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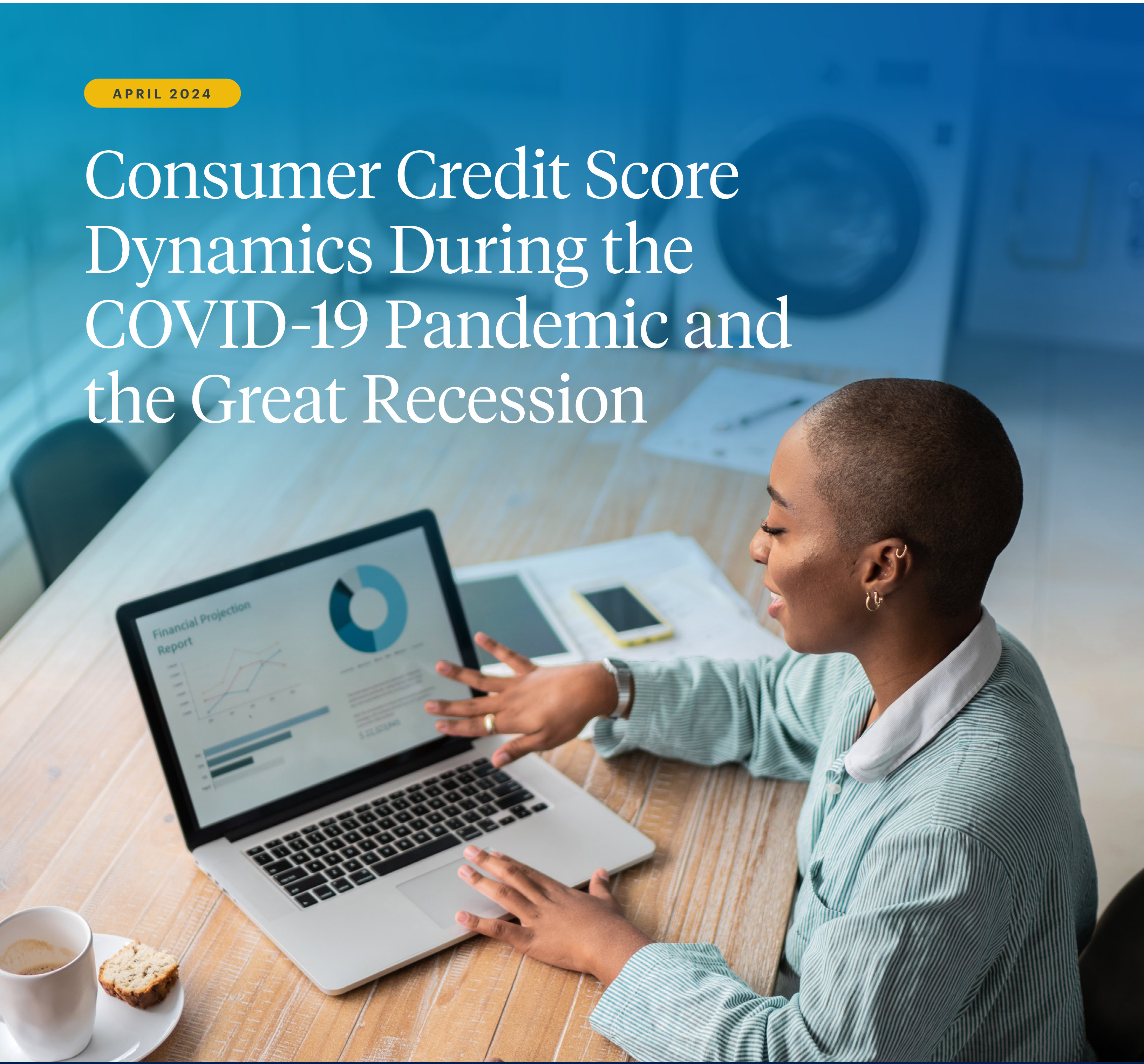
APRIL 2024

Consumer Credit Score Dynamics During the COVID-19 Pandemic and the Great Recession



COMMUNITY DEVELOPMENT & REGIONAL OUTREACH | CONSUMER FINANCE INSTITUTE

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Creditworthiness is vital to a consumer's financial life, and credit scores are a widely used indicator of consumers' creditworthiness, which often determine their credit access and pricing. In addition to serving as a key determinant for the underwriting of most traditional consumer loans, credit scores have been increasingly used in the evaluation of individuals' applications for insurance, rental housing, utilities, and employment.[1]

