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The Relationship Dilemma: Why Do Banks Differ in the Pace at Which They Adopt New Technology?

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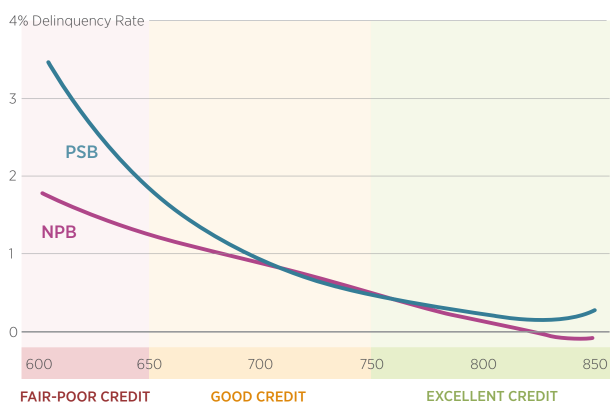
An important factor explaining the difference in the adoption of credit scoring technology among banks is the stickiness of past bank structures and associated managerial practices, which can hold back better procedures.

This new research addresses long-standing questions about technology adoption in businesses by examining how credit scoring technology was incorporated into retail lending by Indian banks since the late 2000s. In contrast to developed countries such as the United States, where credit bureaus and credit scoring have been around for several decades, credit bureaus obtained legal certitude in India only around 2007.

Using microdata on lending, the authors analyze the differences in the pace of adoption of this new technology between the two dominant types of banks in India: state-owned or public sector banks (PSBs), and "new" private banks (NPBs), relatively modern enterprises licensed after India's 1991 liberalization. Together, these banks account for approximately 90 percent of banking system assets over the authors' research period.

Figure 1 • Delinquency LQ360 Versus Credit Score (PSBs and NPBs Separately)



Note: This figure depicts the relationship between credit scores and delinquencies for all banks (Panel A), and for PSBs and NPBs separately (Panel B). The variable LQ360 equals 1 if at least one of the available DPDs during the 360 days from opening the account exceeds 90 days. The credit scores are historical "point in time" numbers that were available to banks in real time when inquiries or loans were made. Credit scores range between 600 and 850. Scores of 750 or above are considered excellent, those between 650 and 750 are good, and scores below 650 are fair to poor.

For both types of banks, the use of credit bureaus was not only a new and unfamiliar practice, but their value was unclear, especially because Indian credit bureaus are subsidiaries of foreign entities, with short operating histories in India. The authors posited that any differences in adoption practices would be evident between PSBs and NPBs. And that is what they found. Their analysis of loans, repayment histories, and credit scores from a database of over 255 million individuals reveals the following, among other findings:

- Banks still make many loans without bureau credit checks, even for customers for whom score data are available. Interestingly, the lag in using credit bureaus is concentrated in the PSBs. At the end of the sample period in 2015, PSBs check credit scores for only 12% of all loans compared to 67% for NPBs. These differences hold when the authors control for mandated government loans that may skew PSB practices.

- The gap in bureau usage depends on the type of the customer seeking a loan. For new applicants, PSBs inquired about 95% or more of new customers before making them a loan, about the same as the ratio for NPBs.

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- On the other hand, PSBs are much less willing to use the new technology for application from prior borrowers. For these borrowers, the authors find a significant gap even in 2015, the last year of their sample, in which only 23.4% of new PSB loans to prior borrowers were made after inquiry, compared to 71.9% of loans for NPBs.

- PSBs' reluctance to make credit inquiries is not because credit score data are unhelpful. Such data are reliably related to ex-post delinquencies. Further, the authors show that the greater use of credit scores by PSBs would reduce the delinquency of prior borrowers significantly, more than halving the baseline delinquency rate.

- Why do loan officers not inquire and obtain credit scores? The authors provide evidence that the hard data returned through inquiries tend to constrain loan officers' freedom to lend. If allowed discretion on whether to inquire, loan officers prefer to not inquire their prior clients so as to be able to favor them with loans.

- Why do banks continue to allow loan officers discretion if it is suboptimal today? The authors show that in allowing discretion, PSBs may be continuing a practice that was optimal in the past. Specifically, regulations in the past forced PSBs to maintain extensive and widespread rural networks (NPBs came later and were not subject to these regulations). At that time, it was simply not possible to micro-manage lending in such networks from the center, given the difficulty of communication, and the paucity of hard data. It was optimal to allow branch managers and loan officers discretion.

- Even though it is much easier to communicate with remote branches today and exchange data, these banks continue the past practice of allowing loan officers discretion (perhaps because their loan officers do not want to give it up). The consequence is that the new credit scoring technology is not optimally used by PSBs.

This research suggests that past managerial practices can stand in the way of technology adoption, especially if it involves managers giving up a source of power and patronage. However, the authors also find that technology dominates … eventually.