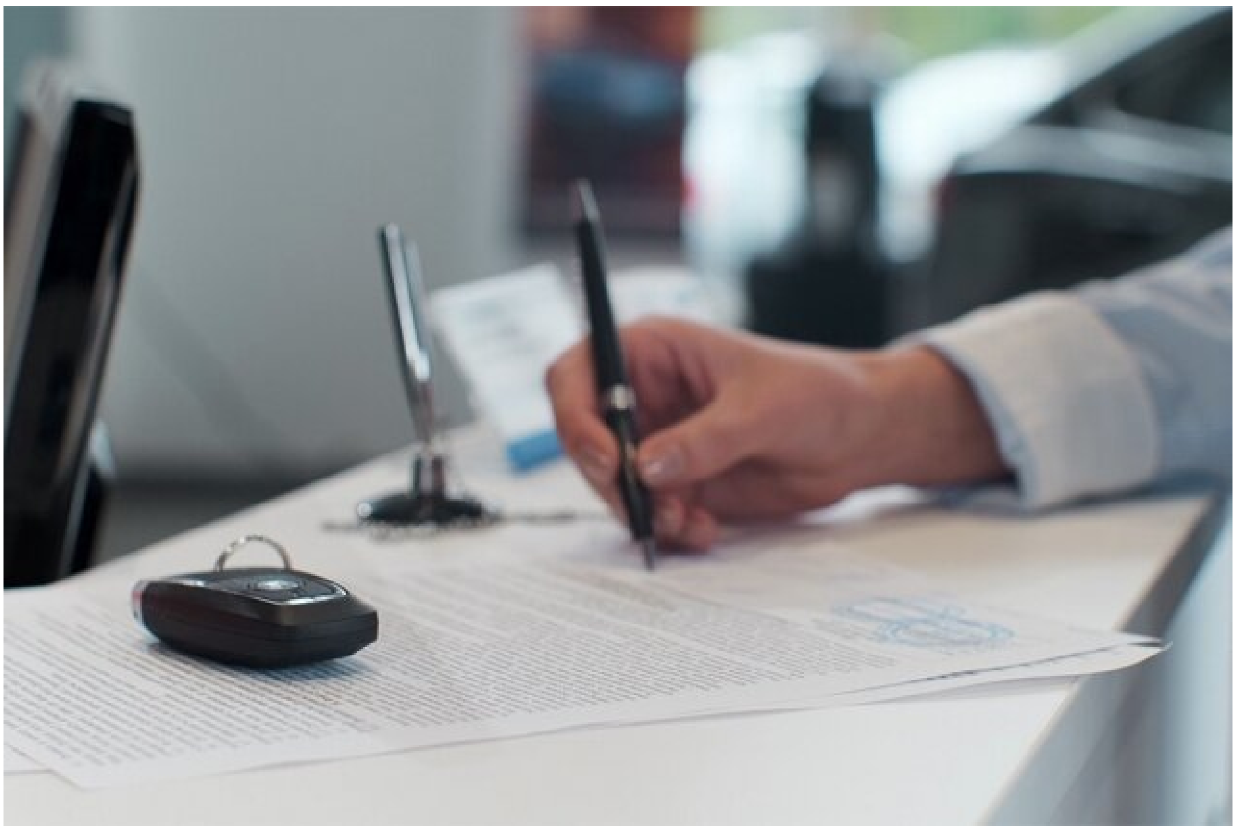
People prefer monthly payments in multiples of $100, even when it may cost them money

February 21 2020, by Peter Dizikes



A new study shows that even when people are given multiple financing options, many smooth out the monthly payments into multiples of $100, often at less money per payment, but with notably increased long-term costs, even if they can afford to pay more. Credit: Massachusetts Institute of Technology

Do you have a monthly car payment, or a similar loan? Is each payment a nice round number, like $300? If so, you are hardly alone. But the appeal of that easy-to-remember payment figure may be costing you money.

That's one implication of a new study co-authored by an MIT economist, which shows how much consumers prefer monthly payment figures that are multiples of $100—indeed, the number of monthly consumer payments at dollar figures just above such multiples drops by 16 percent. That likely makes monthly budgeting easier for people to calculate. But as the study also shows, people select potentially unfavorable loan terms as a result.

"People budget with these round numbers and are trained to think in these monthly payment terms, going for the smallest monthly payment possible," says MIT economist Christopher Palmer, co-author of a newly published paper detailing the results. "In particular, people really bunch around $200 or $300 or $400 a month in payments, which probably keeps them from overspending month-to-month, but it still might not be the best approach if it leads them to pay more interest over the length of the loan."

