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The Financial Crisis at the Kitchen Table: Recent Trends in Household Debt and Credit

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Abstract

We describe a detailed credit-report dataset derived from a unique longitudinal quarterly panel of individuals and households from 1999 to 2009. Our panel is based on a nationally representative 5% random sample of all individuals with credit reports (usually aged 19 and over). We also sampled all other individuals living at the same address as the primary sample members, allowing us to track household-level credit and debt for a random sample of US households that includes over 37 million individuals. Our findings indicate that after a large increase in total consumer debt after June 1999, total debt peaked at $12.5 trillion in 2008Q2; the total debt balance has seen a small but persistent decline since then. This overall pattern corresponds to that for mortgages, credit cards and auto loans, but differs from those of student loans and balances on home equity lines of credit, which actually have continued to increase during the past year. The decline in the overall debt balance has been accompanied by a large recent drop of in the total number of open accounts. This drop is caused by a surprisingly large increase during the past year in account closings, especially credit card accounts, as well as a significant decline in account openings. We present evidence that the latter mainly reflects a decline in the demand for credit, while the former appears to have been initiated by banks. While overall debt has started to fall, however, we find that defaults and delinquencies have continued to increase with mortgage related delinquencies actually accelerating. As of June 30 2009, approximately 12% ($1.5 trillion) of the total outstanding debt balance was delinquent (more than 30 days late), with 8% ($1 trillion) being seriously delinquent (at least 90 days late). While the decline in overall debt and continued increase in delinquencies is common across states, the extent of both changes varies considerably, with the largest changes occurring in states that witnessed the largest housing booms and declines, including Arizona, California, Florida and Nevada.

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Introduction

Policy makers, the press and academic researchers have recently showed urgent interest in the liabilities side of household balance sheets. By most accounts, the ongoing financial crisis began in the residential mortgage market, as increasingly large numbers of borrowers, especially in the nonprime market segment, became delinquent on their mortgage payments. The increase in these delinquencies and the enormous rise in residential mortgage foreclosures soon developed into a full-blown financial crisis, and led to one of the sharpest contractions in US history. While many features of the financial system played a role in these developments, household behavior was clearly a fundamental contributor.

In an effort to improve understanding of the characteristics and trends in household liabilities, the New York Fed has created a research dataset from consumer credit reports from Equifax, which is one of the three major credit bureaus in the US (the other two are Experion and TransUnion). This paper describes the data and the sample, provides some preliminary findings, and lays out an agenda for their future use.

The FRBNY-Equifax Consumer Credit Panel

The dataset we describe here, which we call FRBNY-Equifax Consumer Credit Panel, comprises a 5% random sample of US individuals with credit files and all of the family members of those 5%. In all, the data set includes files for more than 15% of the population, or approximately 37 million individuals. We observe information from the credit reports for these individuals each quarter for the last 10 years, with current data through June 2009. The data will continue to be updated every quarter in the future: data for 2009Q3 will be available by October 31, 2009.

The sampling exploits randomness in the last two digits of individuals' Social Security numbers. In each period, the primary sample consists of persons whose Social Security numbers match five of the 100 possible combinations of digits (00, 01, 02, … , 99). This procedure ensures that the panel is dynamically updated in each quarter to reflect new entrants into credit markets. In addition, the data provider matches the primary individual's mailing address to all records in the data in order to capture information about other members of the primary individual's household. These individuals are also added to the sample. This procedure enables us to track individuals and households consistently over time, thus allowing us to study richer dynamics of consumer debt and related policy issues at both the individual and household levels.

Our credit report data includes residential location at the census block level and the individual's month and year of birth.

The data contain detailed information of each individual mortgage loan, including

- Origination date
- Original balance
- Current balance
- Current (scheduled) payment
- Current status (i.e., current, 30 days delinquent, etc.)

While the mortgage information in the dataset is very detailed and we believe, complementary to loan-level information available from sources like LoanPerformance and LPS (McDash), it differs in important ways from these. In particular, the mortgage information does not indicate the seniority of individual mortgage loans. On the other hand, because the FRBNY-Equifax panel data are collected at the borrower level, they offer a different perspective on mortgage debt than is available in standard loan-level datasets.

In addition to information on debts secured by residential real estate, the data set includes somewhat more aggregate data on individuals' and households' other loans, such as credit cards, auto loans and student loans. Here, the data include the following:

- Total number of each kind of account (e.g., the total number of bank-issued credit cards)
- The credit limit on each type of account (e.g., the combined credit limit on all credit cards)[1]
- Total balance on each type in each status (e.g., the total student loan balance that is current, 30 days delinquent, etc.)

More general information on the credit report includes the following:

- Indicators for whether the individual has a foreclosure or bankruptcy within the last 24 months and ever on the report
- An indicator for whether the individual has any accounts in collections and the amount of collection
- The Equifax credit score (analogous to the well known FICO score)

[1] This field is known as the "high credit" amount in the credit report data. It refers to either the credit limit (for credit cards, home equity lines of credit and other revolving debt) or the highest balance (for mortgages, auto loans and other installment debt).

Initial Results

The initial findings of the household debt situation in the US can be summarized in two ways. First, since the second quarter of 2008, the US households have gone through a continuing deleveraging process, resulting in a decrease in the aggregate consumer debt balance, which now (as of June 30, 2009) stands at about $12 trillion. Secondly, delinquency and defaults continue to increase and accelerate, resulting in about 12% of the total debts being delinquent now compared to about 8% one year ago, and 4% in 2005. The increase in delinquency and defaults are most apparent in housing related loans, and also in the states that experienced rapid housing booms.

Figure 1 shows the total debt reported on the credit reports for the last 10 years by various types of loans. Total household debt decreased by about 2 to 3 percent over the last year, and the current total debt is $12.2 trillion. Mortgage related debts account for nearly 80% of the total debt, with the rest being composed of credit cards, auto loans and student loans. It is interesting to see that, despite the general decrease in total debt, student loans and home equity revolving debt, also known as home equity lines of credit (HELOCs), actually increased a little bit compared to the same quarter of last year. Even though the deleveraging is a nationwide phenomenon, there are significant variations across states. Figure A1 shows that the increase and subsequent decrease in household debt is most apparent in states that had a housing market boom such as California, Nevada, Florida and Arizona. Figure A3 shows the differences in June 2009 household debt composition over states. Many interesting differences emerge, particularly the relatively high share of housing-related debt in boom states like Arizona and California, and the noticeably low share in Texas, where HELOCs are not allowed.

