

FIRM UP PERFORMANCE

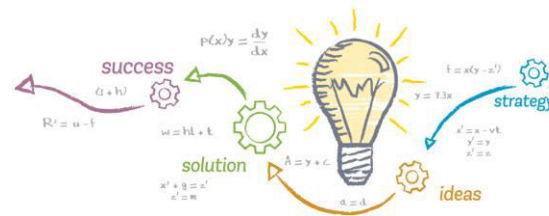
ATHENS, GREECE

SEPTEMBER 9-12, 2019



WORLD BANK GROUP





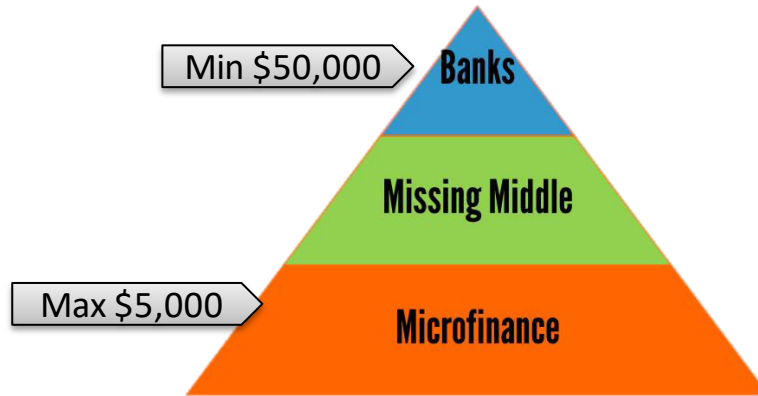
Piloting Psychometrics to Overcome Collateral Constraints for Women Entrepreneurs

Experimental Evidence from Ethiopia

Salman Alibhai
World Bank
Sept 2019

Background

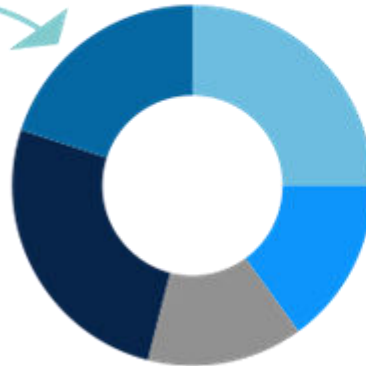
OBJECTIVE: To identify a technology that could address the collateral constraint faced by women entrepreneurs in Ethiopia in accessing larger, individual-liability loans



Psychometrics



Measuring 'ability' and 'willingness'.
Sample character traits:

