



Why Credit Cards Played a Surprisingly Big Role in the Great Recession

When economists and policymakers try to understand how a credit crunch within the financial sector affects consumers, they usually don't think of the credit card market. They should.

By Lukasz Drozd

Economic Advisor and Economist
FEDERAL RESERVE BANK OF PHILADELPHIA.

The views expressed in this article are not necessarily those of the Federal Reserve.

Twelve years after the Great Recession, one of the biggest economic disasters of the modern era, economists still debate exactly what led to its persistent declines in employment and output. The basic narrative is clear: The collapse of the housing price bubble destroyed swaths of wealth, and the ensuing credit crunch within the financial system tightened borrowing constraints on firms and households, depressing consumption and investment across the

economy. But this basic narrative raises further questions. Which was more important, the destruction of wealth or the tightening of borrowing constraints? How much of the decline in output was directly caused by these initial shocks, and how much by the subsequent, domino-like propagation mechanisms? What *were* these propagation mechanisms? Finally, what does the Great Recession teach us about the macroprudential regulation of credit markets?¹

Economists are still answering these questions, but one of their key insights is that severed access to credit played a big role.² This insight has spurred renewed interest in mapping the exact mechanisms that drove the tightening of credit to firms and households across different markets, and in these mechanisms' macroprudential ramifications.

When economists and policymakers try to understand how a credit crunch within the financial sector affects consumers, they usually don't think of the credit card market. Historically, credit card borrowing has been small, and credit card debt involves a soft long-term commitment of lenders to terms—an arrangement known to be more stable and less prone to credit supply disruptions than other forms of debt—so it's not obvious how, to the detriment of borrowers, tightening of credit conditions within the financial system could severely contract available credit, force early debt repayments, or unexpectedly hike interest payments on outstanding credit card debt.

But, as I will explain, by 2008 the credit card market had grown enough to have a notable impact on aggregate consumption demand. More importantly, by 2008 a large fraction of credit card debt was de facto short-term debt. In particular, by 2008 many credit card borrowers were reducing their interest rate payments by moving balances from card to card to take advantage of the then-ubiquitous zero-APR promotional credit card offerings.³ After Lehman Brothers collapsed in mid-2008, triggering a credit crunch within the financial sector, the zero-APR offers that had sustained the low cost of credit card debt vanished from the market, leading to a massive and, for many borrowers, unexpected interest rate hike on expiring promotional debt. As I will argue, this led such borrowers to cut their consumption so they could repay debt early, which contributed to the decline in consumption demand during the Great Recession.

Policymakers should keep an eye on promotional lending, and perhaps even reserve a permanent spot for credit cards in their macroprudential policy considerations. The COVID-19 crisis reminds us that credit card borrowing remains fragile.

The Rise of Credit Card Debt

Until the 1950s, credit cards were a form of store credit, limited to purchases of goods and services from a single issuing merchant and too inconvenient to become a major source of credit for households. It was the success of the first general-purpose charge card, issued by Diners Club in the early 1950s, that inspired Bank of America to combine a credit line with a charge card and offer BankAmericard, the first general-purpose credit card. By the 1970s, more than 100 million such cards were in circulation. Bank of America began licensing its BankAmericard to other banks that were issuing credit cards, eventually spinning off BankAmericard as a separate company called Visa.

But the revolution in payment technology did not spur a revolution in lending right away. In the 1960s and 1970s, credit cards were mainly used as a payment instrument, and borrowing on credit cards did not take off until the 1980s. What delayed the growth of credit card lending was the combination of high inflation and usury laws that capped interest rates.⁴ With a tight cap on interest rates, and with inflation driving up the cost of funds for lenders, credit card lending struggled to make a profit in the 1970s. In fact, by the end of the decade, due to a double-digit spike in inflation, many credit card lenders found themselves on the brink of collapse.⁵

The credit card industry was saved in 1978, when the U.S. Supreme Court, in *Marquette National Bank of Minneapolis v. First of Omaha Service Corporation*, ruled that if the interest rate cap in the state where the bank is chartered is higher than in the state where it offers its product (in this case, a credit card), that bank may charge a rate subject to the higher cap. In other words, the court allowed a bank to "export" its interest rate cap to other states, which in the case of First of Omaha meant that the company could issue a credit card in Minnesota and charge an interest rate in excess of Minnesota's comparatively low cap of 12 percent.⁶

The broader implication of the Supreme Court ruling, however, was that, by creating competition between states to attract bank headquarters, it not only relaxed usury laws for lucky issuers—such as First of Omaha—but dismantled usury

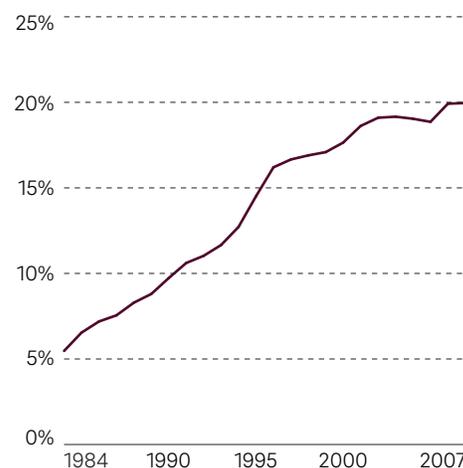
laws for the credit card industry altogether. Recognizing an opportunity for additional tax revenue, South Dakota and Delaware were the first states to raise their usury laws' ceilings on interest rates. Credit card issuers did not wait long to relocate their operations to these lender-friendly states, and to this day their major offices can be found in Wilmington, DE (for example, JPMorgan Chase), or Sioux Falls, SD (for example, Citibank). To retain their financial institutions, other states began loosening their usury laws as well, and today many states have no limit on credit card interest rates.

