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MicroNOTE

The Launch of Pakistan's First Microfinance Credit Bureau

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This micronote explores the current landscape of microfinance in Pakistan over the past 10 years, followed by the emergence of Pakistan's first credit bureau, DataCheck Ltd. The methodology employed to gauge the effectiveness of a credit bureau for the analysis in this micronote includes observing loans from up to 2 years prior to the launch of the credit bureau until present, based on four branch performance measures; number of new loans, average loan size, fraction of loans delinquent and fractions of loans defaulted. The conclusion summarizes the main findings from the study, which highlight that the credit bureau had a positive impact on loan disbursement as well as loan performance, including reduced delinquency, and branches were seen to not adopt the bureau at random, rather based on growth; branches which were growing faster were more likely to adopt.

BACKGROUND AND INTRODUCTION

Access to credit is considered an important determinant of economic growth. The UN Development Goals stress the importance of financial inclusion to eradicate poverty, and theorists believe access to finance is a prerequisite for employment, economic growth, and social cohesion in addition to poverty alleviation. However, access to even basic financial services remains persistently low in several developing countries including Pakistan.

Over the past 10 years, Pakistan's economy has grown at an average rate of 5% per year. Despite the increased growth, access to formal financial services in Pakistan is still low at 16% up from 11% in 2008. In May 2015, Pakistan launched its National Financial Inclusion Strategy (NFIS) with the objective to increase financial access to services in the country, and to expand formal financial access to at least 50% of adults, including women and youth.[1]

The microfinance outreach in Pakistan has grown at a steady pace for the past several years. During the past 5 years, i.e. from 2013 to 2017, the number of active borrowers more than doubled from 2.4 million to more than 5.5 million, while at the same time the lending volume increased more than fourfold, from PKR 46 million to PKR 196 million. Given an estimated potential market size of up to 27 million borrowers, the microfinance sector currently serves only around 20% of its potential market.[2] To continue to achieve high growth rates within the microfinance sector, many challenges need to be addressed including multiple borrowing which may lead to over-indebtedness.

There are currently more than 45 microfinance providers (MFPs) with overlapping branches and competition within geographical clusters. There is evidence of multiple borrowing among clients that can cause over-indebtedness and skew incentives of repayment. To overcome the challenge of multiple borrowing in this competitive environment, MFPs need to adopt risk management tools, and a Credit Information Bureau (CIB) is considered one of the essential tools to accelerate this process.

One of the information gaps in the Microfinance market is the presence of unverifiable, private information as Microfinance institutions lack sufficient information to assess creditworthiness of loan applicants. Typically, low risk borrowers cannot signal their creditworthiness to lenders and are thus unable to exert price pressure. This leads to inefficiently low participation among low risk borrowers and high prices. Policymakers around the world are becoming increasingly aware of this problem and are reforming their Microfinance industries. The establishment of a credit bureau for the microfinance market, as in developed financial markets, will have the potential to fill the information gap, promote access, increase competition and thus benefit both borrowers and lenders.

In 2008, the microfinance industry in Pakistan suffered a severe setback when one of its leading players went through a delinquency crisis in Punjab. Multiple borrowing, over-indebtedness and unnecessary political meddling were touted as the chief reasons. Similar but contained crises also emerged in other areas of Punjab. This crisis highlighted the need to establish a credit bureau. Supported by UK-AID, the State Bank of Pakistan and the Pakistan Poverty Alleviation Fund (PPAF), PMN initiated the plan to set up a central data repository on borrowers. The credit bureau was piloted in 2010 and a national roll-out began in 2013. PMN selected DataCheck Ltd., a private credit bureau, as a technical partner for the pilot.

DATACHECK LTD. – ROLE AND METHODOLOGY

In the months after its national launch, in October 2013, Microfinance institutions and banks adopted the service. We use data on the universe of Microfinance loans in Pakistan to study the industry's response to newly available information on borrowers' credit worthiness. Data on over 16 million individual loans with information on borrowers, lenders and loan performance offers a unique setup

[1] Access to Finance Survey, 2015

[2] Pakistan Microfinance Review, 2015

to study this question. We observe loans from up to 2 years prior to the launch until present, which allows us to study the adoption behavior and responses by branches and borrowers. The benefits from this analysis are large as imperfect information could explain the largely disappointing effect of Microfinance documented in the literature. Access to information on the credit worthiness of borrowers would allow lenders to price discriminate between them and reduce adverse selection – one of the greatest issues with Microfinance. It would also allow reducing double borrowing and thus prevent households from over borrowing.

