

Financially Fit?

Comparing the credit records of young servicemembers and civilians

James V. Marrone and Susan P. Carter



Consumer Financial
Protection Bureau

Table of contents

Table of contents.....	1
Executive Summary	3
1. Introduction.....	5
2. Data.....	8
2.1 Overview of Tradeline Data.....	8
2.2 Description of Analytic Sample.....	12
3. Results by Entry Cohort.....	16
3.1 Description of Entry Cohorts	16
3.2 Credit Visibility and Credit Scores	19
3.3 Installment Debt.....	24
3.4 Revolving Debt	41
3.5 Third-Party Collections	47
3.6 Discussion.....	49
4. Results by Exit Cohort	51
4.1 Description of Exit Cohorts.....	52
4.2 Credit Scores.....	54
4.3 Installment Debt.....	59
4.4 Revolving Debt	67
4.5 Third-Party Collections	72
4.6 Discussion.....	74
5. Conclusion	76
Appendices.....	79

A: Review of Prior Evidence on Servicemembers' Financial Well-Being.....	80
B: Data Appendix	85
Data Construction	85
Data Validation.....	87
C: Robustness Checks	91
Selected Outcomes by Birthyear	91
Selected Outcomes by Service Branch	97
D: Financial Literacy Resources	102

Executive Summary

Financial well-being, including credit history, is an important consideration in an individual's ability to join the military as well as his or her ability to maintain a security clearance and continue in military service. This report uses a representative sample of young servicemembers' credit reports to show how their credit histories evolve from the time they turn 18 until their mid-twenties. It also compares servicemembers to a cohort of same-age civilians.

The data used for this report come from the Consumer Financial Protection Bureau's (CFPB) Consumer Credit Panel (CCP), a random sample of de-identified credit records purchased from one of the three nationwide consumer reporting agencies (NCRAs). The NCRA merged credit report information from the CCP to information about dates of active duty from the Servicemember Civil Relief Act (SCRA) database managed by the U.S. Department of Defense (DoD). The SCRA database identifies people who have served on active duty at any point since 1985. The analysis utilizes a seven-year observation window to follow de-identified consumers who were born from 1989 through 1992, from age 18 through age 24. The sample comprises a total of 296,004 people, of whom 10,647 (3.6 percent) joined active duty during the observation window. Calculations from DoD statistics suggest that only a small fraction of this group joins active duty after age 24, meaning that this primarily comprises civilians who are never full-time active duty.

The report disaggregates the credit record data in two ways: based on the age at which servicemembers enter active duty and based on the time they spend in active duty. In general, the results show that the servicemembers who remain in the military have healthy credit records and are managing their debt well when compared to civilians. But after military service young veterans sometimes run into problems with debt, particularly those veterans who served less than three years. Although these problems may develop during active duty, they grow in the years after the servicemembers leave. The characteristics of these servicemembers, and the causes of their debt management problems, are not observable given the available individual-level information used in this study, but could be analyzed with future research.

The key conclusions are:

- **Young servicemembers use different forms of credit than civilians**, and their usage depends on the timing of military service. Servicemembers tend to take out auto loans and open revolving accounts soon after joining the military. They then often take out student loans soon after leaving. Compared to civilians overall, between ages 18 and 24 servicemembers are more likely to have an auto loan or a credit card, slightly more

likely to have a mortgage, and less likely to have a student loan or a third-party collections account.

- **Those who remain in service for at least five years have the healthiest credit records by age 24, even compared to civilians.** These servicemembers also accrue installment debt and open revolving accounts shortly after joining the military but maintain higher credit scores than other groups. Those in this group who exit the military during the observation window do experience a decrease in credit score after separation of about 20 points but on average, by age 24 this group of servicemembers who stay for at least five years has better credit scores than civilians.
- **Servicemembers who have trouble with debt generally joined at younger ages or left active duty early.** For example, among those who join the military before age 21, approximately 30 percent have a *deep subprime* score at age 24. Of those who join before age 21 and leave within 2.5 years, 58 percent have a deep subprime score at age 24. In many cases, servicemembers' scores drop due to delinquencies and defaults in the years after they leave the military, not during service.

Several caveats must be considered when drawing conclusions from the results. First, people with no credit history cannot be observed in the CCP. However, estimates in Appendix B suggest that the credit invisibility rate (the fraction of individuals without a credit record) of those who join active duty is similar to the invisibility rate of the rest of the population by age 24. Second, active duty servicemembers differ from the comparison group of non-active-duty individuals in several important ways. The servicemember population skews heavily male, is slightly less white, and has a greater fraction of U.S. citizens and high school graduates than the general U.S. population. The core CCP data do not include any demographic information except for age, so the analysis cannot control for these differences. Finally, analysis focuses on consumers in the years immediately following the Great Recession and may yield different results from an analysis of more recent trends. The results do not differ substantially based on birthyear (see Appendix C), but the sample does not include people who turned 18 after 2010.

Future research could uncover the causes and risk factors of young servicemembers' trouble managing debt. The analysis suggests that the causes are more complex than simply taking on a lot of debt. Rather, there may be several potential factors that should be examined, corresponding to two main avenues for research. First, are debt management problems directly related to military service? Second, are debt management problems occurring before or after leaving the military? Answering these questions is a necessary first step to determine at what point in a servicemember's career path they are most at risk of financial hardship and what types of programs or policies may mitigate those risks.

1. Introduction

Financial well-being of military servicemembers can impact military readiness. Research shows that financial stress of an individual and his or her family impacts ability to make decisions and may affect job commitment.¹ For servicemembers,

poor credit histories can affect their ability to maintain a security clearance which would affect the jobs they are able to perform.² Recognizing this, some services stipulate caps on debt-to-income allowances in their eligibility rules for applicants.³ This report documents the credit histories of servicemembers using a representative sample of credit records to describe how young servicemembers interact with credit instruments, use credit, and build credit histories. The analysis examines young servicemembers as they enter and leave military service and compares the evolution of their credit records to that of civilians who do not enter the military in the same age range. The purpose of this report is to quantify the financial health of servicemembers. Understanding areas of concern can help with designing and implementing financial literacy programs on appropriate topics, to the appropriate audiences, and at the appropriate time.

Using a nationally representative sample of credit records, this report shows how young servicemembers' credit behaviors relate to the timing of entry into and exit from military service.

Military careers create both financial pressures and financial opportunities that are distinct from those facing civilian households, and so servicemembers' financial decisions and credit histories may look quite different from civilians'. For example, servicemembers are required to move frequently and to be away from home on lengthy deployments, both of which can have negative effects on employment opportunities for spouses, and therefore on overall household financial stability.⁴ On the other hand, servicemembers are also offered benefits such as on-base

¹ Anandi Mani et al., *Poverty Impedes Cognitive Function*, 976 SCIENCE (2013); Jinhee Kim & Thomas Garman, *Financial Stress and Absenteeism: An Empirically Derived Model*, 31 ASSOCIATION FOR FINANCIAL COUNSELING AND PLANNING EDUCATION.

² FINRA Investor Education Foundation, *FINANCIAL EDUCATION IN THE UNITED STATES: 2012 REPORT OF MILITARY FINDINGS*, at 3 (2013).

³ AFRS Instruction 36-2001 4.25 and 4.26 (pp. 105-106).

⁴ Council of Economic Advisers, *MILITARY SPOUSES IN THE LABOR MARKET* (2018); Paul Heaton & Heather Krull, *UNEMPLOYMENT AMONG POST-9/11 VETERANS AND MILITARY SPOUSES AFTER THE ECONOMIC DOWNTURN* (Santa Monica, CA, RAND Corporation, 2012); John J. Hisnanick & Roger D. Little, *'Honey, I Love You, but...' Investigating the Causes of the Earnings Penalty of Being a Tied-Migrant Military Spouse*, 41 ARMED FORCES & SOCIETY 3 (2015).

child care, on-base housing (or off-base housing subsidies), free healthcare, and relatively high salaries compared to their civilian peer groups.⁵ For the purposes of designing sound policy in support of servicemembers' financial well-being, it is therefore important to understand servicemembers' financial trajectories separately from civilians'.

It is no surprise that several previous surveys of financial behavior have focused on servicemembers and their families. Despite pointing to several overall positive trends for servicemembers, the evidence indicates that junior enlisted servicemembers (usually categorized as servicemembers in paygrades E-1 through E-4) are the most financially vulnerable.⁶ The surveys collectively point to auto debt and mortgages, as well as credit cards, as sources of trouble for junior enlisted servicemembers. They also provide valuable insight into financial behavior and financial literacy; for an overview of these other key takeaways, see Appendix A.

Prior research suggests junior enlisted servicemembers outperform civilians in saving and future planning, but have more trouble managing debt and credit.

Unfortunately, it is not possible to obtain a holistic picture of individuals' financial profiles based on self-reported data, even in a representative survey sample.⁷ This report begins to fill that gap by providing an analysis of information from de-identified credit record data drawn from a nationally-representative sample of consumers. The analysis complements prior research, shedding light on a number of outcomes that are not observable in survey data: when young servicemembers begin taking on debt (whether it is before or after they join the service and if after, how long after); how entrants differ based on the age they join; and how servicemembers' credit profiles change after separation from the military.

This analysis uses credit records for the cohort of individuals who turned 18 years old between 2007 and 2010, from the time they enter the credit record system through the time they are 24 years old. Those who enter full-time active duty military service during this time are then compared to same-aged civilian peers. The report describes how the different groups use credit,

⁵ James Hosek & Shelley MacDermid Wadsworth, *Economic Conditions of Military Families*, 23 THE FUTURE OF CHILDREN 2, 41 (2013); James Hosek et al., MILITARY AND CIVILIAN PAY LEVELS, TRENDS, AND RECRUIT QUALITY (Santa Monica, CA, RAND Corporation, 2018).

⁶ See section 2.1 below for a discussion of junior enlisted paygrades and how they relate to the sample analyzed for this report.

⁷ On the reliability of self-reported financial data: Emily Geisen et al., Examining the Relationship Between the Accuracy of Self-Reported Data and the Availability of Respondent Financial Records, presentation at the Annual Meeting of the American Association for Public Opinion Research, Orlando (May 2012), https://www.rti.org/sites/default/files/resources/aapor12_geisen_paper.pdf; Duane F. Alwin et al., 2014. *Reliability of Self-reports of Financial Data in Surveys: Results from the Health and Retirement Study*, 43 SOCIOLOGICAL METHODS & RESEARCH 1, 98 (2014).

how their credit histories evolve, and how servicemembers' financial outcomes relate to the ages at which they enter and exit active duty service. In general, the analysis provides a picture of how young servicemembers' credit histories are built over the first seven years of adulthood and how they differ from those of civilians.

The report is structured in the form of two parallel, complementary analyses presented in separate sections. First, servicemembers are compared based on the age at which they first entered active duty: 19 years old or younger, 20 or 21 years old, and 22 or 23 years old. This analysis highlights how borrowing and credit usage behavior changes as individuals enter service. In the second part of the report, those in the youngest (and most populous) group—the 19-and-under recruits—are compared based on the time spent in active duty: less than one year, one to 2.5 years, 2.5 to five years, and five years or more. This subsequent analysis focuses on the correlation between the severity of debt burdens and the timing of separation from the military. In both analyses, same-aged civilians provide a comparison group.

A Note on Terminology

Throughout the text, specific terms refer to particular subgroups of the sample. The sample is explained in more detail in Section 2, but these terms are described here for the sake of clarity.

The term “servicemembers” refers to individuals who joined full-time active duty service in either the Army, Air Force, Navy, Marine Corps, or Coast Guard during the observation window. The term does not refer to activated reserve and guard troops, nor to those who might join at older ages outside the observation window.

“Junior enlisted” indicates servicemembers who are likely to be in paygrades E-1 through E-4. Although paygrade is unobserved, the analysis focuses on particular subsets of servicemembers that almost definitely comprise enlistees. The term therefore applies only when discussing these enlisted subgroups. It is unlikely that the recruits in these subgroups are promoted beyond E-5 during the observation window, so the analysis focuses on the period when they are junior enlisted servicemembers.⁸

Finally, for the sake of variety the terms “consumer,” “borrower,” and “individual” are used interchangeably.

⁸ E-5 corresponds to a Sergeant in the Army and Marine Corps, Staff Sergeant in the Air Force, and Petty Officer Second Class in the Navy and Coast Guard.

2. Data

The report utilizes data from the Consumer Financial Protection Bureau’s Consumer Credit Panel (CCP), a de-identified, nationally-representative panel of credit records. The data consist of a 1-in-48 random sample of credit files purchased from one of the three nationwide consumer reporting agencies (NCRAs).⁹

The dataset tracks young adults who establish credit records by age 24, showing the evolution of their credit record from the time they are 18 years old.

For each credit record, the NCRA furnishes information about each associated tradeline – that is, each individual account being reported to the NCRA. For example: an installment loan, a revolving debt account, a third-party collections account, a tax lien, or a lease are all individual tradelines.¹⁰ Notably, the only personal characteristic provided by the NCRA in the tradeline files is the individual’s year of birth.

2.1 Overview of Tradeline Data

A consumer’s credit record describes his or her experience handling debt, including credit accounts, bills, leases, public records, and credit inquiries from potential lenders. The NCRA compiles information about each of these, and often the information is furnished to them by another party. A furnisher could be a lender, a collections agency, a government entity, a utility company, or a variety of other sources. For more information about credit reports and the credit reporting process in general, see Avery, et al. (2003) and “Key Dimensions and Process” cited above.¹¹ Different types of credit record information are discussed separately below.

⁹ The original sample was drawn from the December 2012 archive and credit information for that sample was pulled retrospectively to 2001. The sample is updated each quarter with a random 1-in-48 set of all new credit records that were created during that quarter. Additionally, for quarters prior to 2012, a random 1-in-48 sample of credit records which disappear in the following quarter was added. As a result, the CCP constitutes a random sample of credit records from 2001 until today.

¹⁰ For more information about the credit reporting system: CFPB, “Key Dimensions and Processes in the US Credit Reporting System: A Review of How the Nation’s Largest Credit Bureaus Manage Consumer Data,” (December 2012), available at https://files.consumerfinance.gov/f/201212_cfpb_credit-reporting-white-paper.pdf, hereinafter “Key Dimensions and Processes...”

¹¹ Robert B. Avery et al., *An Overview of Consumer Data and Credit Reporting*, 89 FEDERAL RESERVE BULLETIN, 47 (February 2003).

2.1.1 Credit Accounts

Credit account tradelines represent accounts from which a consumer has or may borrow money. These accounts come in two types: installment (or closed end) and revolving (or open end).

The tradeline information includes the origination date, account balance, account status (open or closed), payment status (current, delinquent, or in collections), term length (for installment loans), and type of creditor (for third-party collections accounts). Collectively these variables identify the set of open, active accounts for each consumer at each point in time. For this analysis, the disaggregated tradeline data associated with each credit file are aggregated for each person at the end of each quarter to create a longitudinal panel of debt profiles for each person in the CCP.¹²

Installment Accounts

Installment accounts constitute lump-sum loans that a borrower repays over time according to a pre-determined schedule. The CCP contains several types of installment accounts: mortgages, auto loans, student loans, personal loans, retail loans, timeshare loans, business loans, agriculture loans, commercial loans, and home equity loans. A small fraction of installment loans are of another type which is possibly unknown.

Consumers are categorized as having installment debt whenever they have at least one account currently open with a positive balance. The majority of installment loans are auto loans, student loans, and mortgages. Other types of loans will only be mentioned when relevant.

Revolving Accounts

Revolving debt accounts allow a consumer to borrow at various times, up to some pre-determined credit limit. The CCP identifies several types of revolving accounts: credit cards, retail cards, personal revolving accounts, business revolving accounts, and home equity lines of credit. A small fraction of revolving accounts are of another type which is again possibly unknown. Among the consumers in this sample, nearly all revolving accounts are general purpose credit cards or retail credit cards (a credit card that is dedicated for use at a particular store or online retailer).

In this analysis, consumers are categorized as having access to revolving debt if they have at least one account currently open with a positive credit limit. Unlike for installment debt, the

¹² Individual credit files are not necessarily the same as individual persons. The data appendix provides more information on the conversion of credit files to persons via the merging of fragment files that belong to the same individual.

balance on revolving accounts is not especially informative. For example, on credit card accounts it is often not possible to determine if the borrower is accruing interest on the balance, if the borrower is paying off the account in full each month, or even if the borrower is making more than the minimum payment.¹³ However, the payment status does indicate if an account is delinquent or severely derogatory. Therefore, for each consumer the following are calculated: their aggregate credit limit, whether they have accessed at least some of the credit (i.e., if they ever had a positive balance), their utilization rate of their available credit, and whether any account has had a derogatory status.

2.1.2 Non-Tradeline Account Information

Credit records also include information from three sources that do not pertain to credit accounts: collections agency reports, money-related public records, and creditor inquiries.

Collections agencies report information on debt they are attempting to collect for a delinquent account. Non-credit-related debt reported by a third-party collection agency, like credit account debt sent to collections, constitute a major derogatory that can hinder the consumer's future access to credit. The analysis below documents these types collections based on type of original creditor, for example, telecommunications companies, utilities companies, or medical care providers.

Money-related public records relate to bankruptcy filings, government liens, legal judgments, and other legal filings. Among the consumers in this sample, public records are very uncommon: only 0.1 percent of the sample had any public record information listed on their credit record by age 24. Therefore, public records are not discussed separately in this analysis, although they are used as a metric for determining if a consumer is credit-visible (see Section 3.2).

The CCP also contains information on a consumer's association with each open account, for example whether they are the primary accountholder or a cosigner. Only a small number of accounts are observed to have more than one individual associated with them, so the analysis does not consider any of these categories separately.¹⁴

¹³ A recent CFPB report examined patterns of credit card repayment and revolving (carrying over a balance from one month to the next). See CFPB (July 2019), "Data Point: Credit Card Revolvers," research report available at <https://www.consumerfinance.gov/data-research/research-reports/data-point-credit-card-revolvers/>.

¹⁴ Among the accounts in the analytic sample: 89 percent are individual accounts with no additional authorized users, and less than one percent of these had a cosigner; 6.7 percent are joint accounts in which the consumer has contractual responsibility; and 4 percent are accounts in which the consumer is the authorized user but does not have contractual responsibility. Other relationships constitute a negligible fraction of all accounts.

2.1.3 Thin Files and Scorable Files

A particular subset of credit records is excluded here: inquiry-only files. Credit records track inquiries made on a consumer's file, which occur when a third party pulls information about a consumer's credit history from the NCRA. Credit repositories are required to list certain types of inquiries for about two years, depending on the purpose of the inquiry. Files that contain only inquiries with no tradelines correspond to individuals who have never had access to credit (despite perhaps having applied). Prior CFPB research has examined inquiry-only records as well as consumers without any credit record, who are collectively referred to as *credit invisible*.¹⁵ As elaborated in Appendix B, consumers with inquiry-only files through age 24 are dropped from this analysis.¹⁶

Credit records also provide the data to calculate consumers' credit scores. A credit score is a numeric output from a statistical model using information from a consumer's credit record, summarizing the likelihood of an event such as delinquency.¹⁷ A credit record becomes scorable once it has a sufficient amount of tradeline information.¹⁸ The analysis below uses a commercially available credit score; other credit scoring models are available and what constitutes a scoreable credit record may differ depending on the credit agency's model.¹⁹

Because potential creditors rely on credit scores to assess a potential borrower's risk, scorability (like visibility) is an important determinant of a person's ability to access credit. A *thin* file means the person does not have enough credit information to produce a credit score.²⁰ Credit invisible consumers and consumers with thin files can have difficulty accessing credit because their lack of credit history makes it difficult to assess their creditworthiness. In the analysis

¹⁵ CFPB, "Becoming Credit Visible," (June 2017), available at https://files.consumerfinance.gov/f/documents/BecomingCreditVisible_Data_Point_Final.pdf, hereinafter referred to as "Becoming Credit Visible."

¹⁶ Inquiring entities may pull credit record information from one repository but not others, so the record of inquiries kept by any given repository is incomplete. For this reason, thin files from any given NCRA do not constitute a representative sample of all thin files, necessitating that they be ignored for this analysis.

¹⁷ The statutory definition of a credit score is in the Fair Credit Reporting Act: 15 U.S.C. §1681g(f)(2).

¹⁸ CFPB, "Credit Invisibles," (May 2015), at 10. Available at https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf, hereinafter referred to as "Credit Invisibles."

¹⁹ See CFPB, "Key Dimensions and Processes..." Section 2.4 and references therein.

²⁰ See the Bureau's definition of thin files: <https://www.consumerfinance.gov/consumer-tools/credit-reports-and-scores/answers/key-terms/#thin-credit-file-no-credit-file>

below, thin but visible files are included in the analysis, and the results illustrate how different consumers get credit scores at different ages.

2.2 Description of Analytic Sample

The full sample used in this analysis tracks 296,004 individuals, 10,647 (3.6 percent) of whom entered active duty prior to age 24. The remaining 285,357 individuals form a comparison group of people who do not join the military during the observation window. The analysis decomposes this sample in two ways to examine how credit histories evolve relative to the timing of military service. The first analysis uses the entire sample and categorizes individuals by their age at first accession (entry cohorts). The subsequent analysis focuses on those who join by the age of 18 or 19 and categorizes the sample by time spent on active duty (exit cohorts). These categorizations are described in more detail at the beginning of each respective section.

The sample construction methodology used information on active duty service experience furnished by the NCRA, which matched the CCP sample to data available through the SCRA Website maintained by the DoD.²¹ The SCRA portal facilitates compliance with the SCRA by allowing financial institutions to verify if a loan applicant is or was an active-duty servicemember (full-time or activated Reserve or Guard) at any time since 1985. The website provides the dates of active duty service along with the service component, and it identifies individuals with no active duty history; the latter were used to form the comparison group in this analysis. The NCRA furnished CFPB with the active duty service information from the SCRA portal, with dates of active duty since December 2007.²²

The sample consists of individuals in the CCP who turned 18 years old from 2007 through 2010, following them through age 24. Credit records were included so long as the person's birthyear was known prior to the person turning 24, and so long as they had at least one tradeline or public record reported during the observation window.²³

²¹ Department of Defense (2019), "Servicemembers Civil Relief Act (SCRA) Website," available at <https://scra-w.dmdc.osd.mil/scra/#/home>.

²² This data was acquired prior to a 2017 settlement between DoD and the Vietnam Veterans of America. The settlement prohibits further access to the SCRA database for the purposes used in this research. See Vietnam Veterans of America, "SCRA Settlement," available at <https://vva.org/scra-settlement/>.

²³ Files missing birthyear information for several years are likely to be thin files or are fragment records that cannot be linked to records with known birthyear information. Similarly, credit records without reported tradelines would be thin files consisting only of credit inquiries. Appendix B provides more information about fragments. For more information on thin files and a similar sample collection strategy, see "Becoming Credit Visible."

Finally, because birthyear is known but not birthdate, the dataset consists of annual observations from December of each year, when all individuals with the same birthyear are the same age. The observation each December summarizes changes to each consumer's account over the four quarters of the preceding calendar year. For example, when a consumer is recorded as going delinquent from one December to the next, the delinquency would have occurred at some point in the interim calendar year, and not necessarily in December. When individuals' credit histories begin after age 18, they are assumed to have debt levels of zero prior to the first reported date of any tradeline or public record in their credit file.²⁴

The final longitudinal dataset is a sample of all people who became legal adults between 2007 and 2010 and who had established more than a thin credit record by the age of 24. The data appendix provides more information regarding the data creation procedures and validates the data against publicly available information from DoD and the US Census. The analysis in the appendix shows that the analytic sample reflects the relevant population in terms of the proportion of individuals in active duty as well as the attrition rate of enlisted individuals over the first few years of service.

2.2.1 Benchmarking Debt Levels to Income

Although servicemembers' paygrades are not observed, their take-home pay can be approximated based on the average promotion path by time in service. The benchmarks miss some potential sources of income, including the military's housing allowance, special and incentive pays that are received by some servicemembers, additional earnings during deployment, and any income earned by a servicemember's spouse or another household member.²⁵ Nevertheless, basic pay can be used by each service to determine if a potential servicemember's debt-to-income ratio is too high to be eligible.

The first cohort of servicemembers, those who enlist by age 19, can accrue five years of service by age 24. If they enter at the lowest possible paygrade (E-1), their basic pay after four months of service would be \$1,681 per month, or \$20,172 per year (as of 2019). After five years these servicemembers are likely to have attained a maximum rank of E-5, with basic pay of \$2,804, or \$33,648 per year.²⁶ This also provides a likely upper bound for the basic pay of servicemembers

²⁴ Some individuals have credit histories beginning before they turn 18, and some individuals enter active-duty service at age 17. In these cases, the first date of observation is still December of the year they turned 18.

²⁵ Housing pay can be a considerable source of income. It is not tax deductible and a servicemember is not required to use all of it on housing. (Young enlisted servicemembers, however, are only allowed to live off-post, and thus be eligible to receive housing pay, if they are married.)

²⁶ <https://militarybenefits.info/2019-military-pay-charts/>

in the 20-21 year-old cohort, as well. For those who entered at 22 or 23, would not have much time in service by age 24, and so are likely to be at or below E-5, as well. Officers who entered at 22 or 23 are unlikely to have been promoted to the rank of O-2 within two years, meaning their 2019 base pay is likely capped at the level of an O-1 with two years of service: \$3,319 per month, or \$39,828 per year.

In the analyses below, debt levels can be compared to these benchmark levels of take-home base pay. The comparison can suggest whether debt levels are likely to be manageable, particularly for those with the most debt. The report also documents direct measures of financial distress, including delinquencies and foreclosures.

2.2.2 Data Limitations

Several caveats must be considered when drawing conclusions from the results. First, the CCP (by definition) consists only of individuals with credit records – that is, those who are credit visible. The analytic sample used here is limited to individuals who establish relatively thick credit records by age 24 but excludes those with no credit record and those whose record is too thin to identify their age. The averages and percentages presented below are therefore means and fractions of a particular credit-visible population, not of the entire population of under-24 year-olds. For reference, the next subsection provides estimates of the relevant credit-invisible population.

Credit report data necessarily exclude people with no credit history, who are considered “credit invisible.” In addition, the demographic characteristics of active-duty servicemembers and civilians differ in a number of ways that cannot be controlled for using information available for this report.

In addition, the cohorts of active duty servicemembers differ from the comparison group of non-active-duty individuals in several important ways. Although the differences cannot be quantified due to the lack of demographic information, inferences can be drawn from population statistics. The population of enlisted servicemembers across all service branches skews heavily male; it is also on average slightly less white and less Hispanic than the civilian population, with a higher proportion of U.S. citizens and a smaller proportion of high-school dropouts.²⁷ Servicemembers who enlist prior to age 21 are also more likely to be married than

²⁷ For some demographic comparisons between the U.S. military and overall U.S. population, see: Parker, Kim, Anthony Cilluffo, and Renee Stepler (2017), “6 facts about the U.S. military and its changing demographics,” Pew Research Center, April 13, available at <https://www.pewresearch.org/fact-tank/2017/04/13/6-facts-about-the-u-s-military-and-its-changing-demographics/>. For earlier statistics on foreign-born U.S. servicemembers (both naturalized and not naturalized): Batalova, Jeanne (2008), “Immigrants in the U.S. Armed Forces,” Migration Policy Institute, May 15, available at <https://www.migrationpolicy.org/article/immigrants-us-armed-forces>.

civilians of the same age. Each of these characteristics affects an individual's need for or access to credit, and so it is not possible to attribute differences between groups to any single cause. The sections below present results for the cohorts described above, without deducing the causes or mechanisms underlying any similarities and differences.

External validity is also a concern. The individuals studied turned 18 during and immediately after the Great Recession. They began building credit histories in a tumultuous period for many credit markets. The financial decisions made by these individuals, and their resulting credit histories, may not reflect what would be observed in an analogous panel of individuals who turned 18 after 2010.

3. Results by Entry Cohort

This section describes the evolution of young servicemembers' credit histories based on the age at which they first join active duty. Several patterns stand out and can be summarized as follows:

- At any given age, **those who have already entered active duty are more likely to be credit visible and to have a credit score** than those who have not entered active duty.
- By age 24, **servicemembers are more likely than civilians to have auto loans, mortgages, and revolving credit accounts**. Auto loans and revolving accounts are opened around the time a servicemember joins the military.
- **Servicemembers are less likely to have student loans and third-party collections debt**, particularly medical debt in collections.
- **Servicemembers are most likely to default on auto debt and revolving credit accounts** (such as credit cards).
- **Those who enlist by age 19 show the highest rates of adverse outcomes**, such as delinquencies and vehicle repossessions, while those who join the military at age 22 or 23 often compare favorably to the civilian comparison group.

3.1 Description of Entry Cohorts

In this section, individuals are sorted into cohorts based on the age at first accession into full-time active duty status. Those who enter full-time active duty are split into three cohorts, as shown in Table 1:

join at age 19 or younger, join at age 20 or 21, and

join at age 22 or 23. As discussed below, these cohorts separate the sample into groups of individuals that are likely to differ, on average, in ways that are salient for the analysis. In particular, two of the four cohorts (those that enter active-duty before 22) encompass the majority of enlisted accessions, while the third cohort of those entering at the age of 22 or 23 contains officers and a higher fraction of college-educated enlistees, and the fourth contains

Entry cohorts distinguish the majority of junior enlisted servicemembers from officers and civilians.

primarily civilians who never enter active duty.²⁸ These groups will have different average levels of education and work experience prior to joining the military, as well as different paygrades when joining the military. Both factors would affect credit histories.

TABLE 1: SAMPLE SUMMARY BY AGE AT FIRST ACCESSION INTO FULL-TIME ACTIVE DUTY STATUS

	Count	Percent
Total individuals	296,004	100%
First accession at age 17, 18, or 19	5,565	1.9%
First accession at age 20 or 21	3,310	1.1%
First accession at age 22 or 23	1,772	0.6%
Do not enter active duty by age 24	285,357	96.4%

Note: Sample consists of all individuals in the CCP who were successfully identified in the SCRA database who turned 18 in the years from 2007 through 2010, and who entered the CCP with a known birthyear prior to age 24.

The first cohort, consisting of servicemembers who enter active duty at age 19 or younger, is virtually guaranteed to be composed of enlistees only (just a handful of officers in the entire military are under age 21). This group is most likely to be entering the military directly from high school, and therefore most likely to lack a higher education accreditation (although a few may have some college experience) or non-military work experience. In the sample, this cohort numbers 5,565, accounting for 1.9 percent of the total sample and 52.3 percent of all servicemembers in the sample.

The next cohort, servicemembers entering active duty at age 20 or 21, also comprises enlistees only. Unlike the younger cohort, this cohort is entering active duty two or three years after the typical age of high school completion. As a result, the average credit history may look different compared to the cohort of younger enlistees. For example, 20 or 21 year-old recruits could have some college experience (or even a two-year degree), and they could have more experience in the civilian workforce. In the sample, this cohort numbers 3,310, equivalent to 1.1 percent of the total sample and 31.0 percent of all servicemembers in the sample.

Analysis of these first two entry cohorts provides insight into the financial well-being of the majority of junior enlisted servicemembers, and when referenced together the report may call

²⁸ Here and throughout the remainder of this report, statistics regarding non-prior accessions are calculated from data tables in the annual *Population Representation in the Military Services* report published by the Office of the Assistant Secretary of Defense for Personnel and Readiness. In each year, data come from Table B-1 (Enlisted Accessions, Non-Prior Service, by Age and Gender); Table B-22 (Commissioned Officers, by Age and Gender); Table B-30 (Commissioned Officers, by Source of Commission and Gender); and Table E-5 (US Coast Guard, Active Component Non-Prior Service Accessions). The reports are available at <https://www.cna.org/research/pop-rep>. The reports will hereafter be cited as ASD(P&R), with the relevant fiscal years.

them the enlisted cohorts. In Fiscal Years 2007-2015, when the servicemembers in this sample would have entered, recruits ages 17-21 accounted for 74.4 percent of all enlisted accessions.²⁹ Prior research shows that the characteristics of these youngest enlisted servicemembers differ from other enlistees in important ways that could be associated with the need for credit and with financial literacy: they are less likely to have an associate's or bachelor's degree, they have lower average AFQT scores, and they are less likely to be married.³⁰

The third cohort of servicemembers consists of those who enter service at age 22 or 23. Unlike the other two cohorts, this group contains a mixture of officers and enlisted servicemembers. In Fiscal Years 2007-2015 officer gains accounted for at most 28 percent of all accessions of 22 and 23 year-olds.³¹ In addition, every servicemember in this cohort potentially could have acquired a four-year college degree. Therefore, this cohort will have both a different paygrade composition and, potentially, a different average credit profile than the other two cohorts. These differences should be kept in mind when interpreting the results – this cohort provides evidence on relatively young servicemembers, but not on officers or junior enlisted servicemembers alone. On average, this group is better-educated and with higher average military compensation, and serves as the closest comparison as is possible between officers and enlistees. There are 1,772 individuals in this cohort, making up 0.6 percent of the total sample and 16.7 percent of all servicemembers in the sample.

The final cohort consists of the non-active-duty comparison group. These individuals do not enter full-time active duty during the observation window. Those who enter at age 24 are removed because their active duty service period during the observation window is too brief to be informative.³² It is important to note, however, that this cohort may contain Reserve, Guard, and future active-duty servicemembers. Those serving in the Reserve or Guard components would be unidentified as such unless they are activated under Title 10 or Title 32, in which case the SCRA database would note the dates of activation. (In the data, 3,927 individuals in the civilian comparison group, or 1.4 percent, are flagged as activated Reserve or Guard during the observation window without any prior full-time active duty service.)

²⁹ ASD(P&R), 2007-2017, Tables B-1 and E-5.

³⁰ Rostker, Bernard D., Jacob Alex Klerman, and Megan Zander-Cotugno (2014), "Recruiting Older Youths: Insights from a New Survey of Army Recruits," Santa Monica, CA: RAND Corporation, RR-247-OSD.

³¹ Officer gains include new officers from OTS/OCS who moved from an enlisted paygrade. From the data provided in ASD(P&R) Table B-30, it is not possible to precisely calculate the number of new accessions among all officer gains. Limiting the calculation to all gains from the service academies, ROTC, and direct appointments would put the fraction of officers around 24% among all 22 and 23 year-old accessions.

³² There are 526 individuals who join at age 24, or 0.18 percent of the total sample.

For those who enter full-time active duty status after age 24, their service comes after the window of observation and so they are civilians for the purposes of this analysis. However, there are likely to be very few of these individuals in the comparison cohort. During Fiscal Years 2013-2017, when those in the sample would have been 24 or older, only 0.06 percent of the U.S. civilian population aged 24-35 enlisted or became officers for the first time.³³ Therefore, the non-active-duty comparison group consists mostly of individuals who will never join full-time active duty.

It is important to note that these entry cohorts do not distinguish which servicemembers are still active at age 24. The analyses draw comparisons based on when individuals join, but not based on when they exit. Therefore, when assessing patterns at the end of the observation window it should not be inferred that everyone in a given cohort is still in active duty – only that they were active at some point in the age range indicated. Section 4 analyzes the youngest enlistees based on how long they remain in active duty, providing insight into how the youngest veterans handle credit.

3.2 Credit Visibility and Credit Scores

This subsection compares individuals over time to observe when servicemembers become visible, when they get a credit score, and how their score changes until age 24. When consumers first develop a credit record, they become credit visible.