This brief explores credit score dynamics during the COVID-19 pandemic and its aftermath by tracking changes in Equifax Risk Scores (Risk Scores hereafter), a measure that is representative of commercially available generic credit scores. The spread of COVID-19 resulted in the U.S. economy falling into an economic downturn beginning in Q1 2020. Millions became unemployed, and many businesses were closed temporarily or permanently. Various policies, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act, were adopted to help protect consumers' credit ratings if they sought repayment relief during the pandemic.[2] For example, under the CARES Act, creditors must make accommodations for borrowers having trouble making payments, including forbearance, deferment, loan modifications, and partial or flexible payments, for federally insured mortgages (Section 4022) and federal student loans (Section 3513). Financial institutions also had discretion about when and how to offer loan forbearance or other relief options for helping borrowers holding private loans during the COVID-19 pandemic. Consumers also saw extended benefits, such as generous stimulus checks and extended unemployment insurance benefits, and behavioral changes, such as increased work from home, during the pandemic.

We also compared consumers' Risk Score dynamics during the pandemic with those in the Great Recession, another recent economic crisis. During economic downturns, negative income shocks and heightened economic uncertainty are likely to trigger a reduction in consumption, and some consumers may turn to unsecured credit for consumption smoothing. However, the COVID-19 pandemic differs from the Great Recession in important ways. The CARES Act and similar policies were unavailable during the Great Recession, and there were fewer and different intervention programs targeted at consumers and small businesses. Studies found that mortgage and auto delinquencies were procyclical in the Great Recession but countercyclical during COVID-19 (Dettling and Lambie-Hanson, 2021). In addition, the housing market collapsed during the Great Recession, making it more challenging for many homeowners to keep up with their mortgage payments and maintain their credit scores. The housing market was more robust during the pandemic, although this might be because of the difference in government policies in the two episodes. As a result, Risk Score dynamics were likely different during these two economic crises. Studies have found deleveraging during the Great Recession (Santucci, 2016) and an unprecedented decline in credit card balances during the pandemic, either due to a reduction in credit card purchase volume or borrowers paying down their revolving balances (Adams and Bord, 2020; Adams, Bord and Katcher, 2021). As a result, consumers were more likely to maintain or even boost their Risk Score during the COVID-19 pandemic than they were during the Great Recession.

We find that on average consumers' Risk Scores increased significantly during the pandemic, and those with lower Risk Scores experienced larger increases. The Risk Score gap between high- and low-Risk Score consumers narrowed during the early stage of the pandemic, and that narrowed gap was sustained until Q3 2023. In addition, consumers, including lower-income consumers,[3] were more likely to experience an upward migration in their credit risk category during the pandemic than during the Great Recession. Among consumers who moved upward in risk categories, there were signs of improvement in their access to credit, reflected in increases in their credit card limits and an increased likelihood of getting access

* The views expressed here are those of the authors and do not necessarily reflect the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System. The authors thank Alaina Barca, Neil Bhutta, Eileen Divringi, Robert Hunt, Geng Li, Wenli Li, Larry Santucci, Theresa Singleton, and Keith Wardrip for their helpful feedback, and Amber Born for her research support.

[1] See www.consumerfinance.gov/ask-cfpb/what-is-a-credit-report-en-309/.

[2] See Consumer Financial Protection Bureau, "CFPB Issues Credit Reporting Guidance During COVID-19 Pandemic," press release, April 1, 2020, www.consumerfinance.gov/about-us/newsroom/cfpb-issues-credit-reporting-guidance-during-covid-19-pandemic/.

[3] Based on imputed household income following the literature (Coibion et al., 2020; Li and Su, 2023).

to first-lien home mortgages or home equity lines of credit (HELOCs).[4]

The analysis is based on an anonymized individual-level longitudinal data set, the Federal Reserve Bank of New York Consumer Credit Panel/Equifax (CCP). The CCP tracks a random sample of 5 percent of U.S. consumers with a credit file together with individuals with a credit file residing at the same address. Our analysis primarily focuses on a 10 percent random sample of primary individuals who were 20 to 65 years old[5] based on year of birth and were observed in the data for at least a year from the first quarter of 2004 to the third quarter of 2023.[6]

Finding 1:

The average Risk Score increased during the pandemic, and those with lower Risk Scores experienced a larger increase.

