

Gender discrimination in small business lending

Evidence from Turkey

Produced by the Office of the Chief Economist, EBRD

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Similar to many other emerging markets, Turkey remains characterised by large gender gaps in the use of financial services. For instance, while 83 per cent of all Turkish men have a bank account, this is true for only 54 per cent of Turkish women. And while 43 per cent of male-owned Turkish firms say they are held back by a lack of credit, this is the case for 63 per cent of firms owned by women (EBRD, 2019). This EBRD Impact Brief explores the extent to which such gender gaps may reflect discriminatory practices among lenders.

This EBRD Impact Brief reports on a randomised lab experiment, conducted in cooperation with a large Turkish bank, to detect gender discrimination among lending staff.¹ Such discrimination occurs when male and female credit applicants are treated differently even though they are very similar in terms of other characteristics, such as their age, business experience and education. During the experiment, bank staff had to review credit applications from small-business owners where the gender of the applicant had been randomised.

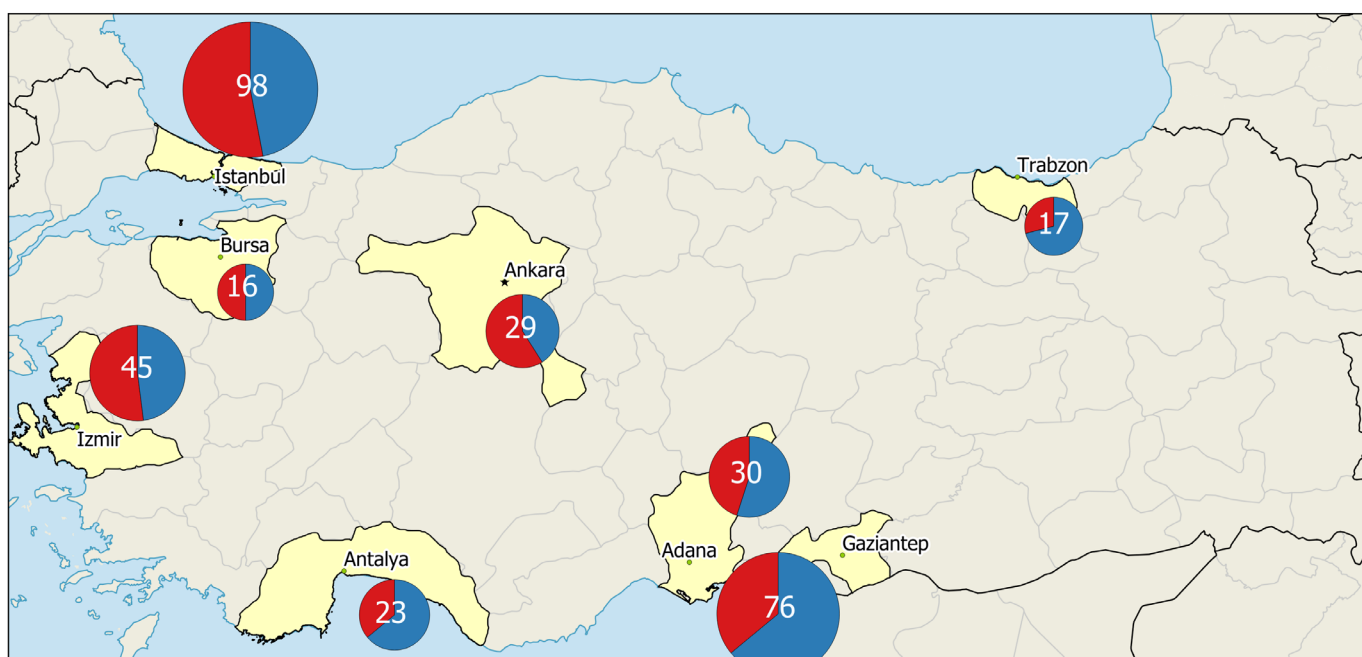
The experiment took place over a two-month period, during which 334 bank employees (relationship managers and their supervisors) participated in interactive classroom sessions across eight Turkish cities (see Chart 1).