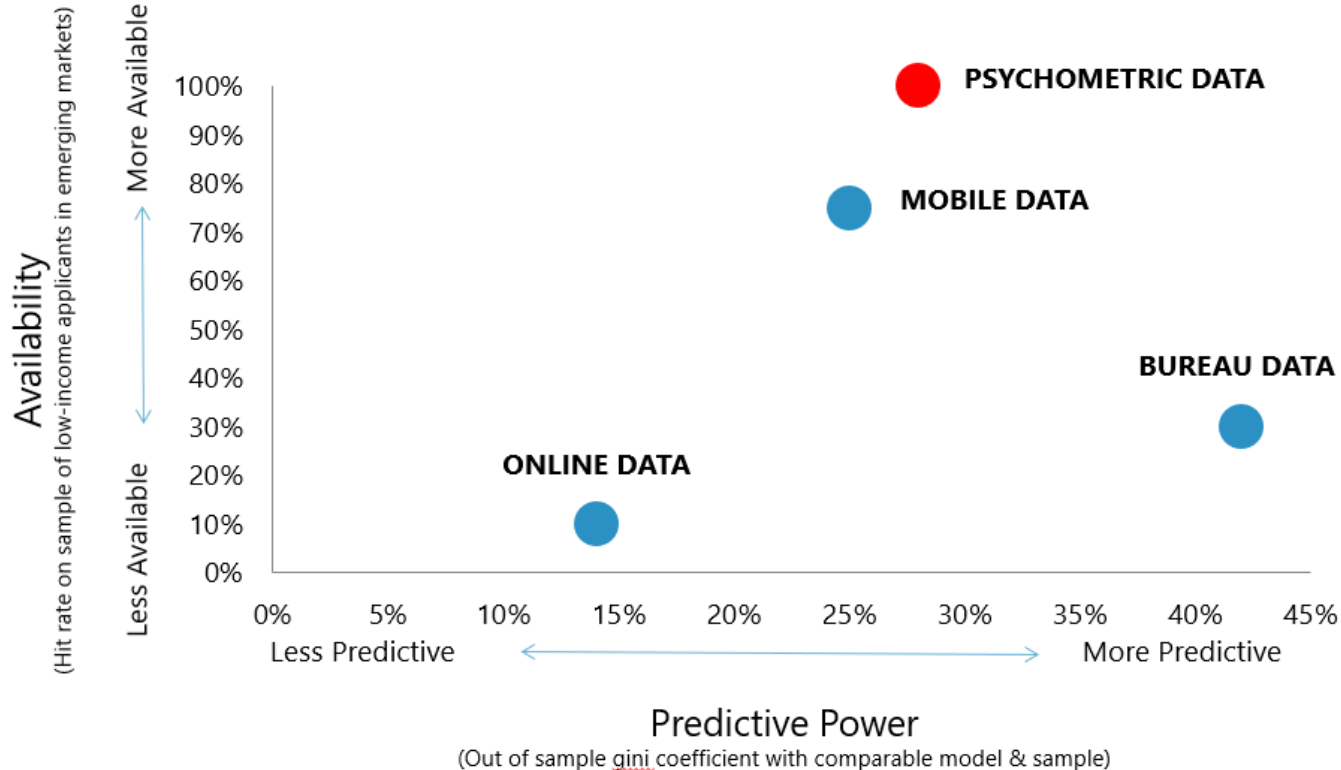


- Gratification
- Confidence
- Risk Tolerance
- Conscientiousness
- Honesty



Credit Score

Predictive Power



Scoring Process



Questionnaire

Self-administered
(about 45 mins)

Scoring Model

Based on database of
historic loan performance
of other tested loan takers

Score

Cut-off or categorization

High score = reduced or no collateral



0:14



How do you think most people achieve success?



Hard Work



Many Friends



I don't understand



1:50



Using the buttons, add your 10 gold coins to the following categories to show how you normally spend your income:

= 3



Entertainment



1



Food & Clothing



4



Loans



2



Miscellaneous Expenses



0



Intervention



Implementation



Amhara Credit and Savings, Pilot, 2017-18

- 12 branches, 2,496 tests/1,132 loans
- Demonstrated ability of psychometrics to predict credit risk in Ethiopia
- Rolled out two new psychometric loan products

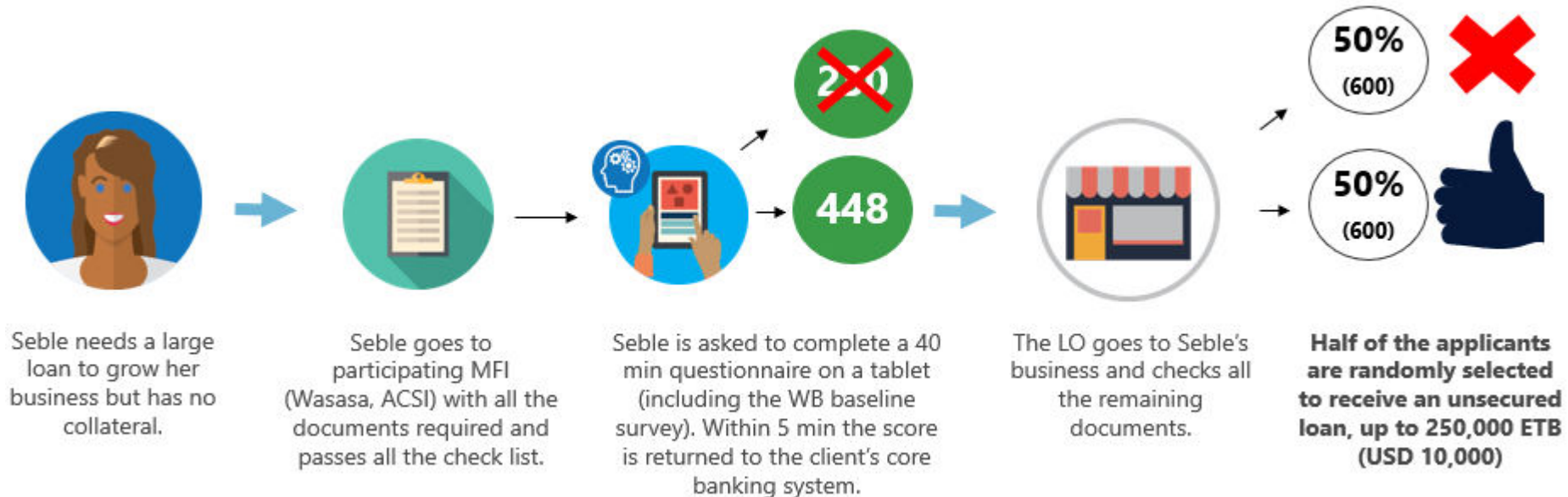


Wasasa, Pilot + Impact Evaluation, 2018-19

- 4 branches, target of 2000 tests/600 loans
- 600 treatment, 600 control
- Average loan size of \$10,000, no asset collateral
- Measuring impact of large individual loan on firm growth