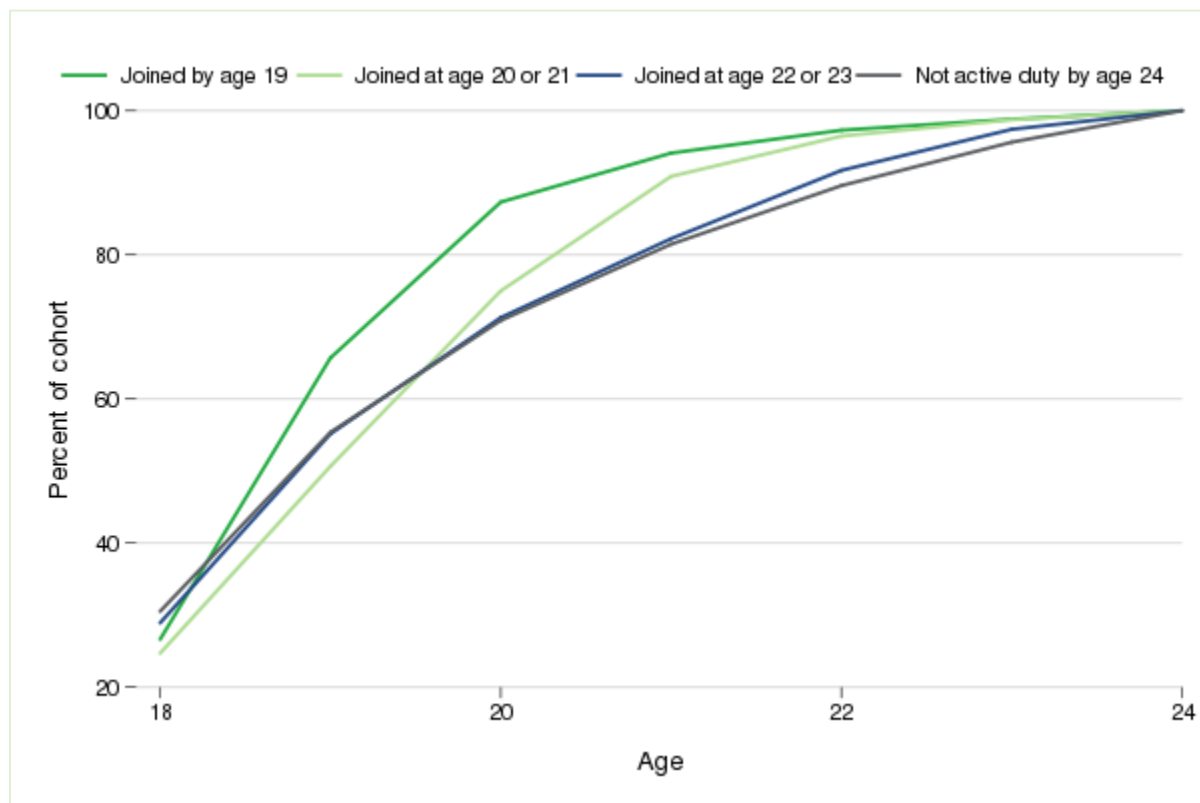
Credit visibility is associated with active duty service: servicemembers are relatively more likely to establish credit records after joining active duty.

When that credit record contains a sufficient number of accounts with a sufficiently long payment history to determine the person's credit risk, it becomes scorable. Following the method in "Credit Invisibles," a consumer is classified as credit visible as of the date at which a tradeline, collection account, or public record is first reported to the NCRA. This first-reported account is referred to as the entry product.

By construction, all individuals in this sample are visible by age 24. Yet the age at which they become visible could vary depending on when and whether they join the military. Figure 1 shows that servicemembers become visible at slightly earlier ages than civilians, although overall over 70 percent of the sample is visible by age 20. The 19-and-under active duty cohort becomes credit visible earliest, on average, with almost 90 percent visible by age 20. Those who join at 20 or 21 become visible at higher rates by age 21, catching up to the 18-19 year-old

³³ ASD(P&R), 2013-2017.

enlistees within two years. Meanwhile, the 22-23 year-old entrants do not differ from civilians in their credit visibility rates over time.



Source: Author calculations from CFPB’s CCP merged to DoD’s SCRA database. A consumer is defined as credit visible if they have a credit record with at least one reported tradeline. Note that by construction, 100 percent of the sample is credit visible at age 24.

Figure 2 shows the entry products by which individuals became credit visible. For all groups, general purpose credit cards are the most common type of entry product, accounting for 35-37 percent of all consumers.³⁴

The second-most common entry product differs by cohort. For 19-and-under enlistees, roughly equal proportions (15-20 percent) establish credit records with auto loans, retail credit cards, or

³⁴ As a comparison, “Becoming Credit Visible” indicates that for consumers under age 25, 36 percent had a credit card as an entry product, 9 percent had an auto loan, 14 percent had a retail card or loan, 20 percent had a student loan, 12 percent had a collections account, five percent had a personal loan, and three percent had another product. Their data were based on a panel from 2006 through 2016.

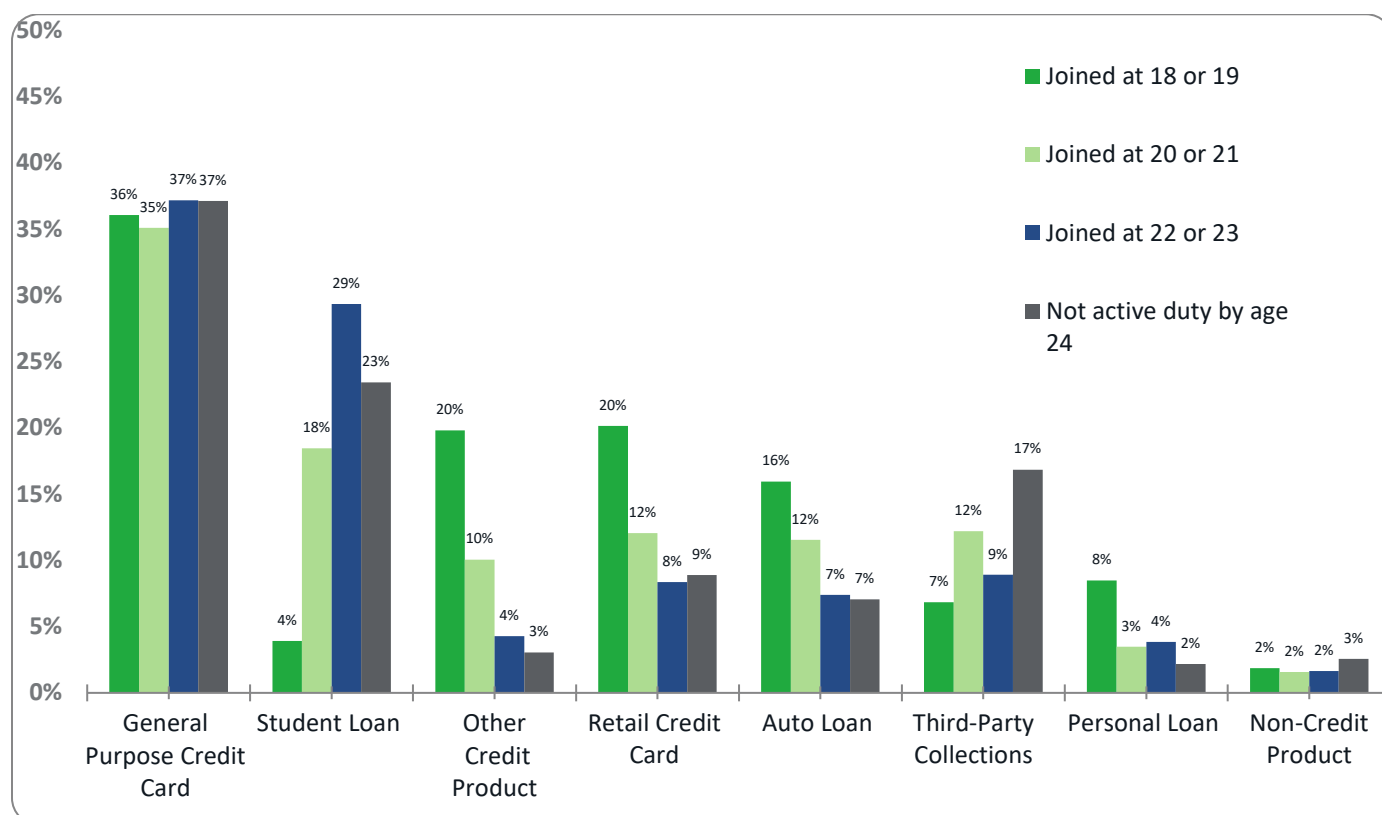
“other” products. (Most commonly, entry products in the “other” category are retail installment contracts or revolving credit accounts with the US government.) This cohort is least likely to become visible through student loans or third-party collections accounts.

For 20-21 year-old enlistees, the second-most common entry product after credit cards is a student loan (18 percent of the cohort), followed by auto loans, retail cards, third-party collections, and other products (about 10 percent each). Like the 18-19 year-old entrants, these other products most often consist of retail installment loans and US government revolving credit accounts.

The 22-23 year-old entrants are most likely of all cohorts to have student loans as an entry product, which is the second most-common type of entry product for this group (29 percent), after general purpose credit cards. Student loans are also second most-common for the non-active duty civilians (23 percent).

While general purpose credit cards and student loans are the first and second most-common entry products for civilians, the third most common is third-party collections. Seventeen percent of civilians become credit-visible due to collections, compared to 12 percent of the 20-21 year-old entry cohort and less than 10 percent of the other servicemember cohorts.

FIGURE 2: FIRST TYPE OF ACCOUNT REPORTED ON CREDIT RECORD, BY ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The first account reported constitutes the consumer's entry product. Bars by entry cohort may not add to 100 percent because individuals can have multiple types of entry product.

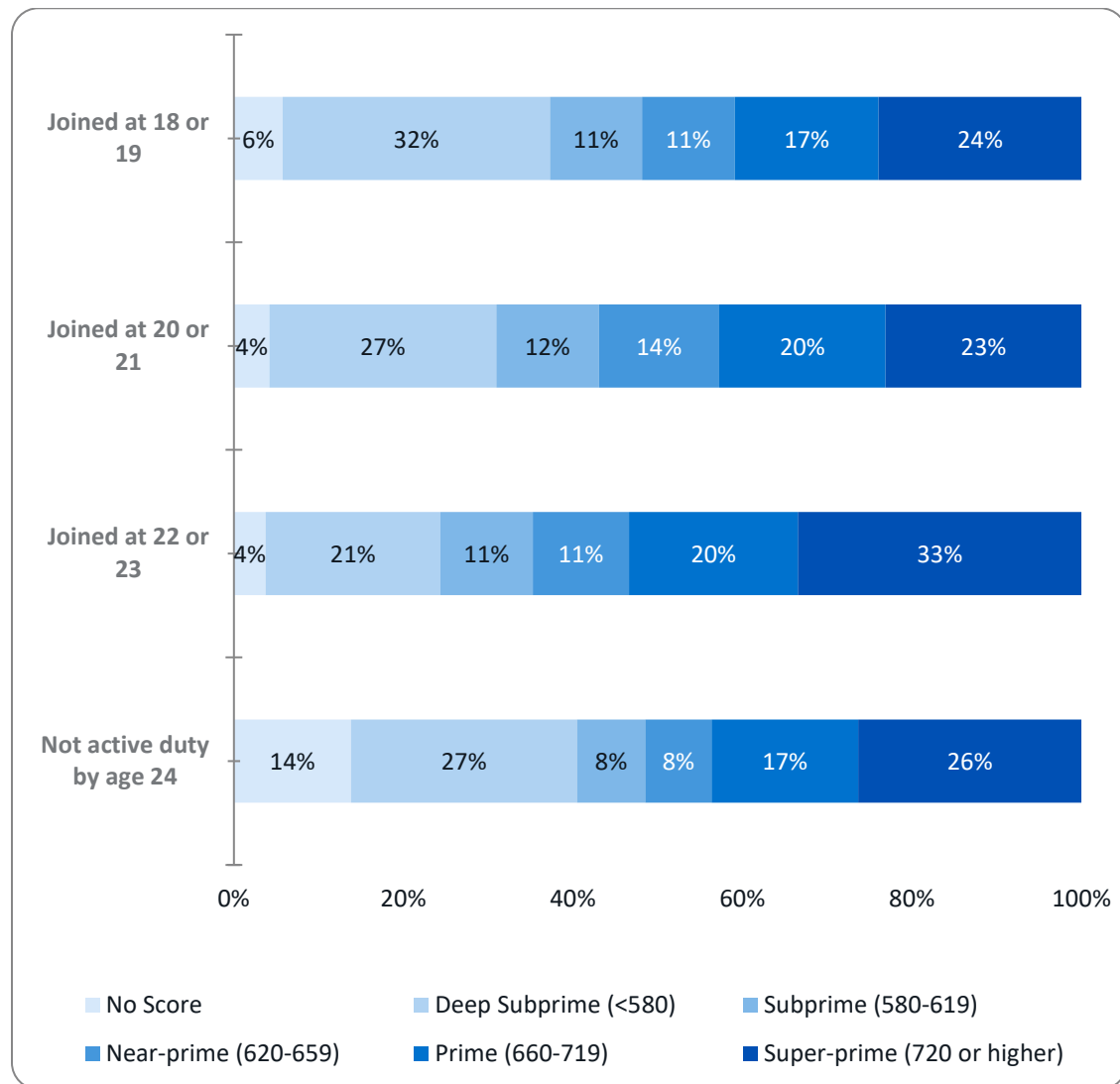
Once a consumer is credit visible, the next question is whether they have a credit score. In every entry cohort, less than 10 percent of individuals have a credit score at age 18. By age 20, the youngest entry cohort has entered the military and 77 percent have a credit score, in accordance with Figure 1 showing they were also most likely to be credit visible by age 20. Only 60 percent of the other groups have a credit score by age 20.

By age 24, at the end of the observation window, nearly everyone in the sample has a credit score and differences between cohorts are evident. Figure 3 shows that by age 24, servicemembers who joined at 22 or 23 years old have the best credit score distributions, even compared to civilians, with over 50 percent rating prime or super-prime and only 32 percent subprime or deep subprime. By comparison, about 40 percent of those who joined at younger ages have subprime scores or

Servicemembers are more likely than civilians to have a credit score by age 24. Older entrants to the military have better scores, on average, while younger enlistees are most likely to have subprime scores.

worse, with another 40 percent having prime or better. In general, those who have served in the military are more likely than civilians to have a credit score: just four to six percent of each servicemember cohort has no score, compared to 14 percent of those who never join active duty.

FIGURE 3: DISTRIBUTION OF CREDIT SCORES AT AGE 24, BY ENTRY COHORT



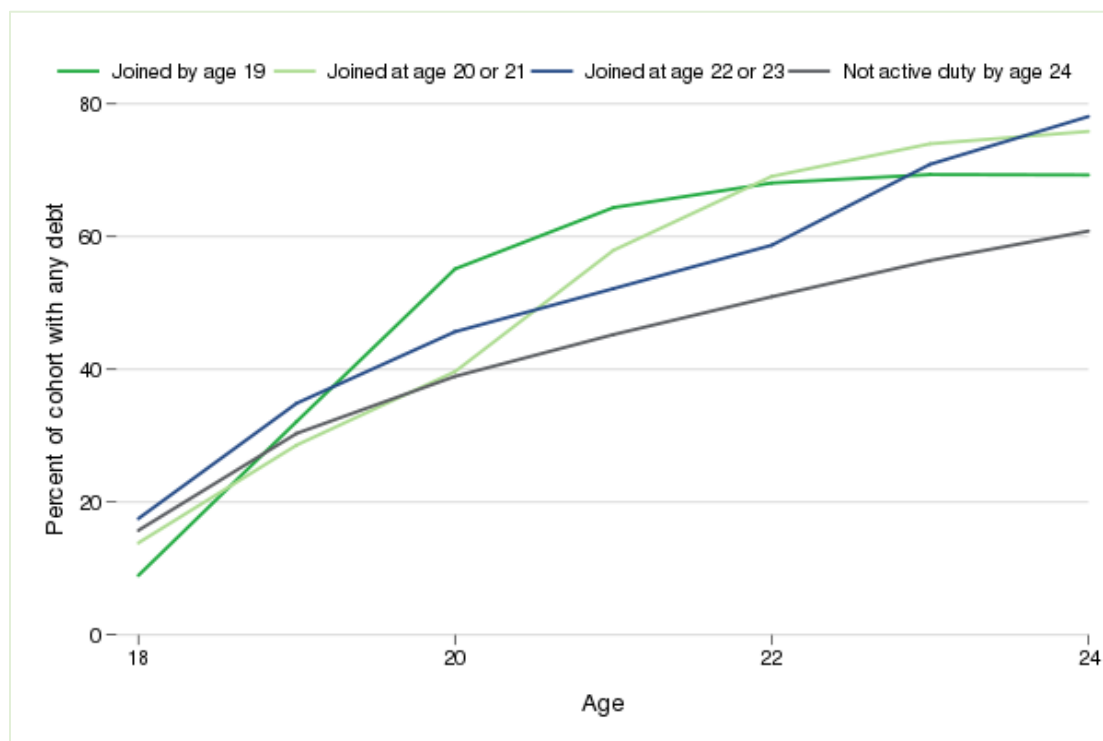
Source: Author's calculations from CFPB's CCP merged to DoD's SCRA database. Percentages may not add to 100 percent due to rounding.

3.3 Installment Debt

The average servicemember accrues \$4,580 in loans during the first year of service, compared to just \$400 in the six months prior. By age 24, the median debt level is between \$10,000 and \$25,000, and a minority of servicemembers appear to have large amounts of debt relative to their basic pay.

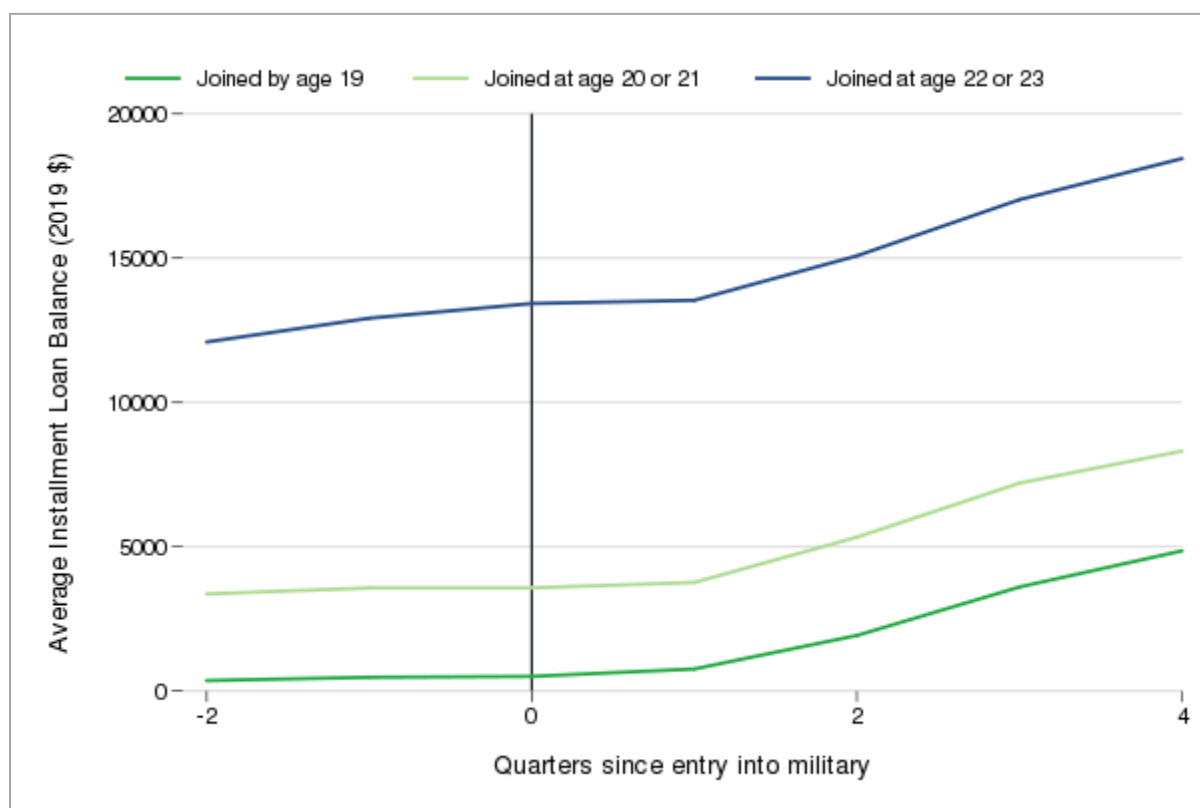
Figure 4 shows the fraction of each cohort holding at least one form of installment debt. At age 18, at most 20 percent of any cohort has such debt. By age 24, 70 to 80 percent of servicemember cohorts have some such debt, compared to just over 60 percent of civilians.

FIGURE 4: INSTALLMENT DEBT OWNERSHIP RATES OVER TIME, BY ENTRY COHORT



Source: Author's calculations using CFPB's CCP merged to DoD's SCRA database. Installment debt is calculated by aggregating the account balances for all open, reported tradelines associated with an installment loan as described in Section 2.1.

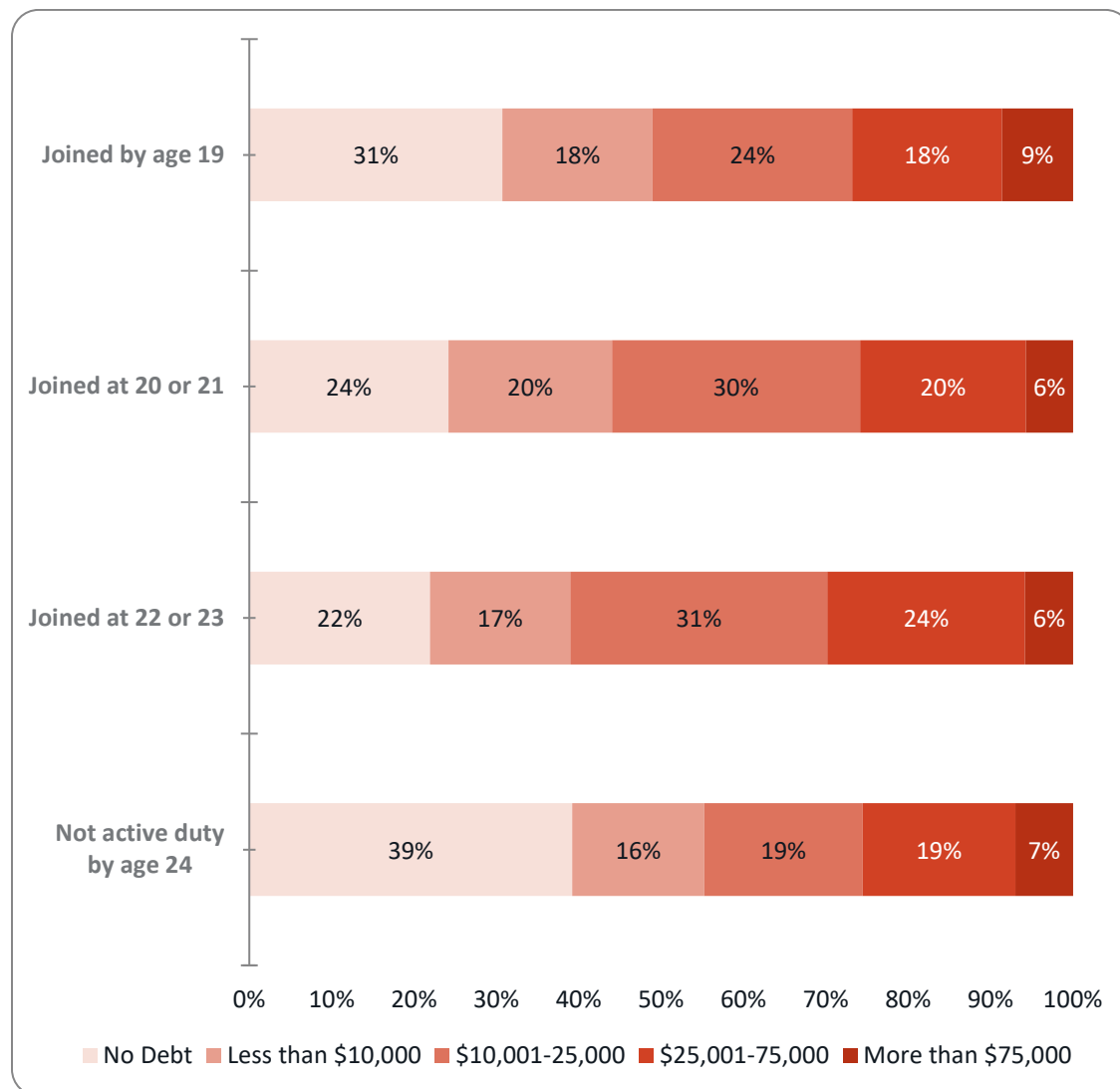
FIGURE 5: QUARTERLY INSTALLMENT DEBT LEVEL AROUND TIME OF ENTRY INTO MILITARY, BY AGE AT ENTRY



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Installment debt is calculated by aggregating the account balances for all open, reported tradelines associated with an installment loan as described in Section 2.1.

Figure 6 shows the distribution of borrowers' total installment debt at age 24, by entry cohort. The three servicemember cohorts have similar distributions of debt by age 24, with a median amount between \$10,000 and \$25,000. Those who enter by age 19 are slightly more likely than other servicemembers to fall in the tails of either zero debt or more than \$75,000. Civilians, on the other hand, are least likely to have any debt, with a median amount less than \$10,000; however, the fraction with more than \$75,000 is comparable to that of the servicemember cohorts.

FIGURE 6: DISTRIBUTION OF TOTAL INSTALLMENT DEBT AT AGE 24, BY ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Installment debt is calculated by aggregating the account balances for all open, reported tradelines associated with any type of installment loan as described in Section 2.1. Balances are reported in 2019 dollars.

Combined, Figures 5 and 6 suggest that servicemembers are accessing debt at higher rates soon after joining the military, but that by age 24 any earlier differences between most entry cohorts have largely been eliminated. However, the allocation of that debt differs depending on the age which servicemembers joined, as shown in Figure 7.

FIGURE 7: AVERAGE INSTALLMENT DEBT LEVEL AT AGE 24, BY DEBT TYPE AND ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Averages include individuals with zero debt. Balances are reported in 2019 dollars. Segments without labels represent less than \$2,500.

For all entry cohorts, the majority of debt is made up of auto loans, student loans, and mortgages. At age 24, those who enlisted by age 19 have accrued the most debt *on average* (approximately \$28,200), about 25 percent more than civilians (who average \$21,900).

These differences in aggregate debt loads hide much larger relative differences by type of debt. Servicemembers have an average of twice as much auto debt as civilians (around \$10,000 versus less than \$5,000). Meanwhile, civilians have the most student loan debt with an average of \$10,000, compared to less than \$2,000 for those who enter active duty by age 19.

Servicemembers who enter active duty by 19 have most of their debt in mortgages (\$15,000 on average), whereas those who enter at 22-23 have their debt split roughly evenly between auto loans, mortgages, and student loans. These averages, however, represent a small minority of individuals that have a mortgage; see subsection 3.2.3 for a more detailed description of mortgage debt.

Servicemembers are more likely than civilians to have “other” types of installment debt, as well, with each cohort having an average of between \$1,500 and \$2,200 by age 24. Civilians, by comparison, average \$400. The vast majority of this other debt is in personal installment loans, with a small amount in retail installment or other loans. Most personal installment loans are unsecured loans with an unspecified purpose, often from credit unions. The remaining loans mostly fall in one of three categories: debt consolidation loans, recreational merchandise, and loan notes.

These differences across cohorts in Figure 7 likely reflect differences in cohorts’ career paths and therefore in their need or desire for credit. Servicemembers, particularly those who enlist at younger ages, are less likely to require financing for higher education; yet it appears that servicemembers are more likely than same-age civilians to require financing for a vehicle. Servicemembers are also more likely than civilians to have personal loans, although the credit records do not indicate how a borrower uses such a loan, and so the underlying need for the loan remains unclear.

The following subsections consider auto, student loan, and mortgage debt levels in more detail. They describe the fraction of individuals with each type of debt before turning to distributions of debt levels. Finally, they present evidence of whether debt levels are actually unmanageable in terms of delinquent payments and other negative flags on consumers’ credit records.

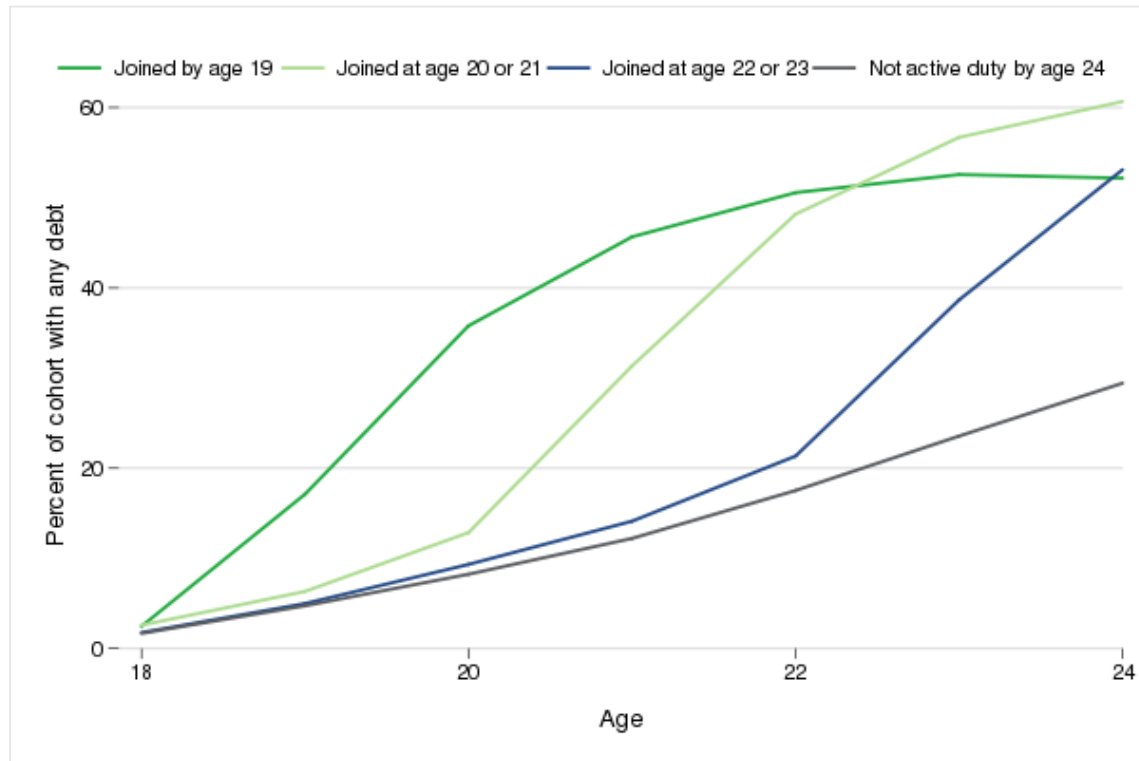
3.3.1 Auto Loans

As with overall installment debt, auto debt shows a strong association with entry into active duty service. Analogous to Figure 5 in the previous section, Figure 8 shows the fraction of each entry cohort with any auto debt.³⁵ Within the first few years of service, the fraction of each entry cohort

Servicemembers take on auto debt at higher rates soon after joining active duty. By age 24, those who enlisted at age 21 or earlier are most likely to have auto debt levels in excess of \$20,000; they also have higher rates of delinquency and repossession.

³⁵ Some subprime and deep subprime auto loans are from small finance companies and may not be furnished to the NCRA. The calculations below—particularly for delinquencies and defaults—should be interpreted in light of their omission. It is unclear how often servicemembers take out such loans, and if they are more or less likely than civilians to do so.

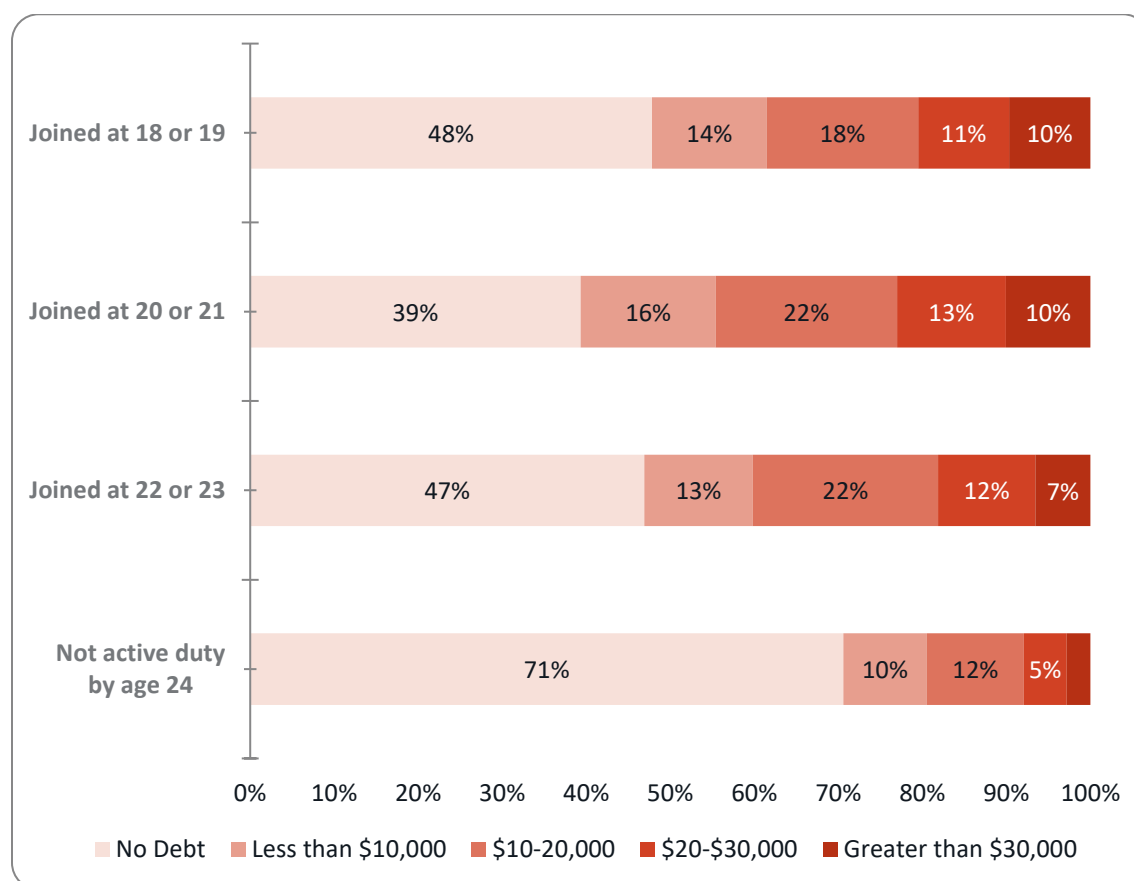
with auto loans increases by 40 to 50 percentage points. At age 24, 50 to 60 percent of those who entered service have auto debt, compared to 29 percent of civilians.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database.

On average, a servicemember's auto loan balance increases by \$3,600 during the first year of service, compared to \$100 in the six months prior (including those with no auto debt). Among those who take out an auto loan for the first time during the first year of service, the average amount is \$14,800. Figure 9 shows the distribution of total auto debt by age 24, analogous to the distribution of total debt in Figure 6. Across all three servicemember cohorts, around 20 percent have at least \$20,000 in auto debt by 24, which equals almost two thirds of the yearly base pay of enlisted soldiers at age 24 and around 40 percent of an officer's base pay (although it is important to remember that not everyone in these cohorts is still in service at 24). Further, approximately 10 percent of each group has auto debt more than \$30,000, with the younger enlistee cohorts slightly more likely to fall in this category. As a comparison, at age 24 only seven percent of civilians have more than \$20,000 in auto debt and 71 percent do not have any.

FIGURE 9: DISTRIBUTION OF TOTAL AUTO DEBT LEVEL AT AGE 24, BY ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to DoD's SCRA database. Balances are reported in 2019 dollars. Segments with no label represent less than five percent of the respective cohort.