The deleveraging of household debt is also shown in the number of open accounts. Figure 2 shows the decrease in the number of various open accounts. This overall decline was caused by a decrease in the number of new accounts (blue line in Figure 3) and also, at the same time, closings of existing accounts by consumers and lenders (red line in Figure 3). The decline in Equifax inquiries (green line in Figure 3), which represent potential lenders' credit record "pulls" following an application for credit, suggests that individuals are applying less frequently for credit, tentative evidence that a decline in demand for credit is partly responsible for net reductions in open accounts. Figure 4 shows the decrease in credit limit on credit card accounts and home equity revolving accounts, which is likely a result of lender actions. In the credit card case, total credit limit decreased by 15 to 20 percent over the last year, pushing up the utilization rate (balance divided by credit limit) by about 20 percent. On the other hand, it is the increase in the balance that raised the utilization rate on the home equity revolving accounts: credit lines are essentially unchanged

Along with the decrease in household debt, delinquency and defaults increased rapidly with little sign of stabilization through June, as shown in Figure 5. In 2005, delinquent balance accounted for only 4% of the total balance, with serious delinquency, defined by 90 days late or more accounting for only 2% of the total balance. However, these figures tripled and quadrupled respectively, accounting for 12% and 8% of the total balance as of the most recent quarter. It's interesting to see the deterioration of household debt started as early as 2006, and has accelerated since then. Delinquency and defaults in mortgage loans basically drive the patterns in total debt in Figure 5, given that mortgage debts account for three quarters of the total debt.

Taking a look at different loan types, Figure 6 shows that the deterioration of the debts is a common theme across all types of debts, but it's quite interesting that the speed of deterioration is most noticeable in the mortgage debts and home equity revolving debts. Looking across the different states, we again confirm that the four states of California, Nevada, Florida and Arizona, riddled with housing problems, stand out against the rest of the states in Figure A2.

The deterioration of mortgage debts and other household debts is naturally reflected in an increase in foreclosures and personal bankruptcies. Figure 7 shows the quarterly number of new foreclosures and bankruptcies nationwide, where the annual rate of foreclosures is now over 2 million people, which is about 1% of the total population with credit reports. (It is important to reiterate that this measure of new foreclosures is at the individual level. It is the number of individuals with a foreclosure newly added to their credit report, as opposed to the number of mortgages or houses with a foreclosure notice, a more commonly reported figure.) Note the spike in the personal bankruptcy rate in 2005, which is due to the change in the bankruptcy law that made filing for bankruptcy more difficult after that year.

Figure 8 reports quantiles of the Equifax credit score distribution over the last ten years. It is difficult to see much movement in any but tenth percentile. A zoom-in of that quantile level is shown in figure A4 for the US and various states. Here a general pattern of decrease from 1999 to 2003, then increase to 2005, then decrease is discernible, but Texas is again an outlier in terms of both level and time pattern.

Conclusion and Directions for Future Research

The FRBNY-Equifax Consumer Credit Panel allows analyses of individual and household behavior that have heretofore been difficult to conduct. The rich geographic detail allows analysts to examine spatial patterns in the data in ways that have not been previously possible. We intend to produce aggregate reports for the US and each individual Federal Reserve District, and distribute these at a quarterly frequency. In addition, we hope to collaborate in the production of maps that will provide a convenient visual presentation of some of the key measures.

The data also allow analysis of many pressing questions in consumer and household finance. We can use the data to provide insight into the effects of a number of current policy initiatives, including

- new regulations on credit card accounts
- bankruptcy reform
- mortgage loan modifications
- mortgage refinancing incentives

An additional question is the long-term individual and household consequences of a foreclosure or bankruptcy. While these phenomena have become much more prevalent in recent years, we observe them throughout the 10 year history of the data, and can examine their effects on individual outcomes like future access to and terms of credit.