Following the *Marquette* decision, credit card borrowing steadily rose, notably crowding out nonrevolving consumer credit and gradually turning America into a credit card debtor nation (Figure 1). What fueled this expansion—especially in the 1990s—was the steady spread of credit card lending among lower-income and riskier households. Credit card debt per household relative to the annual median household income roughly doubled every decade until the 2008 financial crisis, topping 20 percent for a household with

FIGURE 1

Credit Card Borrowing Rose to Prominence in the 1990s...

Credit card debt per family as a percentage of median annual family income, 1984–2007



Sources: Board of Governors of the Federal Reserve System (U.S.), G.19 Consumer Credit, Total Revolving Credit Owned and Securitized, Outstanding [REVOLSL], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/REVOLSL>, September 29, 2020. U.S. and Census Bureau, Current Population Survey, March and Annual Social and Economic Supplements, 2019 and earlier.

at least one card by early 2008.⁷ Since much income growth over the last several decades has occurred among the top 1 percent of earners, and these earners do not borrow on credit cards as much, the median rather than the mean household income provides a better picture of how important credit card lending had become for the majority of households.⁸ For low-income households, credit cards often replaced far more expensive options, such as “loan sharks” or payday lenders, and so the growing availability of credit card debt has importantly contributed to the “democratization of credit” in the U.S. (Figure 2).

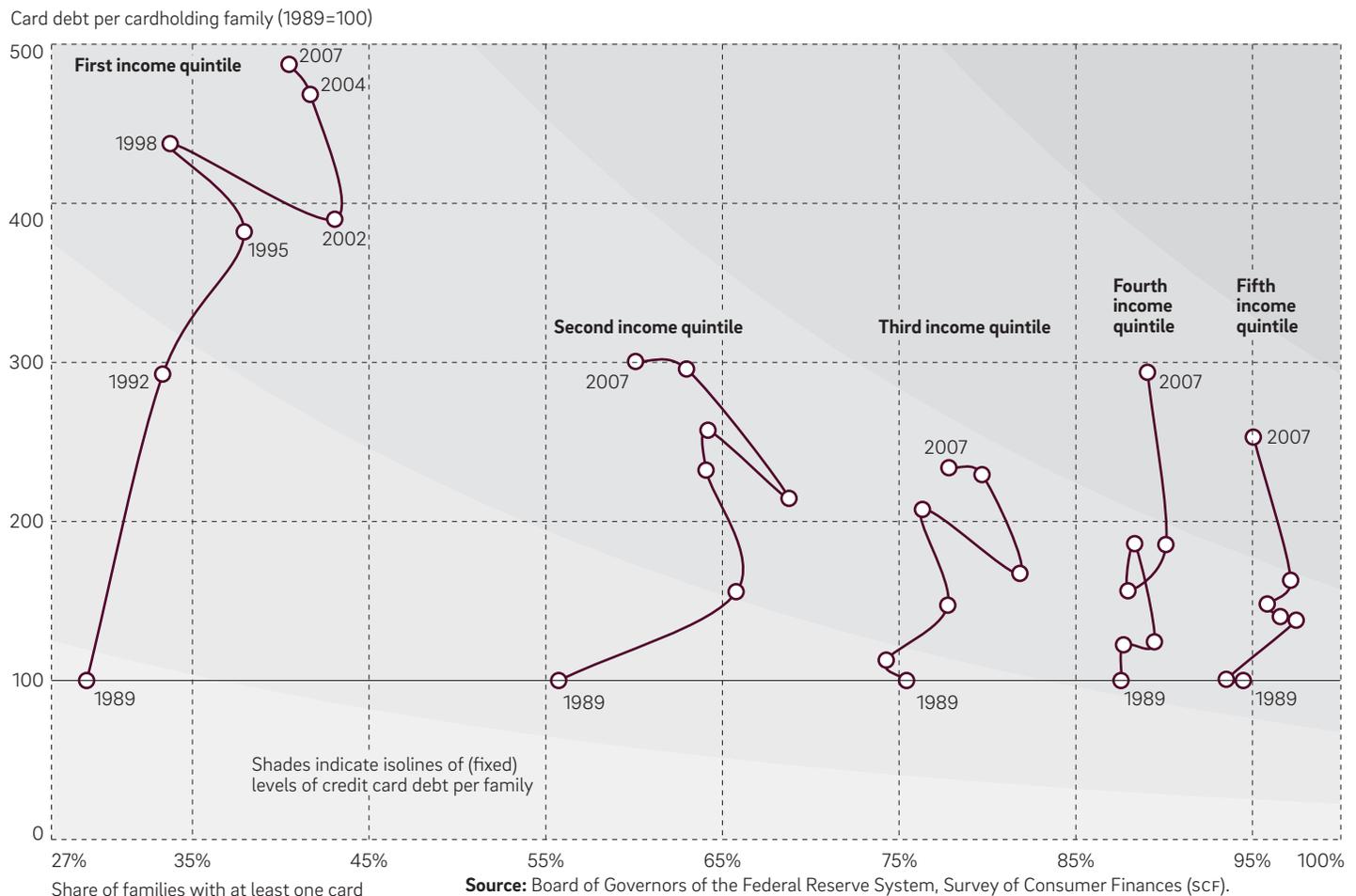
Although the Supreme Court ruling enabled the industry to grow, it was, according to economic research, the convenience of credit card debt and the rapid progress in information technology that drove the unprecedented, decades-long expansion in credit card borrowing. Information technology affected both the direct costs of lending and indirect costs associated with debt collection—a less visible but equally important pillar that sustains unsecured lending.⁹ By reducing lending costs that creditors must cover to break even, technology increased the affordability of credit card debt, fueled borrowing, and even had a somewhat counterintuitive effect of increasing default risk on a statistical dollar of outstanding credit card debt despite all

the progress in credit scoring technology.¹⁰ The overhaul of the U.S. personal bankruptcy regulations in the Bankruptcy Reform Act of 1979, which made discharging credit debt in court far easier, and the overall increasing demand for debt by U.S. households were two other factors that contributed to the growth of borrowing on credit cards on the demand side.