On average, consumers' Risk Scores increased during the pandemic. The average Risk Score increased from 689 to 703 between Q1 2020, the start of the pandemic, and Q2 2023, the end of the COVID-19 public health emergency (PHE)[7] (Figure 1). The median Risk Score increased from 708 to 724 during the same period. The increase in the average or median Risk Scores was primarily driven by improved Risk Scores from the bottom Risk Score distributions, especially at the early stage of the pandemic. The lowest 10th percentile of the Risk Score distribution increased from 535 to 561 between Q1 2020 and Q2 2021 before retreating somewhat to about 550 by Q3 2023. At the 90th percentile, the Risk Score remained stable at around 819–822. As a result, the Risk Score gap, defined as the ratio of the Risk Score at the 90th percentile to the Risk Score at the 10th percentile, narrowed on net: It declined from 1.53 in Q1 2020 to 1.46 in Q2 2021, and stood at 1.49 in Q3 2023.

During the Great Recession, consumers at the bottom of the distribution, in contrast, experienced a modest decline in their Risk Scores, although the Risk Score for the top of the distribution remained relatively stable. The pre-Great Recession Risk Score for the 10th percentile was 526 in Q2 2007, and it declined to 518 by Q1 2009. The Risk Score gap, measured by the ratio of the 90th percentile to the 10th percentile, increased from 1.53 in Q2 2007 to 1.56 in Q2 2009.

Another way to look at Risk Score dynamics is the change in a consumer's risk category. Following Goodman and Ramos (2019), consumers are divided into three risk categories: prime consumers are those with Risk Scores 720 or above, near-prime are consumers with Risk Scores between 620 and 719, and subprime are those with Risk Scores below 620. The proportion of consumers in the prime category had been increasing since 2015 but started to grow at a faster pace following the onset of COVID-19 (Q1 2020); and continued to grow afterward until Q3 2023 (Figure 2). The proportion of consumers in the near-prime and subprime categories declined, even though the proportion of near-prime initially increased in early 2020. Again, this improvement was not observed during the Great Recession.

4 A HELOC is a line of credit secured by a home that gives a revolving credit line for large expenses or consolidating higher-interest rate debt such as credit card debt.

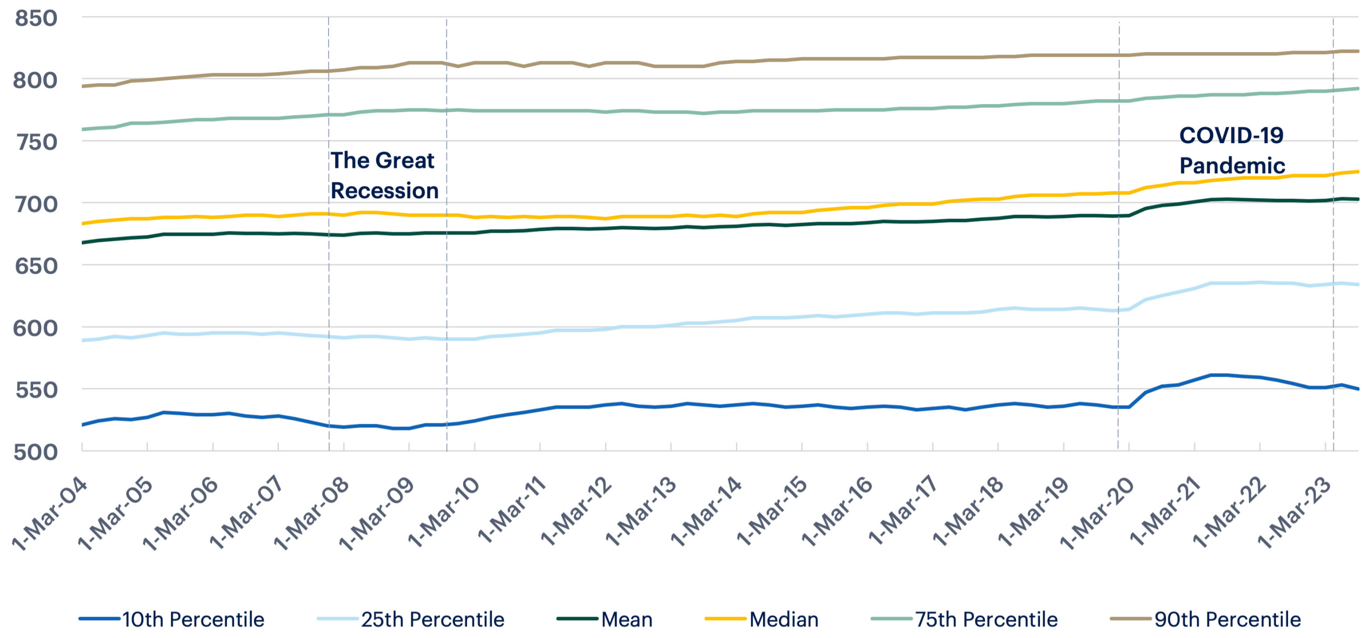
5 Only primary individuals, instead of other individuals residing together with primary individuals at the same address, are included in the sample. Findings are qualitatively consistent when consumers of all ages are included.