Fig. 1: Total Debt Balance and its Composition

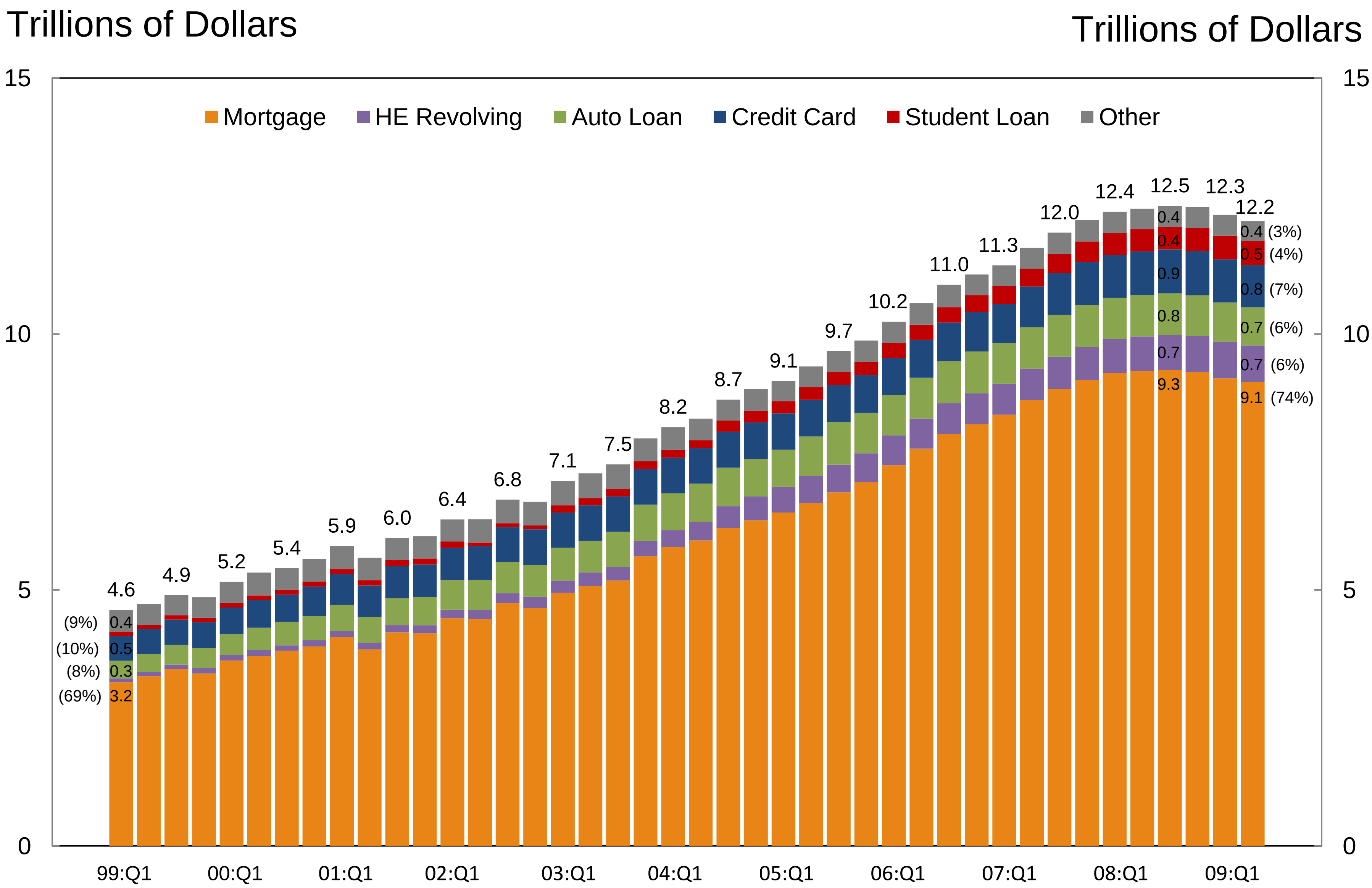


Fig. 2: Number of Accounts by Loan Type

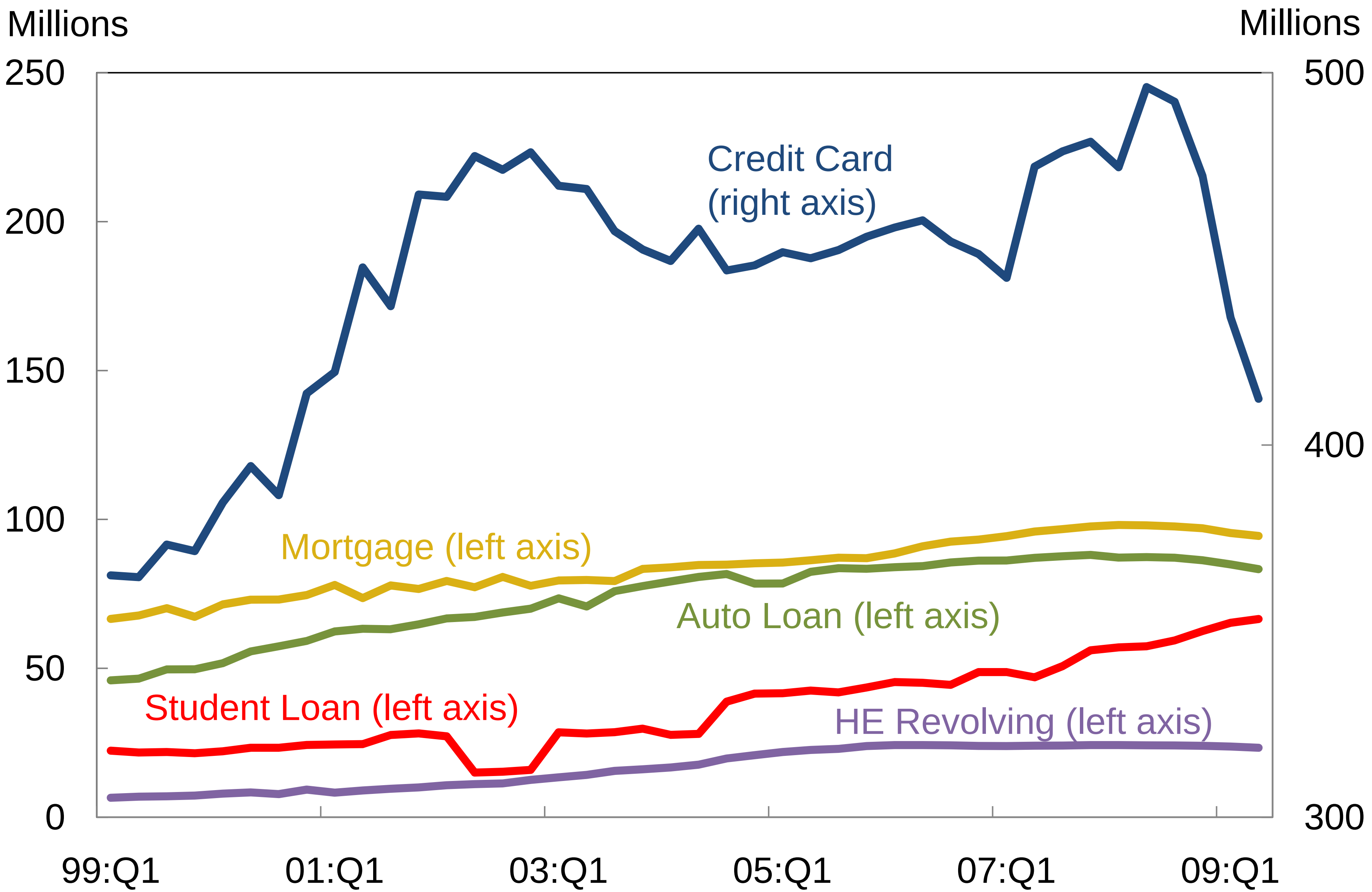