By the 2000s, credit card companies were making more money from credit card lending than from merchant or interchange fees. (Merchant or interchange fees are the fees paid by merchants on each transaction settled using a credit card.) By 2003, of \$95 billion in the credit card industry’s total revenues, interest revenue (that is, revenue earned from finance charges) amounted to \$65 billion, with lending-related penalty fees and cash advance fees contributing another \$12.4 billion. In comparison, merchant fees contributed just \$16 billion to revenue. Even after subtracting \$50 billion in costs and default losses, lending, though a more costly part of the business, still came out on top in 2003. These numbers did not change dramatically until 2008, and lending maintained its prominent role.¹¹ At that point, with its \$1 trillion in debt outstanding, credit card lending had grown big enough to affect the entire economy.

FIGURE 2
...and Contributed to the Democratization of Credit in the U.S.

Growth of credit card borrowing by income quintile, 1989–2007



The Origins of “Zero”

As the credit card market became saturated in the late 1990s and early 2000s, competition for customers intensified. Balance transfers and promotional-rate offers proliferated as the leading marketing tools.¹² The *Marquette* ruling, by unifying regulations, set the stage for massive, nationwide mail-marketing campaigns and permitted lenders to realize economies of scale in marketing and processing. By the end of the 1990s, an ever-increasing volume of mail-in offers defined the credit card industry, and does so to this day.¹³

In the mid-1990s, Providian Financial Corporation became the first issuer to drop a seemingly unprofitable offer into people’s mail: a credit card with a zero APR on balance transfers. This offer allowed consumers to transfer their outstanding balance from any other credit card account into their new Providian account (just like any other balance-transfer offer) and pay no interest for an introductory period. The bank could profit later only if consumers for some reason did not repay debt after the promotional rate expired, or if they violated the “fine print” of the contract, triggering a penalty rate reset.

At the time, Providian had a highly profitable credit card business and was on the forefront of the industry’s expansion to low-income customers.¹⁴ The new market looked promising but risky: Lower-income customers had lower balances and were more likely to default, making it difficult for credit card companies to cover the fixed costs of opening and operating their accounts. Such conditions normally necessitate higher interest rates, but high interest rates may also discourage borrowing, leaving lenders exposed to default losses and bringing too little interest income on borrowing to make a profit.

Litigation against Providian in the late 1990s, which led to the credit card industry’s largest Office of the Comptroller of the Currency (OCC) enforcement action, offers a unique glimpse into how the company approached the marketing of credit cards and what led it to offer zero APR. This evidence suggests that behavioral psychology rather than competition was the key factor behind the invention of “zero.”

For example, in one of 12 internal memos to Providian’s top executives that became public in the course of litigation, Andrew Karr—the founder of Providian, its CEO, and later a strategic adviser to the company—described in this way how the company planned to profit on subprime customers: “Making people pay for access to credit is a lucrative business wherever it is practiced.... Is any bit of food too small to grab when you’re starving and when there is nothing else in sight? The trick is charging a lot, repeatedly, for small doses of incremental credit.”¹⁵ The memo confirmed that the company was indeed concerned that raising interest rates to compensate for higher lending costs might backfire, and it explained why its marketing strategy was aimed at mitigating this issue by obscuring the true cost of debt from borrowers—as the litigation showed.

Karr later echoed the content of this memo in a rare interview by explaining that he suggested zero promotional

rates to Providian executives because seeing “zero” leads borrowers to “believe what they want to believe,” which one can infer he saw as being conducive to increased borrowing by consumers even if competition ensues.¹⁶

Providian paid a hefty price for its aggressive practices in the early 2000s, but the litigation was about the company’s deceptive practices, not the products themselves, and zero APR lived on to become the hallmark of the credit card industry in the 2000s.¹⁷ Providian’s approach may not be representative of the industry as a whole, but recent research shows that behavioral psychology provides a good explanation for the widespread use of zero APR.

The Behavioral Economics of Zero APR

Zero-APR offers challenge standard economic theory featuring rational consumers. When Boston Fed economist Michal Kowalik and I studied a standard model of credit card lending in which lenders can offer any introductory promotional rate to (rational) borrowers, we found that, under standard economic theory, rates should fully price in the risk of default and the cost of funds, resulting in flat interest schedules and few introductory promotions. Although the model can generate introductory promotional offers when the default risk of a borrower is expected to decline sharply, such occurrences are rare, and under plausible conditions the model does not even come close to accounting for the large volume of such offers in the data.

The key reason is that *rational* consumers are best served by prices that closely reflect the true resource cost of lending them money—which, among other items, includes the compensation to the lender for bearing the risk that the borrower may default under some circumstances (default risk premium).¹⁸ In particular, when the price of credit is too low for a period of time, as is the case with a promotional introductory offer, credit card customers borrow too much: The benefit that accrues to them exceeds the cost implied for the lender by the fact that the customer may default on this amount later on. Rational borrowers realize that this cost must eventually be passed onto them because lenders must break even, and for this reason they prefer flat schedules. The key virtue of a competitive market is that competition between lenders drives down prices to a common break-even point, which implies that, to attract customers, lenders must offer the product that best suits the customer.¹⁹

So why do we keep finding zero-APR offers in our mailboxes? Research in behavioral economics may have the answer. This research suggests that zero APR may indeed let people “believe what they want to believe.”

The best-known piece of evidence supporting this theory comes from an influential albeit unpublished study by University of Maryland economists Lawrence M. Ausubel and Haiyan Shui. In collaboration with a major credit card issuer, Ausubel and Shui performed a unique study of credit card marketing that involved an experiment of

simultaneously mailing several different offers to tease out customer bias for promotional introductory offers. In cooperation with the issuer, the researchers tracked the activity on the accounts after the offers were accepted. To assess the customer's choice, they also calculated the interest rate payments the customer would have faced had they chosen a different offer.

