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WINNERS AND LOSERS: THE BENEFITS AND DANGERS OF CREDIT

Providing large loans to small businesses in Egypt had no impact on profits for the average borrower, but entrepreneurs predicted in advance to be top performers saw much higher returns than their peers.

Featuring an evaluation by Gharad Bryan, Dean Karlan, and Adam Osman

OVERVIEW

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Lack of access to finance is a key constraint to productivity and income for small businesses worldwide.[1] Around 30 percent of firms across low- and middle-income countries report access to finance as a major obstacle.[2] Although microfinance institutions have attempted to address these constraints with the introduction of microcredit products, impacts for the average borrower have generally been modest. At the same time, banks that offer larger loans often have requirements that small, informal firms cannot meet.

Single providers of credit may have natural monopolies in some local markets, potentially exacerbating issues of access to finance for small businesses that do not have a relationship with that provider. In such settings, poor selection of clients can have a disproportionately negative effect on the local economy. For example, lending to firms with limited business potential can lead to low returns, while high-potential firms that do not receive financing suffer from a diminished ability to make productive investments and grow. Low-quality loans can also hurt the lenders themselves. When clients default, lenders face lower profits and thus lower capacity to provide financing for other firms in the future.

Researchers Gharad Bryan (London School of Economics, J-PAL), Dean Karlan (Northwestern University), and Adam Osman (University of Illinois at Urbana-Champaign, J-PAL) evaluated the impact of providing large loans on the revenues, profits, wage bills, productivity, and household expenditures of small businesses owners. These loans were up to four times larger than previous loans the firm owners had received.

KEY RESULTS

Profits and household expenditures increased by a large amount, but only for top performers. Although large loans did not have an impact for the average borrower, firm owners who were predicted to be top performers increased their monthly profits by 55 percent.

On the other hand, profits halved for firm owners who were predicted to be low performers. In some cases, larger loans even led to the firm going out of business.

Overoptimism may have been a contributing factor to the poor performance of certain firm owners. Those who identified with statements consistent with high optimism were less likely to see positive impacts of larger loans.

Loan officers may not accurately assess potential clients, leading to poor lending choices. Loan officers perceived clients predicted to be top performers to be more likely to default than those predicted to be low performers.

1 World Bank, "Global Productivity: Trends, Drivers, and Policies", 2021 - bottom of page 309 https://www.worldbank.org/en/research/publication/global-productivity

2 World Bank, "Global Productivity: Trends, Drivers, and Policies", 2021 - pg. 310 Figure 5.23 https://www.worldbank.org/en/research/publication/global-productivity

EVALUATION

In partnership with the Alexandria Business Association (ABA) and Silatech, researchers conducted a randomized evaluation to test the impacts of providing a large loan on business performance, including firm profits, revenue, and productivity, as well as the effects on firm owners' household consumption levels in Egypt.

To identify borrowers for the randomized evaluation, ABA loan officers reached out to clients they deemed suitable for a larger loan and informed them about a new lending program. Previously, clients of ABA who successfully repaid a loan would be eligible for a new loan up to 50 percent larger than their prior one. The new program instead would provide loans either four or two times larger than clients' prior loans. Loan officers were compensated for each client they added to the new program, though they were incentivized to select clients with a low likelihood of default as part of standard practice.

Clients invited to the new program completed a standard loan application and survey in which they provided business-related and demographic information. Within this survey, they also took a cognitive test and filled out a questionnaire designed to measure their personality traits, such as optimism and attitudes toward risk. For example, clients described how strongly they agreed with statements like "When I make a business decision, it is almost always the right decision" and "I tend to act first and worry about consequences later."

A credit committee reviewed loan applications, requiring that borrowers had successfully repaid at least three prior loans. Approved loans were grouped into batches of up to 133 applicants for randomization. Within each batch, researchers randomly assigned clients to two groups: a group that received a loan four times larger than their prior loan (the 4x loan group) and a comparison group (the 2x loan group) that received a loan twice as large as their prior loan. In total, 1,004 applicants were selected to participate in the new lending program in 2016 and 2017. The typical borrower was 41 years old with twelve years of business experience. The research team implemented two follow-up surveys (twenty and thirty months after loan disbursement), combining them with administrative data on loan performance to understand the effects of the loans on borrowers over time.

