white paper

FICO

Reducing Bad Debt Levels by Addressing First-Party Fraud and Credit Abuse

Differentiating these loss-generating behaviors from ordinary delinquencies enables banks to adopt efficient defenses

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» Summary

Banks can significantly reduce their bad debt levels, and their collections expenses, by identifying potential first-party fraud and abuse cases that should never be allowed to reach the collections stage. Advanced analytics combined with cooperation between fraud and risk departments are the keys to early detection of threats that may otherwise be invisible until it's too late to prevent large losses. This white paper discusses the analytic, operational and financial challenges involved in combating first-party fraud and abuse as well as emerging best practices and some promising results.

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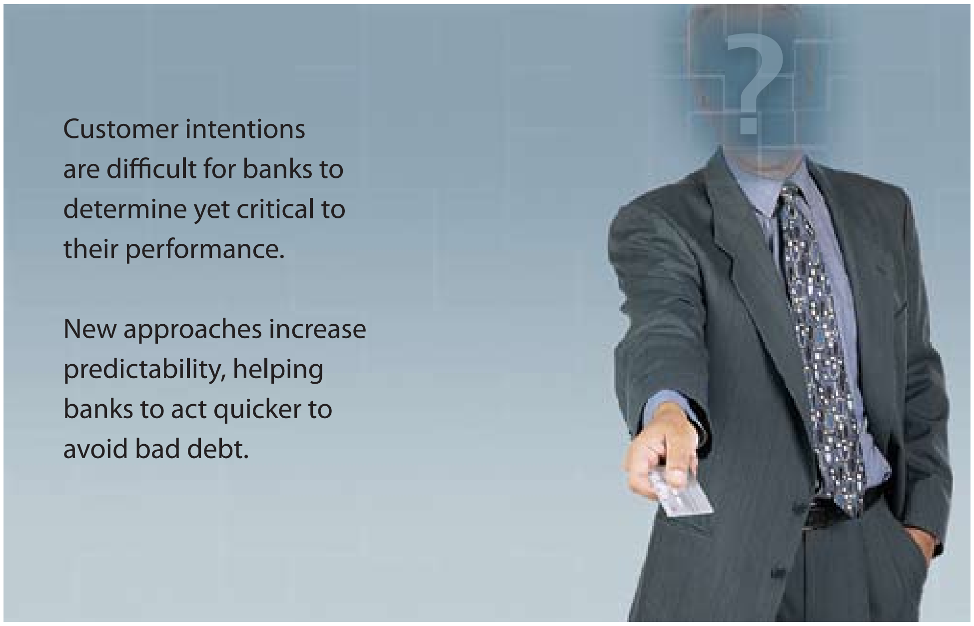
» The Impact of Customer Intentions on Portfolio Performance

One of the most difficult questions for banks to answer in the course of day-to-day business—whether or not customers intend to fulfill their credit obligations—is also one of the most important for improving portfolio performance.

Substantial amounts of first-party fraud and first-party credit abuse—debt incurred by customers who don't intend to fulfill their credit obligations—are mixed into traditional collections queues. That is a problem because these cases are unaffected by traditional collections treatments. After consuming collections resources, most end up being written off as uncollectible bad debt.

The financial impact is substantial. Based on FICO's work with leading banks, we estimate that gross losses attributable to first-party fraud or abuse are much larger than those from third-party fraud.

This white paper describes new analytic approaches and management best practices that are helping banks reduce bad debt by efficiently identifying and treating first-party fraud and abuse. With the means to scientifically disentangle such cases from other account delinquencies, banks can precisely target the most effective techniques for each type of problem. By identifying fraudsters and abusers at the first possible moment—originations, in some cases—banks can prevent or minimize losses. At the same time, they can focus collections efforts on those delinquent accounts whose behavior can be influenced by them, thereby improving collections yield and further reducing total bad debt.