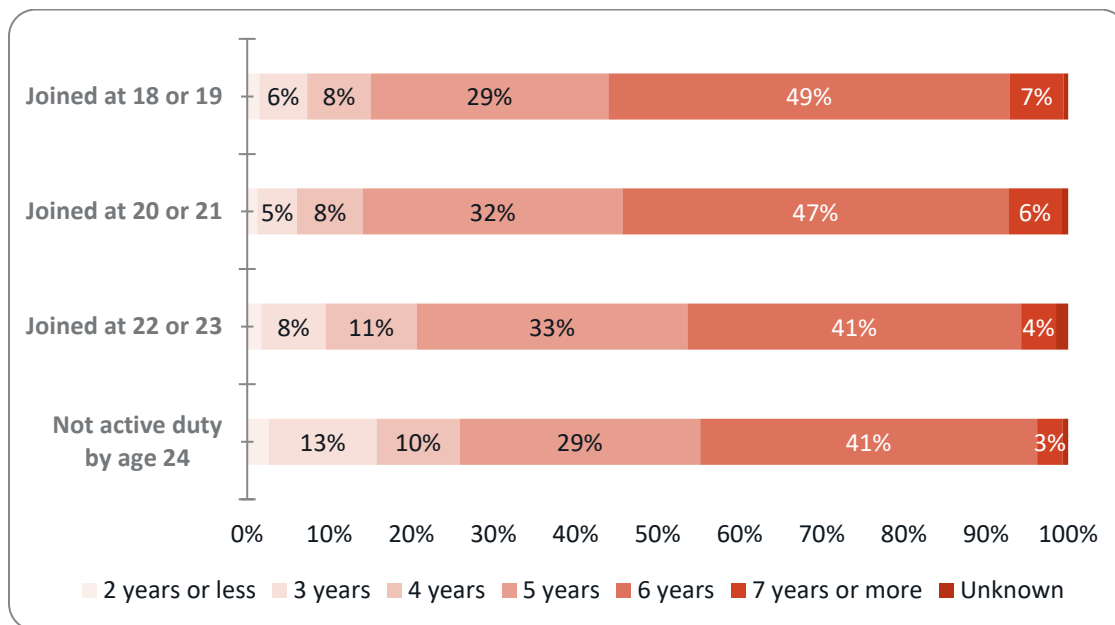
Although the youngest enlistees accrue the most auto debt by age 24, that does not necessarily mean the debt is unmanageable. The monthly payment owed, the term length of the loan and the repayment status are key considerations in determining whether a consumer has a manageable debt balance.

Figure 10 shows the maximum length of any auto loan in a consumer's debt portfolio, among those who have at least one auto loan. By spreading payments over a longer period, longer term lengths are one way that a consumer can take on more auto debt. In every cohort, the plurality of auto loan holders have a term length of six years or more, which reflects a nationwide trend in auto loan terms.³⁶ However, those who enlisted by age 21 have the longest terms, with more

³⁶ CFPB (2017), "Growth in Longer-Term Auto Loans," research report, November, available at https://files.consumerfinance.gov/f/documents/cfpb_consumer-credit-trends_longer-term-auto-loans_2017Q2.pdf.

than 50 percent having term lengths of at least six years and about 15 percent having terms of four years or less. Among those who entered active duty at 22 or 23 and those who never join the military, only 45 percent have terms of six years or more, and more than 20 percent have terms of four years or less.

FIGURE 10: AUTO LOAN TERM LENGTH AMONG ALL AUTO DEBT HOLDERS AT AGE 24, BY ENTRY COHORT

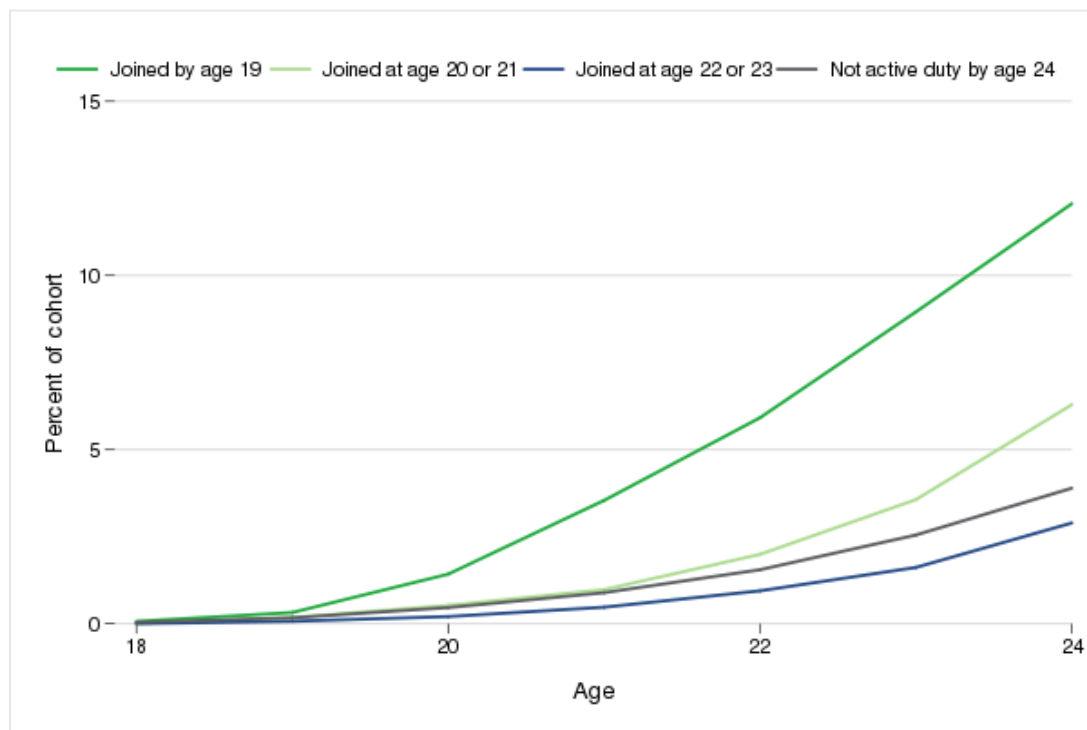


Source: Authors' calculations from CFPB's CCP merged to DoD's SCRA database. Term length is calculated as the maximum term length among all auto loans ever held by each individual by age 24, rounded to the nearest whole year. Segments without labels represent less than 3 percent of the respective cohort.

Figure 10 on its own does not specify whether consumers are taking on too much debt. To illustrate debt-management problems, Figure 11 shows the percentage of auto loan borrowers in each cohort that has ever been 90 days delinquent on an auto loan. The 90-day threshold is relevant because missing three payments in a row can initiate the repossession process in most states, although this is not universal. These derogatory flags stay on a credit record for seven years, so once posted they remain on an individual's record for the duration of the observation window.³⁷ The figure shows stark differences in delinquency rates by entry cohort. Those who joined by age 19 have the highest delinquency rates, exceeding that of other groups by age 20. By age 24, 12 percent of all auto debt holders in this group have been 90 days delinquent on that debt. The cohort that joined at age 20 or 21 has similar rates of delinquency at a roughly two-

³⁷ "Key Dimensions and Processes...", p. 9.

year lag, with six percent having been 90 days delinquent by 24. Those who join at age 22 or 23 have the lowest delinquency rates, even prior to joining the military, with 3 percent having been delinquent at age 24. By comparison, 4 percent of civilian auto loan borrowers have been 90 days delinquent on auto debt by age 24.



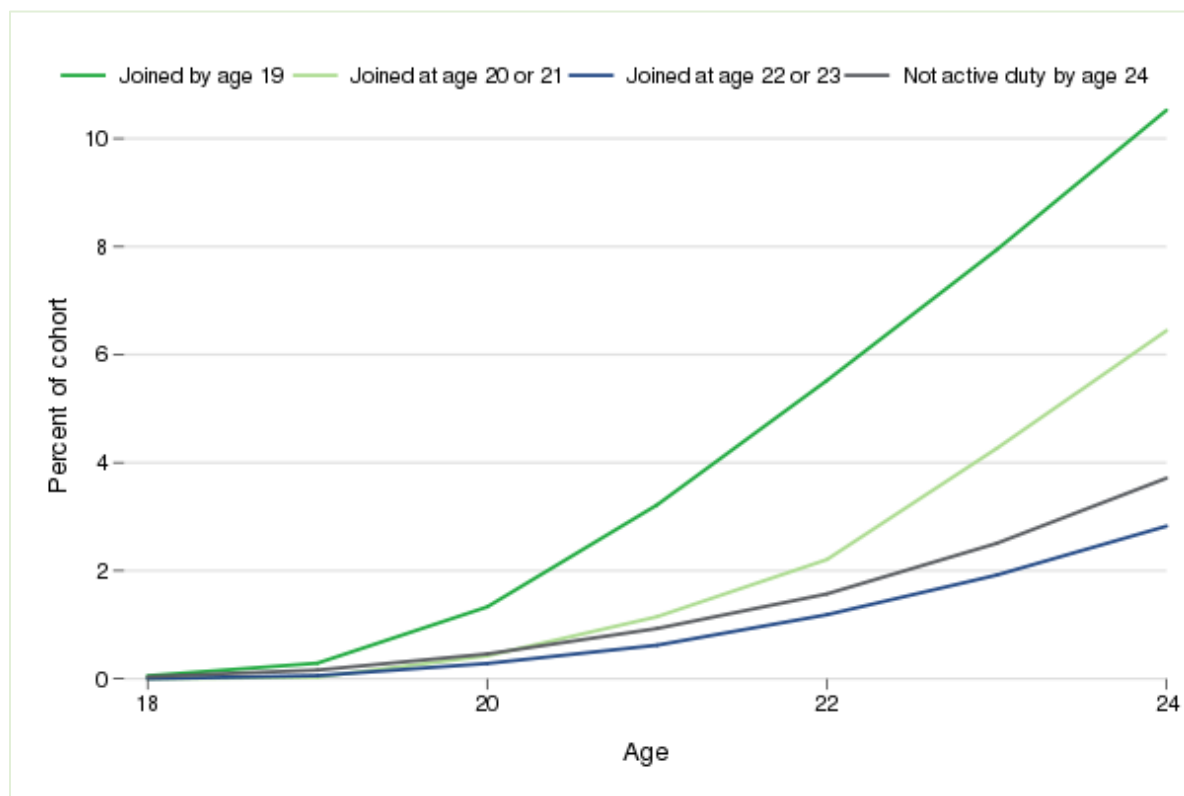
Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all consumers who had an auto loan by age 24 (N=117,849).

As a benchmark, the Federal Reserve Bank of New York reported that between 2.5 percent and 5.5 percent of borrowers ages 18-29 transitioned into serious delinquency (90 or more days) in each quarter during the observation window.³⁸ Transitions are slightly different from the cumulative counts of delinquencies plotted in Figure 11, but the similarity with the Federal Reserve transition rates suggest that the estimates of total delinquencies by age 24 are indeed reasonable.

³⁸ FRB NY (2020), "Quarterly Report on Household Debt and Credit: 2020 Q2," Research and Statistics Group report released May 2020, available at https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/hhdc_2020q1.pdf.

Figure 12 shows the fraction of auto loan borrowers in each cohort that has had a severe derogatory action taken against an auto loan: a repossession, surrender, charge-off, or debt sent to collections. The patterns are similar to those in Figure 11, although the overall rates are predictably lower than for delinquency. Those who joined by age 19 have the highest rates of severe derogatory actions, with 10.5 percent of auto loan borrowers having had one by age 24. The rate is 6.5 percent for the 20-21 year-old enlistee cohort, just under four percent for civilians, and three percent for the 22-23 year-old entry cohort.

FIGURE 12: FRACTION OF AUTO LOAN BORROWERS EVER HAVING SEVERE DEROGATORY ACTION ON AUTO LOAN, BY ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all consumers who have had an auto loan by age 24 (N=117,849). Severe derogatory actions include repossession, surrender, charge-off, debt sent to collections, and settlement in bankruptcy proceedings.

The severe derogatory rates for the younger enlistee cohorts are particularly concerning. Auto loan borrowers who entered the military by age 19 have severe derogatory actions by age 24 at more than twice the rate of their civilian peers, and almost four times the rate of those who entered service at 22 or 23. As discussed with respect to Figures 7 and 9, the average amount of auto debt held by some consumers in this cohort is a significant fraction of the servicemember's basic pay.

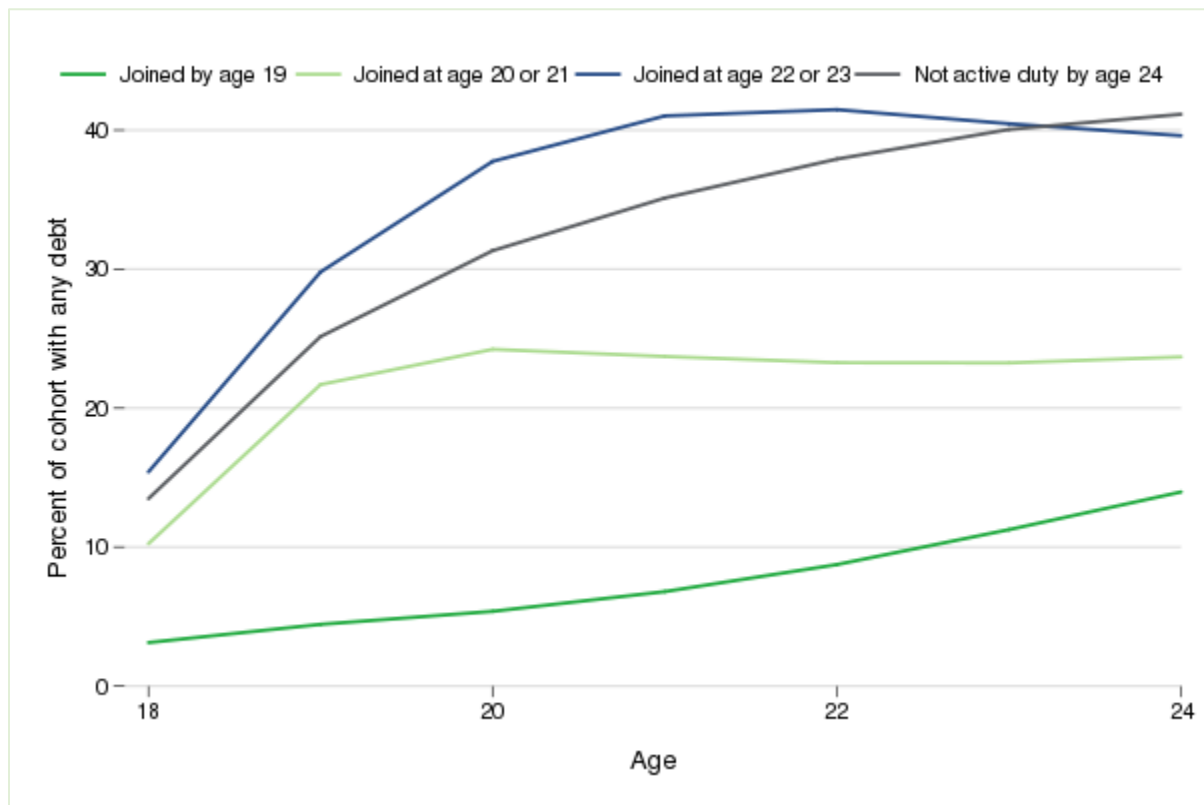
Section 4 explores auto debt upon exit from the service and shows that problems with auto debt are correlated with time spent in service.

3.3.2 Student Loans

Unlike auto loans, servicemembers do not accrue student debt during active duty, but rather before or after their time in service. Servicemembers are unlikely to accrue debt to pay for educational expenses while in service. After they exit their usage of education loans may continue to differ from civilians, since the G.I. Bill offers education benefits to eligible veterans.

Servicemembers take out student loans at similar rates as civilians, until the age at which they join active duty. By age 24, a greater fraction of servicemembers than civilians have completely paid off their student loan debt.

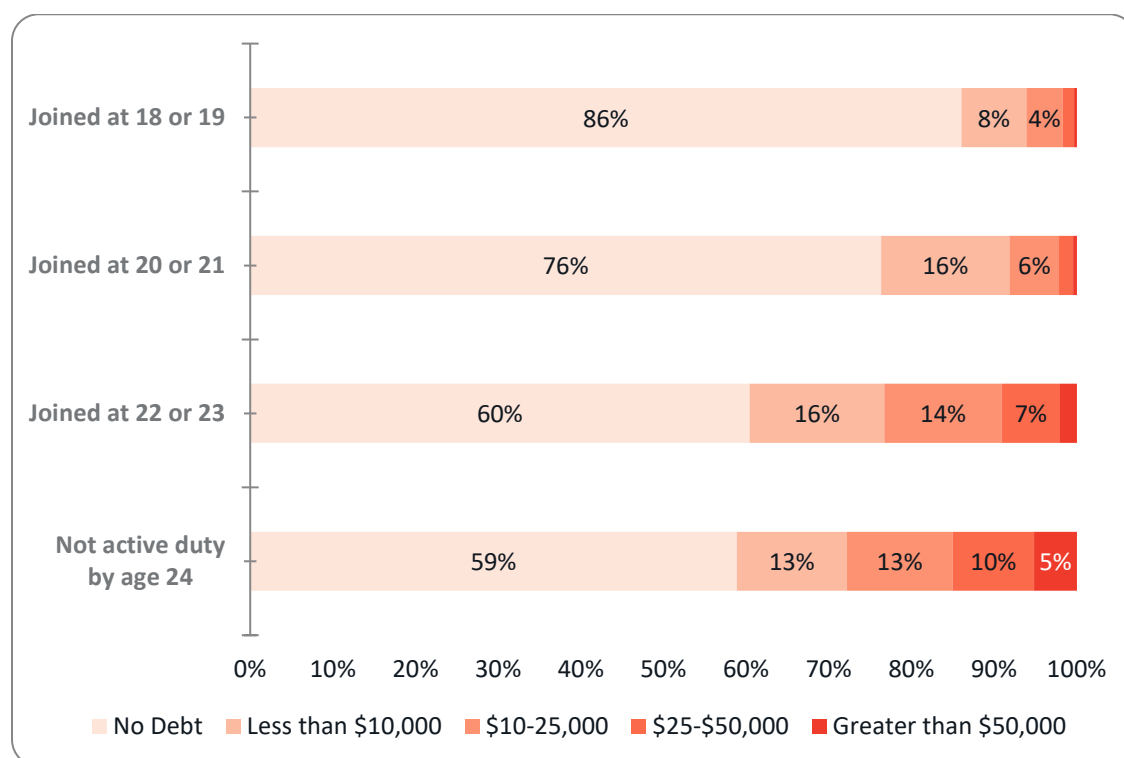
Figure 13 tracks the proportion of each entry cohort with any student loan debt. The 19-and-under enlistee cohort takes out student loans at the lowest rates, rising from 3 percent at age 18 to 14 percent at age 24. (Section 4 shows that this increase can be attributed to servicemembers who take out student loans after leaving active duty.) The other three cohorts show parallel rates of growth from age 18 to age 19, with over 20 percent of individuals having a student loan by age 19. After that point, the remaining entry cohorts diverge, with student loan rates leveling off after entering active duty. At age 24, 24 percent of those who joined at ages 20-21 still have loans. Meanwhile, those who enter at ages 22 and 23 are as likely as civilians to have student loan debt at age 24.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database.

Figure 14 shows the distribution of student loan debt levels at age 24. The fraction of borrowers with a given amount of debt is larger the later a cohort joined active duty. Among servicemembers who join by age 19, just six percent have more than \$10,000 in student loans at age 24. For those who join at 20 or 21, the share is eight percent; for those who joined at 22 or 23, 24 percent have more than \$10,000 and 10 percent have more than \$25,000. Meanwhile, at age 24 28 percent of civilians have more than \$10,000 in student loan debt and 15 percent have more than \$25,000.

FIGURE 14: DISTRIBUTION OF STUDENT LOAN DEBT LEVELS AT AGE 24, BY ENTRY COHORT



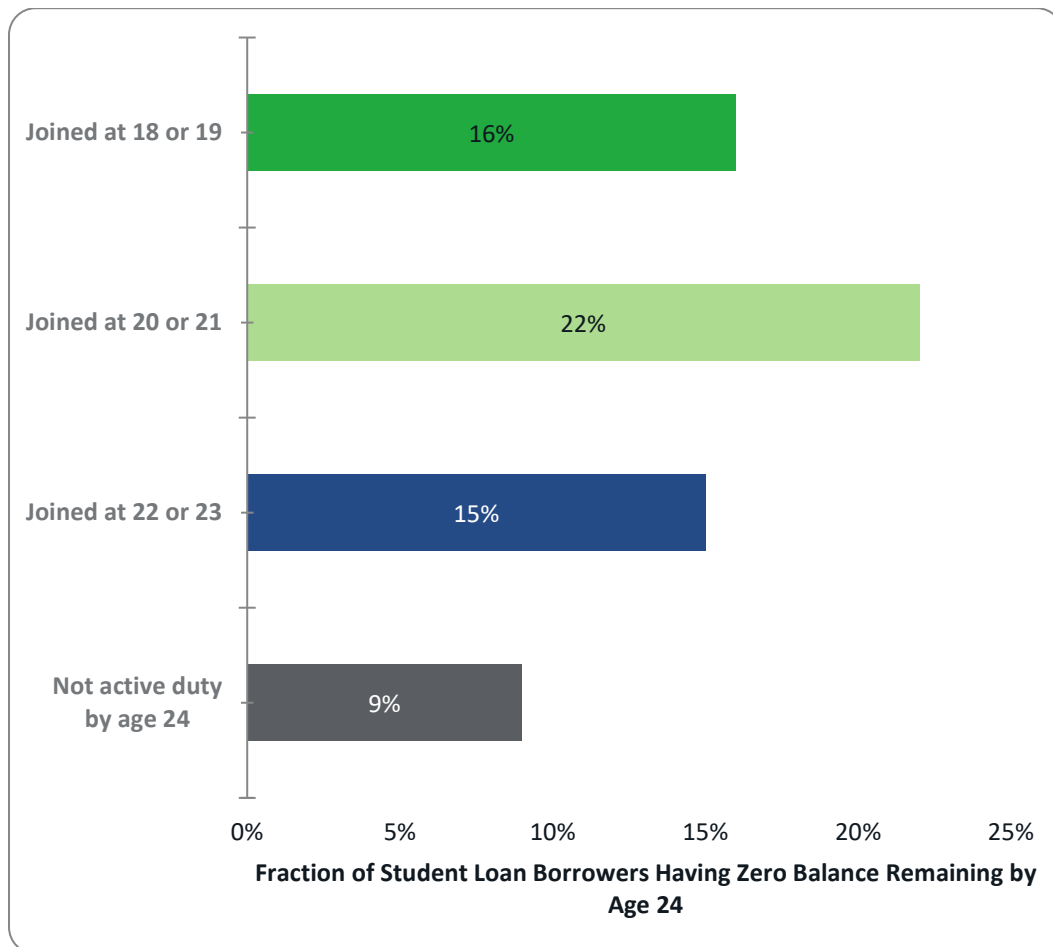
Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Segments without labels represent less than 4 percent of the respective cohort.

Figure 13 shows evidence that servicemembers are more likely than civilians to have paid off student loan debt by age 24. The figure depicts the percent of each entry cohort with a student loan peaking around ages 20 to 22. Figure 15 reports the fraction of those who had any student loan debt prior to the age of 24 but have zero debt left by 24: 22 percent of those borrowers with student loan debt who joined the military at age 20 or 21 had zero debt left by age 24. 30 percent of this cohort borrowed a student loan by age 24, meaning that about 6.6 percent of that entry cohort both took out a student loan and paid it off by the age of 24.

The heterogeneous composition of the civilian group creates at least some of the differences between civilians and servicemembers. Civilians with student loans may still be enrolled in school at age 24, and therefore in deferment or accruing additional debt. Others may be in

forbearance, and others may be in repayment. Servicemembers with student loan debt are more likely to be in repayment once they enter full-time active duty service.³⁹

FIGURE 15: FRACTION OF STUDENT LOAN BORROWERS WITH ZERO STUDENT LOAN DEBT REMAINING BY AGE 24, BY ENTRY COHORT



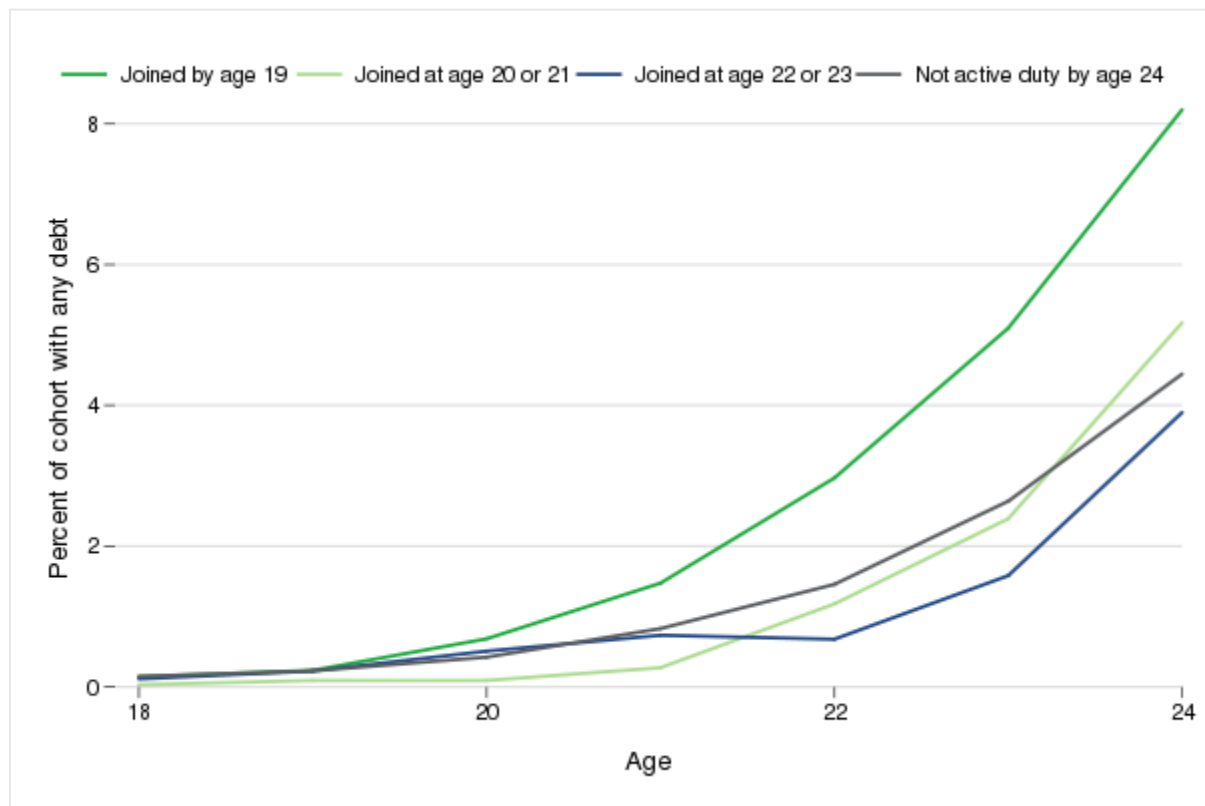
Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all consumers who ever borrowed a student loan by age 24 (N=132,309).

³⁹ For additional information on student loan borrowers' repayment patterns, see CFPB (2017), "Data Point: Student Loan Repayment," research report, August 16, available at <https://www.consumerfinance.gov/data-research/research-reports/cfpb-data-point-student-loan-repayment/>.

3.3.3 Mortgage Debt

Figure 7 above showed that servicemembers have more mortgage debt by age 24 than do civilians, on average; however, these averages are based on a small fraction of consumers who actually have a mortgage at this age. Figure 16 shows the proportion of each entry cohort that has any mortgage debt. By age 24, less than 10 percent of any entry cohort has a mortgage. The 19-and-under entry cohort has the highest mortgage borrowing rate, diverging from the others around age 20 and reaching just over eight percent at age 24. For the other cohorts, including civilians, four to five percent of consumers have a mortgage at that age.

Servicemembers who join by age 19 are most likely to take out a mortgage; however, the fraction of any cohort—including civilians—who have a mortgage by age 24 is less than 10 percent.

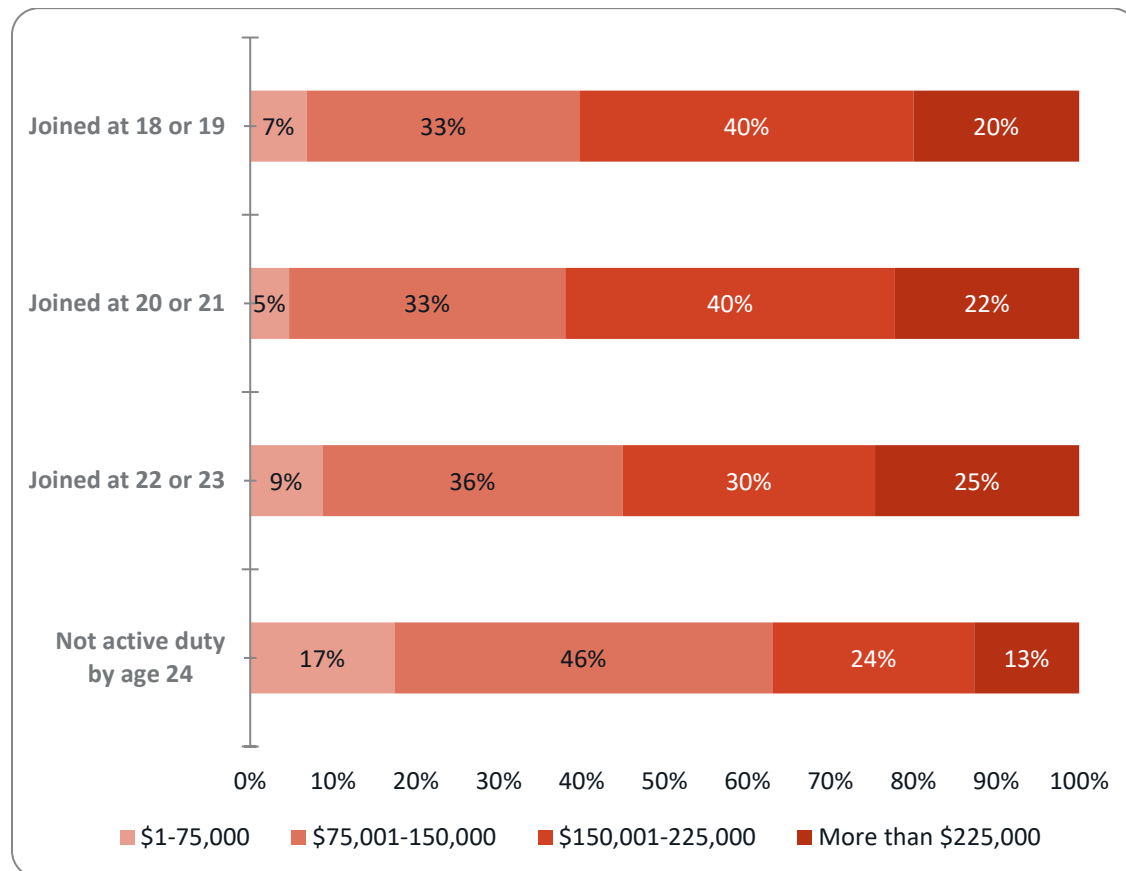


Source: Author calculations from CFPB's CCP merged to the DoD SCRA database.

Figure 17 shows the distribution of mortgage debt at age 24 *among consumers with a mortgage*. Those who enter active duty tend to have larger mortgages than the civilian comparison group. Although they have the lowest rate of taking out a mortgage, the 22-23 year-

old entry cohort has the largest mortgages, with a median of more than \$225,000. Civilians have the smallest mortgages, with a median of less than \$150,000.

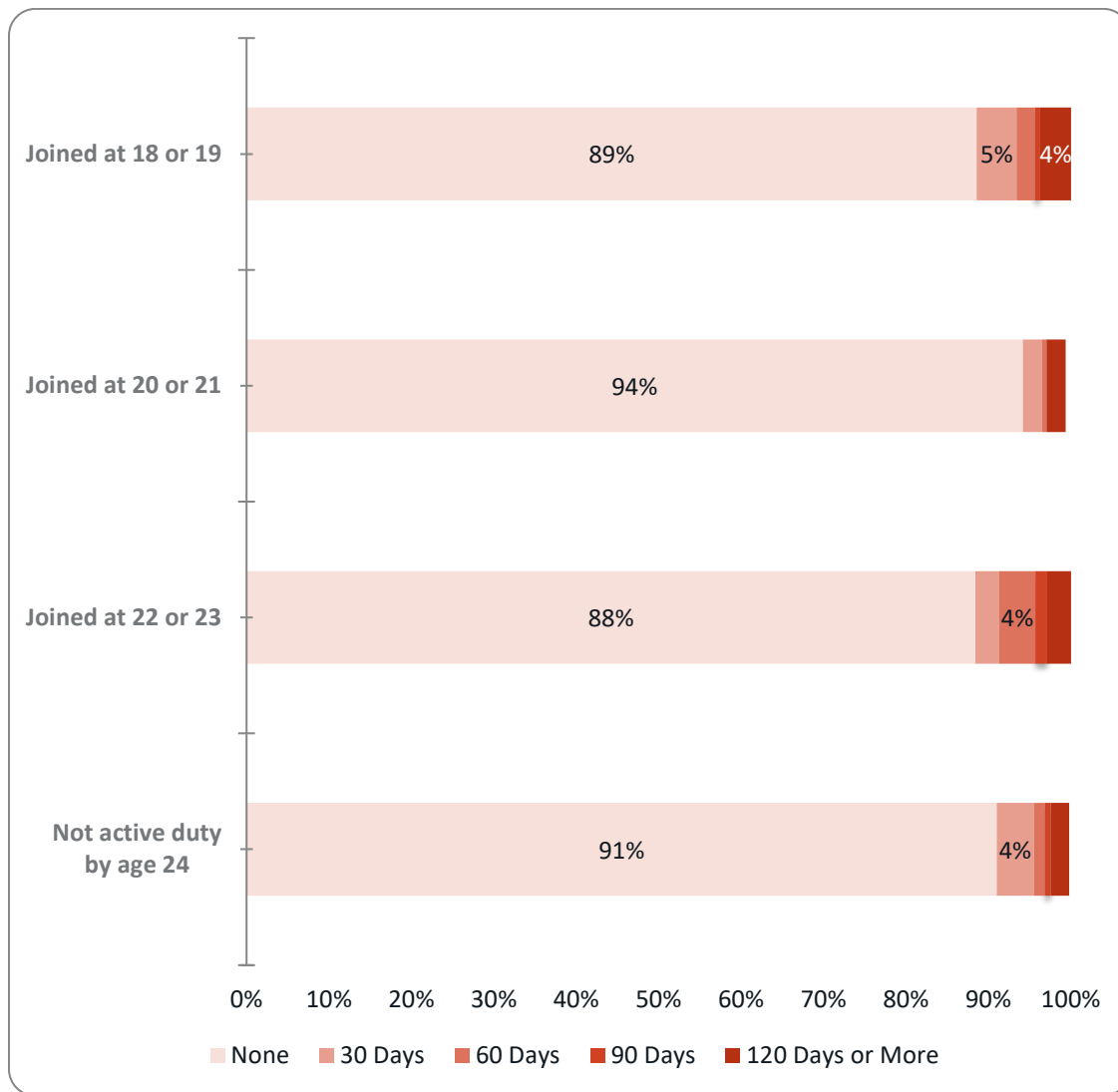
FIGURE 17: DISTRIBUTION OF TOTAL MORTGAGE DEBT AT AGE 24 AMONG ALL MORTGAGE HOLDERS, BY ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all consumers who have a mortgage at age 24 (N=13,360).

Derogatory payment statuses indicate if borrowers are managing their mortgage debt well. Figure 18 shows the maximum delinquency mortgage borrowers incur by age 24. At least 88 percent of each cohort was never delinquent, with two to four percent of borrowers having been severely delinquent (120 days or more). Foreclosures and collections on mortgages are almost non-existent in this sample.

FIGURE 18: MAXIMUM DELINQUENCY ON ANY MORTGAGE PAYMENT BY AGE 24, AMONG ALL MORTGAGE BORROWERS, BY ENTRY COHORT



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all consumers who have a mortgage at any point by age 24 (N=14,679). Segments without labels represent less than four percent of the respective cohort.

