FIT TO EACH YEAR OF THE DATA 2018-2020. COEFFICIENTS ARE NOT ON THE SCALE OF THE DATA, BUT ARE COMPARABLE WITH EACH OTHER.**



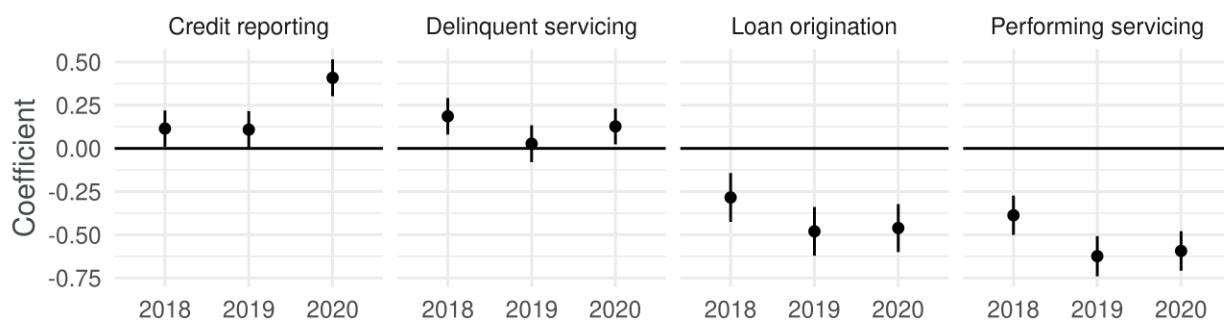
For the 2020 model of predictions that a tract contains greater than 54% Black or African American residents, comparing one tract where all the consumers submitted only credit reporting complaints to another tract where all the consumers submitted only loan origination complaints, the probability decreases by around 14%. Averaging over all the other data from 2020 and comparing a tract where no consumers complained about credit reporting to a tract where all the consumers complained about credit reporting, our models suggest a 10% increase in the probability that a tract has greater than 54% Black or African American residents.

**FIGURE 30: SHARE OF BLACK OR AFRICAN AMERICAN RESIDENTS: ESTIMATED COEFFICIENTS +- 1 STANDARD ERROR (68% INTERVALS). COEFFICIENTS FOR LOGISTIC REGRESSION MODELS PREDICTING WHETHER TRACTS HAVE GREATER THAN 54% SHARE OF BLACK OR AFRICAN AMERICAN RESIDENTS. MODELS ARE FIT TO EACH YEAR OF THE DATA 2018-2020. COEFFICIENTS ARE NOT ON THE SCALE OF THE DATA, BUT ARE COMPARABLE WITH EACH OTHER.**



The models for the share of Hispanic or Latino population in Figure 31, below, generally have smaller coefficients than for models of Black or African American share. Both credit reporting and delinquent servicing were associated with a greater probability of a tract having the largest share of Hispanic or Latino residents (greater than 56%). But compared with Black or African Americans, loan origination and performing servicing complaints in 2020 stayed about the same as in 2019.

**FIGURE 31: SHARE OF HISPANIC OR LATINO RESIDENTS: ESTIMATED COEFFICIENTS +- 1 STANDARD ERROR (68% INTERVALS). COEFFICIENTS FOR LOGISTIC REGRESSION MODELS PREDICTING WHETHER TRACTS HAVE GREATER THAN 56% SHARE HISPANIC OR LATINO RESIDENTS. MODELS ARE FIT TO EACH YEAR OF THE DATA 2018-2020. COEFFICIENTS ARE NOT ON THE SCALE OF THE DATA, BUT ARE COMPARABLE WITH EACH OTHER.**

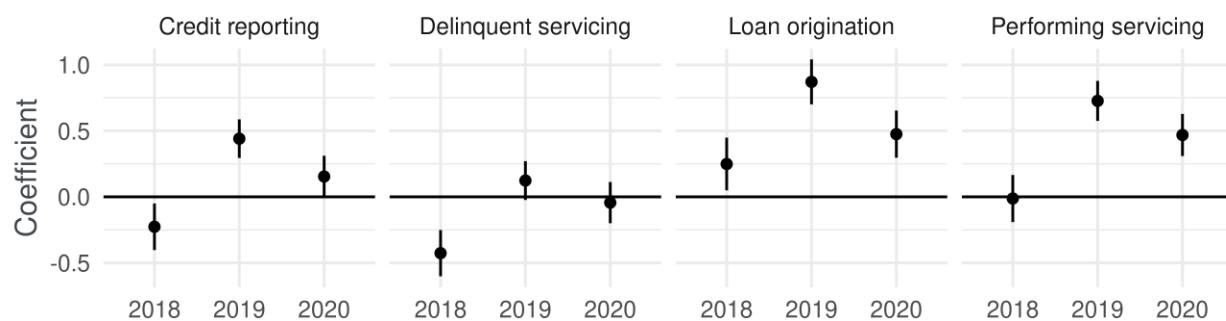


Comparison between a tract where consumers only submitted credit reporting complaints and a tract where consumers only submitted loan origination complaints, suggests about a 6% increase in the probability that tract has greater than 56% share of Hispanic or Latino residents. This is slightly less than half of the same comparison for Black or African Americans residents.

Averaging over all the other data from 2020 and comparing a tract where no consumers complained about credit reporting to a tract where all the consumers complained about credit reporting, our models suggest just a 4.4% increase in the probability that a tract has greater than 56% Hispanic or Latino residents, less than half a similar comparison for Black or African Americans.

Because we have less data available, the standard errors of coefficients for the models predicting whether a tract has greater than 33% Asian American or Pacific Islander population tend to be fairly wide. However, some of the coefficients, especially for performing servicing and loan origination in 2019, are fairly large.