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» Definitions and Departmental Demarcations

What exactly are we talking about when we say "first-party fraud" and "first-party credit abuse"? Are these problems the concern of the fraud department or the risk department? Within banks there are likely to be different points of view about how to define these problems and how to tackle them. In the best practices section on page 7, we discuss the importance of each bank coming up with its own enterprise definitions based on its own portfolio and policies. For the purposes of general discussion, however, we will define these terms as follows:

First-party fraud occurs when customers apply for credit cards, loans or other bank services with no intention of paying, or when they change their intent to pay later in the relationship. First-party fraudsters are difficult to identify because they often appear much like legitimate customers. Unlike traditional third-party fraudsters, first-party fraudsters apply under their own names or fictitious identities rather than with stolen identities. They have identified weaknesses in an institution's originations and account management processes or in their lending criteria; they take advantage of those weaknesses to secure credit and services. They may have intentionally built a reasonable credit history with a previous institution, enabling them to receive a substantial initial credit line—which they immediately fully consume and default on. Alternatively, fraudsters may pay initially or even for an extended period of time, while requesting additional credit in order to maximize their eventual "take." Some fraudsters may behave like good customers, or even are good customers, for months or years. They may start their relationship with the bank with a full intention to repay debt. Later they change their intent based on external factors such as coercion, opportunity or significant change in personal circumstance. In every case, however, there comes the moment when the fraudster stops payment and disappears, leaving behind a large accumulation of debt.

First-party credit abuse occurs when customers intend to misuse credit by taking on too much debt or at some point in the relationship decide to ignore or under-fulfill their payment obligations. The difference between credit abusers and other delinquent customers, who may also have used too much credit or are for other reasons having difficulty repaying their debt, is that abusers have relinquished their sense of responsibility for managing credit responsibly. While creditors may be able to contact abusers, their responsiveness will be far less than that of other customers and collection rates will be extremely low.

For both types of behavior—and regardless of how a bank ultimately defines these behaviors within its own portfolio—it is essential for fraud management and risk management to work together toward solutions. Those banks making real progress in bringing down write-offs are bringing together departments to air viewpoints, share data and formulate joint strategies. The following section, which examines key challenges, explains why combined efforts are so necessary.

» Key Challenges in Addressing First-Party Fraud and Abuse

Tackling first-party fraud and first-party credit abuse involves challenges unique to these problems.

Analytic Challenges

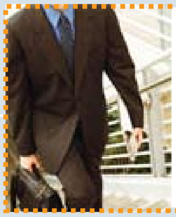
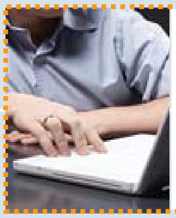
First-party fraudsters and abusers often "fly under the radar" of the analytics commonly used by banks today.

Conventional application fraud analytics, for instance, look for applicant behavior indicating a potentially fraudulent or stolen identity. Transactional fraud analytics look for changes in transactional behavior patterns such as unusual purchase types and amounts or locations indicative of activity by someone other than the legitimate cardholder. These models are not very effective at detecting fraudsters using their own identities and accounts and whose behavior may be unremarkable until the moment of "bust out," when the fraudsters maximize spending before disappearing.

Similarly, conventional credit risk originations models assess a customer's likelihood of going delinquent based on factors contributing to their ability to pay. Traditional behavior models assess ongoing risk of nonpayment based on similar factors. Neither are designed to identify potential credit abusers based on a customer's intention. Most banks do not currently monitor and analyze high-risk early-life accounts in ways that would enable them to identify customers who have taken on more credit than they can handle and are showing signs of falling into abusive behavior.

For both fraud and abuse, the problem of identification is complicated by the fact that these cases often cross bank lines of business. Fraudsters, for example, may obtain retail or commercial loans, which they subsequently use as a means of making regular payments for credit cards so that they receive credit line increases and can build up balances. Abusers, desperate for funds to service their current debt and pay other bills, often take on additional debt in the form of new credit cards, equity