Surprisingly, customers on average chose what the rational model would deem a “wrong” offer. More importantly, they were not simply accepting offers at random, possibly ignoring the offered terms; to the contrary, customers were attracted to offers that minimized their immediate interest payments, even if choosing such offers cost them more later. Ausubel and Shui concluded that consumers fail to accurately predict their future behavior, which leads them to erroneously think that they are picking the best offer.

In particular, Ausubel and Shui have demonstrated that the results of their experiment are consistent with naïveté hyperbolic discounting—the leading theory of consumer myopia put forth by Harvard economist David Laibson and earlier shown successful in addressing several puzzling observations in consumer credit markets. According to this theory, borrowers have an idealistic view of their future self, incorrectly believing that their future self will have almost no debt and pay no interest. This idealistic view leads them to underestimate the burden of the interest-rate hike associated with the expiration of an introductory offer. As a result, they prefer introductory offers and underestimate the significance of these offers' high reset rates.

Ausubel and Shui also found that this theory fits the data well for parameter values consistent with earlier work with this model. By assuming the same parameter values, Michal Kowalik and I showed that this theory can explain the widespread use of zero APR in the U.S. credit card market, where competitive lenders are free to design the credit card offers they send to consumers.²⁰

Of course, the fact that the leading theory of consumer myopia may explain the U.S. credit card market doesn't imply that the entire population is prone to zero-APR offers. It may be that credit card customers who did not accept a zero-APR offer in the Ausubel and Shui study are the rational ones and only the overoptimistic found promotional offers particularly attractive, leading to selection bias among study respondents. Their finding only shows that there are enough customers prone to these offers to drive promotional lending.

The Makings of a Perfect Storm

Before my work with Kowalik, surprisingly little was known about the prevalence of promotional offerings in the U.S. credit card market and their effect on the functioning of the market. Data provided by the three credit bureaus lack interest rates, and their data are the most comprehensive commercially available source of information about credit market activity in the U.S. Without interest rate data, we

can't study promotional activity as carefully as we would like, and consequently we did not know much about it.²¹ In our work, for the first time, we could uncover evidence of the widespread and intricate use of promotional lending owing to the availability of regulatory account-level data covering the majority of the general-purpose credit card accounts in the U.S. right before the 2008 financial crisis—a data set large and detailed enough to characterize promotional lending in the economy as a whole. Although we suspected some use of introductory offers to reduce interest rate payments, what we found surpassed our expectations.²²

By 2008, the credit card market was essentially in the grips of zero-APR offers, with a vast amount of credit card debt being de facto short-term debt and prone to disruptions during crises. In particular, as of the first quarter of 2008, we found that 35 percent of credit card debt held on general-purpose credit card accounts was on promotional terms with rates close to zero, with an average yearlong expiration of the promotional terms. Among prime borrowers with a good credit history (that is, a credit score above 670), the percentage was even higher: 42 percent. When we factored in a typical fee of 3 percent for transferring funds at the time, and a rate on the promotional debt near zero, promotional accounts provided an average discount of about 10 percentage points from the average reset rate on those accounts—and a similar discount vis-à-vis the average interest rate paid on nonpromotional credit card debt. This was true for both the prime segment and the whole market, which shows that promotional debt importantly contributed to making credit card debt affordable to borrowers.

Crucially, balances that fed promotional accounts before the crisis were mainly transfers of debt from other accounts—as opposed to debt accrued from purchases using the new card.²³ This finding implies that consumers were not only using promotion on a massive scale but also moving funds to reduce the interest rate paid on their credit card debt, something we corroborated by showing that some borrowers were chaining promotional cards to extend the duration of promotional rates. As for the market as a whole, this observation is key, since it implies that at the onset of the Great Recession the affordability of credit card debt hinged on an uninterrupted flow of promotional offers.

Three percent on zero APR may not sound like enough for lenders to be able to break even, but lenders too could profit on the promotional offers, since they attract borrowers who later may have to pay the reset rate on the account when they are unable to switch to a new card or when their rate resets early because they violated the contract's “fine print.” Basic economic theory implies that lenders put up with this behavior precisely because they could break even and borrowers preferred such offers.²⁴ As explained earlier, a competitive market leads to the outcome that best suits the borrowers, and the evidence suggests that promotional offers suited them best.

The Perfect Storm

The September 2008 collapse of Lehman Brothers, by triggering a panic within the financial sector, set the stage for a perfect storm in the credit card market. Starved for liquidity, and expecting a recession that would harm consumers, the financial sector tightened the supply of credit to firms and households, whereupon many credit card borrowers suffered because of their heavy reliance on the constant flow of promotional offers to reduce interest payments.

The data show that preapproved and prescreened promotional balance-transfer offers had fallen more than 70 percent by mid-2008 (Figure 3), suggesting that many credit card borrowers who had previously hoped to transfer balances onto a promotional account might have had trouble getting a new card during the crisis.²⁵ Consistent with the decline in mail-in offers, promotional balance transfers dived, falling 70 percent by early 2009 (Figure 4). Not surprisingly, the fraction of promotional debt began to decline, bottoming out in 2011 at about half of its precrisis value of 35 percent. This was true for all accounts in our sample as well as just those with a good credit history (Figure 5).

Kowalik and I further investigated to what extent the deteriorating financial health of the lenders might have driven the decline, which is a proxy for the impact of the crisis on each individual lender's financing conditions. We analyzed how the county-level credit card lender health index, which we constructed, correlates with the decline in the share of promotional debt and balance transfers in each county. If a credit card issuer has a large presence in a U.S. county, and if its financial health worsens more than that of creditors in other counties, we should see a larger decline in balance transfers and promotional debt in that

county relative to other counties. This we did see, indicating that the financial sector's credit crunch was in part responsible for the declining share of promotional balances.²⁶

Of course, other factors may have also contributed to the decline in the availability of promotional credit card offers, and our research design does not allow us to quantitatively assess the relative importance of those factors. The most straightforward reason is that lenders might have discontinued promotional offers because they themselves feared a recession-related spike in defaults on credit card debt due to falling incomes and employment. Credit card debt is unsecured, which is one reason why default rates spike during recessions. By reducing credit during a recession, banks can avoid losses from rising defaults.