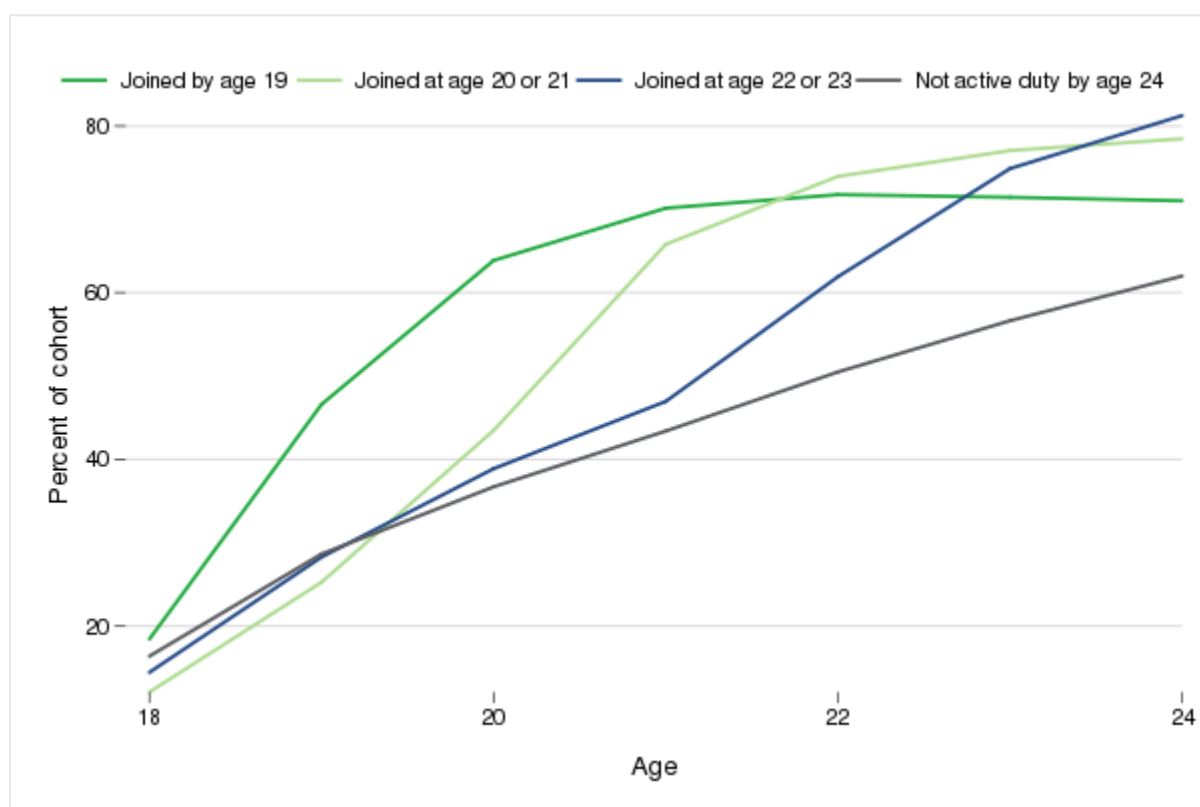
3.4 Revolving Debt

The tradeline files identify several types of revolving debt, as listed in Section 2.2. For each revolving account, the total credit limit and the current balance is recorded at each point in time. For the analysis below, each consumer's total credit limit is aggregated over all open accounts, giving an indication of the amount of revolving credit to which a consumer has access. In addition, the utilization rate is calculated as the maximum balance incurred over the prior calendar year divided by the credit limit.⁴⁰

In the first year of service, the average servicemember's credit limit increases by \$1,300. However, those who join active duty by age 21 have higher rates of delinquency on revolving debt by age 24. On average, consumers in all cohorts who have severe delinquencies and charge-offs also tend to have balances higher than their limits.

Figure 19 shows the fraction of each entry cohort with access to some form of revolving debt. As with installment debt, servicemember entry cohorts have patterns similar to civilians until the age at which they join active duty. By age 24, 70 to 80 percent of those who entered service have a revolving credit account, compared to 63 percent of the civilian comparison group. For those who joined by age 19 the proportion with revolving credit actually drops slightly after age 22. (Section 4 shows that this drop is more visible among servicemembers who leave active duty within 2.5 years of entering.)

⁴⁰ Unlike for installment debt, the balance amount on a revolving account is not informative by itself because it is not clear how much is being paid off each month and how much interest is being accrued. Balance amounts are not analyzed here.



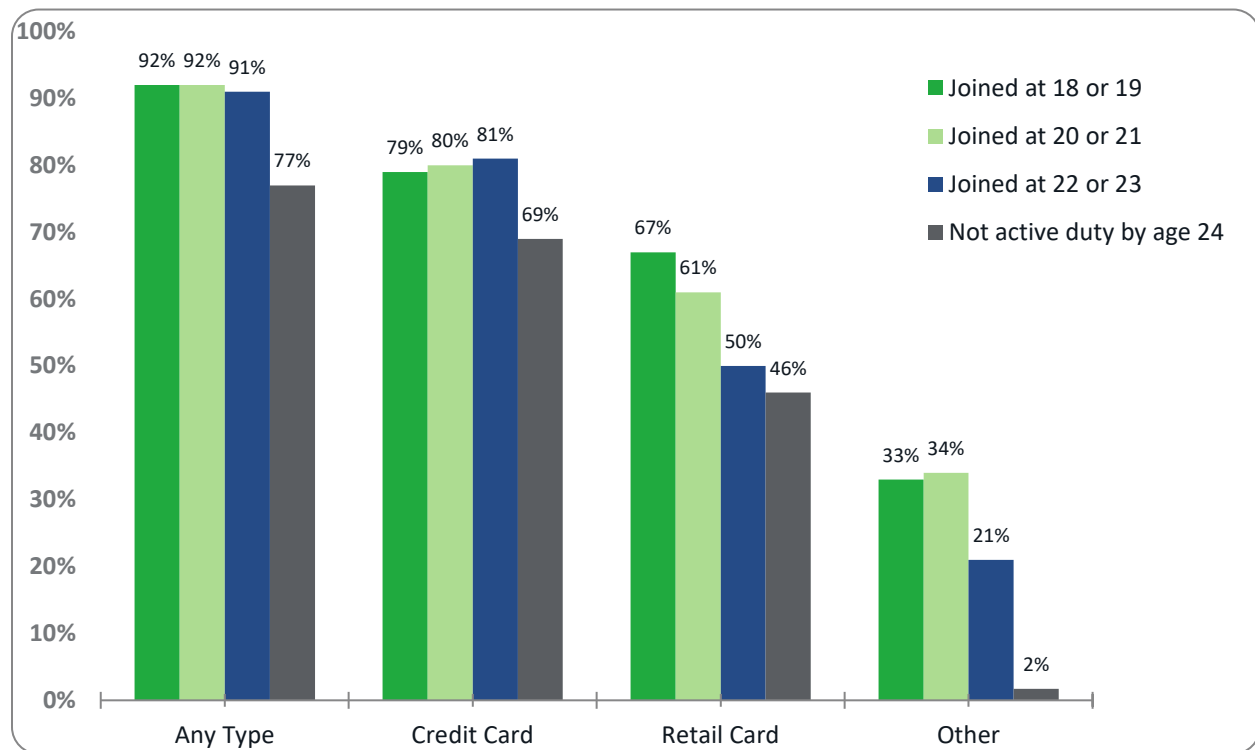
Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. A consumer is deemed to have access to revolving debt if they have a revolving account open with a positive credit limit.

Servicemembers and civilians also access different types of revolving credit. Figure 20 shows the fraction of each cohort that ever had any particular type of revolving account between ages 18 and 24. Over 90 percent of servicemembers had revolving credit at some point in time, compared to 77 percent of civilians. Most consumers with revolving credit had a general purpose credit card. Retail cards, on the other hand, are more common amongst the younger enlistee cohorts. Roughly two-thirds of those who join the military by age 19 had a retail card at some point in time, compared to half of those who join at 22 or 23 and 46 percent of non-servicemembers.

In addition, one-third of the enlistee cohorts and one-fifth of the 22-to-23 year-old entrants had another type of revolving account at some point, while scarcely two percent of civilians have one. The overwhelming majority of these other accounts are of an unspecified type, but 94 percent of the accounts held by servicemembers were originated by the federal government. The precise type of account cannot be determined, but these may be Military STAR cards available to servicemembers, dependents, retirees, and others. The STAR card is a retail credit card that may be used only at retail outlets run by one of the military exchanges. Similar to other credit

cards, STAR cards offer rewards programs, but also has military-specific conditions such as suspending minimum monthly payments during deployments. They reportedly have 1.6 million customers.⁴¹

FIGURE 20: PROPORTION OF CONSUMERS HAVING HAD REVOLVING CREDIT ACCOUNTS BETWEEN AGE 18 AND AGE 24, BY ACCOUNT TYPE AND ENTRY COHORT

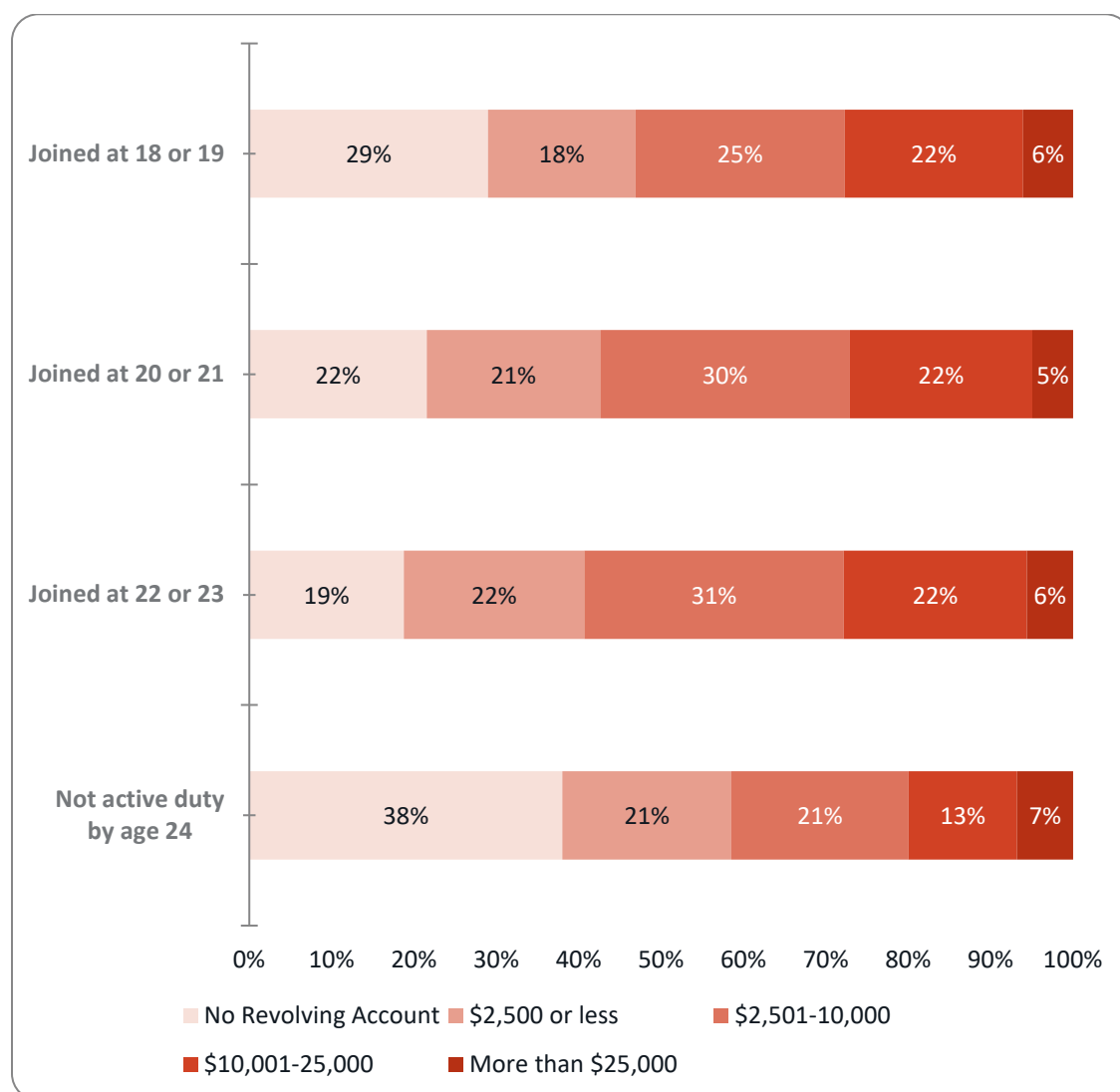


Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database.

Figure 21 shows the distribution of revolving debt limits at age 24. The three servicemember cohorts show more similar distributions for revolving credit than for installment debt, with a median between \$2,500 and \$10,000 and five to six percent having more than \$25,000. Those who join by age 19 are less likely to have any revolving credit but equally likely as the other groups to have more than \$25,000. For civilians, the median amount is under \$2,500 including those with no revolving credit, and just one-fifth have over \$10,000.

⁴¹ <https://www.military.com/paycheck-chronicles/2016/11/22/military-star-card-questions-answers>. Note that during the time period studied here, the STAR card included a Chase MasterCard option that would make the card usable at other retailers.

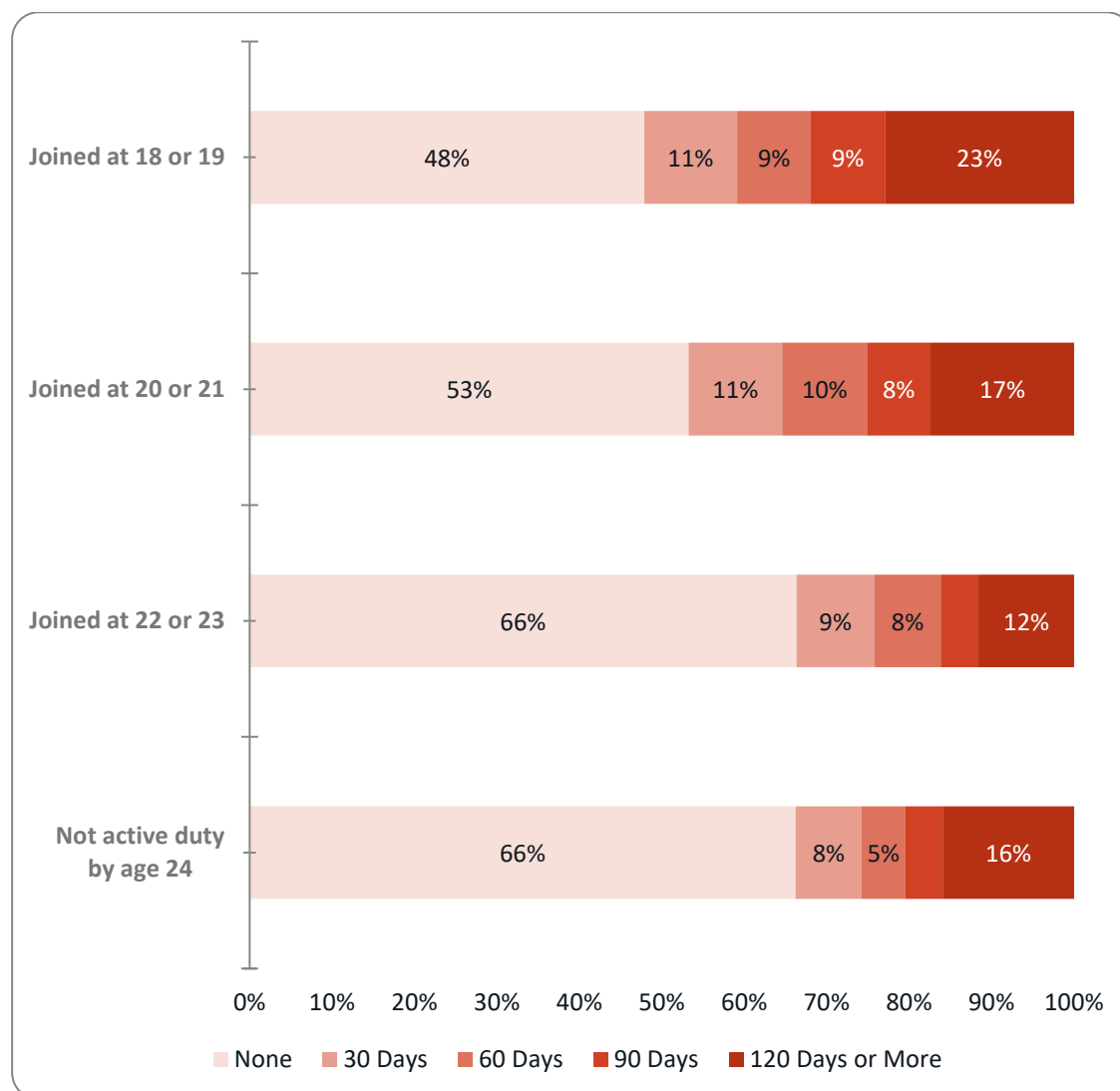
FIGURE 21: DISTRIBUTION OF CREDIT LIMIT ON REVOLVING DEBT AT AGE 24, BY ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database.

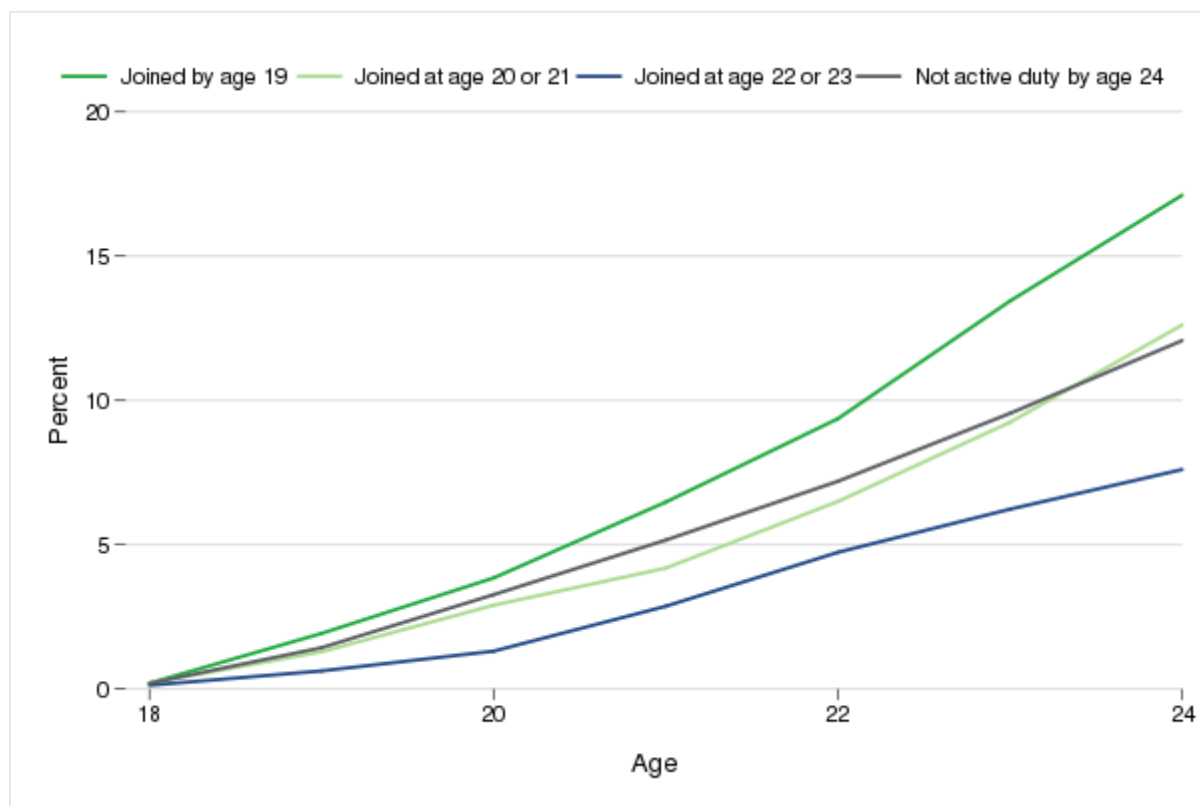
For consumers that use revolving credit, making timely payments is an important factor in determining whether they can manage their debt. Figure 22 shows the maximum delinquency incurred by age 24, among all consumers who ever had a revolving credit account. The highest rates of delinquencies occur among the younger enlisted cohorts, who join active duty by age 21. Roughly half of these consumers have been at least 30 days delinquent, and roughly one-fifth have been severely derogatory (120 days or more). By comparison, nearly two-thirds of those who joined at 22-23 and civilians have never been delinquent at all, although 16 percent of civilians have been severely derogatory.

FIGURE 22: MAXIMUM DELINQUENCY ON REVOLVING DEBT ACCOUNTS BY AGE 24, BY ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all individuals who ever had a revolving debt account by age 24 (N=230,707). Segments without labels represent less than 5 percent of the respective cohort.

Consumers who are delinquent more than 120 days may have a severe derogatory action occur against their account. For a revolving account in this sample such an action usually consists of a charge-off or being sent to collections. Such derogatory actions have a severe negative impact on a consumer's credit record. Figure 23 shows the fraction of each entry cohort with such a derogatory action. The youngest enlistees are most likely to have such a flag on their record, with 17 percent having one by age 24.



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all individuals who ever had a revolving debt account by age 24 (N=230,707).

Borrowers tend to have higher utilization rates around the time that they incur a severe delinquency on a revolving credit account. The utilization rate is calculated for each calendar year by dividing the maximum balance incurred that year by the total credit available at the time. High utilization rates can negatively affect a consumer's credit score, because they may indicate financial constraints that make the consumer a credit risk. Credit agencies advise borrowers to keep their utilization rate below 30 percent.⁴²

On average, consumers in all cohorts utilize more than the recommended cap of 30 percent of their available credit. After age 20, most groups have utilization rates in the 50-55 percent range. However, in the year during which a borrower first goes 120 days delinquent, their

⁴² Both Equifax and Experian recommend 30% (see: <https://www.equifax.com/personal/education/credit/score/5-things-that-may-hurt-your-credit-scores/> and <https://www.experian.com/blogs/ask-experian/credit-education/score-basics/credit-utilization-rate/>) while TransUnion recommends 35% (see: <https://www.transunion.com/blog/credit-advice/whats-considered-a-good-credit-score>).

utilization rate averaged 124 percent (some of which would be due to late fees charged after delinquency). In the year during which a charge-off occurs or an account goes to collections, the utilization rate is 128 percent. In the years prior to going severely delinquent, including all consumers who never went 120 days delinquent at all, utilization rates average 50 percent. It is unclear why consumers are going over-the-limit: they may have maxed out their credit and accrued interest or penalties above and beyond that limit, or the issuer may have authorized the borrower to exceed their limit under the assumption that the excess balance would be repaid before the card could be used again.

3.5 Third-Party Collections

Collections agencies attempt to recoup unpaid debt on behalf of another company. When a non-credit account such as a medical bill goes into collections, it will be reported to the NCRA. Collections accounts are considered equivalent to a severely derogatory payment status on a regular credit account.

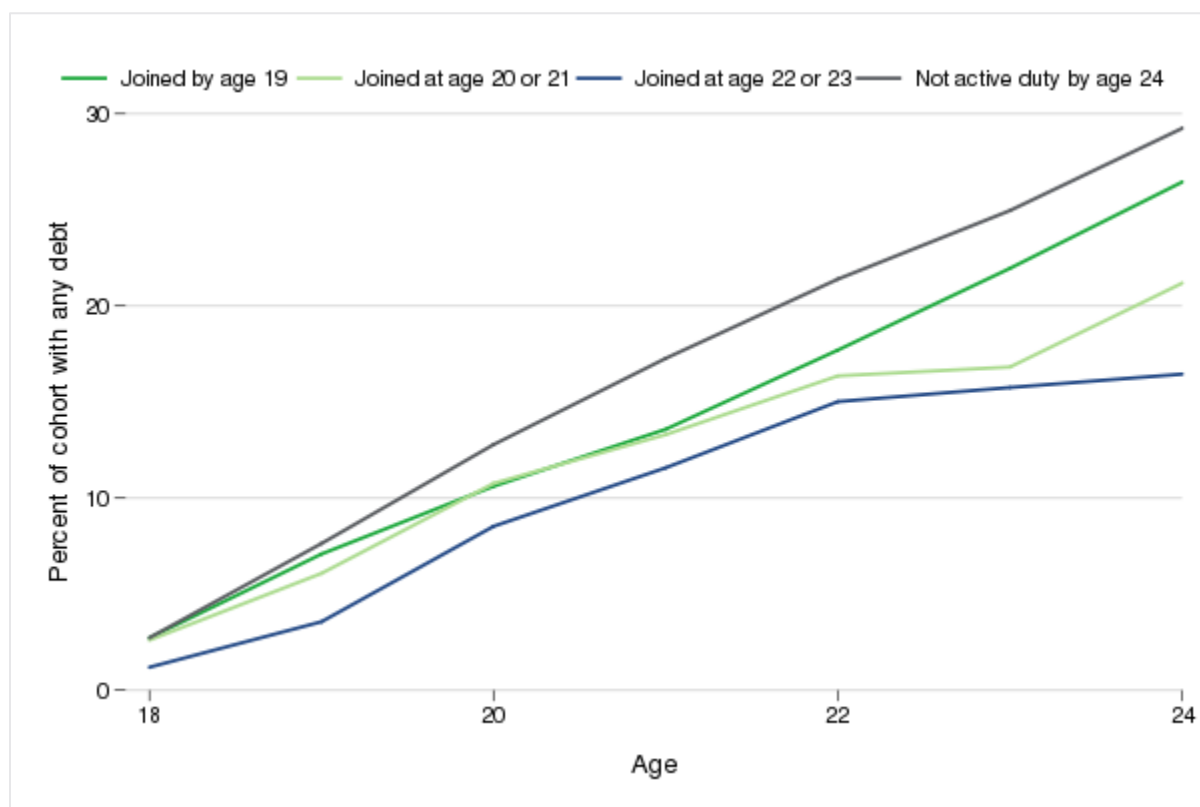
Figure 24 shows the fraction of consumers with a collections account being reported by a third-party agency. At every age, the civilian comparison cohort is most likely to have such an account. (As a reminder, Figure 2 showed third-party collections are the third most likely account for civilians to have as an entry product.) At age 18, less than five percent of each cohort has such an account on their credit record, but by age 24, 29 percent of civilians have one.⁴³ Servicemembers who join prior to age 19 are more likely than other servicemembers to have third-party collections at every age through 24.⁴⁴

Servicemembers are less likely than civilians to have third-party collections accounts. They are particularly less likely to have medical debt in collections. However, those who join by age 19 are equally as likely as civilians to have other types of debt in collections by age 24.

⁴³ For reference, prior CFPB research found that for the years studied in this report, between 29 and 34 percent of all consumers had at least one third-party collections tradeline. See CFPB (July 2019), “Market Snapshot: Third-Party Debt Collections Tradeline Reporting,” available at https://files.consumerfinance.gov/f/documents/201907_cfpb_third-party-debt-collections_report.pdf.

⁴⁴ The National Consumer Assistance Plan, a 2015 settlement between the NCRAs and several State Attorneys General, resulted in changes to reporting requirements for medical debt, among other things. These changes would affect the end of the observation window for this study. A FICO study found that retroactive changes made to credit reports were rare, affecting less than 0.1 percent of those with credit scores. See: Lee, Tommy (2017), “NCAP Medical Collection Removals are Rare and Have No Material Impact to FICO Scores,” FICO Blog, September 13, available at <https://www.fico.com/blogs/ncap-medical-collection-removals-are-rare-and-have-no-material-impact-fico-scores>.

FIGURE 24: CONSUMERS WITH THIRD-PARTY COLLECTIONS ACCOUNTS, BY AGE AND ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. A consumer may have more than one type of account, and more than one account of a given type. Data labels are rounded to the nearest percentage point.

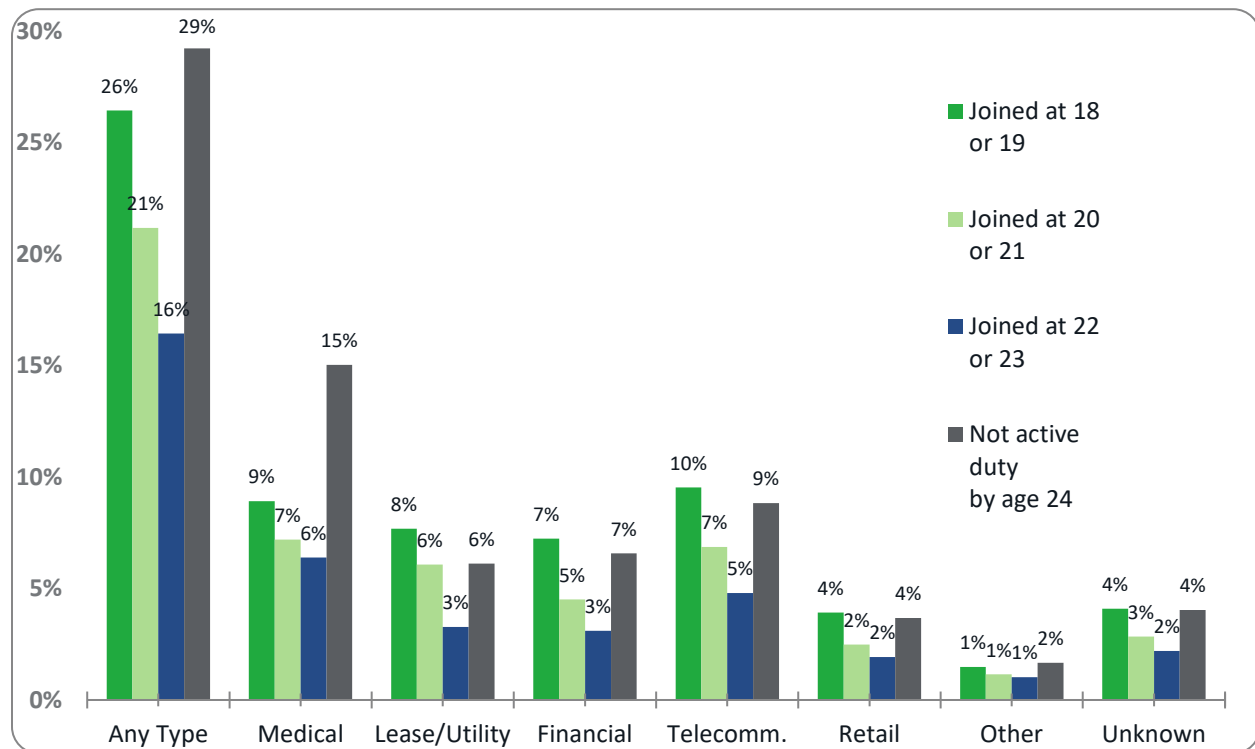
Figure 25 shows the type of collections debt at age 24. Civilians are most likely to have any such debt (29 percent), followed by the 19-and-under entry cohort (26 percent).⁴⁵ The figure shows that the gap between civilians and the 19-and-under cohort servicemember cohort is almost entirely due to civilians having higher rates of medical debt in collections. By age 24, 15 percent of civilians have medical debt in collections compared to six-9 percent of servicemember cohort.⁴⁶ In all other cases, the civilian comparison group has accounts in collections at roughly the same rate as, if not slightly lower than, those who joined active duty by age 19. In general,

⁴⁵ As a comparison from the same time period, a 2013 Urban Institute report found that 35 percent of all adults had collections debt. See: Caroline Ratcliffe et al., *DELINQUENT DEBT IN AMERICA*, Urban Institute (2014).

⁴⁶ If it seems anomalous that servicemembers would have any medical debt, it is important to note that such debt could come from any of multiple sources: it could have been incurred prior to or after service, or it could have been incurred by a dependent when they were not covered under a military healthcare plan. Section 4 explores this further.

those who joined at 20 or 21 are third most likely to have each type of account in collections (21 percent have at least one type), followed by those who joined at 22 or 23 (16 percent have at least one). The most common types of collections for servicemember cohorts are telecommunications accounts, with medical debt a close second.

FIGURE 25: CONSUMERS WITH THIRD-PARTY COLLECTIONS ACCOUNTS AT AGE 24, BY TYPE OF CREDITOR AND ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. A consumer may have collections with more than one type of creditor, and more than one open collections account with a given type if creditor.

3.6 Discussion

The analysis of entry cohorts showed that young adults who enter full-time active duty compare favorably to civilians on several measures. They become credit visible earlier and develop a credit score sooner. Those who take out student loans prior to service are more likely than civilians to pay off that debt by age 24. Servicemembers are also less likely than civilians to have

third-party collections accounts, particularly medical debt.⁴⁷ Among civilians and servicemembers alike, few mortgage borrowers are ever delinquent on payments. In general, the majority of those with installment loans are able to manage their debt. And although those who join active duty are more likely to have a positive revolving credit limit, they have similar utilization rates as civilians with revolving credit.

Servicemembers who join at later ages stand out as having the healthiest credit records. Those who join at age 22 or 23 have the best credit scores by age 24, even compared to civilians, with comparable or even lower rates of delinquencies and lower rates of accounts in collections. Unfortunately, this group cannot be disaggregated into enlisted servicemembers versus officers to determine if the results differ by subgroup.

Nevertheless, there are some negative patterns that should also be noted. Most of these patterns relate to servicemembers who joined active duty at age 19 or earlier. This cohort is most likely to have a subprime credit score at age 24 and is most likely to have issues managing auto debt and revolving credit. By age 24, more than half of this group has been delinquent on a revolving debt payment, and 17 percent has had a severe derogatory action on a revolving account. The rates of 90-day delinquency on auto loans, not to mention the rates of vehicle repossession, are higher than those of other cohorts, sometimes by a multiple of two or more. This cohort is also most likely to have a cell phone or utility bill in collections, even compared to civilians.

It is important to reiterate that these adverse patterns relate to a minority of servicemembers. For example, although the repossession rates are highest for those who joined active duty by age 19, it is still the case that nearly 96 percent of auto loan borrowers in this cohort do *not* have their vehicle repossessed. Indeed, some individuals join active duty by age 19 and manage their debt quite well, as evidenced by the 24 percent of this cohort with a super-prime credit score at age 24.

Therefore, the individuals who seriously mismanage their credit are a minority. It is worthwhile determining what sets them apart, and whether mismanagement of debt is associated with any other aspects of active duty service. For example, are those with the worst financial outcomes still in the military at age 24? The next section describes the under-19 entry cohort in more depth, providing an analysis based on time spent in active duty to determine if mismanagement of debt is associated with tenure in service.

⁴⁷ Servicemembers have medical coverage while they are in the military, but by age 24 many of the servicemembers in the sample have separated. Those who separate early may not qualify for VA medical coverage, and it is unknown how many of these have other forms of insurance. For VA medical coverage eligibility, see: Department of Veterans Affairs, Office of Public and Intergovernmental Affairs, “Chapter 1 Health Care Benefits,” available at https://www.va.gov/opa/publications/benefits_book/Chapter_1_Health_Care_Benefits.asp.

4. Results by Exit Cohort

This section describes differences between servicemembers who join active duty by age 19 but have different lengths of active duty service. The goal is to determine if the minority of servicemembers who have problems managing debt are distinguished by the time spent in service.⁴⁸ Focusing only on those who join active shortly after high school eliminates much variation by age and education at enlistment. It is possible, however, that many of the patterns discussed below would similarly apply to those who enlist at older ages.

As described in more detail below, the exit cohort analysis identifies particular groups that are more likely to run into difficulties managing debt. Those who leave during their first year of service likely did not make it through both basic training and advance individual training (AIT) to arrive at their first permanent station. Those who leave between one and 2.5 years most likely reached their first permanent duty station but did not complete their first term contract. Those that leave between 2.5 and five years are more likely to have finished their first term contract but to have exited without reenlisting. Those who are still in after five years either are still completing their first term contract (of five or six years) or have re-enlisted. The patterns that stand out in this section can be summarized as follows:

- **Those who leave active duty within their first year of service have similar debt levels but worse delinquency rates than civilians.** By age 24 this group's delinquency rates are reflected in their lower credit scores compared to civilians.
- **Those who spend between one and 2.5 years in service have the most problems** managing credit, with the worst credit scores by age 24.
- **Servicemembers who stay in active duty beyond 2.5 years maintain the healthiest debt profiles** with overall delinquency rates lower than the civilian comparison group. These servicemembers have the highest debt balances and credit limits, even though their delinquency rates are lower.
- **Credit scores drop in the six months after separation.** This credit score drop occurs for all exit cohorts, but the steepest drops occur amongst those who serve less than 2.5 years, for whom credit scores decrease by an average of 40 to 60 points.