Fig.3: Total Number of New and Closed Accounts and Equifax Inquiries

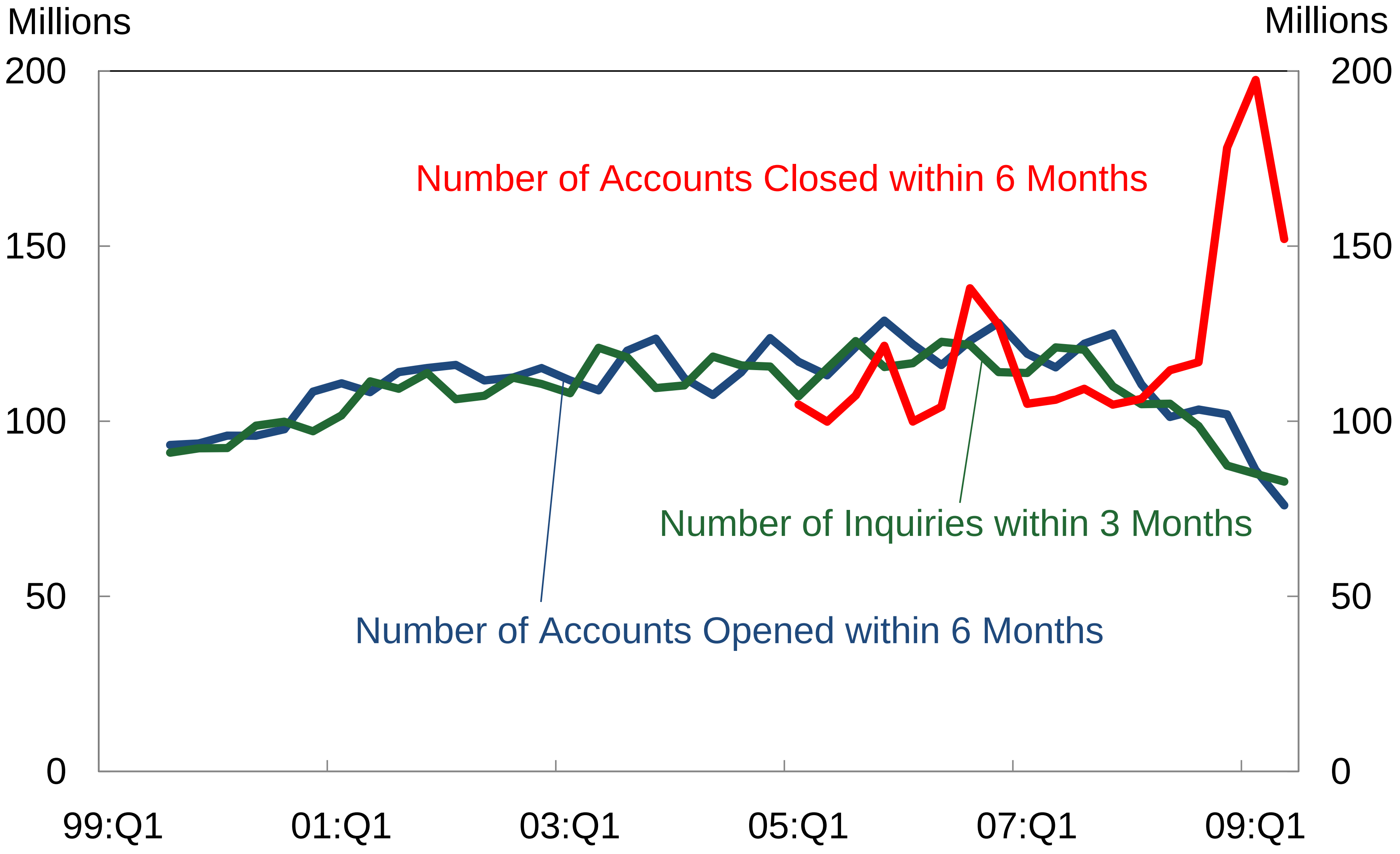


Fig. 4: Credit Limit and Balance for Credit Cards and HE Revolving