Connecting the Dots

The second half of 2008 was a turning point for credit card borrowing overall.²⁷ Credit card debt, despite rising steadily for decades, fell markedly relative to median household income and other types of consumer debt (Figure 6). In our work, Kowalik and I have hypothesized that the decline in credit card borrowing relative to the previous trend was driven by the collapse of promotional offerings, which then led credit card customers to either default on debt more frequently or make early debt repayments, contributing to the decline of aggregate demand during the Great Recession.

It's difficult to assess exactly how much the collapse in promotional offerings contributed to the decline in credit card

See *How Chaining of Zero-APR Offers May Amplify a Recession.*

FIGURE 3

Recession Brought an End to the Abundance of Zero-APR Offerings...

Number of mail-in preapproved credit card solicitations with a promo balance transfer offer, in millions, 2007–2013

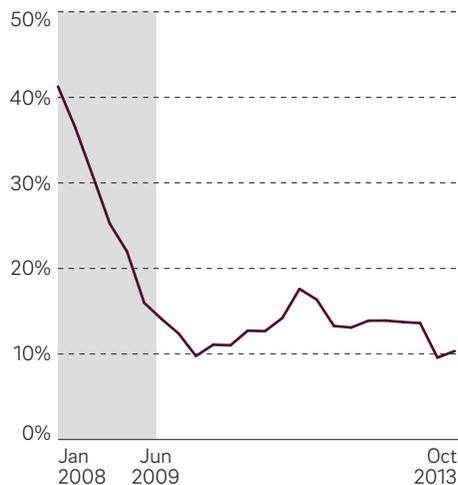


Source: Mintel Comprehedia Inc., Direct Mail Monitor Data. Note: Gray bar indicates recession.

FIGURE 4

...Promotional Balance Transfers Collapsed...

Promotional balance transfers as a percentage of credit card debt outstanding, annualized, 2008–2013

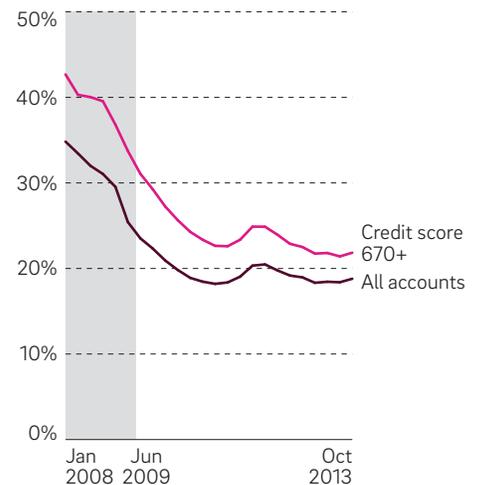


Source: Federal Reserve, Y14M. Notes: The OCC/Y14M sample includes six largest banks, eight banks in total; gray bar indicates recession.

FIGURE 5

...and the Share of Promotional Card Debt Began to Shrink...

Promotional credit card debt as a percentage of credit card debt outstanding, all accounts and accounts with at least a 670 credit score, 2008–2013



Source: Federal Reserve, Y14M. Notes: The OCC/Y14M sample includes six largest banks, eight banks in total; gray bar indicates recession.

borrowing or consumption demand. In the data, both the collapse in offerings and the decline in borrowing or consumption involve changes that triggered the recession and changes that were the product of the recession. For example, such a decline may have been partly due to a hike in defaults on credit card debt triggered by job losses during the Great Recession, which was part of a feedback mechanism rather than the trigger.

To isolate the contribution of the withdrawal of promotional offers, Kowalik and I used an economic model of the credit market that replicates what happened during the Great Recession. Using the model, we asked, what would have happened had fairly priced promotions held steady during the recession?

The results we found were troubling. According to the model, there would have been no decline from the precrisis trend in the ratio of median personal income to credit card debt per adult. Indeed, the ratio would have gone up (Figure 6).

But was the collapse in promotional offerings enough to affect consumption demand across the economy? To find out, we also compared the model's ratio of aggregate consumption to disposable income

to the same ratio in the data. This ratio is an imperfect proxy for consumption-depressing factors other than declining income, which may be a product of the recession itself and not a trigger. We estimated that, according to our model, peak-to-trough, the decline in the availability of promotional offerings contributed to about a quarter of the decline in this ratio from 2009 through 2011.²⁸

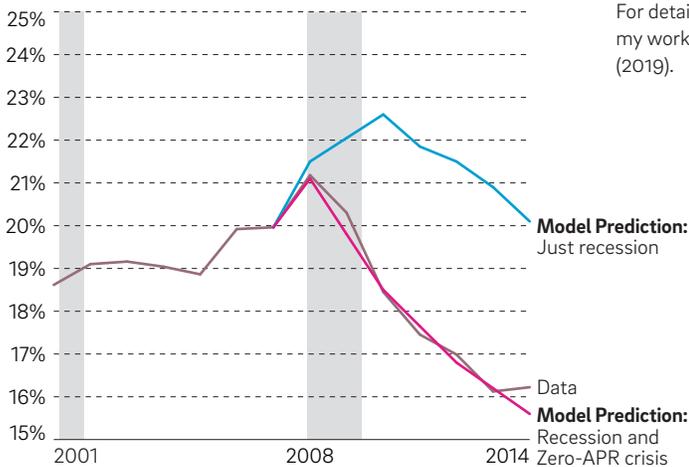
The COVID-19 Crisis: A Silent Alarm?