Figure 1: Adoption of the Credit Bureau in Pakistan

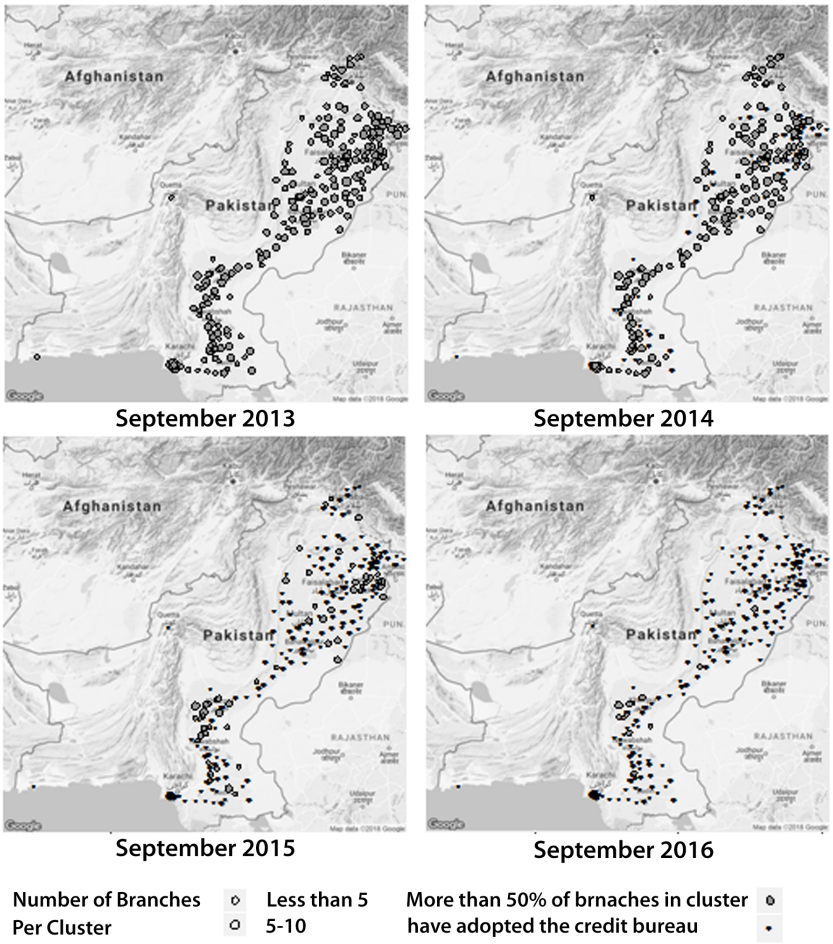


Figure I shows the evolution of the adoption of the credit reporting service across Pakistan. The maps use, as time of adoption, the first month a branch makes an enquiry with the credit bureau about the credit worthiness of an application. To guarantee anonymity, we grouped branches into clusters based on geographic proximity. Figure I shows that in the first year after the launch primarily branches in the North around Islamabad and Lahore and in the South around Karachi adopted the bureau. In the following year, the service spread more widely across the country and by September 2016 almost all regions are covered. This shows that while the decision to adopt the new technology is strategic, there is a clear geographic pattern.[3]

In the following, we report results of an event study to understand the effects of the adoption of the credit bureau on bank and loan performance. An event study design considers how outcomes for a "treatment" unit (in this case a branch that adopted the bureau) change in the period around the time of treatment. For example, we ask whether, relative to overall trends in the data, we observe a drop in default rates at the adopting branch shortly after the month of adoption.

ANALYSIS AND RESULTS

In our analysis, we consider monthly averages of branch performance indicators 13 months prior and post adoption of the credit bureau. For each branch, we define as event time 0 the month of adoption, and index all other 25 months relative to that month. Our analysis is based on a balanced panel of branches that we observe for at least thirteen months before and after their respective adoption date, i.e. for event times -13 to 12.[4] Figures II and III plot our estimates of the difference between treated and comparison branches, with confidence intervals, over the considered period. In each graph, the levels of the coefficients measure performance relative to the month before adoption, i.e. event time -1.

To illustrate our empirical strategy, figure II shows how the fraction of loans enquired evolves on average over the 12 months leading up to and following adoption. By construction, branches enquire zero loans prior to adopting the bureau (i.e. for negative event times). Figure II shows that right after adoption the fraction of new loans enquired jumps to approximately 40% and remains stable in subsequent months. This sudden and stable change in the number of new loans that were enquired suggests that adoption led to a substantive and persistent change in screening behavior by branches. This abrupt, large and permanent change in screening behavior, which is what we would expect to see if adoption is meaningful,suggests that any corresponding changes inloan and branch performance around the time of adoption may be attributed to the bureau adoption.

[3] One caveat of our study is that branches typically choose when to begin making enquiries. The geographic variation offers an excellent source of plausibly exogenous variation in the exact timing of adoption. A promising avenue for future investigation would be to exploit this variation in an instrumental variable setup in which geographic proximity to regions that adopt early serves as an instrument for the exact adoption month.