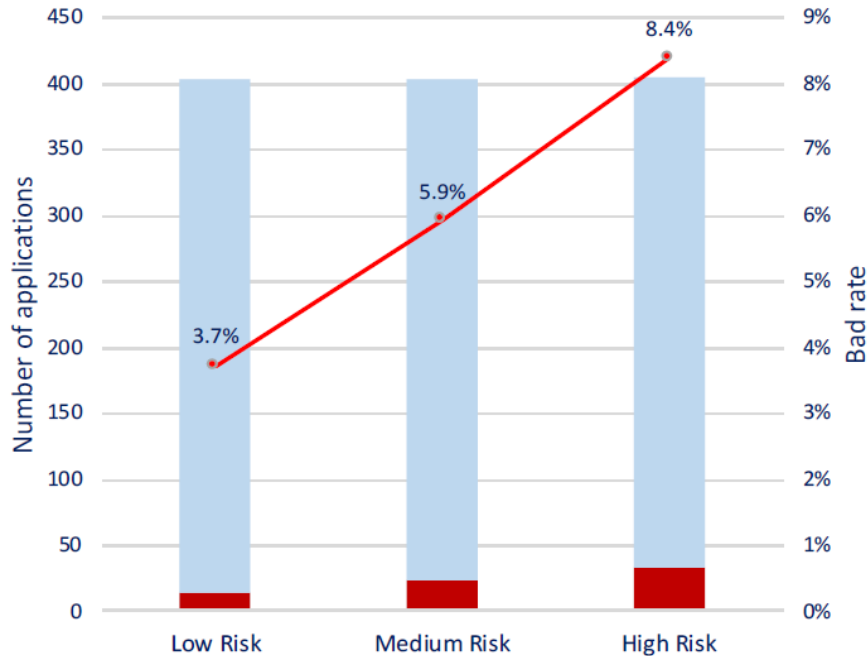


Impact Evaluation Design



Repayment

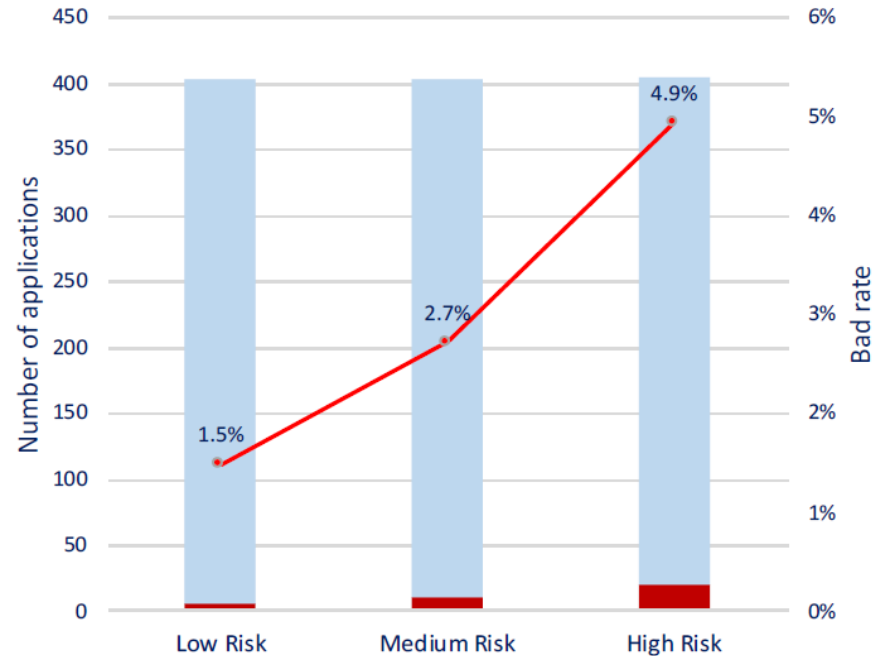
Bad 14 within the first 20 months on book