Fast-forward to 2020 and both balance-transfer activity and zero-APR offers have not rebounded to their respective 2008 levels (Figure 7), which has made the credit card market more stable. We do not know why the decline has persisted for so long after the recession, but the most prosaic explanation may be the right one: Having had a bad experience with zero-APR, borrowers avoided such offers after the Great Recession. Nonetheless, promotional activity and balance transfers did not disappear and may rise again in the future, which raises the question: How has promotional credit card lending fared during the more recent COVID-19 crisis?

FIGURE 6

... which Turned the Decades-Long Borrowing Boom into a Bust

Actual and model-predicted credit card debt per adult as percentage of median personal income, 2001–2014



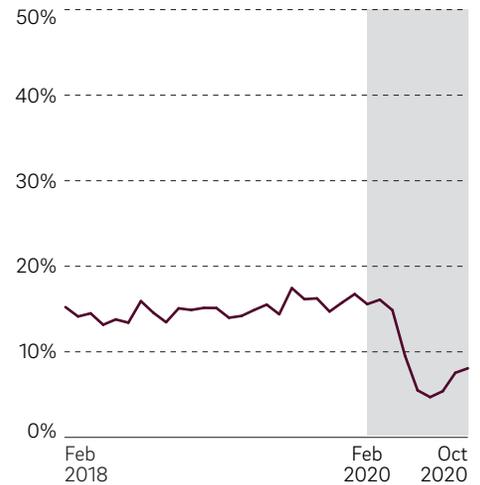
Note: Model predictions are approximate due to minor differences in data formatting and sources. For detailed analysis, see my work with Kowalik (2019).

Sources: Board of Governors of the Federal Reserve System, G.19 Consumer Credit, Total Revolving Credit Owned and Securitized, Outstanding [REVOLSL], FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/REVOLSL>. U.S. and Census Bureau, Current Population Survey, March and Annual Social and Economic Supplements, 2019 and earlier.

FIGURE 7

The COVID-19 Recession Had a Similar Effect on Balance Transfers...

Promotional balance transfers as a percentage of credit card debt, annualized, 2018–2020



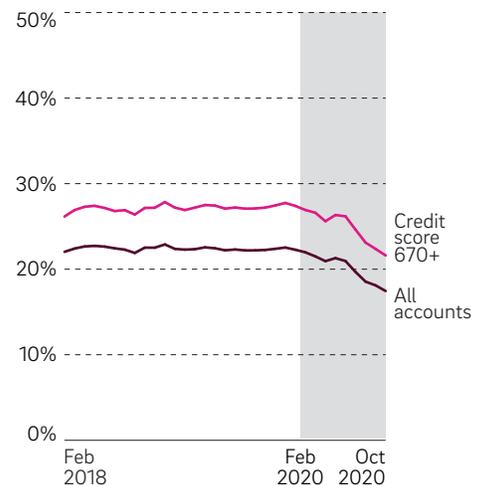
Source: Federal Reserve System, Y14M.

Notes: The data in Figure 4 pertain to a smaller sample of eight banks and are not directly comparable to data in the figure; gray bar indicates recession.

FIGURE 8

... and the Share of Promotional Debt Also Began to Shrink

Promotional credit card debt as a percentage of credit card debt outstanding, all accounts and accounts with at least a 670 credit score, 2018–2020



Source: Federal Reserve System, Y14M.

Note: Gray bar indicates recession.

How Chaining of Zero-APR Offers May Amplify a Recession

Here is how credit card borrowers chain promotional zero-APR offers: First, they charge purchases on their zero-APR credit card. Then, before the card's new, higher base rate kicks in, they apply for another zero-APR card and transfer the debt to the new card. In effect, they are extending the duration of the promotional interest rate.

For economists, there is nothing unusual about "chaining" of promotional credit card offers. It's just another instance of borrowing via rolling over short-term debt obligations—a widespread practice across the economy. However, this type of borrowing is known to be vulnerable to disruptions of the credit supply and may trigger or contribute to a recession, which is why it is monitored

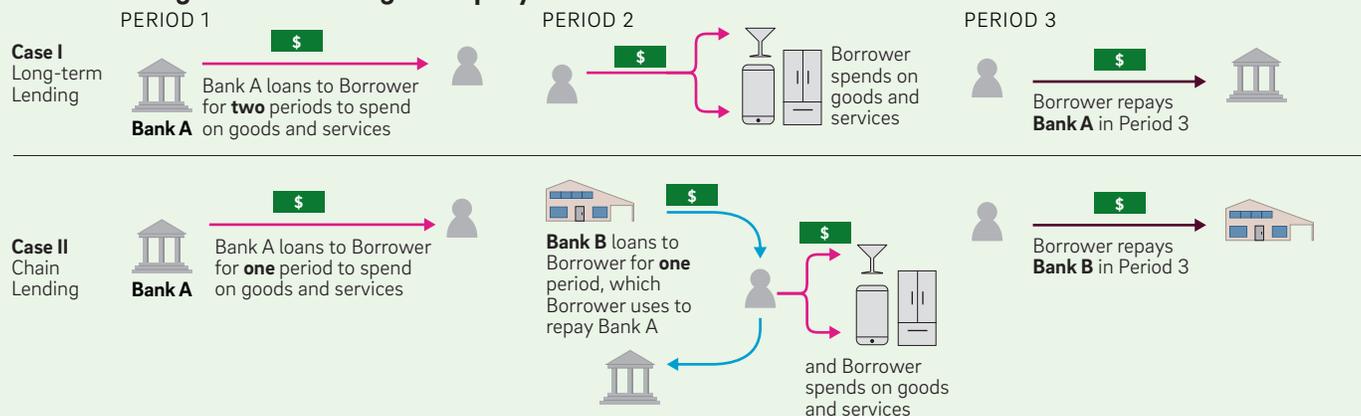
and regulated as part of macroprudential policies. (See Endnote 1 for an explanation of macroprudential regulation.)