⁴⁸ Some servicemembers may exit active duty and then enter again later, perhaps in a different service branch. This report only considers the length of service for the first accession.

- **Servicemembers’ rates of student loan borrowing increase shortly after leaving the military.** This pattern appears for all exit cohorts, even amongst servicemembers who may qualify for benefits of the Post-9/11 G.I. Bill.
- **It is difficult to determine in general if debt-management problems predate or postdate a servicemember leaving the military.** At least some differences between cohorts do appear while the cohorts are still in active duty, but credit scores show a steeper drop in the six months after separation than in the six months before.

4.1 Description of Exit Cohorts

In this section, individuals who joined the military by the age of 19 are sorted into cohorts based on the time spent in the military. Limiting the sample to those who entered active duty before 19 avoids the confounding effect of age at entry and allows for the observation of up to seven consecutive years

Exit cohorts distinguish junior enlisted servicemembers who attrite during the first term from those who complete their first contract or reenlist.

of active duty (for those who joined at age 17 and stayed through the end of the observation window). The sample is categorized into the following groups, as shown in Table 2: those who spent less than one year in active-duty, those who left active-duty between one and 2.5 years, those who spent between 2.5 and five years on active duty, and those who are on active-duty for more than five years. The comparison group is once again those individuals who do not enter full-time active duty during the observation window (again, referred to as “civilians” although the group may include reservists and National Guard members). The Data Appendix provides additional sample validation based on observed attrition rates in the actual enlistee population.⁴⁹

TABLE 2: SUMMARY OF EXIT COHORTS

	Count	Percentage
Total individuals	5,565	100%
Exit active duty in one year or less	718	12.9%
Exit active duty one to 2.5 years	488	8.8%
Exit active duty in 2.5 to five years	2,017	36.2%
Remain in active duty for five years or more	2,342	42.1%

⁴⁹ See also the Army enlisted and officer retention graphs in Asch (2019), Figure 1: Asch, Beth J. (2019), “Setting Military Compensation to Support Recruitment, Retention, and Performance,” Santa Monica, CA: RAND Corporation, RR-3197-A.

Note: Sample consists of all individuals from the sample described in Table 1 who first accessed at age 19 or earlier. Exit cohorts sort these enlistees by time spent in full-time active duty status during first accession. Percentages may not add to 100 due to rounding.

Like the entry cohorts, the exit cohorts roughly correspond to groups of servicemembers that are likely to have salient differences in terms of their credit histories at the time they exit the military and in subsequent years. The first two cohorts largely comprise those servicemembers who fail to complete their first contracts. This first-term attrition is heavily studied because it imposes high costs on the service branches.⁵⁰ Understanding why such servicemembers exit is therefore of great interest for recruitment and retention policy. Those who serve for longer will have typically completed their first-term contract and either exited the military or reenlisted.

Across all service branches, attrition is highest during the first year of service.⁵¹ Much of the first year is spent in basic training and occupation-specific technical training. Depending on occupation and service branch, new servicemembers may not arrive at their first permanent station until close to the end of the first year of service. The first exit cohort therefore identifies servicemembers who leave active duty without spending much time, if any, at their first station. There are 718 individuals, or 12.9 percent of all 19-and-under enlistees, in this group.

The second cohort—those with between one and 2.5 years in active duty—consists of individuals who likely also attrite early, but after arriving at their first duty station. Most first-term contracts are at least three years long, and so a 2.5-year cutoff provides a conservative approximation for the group of servicemembers who exit early. There are some two-year contracts, but they are offered on a limited basis.⁵² This group consists of 488 individuals, or 8.8 percent of the 19-and-under enlistee cohort.

⁵⁰ For example, Enns (2012) found in fiscal year 2008, around the time the first cohort in the sample would have entered the military, first-term attrition cost the Army \$633 million and the Navy \$699, or approximately \$740 million and \$820 million in terms of December 2019 dollars. Enns, John H. (2012), “Cost attrition: Army and Navy results for FY2008,” report from Naval Postgraduate School, May.

⁵¹ Marrone, James V. (2020), “Attrition in the First 36 Months of Service: A Comparison Across Service Branches,” Santa Monica, CA: RAND Corporation, RR-4258-OSD.

⁵² Publicly available statistics regarding the prevalence of two-year contracts are scarce. In the sample, 2% leave exactly at the two-year mark. Buddin (2005) reports that only 3% of Army recruits had two-year contracts in the pre-9/11 period. Huff, Pinelis, and Wenger (2013) report that in 2007 and 2008 less than 5% of Navy contracts were for two years, and after that time virtually all of them were for four years or longer. See Buddin, Richard (2005), “Success of First-Term Soldiers: The Effects of Recruiting Practices and Recruit Characteristics,” Santa Monica, CA: RAND Corporation, MG-262-A; and Huff, Jared M., Yevgeniya K. Pinelis, and Jennie W. Wenger (2013), “Adjusting First-Term Contract Lengths in the Navy: Implications and Recommendations,” CAN Report DRM-2013-U-004794-Final.

The third cohort comprises those who spend between 2.5 and five years on active duty. Conceptually, this cohort most closely approximates the set of servicemember who exit after completing the first contract without reenlisting. There are 2,017 individuals in this group, or 36.2 percent of all 19-and-under enlistees.

The last cohort consists of those who stay on active duty for at least five years. Many of these individuals' service may extend past the window of observation. This group most closely approximates the set of servicemembers who reenlist after their first contract or who signed five- or six-year contracts and are still serving in them. There are 2,342 individuals in this cohort, or 42.1 percent of the total.

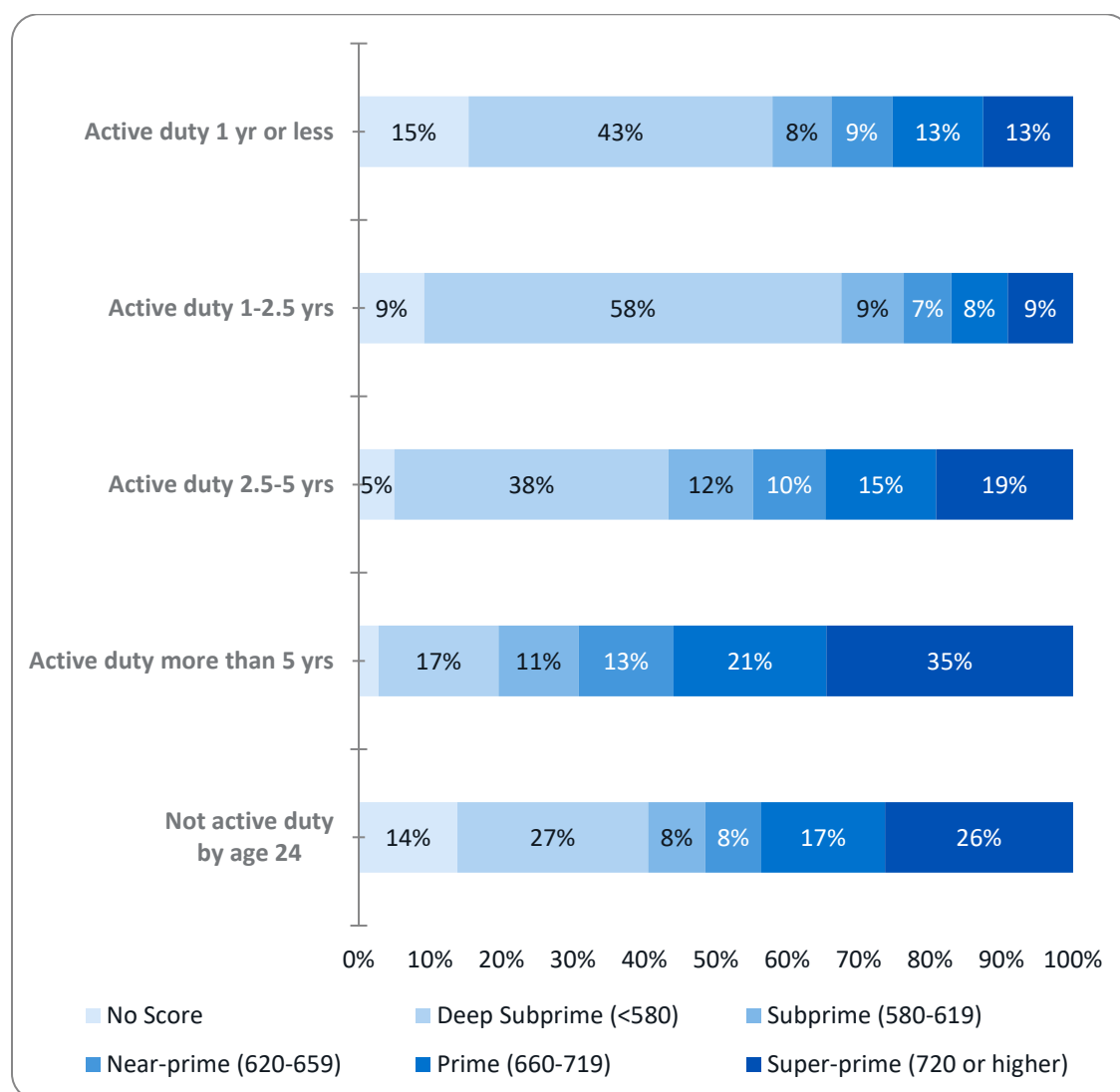
4.2 Credit Scores

Figures 3 and 4 above showed that those who enlist by age 19 are more likely to have a credit score by age 20. Relative to those who join later or never join active duty, they are also most likely to have a subprime score by age 24. Figures 26 and 28 below show credit scores at ages 20 and 24, respectively, based on eventual tenure in the military.

Servicemembers who leave active duty early show warning signs of financial trouble by age 20, with the highest proportion of subprime or deep subprime scores. By age 24, the fraction of subprime credit scores among these cohorts has grown. Those who serve at least five years have the best credit scores, even compared to civilians.

Figure 26 reveals that even by age 20, large differences have appeared based on how long individuals will end up spending in active duty service. Those who leave within one year – all of whom have separated by age 20 – are least likely of all servicemembers (although more likely than civilians) to have a credit score, with 37 percent lacking one. Another 29 percent have a deep subprime score, and just 21 percent are prime or better. Those who leave between one and 2.5 years – many of whom are still in the service at age 20 – also show signs of low creditworthiness. This group is most likely to have a score (just 17 percent do not have one) but also most likely, by far, to have a subprime score: 42 percent are deep subprime, and another 8 percent are subprime, compared to 24 percent that are prime or super-prime. Those who eventually stay in service for at least five years have the best scores at age 20: 20 percent have no score but 47 percent are prime or super-prime and just 19 percent are subprime or deep subprime.

FIGURE 26: CREDIT SCORES AT AGE 20, BY TENURE IN FIRST PERIOD OF ACTIVE DUTY



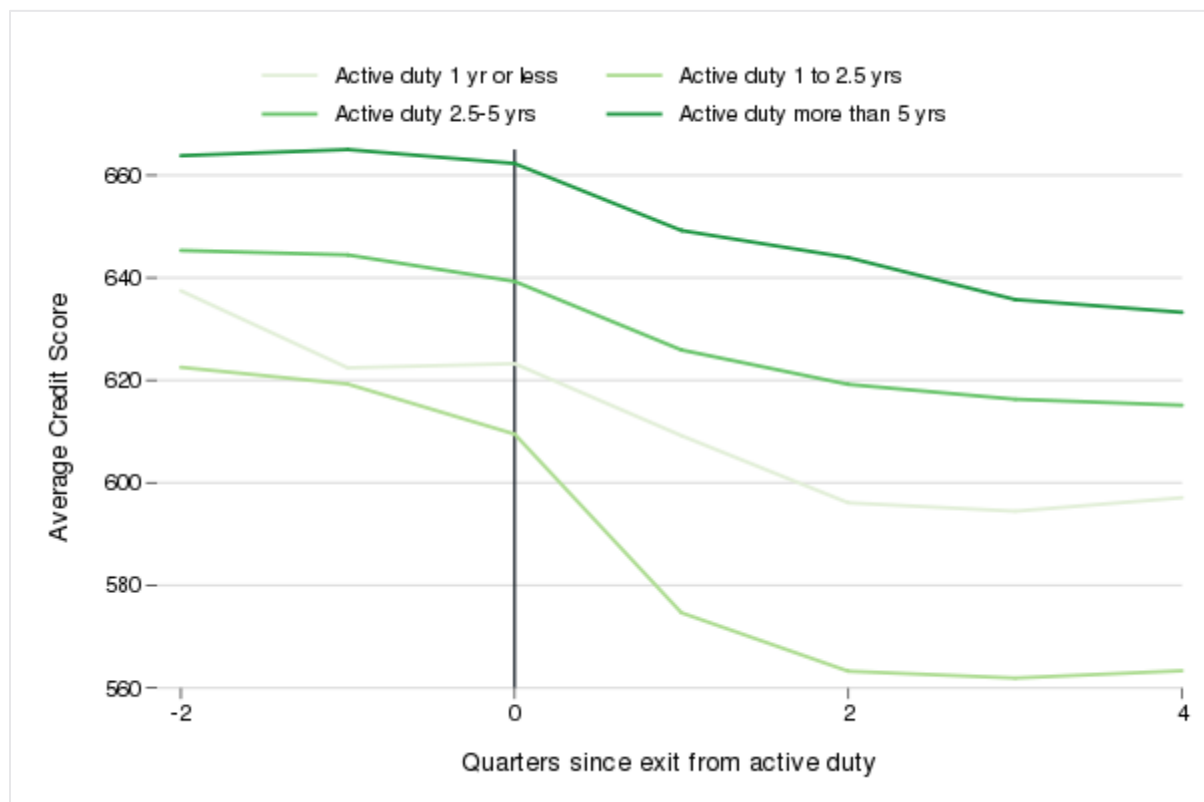
Source: Author calculations from CFPB’s CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19 (N=5,565), as well as those who do not enter active duty before age 24 (N=285,357).

A key takeaway from Figure 26 is that, as a group, servicemembers who leave their first term of service early are showing problems with creditworthiness by age 20. This suggests that at least some problems with debt management developed during service or, at the latest, just after leaving. To illustrate the relationship between credit scores and separation from active duty, Figure 27 shows the average credit score during the quarters just before and after separation, for each exit cohort.

The graph shows two notable patterns. First, separation is associated with increased disparities in credit score between exit cohort: those who stay in the military for more than five years have the highest credit scores and those who are active-duty for between one and 2.5 years have the lowest. These patterns hold throughout the time frame. It is important to note that cohorts with longer tenures are older at the time of separation, which may explain some of the difference in credit score at the time of separation. Second, all cohorts experience a drop in credit score in the quarters just after separation, with a decline of more than 20 points in the nine months following separation. This drop is most severe for the cohort serving one to 2.5 years, for whom credit scores decrease by 60 points from six months prior to six months post-separation. The average score for this group goes from near-prime to deep subprime in just nine months.

Although the decline in credit score is most severe in the quarters following separation, there is a downward trend in the six months *prior* to separation for the cohorts that leave within 2.5 years. This pre-exit trend suggests that at least some servicemembers are struggling to manage their credit prior to separation. It is not clear, however, if the reasons for separation are related to financial problems.

FIGURE 27: CREDIT SCORES BEFORE AND AFTER SEPARATION, BY TIME SPEND IN FIRST PERIOD OF ACTIVE DUTY

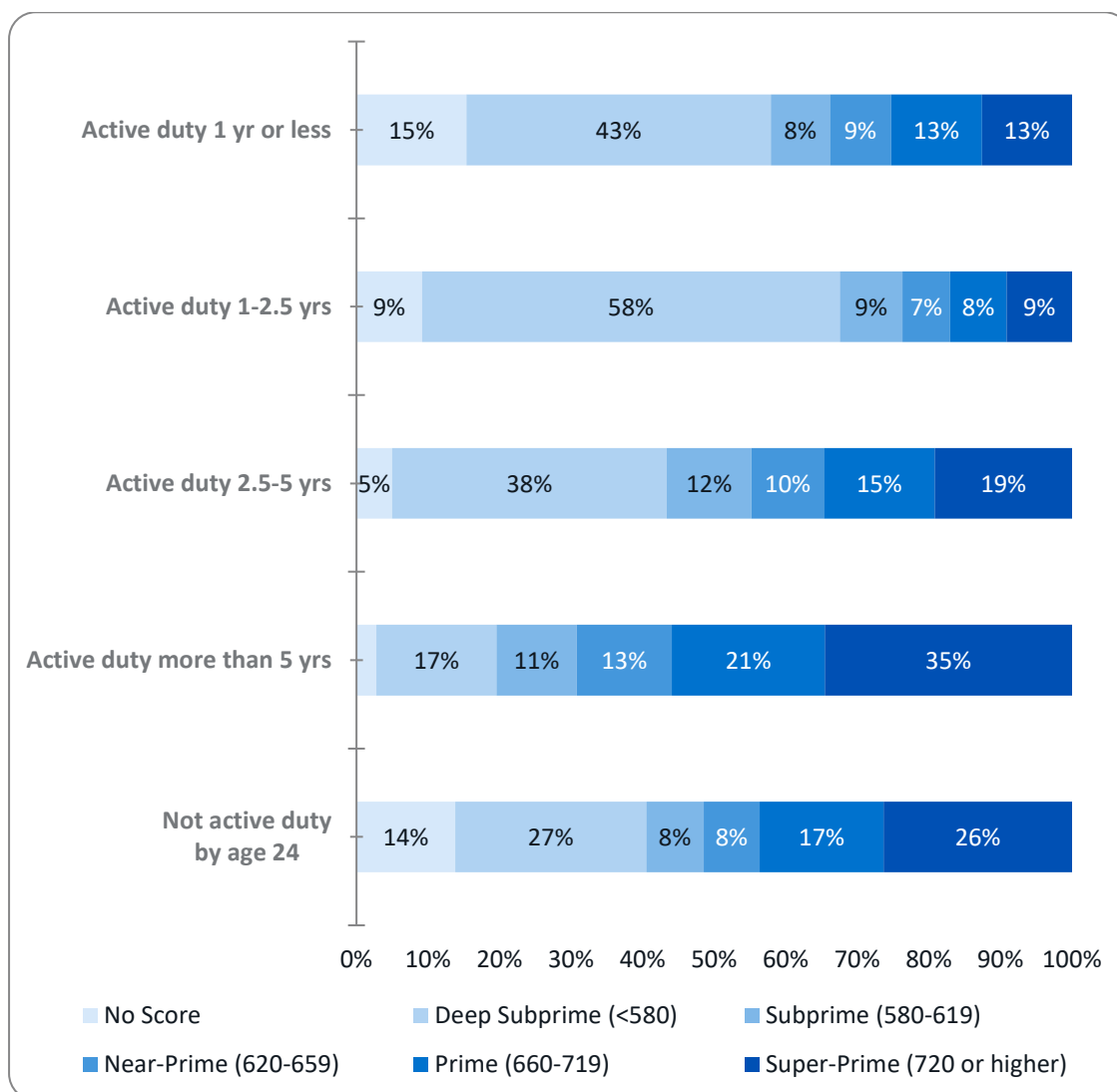


Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19 (N=5,565).

Figure 28 shows that by age 24, the increased disparities in credit score after separation are still evident. By this time, the one-to-2.5-year cohort has been out of the military for at least two years, but their credit scores have worsened: 58 percent are *deep subprime*, with less than 10 percent in each of the other brackets. In fact, among all cohorts serving less than five years, the fraction of deep subprime scores increased relative to age 20. It more than doubled for those with 2.5 to five years of service, to 38 percent.

Among those who serve for at least five years, the picture is quite different: 35 percent of this cohort has a super-prime credit score and another 21 percent has prime. Only 28 percent is subprime or deep subprime, the least of any cohort including the civilian comparison group.

FIGURE 28: CREDIT SCORES AT AGE 24, BY TENURE IN FIRST PERIOD OF ACTIVE DUTY



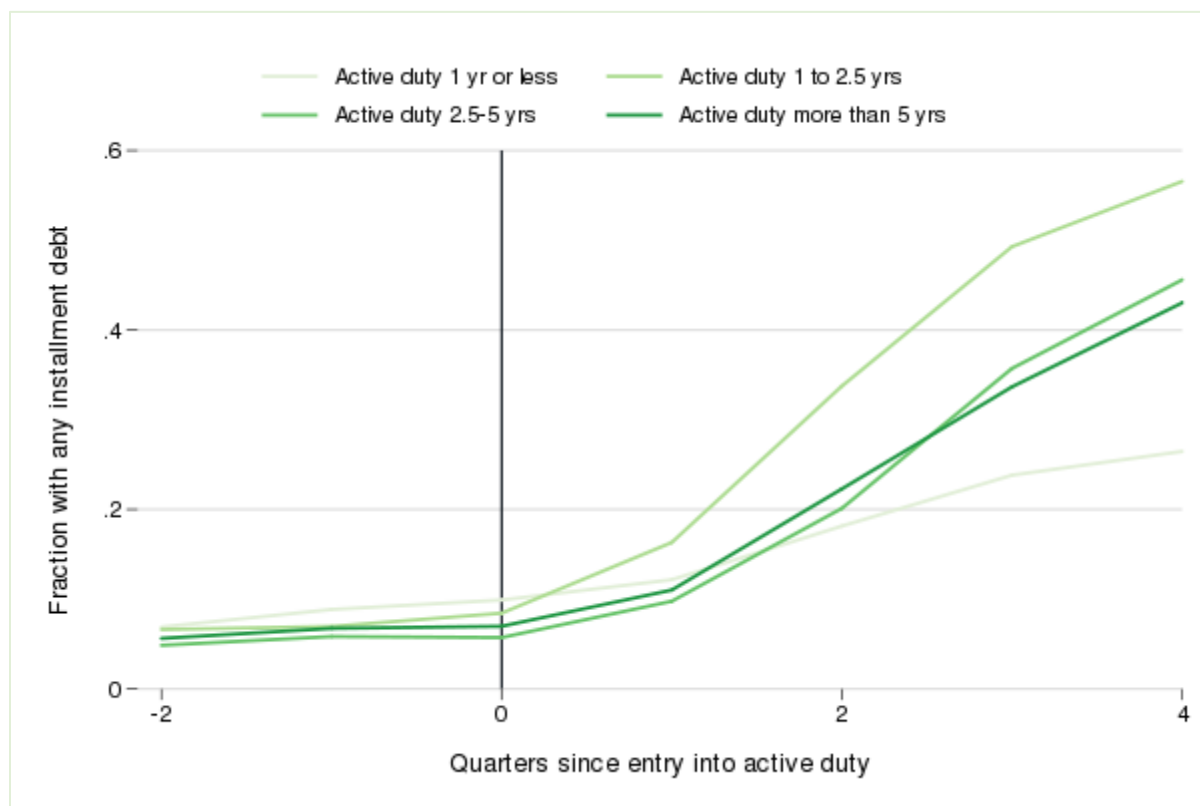
Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

The key takeaway from Figures 26 through 28 is that differences in credit score based on eventual tenure appear early in service, with adverse credit record information accruing quickly after separation and often being compounded or exacerbated during the subsequent few years. The subsections below examine particular patterns of credit usage and delinquency. These patterns suggest that for those who spend less than one year in active duty, problems with debt are more likely due to debt accrued after service, whereas for those who spend at least 13 months in service, problems are more likely due to debt accrued during service – although the problems may not appear until after separation.

4.3 Installment Debt

All exit cohorts enter the military with nearly identical levels of installment debt, but their patterns of loan borrowing diverge after that. Figure 29 shows installment debt levels just before and after entry into active duty. One quarter after entry, cohorts diverge from each other. Those who will stay longer than one year borrow at higher rates than those who leave. Those who stay one to 2.5 years borrow at the highest rates, with more than 50 percent having some debt within one year of joining the military. In addition to different fractions of borrowers, cohorts differ by the amount they borrow after entering the military. On average, those who leave within one year borrow less if they borrow at all. Among those who have any debt one year after entering service, those who left within that year accrued \$6,000; those who will stay one to 2.5 years accrued \$10,700; those who will stay 2.5 to five years accrued \$10,600, and those who stay more than five years accrued \$9,900.

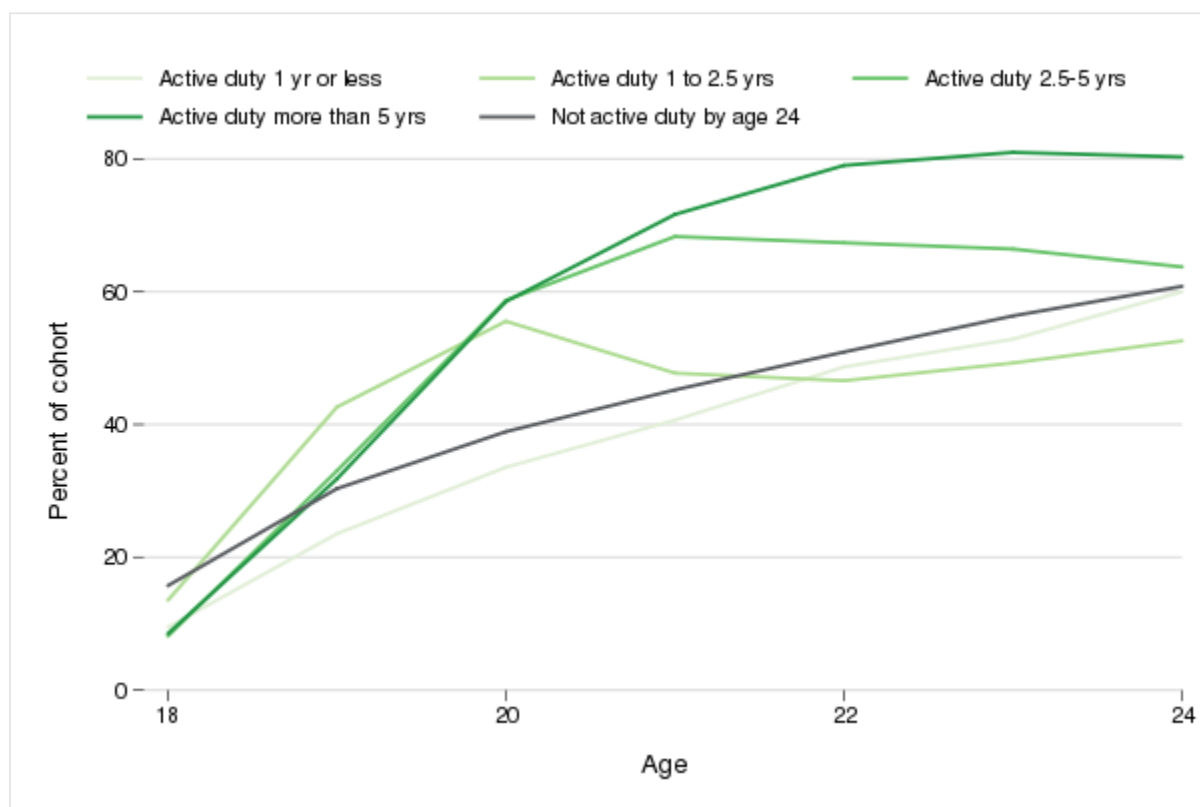
Servicemembers who leave active duty within one year borrow similarly to civilians but have higher rates of severe delinquency than civilians by age 24. Servicemembers who serve one to 2.5 years borrow similar amounts as those who serve longer, but accrue delinquencies at much higher rates beginning around age 21. Meanwhile, those who stay in service more than five years continue to borrow through age 24 but have the lowest delinquency rates of any group.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19 (N=5,565).

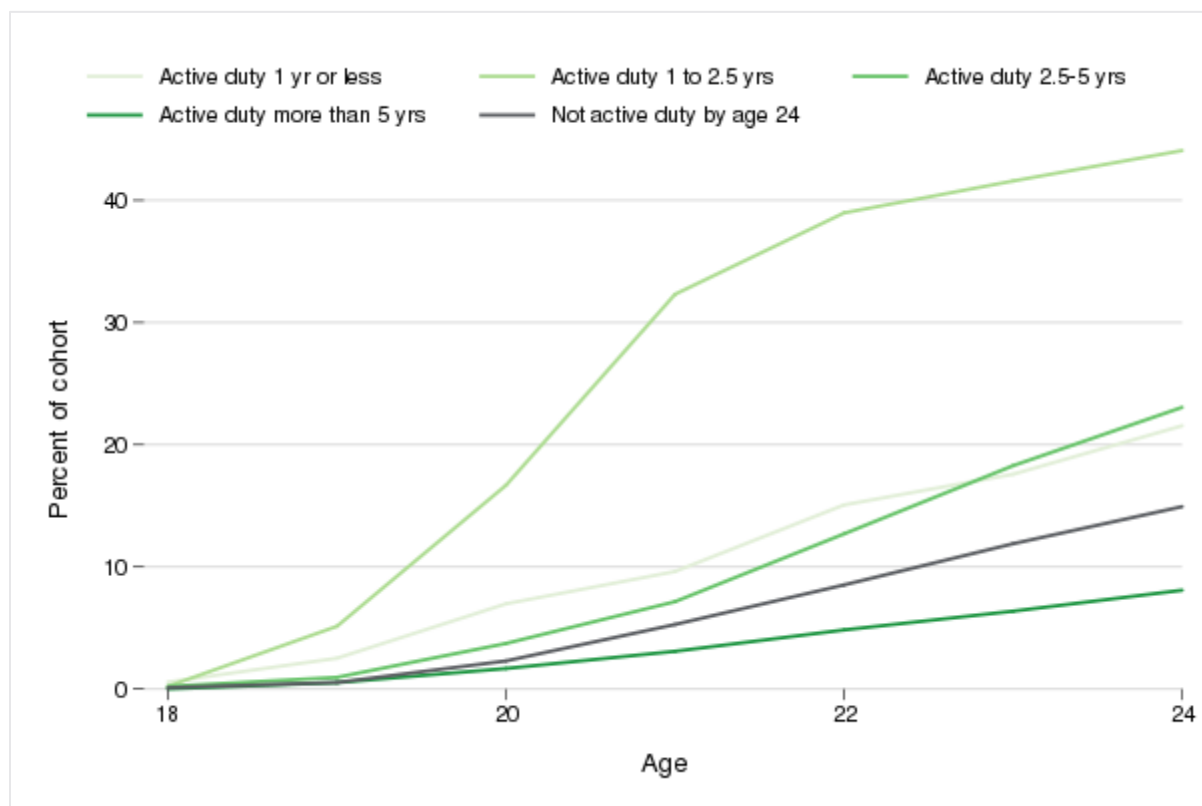
The differences in borrowing early in servicemembers' military careers result in different patterns of delinquencies and debt balances later. Figure 30 shows the fraction of each cohort with any installment debt, by age. In accordance with Figure 29, those who serve less than one year have the lowest rates of borrowing, even lower than civilians. Those who serve one to 2.5 years have a steep drop in installment debt ownership between ages 20 and 21. In fact, 16 percent of this group closes an account during that time, and the majority of those borrowers had gone severely delinquent (120 days or more) at the time of closure.⁵³ By comparison, servicemembers who stay in active duty for more than five years continue to borrow, with 80 percent having installment debt at age 24.

⁵³ Examining these closures relative to the date of separation from the military, these closures occur, on average, just over a year after separation.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19 (N=5,565).

Figure 31 shows the proportion of borrowers in each group that had ever been 120 days delinquent on installment debt. The uptick in closures around age 21 for the one-to-2.5-year cohort in Figure 30 corresponds to the uptick in delinquencies at the same age in Figure 31. By age 24, 45 percent of borrowers in this cohort has been 120 days delinquent on a loan. Note also that although those who served less than one year have slightly lower borrowing rates on average, those who do borrow have higher delinquency rates than civilians by age 24: 21 percent for this servicemember cohort compared to 15 percent for civilians. These delinquencies are accrued roughly evenly over the observation window. In contrast, although those who serve longer than five years accrue the most debt by age 24, they have the lowest delinquency rates of any group, with only 9 percent having been 120 days delinquent by age 24.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

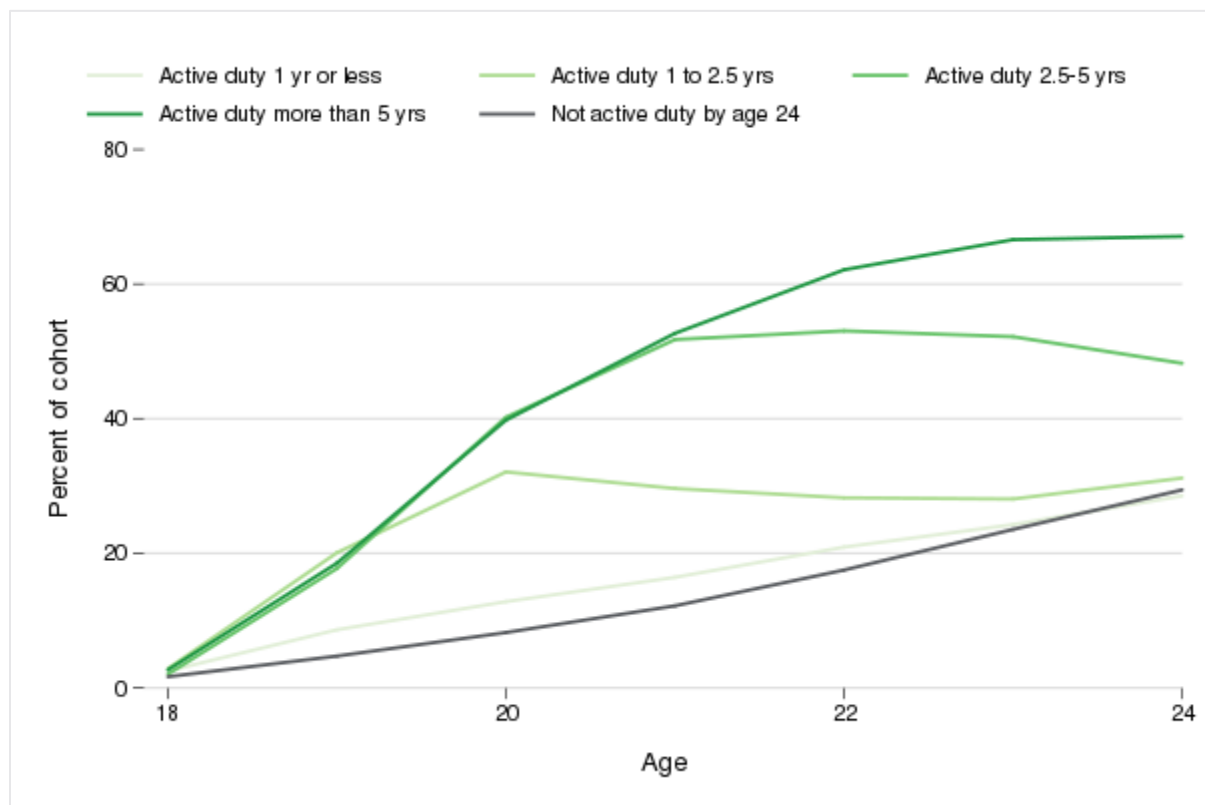
Together, Figures 29 through 31 suggest that the youngest servicemembers' debt management issues can develop early and follow cohorts through their mid-twenties.

4.3.1 Auto Loans

Section 3.3.1 showed that servicemembers tend to take out auto loans soon after they join the military, but this section shows that auto loan ownership decreases around the time of separation. Figure 32 shows the fraction of each exit cohort with an auto loan, over time. The comparison looks much like Figure 30, including the drop-off in accounts held by the one-to-2.5-year cohort between ages 20 and 21.

Servicemembers who stay in active duty for at least one year accrue an average of \$13,000 in auto debt during their first year of service, but those who leave within 2.5 years are most likely to have eventual problems with auto debt. Those who remain in active duty for at least five years have the most auto debt by age 24, on average, but also the lowest delinquency rates.