FIRST-PARTY FRAUDSTERS AND ABUSERS ARE OFTEN INDISTINGUISHABLE FROM LEGITIMATE CUSTOMERS UNTIL IT'S TOO LATE

Similar behavior	What's actually going on	Results
Good customer for more than a year Retail account & credit card Recently taken out a loan Makes 2 loan payments, then stops	 **LEGITIMATE** John has just lost his job and is using his credit card for living expenses. He has reached his credit limit and has also used up his overdraft.	Collections process ensues Contact with John is made John eventually agrees to a repayment plan
Good customer for more than a year Retail account & credit card Recently taken out a loan Makes 2 loan payments, then stops	 **ABUSE** Jane consumes 3 checkbooks making purchases, all just below the guarantee limit, and uses all available overdraft. She also maxes out her credit card, going $2k over limit.	Collections process ensues Agents reach Jane but are never successful at getting her to adhere to a repayment plan The uncollectible debt is written off
Responds to letter offering pre-approved credit card with cash-back offer for initial purchases Transacts heavily on the new card Misses first 2 payments	 **FRAUD** Gary has spent a year establishing a good payment record with another bank. He now targets a new bank, requesting maximum credit, with no intention of paying for the purchases he makes.	Collections process ensues Agents are never able to reach Gary or even trace his whereabouts The uncollectible debt is written off
Responds to letter offering pre-approved credit card with cash-back offer for initial purchases Transacts heavily on the new card Misses first 2 payments	 **LEGITIMATE** Gordon is making large initial purchases in order to take advantage of the cash-back offer. He misses the first 2 payments because of a busy work and travel schedule.	Collections process ensues Gordon pays the full balance 62 days late He's so annoyed, however, that after the initial cash-back period, he never uses the card again

lines or loans, sinking deeper and deeper into a financial morass. Most banks won't catch on to what is happening soon enough because their analytics are specific to particular lines of business and focused on particular functions, such as originations or credit line management. Often there is very little communication between the retail banking and credit card side of the business.

Operational Challenges

To reduce losses, banks must act at the earliest possible moment to address these problematic first-party behaviors. In some cases, the first possible moment is at originations, when banks ought to be identifying and rejecting applications with first-party fraud or abuse characteristics. Thereafter, to thwart "bust out" fraud and other delayed-start fraud schemes (see the chart on page 9), banks ought to be able to detect suspicious changes in customer behavior. Similarly, with first-party abuse, banks should be receiving alerts the moment accumulated transactional behavior forms a potentially abusive pattern or when there is a change in behavior that indicates a customer may be utilizing credit irresponsibly.

Unfortunately, the cross-functional, cross-LOB nature of first-party fraud and abuse make it very difficult not only for banks to identify these behaviors but also to respond to them swiftly.

Who should call these customers? Collections organizations? Fraud analysts? Account management? Each of these groups has pertinent data, visibility and skills, but none has all pieces of the first-party fraud and abuse puzzle. Moreover, these organizations are primarily dedicated to other goals and other types of customer behavior (e.g., collections is focused on urging customers who intend, eventually, to pay to do so before the next payment cycle).

Even if the bank can figure out who should do the contacting, other questions remain. *How* should they intervene with these customers to limit the financial loss associated with first-party fraud and abuse? *When* should privileges be constrained or suspended to minimize loss exposure? And *what* kind of action—civil, criminal or both—should be taken against first-party fraudsters who are identified and apprehended?

Financial Challenges

First-party fraud and abuse also have implications for finance. The bad debt these behaviors generate affect the key risk predictions (Probability of Default, Exposure at Default, Loss Given Default) required under Basel II, and therefore affect credit provisioning and capital reserve calculations.

If banks had the ability to identify debt from first-party fraudulent and abusive behavior, they might be able to implement a more direct expense treatment of these losses. The balance sheet movement would in some cases lead to reduced credit loss reserve coefficients and balances. In addition, with the means to detect first-party fraud and abuse early enough to prevent or effectively treat them, banks could reduce losses in both fraud and credit areas.

Leading banks in the US, UK and Ireland are beginning to define a set of best practices for addressing the first-party fraud and abuse problems. The chart on page 8 shows some of the measures being taken to bring down rising levels of bad debt attributable to such fraud and abuse.

» Emerging Best Practices

1. Start with enterprise problem definitions

No industry definitions of first-party fraud or first-party credit abuse can be reliably applied by all financial institutions. Each company's portfolio, business objectives and policies affect how these behaviors manifest themselves and how they should best be addressed. Effective solutions are built on enterprise-specific definitions.