Here is how it happens. Consider a situation where a borrower takes out a long-term loan and borrows for two periods from Bank A using two different strategies. In the first situation (Case I), debt does not become due until Period 3, and Bank A cannot request funds early. In the second situation (Case II), the borrower "chains" lenders by repaying Bank A with funds borrowed from Bank B in Period 2. Both cases lead to the same outcome when credit flow is uninterrupted: The borrowers borrow in the first period and repay in the third, effectively borrowing funds for a duration of two periods. But the

second case (Case II) is vulnerable to a credit supply disruption and the first is not. Say, for example, that in Period 2, banks decide not to lend as much, so that the borrower in Case II has a hard time finding another lender (Figure 9). This borrower will be forced to repay debt early and cut down on their spending on purchases of goods and services. Alternatively, the borrower, unable to make the payment, will default on their debt, in which case Bank A will be hurt and will possibly reduce the credit supply to other customers, which will hurt their consumption (or investment). In both situations, if banks, amid a recession, withdraw funds from the market to reduce their losses, they may amplify that recession due to reduced consumption or investment demand.

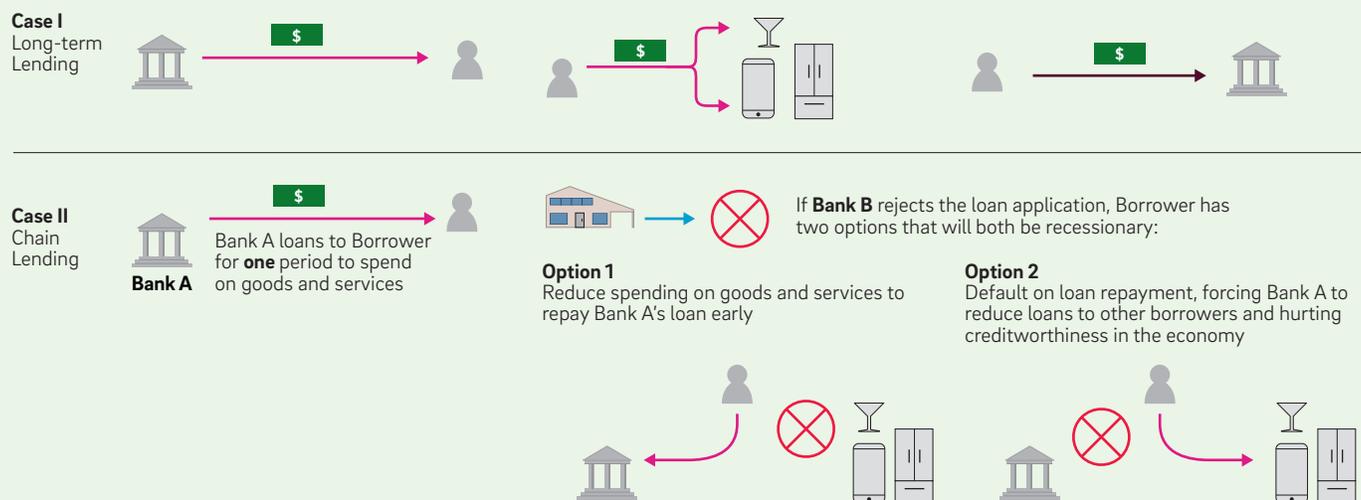
FIGURE 9

Chain Lending and How It Might Amplify a Recession



But What Might Happen If the Credit Supply Is Disrupted in Period 2?

Because the Borrower does not need a loan in Period 2, the outcome is the same.



The answer to this question is important because it helps us address another question: How vulnerable is promotional lending during a recession not triggered by a financial crisis?

Credit markets fared well during the crisis, but as for promotional credit cards, the data from the first half of 2020 are troubling because it suggests that promotional offerings might have been similarly depressed, and the overall impact of this development was lower because the starting volume was lower. In particular, the data for the first half of 2020 show a modest 4 percentage point decline in the share of promotional debt, which fell from about 22 percent prior to the Great Recession to about 18 by October 2020 (Figure 8). Worryingly, the decline in promotional balance transfers is almost as striking as during the Great Recession, falling by over 50 percent peak to trough, albeit from a volume that is less than a third of that at the onset of the Great Recession (Figure 7). As more data become available, we will be able to examine this crisis more closely, but the early indication is that promotional credit card borrowing is vulnerable during recessions that do not involve a financial crisis.

Conclusion

The 2008 financial crisis taught us that the proliferation of zero APR on balance transfers can threaten economic stability. The COVID-19 crisis reminds us that a significant fraction of debt still originates as promotional transfers, and nothing prevents that fraction from rising again. At the very least, then, the volume of zero-APR debt and balance transfers should be carefully monitored. The credit card market is now large enough to affect the whole economy, and policymakers should keep it in mind when they craft their regulatory agendas.

Laissez faire theory holds that, if both sides of a market transaction decide to use a particular credit instrument, this credit instrument is likely socially beneficial, and the government shouldn't regulate it. But the research points to the role of flawed human psychology in the rise of zero-APR offers, and this should raise concerns about the application of the laissez faire principle. What's also worrisome is that the way lenders break even falls outside of the contract. For example, consumers may get hit with the reset rate when they cannot find another offer, or when they violate the contract's "fine print," thus exposing themselves to an imminent and unexpected rate hike on debt. The contract doesn't specify how much they will pay for borrowing—a departure from how most loan contracts are written. Such an arrangement is conducive to abuse and predatory practices. 

Notes

1 Macroprudential regulation of credit markets is an approach to regulation guided by the principle of mitigating risks to the financial system and the economy as a whole. Stress testing of banks to ensure their resilience in times of distress is an example of macroprudential regulation implemented in the aftermath of the Great Recession by the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010.

2 For an accessible discussion, see the *Economic Insights* article by my colleague Ronel Elul. See also the work by Gilchrist, Siemer, and Zakrajsek; Mondragon; and Aladangady. The study by Mian and Sufi initially suggested a modest role for credit markets.