The figure shows that auto loan ownership rates taper off around the age at which each cohort leaves the military. But at age 21 the *majority* of those still in service have an auto loan. Among those who stay for at least five years, nearly 70 percent have an auto loan at age 24. By contrast, the low fraction of auto borrowers among those who serve one year or less suggests that servicemembers are not taking out auto loans immediately, but rather after arriving at their first permanent duty station.

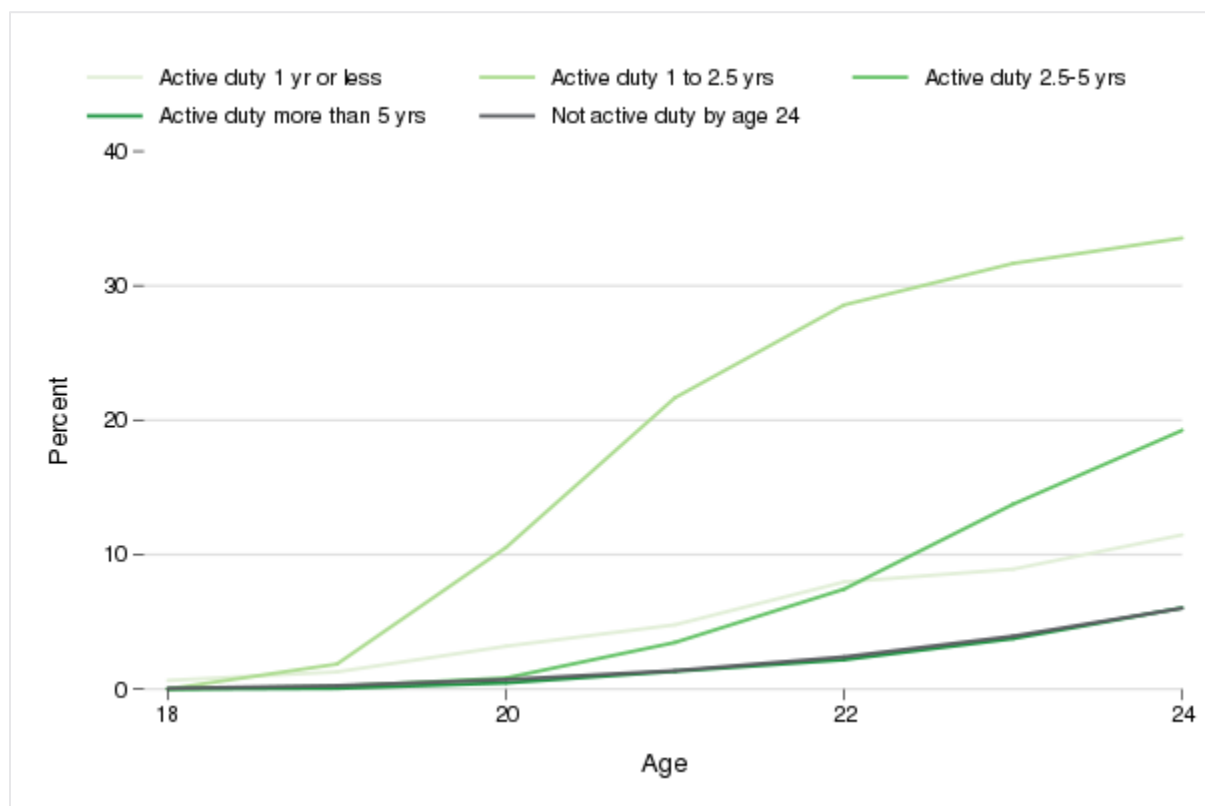


Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

Servicemembers who stay longer than one year, no matter how much longer, accrued an average of approximately \$13,000 in auto debt during their first year of active duty. Although the cohorts who serve longer than one year borrow similar amounts during the first year of service, their eventual delinquency patterns vary widely. Figure 33 illustrates these differences, showing the proportion of auto loan borrowers in each group who has been at least 90 days delinquent on an auto loan. Servicemembers who remain in service longer than five years have delinquency rates that are virtually indistinguishable from civilians' and lower than any other group of servicemembers, with 6 percent begin 90 days delinquent by age 24.

The other groups have delinquency rates at least twice as high, with patterns related to the timing of service. For those who leave within one year, the trend is roughly linear, with 11 percent having been delinquent by age 24. By comparison, for those who serve one to 2.5 years, the delinquency rate increases steeply at ages 20 and 21, corresponding to the account closures noted above. By age 24, 33 percent of all auto loan borrowers in this group have been 90 days delinquent. Those who serve 2.5 to five years increasingly have delinquencies after age 20, with a further uptick after age 22, reaching 19 percent by age 24. The timing of all of these patterns suggests that borrowers begin to struggle with auto debt around the time they leave the service.

FIGURE 33: FRACTION OF AUTO DEBT HOLDERS WHO HAVE BEEN 90 DAYS DELINQUENT ON AN AUTO LOAN, BY TIME SPENT IN FIRST PERIOD OF ACTIVE DUTY

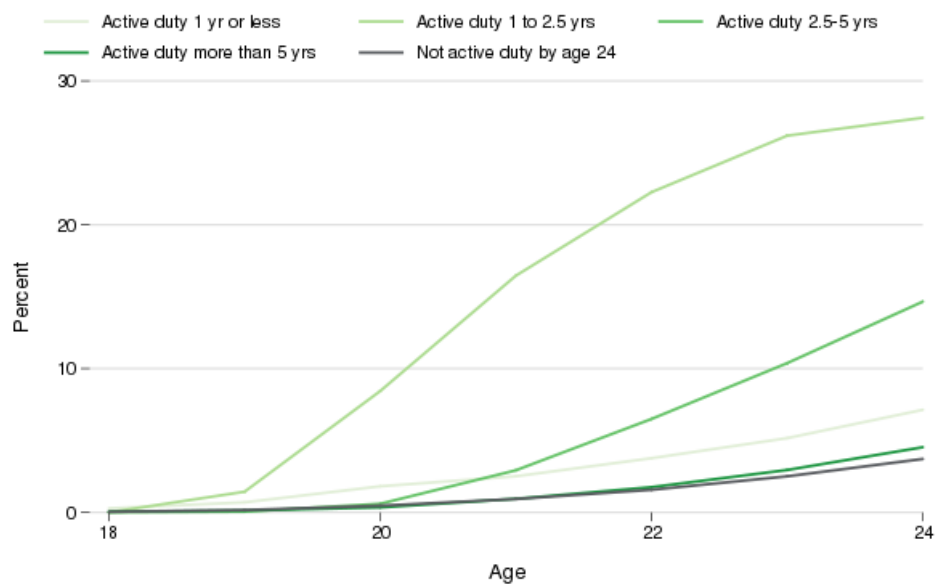


Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24, who had an auto loan at any time by age 24 (N=114,226).

Figure 34 shows the fraction of each group that has ever had a severe derogatory action on an auto loan. Those serving one to 2.5 years once again have the most concerning pattern; by age 24, over 25 percent of borrowers in this group have such a flag on their credit record, compared to 14 percent of those who serve 2.5 to five years and less than 5 percent of other groups.

Severe derogatory flags, even more than delinquencies, show temporal patterns that suggest some servicemembers experience difficulties managing debt before exiting service, while some experience it later. Among those who serve one to 2.5 years, the fraction with derogatory flags is higher than for other groups by age 20, indicating that some of these servicemembers likely struggled managing auto debt while still in service. Moreover, derogatory flags for this group continue to accumulate at a roughly constant rate through age 23, indicating that some borrowers are struggling with auto payments after leaving service. Therefore, even if problems with debt begin during active duty, they are not solved in the years following the exit from service.

FIGURE 34: FRACTION OF AUTO LOAN BORROWERS WHO HAVE HAD SEVERE DEROGATORY ACTION ON AN AUTO LOAN, BY TIME SPENT IN FIRST PERIOD OF ACTIVE DUTY



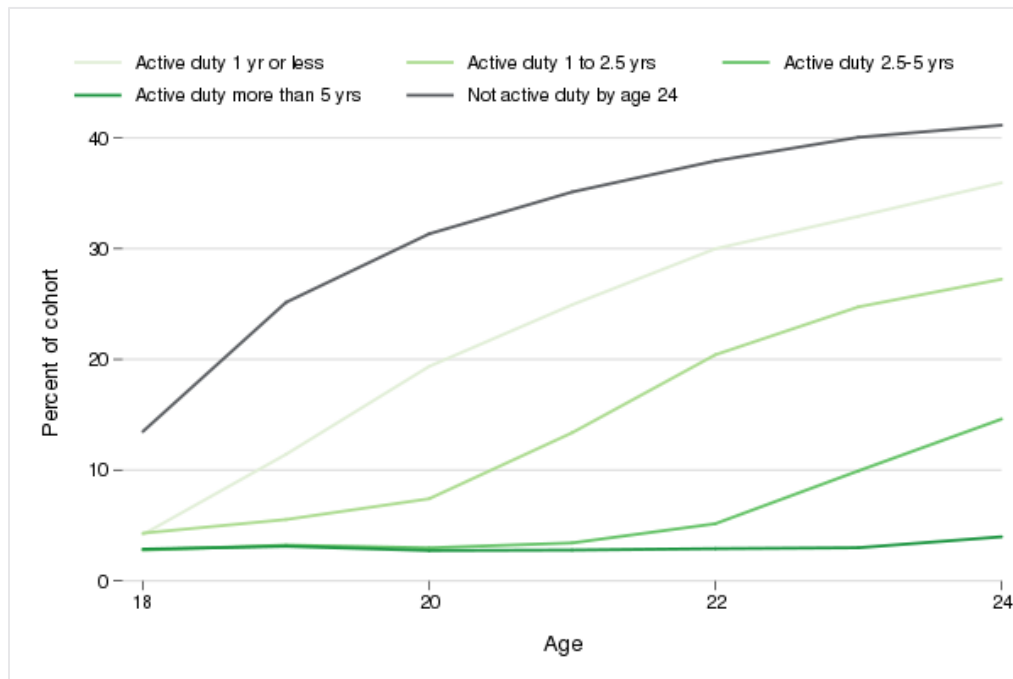
Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19 and those who do not enter active duty before age 24, who have had an auto loan at any time by age 24 (N=114,226). Severe derogatory actions include repossession, surrender, charge-off, debt sent to collections, or debt discharged in bankruptcy court.

4.3.2 Student Loans

The analysis in Section 3 showed that those who enter active duty by age 19 have very little student debt upon enlistment. Borrowing student loans is associated with the time around which a servicemember leaves active duty.

Servicemembers increasingly take out student loans in the years after leaving active duty. More than one-quarter of those who leave within 30 months will have a student loan by age 24, compared to 40 percent of those who never join the military.

Figure 35 shows what proportion of these servicemembers eventually accrue student loans later. Among those who serve less than one year, borrowing rates increase starting at age 19, when this cohort begins leaving the service, and continue to grow, reaching 35 percent by age 24. Groups that serve longer show nearly parallel trends, but at a lag. Those who serve one to 2.5 years have an uptick in borrowing rates by age 21, increasing to 27 percent by age 24. Those who serve 2.5 to five years have an uptick by age 23, reaching almost 15 percent by age 24. Among those who serve more than 60 months, there is almost no change in student loan borrowing between ages 18 and 24, apart from about 1 percent who take out a loan after age 23.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

Figure 35 suggests that in the years after leaving the service, a non-negligible fraction of new veterans take out loans to pay for higher education programs. Some servicemembers in this time period would be eligible for Post 9/11 G.I. Bill educational benefits. An individual must have served at least 90 days and be honorably discharged to receive any G.I. Bill benefits, and have served 36 months and be honorably discharged to receive full benefits. Especially in the group that served past 2.5 years, it is likely that many had full use of the G.I. Bill, but those who served less than 2.5 years would have limited benefits, if any. It is possible that some of these servicemembers are using this benefit instead of, or in addition to, student loans.⁵⁴

4.4 Revolving Debt

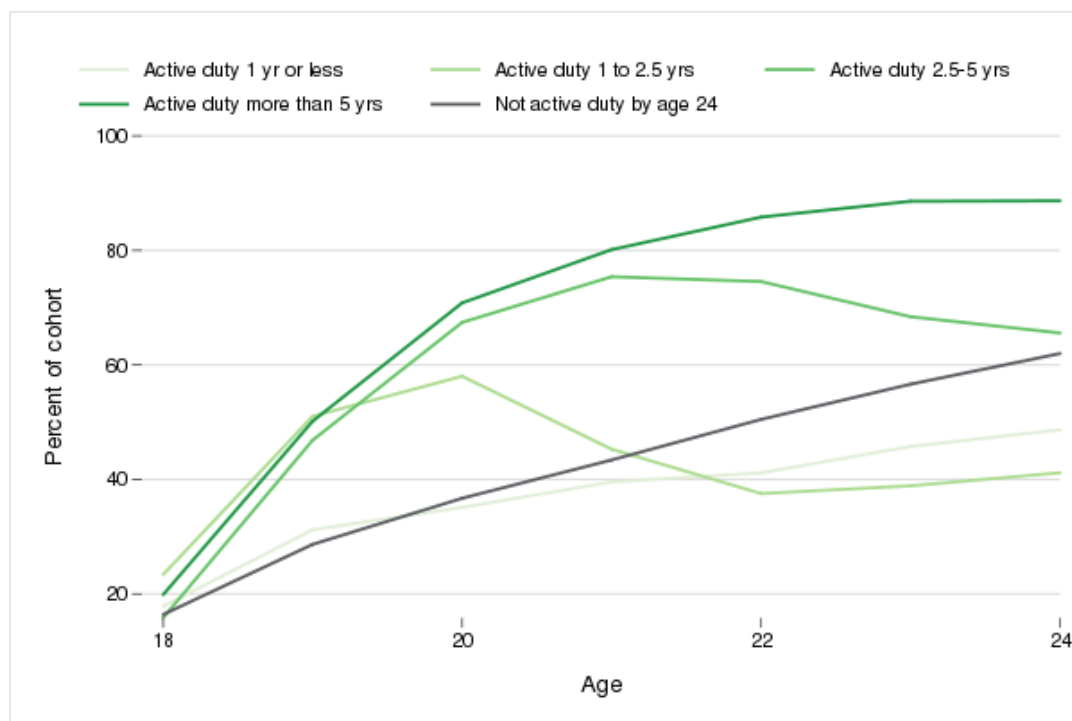
The analysis of Section 3.4 showed that those who join the military by age 19 are more likely than other consumers to have problems with revolving debt by age 24. Analyzing these servicemembers based on time in service shows that problems with revolving debt is associated with tenure in active duty.

Servicemembers who stay in active duty for at least five years have the highest revolving credit limits and the lowest delinquency rates by age 24. Meanwhile, those who serve between one and 2.5 years have lower credit limits and the worst delinquency

Figure 36 shows the proportion of each group with any revolving credit account. Several patterns are striking. First, servicemembers who leave within one year open credit accounts at lower rates than other servicemembers, and after age 20 they are even less likely than civilians to have revolving credit. By age 24, just under 50 percent of those ex-servicemembers have a revolving account, compared to 61 percent of civilians.

Next, as with the installment debt analyzed above, the trends for other groups of servicemembers look similar when the servicemembers first enter active duty. By age 20, however, those who serve one to 2.5 years are beginning to exit the service and have a net tendency to close revolving accounts, similar to the patterns observed for installment loans. As was true of installment debt, many of the revolving account closures are charge-offs or accounts being sent to collections. By age 24 the one-to-2.5-year cohort has the lowest rate of access to revolving credit, at 40 percent. Those who stay 2.5 to five years also have a slight decrease in revolving account ownership after they begin leaving the military, from a peak of 75 percent at age 22 to 66 percent at age 24. Those who serve longer than five years continue to gain exposure to revolving credit, reaching almost 90 percent by age 24.

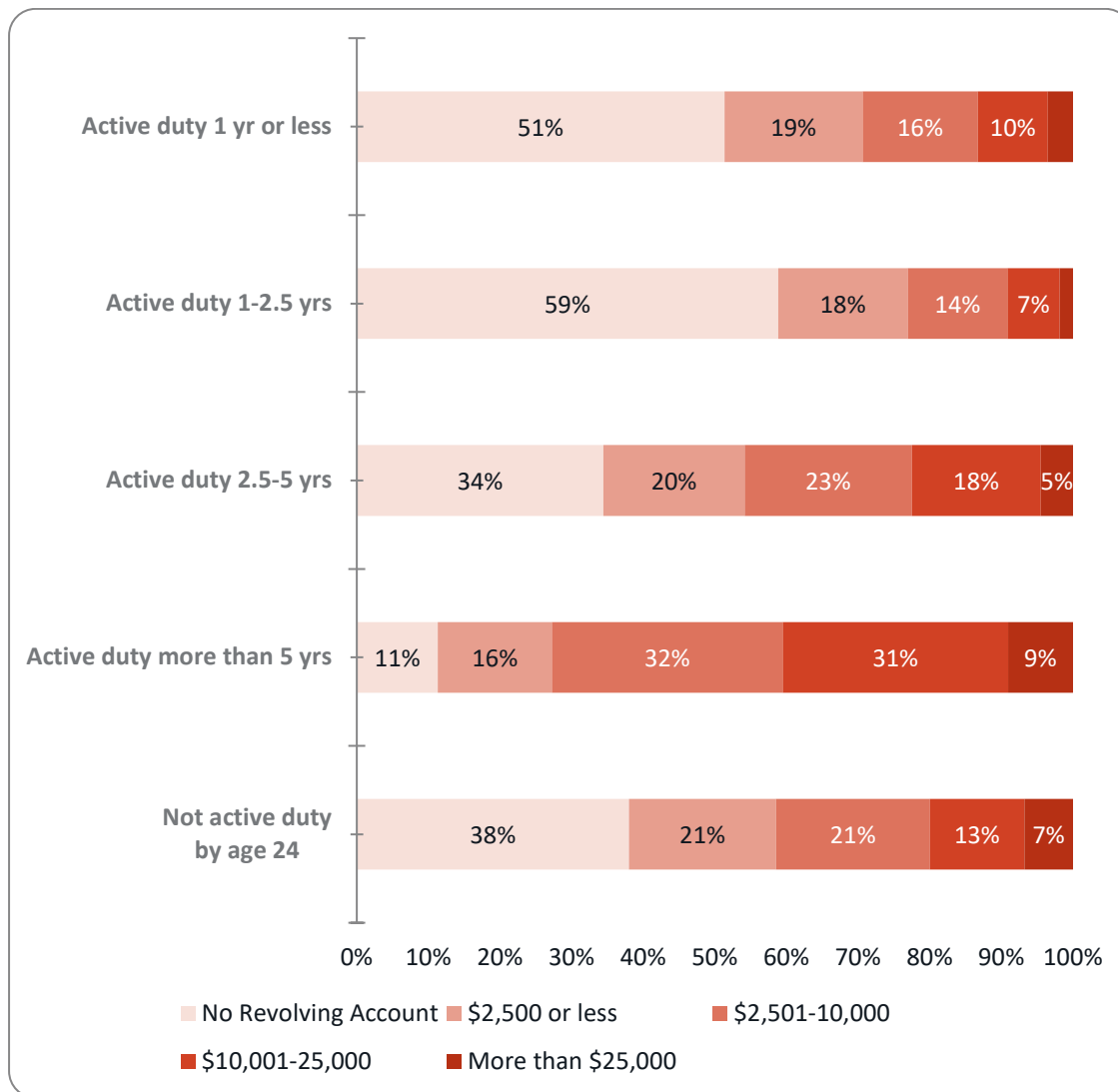
⁵⁴ https://www.benefits.va.gov/GIBILL/resources/benefits_resources/rate_tables.asp



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

Figure 37 shows the distribution of total revolving credit limit at age 24. As was true of installment debt, those who remain in service the longest tend to have the highest credit limits. 40 percent have at least \$10,000, and 9 percent have over \$25,000. The corresponding percentages for civilians are 20 percent and 7 percent.

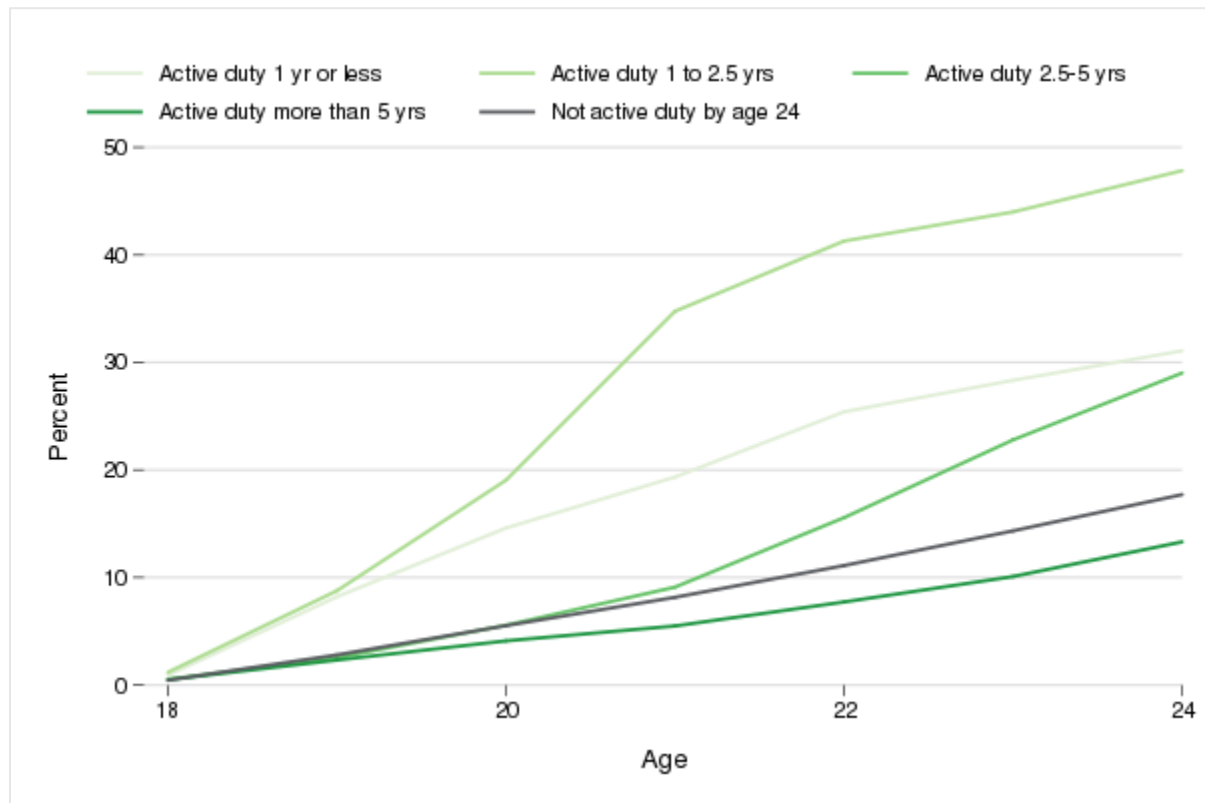
FIGURE 37: TOTAL REVOLVING CREDIT LIMIT AT AGE 24, BY TIME SPENT IN FIRST PERIOD OF ACTIVE DUTY



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24. Segments without labels represent less than 5 percent of the respective cohort.

Figure 38 shows the fraction of those who utilized revolving credit who went at least 120 days delinquent on a payment. As was true of auto loan delinquency, those who serve more than five years have the lowest delinquency rates, even lower than civilians. Servicemembers who leave within one year show a steady increase in delinquency over the duration of the observation window, suggesting that are not strongly associated with separation. Those who serve one to 2.5 years have the highest delinquency rates, with the sharpest uptick between ages 19 and 21, around the age at which they exit, corresponding to the sharp drop in open accounts from Figure

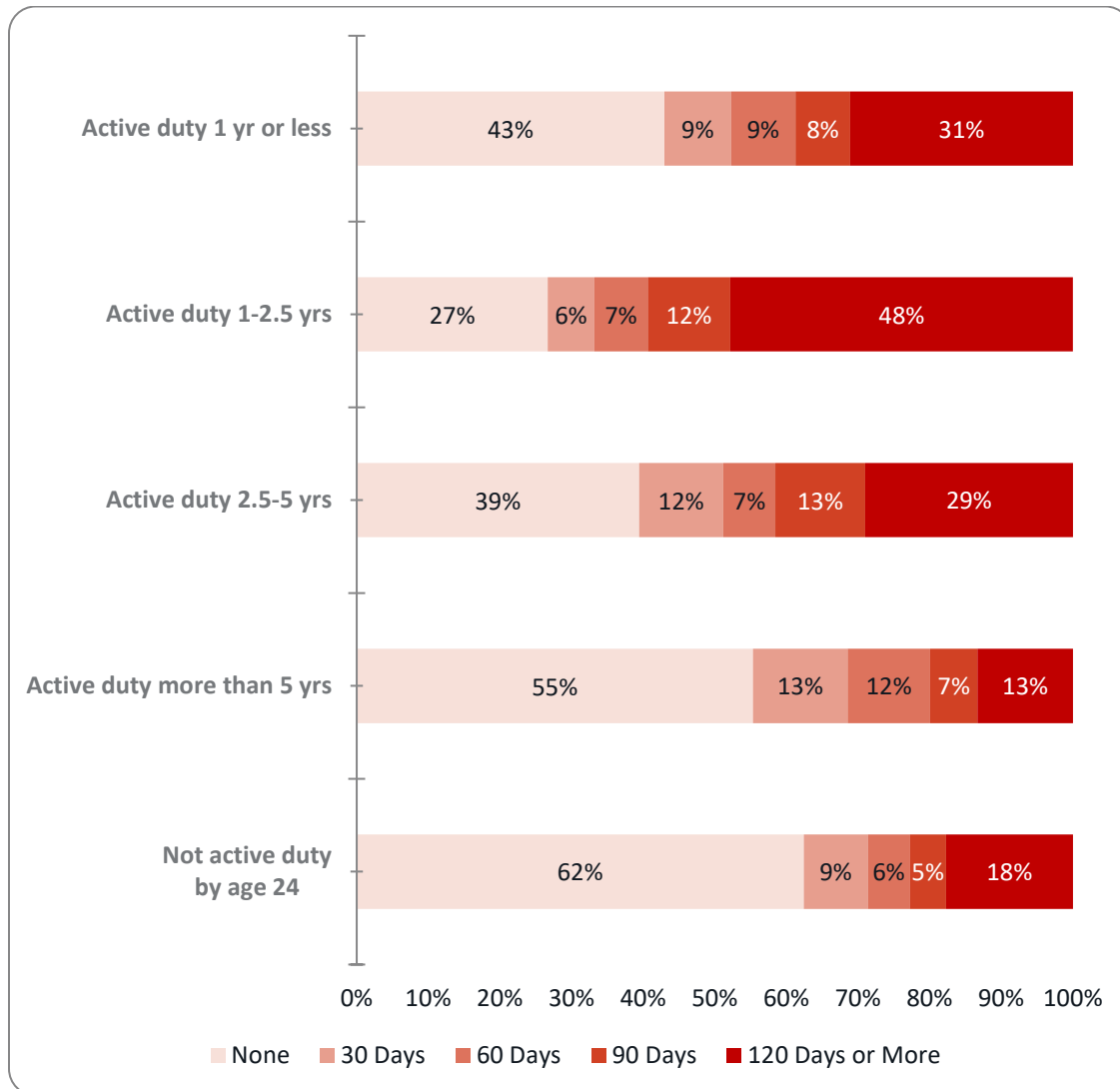
36. By age 24, 48 percent of revolving accountholders in this group have been at least 120 days delinquent. Among those who serve 2.5 to five years, delinquency rates are lower but increase after age 21. Once again, as was true of installment debt, the timing of delinquencies suggests that at least some servicemembers are having trouble managing debt shortly before they leave active duty, while others appear to have problems later.



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24, and who have had a revolving credit account at any time by age 24 (N=225,792).

By age 24, there are stark differences across groups in the severity of delinquency. Figure 39 shows the maximum delinquency ever incurred by consumers who have used revolving credit. On average, servicemembers are more likely than civilians to have been delinquent. But those who served one to 2.5 years have the worst outcomes: just 27 percent have never been delinquent at all, and almost half have a severely derogatory record (120 days or more).

FIGURE 39: MAXIMUM DELINQUENCY EVER INCURRED ON REVOLVING CREDIT ACCOUNT BY AGE 24 AMONG BORROWERS WITH ANY REVOLVING ACCOUNT, BY TIME SPENT IN FIRST PERIOD OF ACTIVE DUTY



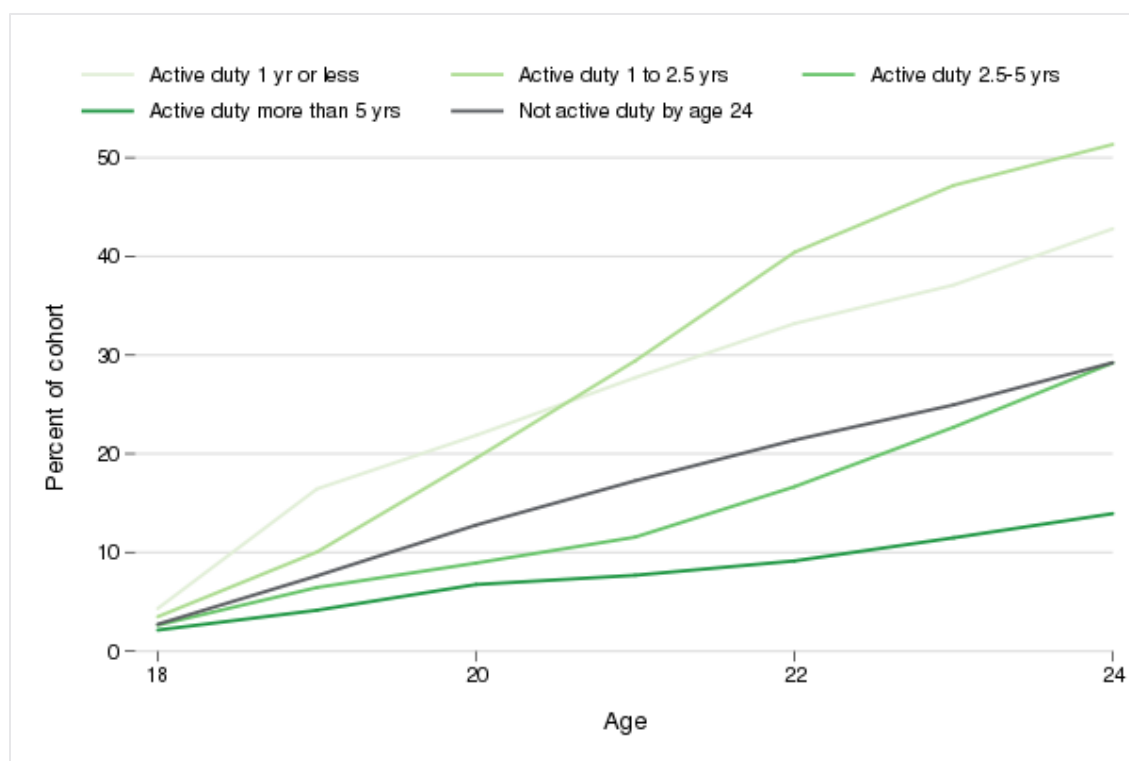
Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24, and who have had a revolving credit account at any time by age 24 (N=226,067).

4.5 Third-Party Collections

The analysis in Section 3 showed that individuals who enter active duty are less likely than civilians to have accounts in collections, but this section shows that these results do not hold for servicemembers who leave active duty early. Figure 40 shows the proportion of each exit cohort with an account in third-party collections. Those who leave service by

the 2.5-year mark are actually more likely than civilians to have an account in collections, at all ages within the observation window. At age 24, more than 50 percent of those who served one to 2.5 years have an account in collections, as well as 43 percent of those who served less than one year. Those who serve for at least five years have lower collections rates than civilians, at 14 percent by age 24.

Servicemembers who leave active duty within 2.5 years are at increased risk of having third-party collections accounts by age 24. They are also more likely to have medical collections debt, even compared to civilians.

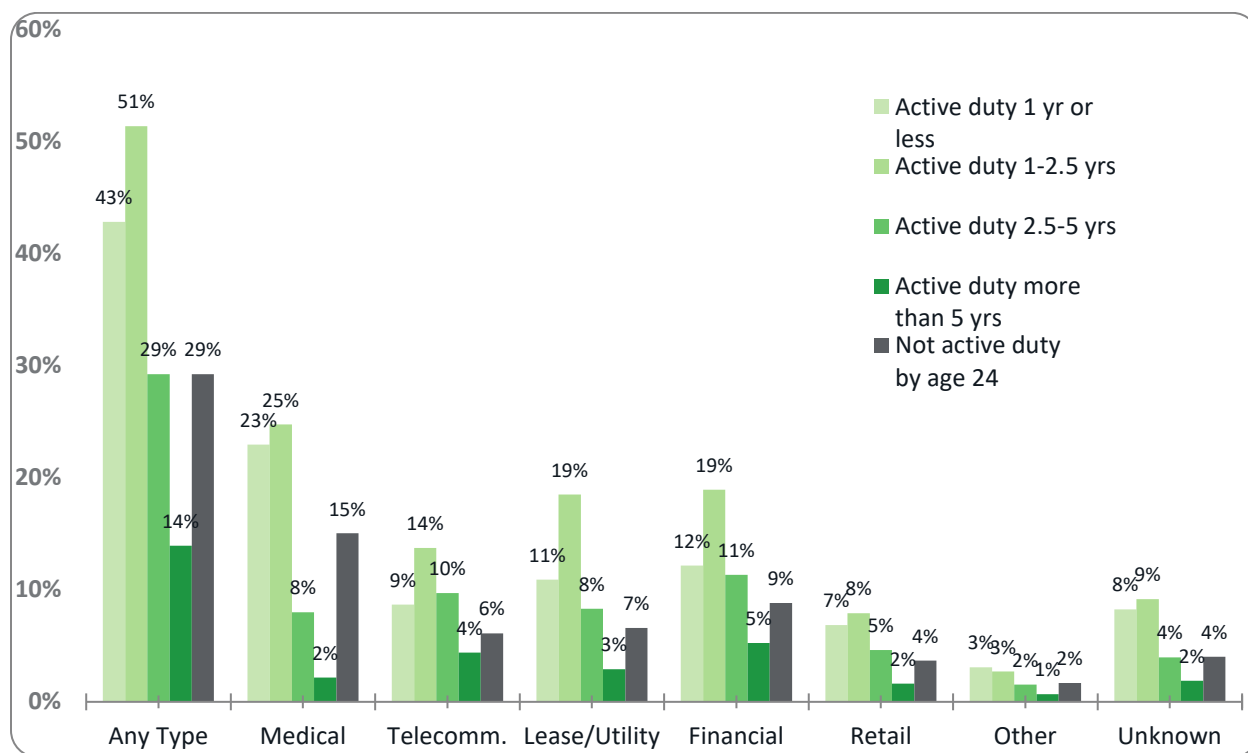


Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

By the end of the observation window, those who left service early also owe more collections debt. *Of those with debt in collections*, 24 year-olds who served less than 12 months owe an average of \$2,100 and those who served 13-30 months owe an average of \$3,200—60 percent more than those who never joined (average: \$2,000) and more than double the balance of those who served at least five years (average: \$1,500).

Figure 41 shows the type of debt in collections at age 24. A stark pattern, in contrast to the analysis of Section 3, is the proportion of borrowers with medical debt: approximately one-quarter of those who serve 2.5 years or less have medical debt in collections, versus just two percent of those who serve at least five years and 15 percent for civilians. In fact, those who served one to 2.5 years are most likely to have *every* type of collections debt. A lease/utility collections account is second-most common, followed by telecommunications accounts (such as cellphone bills) and financial accounts (such as overdrawn checking accounts).

FIGURE 41: THIRD PARTY COLLECTION ACCOUNTS AT AGE 24, BY TYPE OF CREDITOR AND TIME SPENT IN FIRST PERIOD OF ACTIVE DUTY



Source: Author calculations from CFPB's CCP merged to the DoD SCRA database. The sample is limited to individuals who entered active duty by age 19, as well as those who do not enter active duty before age 24.