Working toward enterprise definitions is also one of the best ways to begin to create the intelligence sharing and coordinated actions necessary to effectively address these problems. Different functional organizations and business units will no doubt see different aspects of the problems. Acknowledging and exploring these differences helps institutions form a complete view. To maximize implementation flexibility and cooperation, banks can also maintain these different views beneath the span of the overarching enterprise definitions.

To begin the definition process, financial institutions may want to set up a cross-functional/LOB team to examine accounts from various parts of the business that ended up being written off. In addition to known fraud accounts, suspected fraud and abuse accounts can be identified using data from the collections process if that is available. For example, customers whom the organization was never able to contact should be tagged as probable cases of fraud.

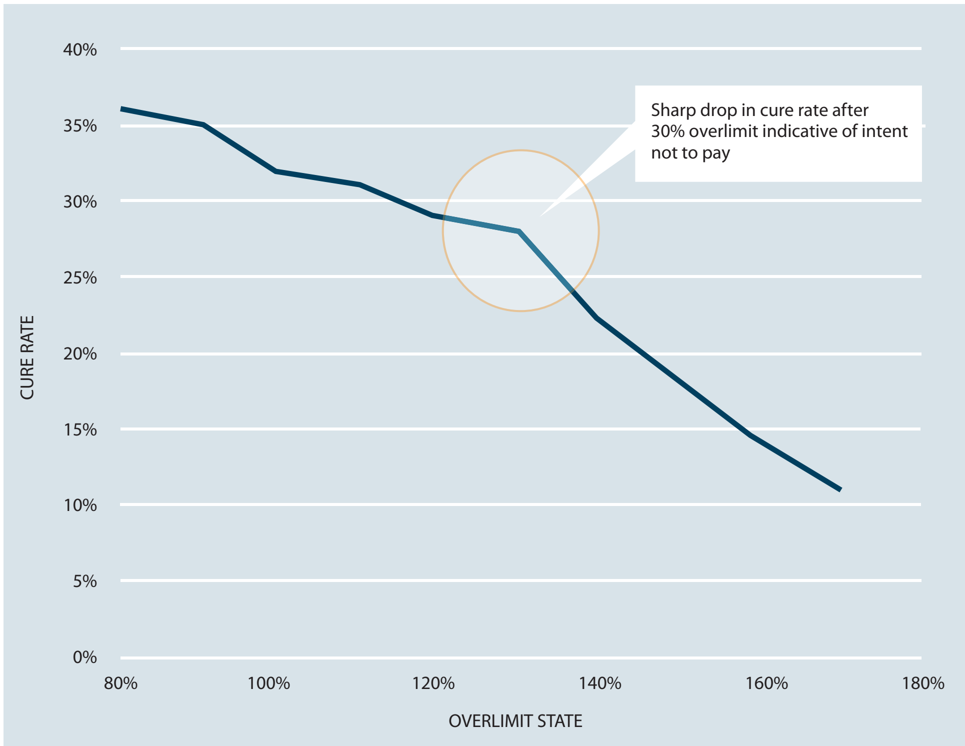
Early movers are achieving impressive results

A large multinational bank was losing over £300M annually in bad debt losses—of which up to 10% resulted from first-party fraud and abuse, according to an estimate from the bank's analysts. By using a custom model designed by FICO to identify suspicious customers at the originations stage, and working with FICO analytic consultants for implementation in its operations, the bank found that it could save an estimated £2.9M in the first year of operation alone.

Taking this initial grouping of written-off accounts, the team can then work backward through the account lifecycle to origination, searching for common characteristics and behavior that will further refine definitions. For example, first-party abusers who take on additional credit in attempt to pay their bills will usually slow their discretionary credit card spending. First-party fraudsters, in contrast, will usually accelerate their spending on luxury items and exhibit other distinct changes in spending velocity (speed and direction).

Care must be exercised to take into account product- and segment-specific variation in legitimate customer behavior. For example, as shown in the chart below, credit card accounts that are more than 30% overlimit and 3 cycles delinquent have a high probability of being first-party fraud or abuse. Other products may have similar drop offs in cure rates, though the account characteristics and point where the drop off begins will likely differ.