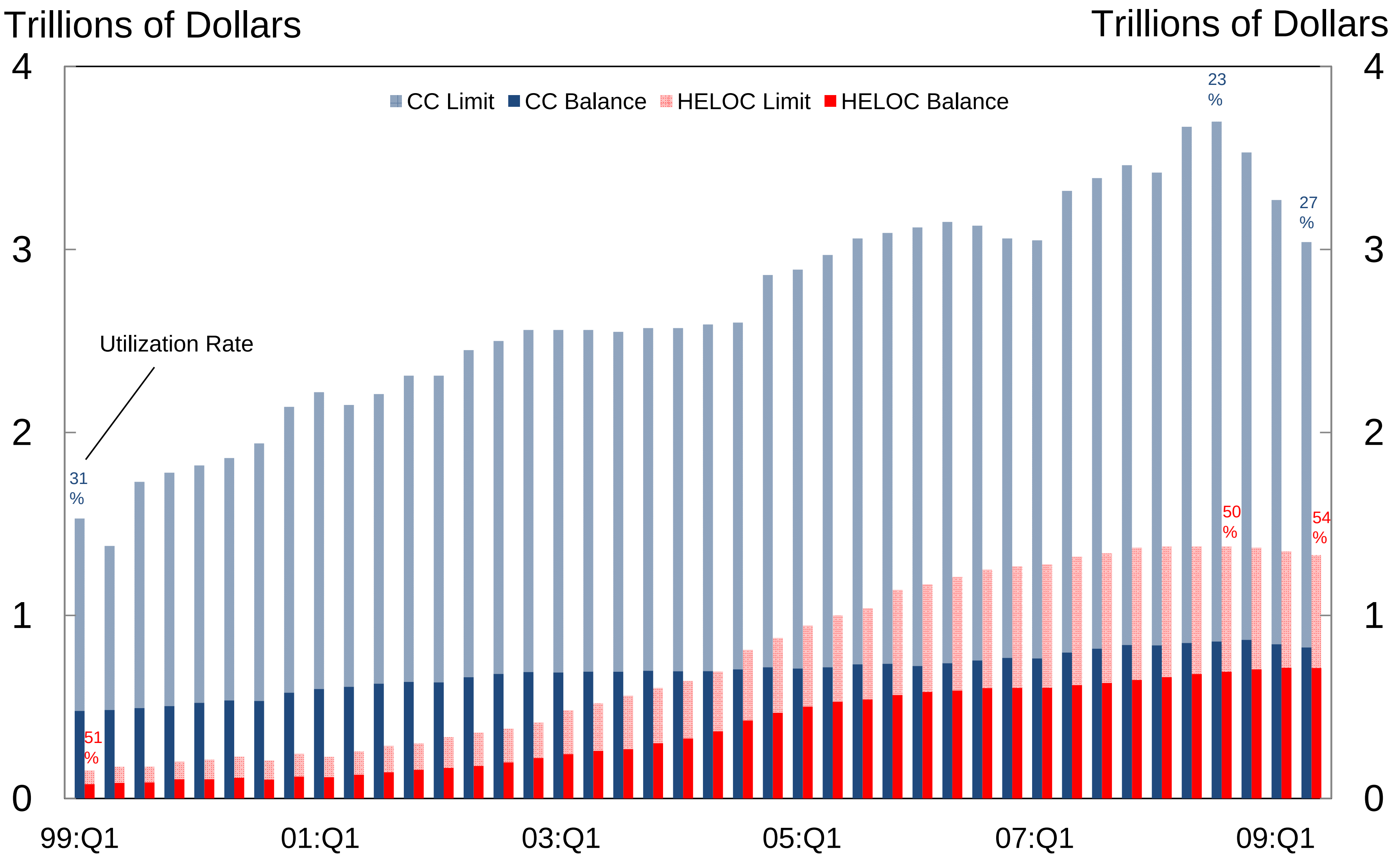


Fig. 5: Total Balance by Delinquency Status

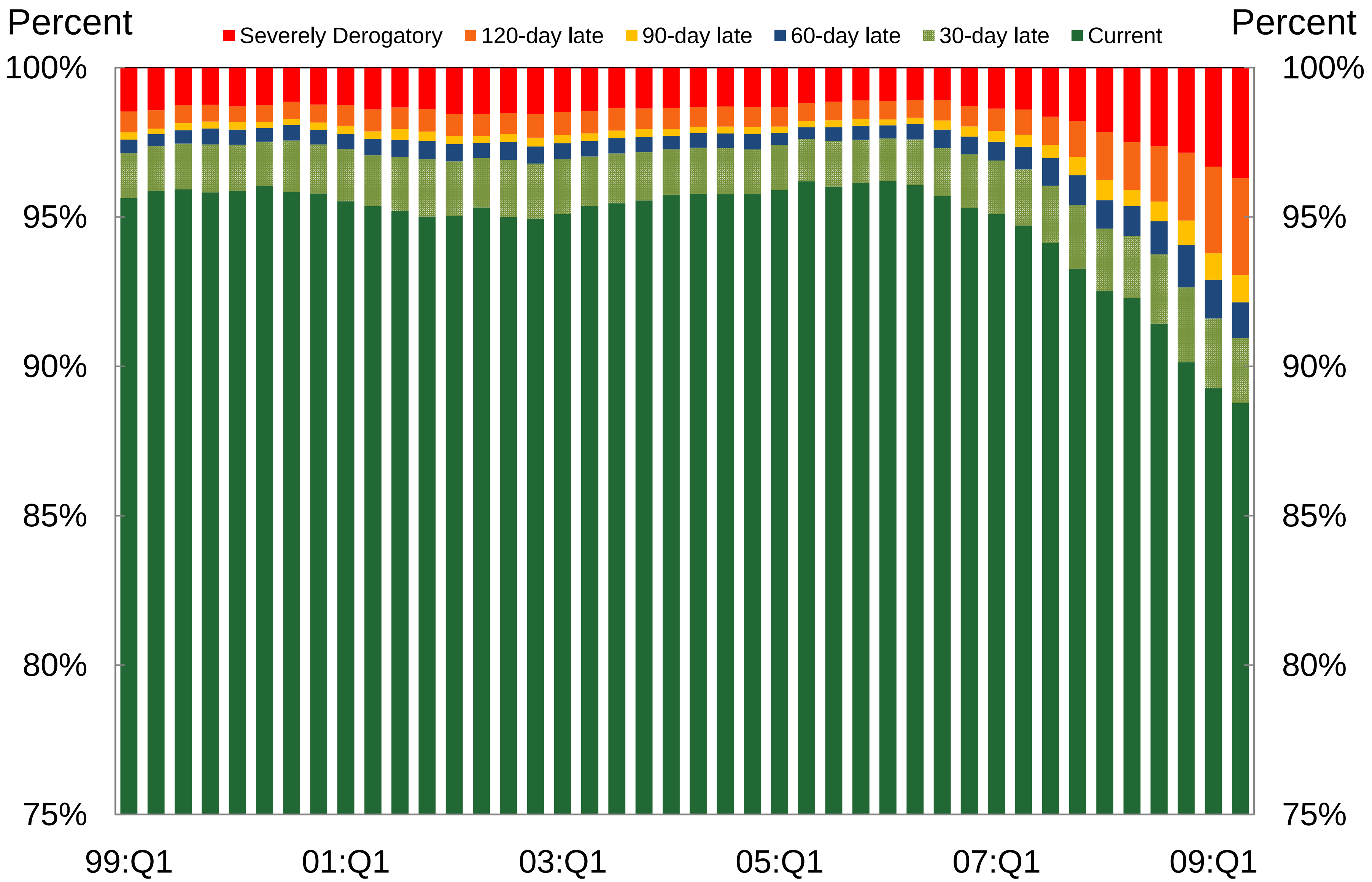


Fig. 6: Percent of Balance 90+ Days Delinquent (by Loan Type)