**FIGURE 32: SHARE ASIAN AMERICAN OR PACIFIC ISLANDER: ESTIMATED COEFFICIENTS +/- 1 STANDARD ERROR (68% INTERVALS). COEFFICIENTS FOR LOGISTIC REGRESSION MODELS PREDICTING WHETHER TRACTS HAVE GREATER THAN 56% SHARE ASIAN AMERICAN OR PACIFIC ISLANDER RESIDENTS. MODELS ARE FIT TO EACH YEAR OF THE DATA 2018-2020. COEFFICIENTS ARE NOT ON THE SCALE OF THE DATA, BUT ARE COMPARABLE WITH EACH OTHER.**



For the 2020 model, comparison between a tract where consumers only submitted delinquent servicing complaints and a tract where consumers only submitted loan origination complaints, suggests about a 1.6% increase in the probability that tract has greater than 33% share of Asian American or Pacific Islander residents with a standard error of 0.5%. Averaging over all the other data from 2020 and comparing a tract where no consumers complained about loan origination to a tract where all the consumers complained about loan origination, our models suggest a just a 1.8% increase in the probability that a tract has greater than 33% share of Asian American or Pacific Islander residents.

## 7.3 Product and issue lifecycle mapping

Product	Issue	Category
Credit card	Advertising and marketing, including promotional offers	Loan origination
Credit card	Closing your account	Performing servicing
Credit card	Credit monitoring or identity theft protection services	Credit reporting
Credit card	Fees or interest	Performing servicing
Credit card	Getting a credit card	Loan origination
Credit card	Improper use of your report	Credit reporting
Credit card	Incorrect information on your report	Credit reporting
Credit card	Other features, terms, or problems	Performing servicing
Credit card	Problem when making payments	Performing servicing
Credit card	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Credit card	Problem with a purchase shown on your statement	Performing servicing
Credit card	Problem with fraud alerts or security freezes	Credit reporting
Credit card	Struggling to pay your bill	Delinquent servicing
Credit card	Trouble using your card	Performing servicing
Credit card	Unable to get your credit report or credit score	Credit reporting
Credit or consumer reporting	Credit monitoring or identity theft protection services	Credit reporting
Credit or consumer reporting	Identity theft protection or other monitoring services	Credit reporting
Credit or consumer reporting	Improper use of your report	Credit reporting
Credit or consumer reporting	Incorrect information on your report	Credit reporting
Credit or consumer reporting	Problem with a company's investigation into an existing issue	Credit reporting
Credit or consumer reporting	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Credit or consumer reporting	Problem with fraud alerts or security freezes	Credit reporting
Credit or consumer reporting	Unable to get your credit report or credit score	Credit reporting
Debt collection	Attempts to collect debt not owed	Delinquent servicing
Debt collection	Communication tactics	Delinquent servicing
Debt collection	False statements or representation	Delinquent servicing
Debt collection	Threatened to contact someone or share information improperly	Delinquent servicing
Debt collection	Took or threatened to take negative or legal action	Delinquent servicing
Debt collection	Written notification about debt	Delinquent servicing

<b>Product</b>	<b>Issue</b>	<b>Category</b>
Mortgage	Applying for a mortgage or refinancing an existing mortgage	Loan origination
Mortgage	Closing on a mortgage	Loan origination
Mortgage	Improper use of your report	Credit reporting
Mortgage	Incorrect information on your report	Credit reporting
Mortgage	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Mortgage	Problem with fraud alerts or security freezes	Credit reporting
Mortgage	Struggling to pay mortgage	Delinquent servicing
Mortgage	Trouble during payment process	Performing servicing
Mortgage	Unable to get your credit report or credit score	Credit reporting
Personal loan	Charged fees or interest you didn't expect	Performing servicing
Personal loan	Credit limit changed	Performing servicing
Personal loan	Credit monitoring or identity theft protection services	Credit reporting
Personal loan	Getting a line of credit	Loan origination
Personal loan	Getting the loan	Loan origination
Personal loan	Improper use of your report	Credit reporting
Personal loan	Incorrect information on your report	Credit reporting
Personal loan	Problem when making payments	Performing servicing
Personal loan	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Personal loan	Problem with additional add-on products or services	Performing servicing
Personal loan	Problem with cash advance	Performing servicing
Personal loan	Problem with fraud alerts or security freezes	Credit reporting
Personal loan	Problem with the payoff process at the end of the loan	Performing servicing
Personal loan	Property was sold	Delinquent servicing
Personal loan	Struggling to pay your loan	Delinquent servicing
Student loan	Credit monitoring or identity theft protection services	Credit reporting
Student loan	Dealing with your lender or servicer	Performing servicing
Student loan	Getting a loan	Loan origination
Student loan	Improper use of your report	Credit reporting
Student loan	Incorrect information on your report	Credit reporting
Student loan	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Student loan	Problem with fraud alerts or security freezes	Credit reporting
Student loan	Struggling to repay your loan	Delinquent servicing
Vehicle loan or lease	Credit monitoring or identity theft protection services	Credit reporting

<b>Product</b>	<b>Issue</b>	<b>Category</b>
Vehicle loan or lease	Getting a loan or lease	Loan origination
Vehicle loan or lease	Improper use of your report	Credit reporting
Vehicle loan or lease	Incorrect information on your report	Credit reporting
Vehicle loan or lease	Managing the loan or lease	Performing servicing
Vehicle loan or lease	Problem with a credit reporting company's investigation into an existing problem	Credit reporting
Vehicle loan or lease	Problem with fraud alerts or security freezes	Credit reporting
Vehicle loan or lease	Problems at the end of the loan or lease	Performing servicing
Vehicle loan or lease	Struggling to pay your loan	Delinquent servicing
Vehicle loan or lease	Unable to get your credit report or credit score	Credit reporting