6 Consumers who are in the data for less than four consecutive quarters are excluded from the analysis.

7 The U.S. Department of Health and Human Services (HHS) declared the end of the COVID-19 PHE on May 11, 2023. See www.hhs.gov/about/news/2023/05/11/hhs-secretary-xavier-becerra-statement-on-end-of-the-covid-19-public-health-emergency.html. The Great Recession period is marked using the National Bureau of Economic Research (NBER) Business Cycle peak month and trough month; see www.nber.org/research/data/us-business-cycle-expansions-and-contractions.

FIGURE 1

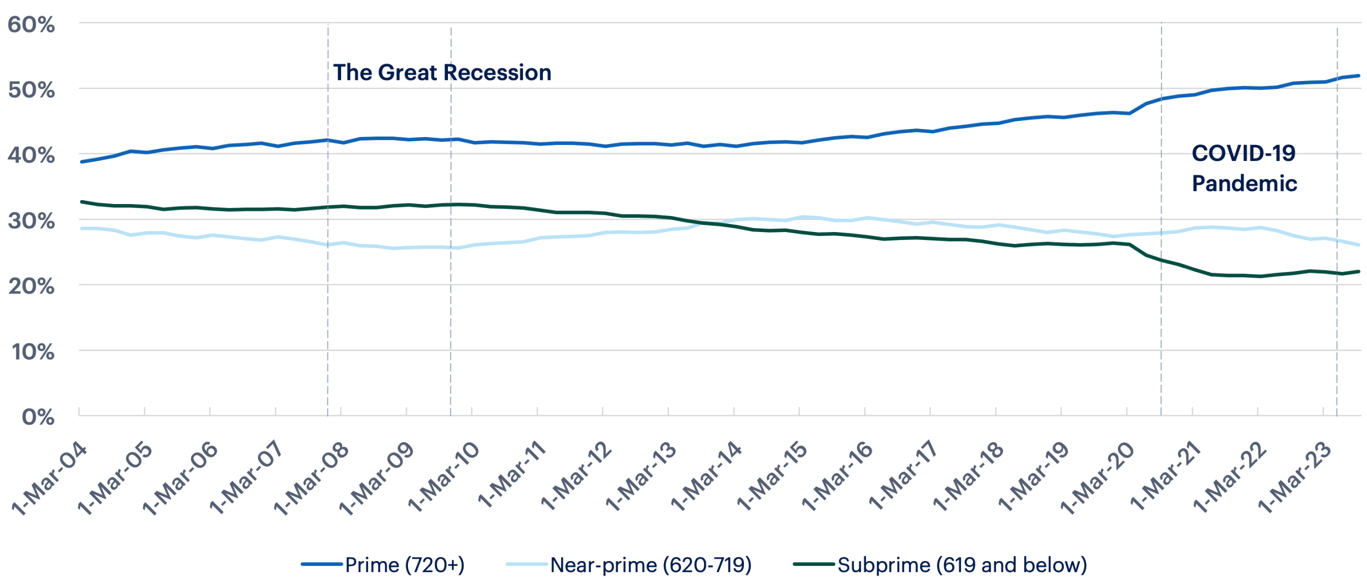
Average Risk Score and Risk Score at the 10th, 25th, 50th, 75th, and 90th Percentiles, 2004–2023



Note: The analysis is based on Equifax Risk Scores among consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. The Great Recession period is marked from December 2007 to June 2009, and the COVID-19 pandemic period is marked from February 2020 to May 2023.

FIGURE 2

Proportion of Consumers by Risk Category, 2004–2023



Notes: The analysis is based on Equifax Risk Scores of consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. Consumers with missing Risk Scores are excluded. The Great Recession period is marked from December 2007 to June 2009, and the COVID-19 pandemic period is marked from February 2020 to May 2023.

Finding 2:

Consumers, including lower-income ones, were more likely to experience an upward migration in risk categories during the pandemic than during the Great Recession.