[4] In practice, we regress several outcome measures on a set of indicators for each calendar month, so as to control for macroeconomic trends and seasonality, as well as indicators for each event time, so as to measure how outcomes evolve prior to and after the adoption date.

Figure II: Fraction of Loans Enquired with the Credit Bureau

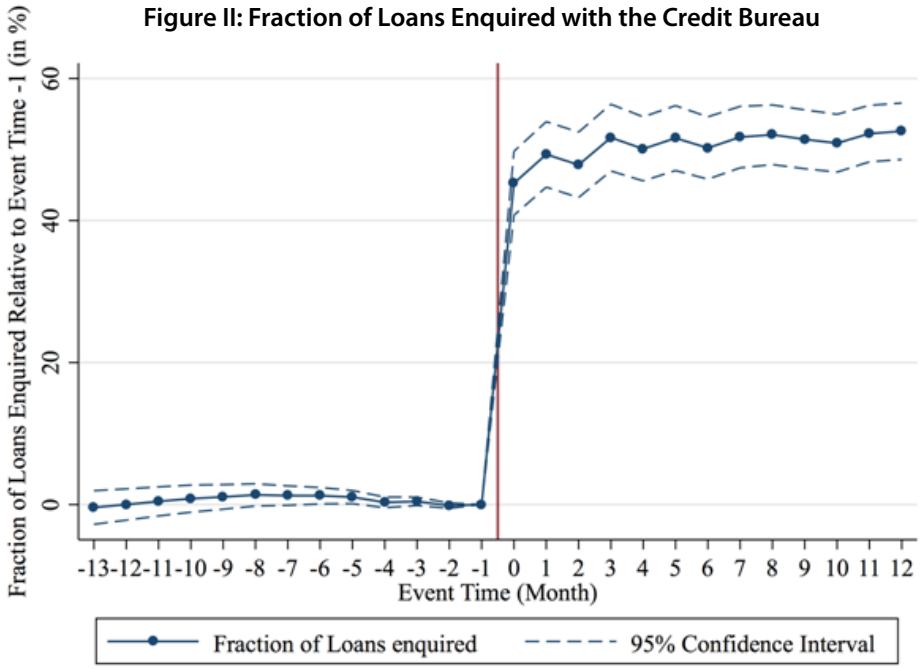
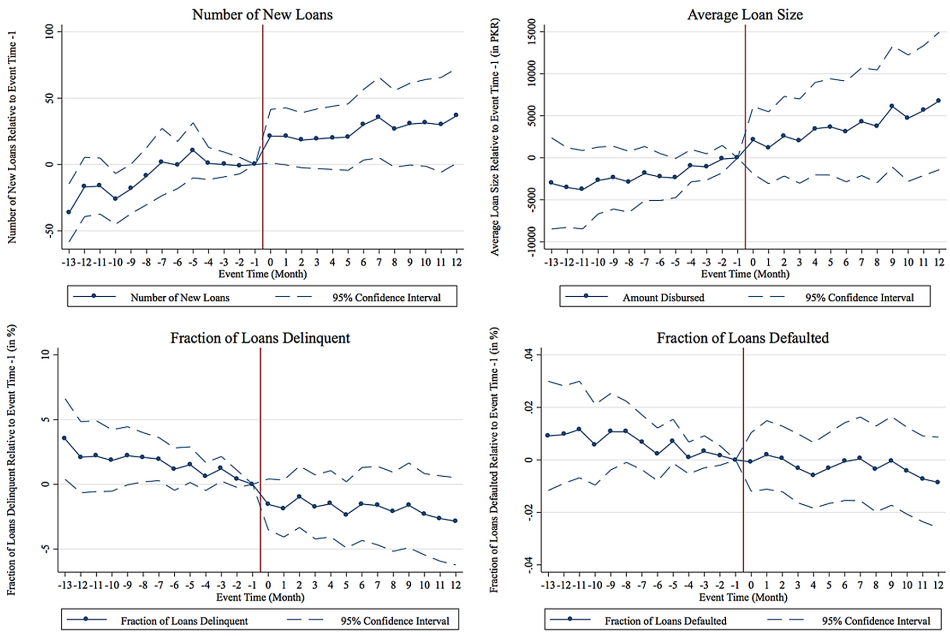


Figure III reports results for the event time study on four branch performance measures. The first two, number of new loans and average loan size, relate to branches' loan disbursements and capture effects on branches' portfolio size. The second two, fraction of loans delinquent and defaulted, are loan performance measures, and thus indicators of portfolio performance and profitability.