CURE RATES FOR CREDIT CARDS 3 CYCLES DELINQUENT



Some characteristics that may be predictive of fraud will appear much sooner. These may include account debt burden, number of credit applications over a given period and transaction and payment behavior. For example, "sleeper" fraudsters who commit "bust-out" fraud often transact heavily during the first couple of months, pay their bills on time and request a credit limit increase.

Studying these behaviors will help the team form and refine initial definitions. When they then take these definitions back to the pool of written-off accounts, some accounts may be added to the probables list and others will be eliminated. In this back-and-forth way, the team can arrive at a reliable calculation of the percentage of writeoffs attributable to first-party fraud and abuse.

The other outcome of the process is, of course, a working list of account behaviors/characteristics mapped onto the account lifecycle. Members of the definitions team can provide their own business units with definitions and associated list of predictive behaviors/characteristics to enable them to implement appropriate measures for their products and functions. In this way, the bank can adjust its policies to achieve a certain degree of near-term first-party fraud and abuse mitigation, even before the operational capacities to address these problems are in place.

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SOME COMMON TYPES OF FIRST-PARTY FRAUD AND ABUSE

TYPE	"Slip-Slide" Abuse	"Bust Out" Fraud	"Sell-On" Fraud	"Sleeper" Fraud
BEHAVIOR	S. opens a demand deposit account legitimately and has a reasonable credit score. He manages his current account well, with deposits being made from salary and several normal direct debits. After 2 years with the bank, S. applies for an unsecured loan of $10,000 (over 3 years). Based on his salary and payment history, he is given the loan, which he makes payments on for a year and 4 months, with no defaults. Unknown to the bank S. is going through a messy divorce, becomes depressed and loses his job. He falls behind on his payments and all his other bills. Gradually he starts changing his attitude toward credit, feeling that because he has been unfortunate he is not really responsible for paying back the debt.	R. applies for 3 co-branded credit cards. As she has a good credit score, she is offered a $5,000 limit on each card and is provided with a book of convenience checks. After several months of steady spending and on-time payments, R. moves from her previous address. She then goes on a spending spree, purchasing from both conventional and e-commerce merchants. Very quickly she hits her credit limit on all cards. R. makes a minimum payment on 2 of the cards in the next billing cycle and sends in 2 checks for $950 on the other 2 cards. She then withdraws $950 from an ATM from each card, for a total of $3800 cash in hand. The checks subsequently bounce.	H., who has been living in the US but is soon to return to his native country, is approached by C. with a proposition. C. offers to "buy" H's current account and cards for $500. H. agrees and hands over not only the cards, but online bank records and personal stationery. C. then withdraws cash until the overdraft is fully used. He makes purchases with the credit cards up to their available credit limits, and he uses all checks (which are backed by a check guarantee card) to make further purchases, despite the overdraft limit. The bank's collections department eventually tries to reach H., but since he has left the country, they are unable to contact him.	W., K. and T. have each had bank accounts for about 2 years. During this period they have made regular payments into each other's accounts to simulate normal salary transfers and set up direct debits from each other's account to simulate bill payments. These interrelationships don't show up on the "radar screen" of the bank, which just sees 3 individuals behaving as perfect customers, and so offers them loans and credit cards. For a time, the conspirators use only a small amount of the available credit and make minimum payments on the outstanding balance from each other's accounts. All of a sudden, they simultaneously default on the loans, withdraw funds from their current accounts up to their overdraft limits and write out guarantee-card-backed checks. Through high velocity spending they also take all their credit cards up to their limits.
MOTIVATION	Avoid financial burdens	Make money	Return home with some extra cash	Make money
TARGET	Loan	Multiple credit cards and convenience checks	Credit card, checking account and check guarantee card	Checking account, credit cards and loans
ROUTE	Direct banking	Co-branded cards	Online banking	Retail banking

» Emerging Best Practices, continued

2. Establish a first-party fraud and abuse management capability

Banks that are out front in reducing bad debt are generally tapping expertise from both their fraud and/or risk operations. In some cases they are doing so by injecting expertise from one organization into the other. In other cases, they're establishing special tasks forces or centers of excellence staffed by experienced staff from multiple lines of business and functional areas. These groups receive specialized training on how to perform proactive interviews, investigations and interventions when first-party fraud or abuse is suspected.