In fact, after digging into auto loans held by more than 2 million people, Palmer and his colleagues found that this is precisely the case: Given multiple financing options, many people smooth out the monthly figures, often at less money per payment, but with notably increased long-term costs.

And while lower monthly payments are important for many, the study shows that borrowers often take such an approach when they can afford to pay more.

"One thing we did [in this study] is look at data for people with a lot of debt capacity, a low debt-to-income ratio or high credit scores, and even those people seem to make decisions based on the monthly payment amount, while ignoring the total cost of the loan," notes Palmer, the Albert and Jeanne Clear Career Development Professor in the MIT Sloan School of Management.

The paper, "Monthly Payment Targeting and the Demand for Maturity," appears in advance online form in the *Review of Financial Studies*. In addition to Palmer, the authors are Bronson Argyle and Taylor Nadauld, finance professors at Brigham Young University's Marriott School of Business.

The natural experiment

To conduct the study, Palmer, Argyle, and Nadauld studied auto loan contracts held by 2.4 million borrowers, using 319 different lenders. The anonymized information came from a data company that works with lending firms. About 70 percent of the loans originated during the period 2012-2015, though some date to 2005. The researchers also examined another 1.3 million loan applications to get a further sense of borrowers' fiscal circumstances.

A key feature of the study—giving the research a quasiexperimental form—involves its use of FICO scores, a basic credit rating. FICO scores range from 300 to 850, but at certain thresholds, some banks offer markedly different loans to customers. When you have a FICO score of 700, which is close to average, you may qualify for much better terms than if your score is slightly lower.

"If you have a 701 FICO score, at some banks you can get a much lower interest rate than someone with a 699 FICO score, even though if you asked the company that makes FICO scores, you're basically the same person," Palmer says. "But if a bank is treating similar consumers very differently, it becomes this nice laboratory for a natural experiment."

That is, if borrowers offered a variety of loan terms have the same tendency—such as winding up with round-number monthly payments—it suggests how strongly that tendency is rooted in the behavior of consumers. The phenomenon of round-number monthly payments was quickly obvious to the researchers.

"This just jumped out of the data," Palmer says. "You plot the data and people are bunching at hundred-dollar multiples."

So what's the problem, exactly?

To see why this can be a bad personal-finance habit—and clearly is, for some people—note that loans with lower monthly payments will have a greater long-term total cost, given initial purchases of the same amount.

That point applies to a second finding of the study: When consumers are offered loan terms, they respond more to changes in the maturity—the length of the loan—than changes in the interest rate.

As Palmer, Argyle, and Nadauld found, a bank offer of a 10 percent increase in loan length raises the chances that a borrower will accept the terms by 8.3 percentage points. But a bank offer of a 10 percent decrease in the interest rate raises the chances that a borrower will accept the terms by only 1 percentage point.

Why is this? As it happens, changing the maturity of the loan has a bigger impact on monthly payments, which lets more consumers bring those payments to the magic levels of $200, $300, and $400.

However, changes in loan length also bring higher long-term costs for consumers. Consider a $20,000 loan with a five-year maturity and a 5 percent interest rate. Increasing the maturity of that loan by one year lowers monthly payments by $55 but raises total interest paid by $546.

In short, by having a nose for round numbers, consumers in the new study really are paying more for their cars.

Lessons about loans

That said, Palmer acknowledges that for different people, there is not necessarily one clear answer about which approach is better: lower monthly payments or a lower long-term repayment.

"There's not great theory on what you should do," Palmer says. "What we would say you should do is figure out if that tradeoff worth it for you. If having lower payments today is worth paying more interest over the life of the loan, great, and there could be many reasons for that. But for many people I'd expect it could be better to try to get that loan over with more quickly with a shorter maturity."

Palmer hopes that one practical implication of the study would be getting people to recognize that there is a tradeoff in the first place.

"Many people think monthly payments are the responsible way to talk about how much a car costs," Palmer says. "But if you tell me you're only going to spend $300 a month on a car, I can sell you a Mercedes if I make the car loan long enough."

As the study shows, a significant number of people are gravitating toward a rule of thumb—round-number payments—when doing homework and comparison-shopping about loans is more useful. Still, perhaps it is the nature of auto purchasing that leads people to underinvest in shopping for loans.

"I get to test-drive the car," Palmer says. "I don't get to test-drive the loan."

More information: Bronson S Argyle et al. Monthly Payment Targeting and the Demand for Maturity, *The Review of Financial Studies* (2020). DOI: 10.1093/rfs/hhaa004

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