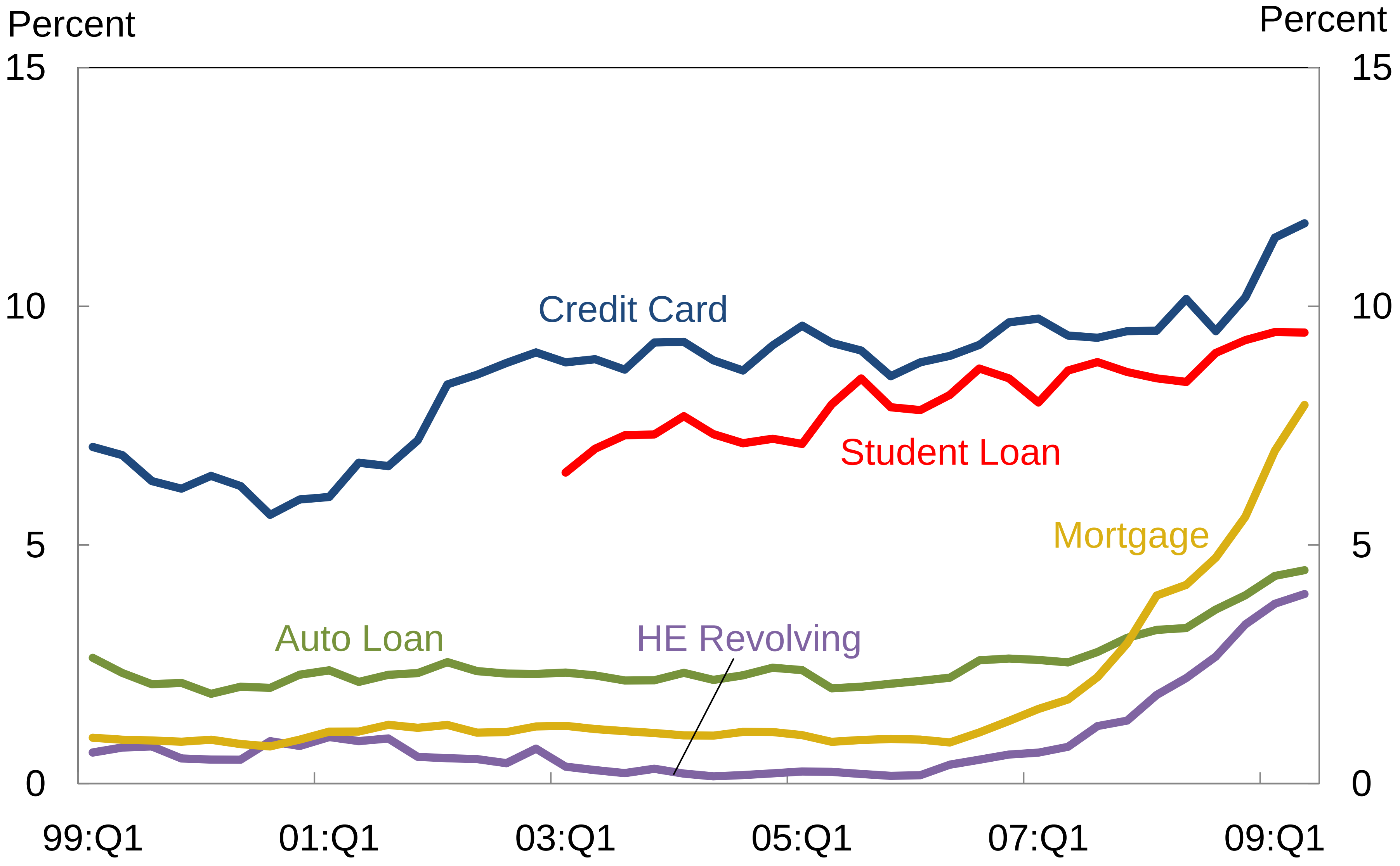


Fig.7: Number of New Foreclosures and Bankruptcies

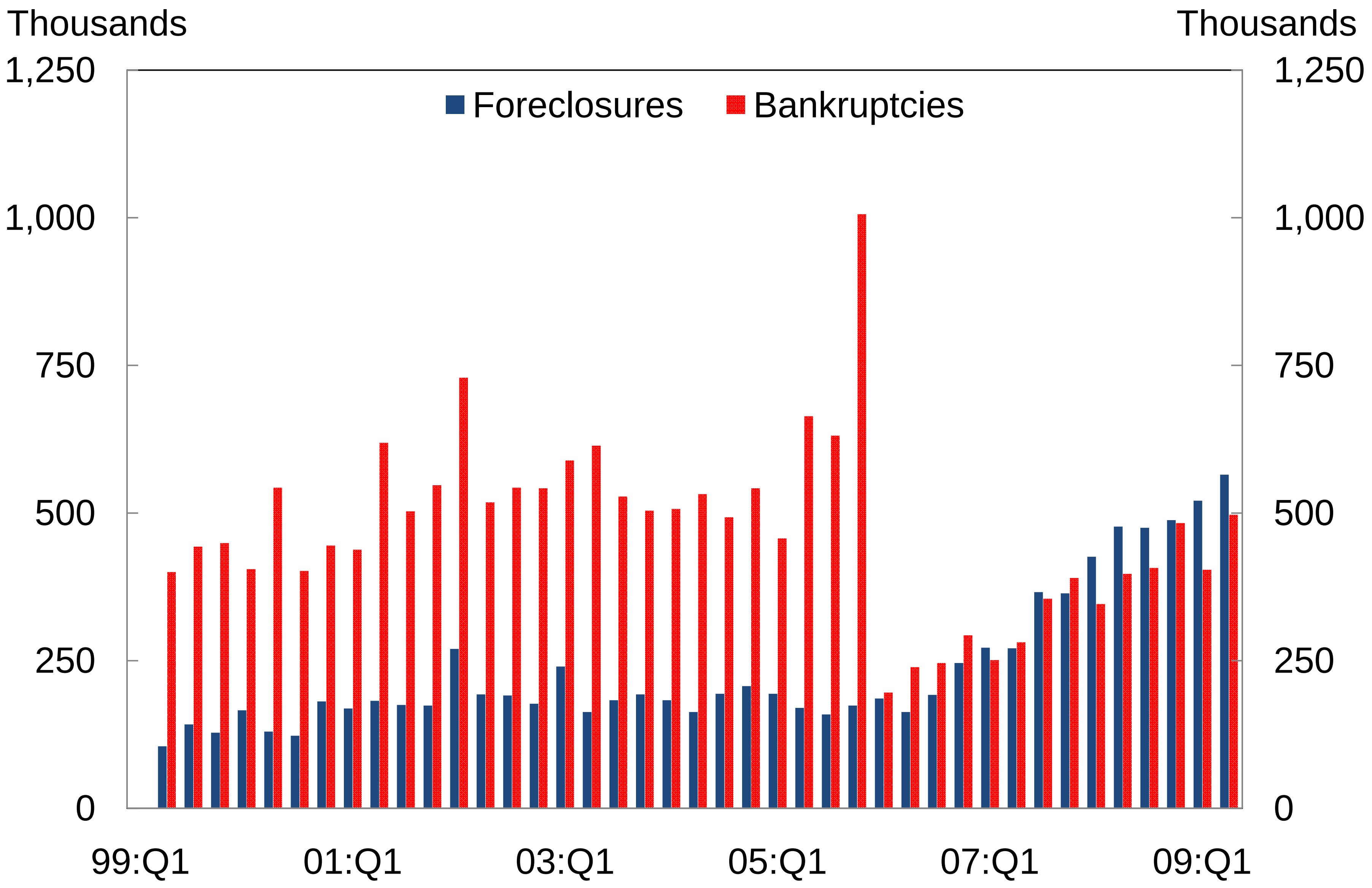


Fig. 8: US Credit Score Distribution

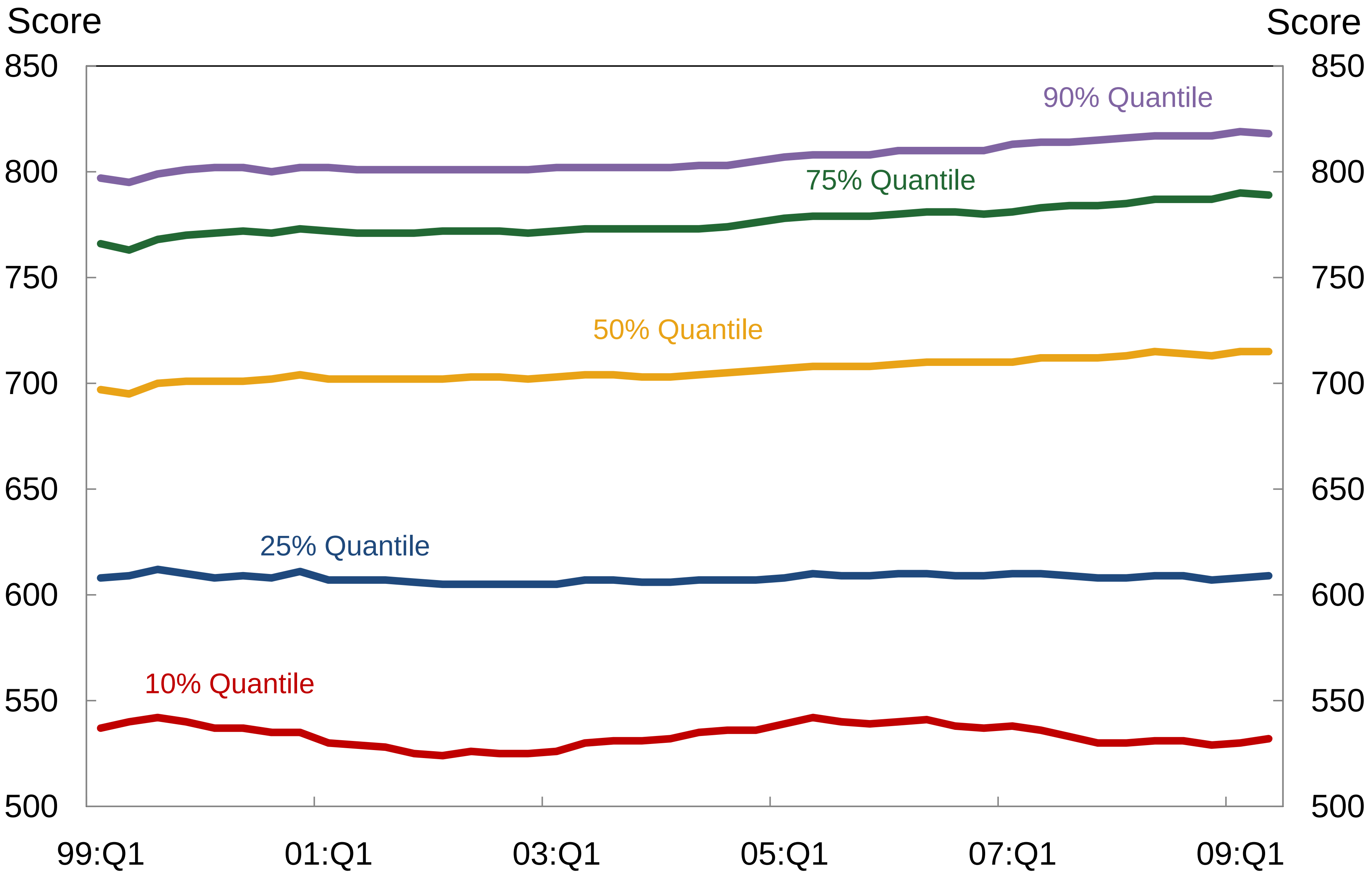
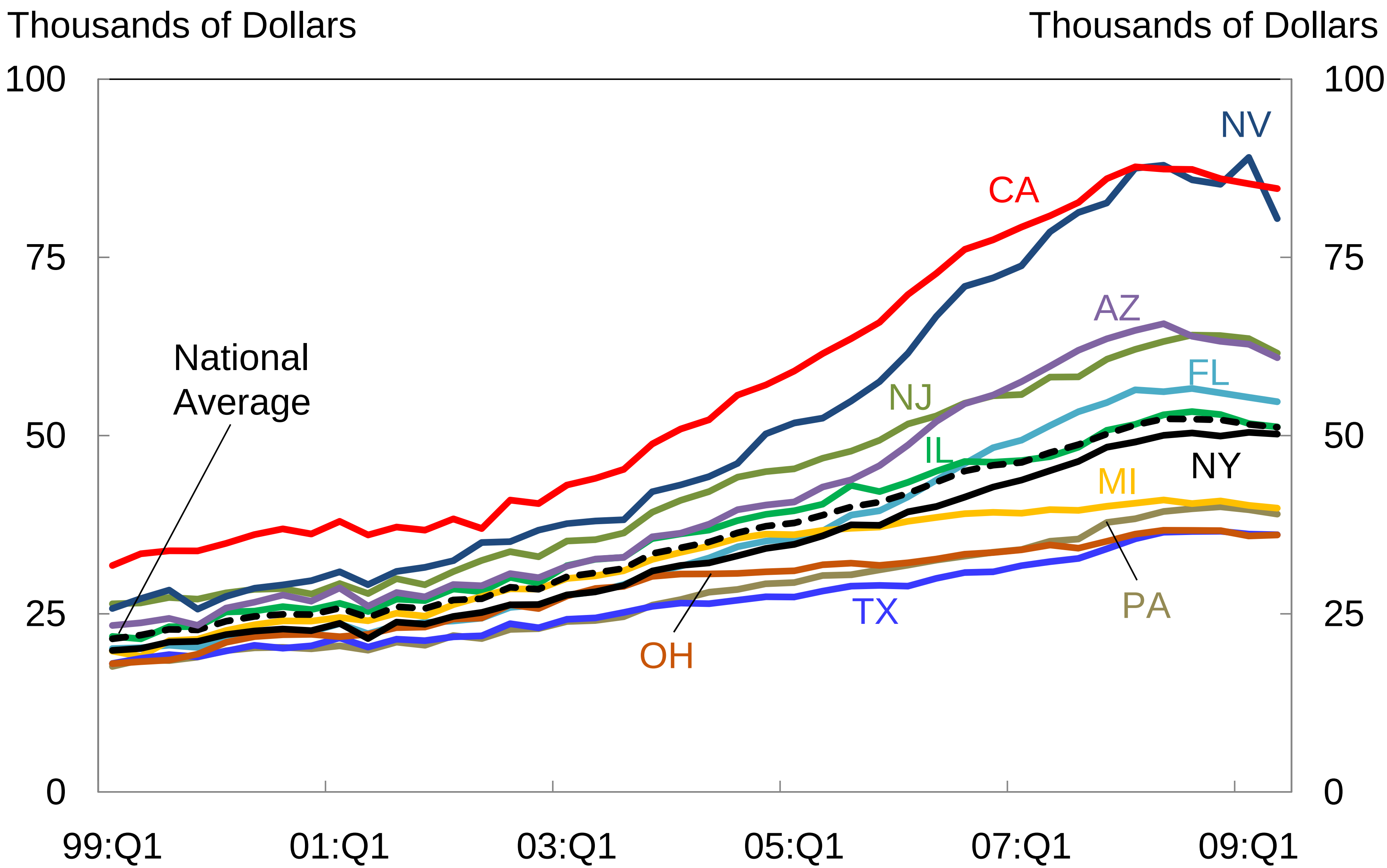