Each participant had to evaluate eight credit applications – two rounds of four – and their tasks were as follows:

1. They had to decide whether to approve or reject each application.
2. In the case of approval, they had to indicate whether approval was conditional on a guarantor being present.
3. They also had to provide a subjective risk rating on a scale from 1 to 100 reflecting how likely the applicant would be to pay back the loan.

In the first round, participants reviewed four credit applications where the gender of the applicant was randomised. Nothing else was changed in these files, which were all genuine credit applications that the bank had received in the three to six years prior to the experiment.

Chart 1. Cities where the classroom sessions were held



Source: EBRD.

Note: The size of the circle is proportional to the number of participants. The percentages of women and men who participated in the experiment are shown in red and blue, respectively.

1 For more details about the experiment and its findings, see [Brock and De Haas \(2019\)](#).



By design, the sample included high-quality (performing) as well as low-quality (non-performing or declined) applications.

In the second round, the amount of information that the participants received about applicants was randomised as well. A control group of participants evaluated files with all information present, as in the first round. A first treatment group evaluated files that lacked the credit score from Turkey's credit bureau (objective information). A second treatment group evaluated files without a section in which relationship managers and branch managers add comments to strengthen the rationale for lending (subjective information). The comments include both opinions and objective information.

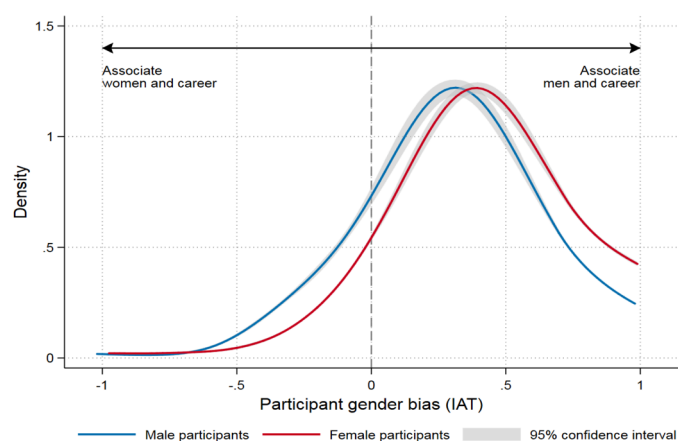
Who took part in the experiment?

The average participant was 37 years old and had five years of banking experience. Almost half of the participants were women and 43 per cent of them were supervisors, with the remainder being relationship managers. The research team also elicited risk preferences by presenting participants with stylised risk scenarios from which they had to choose one. In addition, participants took an implicit association test (IAT), a psychometric tool to measure implicit biases of people. Participants sorted, as quickly as possible, words that appeared sequentially on an electronic tablet by clicking buttons on the right-hand and left-hand sides of the screen. The IAT started with two practice rounds in which participants sorted “career” words into a “career” bucket (left) and “family” words into a “family” bucket (right). This was repeated for “male” and “female” words. After this, the IAT shuffled these categories of words. “Male” and “career” words now shared a sorting button, while “female” and “family” words shared a button on the other side of the screen (the stereotypical task). This was followed by another

task in which “male” and “family” words shared a sorting button while “female” and “career” words shared the other button (the non-stereotypical task). The time a respondent took to sort each word was recorded in milliseconds. The presumption is that respondents with a stronger association between two concepts find sorting words easier and complete it faster in one task compared to the other. The participant's implicit bias is defined as the normalised difference in mean response times between the non-stereotypical and stereotypical task. Higher values indicate stronger bias.

The results of the experiment show that 87 per cent of lending staff subconsciously associate business more with men than with women. This tendency is stronger among women: the IAT scores of female participants are on average almost 40 per cent higher than those of men (See Chart 2).