FIGURE 1. INTERVENTION GROUPS

4X LOAN GROUP (501 CLIENTS)	COMPARISON GROUP (503 CLIENTS)
Loan size **four** times greater than prior loan	Loan size **two** times greater than prior loan

RESULTS

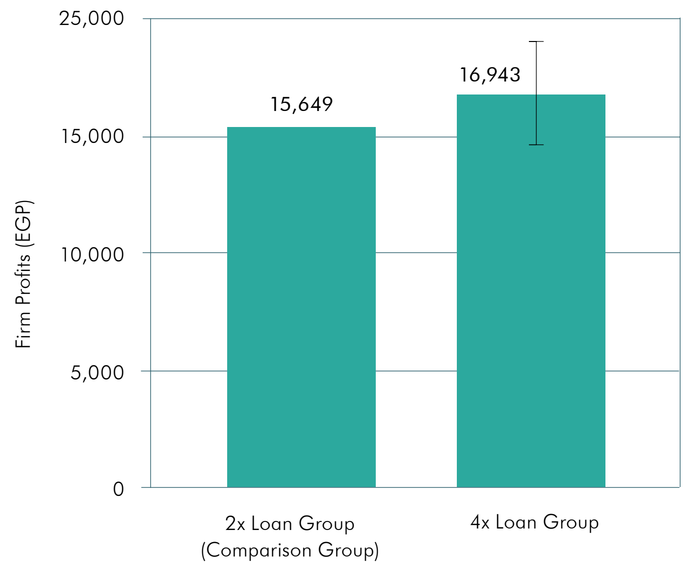
Large loans led to substantial improvements in key business and household outcomes but only for top performers. In the 4x loan group, large loans did not lead to detectable increases in profits, revenues, or productivity for the average borrower. However, researchers used clients' preintervention survey responses to predict their business performance based on cognitive ability and other traits like risk tolerance. Subsequently, they divided the borrowers into four equally sized performance buckets. Clients in the top bucket, who were predicted to have the highest performance, increased their monthly profits by EGP 8,611 (USD$662), a 55 percent increase over the comparison group. Better predicted business performance also translated to better household outcomes for top performers, with their household consumption rising by EGP 2,182 (USD$168), a 46 percent increase over the comparison group.

On the other hand, profits halved for low performers. Clients who were predicted to have the lowest performance in the 4x loan group saw their profits fall by EGP 8,180 (USD$629) relative to those in the comparison group. Similarly, revenues and productivity fell dramatically for the low performers in the 4x loan group. Finally, the likelihood that a firm was still in business fell by 7 percentage points for these clients, a 7.3 percent decrease relative to the comparison group average of 96 percent.

Overoptimism may have been a contributing factor to the poor performance of certain firm owners. In addition to separating borrowers into performance groups, the researchers also used the personality traits questionnaire to measure optimism and assessed how clients' degrees of optimism related to their predicted business performance. Top performers identified less with optimistic statements than low performers. This result suggests that overoptimism could lead some firm owners to make exceedingly risky and costly business decisions upon receiving a large loan.

Loan officers may not accurately assess potential clients, leading to poor lending choices. Many loan officers, including those in ABA, are incentivized to select clients they perceive to have a strong chance of repaying the loan in full. In this evaluation, researchers asked loan officers to predict each client's likelihood of default after receiving a large loan. Officers predicted that 28 percent of clients in the low performer bucket would default; their prediction increased to 46 percent for clients in the top performer bucket.