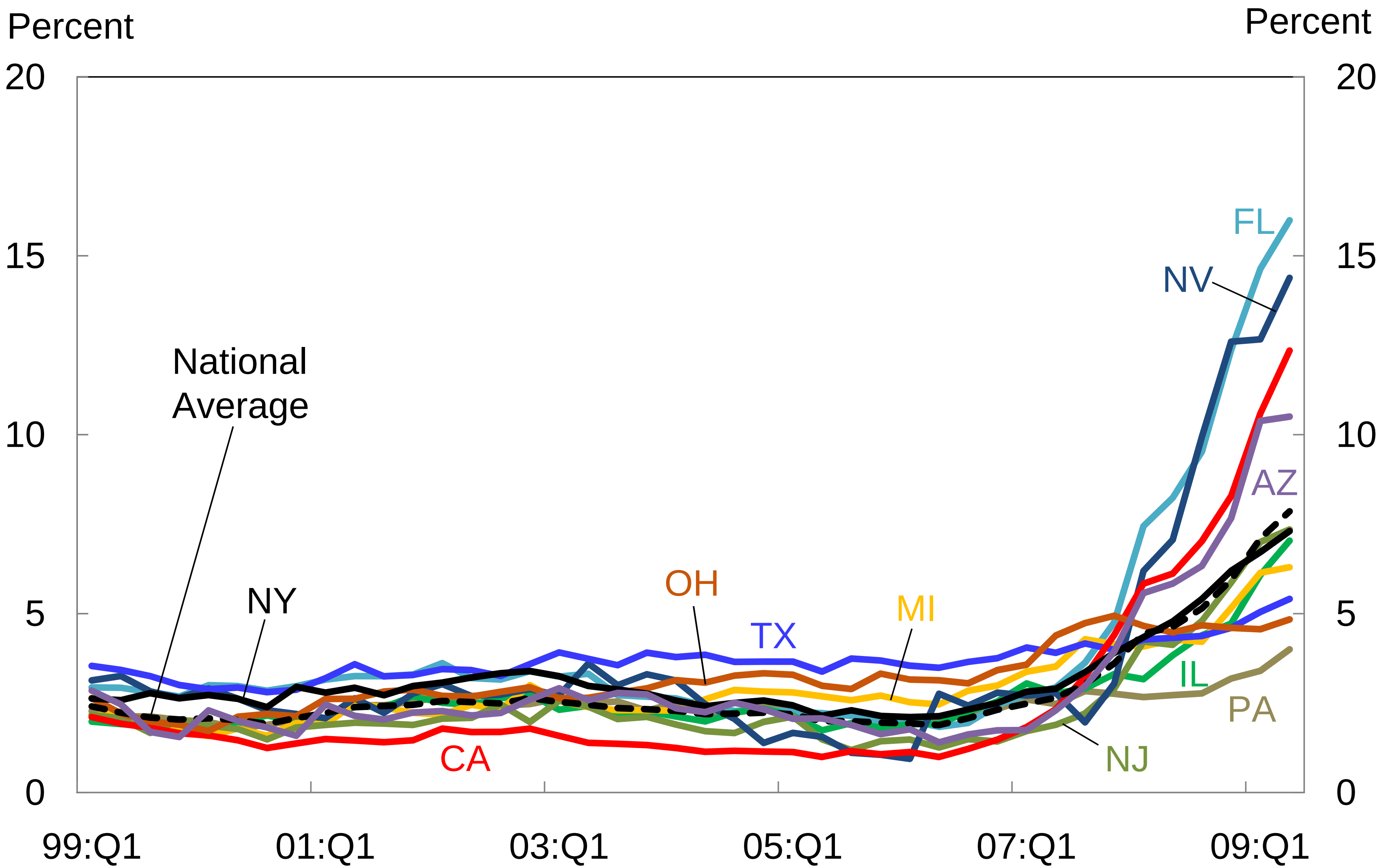


Fig. A1: Total Debt Balance by State (Per Capita*)



* Based on the population with a credit report

Fig. A2: Balance 90+ Days Delinquent by State



* Based on the population with a credit report

Fig. A3: Debt Composition by State (2009:Q2)