General Trend

To examine consumers' migration across risk categories, the transition probabilities were calculated by comparing their initial risk categories with their risk categories one, two, and three years later. The third to the fifth columns from the left in Table 1 present consumers' transition probabilities from the start of the COVID-19 pandemic (Q1 2020) to Q1 2021, Q1 2022, and Q1 2023, respectively. The seventh to ninth columns summarize the transition probabilities from the onset of the Great Recession (Q4 2007) to three later corresponding cohorts, respectively. Upward migration probabilities are highlighted in green, which include transitions to a better credit risk category: from subprime to near-prime, from near-prime to prime, and from subprime to prime. The downward migrations are highlighted in red, which includes transitions from prime to near-prime, from near-prime to subprime, and from prime to subprime.

Table 1 suggests that consumers were significantly[8] more likely to experience upward migration and less likely to experience downward migration in their risk categories

[8] Two-sided t-tests are conducted by comparing the COVID-19 pandemic with the Great Recession, for each upward or downward transition rate, except transitions between subprime and prime because these cases are rare. Unless acknowledged otherwise, all tests are statistically significant at the 1 percent level.

TABLE 1

Transition Probabilities Across Credit Risk Category Following the Pandemic Versus the Great Recession

		Prime	Near-prime	Subprime		Prime	Near-prime	Subprime
			Q1 2021				Q4 2008	
Prime	Q1 2020	94.1%	4.8%	0.3%	Q4 2007	91.8%	6.8%	1.0%
Near-prime		23.2%	66.7%	8.0%		17.7%	64.5%	16.3%
Subprime		0.6%	22.9%	74.1%		0.2%	14.6%	82.9%
			Q1 2022				Q4 2009	
Prime		92.4%	5.5%	0.7%		88.5%	8.2%	2.5%
Near-prime		32.5%	53.3%	11.1%		24.1%	52.0%	21.5%
Subprime		1.6%	30.1%	64.4%		0.6%	20.4%	74.9%
			Q1 2023				Q4 2010	
Prime		91.3%	5.8%	1.1%		86.1%	9.5%	3.2%
Near-prime		37.7%	44.3%	14.6%		27.5%	46.0%	23.2%
Subprime		2.8%	32.6%	60.1%		1.2%	24.0%	69.2%

Note: The analysis is based on consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. Prime consumers are those with Risk Scores of 720 or above, near-prime are consumers with Risk Scores between 620 and 719, and subprime are those with Risk Scores below 620. Results for consumers with missing Risk Scores are not included for simplification.

during the pandemic, compared with those in the Great Recession. For example, among the consumers in the near-prime category in Q1 2020, 23.2 percent moved upward to the prime category one year later, and 37.7 percent moved to the prime category in three years. In contrast, among consumers who were in the near-prime category in Q4 2007, only 17.7 percent moved to the near-prime category in a year, and 27.5 percent moved to the near-prime category in three years, all significantly lower than the corresponding migration rates during the pandemic.

Experience of the Lower-Income Population

The experience of lower-income consumers, who usually have more limited resources to handle any economic downturn, is of great interest for both policymakers and practitioners. While direct measures of contemporaneous income for these consumers are not available in the CCP, we imputed consumers' household income following an innovative approach in the literature (see the How Was Consumer Household Income Imputed text box for details), which allows us to explore the heterogeneity in Risk Score dynamics of consumers with higher or lower incomes.

Table 2 presents the transition probabilities across different credit risk categories for consumers with imputed household incomes that were less than the were less than the imputed median income for the state in which they lived. For the pandemic analysis, we fix household income and state of residence as of 2019. For the Great Recession analysis, we fix household income and state of residence as of 2007. Lower-income consumers are also found to be significantly more likely to experience an upward migration in risk categories during the pandemic than during the Great Recession. One year following the onset of the pandemic, 19.9 percent of lower-income consumers moved from the near-prime category to the prime category, higher than the 13.9 percent who did so during the Great Recession. The same pattern was found for the two- and three-year migration rates. Upward migration rates for lower-income consumers were generally lower than those for consumers overall, which could be explained by the more limited resources lower-income individuals have compared with higher-income individuals in the same risk category. Again, all upward and downward migration rates mentioned above are significantly different between the two periods — the pandemic and the Great Recession.

How Was Consumer Household Income Imputed?

We follow Coibion et al. (2020) and Li and Su (2023) to impute household income in the CCP using information from the Survey of Consumer Finances (SCF) using information from the Survey of Consumer Finances (SCF) from the Board of Governors of the Federal Reserve System. The SCF is a nationally representative household survey that contains a rich set of information on various assets and debts as well as demographic characteristics. We use the SCF to estimate how household income relates to debt components (auto loan debts, credit card limit, credit card balance, HELOC balance, mortgage debt, student loan debt, delinquency flag, and bankruptcy flag) and demographic characteristics (household size and age of household head). Since such information is available in both the CCP and SCF data, we then use these estimates of the 2019 SCF to impute household income for consumers in the third quarter of 2019 in the CCP data and use the estimates of the 2007 SCF to impute household income for the CCP in Q3 2007. This analysis is restricted to consumers who are 20 to 65 years old to minimize potential age-related selection bias (Coibion et al., 2020). For income imputation, both CCP primary individuals and individuals residing at the same address are included, to aggregate household-level assets and debts.