3 The annual percentage rate (APR) refers to the annual rate of interest charged to borrowers for carried-over balances after the credit card statement closes. In a zero-APR offer, the credit card holder pays no interest on charges to their credit card for an introductory period. Thereafter, a new APR kicks in for the outstanding balance and all future charges.

4 Usury laws govern the maximum amount of interest that can be charged on a loan.

5 High levels of fraud and defaults also contributed to low profits during this early period. See Evans and Schmalensee (page 72) for more details.

6 According to the court's unanimous opinion, the National Bank Act of 1864 created a path toward a national consumer lending economy.

7 See Livshits, MacGee, and Tertilt; Drozd and Serrano-Padial; and Athreya, Tam, and Young for detailed analyses of the growth of credit card borrowing in the U.S. Jaromir Nosal and I provide an analysis of how a decline in the fixed cost of lending leads to an expansion in access to lending.

8 According to data from the Survey of Consumer Finances (SCF), the mean credit card debt per household whose income is close to the median (that is, between the 40th and 59th percentiles of income) has been almost identical to the overall mean credit card debt per household between 1989 and 2007. This is not true for income. In the same data source, income per household close to the mean was lower by 50 percent in 1989 and by 70 percent

in the 2000s. This shows that income is more concentrated at the top of the income distribution than debt, and hence the burden of debt for the majority of households is best captured by using median income instead of mean income. For more details on the income growth among top earners, see the *Economic Insights* article by my colleague Makoto Nakajima.

9 See my work with Ricardo Serrano-Padial for more details on the connection between debt collection and credit card lending.

10 See my work with Ricardo Serrano-Padial. “Default risk” measures the fraction of debt that lenders expect will not be paid back because some credit card borrowers may default, and debt may be deemed nonrecoverable. Because credit card debt is unsecured, and debt can be discharged in court, default risk is substantial on credit cards. One measure of default risk is the so-called charge-off rate on a credit card debt portfolio: the fraction of debt charged off the creditor’s books after 180 days of being delinquent during a period, net of any recovered and previously delinquent debt over the same period.

11 See the article by James J. Daly. In their monograph, Evans and Schmalensee report very similar numbers in the credit card market for the preceding year.

12 In 1991, Capital One became the first issuer to introduce a balance-transfer offer.

13 Evans and Schmalensee report that, by the 2000s, 75 percent of credit accounts were initiated via prescreened offers.

14 The company was known to use advanced (for that time) modeling to thoroughly understand the behavior of its customers. See online post by Andrew Becker.

15 The memos were published by the *San Francisco Chronicle* after a year-long legal battle with Provident to make them public. Excerpts of the 12 released memos can be found in the *Chronicle* article by Sam Zuckerman.

16 The interview appears in the 2004 PBS *Frontline* documentary “Secret History of the Credit Card.” The documentary can be found at <https://www.pbs.org/wgbh/pages/frontline/shows/credit/>.

17 Provident settled in 2000 for \$105 million after already reimbursing customers at least \$300 million. The company was sold to Washington Mutual in 2005 for approximately \$6.5 billion. Its credit card portfolio at the time amounted to 10 million card holders.

18 In the case of credit cards, the risk of default is significant given the unsecured nature of credit card debt. Borrowers may default on unsecured debt by filing for bankruptcy. Since the borrower does not have to offer collateral as potential compensation to the lender, the lender is at risk of never receiving payment on the principal amount owed. And, even if the borrower does not file for bankruptcy, their (usually) small amount of debt may make debt collection prohibitively costly for the lender, leading to a widespread phenomenon of “informal bankruptcies.” For more details, refer to my work with Ricardo Serrano-Padial.

19 Consider a situation in which a borrower is encouraged to draw an additional dollar of debt because of a low promotional interest rate. Suppose this borrower will default on this additional dollar of debt when they lose their job. In a competitive market, the borrower must compensate the lender by paying more interest in the future for the additional risk of default because the lender must break even on average. In the model, the additional benefit from the dollar when the borrower becomes unemployed outweighs the cost of paying more interest when the borrower keeps their job—an effect that makes introductory offers suboptimal for rational borrowers.

20 The evidence that Ausubel and Shui found has been confirmed in other studies, which point to similar biases in investing and saving behavior. For example, in a closely related study, Agarwal et al. show that credit card customers prefer low-annual-fee cards, even though they end up later overpaying in interest in excess of the fee.

21 Promotional lending can be studied using proprietary account-level data, but such data are typically not available at a scale that allows researchers to see how borrowers transfer balances across accounts and lenders. Prior to the Dodd–Frank Act, the OCC was the only institution we knew of that possessed an account-level data set covering a large fraction of U.S. credit card accounts. The Federal Reserve System later acquired this data set for its stress testing. The numbers reported in this article come from this merged data set.

22 These data are collected by the Federal Reserve System under Dodd–Frank to help the Fed conduct stress testing of banks. The data are available for economic research conducted within the Federal Reserve System, providing new insights into the inner workings of credit markets.

23 See figures in my work with Kowalik.

24 Our data does not allow us to calculate lender costs on the account level, and it is not possible to precisely assess profitability of zero-APR accounts. Initially, lenders do lose money on zero-APR accounts in the data, but over time we did not find any indication that these accounts are less profitable than comparable accounts.

25 Prescreened offers mailed out by credit card issuers are the main tool of customer acquisition in the credit card market, so the number of mailed-out solicitations is a reliable measure of the credit card industry’s hunger for new customers. Evans and Schmalensee report that in the early 2000s about 75 percent of credit accounts were initiated via prescreened offers.

26 Using a different approach, Keys, Tobacman, and Wang reach a similar conclusion.

27 Credit card borrowing takes place when a credit card holder does not pay back the balance in full after the credit card statement closes and “rolls over” the outstanding balance to the next billing cycle (partly or fully).

28 Consumption demand was an important factor in the Great Recession. Mian and Sufi have shown that the decline in consumption was key to explaining the fall in aggregate demand.

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