AUC 60.0 or 2.3X risk split

Repayment: 99.6%

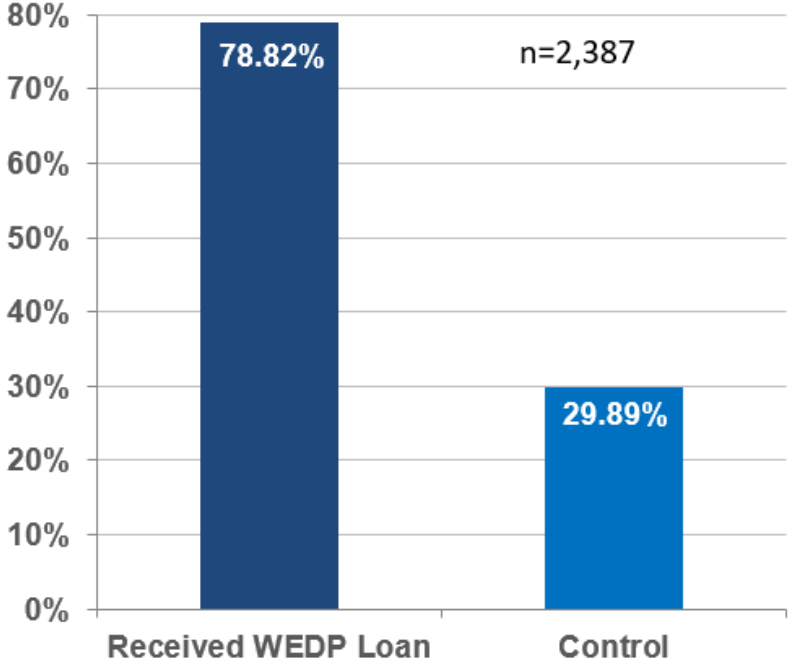
Bad 30 within the first 20 months on book



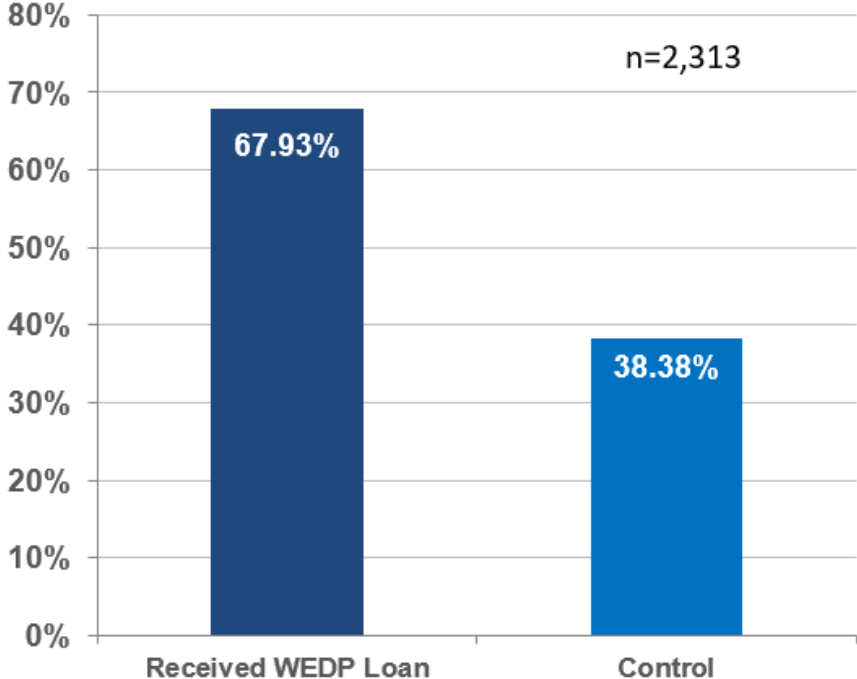
AUC 61.7 or 3.3X risk split

Firm Growth

% Change in Profits, 2014-2017



% Change in # Employees, 2014-2017

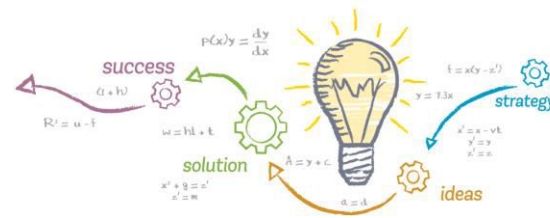


Lessons Learned

- Psychometrics can predict credit risk for thin-file MSMEs, and can be a viable substitute to asset collateral for female borrowers
- Psychometrics alone are not a solution: they are an additional layer rather than a substitute for the fundamentals of loan appraisal
- Scaling fintech solutions requires more than a predictive technology: legacy banking systems, line-staff incentives, and operational structures matter

FIRM UP PERFORMANCE

ATHENS, GREECE
SEPTEMBER 9-12, 2019



Thank you!