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Analyzing the fair lending risk of credit card operations

With the increased emphasis on fair lending compliance by federal regulators, issuers of credit cards and other forms of unsecured consumer credit need properly designed compliance management systems to detect, monitor, and control fair lending risk.[1]

Mortgage lending historically received the greatest attention in fair lending compliance and enforcement because data regarding borrower race, ethnicity, and gender is collected and reported by lenders under the Home Mortgage Disclosure Act. However, the Consumer Financial Protection Bureau (CFPB) and other federal regulators expect that lenders will assess and monitor fair lending compliance risk in all credit transactions covered by the Equal Credit Opportunity Act (ECOA) and its implementing Regulation B, including credit cards and other unsecured personal loans.[2] One of the earliest public enforcement actions by the CFPB included the settlement of age discrimination claims stemming from the use of an age-split credit scoring model by a credit card issuer.[3]

The approaches for analyzing fair lending risk in credit cards are similar in many respects to those used in mortgage lending, but must account for some distinct differences:

- Race, ethnicity, and gender information is not available for credit card applicants, so it must be estimated or “proxied.”
- Credit card lending involves more intensive use of direct-mail marketing, particularly prescreened solicitations and offers of credit.

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[1] For more in-depth coverage of this topic, see Skanderson, David and Ritter, Dubravka, “Fair Lending Analysis of Credit Cards,” Discussion Paper, Federal Reserve Bank of Philadelphia Payment Cards Center Discussion Paper, August 2014. Accessed August 19, 2014, http://www.philadelphiafed.org/consumer-credit-and-payments/payment-cards-center/publications/discussion-papers/2014/D-2014-Fair-Lending.pdf.

[2] The ECOA prohibits discrimination based on race, color, religion, national origin (often referred to as “ethnicity”), sex, marital status, age (provided the applicant has the capacity to contract), the applicant’s receipt of income from any public assistance program (though the continuity and size of such income may be taken into account), or the applicant’s exercise in good faith of rights under the Consumer Credit Protection Act. 15 U.S.C. 1601, et seq. (the ECOA) and 12 C.F.R. § 202 (Regulation B).

[3] The credit card issuer allegedly developed an age-split scoring model, but only implemented it on a staged basis such that, for a period of several months, the model was used for applicants aged 35 and younger, but not those over 35. Federal Deposit Insurance Corporation and Consumer Financial Protection Bureau, In *The Matter of American Express Centurion Bank, Joint Consent Order, Joint Order For Restitution, and Joint Order to Pay Civil Money Penalty*, FDIC-12-315b, FDIC-12-316k, 2012 -CFPB-0002, October 1, 2012. See also the related CFPB press release, accessed August 19, 2014, http://www.consumerfinance.gov/newsroom/cfpb-orders-american-express-to-pay-85-million-refund-to-consumers-harmed-by-illegal-credit-card-practices/.

- The account origination process includes determining credit limits, based on various risk and profitability criteria.
- Credit card lending tends to rely more heavily on automated scoring models and decision processes to drive a high volume of targeted marketing and account origination.

Fair lending analysis of credit card operations should be customized to address these unique aspects of the business, and must apply different testing methods to the automated and judgmental aspects of decision processes. The following is a brief overview of approaches that can be used in fair lending analysis for prescreened solicitation, underwriting, credit line assignment, and pricing of credit card accounts.

Proxied demographic characteristics

The assessment of fair lending compliance risk in credit cards is hampered by the ECOA prohibition on collecting information about the race, ethnicity, or sex of credit card applicants. Nevertheless, the CFPB expects lenders will perform fair lending analysis of their non-mortgage lending based on proxied demographic characteristics.[4] Race and ethnicity proxies can be generated by estimating the probability that a consumer belongs to a given race/ethnicity group based on consumer surnames or geographic location, or a combination of the two. Gender proxies can be generated by estimating the probability that a consumer is male or female based on the consumer's first name. As yet, no formal regulatory guidance exists on how to develop or use these proxies, or on what represents a tolerable range of error in proxies.[5] In some cases, the method may be dictated by limits to the available data. For example, in the analysis of prescreened solicitations described below, one may be able to use only geographic proxies due to the lack of name data for consumers not selected to receive a solicitation.