Chart 2. Participant gender bias according to an implicit association test (IAT)

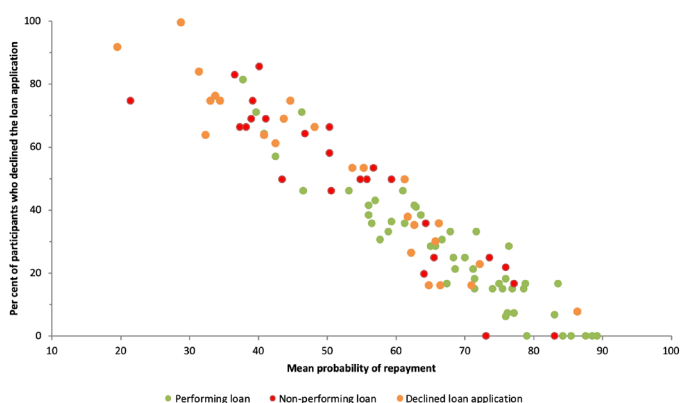


Source: EBRD.

Participants correctly identified loan quality

Participants had to evaluate and decide on credit applications that had previously been rejected or approved in real life. If the application had been approved, the research team therefore knew whether the loan had turned out to be a performing or non-performing loan. This makes it possible to verify whether decisions taken in the lab correlate with real-life outcomes. Chart 3 reveals a tight negative relationship between the expected probability of repayment and the likelihood of rejection. This shows that the task was meaningful, in the sense that participants could infer credit risk based on the information in the application. Chart 3 also shows that decision-making in the lab correlates well with what happened to the applications in real life. Overall, 72 per cent of all applications that related to loans that performed well in real life were approved during the classroom sessions. This percentage is significantly lower for applications related to non-performing loans (53 per cent) and applications that were rejected in real life (47 per cent).

Chart 3. Subjective assessment of repayment probability and percent of participants that rejected the application



Source: EBRD.

No evidence of direct gender discrimination

The experiment did not yield evidence of direct gender discrimination by loan officers. The results show that the same credit application is no more likely to be rejected when it is presented with a woman's name rather than a man's name. There is also no evidence of direct gender discrimination among specific groups of participants, such as men or loan officers who are more risk-averse or gender-biased. That is to say, although the IAT scores indicate that implicit gender bias is widespread among the participants, this bias does not translate into explicit discrimination in lending decisions.

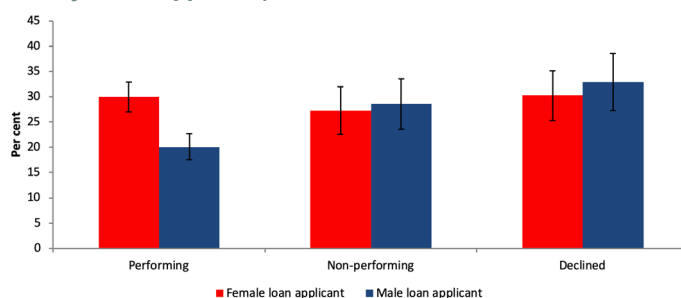
Strong evidence of indirect gender discrimination

The study also explores whether there are indirect forms of discrimination against female entrepreneurs who apply for loans. Such indirect discrimination can manifest itself in the fact that, all else being equal, women are more likely to be required to provide a guarantor (which many women may not have access to). The experiment provides strong evidence for such indirect discrimination. Lending staff are 7 percentage points more likely to make an approval conditional on the presence of a guarantor when the application is shown as coming from a woman as opposed to a man. This effect is large, given that only 27 per cent of approved applications are required to have a guarantor.

The severity of this indirect gender discrimination varies across different types of loan officers. For instance, lending staff with below-median lending experience are 11 percentage points more likely to ask women (as compared with men) for a guarantor than their more experienced colleagues. Likewise, staff with above-median implicit gender bias are 12 percentage points more likely to demand a guarantor when a file is presented as coming from a female rather than a male applicant. This more subtle form of gender discrimination is also concentrated among staff at the lower hierarchical level, that is, the lending staff who make the initial screening decisions. This indicates that businesswomen with good loan propositions, but without a guarantor, may be rejected at the initial screening stage.