3. Operate from a customer-level view

Because first-party fraud and abuse often involve multiple accounts and credit products, effective efforts to counteract them operate from a customer-level view. The task group must have timely access to account information, transactional data and analytic results from all the key decision areas in the customer lifecycle (originations, credit line management, retention, collections) and all pertinent lines of business (credit cards, debit cards, consumer and commercial loans).

4. Use both fraud and risk analytics to drive targeted treatments

With first-party fraud and abuse so varied and subtle in its manifestations, detection based on business rules alone is not very effective. The banks making substantial progress at reducing their losses are using advanced analytics—and promising approaches tend to combine more than one type.

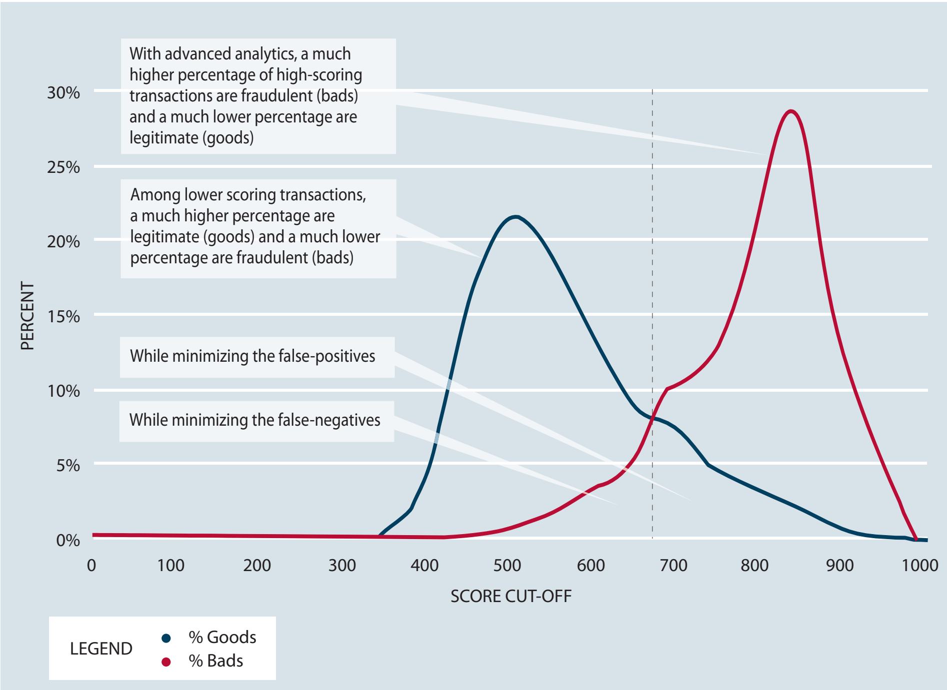
For example, one of FICO's clients is fighting first-party fraud with a "two-fisted" solution. The solution begins at originations, where the bank uses an application fraud model trained to detect first-party fraud. High-scoring applications are rejected and the data and decisions are shared with other lines of business to prevent subsequent attempts from being successful.

Applications scoring in the moderate-to-high range are subsequently monitored closely using an integrated transaction score that incorporates the original application score. As shown in the graph below, the combined score is far more accurate than either score alone, at all false positive rates.