Demographic proxies are subject to error in the form of both false positives (incorrectly assigning non-minority consumers to a minority group) and false negatives (incorrectly assigning minority consumers to the non-minority group). Also, a significant proportion of any given sample of consumer records might not be assigned to a specific race/ethnicity or sex group. For example, consumers living in areas that are racially and ethnically diverse, or who have surnames that are not strongly associated with a specific race or ethnicity in the available Census data, will be classified as "indeterminate," and will be excluded from any fair lending analysis. Due to these issues, one should be cautious in drawing conclusions about potential regulatory violations based on proxied characteristics. Nevertheless, proxy-based analysis can be informative about potential compliance risk exposure, and reflects how regulatory examiners perform fair lending analysis for non-mortgage loan products.

Analysis of prescreened solicitations

Prescreened marketing is one of a variety of aspects of credit card marketing that should be assessed for fair lending risk.[6] A prescreened marketing campaign typically begins with the selection, from a

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[4] See, for example, CFPB, "Preventing Illegal Discrimination in Auto Lending," posted November 4, 2013. Accessed on August 19, 2014, http://www.consumerfinance.gov/blog/preventing-illegal-discrimination-in-auto-lending/.

[5] Thus far, the CFPB has only announced that its proxy method uses a combination of geographic location and surname information. CFPB, *Id*.

[6] There is some potential ambiguity in terms of whether and how the ECOA applies to prescreened marketing. According to the Official Staff Interpretation to §202.4(b) of Regulation B, "the regulation's protections apply only to persons who have requested or received an extension of credit." In addition, the Interagency Fair Lending Examination Procedures (Appendix Section VII.C.) state that, "Pre-screened solicitation of potential applicants on a prohibited basis does not violate ECOA." However, the Official Staff Interpretation to §202.4(b) also states that, "In keeping with the purpose of the Act—to promote the availability of credit on a nondiscriminatory basis—§202.4(b) covers acts or practices directed at prospective applicants

broad credit bureau universe, of a group of consumers who will receive an offer of credit or an invitation to apply for credit. Card issuers typically utilize a set of screening criteria, decision rules, and/or statistical models that restrict this broad universe of consumers to a more targeted population of consumers who (a) are most likely to respond to an offer and (b) are most likely to meet the issuer's credit risk standards and profitability targets.

Prescreened mailing processes tend to be highly automated, driven by objective criteria and models, and potentially affect a large volume of consumers in a repeated fashion.[7] Though standardization and automation help to mitigate fair lending risk, the fact that so many consumers may be affected by the process implies that any fair lending issues that arise can have a broad impact on consumers. Therefore, the inherent fair lending risk of prescreened marketing efforts may be fairly high.

Because the prescreening process is automated and decision rules are generally facially neutral, fair lending analysis typically focuses on disparate impact risk (though individual criteria should also be evaluated for potential overt discrimination risk). The overarching objective of the fair lending analysis should be to determine whether the process as a whole tends to disproportionally exclude certain groups from credit offers. Taken individually, screening criteria or scoring models may have disproportionate adverse *or* favorable impacts on particular demographic groups, but other criteria or scoring models may have offsetting impacts, with little or no net disparate impact of the overall process.

The overall fair lending impact of prescreening can be evaluated by comparing the demographic distributions (e.g., the percentage of consumers in each race or ethnicity group) of (1) a relevant baseline population of consumers and (2) the population selected to receive a prescreened mailing after all screening criteria and models have been applied. If these demographic distributions differ materially, this may indicate disparate impact risk. Defining an appropriate baseline population for the comparison requires careful consideration of both the elements of the screening process and the applicable law regarding disparate impact.[8] Generally, the baseline population should comprise individuals who would be potential borrowers for the particular creditor and type of credit in question, such as the set of consumers who meet the minimum eligibility criteria for the product in question and are within the issuer's market area. This approach focuses the fair lending analysis on the demographic impact of the screening criteria and models the issuer uses to prioritize and select from among *qualified or potentially qualified* consumers.