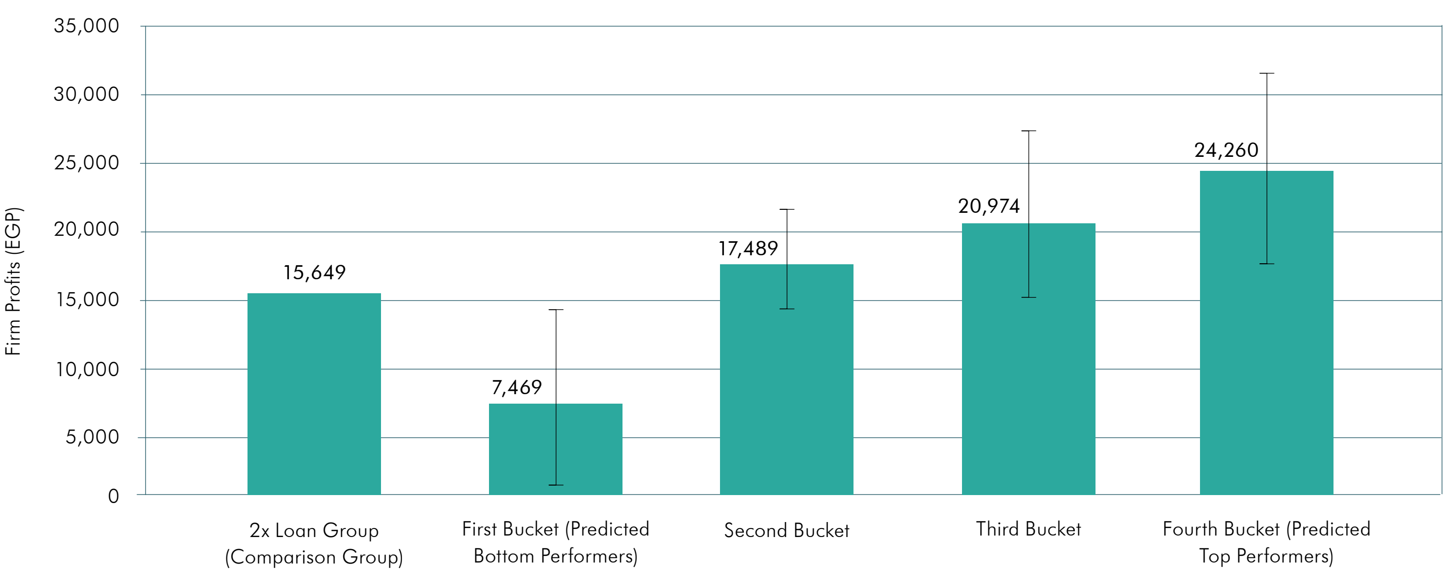
FIGURE 2. Large Loans Did Not Increase Profits for the Average Borrower



Note: The figure represents changes between the intervention and comparison groups. The average exchange rate at the time of study was EGP 13 to USD 1. Error bars represent 95 percent confidence intervals. Statistically significant difference relative to the comparison group is noted at the 1 percent (***), 5 percent (**), or 10 percent (*) level.

Source: Bryan et al. 2023, Table 4, p.41

FIGURE 3. Large Loans Increased Profits for Top Performers but Reduced Profits for Bottom Performers



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Source: Bryan et al. 2023, Table 4, p.41

POLICY LESSONS

Providing entrepreneurs with larger loans can lead to higher returns to credit for some, but it can also harm other borrowers. The findings of this study join a growing body of evidence from multiple contexts that suggests the impacts of access to finance can vary depending on certain client traits.[3,4,5] For example, households in India that were already managing a business before the introduction of microcredit made more than twice the revenue than experienced households that did not gain access to microcredit. By contrast, households with no prior experience running a firm did not grow their business. Beyond microcredit, providing more productive firms with large amounts of capital could relax barriers to growth and provide substantial benefits to local economies. However, lenders and policymakers aiming to develop private sector firms should also be aware that some clients may take out more than they can handle and damage their livelihoods as a result.

Lending institutions may benefit from better, scalable client selection and targeting methods. To make predictions about which clients would be high and low performers, researchers in this study used complex algorithms that may be too sophisticated for local lenders to use and personality data that may be too costly and time-consuming for them to collect. Yet, the results of this study suggest that loan officers may be making inefficient client selections in the absence of better identification methods. Some alternative targeting methods exist, such as gathering information from community sources or collecting mobile phone data, but more research into scalable ways to identify desirable traits would be helpful in overcoming practical concerns of lenders.

3 Banerjee, Abhijit, Emily Breza, Esther Duflo, and Cynthia Kinnan. 2021. "Can Microfinance Unlock a Poverty Trap for Some Entrepreneurs?" Working Paper. Working Paper Series. National Bureau of Economic Research. https://doi.org/10.3386/w26346.

4 Meager, Rachael. 2019. "Understanding the Average Impact of Microcredit Expansions: A Bayesian Hierarchical Analysis of Seven Randomized Experiments." American Economic Journal: Applied Economics 11, no. 1: 57–91. https://doi.org/10.1257/app.20170299.

5 Meager, Rachael. 2022. "Aggregating Distributional Treatment Effects: A Bayesian Hierarchical Analysis of the Microcredit Literature." American Economic Review 112 (6): 1818–47. https://doi.org/10.1257/aer.20181811.

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