TABLE 2

Transition Probability in Credit Risk Category Following the Pandemic for Lower-Income Consumers

		Prime	Near-prime	Subprime		Prime	Near-prime	Subprime
		Q1 2021				Q4 2008		
Prime	Q1 2020	91.4%	6.6%	0.5%	Q4 2007	89.8%	8.4%	1.1%
Near-prime	Q1 2020	19.9%	68.1%	9.2%	Q4 2007	13.9%	66.6%	17.2%
Subprime	Q1 2020	0.5%	20.6%	76.2%	Q4 2007	0.1%	13.0%	84.3%
		Q1 2022				Q4 2009		
Prime	Q1 2020	88.6%	7.7%	1.1%	Q4 2007	86.7%	9.6%	2.3%
Near-prime	Q1 2020	28.1%	54.8%	12.9%	Q4 2007	20.0%	54.4%	22.0%
Subprime	Q1 2020	1.3%	27.5%	66.8%	Q4 2007	0.5%	18.6%	76.3%
		Q1 2023				Q4 2010		
Prime	Q1 2020	87.1%	7.9%	1.7%	Q4 2007	84.4%	10.6%	3.0%
Near-prime	Q1 2020	32.8%	45.5%	17.1%	Q4 2007	23.6%	47.7%	23.9%
Subprime	Q1 2020	2.2%	30.2%	62.6%	Q4 2007	0.9%	22.2%	70.6%

Note: The analysis is based on consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. Prime consumers are those with Risk Scores of 720 or above, near-prime are consumers with Risk Scores between 620 and 719, and subprime are those with Risk Scores below 620. Results for consumers with missing Risk Scores are not included for simplification. Lower-income consumers are consumers whose imputed household income (imputed from the 2019 SCF for the pandemic analysis and the 2007 SCF for the Great Recession analysis) falls below the imputed median income of their state.

Finding 3:

Those who improved risk categories during the pandemic, including lower-income consumers, also gained higher credit card limits and better access to mortgages.

General Trend

Risk Score improvements at the aggregate level have been observed throughout the pandemic and its aftermath. However, it is not clear whether credit access for those with improved Risk Scores also improved or if the Risk Scores were simply inflated and there was no significant improvement in the financial well-being for these consumers. The latter scenario could happen, for example, if the credit score thresholds used in credit underwriting also increased, although data from the Senior Loan Officer Official Survey suggest that this was not likely to be the case after the initial shock during the pandemic.[9] This section examines whether there was any improvement in consumers' access to credit among those who improved their risk categories (those who improved by only one category), compared with those who did not improve risk categories. Consumers' access to credit is measured here by the credit limit on their credit cards or retail cards and access to first-lien residential mortgages or HELOCs that would allow a homeowner to tap into their home equity.

Table 3 shows the average change in credit card limits and the changes in the shares of consumers with first-lien mortgages or HELOCs for one, two, and three years following the onset of the pandemic in Q1 2020. Compared with those who remained in the near-prime category (one,

[9] See www.federalreserve.gov/data/sloos/sloos-202104.htm.

two, and three years following the onset of the pandemic), those who improved their risk categories from near-prime to prime during the same time period experienced larger credit card limit increases. For example, between Q1 2020 and Q1 2021, consumers who moved from near-prime to prime experienced a credit card limit increase of $893, significantly higher than the increase of $632 for those who remained in the near-prime category. The gap became larger over time: By the first quarter of 2023, the average credit card limit increase was $8,193 for those who moved from near-prime to prime, larger than the increase of $5,269 for those who remained in the near-prime category.

Consumers with increased Risk Scores also experienced improved access to home mortgages or HELOCs. First-lien mortgages could serve as an imperfect proxy of homeownership. The proportion of consumers with at least one first-lien mortgage increased by 4.8 percentage points among those who moved up in risk categories from near-prime to prime by Q1 2021 and an astonishing 11.0 percentage points by Q1 2023 (from 26.4 percent in Q1 2020 to 37.4 percent in Q1 2023). Among borrowers who remained in the near-prime category, the changes were 1.8 and 4.5 percentage points, respectively. Overall, the results suggest the upgrade in a consumer's risk category is associated with improved access to first-lien mortgages, although the direction of the causality is out of the scope of this brief.