The total amounts of collections debt are higher among those with medical debt than those without. For example, among those who serve between one and 2.5 years, those with medical

collections have an average of \$2,600 in medical collections and \$1,400 in other collections but those with only non-medical collections have an average of \$2,500 total. It is not clear, however, why so many young veterans who left service early have medical debt in collections at age 24, even compared to civilians. This issue should be investigated further to determine ways to help young veterans avoid such debt.

4.6 Discussion

The analysis based on tenure in active duty highlights a group of borrowers with particularly high rates of debt management problems: those who enlist in the military before age 19 and leave before their first term is over (specifically, within 2.5 years). Among those who leave within 2.5 years, those who leave before versus after one year of service show different temporal patterns of accruing debt and also of developing problems such as delinquencies or collections accounts. Servicemembers with the shortest tenures (less than one year) do not accrue as much debt during their time in service, but they still are among the most likely to have severe derogatory flags on their credit record by age 24. Those who stay longer than one year but leave within 2.5 years do open credit accounts, but there are many people closing these accounts—often due to charge-offs, repossessions, or collections—around the time they exit the military.

It is also clear that servicemembers' credit scores decrease in the six months after they leave the military. Those who leave early may have decreasing credit scores in the months *prior* to exit, as well. It is unclear if debt management problems are causing early separation, or if they are themselves caused by whatever conditions are resulting in separation. A straightforward comparison of debt levels between those who eventually go delinquent and those who do not suggests that extreme amounts of debt are not correlated with eventual difficulty managing that debt. More data would be necessary to fully understand why certain servicemembers and young veterans are running into trouble – and therefore how to help them avoid those problems in advance.

As was true of the analysis in Section 3, this analysis provided some good news mixed with the bad. Most prominently, young enlistees who serve more than five years (possibly reenlisting along the way) have the healthiest credit records by age 24, even better than civilians who never join the military. Given the importance of servicemembers' financial readiness to the overall readiness of the military, it is vital to emphasize this finding: *young enlistees who are retained beyond five years are, collectively, better managing debt by their mid-twenties than civilians who never joined the military.* These servicemembers have the lowest delinquency rates despite having the most installment debt and the highest revolving credit limits, on average. Their creditworthiness is reflected in their credit scores, with more than half of them being prime or

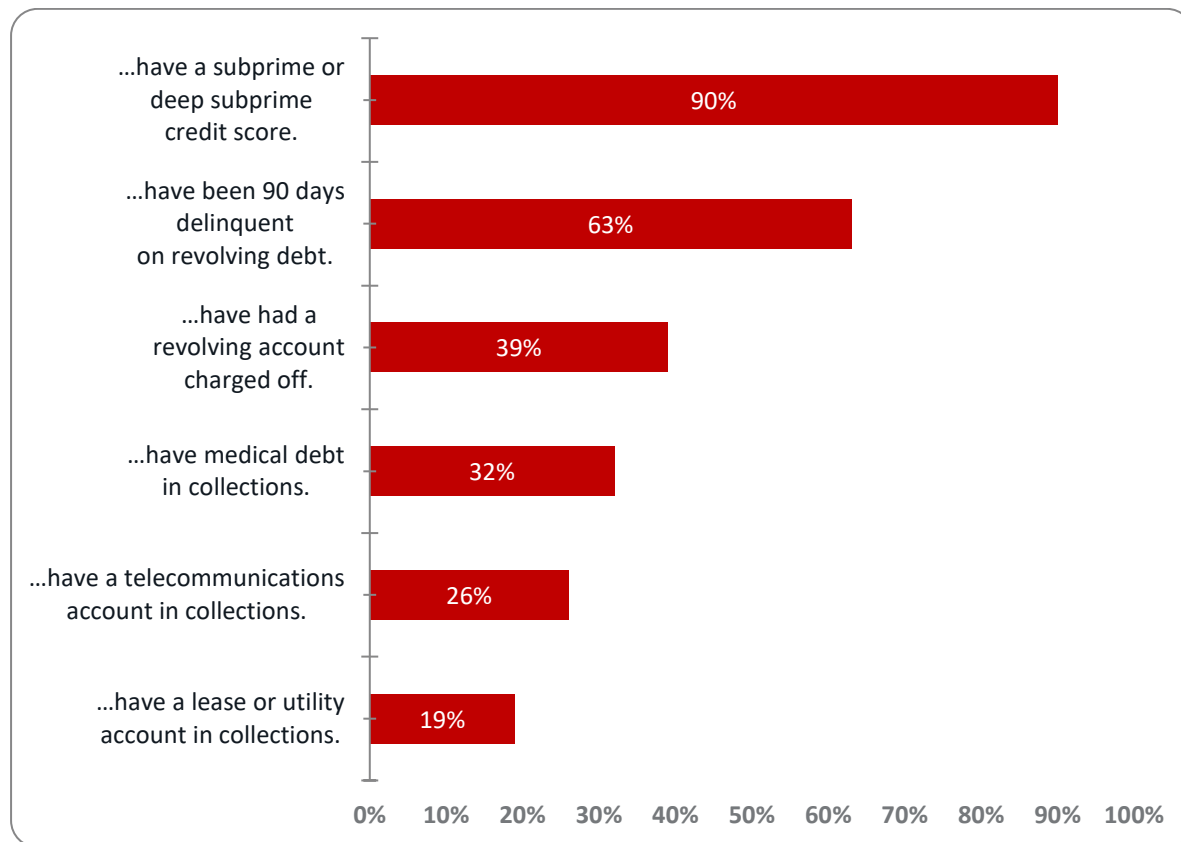
better at age 24. It would be useful to identify the factors behind this group's success to develop policies or educational opportunities that could help their peer groups.

5. Conclusion

This report highlights particular subgroups of the young adult population where debt-management problems are clustered. Individuals who enlist in active duty at the earliest ages (21 or younger) are most likely to have negative flags on their credit record by age 24. Within this population, it is those who leave service earliest (within 2.5 years) who have the highest rate of debt-management problems by their mid-twenties. The good news is that this is a small subset of the population, and those who stay in service longer have even better credit records, on the whole, than their civilian peers. The bad news is that this subgroup has very low average credit scores, even compared to the rest of the population, making it difficult for them to access credit and build wealth as they enter their prime working years.

Understanding the mechanisms behind debt-management issues is particularly important because problems with debt tend to be clustered—people with one red flag (such as a delinquency) tend to have more than one. Figure 42 shows this among the full sample of individuals who ever have a 90-day delinquency on an auto loan. (This sample includes non-servicemembers, but similar results hold if the sample is limited to servicemembers or to those who enlist by age 19.) Nearly two-thirds of these individuals also have had a minor derogatory on some sort of revolving debt by age 24, and nearly two-fifths have had a revolving account charged off. Almost one-third have a medical bill in collections, one-quarter have a telecommunications account in collections, one-quarter have had a major derogatory on revolving debt, and one-fifth have a lease or utility bill in collections. Cumulatively, these red flags result in 90 percent of these consumers having a below-prime credit score. The average credit score of this subsample was 518, compared to 646 for those in the rest of the sample.

FIGURE 42: OF ALL INDIVIDUALS WHO HAVE BEEN 90 DAYS DELINQUENT ON AN AUTO LOAN BY AGE 24, THE FRACTION WHO ALSO...



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. The sample consists of all individuals aged 24 who have been 90 days delinquent on an auto loan (N=7,402).

To develop policies addressing the debt-management problems of young servicemembers and veterans, future could link the causes of those problems to service itself. The analysis here suggests that the causes are more complex than simply taking on a lot of debt. A potentially fruitful avenue for research would examine factors along two different dimensions.

First, *how are decisions regarding debt and credit related to military service?* The analysis showed that servicemembers take on debt just after entering, and their credit scores decline just after exit. But much happens in between: a military career can present difficulties not faced in the civilian workforce. For example, deployments and permanent changes of station (PCS) are stressors on military families and can also affect spousal income. Deployment may change the employment and childcare arrangements of military spouses, which can in turn affect the need for credit. The locations of military installations may affect both access to credit and the relative need for certain types of debt, such as auto loans. Servicemembers also have different patterns

than civilians of marriage and family formation, which can affect the need for credit.⁵⁵ Servicemembers could also have burdensome debt for reasons unrelated to military service per se, including extenuating circumstances that arise during service, credit histories developed prior to service, and financial literacy at the time of entry that may affect financial decisions made during service.

Second, *are debt management problems occurring before or after leaving the military?*

Answering this question can inform a host of other policy-related questions. If servicemembers have trouble managing debt while in service, is that one of the reasons they leave? To what extent could better financial management skills mitigate attrition and improve military readiness? If servicemembers leave for other reasons and run into debt issues after service, why? Is it because their income decreases, or because of other extenuating circumstances (perhaps related to the reason for leaving service)?

Answering these questions is a necessary first step in identifying the most promising policy levers for addressing debt-management problems. Can burdensome debt best be mediated with policies developed at the service or DoD level, at the Federal level through targeted policies or regulations, or after service through programs created for young veterans?

⁵⁵ Kearney, Benjamin R., David S. Loughran, and Michael S. Pollard (2012), "Comparing Marital Status and Divorce Status in Civilian and Military Populations," *Journal of Family Issues*, 33(12):1572-1594; Clever, Molly and David R. Segal (2013), "The Demographics of Military Children and Families," *The Future of Children*, 23(2):13-39.

Appendices

A: Review of Prior Evidence on Servicemembers' Financial Well-Being

Several surveys provide evidence for young servicemembers' financial well-being and financial behavior in the years just after this report's analytic sample joined the military. These studies complement the present analysis by providing insight into individuals' levels of stress or satisfaction regarding their personal finances, as well as financial behaviors such as saving and budgeting – important aspects of personal finance that cannot be analyzed using the data available for this report.

In brief, the surveys paint a nuanced portrait of servicemembers vis-à-vis civilians: servicemembers compare favorably in terms of savings and future planning, but negatively in terms of their interactions with credit instruments. The surveys provide a useful complement to the analysis in this report, providing evidence for savings behavior and financial literacy that cannot be observed in credit records.

The surveys are as follows:

2013 Status of Forces Survey of Active Duty Members (SOFS-A): Every year the Department of Defense fields the Status of Forces Survey for both the active and reserve components of the military. The large-scale survey asks about major aspects of military life, including financial health but also deployments, work-related stress, personal and family relationships, and other topics. The 2013 survey had approximately 17,500 respondents, and is the survey most closely matching the observation window for which results are publicly available.⁵⁶ The SOFS-A is conducted using a probability sample, and responses are weighted to provide population-level estimates,

⁵⁶ Results are summarized in Defense Manpower Data Center Research, Surveys, and Statistics Center, (2016), “Status of Forces Surveys of Active Duty Members (2013 7 2014 SOFA-A): Briefing on Leading Indicators, Military OneSource, Financial Health, Family Life, Access to Technology, Impact of Deployments, and Permanent Changes of Station (PCS) Moves,” available at https://download.militaryonesource.mil/12038/MOS/Reports/SOFS-A_Briefing_20160311.pdf

2012 National Financial Capability Survey (NFCS): The FINRA Investor Education Foundation fields a Military Financial Capability Survey, with the 2012 survey most closely sampling the same population studied in this report.⁵⁷ The survey constituted one arm of the National Financial Capability Survey, with 1,000 respondents from the active, activated Reserve and Guard, and inactive Reserve and Guard components. An additional 301 respondents come from the other arm of the NFCS, a state-by-state survey of the general population.⁵⁸ The survey was designed to approximate the overall military population, but it under-samples servicemembers younger than 25. The NFCS focuses on four topics: ability to make ends meet, planning for the future, managing financial products, and financial literacy. Servicemember results can be compared to the nationwide survey responses in the state-by-state arm of the NFCS, as for example undertaken by Skimmyhorn (2016).⁵⁹

2012 Blue Star Survey: Since 2009, Blue Star Families has fielded an annual Military Family Lifestyle Survey. The 2012 survey asked about financial literacy and financial stress, in addition to a broad variety of other topics that affect military families' well-being and satisfaction with military service.⁶⁰ The 5,125 respondents included active-duty servicemembers, veterans, and family members. Servicemembers under 25 years of age and in paygrades E-1 through E-4 are under-represented in the sample, but women are over-represented.

2014 National Foundation for Credit Counseling (NFCC) Survey: The National Foundation for Credit Counseling fielded a 2014 survey of financial behavior among 267 active duty servicemembers.⁶¹ Responses were weighted so that the sample population matched the demographic characteristics of the active duty population. The survey examined financial literacy, saving and borrowing habits, and sentiments regarding personal financial well-being.

⁵⁷ Results are summarized in FINRA (2012a).

⁵⁸ Results are summarized in FINRA (2012b): FINRA Investor Education Foundation, Financial Education in the United States: Report of Findings from the 2012 National Financial Capability Study, May 2013.

⁵⁹ Skimmyhorn (2016): Skimmyhorn, William L. 2016. "Comparing military and civilian household finances: Descriptive evidence from recent surveys," *Journal of Consumer Affairs* 50(2):471-483, Summer.

⁶⁰ Greentree, et al. (2013): Greentree, Vivian, Debbie Bradbard, Leah Dagher, Kathleen Levingston, Cammy Elquist Lore, and Jennifer A. Taylor. 2013. *Blue Star Families 2013 Military Family Lifestyle Survey: Comprehensive Report*. Note that the survey was conducted in late 2012.

⁶¹ Harris Poll (2014): Harris Poll. 2014. "A Survey about Financial Literacy Among the U.S. Military," report prepared for the National Foundation for Credit Counseling. A larger survey with over 1,000 respondents was fielded in 2019, but the survey population does not align with the population studied in this report; see Harris Poll (2019), "Military Finances Survey: Research Report," report prepared for the National Foundation for Credit Counseling and Wells Fargo, May 8.

The findings from these surveys are discussed below.

Survey Evidence of Savings Behavior, Future Planning, and Financial Literacy

The surveys collectively indicate that, overall, servicemembers' financial well-being is comparable to or better than similar civilians' financial well-being. Junior enlisted servicemembers are more financially vulnerable than servicemembers in higher paygrades, but they are still largely better-off than similarly-aged civilians on many measures of financial well-being.

In particular, the surveys conclude that servicemembers are better-off than the overall US adult population in terms of having a budget, paying all bills on time, and saving for retirement. Junior enlisted servicemembers outperform comparable civilian groups in terms of emergency savings, retirement savings, and non-retirement investments.⁶² According to the 2013 SOFS-A, junior enlisted servicemembers contribute to the military's Thrift Savings Plan at comparable rates to senior enlisted and junior officers.

There are some pitfalls, however. For example, the rate of overdrafts on checking accounts is larger among junior enlisted servicemembers than among comparable civilian groups. Junior enlisted servicemembers may also report having less stable financial situations. In the 2013 SOFS-A, for example, 59 percent of those in paygrades E-1-E-4 reported a "comfortable" financial situation, compared to 65 percent of senior enlisted respondents and almost 90 percent of officers.

In terms of financial literacy, junior enlisted servicemembers perform worse than other servicemembers but are similar to comparable civilian groups. Comparing self-assessments to actual performance on a battery of questions, servicemember and civilian respondents alike exhibit over-confidence in financial ability.

Survey Evidence of Debt and Credit-Related Behaviors

Although servicemembers compare positively to civilians in terms of savings behavior, there is evidence that they do not handle debt instruments as well as civilians, especially among junior enlisted servicemembers. Although they are less likely than other servicemembers to have debt,

⁶² "Comparable groups" refer to a comparison between the servicemember and civilian arms of the NFCS. "Junior enlisted" refers to paygrades E1-E4, while the comparison groups are either civilians under age 34, civilians without a college degree, or civilians earning less than \$75,000 per year, depending on how the results are reported. See Skimmyhorn (2016) for a similar approach to comparing between the two arms.

junior enlisted are more likely to have adverse outcomes associated with debt. Further, higher proportions of junior enlisted servicemembers have adverse outcomes and debt-related stress compared to civilian peers. In the 2013 SOFS-A, for example, 24 percent of junior enlisted servicemembers reported at least one of 10 different financial problems in the past 12 months, compared to 21 percent of senior enlisted and just 6 percent of officers. (This was, however, much lower than the corresponding fraction in surveys prior to 2009.)

Auto debt appears to be a source of financial stress for servicemembers relative to civilians. For servicemember respondents to the NFCS, having an auto loan was the second-strongest predictor of a servicemember feeling that they have too much debt (behind carrying a credit card balance). And, indeed, the NFCS finds that most servicemembers (63 percent) have an auto loan, compared to 31 percent of the civilian NFCS sample. The results in Section 3 of this report affirm this gap in auto loan debt, with over 50 percent of new servicemembers taking out auto loans soon after joining the service, compared to 30 percent of non-servicemembers who have an auto loan by age 24.

Considering mortgages, young servicemembers are less likely than older servicemembers to own a home, but more likely to have problems with the investment. According to the NFCS, 36 percent of young junior enlisted servicemembers (paygrades E-1-E-4) owned a home at the time of the survey, but 52 percent of homeowners were underwater and 39 percent have had a late payment at least once. By comparison, 48 percent of all servicemembers owned a home and 38 percent of homeowners are underwater. With respect to the civilian sample, 35 percent of those under the age of 34 owned a home but only 29 percent of homeowners had been late with a mortgage payment. Only 25 percent of homeowners aged 18-34 and just 12 percent of homeowners earning less than \$25,000 reported being underwater. The Blue Star Families survey tabulated 19 percent of servicemember homeowners as being underwater, which compares favorably with one nationwide estimate of 31 percent, based on online data from around the time the survey took place.⁶³ Although underwater mortgages cannot be observed in the CCP, this report showed fewer than 10 percent of young servicemembers own a home by age 24, with very few having incurred a delinquency.

The consensus from the surveys points to credit card debt as the single biggest pitfall for servicemembers as a whole. The NFCS study concluded that, compared to the national average, servicemembers are more likely to have credit card debt and to engage in costly behaviors such

⁶³ Florida, Richard (2012), “The Geography of Underwater Homes,” blog post for *CityLab*, August 23, available at <https://www.citylab.com/equity/2012/08/geography-underwater-homes/3034/>. Another report using the same data stated 48% of homeowners under age 40 were underwater at the time: Les Christie, “Half of mortgage borrowers under 40 are underwater,” CNN Money, August 23, 2012, available at https://money.cnn.com/2012/08/23/real_estate/underwater-mortgage-borrowers/index.html.

as transferring balances or missing payments. The NFCS study found that junior enlisted servicemembers were less likely than other servicemembers to use credit cards but were more likely to engage in these costly behaviors if they had a card. In addition, carrying a credit card balance was the single biggest predictor that a servicemember felt overburdened by debt. (By contrast, credit card debt was the second-biggest predictor for civilians, behind medical debt.) Compared to civilians, junior enlisted servicemembers were slightly more likely to engage in costly behaviors.

Survey Evidence of Personal Satisfaction with Financial Security

Individuals' sense of financial security can help shed light on whether and how they believe they could improve their current situation, regardless of whether their current situation compares favorably with others'. In this domain, the surveys generally find that finances are a source of stress for servicemembers.

The Blue Star Families survey found that 65 percent of respondents felt stress related to their financial situation, although the numbers are not disaggregated by paygrade. The NFCS found similar results, with 66 percent reporting dissatisfaction or neutral feelings towards their personal financial situation, as opposed to being satisfied (again, results are not disaggregated by paygrade). The NFCS survey showed 77 percent with at least some financial worry, more than the US population as a whole.

B: Data Appendix

This section describes the steps used to create the analytic dataset and benchmarks the data against publicly available statistics to determine its representativeness.

Data Construction

This section outlines the steps used to build the dataset on young servicemembers and comparable civilians using the CFPB's Consumer Credit Panel. Where possible the sample was constructed using the same procedures as in previous CFPB reports.

The first step was to identify the relevant set of individual consumers from the set of all credit records. In the data, there are a number of fragment records which are typically thin files, sometimes with just inquiries and no tradelines, and often with no birthyear information. Although these records are originally part of the 1-in-48 sample, they are often later identified as belonging to another record in the sample. Accordingly, known fragment files were merged to their parent records by reassigning the random number to that of the parent.

Second, the sample was limited to individuals born in the years 1989 through 1994. To identify the correct subsample, birthyears were backfilled in cases when birthyear was initially unknown. Credit records were kept so long as birthyear was known by the time the individual turned 24.

Third, account-level information was collected for the resulting set of consumers. This information covers credit accounts, third-party collections accounts, and public records reported on a quarterly basis. Unique accounts were identified by a combination of consumer ID, company ID, account number, loan type, and opening date. This information was merged to credit score data to gather all available non-inquiry-related credit record information about each person.

After aggregating tradeline data, consumers were dropped if they were revealed to have thin files or after they became deceased. In the case of thin files, these were consumers who entered the CCP prior to turning 24, but their tradeline information revealed they did not have credit accounts or public records prior to that age, and therefore do not meet the definition of "credit visible." In the case of deceased consumers, the NCRA flags records for which they believe the individual has passed away. However, the indicator variable may not agree at all times across all credit record fragments belonging to the same consumer. A consumer was denoted as deceased if all respective fragments report them as deceased and if no future credit record fragment reports them as alive. Observations were dropped after the date they become deceased.

Account balances are generally reported with each quarterly update of the CCP, but sometimes accounts are first reported several months after they were originated. For example, a mortgage may first show up in the CCP in one quarter, although the origination date for the loan was two quarters prior to that observation. When information was not available for a given quarter, the most-recently reported information was used to populate payment status, account status, and credit limit (for revolving accounts). When not reported during a quarter, balance information for installment accounts was populated as follows: the balance at origination was assumed to be the original loan amount, and subsequent balances were calculated as a linear interpolation between the most-recent reported balance and the next reported balance. This interpolation was primarily meant to smooth large changes in balances due to accounts going unreported for long periods. In 90 percent of cases the interpolation resulted in no change, as the balance was the same from one reported quarter to the next. The average interpolated quarterly change in account balances was -\$31 (-\$136 conditional on being non-zero).

The account-level information was aggregated by account type for each consumer to produce a quarterly consumer panel. In addition, certain information was calculated on a rolling or cumulative basis, such as ever having used a revolving credit account in the previous year or ever having a delinquency or repossession. Because payment histories stay on a credit record for seven years, there was no need to control for derogatory flags leaving a consumer's credit record during the observation window. When consumers had no account information they were assigned zeros for that account type, so that each consumer's panel begins at age 18.

Finally, the CCP data was merged to dates of active duty provided by the NCRA from the DoD's SCRA database. Consumers are matched to military service records based on any two of four possible pieces of information provided by the NCRA: social security number, date of birth, first name, and last name. Of the individuals in the CCP panel generated above, 99.94 percent were successfully matched to the SCRA database. There were 119 unmatched individuals that were dropped from the sample because they did not match. There were also some credit records for which a match was not attempted because they were not in the CCP at the time the match was performed: these are primarily transitory records that were in the CCP for at most a few years (average: eight quarters) before disappearing, despite not having been consolidated into another credit record. These are most likely fragments (82 percent of them never have a tradeline or a credit score). These transitory fragments contain credit records amounting to 10 percent of the total sample. Based on prior CFPB research there is no reason to believe dropping these fragment records affects the sample's representativeness.⁶⁴

⁶⁴ See "Credit Invisibles," p. 28 for a similar discussion of dropping transitory files.

Data Validation

This section confirms that the percentage of those who joined the military in the sample is roughly similar to the percentage of the U.S. population who are known to have joined the military. This analysis serves two purposes. First, it helps to confirm that the credit sample is a 1-in-48 sample of credit records. Second, it shows that those in the military do not appear to have different likelihoods of being credit visible by age 24 (as explained in 2.1.4) relative to the civilian population. If a higher proportion of the sample is in the military than the U.S. population, it would suggest that either the sample is not representative or that servicemembers are visible at higher rates than civilians by age 24 (and vice-versa if a lower proportion of the sample is in the military).

The overall accession rate for each birthyear cohort by age 24 can be calculated using the tables in ASD(P&R) (2006-2017). The overall population of each birthyear cohort at age 17 was calculated by summing the civilian population of 17 year-olds and the number of enlisted accessions of 17 year-olds. Then, a rolling tabulation of accessions by birthyear is created by adding the count of individuals who eventually join full-time active duty at successive ages in successive fiscal years, through the year when the birthyear cohort would have turned 23.⁶⁵ Because officer gains include some officers that transfer from other components or from enlisted paygrades, lower and upper bounds on the total number of new servicemembers must be estimated. The upper bound assumes that all officer gains are new servicemembers, and the lower bound assumes that only those officers from the service academies or ROTC are new servicemembers.

These tabulations yield estimates of the fraction of both the overall population and the sample that join active duty before age 24. If servicemembers become credit visible at higher rates than civilians, they should be over-represented in the sample relative to the population (and vice-versa).

Table 3 shows the estimates. The comparisons are necessarily inexact, because the population-wide calculations are based on fiscal year of accession and the CCP sample data are based on calendar year of birth. Nevertheless, the table suggests that servicemembers are represented in the sample in roughly the same proportions as would be predicted by a population-wide random sample. This indicates that young servicemembers' credit visibility rate at age 24 is roughly on par with that of civilians.

⁶⁵ For this calculation birthyears serve as an approximation for fiscal years. For example if a birthyear cohort turned 23 in 2013 then this is compared to the number of 23 year-old accessions in FY 2013.

TABLE 3: FRACTION OF POPULATION AND SAMPLE JOINING ACTIVE DUTY BEFORE AGE 24

Birthyear	1989	1990	1991	1992	1989-1992
Percent of US Population (Upper bound)	3.59	3.39	3.22	3.15	3.34
Percent of US Population (Lower bound)	3.56	3.35	3.19	3.11	3.30
Percent of Sample	3.85	3.78	3.51	3.22	3.60

Note: US population calculations are based on data from ASD(P&R) (2006-2017). The upper bound estimates include all officer gains as new servicemembers, and the lower bound estimates include only officer gains from the service academies and ROTC. Sample calculations are based on CFPB's CCP merged to the DoD SCRA database.

Based on Table 3, the invisibility rate at age 24 is at least as high for those who have entered active duty as for those who have not. As a benchmark, the previous report “Credit Invisibles” found that between 10 percent and 20 percent of individuals aged 24 are credit invisible.⁶⁶

To assess how well the matched SCRA/CCP data reflects the general population of servicemembers, it is possible to compare the data to publicly available accession and attrition data. The CCP data is a representative sample of credit visible consumers, but the credit visible population is not necessarily a representative subset of the general population. Nevertheless, given that Table 3 showed the fraction of servicemembers in the sample closely matches the fraction in the general population, the sample statistics should not deviate much from population statistics.

Table 4 shows the breakdown of the active duty sample by service branch and age at entry. Each row shows the disaggregation of servicemembers by age group into the five service branches. Population statistics are calculated as averages over fiscal years 2007 through 2015, when this sample would have been joining the military. The sample-wide averages are close to the true proportion of servicemembers ages 21 and under who entered each service during the observation window. For entrants ages 22 and 23, the sample has relatively more Army and Air Force entrants and fewer Navy entrants than in the overall population.

TABLE 4: DISTRIBUTION OF ACTIVE DUTY ENTRANTS ACROSS SERVICES, BY ENTRY COHORT

	Army	Air Force	Navy	Marine Corps	Coast Guard
Population	35%	17%	22%	26%	1%

⁶⁶ Figure 1, Panel (A) of “Becoming Credit Visible” shows that 20.2 percent of individuals ages 20 through 24 are invisible, and 8.9 percent of individuals 25 through 29. These provide upper and lower bounds on the invisibility rate at age 24.

		Army	Air Force	Navy	Marine Corps	Coast Guard
Join by 19	Sample	34%	18%	21%	26%	2%
Join at 20 or 21	Population	39%	20%	24%	15%	2%
	Sample	41%	19%	22%	17%	1%
Join at 22 or 23	Population	37%	19%	33%	10%	1%
	Sample	41%	23%	24%	11%	2%

Source: Author calculations from CFPB's CCP merged to the DoD SCRA database for the Sample percentages and from ASD(P&R) (2007-2015) for the Population percentages. Each row sums to 100 percent (except possibly due to rounding).

It is also informative to compare length of service against available population-level statistics. Table 5 shows the overall attrition rate by service branch, for those enlisting by the age of 21. (Attrition rates vary for enlistees and officers. Because the older entrants could not be identified as one or the other, they were omitted from this tabulation.) The comparison rates for DoD service branches come from Marrone (2020), which combines all enlisted accessions in fiscal years 2008 through 2013. There are some differences in attrition rates between older and younger enlistees (see, for example, Rostker, Klerman, and Zander-Cotugno [2014]) but these are the best-available statistics for enlisted retention during the time period studied here. The Coast Guard is dropped from this calculation because the sample size was too small.

The table suggests that in most services, those serving one year or less are underrepresented in the sample and those serving more than 3 years are overrepresented. It is not possible to determine why the sample differs from the population, but if servicemembers who leave within one year do not establish credit records before leaving, it is possible that they remain credit invisible at higher rates than other servicemembers and will be underrepresented in the sample.

TABLE 5: LENGTH OF FIRST TERM OF SERVICE AMONG ENLISTEES AGE 21 OR YOUNGER, BY SERVICE BRANCH

		12 months or fewer	13-36 months	37 months or more
Army	Population	14.7%	14.6%	70.7%
	Sample	10.4%*	18.0%*	71.6%
Air Force	Population	12.1%	10.6%	77.3%
	Sample	7.6%*	11.2%	81.2%*
Navy	Population	11.7%	11.5%	76.8%
	Sample	7.8%*	11.2%	81.2%*
Marine Corps	Population	10.2%	7.9%	81.9%
	Sample	5.9%*	8.4%	85.7%*

Source: Sample calculations are from CFPB's CCP merged to the DoD SCRA database, using individuals who entered active duty at age 21 or younger. Population statistics are from Marrone (2020), Table B.2 and are calculated from the population of all enlisted accessions in fiscal years 2008 through 2013. Asterisks (*) indicate that the sample statistics is statistically significantly different from the population statistic at the 5 percent level.

C: Robustness Checks

This section provides a disaggregated analysis of certain outcomes based on birthyear and service branch.

Selected Outcomes by Birthyear

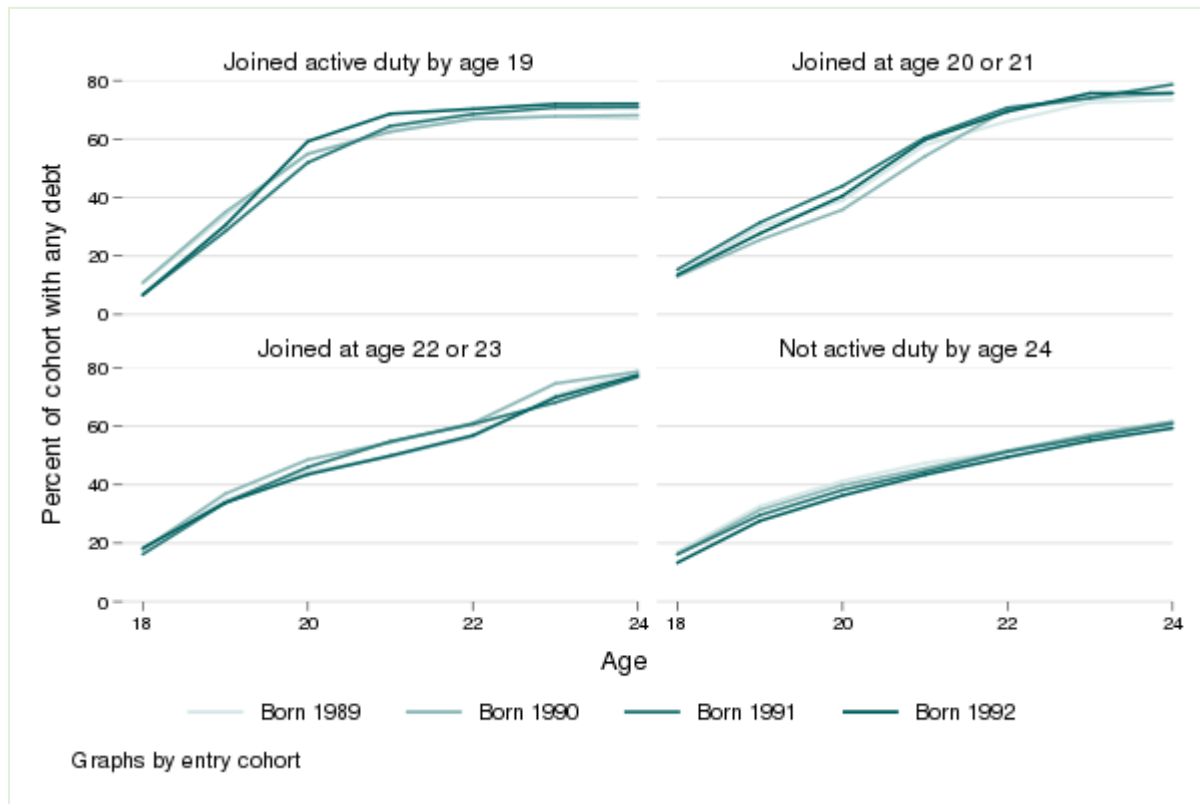
This section shows the extent to which several key outcomes vary by birthyear. Birthyear matters more for older entrants and for civilians than for those who enter active duty by age 21. There are two main reasons that outcomes could differ by birthyear. First, the Great Recession could have differentially impacted individuals depending on whether they turned 18 in the early years of the recession (2007 or 2008, i.e. born in 1989 or 1990) versus the later years (2009 or 2010, i.e. born in 1991 or 1992). Credit access was falling rapidly from the fourth quarter of 2007 through 2009.⁶⁷ Second, the Credit Card Accountability Responsibility and Disclosure Act (CARD Act) of 2009 resulted in new restrictions in credit markets, particularly applying to borrowers under age 21.⁶⁸

On average, entry cohorts do not differ much in the fraction of consumers with installment debt (Figure 43) or in average installment debt levels (Figure 44).

⁶⁷ Dvorkin, Maximiliano A. and Hannah G. Shell (2016), “Bank Lending During Recessions: Economic Synopsis,” Federal Reserve Bank of St. Louis. <https://research.stlouisfed.org/publications/economic-synopses/2016/02/05/bank-lending-during-recessions/>.

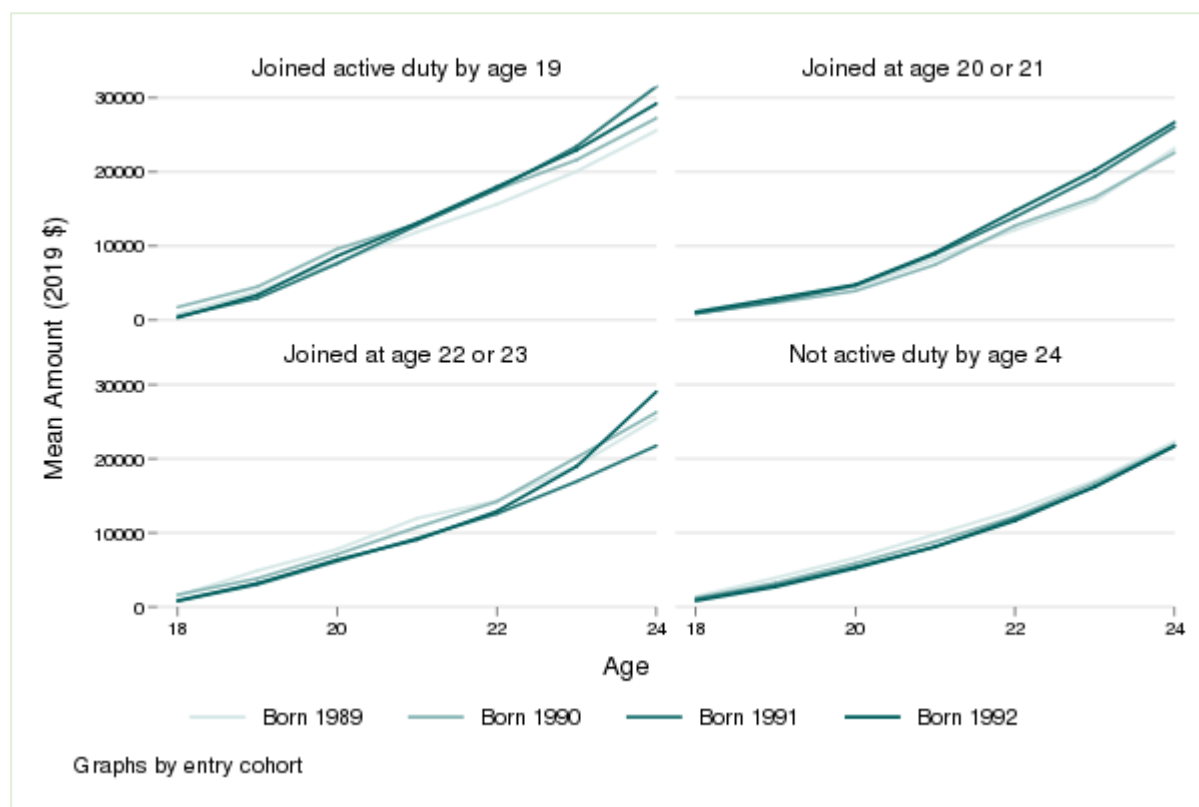
⁶⁸ For more details on the CARD Act and its effects, see CFPB (2013), “CARD Act Report: A review of the impact of the CARD Act on the consumer credit market,” research report, October 1, hereinafter referred to as “CARD Act Report.”