If analysis of the overall prescreening process indicates a tendency to disproportionately exclude qualified consumers in certain legally protected demographic groups from credit offers, then the criteria and models in the process should be individually tested to determine the sources of the disparate effect, and to evaluate their business justifications.

that could discourage a reasonable person, on a prohibited basis, from applying for credit." Given the ambiguity, it would be prudent to give some attention to the fair lending risk of prescreened solicitations.

[7] This often includes criteria and/or scoring models designed to predict the likelihood that a consumer will respond to an offer ("response models") or default (a credit bureau score or custom credit score); criteria or models that attempt to predict the profitability of the customer relationship; and profit and cost objectives specific to a given marketing effort. Predictors of profitability include criteria or scoring algorithms designed to predict whether a consumer is likely to carry a revolving credit balance versus paying off the balance monthly and whether the consumer is likely to be a "balance surfer" who transfers balances among cards to take advantage of promotional rates.

[8] See Skanderson and Ritter, *Id*., for a discussion of considerations in defining an appropriate baseline for this comparison, based on standards and burdens of proof for evaluating disparate impact claims as defined in the US Supreme Court's decision in *Wards Cove v. Atonio* (490 US 642).

Analysis of underwriting

The objective of a fair lending analysis of credit card underwriting is to determine whether the process may result in different credit outcomes for similarly situated applicants on a prohibited basis. In general, target areas for fair lending should include evaluating whether:

- policies, procedures, or guidelines are unduly vague or subjective;
- credit risk scoring models, automated underwriting systems, or underwriting criteria create a risk of overt discrimination or disparate impact;
- manual underwriting (including system overrides and exceptions) results in inconsistent decisions among similarly situated applicants (i.e., potential disparate treatment or impact); and
- the data and documentation retained are adequate to support each credit decision.

It is important to distinguish between automated and manual decisions when testing for disparate treatment risk in underwriting. Purely automated decisions involve no risk of disparate treatment because no human discretion or judgment is exercised. Including manual and automated decisions in a single underwriting analysis may lead to incorrect conclusions regarding disparate treatment risk, especially when automated decisions dominate the sample (as is often the case for credit card portfolios). Therefore, an analysis of potential disparate treatment risk in underwriting should focus on applications that were manually reviewed. Scoring models and other automated decision criteria should be reviewed and tested separately for disparate impact risk.

A statistical analysis of manually underwritten applications focuses on potential differences in denial rates on a prohibited basis. This involves estimating a statistical model of approval/denial decisions to test for evidence of differences in denial rates on a prohibited basis after accounting for the influence of differences among applicants in objective credit attributes that affect the underwriting decision and which may be correlated with prohibited basis characteristics. If a statistically significant difference in denial rates is found, that alone is not sufficient to conclude that there is a fair lending issue. If the statistical model does not include all the objective factors considered in underwriting, or does not correctly account for the complex ways in which compensating factors and layered risk considerations enter into judgmental credit evaluations, prohibited basis statistical differences may still arise even though there are no fair lending compliance issues.

If there is evidence of statistically significant differences in denial rates on a prohibited basis, the next step is to investigate them through comparative file review. Comparative file review matches applicants who appear similarly qualified but experienced different outcomes (e.g. minority applicants who were denied compared to non-minority applicants who appeared similar given all measurable factors, but were approved). The review seeks to understand why a difference in outcomes occurred for apparently similar individuals, and whether that difference is attributable to inconsistent treatment or to the consistent application of objective underwriting criteria.[9]

A fair lending analysis of underwriting should include analysis of overrides of automated system decisions and exceptions to guidelines. As with denial rates, differences in rates of overrides or exceptions do not necessarily indicate a fair lending issue, because the ability of applicants to qualify for an override or exception may differ systematically across demographic groups. For example, non-