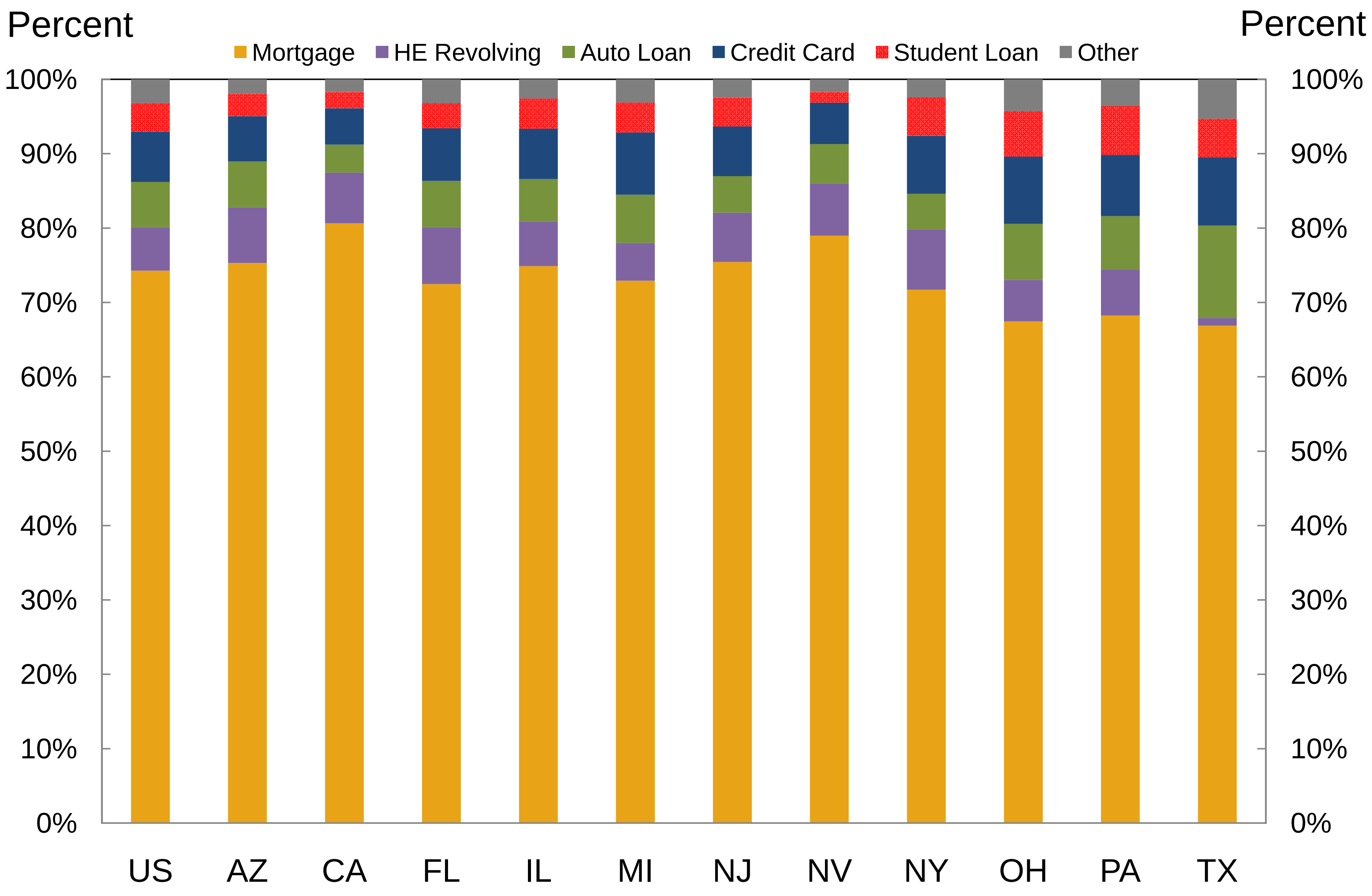
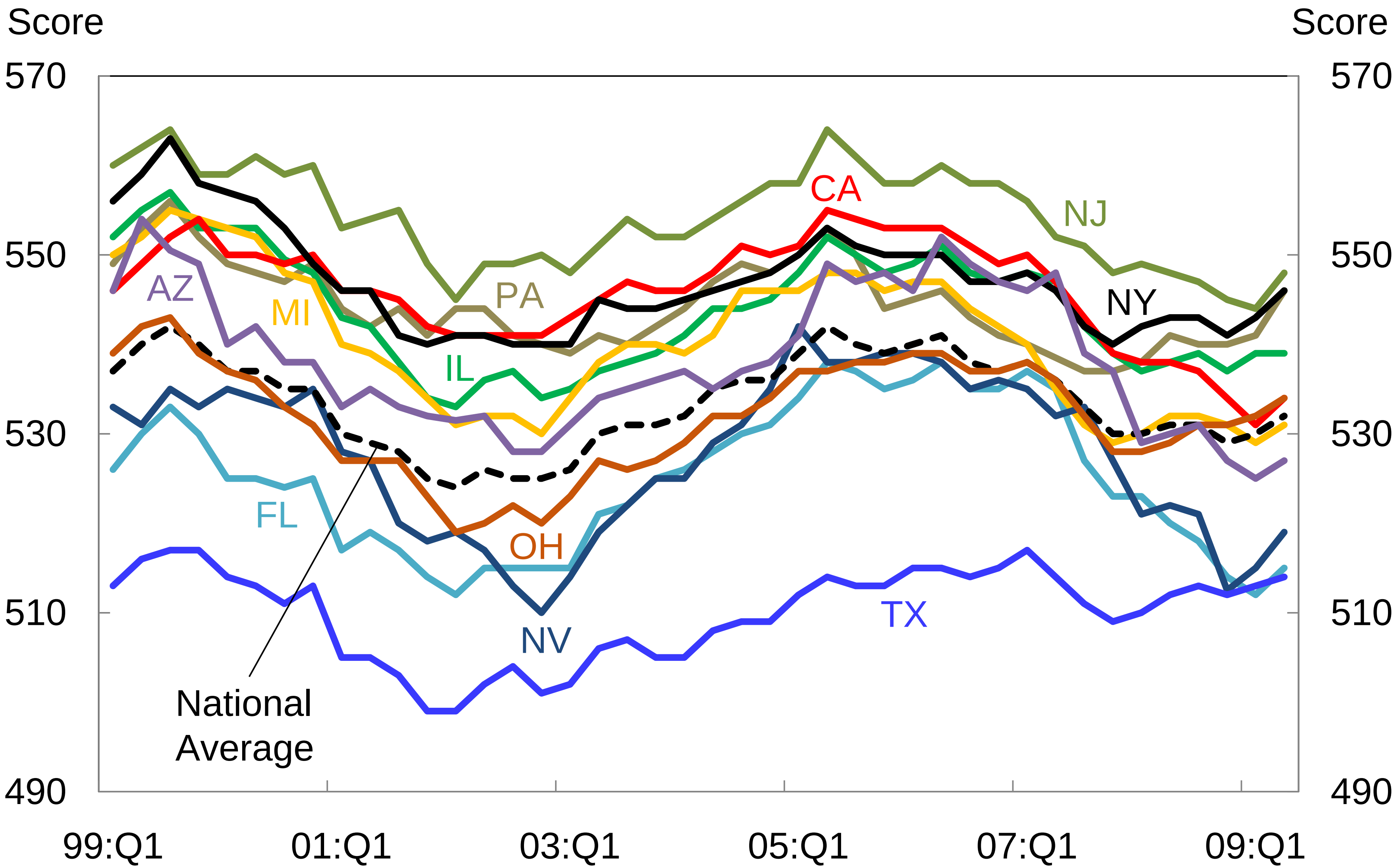


Fig. A4: 10% Quantile Credit Score by State



* Based on the population with a credit report