A third finding of the study is that indirect discrimination is concentrated in loans that performed well in real life. Chart 4 depicts the percentage of applications that were approved during the experiment and for which participants requested a guarantor. It shows that for lower quality loans (those that were non-performing or declined in real life) the likelihood that a guarantor will be requested does not significantly differ by gender. However, for applicants who were accepted and whose loans subsequently performed well in real life, an applicant is 9.9 percentage points more likely to be asked for a guarantor when the application is presented as coming from a woman rather than from a man.

Chart 4. Guarantor requirements (by loan quality and by sex of applicant)



Source: EBRD.



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Information availability does not affect gender discrimination

Lastly, using the second round of the experiment, it is possible to test whether restricting information that is normally available to lending staff has a disproportionate impact on female applicants, all else being equal. The results show that varying the availability of objective and subjective information does not affect gender discrimination. However, removing subjective information increases the likelihood of rejection by 6 percentage points overall (that is, independent of the applicant's gender). Therefore, the subjective information that relationship managers voluntarily add to credit applications is useful in the sense that it increases their supervisors' willingness to lend.

Lessons learned

Across a wide range of emerging markets, women are less likely to use formal financial services. A policy question of great importance is whether this gender gap reflects

supply constraints in general and lender discrimination in particular. As long as this is the case, a lack of finance may be preventing women from making good use of their entrepreneurial potential. This, in turn, can hold back economic convergence between poorer and richer parts of the world.

To assess the empirical relevance of gender discrimination in small-business lending, this EBRD Impact Brief has reported on a controlled, randomised experiment that involved a large sample of Turkish loan officers. The results indicate no difference in unconditional approval rates for men and women, but a more subtle form of discrimination, namely, that all else being equal the approval of applications made by women is up to 30 per cent more likely to be made conditional on the presence of a guarantor. This gender discrimination varies according to loan officer characteristics such as age, experience, and implicit gender bias. Discrimination is also exclusively concentrated among loans that performed well in real life, making it costly to the bank.

A number of loan officer traits, such as experience and implicit gender bias, turn out to be strongly correlated with indirect gender discrimination. These deeper (and usually unobservable) traits appear to be much more important than a loan officer's gender, at least in Turkey. For instance, while the data show that female loan officers are more gender biased on average, it is this variation in gender bias that drives indirect discrimination, rather than the gender of the loan officers as such. The results also show that manipulating the information that loan officers have access to, does not affect lending behaviour in a gender-specific way.

These observations have direct operational and policy implications. For instance, interventions that increase the amount or the reliability of information about loan applicants may not be of first-order importance to address gender bias. Instead, policies to mitigate the real-world impact of loan officers' implicit biases may be called for. These could include making sure that loan officers have sufficient time to evaluate loan applications. Subtle interventions like this may be more effective than explicit diversity training programmes, which make gender differences more salient and can even generate backlash (see Bohnet, 2016). Banks could also set bank-wide or branch-wide targets for lending to women without a guarantor. Management could then hold those that deviate from this norm accountable through disclosure and/or comply-or-explain procedures. Other easily implementable steps include making successful female entrepreneurs more visible to loan officers, for instance by integrating them in a natural way in banks' internal communication and training programs.



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Indirect discrimination is concentrated in loans that performed well in real life

Suggestions for further reading

Bohnet, I. (2016), What Works. Gender Equality by Design, Harvard University Press, Cambridge, MA.

Brock, J.M. and R. De Haas (2019), [Gender Discrimination in Small Business Lending. Evidence from a Lab-in-the-Field Experiment in Turkey](#), EBRD Working Paper No. 232, European Bank for Reconstruction and Development, London.

EBRD (2019), Business Environment and Enterprise Performance Survey (BEEPS), <https://ebrd-beeps.com>.

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