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[9] For more information on comparative file reviews, see "Interagency Fair Lending Examination Procedures," Part III.C., Consumer Financial Protection Bureau Examination Manual v.2, October 2012, accessed August 19, 2014, http://www.consumerfinance.gov/guidance/supervision/manual/.

minority credit applicants might receive overrides to a minimum credit score threshold more frequently than minority applicants because the non-minority applicants displayed compensating factors for low credit scores more often than minority applicants. To evaluate whether such a difference in overrides or exceptions represents differential treatment of similarly situated applicants, a comparative file review could compare non-minority applicants who received a credit score override and were approved, to minority applicants with similar credit scores, and who were similar in other relevant respects, but were denied.

Analysis of pricing

A fair lending assessment of credit card pricing focuses on whether similarly situated applicants tend to receive different pricing or other terms and conditions on a prohibited basis. This includes differences in the initial interest rates offered or assigned, the availability of promotional offers, and post-origination changes in terms. Purchase and cash advance interest rates of newly originated credit card accounts are typically assigned by an automated, standardized, and non-discretionary process, based on measurable risk and/or profitability criteria. Any divergence from standard pricing normally results from special promotional offers and direct marketing test offers, rather than discretion. If it can be confirmed that pricing is fully automated, with no scope for exceptions, then there is no risk of disparate treatment. Nevertheless, automated pricing criteria should be reviewed for potential overt discrimination and disparate impact risk, including evaluating criteria and models used to select consumers for promotional offers. If exceptions to standard pricing are allowed, the exceptions should be analyzed statistically to determine whether there are significant differences on a prohibited basis.

Analysis of credit line assignment

A fair lending risk assessment of credit line assignments determines whether similarly situated applicants tend to receive different credit lines on a prohibited basis, including initial credit line assignments, and post-origination increases or decreases in credit lines. Credit line assignment is typically driven by automated decision rules based on specified risk factors, but there is sometimes scope for judgmental adjustments to system-assigned credit lines. A fair lending assessment of credit line assignment processes should include a qualitative review of decision criteria that enter the automated process for potential overt discrimination or disparate impact risk, statistical disparate impact testing of scoring models and decision rules (if the qualitative review suggests risk of disparate impact), and analysis of manual overrides to automated line assignments for risk of disparate treatment or impact.

For accounts with manually or judgmentally assigned credit lines, card issuers can test for differences on a prohibited basis in both the direction and size of divergence from system-assigned credit lines. First, a statistical model can be used to test whether there are significant differences in the incidence of judgmental credit line adjustments, after accounting for differences that are due to objective credit factors. These factors might include, among other things, whether and how much of a balance transfer was requested by the consumer, and whether the consumer had elevated credit risk not fully captured by the automated line assignment criteria. Similarly, statistical regression models can be used to evaluate whether there are prohibited basis differences in the average sizes of credit line adjustments after accounting for objective credit factors. As in the underwriting review process, any prohibited-basis statistical differences should be investigated further through comparative file review.

Concluding comments

With the increased emphasis of federal enforcement agencies on fair lending compliance, properly designed and maintained compliance management systems are essential. Fair lending risk assessments for credit cards should give particular attention to statistically testing automated decision systems, credit scoring models, and other predictive models used in credit card marketing, account origination, and servicing. Scoring models should be rigorously evaluated to ensure that they are statistically sound and have solid business justifications, and should be evaluated for fair lending risk. The manual and judgmental aspects of decision processes should be tested periodically, and adjusted as necessary, to ensure that they do not result in inconsistent treatment of similarly situated consumers. Such fair lending assessments are an important part of any compliance management system for credit card issuers.

About the Financial Economics Practice at CRA

CRA's Financial Economics Practice provides economic and financial analysis and advice to financial institutions, financial regulators, and counsel representing financial institutions. Our experts are skilled in quantitative modeling and econometrics, particularly as applied to issues in credit and compliance risk in primary and secondary consumer lending markets. To learn more about the practice, visit **www.crai.com/financialeconomics**.

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