TABLE 3

Changes in Credit Card Limits, First-Lien Mortgages, and HELOCs

	Q1 2020–Q1 2021	Q1 2020–Q1 2022	Q1 2020–Q1 2023
Credit card limit ($)			
Remain prime	-605	1,332	4,126
Near-prime to prime	893	4,169	8,193
Remain near-prime	632	2,803	5,269
Subprime to near-prime	-347	844	2,167
Remain subprime	-336	-29	561
Has at least one first-lien mortgage (percentage points)			
Remain prime	-0.22%	0.58%	1.72%
Near-prime to prime	4.77%	7.62%	10.99%
Remain near-prime	1.78%	3.18%	4.48%
Subprime to near-prime	0.75%	1.75%	2.84%
Remain subprime	-0.26%	-0.03%	0.76%
Has at least one HELOC (percentage points)			
Remain prime	-0.89%	-1.17%	-0.41%
Near-prime to prime	-0.23%	-0.08%	0.81%
Remain near-prime	-0.09%	-0.08%	0.31%
Subprime to near-prime	-0.13%	-0.14%	0.19%
Remain subprime	-0.08%	0.09%	0.16%

Note: The analysis is based on consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. Prime consumers are those with Risk Scores of 720 or above, near-prime are consumers with Risk Scores between 620 and 719, and subprime are those with Risk Scores below 620.

TABLE 4

Changes in Credit Card Limits, First-Lien Mortgages, and HELOCs — Lower-Income Consumers

	Q1 2020–Q1 2021	Q1 2020–Q1 2022	Q1 2020–Q1 2023
Credit card limit ($)			
Remain prime	90	1,911	4,512
Near-prime to prime	1,184	4,133	7,815
Remain near-prime	774	2,812	5,054
Subprime to near-prime	29	1,220	2,360
Remain subprime	-120	271	793
Has at least one first-lien mortgage (percentage points)			
Remain prime	1.73%	3.75%	5.70%
Near-prime to prime	5.58%	9.10%	12.77%
Remain near-prime	2.47%	4.53%	6.04%
Subprime to near-prime	1.27%	2.70%	3.76%
Remain subprime	0.03%	0.47%	1.37%
Has at least one HELOC (percentage points)			
Remain prime	-0.23%	-0.25%	0.09%
Near-prime to prime	0.01%	0.14%	0.71%
Remain near-prime	-0.06%	-0.01%	0.25%
Subprime to near-prime	-0.08%	-0.05%	0.17%
Remain subprime	-0.05%	0.14%	0.20%

Note: The analysis is based on consumers aged 20–65 from the FRBNY Consumer Credit Panel/Equifax Data. Prime consumers are those with Risk Scores of 720 or above, near-prime are consumers with Risk Scores between 620 and 719, and subprime are those with Risk Scores below 620. Lower-income consumers are consumers whose imputed household income (imputed from the 2019 SCF for the pandemic analysis and the 2007 SCF for the Great Recession analysis) falls below the imputed median income of their state.

Two-sided t-tests compare those who experienced upward transition with those who remained in the same risk category, and all are significant at a 1 percent level on credit card limits, first-lien mortgages, and HELOCs, with one (insignificant) exception on credit card limits (between subprime to near-prime and remain subprime within a year), and two exceptions on HELOCs (between near-prime to prime and remain near-prime within two years, and subprime to near-prime and remain subprime within three years).[10] And as Table 3 suggests, in the first two years following the pandemic, there was a decline in the share of consumers with HELOCs in general, likely because of low interest rates and increased use of other lower-cost loans, such as cash-out refinance loans. Of course, there could be alternative interpretation from the credit supply side instead of demand for credit, and we only observe the equilibrium effect.

[10] Another exception is between subprime to near-prime and remain subprime consumers: Change in the proportion of consumers having a HELOC within a year is only significant at the 5 percent level.

Lower-Income Consumers Gained Increased Access to Credit During the Pandemic

Table 4 presents the same set of outcomes as in Table 3 for lower-income consumers. Lower-income consumers who experienced an upgrade in risk categories also experienced large credit card limit increases, and there were substantial increases in the shares of lower-income borrowers with at least one first-lien mortgage or a HELOC. All results on credit card limits and first-lien mortgages are significant at the 1 percent level. Half of HELOC outcomes are insignificant, including the HELOC change within a year for all categories and the HELOC change for those who moved from subprime to near-prime compared with those who remained near-prime in three years.