Figure III: Event Study



The results in figure III suggest that branches that adopt the credit bureau experience an increase in loan volume and a drop in delinquent loans. There is a distinct jump right around the adoption time at which the number of new loans increases while delinquency rates decrease. The effects on average loan size and default rates are less pronounced in the data.

All graphs show "pretrends" leading up to the adoption month, i.e. treated branches already differ from the average trend at negative event times. In fact, the trends in average loan size and default rates look like linear functions that follow the same upward or downward slope before and after adoption. Generally speaking, positive (negative) pre event trends indicate that branches that adopt the bureau tend to be on a steeper positive (negative) trend than the average at the same calendar time.

For instance, the graphs suggest that the average loan size of branches that adopt the bureau follows a stronger positive trend than that of the other branches in the market. Whilst we observe pre trends in all graphs, the fact that there is a distinct kink at the month of adoption for number of new loans and delinquency rates but not for average loan size and default rates is interesting. It indicates that adoption does have an immediate effect on the former but not the latter two. Nevertheless, there may be longer term effects on the slopes of these measures that are not captured in our graphs. [5]

The pre trends that we observe in our graphs point to interesting patterns in the adoption behaviour of branches. As indicated above, branches seem to adopt the bureau when they are on steeply sloped trends. In future work, we hope to analyze the data on a finer level, to better understand how branches select into treatment. For example, we hope to explore the role of local market conditions and branch responses before and after adoption. Such an analysisis particularly interesting in this context as it would allow relating branch and local market characteristics to the decision to select into treatment, i.e. to enquire about borrowers' credit worthiness as discussed above. Market structure appears to be adecisive factor here as the graphs in figure III suggest that relative trends between branches are important indicators of adoption. This is crucial both for deepening our understanding of the evolution of Pakistan's microcredit market as well as for understanding the adoption of credit bureaus when adoption is a decision of the lender.

CONCLUSION

The current analysis is preliminary, and there are several promising avenues for further investigation. Like the proposed instrumental variable approach relying on geographic proximity to the early adoption regions as an exogenous source of variation in the exact timing of adoption, one could exploit other measures of proximity between branches. For instance, there are several large banks operating many branches across Pakistan. Some banks decided to adopt the bureau at all branches simultaneously, so adoption at the branch-level is plausibly exogenous to local market conditions. A second possibility is to leverage a differences-in-difference research design to study changes in branch performance relative to other branches that are about to adopt, i.e. adopt a few months later, where it can plausibly be argued that the exact month of adoption is not strategically important. This strategy would compare branches based on the proximity of their adoption time. Branches that adopt, say six months apart, are more likely to be comparable and thus exhibit similar time trends leading up to the adoption.

We view all of these strategies as complementary to the above documented event study and are excited about the opportunity to study the effects in future work.

In summary, our main findings so far identifythat 1) the credit bureau had a positive impact on loan disbursement as well as loan performance (reduced delinquency) and 2) branches do not appear to adopt the bureau at random instead branches that are growing fast are more likely to adopt.

The first finding implies that the adoption of the credit bureau is likely to have had a positive effect on lenders' portfolio performance. It also suggests positive effects on borrower welfare on average. In the future we hope to analyze in greater detail how the bureau affected the type of borrower that received more credit or gained (or possibly lost) access to credit – the current analysis does not include loan application rejection outcomes, for example – to learn about the effect of the bureau on distributional outcomes.

The second finding suggests that the credit bureau may be reshaping or accelerating the reshaping of Pakistan's microcredit market. If fast-growing lenders are more likely to adopt the bureau, and bureau adoption allows them to accelerate growth and improve portfolio performance, we may observe successful branches pulling away from their competitors, and smaller branches catching up. In future work we hope to better understand how the bureau changed the competitive conditions in local markets, for example how a lender adopting the bureau affects the performance of their competitors' portfolios.

In sum, the results point to the important role of the credit bureau in raising economic efficiency and reducing credit constraints faced by Pakistan's poor. They illustrate the exciting potential for generating rich data on borrower and lender outcomes to deepen our understanding of market conditions in Pakistan and microcredit markets more generally. Finally, they raise many interesting questions about the drivers of bureau adoption in a growing and changing market.

[5] Furthermore, the pre trends in number of new loans and delinquency rates suggest a change in the slope around event time -7. This might point to an anticipation effect related to moral hazard on part of the borrowers. Loans that were originated up to 11 months prior to the adoption date are due to mature after the lender has already adopted the bureau. Learning about the adoption during the maturity of their loans, might change the repayment behaviour of borrowers. This explanation is in line with the distinct drop of delinquency rates from event time -13 to event time -12, but merits further investigation.

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MicroNOTE: Clients' Perceptions of Conventional and Non-Conventional Forms of Microfinance in Pakistan

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