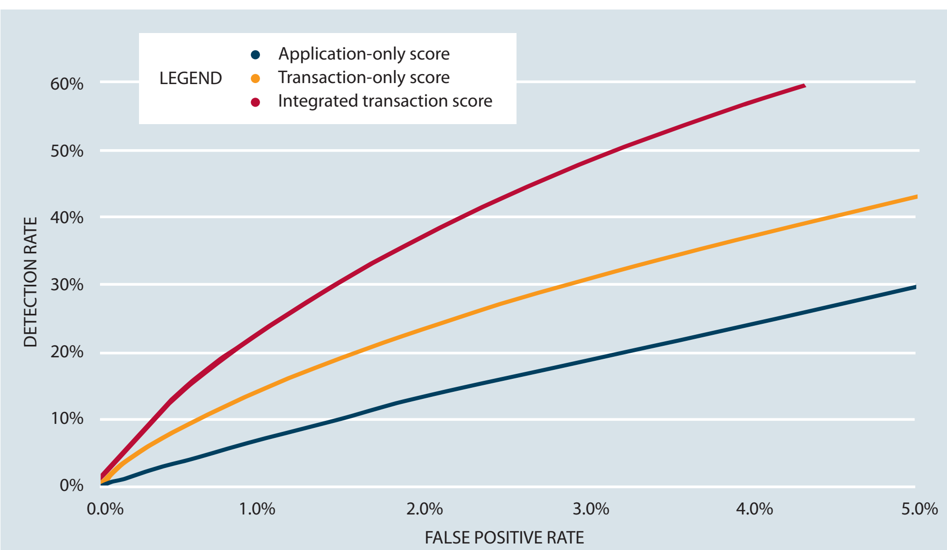
By analyzing transactions in this way, banks can detect the first signs of delayed first-party fraudulent behavior. If usage starts to accelerate rapidly, for example, transactions will score high for potential fraud, and rules and thresholds will refer the case to an analyst or automatically impose restraints, such as requiring additional third-party data or blocking high-value transactions.

Banks can also minimize their loss exposure by applying risk management treatments to customers whose application fraud scores are in the moderate-to-high range. For example, at originations, a customer's credit score may qualify him for a $20k line of credit. But the application fraud score, while not warranting rejection, may be suspicious enough for the bank to reduce the credit line to $5k. Ongoing credit line management—for this account and all others held by that customer—should then be influenced by transactional fraud scores.

FPA APP MODEL RESULTS
Fraud to Non-Fraud Score Separation



COMBINED MODEL PERFORMANCE



Similarly, banks can improve their defenses against first-party abuse by adding transactional insights to conventional credit scoring. Transactional models analyze rich, detailed data from transactions (purchases, payments, customer service inquiries, etc.), revealing the significance of individual events and event relationships that are invisible in end-of-cycle summary data. For this reason, they are able to quickly detect changes in customer behavioral patterns that may be indicative of irresponsible use of credit. Scores that indicate an increase in risk for first-party credit abuse could prompt the bank to cap available credit, suspend other credit offers and/or contact customers to try to assess their intentions.

This type of transactional credit scoring enables banks to more finely and accurately segment their portfolios, providing the framework for close monitoring and targeted treatment, especially of early life accounts. If a bank is also using a transactional fraud model, it may have even more ability to impose risk mitigating constraints. Fraud scoring provides a nondiscriminatory basis for taking stricter measures than current FCRA regulations allow based on credit scores alone. Where there are correlations between fraudulent and abusive first-party behavior patterns, banks may be within their rights to take more targeted and aggressive measures to prevent losses.

» Emerging Best Practices, continued

5. Continue building predictive insight

To maintain and improve first-party fraud and abuse defenses over time, banks need a closed-loop feedback cycle for capturing data, scores and decisions from operations. In essence, this is a way of continuing the initial work done by the definitions team to "tag" first-party fraud and abuse cases, and find common characteristics and behaviors between them. As with other types of predictive modeling, the speed with which feedback data can be absorbed into behavioral profiles (mathematically summarized historical data) and used for model and business rule refinement, has a big impact on organizational agility in responding to dynamic market conditions and business trends.

» Conclusion— Taking Aim at Two Major Contributors to Bad Debt

You can not manage what you can not name and measure, but that restriction no longer applies to two major contributors to bad debt. Today's advanced analytics enable banks to recognize first-party fraud and first-party credit abuse for what they are, and efficiently address them with targeted treatments. FICO is working with leading financial institutions to prove that the artificially high levels of bad debt the industry has long labored under are no longer a necessary cost of business. Banks that lighten their loads will have a decided advantage moving ahead.

about FICO

FICO (NYSE:FIC) transforms business by making every decision count. FICO's Decision Management solutions combine trusted advice, world-class analytics and innovative applications to give organizations the power to automate, improve and connect decisions across their business. Clients in 80 countries work with FICO to increase customer loyalty and profitability, cut fraud losses, manage credit risk, meet regulatory and competitive demands, and rapidly build market share. FICO also helps millions of individuals manage their credit health through the *www.myFICO.com* website. Learn more about FICO at *www.fico.com*.

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