Even within four quarters from the onset of the pandemic, lower-income consumers who were in the near-prime category and moved up to the prime category experienced an average increase in their credit card limit of $1,184, compared with an increase of $774 for those who remained in the near-prime category. The one-year change in credit card limits was larger among lower-income consumers than the full sample, but the gap converged over time. Lower-income consumers with at least one first-lien mortgage increased by 12.8 percentage points from Q1 2020 to Q1 2023 for those who moved from the near-prime to the prime category, compared with a 6.0 percentage point increase for those who remained in the near-prime category. The change in the share with a HELOC was 0.7 percentage point versus 0.3 percentage point for the same risk category and study period. In short, lower-income consumers also experienced improvement in their access to credit, in addition to improved Risk Scores, during the pandemic.

Most Recent Trends Through Q4 2023 Remain Unchanged

Tables 1 to 4 report Risk Score dynamics and access to credit up to three years following the onset of the pandemic. Additional analyses are conducted to examine the Risk Score migration and access to credit up to Q4 2023. All trends remain, and there is no sign of worsening in either the risk category or access to credit. Between Q1 2020 and Q4 2023, the proportion of consumers moved from the near-prime to the prime category is 40.7 percent, slightly higher than the 37.7 percent by Q1 2023 in Table 1. For lower-income consumers, it is 35.6 percent by Q4 2023, versus 32.8 percent by Q1 2023. Between Q1 2020 and Q4 2023, for those who moved up from near-prime to prime, credit card limits increased by $10,942, the proportion having at least one first-lien mortgage increased by 12.0 percentage points, and the proportion having a HELOC increased by 1.2 percentage points by Q4 2023. All of these are slightly higher than the Q1 2023 numbers.

Implications and Future Research

Credit scores have played a central role in consumers' economic lives and have become an important determinant of individuals' financial and economic opportunities. Overall, the results suggest that the credit score gap, measured by Risk Scores, between high- and low-Risk Score borrowers narrowed during the pandemic. Consumers, including those with lower incomes, were more likely to experience an upward migration in credit risk categories during the pandemic than they were during the Great Recession. At the same time, there was an improvement in access to credit, reflected by increased credit card limits and improved access to first-lien mortgages or HELOCs among those who experienced an upward migration in their credit risk category, including lower-income consumers.

Of course, there could be other explanations for our findings. It is still unclear how much of the equilibrium outcome can be explained by changes in credit supply instead of demand. It is also worth noting that credit scores have a mean-reverting issue (Musto, 2004): Negative information on a credit report (such as a bankruptcy) is automatically removed after a certain number of years. Consumers whose credit scores declined during economic downturns would see their scores gradually return to a normal level in the long run, even without any behavioral changes or policy remedies.

Furthermore, several streams of future research can help shed light on the findings documented in this brief. First, future research is needed to identify whether the observed changes in Risk Score or access to credit are primarily driven by government policies such as the CARES Act, stimulus checks, and extended unemployment insurance benefits, or if they were driven by consumers' behavioral changes, such as reduced commuting and travel expenses during the pandemic. Either policy or behavioral changes would help improve consumers' disposable income and reduce their debt, but the implications would differ. Separating the two would help evaluate the effectiveness of government policies.

Second, future research is needed to examine whether the policies or programs adopted during the pandemic can provide long-term financial benefits for consumers. Many forbearance and relief programs adopted during the pandemic have ended. It is worth exploring whether the improvement in Risk Scores during the pandemic is temporary or holds in the long term and whether the improvement of Risk Scores is associated with better access to credit in the long run. Additional research is also needed to find out whether the credit products held by consumers who moved up in credit risk categories bear a higher risk. There may also be long-term risks as income support programs are phased out. Large bank credit card and mortgage data show signs of concern: Credit card delinquency rates through Q3 2023 exceeded pre-pandemic levels, and the share of borrowers making only minimum payments climbed above 10 percent for the first time since 2019.[11] However, there has been no sign of deteriorated performance in the mortgage market. All these are left for future research when data become available.

On balance, improved Risk Scores appeared to bring about improved credit access for consumers, including lower-income consumers, during the pandemic. Thus, programs that can help the less advantaged population improve their credit rating have their merits. For borrowers with no or limited credit histories who are creditworthy but would otherwise be denied because they do not qualify for traditional credit scores, encouraging lenders to incorporate alternative credit data could potentially increase their access to credit.

[11] See www.philadelphiafed.org/surveys-and-data/large-bank-credit-card-and-mortgage-data.

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