Here’s an easy game: spot the credit card provider who needs to try harder.

Most of the time, banks manage credit card limits in a fairly continuous and granular way. As credit scores go up, so do credit limits. Here is what it looks like:
That graph is bad for banks trying to make a profit, but great for academics who want to run experiments to ask this question: is reducing bank lending costs a good way to stimulate the economy?

The short answer is ‘no’ — not according to credit card data.

That’s according to a new study of US credit card spending between 2008 and 2013 from National University of Singapore, the OCC, University of Chicago and New York University (from where the graphs above originate) that looks at how banks respond when you make it cheaper for them to lend, as the Federal Reserve did following the crash.

It addresses that popularly held view that banks aren’t doing enough to lend and supports the idea that putting money in people’s bank accounts, or funding infrastructure spending, is a more effective form of quantitative easing if your aim is kickstarting spending and consumption.

First, let’s get back to those inefficient credit limits in the graph at the top. Here’s one of the study’s authors, Johannes Stroebel, explaining why it’s important:

You have two people that are near identical on all characteristics but they randomly get different credit limits. We can track their behaviour through time to see what would have happened to the person who got a lower credit limit had he gotten a higher one.

So you can see whether or not people of different economic backgrounds maxed out their credit cards again when their limit was increased.

The richest people, with the best credit ratings, barely spent a penny more if you increased their credit limit. They’re “completely unresponsive in their borrowing behaviour when they are given extra credit,” says Stroebel.
But the poorest, with the worst credit ratings, on average would have used up 60 cents in every dollar of extra lending within 12 months, as you can see in this graph from the paper.

That’s great from a short-term macroeconomic perspective. People are spending more, stimulating the economy and so on.

But if you’re the bank lending that money, it sucks. Again from the study, here’s what banks were making on the last dollar they lent through US credit cards between 2008 and 2013, along with what would have happened if they had lent another $1,000 across the board.

Banks were just breaking even on the last dollar they lent through credit cards.

Stroebel:
It isn’t like there were all these hugely profitable lending opportunities out there in the economy that banks didn’t take advantage of ... the statement by banks that the reason they were not lending more is because there were no additional profitable lending opportunities appears to hold true, at least in the credit card market. We can see that in the data.

So if banks aren’t really just greedily holding on to liquidity, why aren’t they giving it out?

For one, lending money is a risky business, particularly when the economy is tanking and loans to people with the worst credit ratings are the most likely to go bad. In fact, there’s a strong relationship between the amount you lend to those people and the likelihood you won’t get that money back.

Another way of putting it is that banks don’t want to lend to people who most want to borrow. The study found a 1% point reduction in cost of funds resulted in just $127 of extra credit for the poorest borrowers, but over $2,000 for the richest.

Given that we know banks were lending in a way that maximised their profits, here’s how the study modelled what’s going on here.
This graphs show the relationship between costs, revenues, and credit limits. The red line shows marginal revenues, while the blue line shows marginal costs. People with low credit scores, who we know are most likely to spend and stimulate the economy if we lend them more, are on the right.

If you’re a bank trying to maximise profits, you’ll set credit limits at the point where marginal revenues equal marginal costs. Break even.

Imagine central bank interest rates are cut, therefore reducing the marginal cost of lending.

For people with low credit scores, reducing the marginal cost of lending results in a small change in the credit limit because the cost line is so steep – i.e. there’s a strong relationship between the cost of lending and the amount of you’re lending.

On the left you have rich people.

The revenue line is more shallow because we know their borrowing is less sensitive to credit limit changes. But the central bank interest rate cut has a bigger impact on credit limits because the cost line is more shallow too.

To sum up, here’s Stroebel again, referencing US “FICO” or credit rating scores.

If your incentive is to stimulate more consumption, and that’s already an “if”, then the question is “how do we best achieve that objective?” [...] doing it through the banking sector is relatively ineffective precisely because the banks respond in a profit maximising way and that means their incentives to expand extra credit to low FICO score households is much less than it is to high FICO score households.

Which means, in addition to claims that quantitative easing is an evil tool that exacerbates wealth inequality, you can also throw in that it’s not very good at stimulating consumer spending.