FIGURE 43: FRACTION OF CONSUMERS WITH ANY INSTALLMENT DEBT, BY ENTRY COHORT AND BIRTHYEAR



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database.

FIGURE 44: AVERAGE INSTALLMENT DEBT BALANCE, BY ENTRY COHORT AND BIRTHYEAR

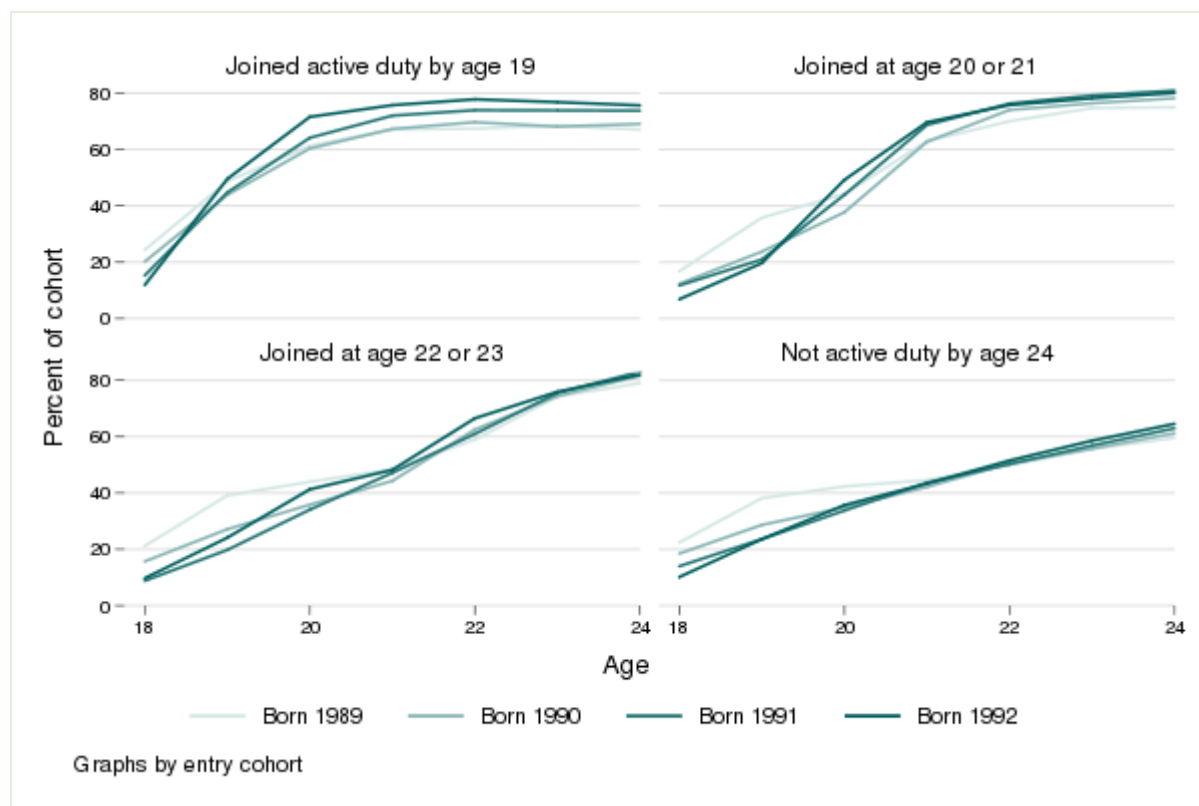


Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database.

There is a bit more dispersion in revolving credit account ownership (Figure 45), mainly among the servicemember cohorts and younger civilians. In theory, the CARD Act would have differentially impacted those born in 1989 versus 1992 by imposing stricter standards on borrowers under age 21. Comparing these two birthyear cohorts, consumers born in 1989 have higher revolving account ownership rates in the entry cohorts that were not in service prior to age 20. The gap in ownership closes or reverse at age 21. In the 19-and-under servicemember group, the gap is present at age 18 but closes at age 19 and then reverses by age 20. The gap at age 18 for all entry cohorts combined is 12 percentage points.⁶⁹ This is a statistically significant difference in each cohort, but the gap closes to 6.3 percent by age 20, and is completely eliminated for civilians by age 21.

⁶⁹ Compare this statistic to “CARD Act Report,” Figure 19, which finds an 8.5 percentage point decline in the fraction of 18-20 year-olds with a credit card between 2009 and 2012.

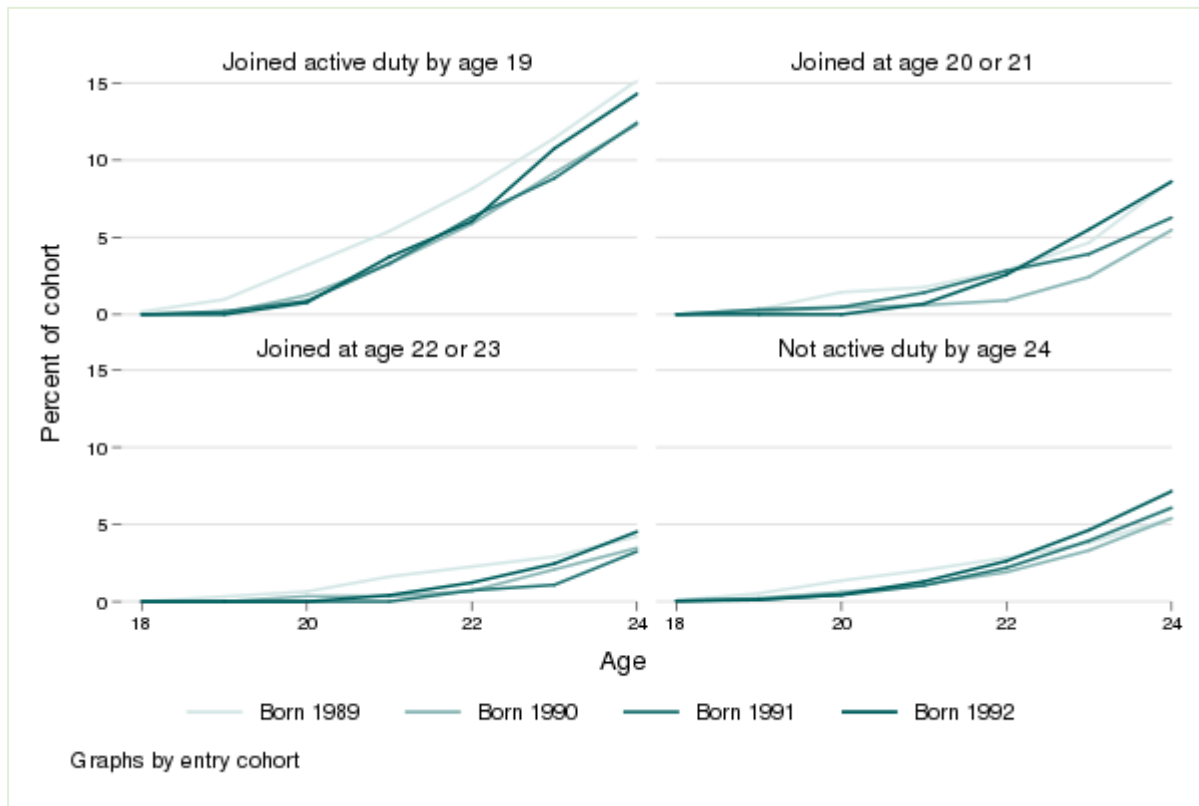
FIGURE 45: FRACTION OF CONSUMERS WITH ANY REVOLVING CREDIT ACCOUNT, BY BIRTHYEAR COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database.

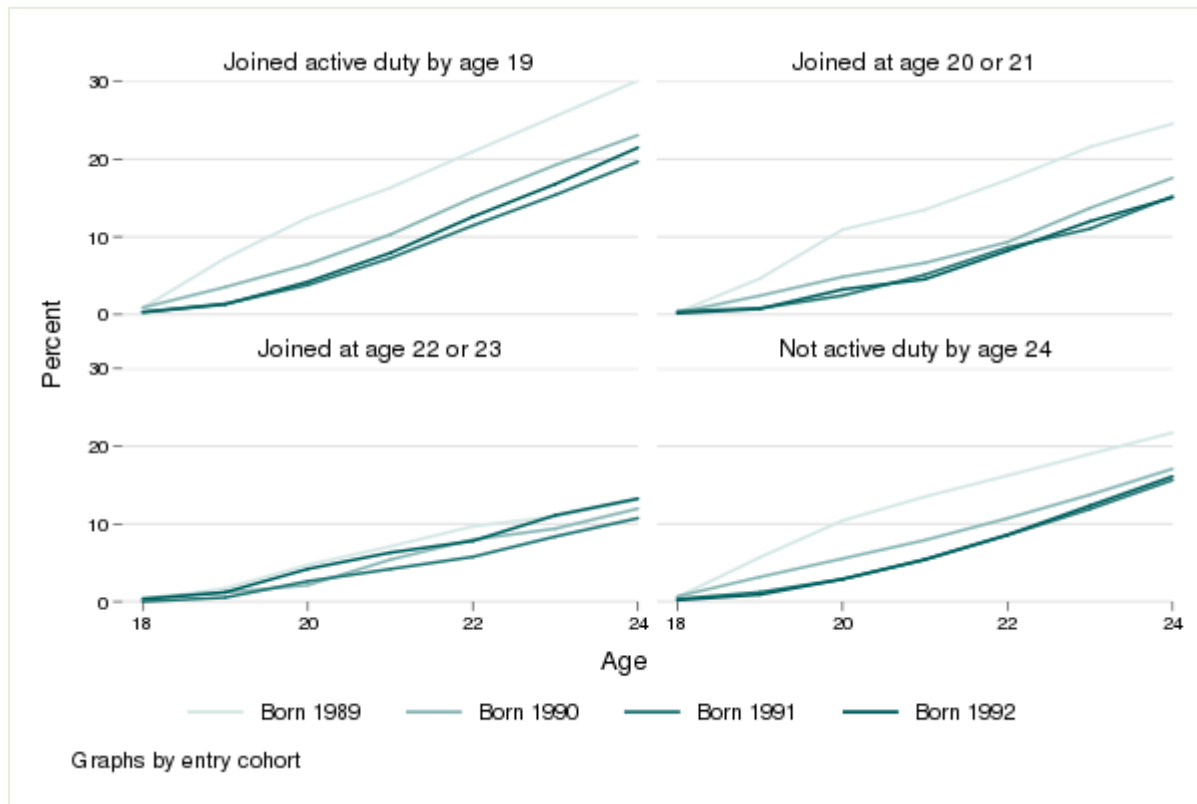
There are some differences in delinquency rates that develop by age 24. For 90-day delinquencies on auto loans (Figure 46) these differences are not monotonic by birthyear, and the overall qualitative patterns are the same for each birthyear cohort. For 120-day delinquencies on revolving debt (Figure 47) the borrowers born in 1989 have the highest delinquency rates, most pronounced among the two enlisted cohorts and civilians. Given that this group turned 18 in 2007, it is possible that their higher delinquency rates is partly attributable to effects of the Great Recession. It could also be partly due to the fact they were more likely to have revolving credit at younger ages (Figure 45), although it is not possible to verify either story.

FIGURE 46: FRACTION OF AUTO DEBT HOLDERS HAVING BEEN 90 DAYS DELINQUENT ON AUTO LOAN, BY ENTRY COHORT AND BIRTHYEAR



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all individuals who had an auto loan at any time by age 24 (N=117,849).

FIGURE 47: CONSUMERS WITH REVOLVING CREDIT HAVING BEEN 120 DAYS DELINQUENT, BY BIRTHYEAR COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all individuals who ever had a revolving credit account at any time by age 24 (N=230,707).

Table 6 shows the disaggregation of the exit cohorts analyzed in Section 4. Different cohorts of servicemembers also serve for different lengths of time. These differences can be caused by a variety of factors, including broader macroeconomic effects that influence the attractiveness of civilian jobs, and military-specific factors such as differences in deployment, combat exposure, and use of retention bonuses that are more or less likely to keep servicemembers in active duty for longer periods of time.

TABLE 6: EXIT COHORTS BY BIRTHYEAR, AMONG THOSE WHO ENTER BY AGE 19

Birthyear	Leave within one year	Leave in one to 2.5 years	Leave in 2.5 to five years	Stay at least five years
1989	15.0%	10.1%	32.1%	42.8%
1990	15.2%	8.1%	37.0%	39.8%
1991	12.1%	8.1%	37.1%	42.6%
1992	8.1%	8.7%	39.9%	43.4%

Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all servicemembers analyzed in Section 4, i.e. those who entered active duty by age 19 (N=5,565). Rows sum to 100 percent, except possibly due to rounding.

Selected Outcomes by Service Branch

Table 5 showed that length of service varies by service branch. Given the association in Section 4 of creditworthiness with length of service, it is possible that the outcomes analyzed in this report also vary by service branch. There are other reasons to expect that outcomes might depend on service branch. The characteristics of servicemembers at the time of entry vary by service, and servicemembers' experiences also differ by service branch. For example, differences in geographic location could make certain types of credit more or less desirable, which could create correlations between service branch and debt profile.

In the graphs below, those who enter the military are grouped by the service branch they enter first. Due to small sample sizes, service branches are not analyzed separately by entry or exit cohort. For the same reason, the Coast Guard is excluded from the analyses below.

Table 7 shows that servicemembers in different branches are largely similar in the types of accounts they opened during the observation window. Nearly every servicemember had some installment debt and some revolving credit account at some point between ages 18 and 24. Those in the Army were least likely to have a credit card, but most likely to have another revolving account; those in the Marine Corps were least likely to have a student loan; those in the Air Force were least likely to have a personal loan.

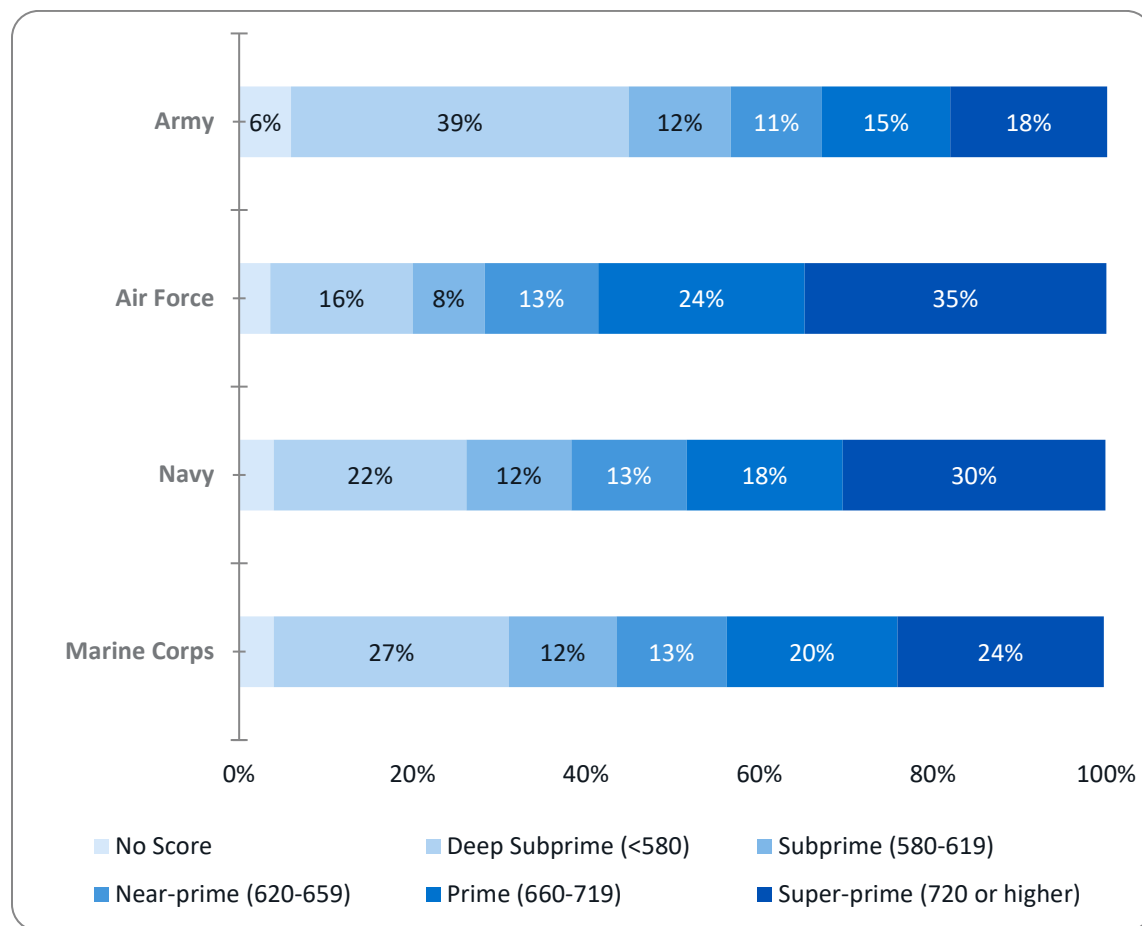
TABLE 7: CONSUMERS WHO HAD PARTICULAR ACCOUNTS BETWEEN AGES 18 AND 24, BY ACCOUNT TYPE AND SERVICE BRANCH

	Army	Air Force	Navy	Marine Corps
Any installment loan	90%	90%	90%	90%
Auto loan	73%	75%	74%	77%
Student loan	28%	27%	26%	19%
Mortgage	8%	9%	7%	8%
Personal loan	43%	34%	48%	49%
Any revolving credit	88%	93%	95%	93%
Credit card	69%	81%	92%	85%
Retail card	64%	67%	58%	63%
Other revolving	41%	37%	21%	22%

Source: Author calculations from CFPB's CCP merged to DoD's SCRA data. Sample consists of all individuals who entered full-time active duty prior to age 24 (N=10,647).

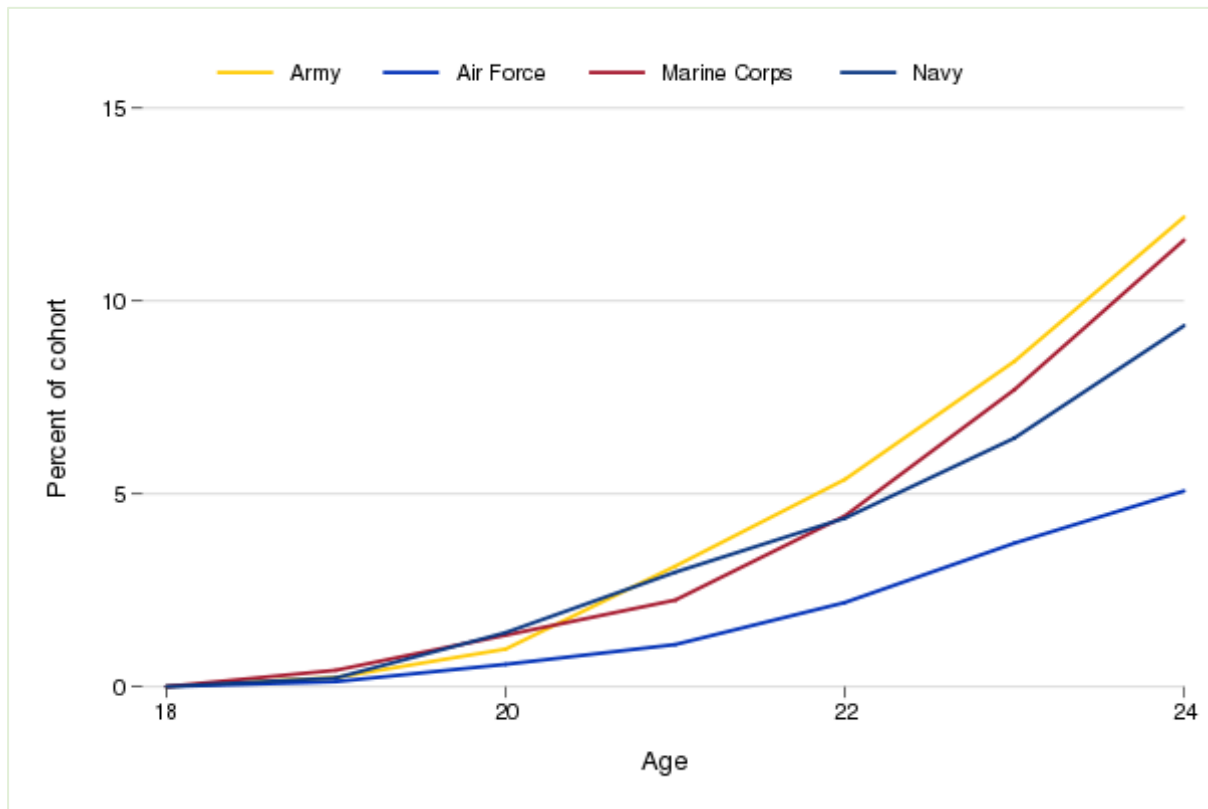
Figure 48 shows that by age 24 individuals who joined Air Force have the best credit scores, with 35 percent super-prime and 16 percent deep subprime, followed by the Navy, Marine Corps, then Army. This pattern is reiterated in Figures 49 through 51, which reveal that those who join the Air Force have the lowest delinquency rates and are least likely to have collections accounts by age 24; those who join the Army are most likely to have gone delinquent and to have collections accounts. Given that a borrower has any debt in collections, servicemembers in the Air Force had the lowest amount and in the Army the most. Roughly one-third of collections debtors in each service branch had medical debt; those in the Army were more likely than those in other service branches to have a lease or utility bill in collections, as well as a telecommunications account.

FIGURE 48: CREDIT SCORES AT AGE 24, BY SERVICE BRANCH



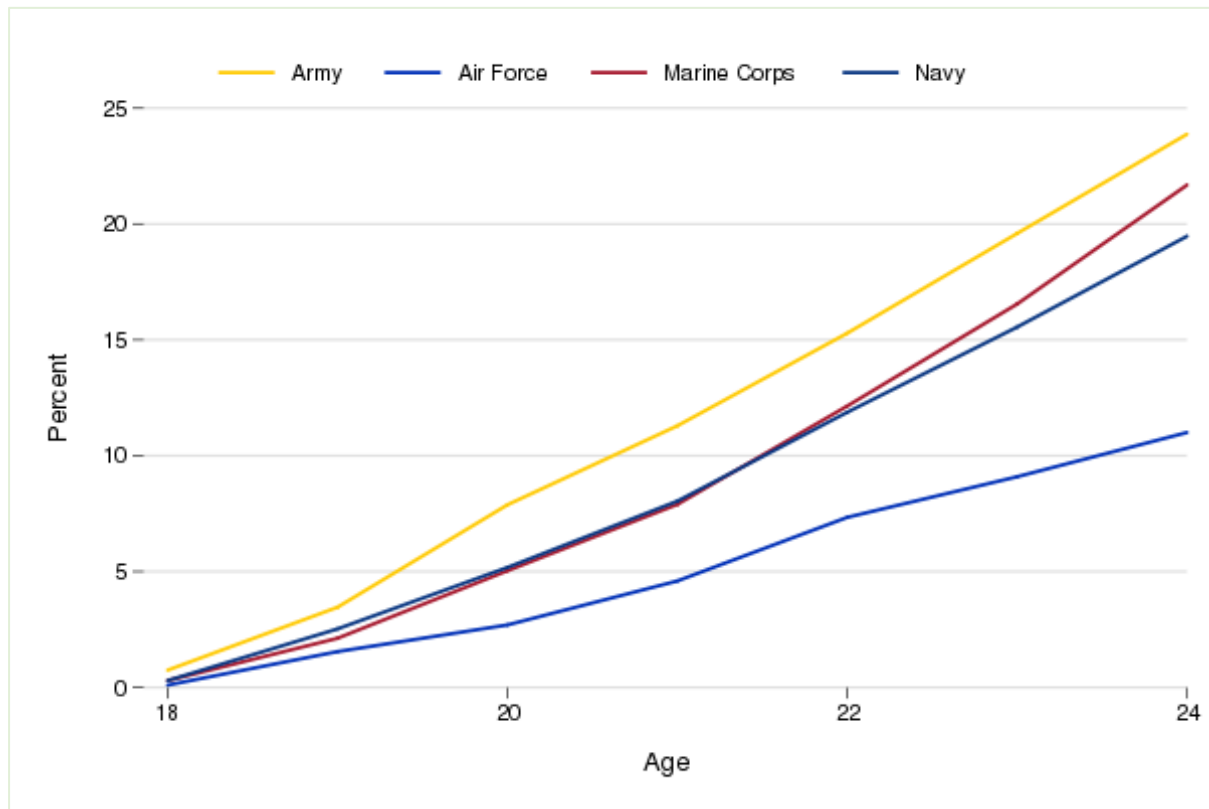
Source: Author's calculations from CFPB's CCP merged to the DoD SCRA database. Segments without data labels represent less than 5 percent of the respective service branch.

FIGURE 49: AUTO LOAN HOLDERS HAVING BEEN AT LEAST 90 DAYS DELINQUENT, BY SERVICE BRANCH AND ENTRY COHORT



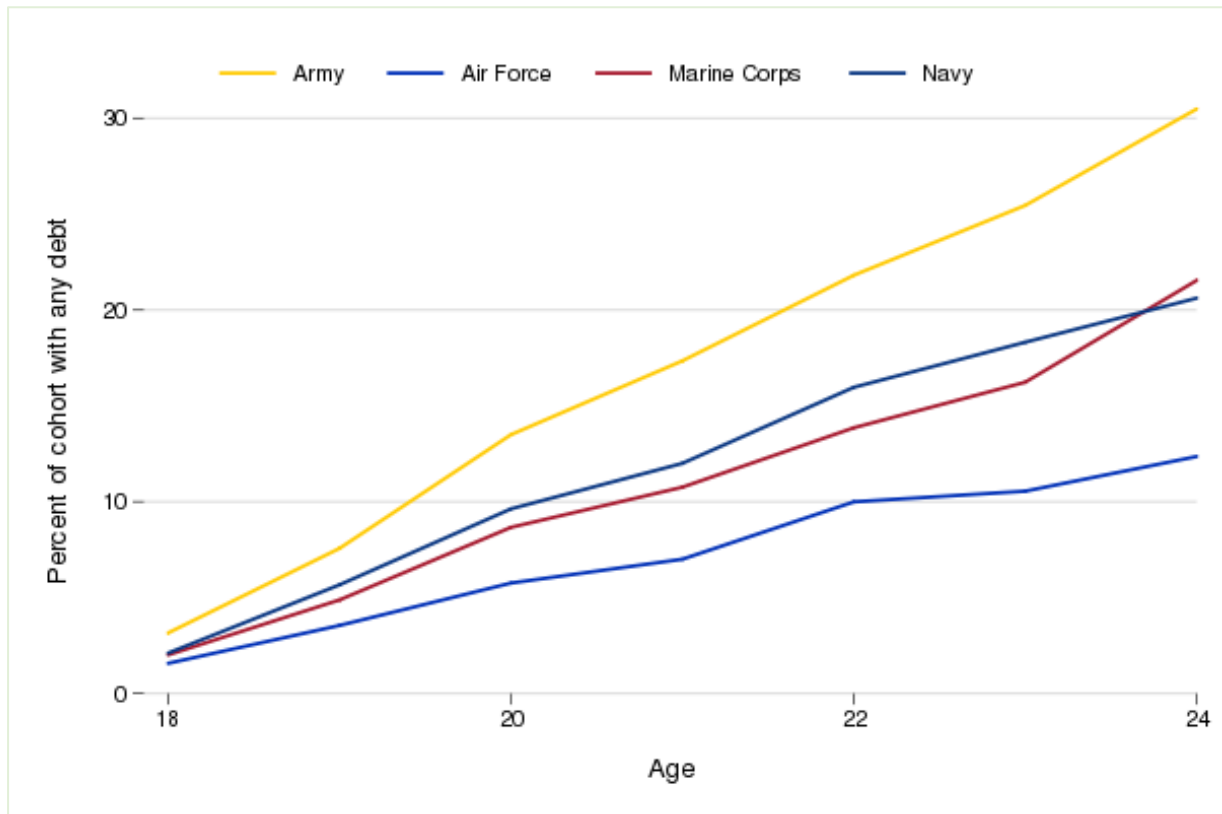
Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all individuals who entered full-time active duty prior to age 24 and who had an auto loan at any point by age 24 (N=7,822).

FIGURE 50: BORROWERS WITH REVOLVING CREDIT HAVING BEEN 120 DAYS DELINQUENT, BY SERVICE BRANCH AND ENTRY COHORT



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all individuals who entered full-time active duty prior to age 24 and who had an auto loan at any point by age 24 (N=9,793).

FIGURE 51: CONSUMERS WITH THIRD-PARTY COLLECTIONS ACCOUNTS, BY SERVICE BRANCH



Source: Authors' calculations from CFPB's CCP merged to the DoD SCRA database. Sample consists of all individuals who entered full-time active duty before age 24 (N=10,647).

D: Financial Literacy Resources

Studying financial issues of servicemembers is not a new issue for the CFPB. The Bureau offers a number of resources for servicemembers to learn about credit products and make informed financial decisions.

General Personal Finance

- **Misadventures in Money Management (MiMM):**
<https://www.mimm.gov/>
- **Navigating the military financial lifecycle:**
<https://www.consumerfinance.gov/consumer-tools/military-financial-lifecycle/>
- **Determine your financial well-being:**
<https://www.consumerfinance.gov/consumer-tools/financial-well-being/>
- **Start small, Save up**
 - <https://www.consumerfinance.gov/start-small-save-up/>
- **Set money goals that reflect your life:**
https://files.consumerfinance.gov/f/documents/201705_cfpb_My-New-Money-Goal.pdf
- **Planning for retirement:**
<http://www.consumerfinance.gov/consumer-tools/retirement>

Auto Loans

- **CFPB's auto loan consumer tools page:**
<https://www.consumerfinance.gov/consumer-tools/auto-loans/>
- **Take control of your auto loan: A step-by-step guide:**
https://files.consumerfinance.gov/f/documents/201606_cfpb_take-control-of-your-auto-loan-guide.pdf
- **Auto Loan Shopping Sheet:**
https://files.consumerfinance.gov/f/documents/201606_cfpb_auto-loan-worksheet.pdf
- **PCS'ing with an auto lease:**
<http://www.consumerfinance.gov/askcfpb/889>

Credit Cards

- **CFPB's credit card consumer tools page:**
<https://www.consumerfinance.gov/consumer-tools/credit-cards/>
- **Credit spending rule to live by:**
https://files.consumerfinance.gov/f/documents/cfpb_worksheet_my-credit-spending-rule-to-live-by.pdf
- **How to find the best credit card:**
https://files.consumerfinance.gov/f/documents/cfpb_adult-fin-ed_how-to-find-the-best-credit-card.pdf
- **How to fix mistakes in your credit card bill:**
https://files.consumerfinance.gov/f/documents/cfpb_adult-fin-ed_how-to-fix-mistakes-in-your-credit-bill.pdf
- **How to stop mystery credit card fees:**
https://files.consumerfinance.gov/f/documents/cfpb_adult-fin-ed_how-to-stop-mystery-credit-card-fees.pdf
- **Watch accounts closely when card data is hacked:**
https://files.consumerfinance.gov/f/documents/cfpb_adult-fin-ed_watch-accounts-closely-when-card-data-is-hacked.pdf
- **Safely consolidate credit card debt:**
<http://www.consumerfinance.gov/ask-cfpb/how-can-i-safely-consolidate-my-credit-card-debt-en-186>

Credit reports and scores

- **CFPB's credit report consumer tools page:**
<https://www.consumerfinance.gov/consumer-tools/credit-reports-and-scores/>
- **Your rights under the Fair Credit Reporting Act:**
https://files.consumerfinance.gov/f/documents/bcfrp_consumer-rights-summary_2018-09.pdf
- **Sample dispute letters:**
<https://www.consumerfinance.gov/consumer-tools/credit-reports-and-scores/sample-letters-dispute-credit-report-information/>

- **Guide to rebuilding your credit:**
https://files.consumerfinance.gov/f/documents/cfpb_how-to-rebuild-your-credit.pdf
- **Guide to understanding your credit score:**
https://files.consumerfinance.gov/f/documents/cfpb_understand_credit_card_EN_web.pdf

Debt collection

- **CFPB's debt collection consumer tools page:**
<https://www.consumerfinance.gov/consumer-tools/debt-collection/>
- **Servicemembers' rights when a debt collector calls:**
<http://www.consumerfinance.gov/military-debt-collection.pdf>
- **Act fast if you can't pay your credit cards:**
https://files.consumerfinance.gov/f/documents/cfpb_act_fast_credit_cards_final_web_020816.pdf
- **Can debt collectors take your Social Security or VA benefits?**
<http://www.consumerfinance.gov/askcfpb/1157>

Mortgages

- **CFPB's mortgage consumer tools page:**
<https://www.consumerfinance.gov/consumer-tools/mortgages/>
- **CFPB's Guide to Buying a House:**
<https://www.consumerfinance.gov/owning-a-home/>
- **Guide to federal rules for home mortgages:**
<https://pueblo.gpo.gov/CFPBPubs/CFPBFileDnld.php?PubType=P&PubID=13083&httpGetPubID=0>
- **How to avoid foreclosure:**
<https://pueblo.gpo.gov/CFPBPubs/CFPBFileDnld.php?PubType=P&PubID=13131&httpGetPubID=0>
- **How to spot and avoid mortgage assistance scams:**
<https://pueblo.gpo.gov/CFPBPubs/CFPBFileDnld.php?PubType=P&PubID=13037&httpGetPubID=0>

- **Homeowner's guide to success:**
https://www.consumerfinance.gov/documents/5940/cfpb_mortgages_homeowners-guide-to-success.pdf
- **PCS'ing with an underwater mortgage:**
<http://www.consumerfinance.gov/askcfpb/308>
- **The VA doesn't send you mortgage ads:**
<http://www.consumerfinance.gov/VA-mortgage-ads>

Student Loans

- **Servicemember strategies for tackling student loan debt:**
<http://www.consumerfinance.gov/military-student-loan-guide.pdf>
- **Make the most of GI Bill benefits:**
<http://www.vets.gov/gi-bill-comparison-tool>
- **Financial Aid Shopping Sheet:**
https://collegecost.ed.gov/shopping_sheet.pdf
- **Choosing a college loan that's right for you:**
<https://s3.amazonaws.com/files.consumerfinance.gov/f/loan.pdf>

Other Resources

- **DoD's Office of Financial Readiness resources:**
<https://finred.usalearning.gov/>
- **MilitaryConsumer.gov:**
<https://www.militaryconsumer.gov/>
- **MilitarySaves:**
<https://militarysaves.org/>