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Disparate Credit Scores not a Proxy for Unlawful Discrimination says FRB

Without fanfare—not even an announcement on its Web site—the Board of Governors of the Federal Reserve System has submitted the required “Report to the Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit.” The Report reveals startling differences in credit quality correlated with race and national origin that raise important public policy issues. But it also documents how the scoring model under review would survive a disparate impact legal challenge alleging discrimination on the basis of race or national origin. Surprisingly, the Report indicates that young borrowers and recent immigrants might have a better argument than racial or ethnic minorities that the model does not properly measure their credit quality. Perhaps the Board was muted in the release in recognition of the controversy that might ensue, but, from the industry perspective, the Report provides welcome news regarding the potential liability of lenders for the economic and social inequalities revealed by credit scores.

Report Was Required by the Fair and Accurate Credit Transactions Act of 2003

Section 215 of the Fair and Accurate Credit Transactions Act of 2003, which amended the Fair Credit Reporting Act, required a study addressing:

- The effects of the use of credit scores and credit-based insurance scores on the availability and affordability of financial products and services.
- The statistical relationship, controlling for prohibited factors under the Equal Credit Opportunity Act (ECOA) and other known risk factors, between credit scores and the quantifiable risks and actual losses experienced by businesses.
- In the event that disparities correlated with factors prohibited under ECOA or related laws are discovered, the extent to which the underwriting systems could obtain comparable results through the use of factors with less negative impact.
- The extent to which credit scoring systems are used by businesses, the factors considered by such systems, and the effects of variables which are considered by such systems.¹

Scant academic research has been conducted on these issues previously, largely because ECOA prohibits creditors, except in home mortgage transactions, from gathering information such as the race or national origin of borrowers, and thus the data necessary to conduct studies has not been available.

The Methodology Employed by the Board

The Board determined to base its analysis on generic credit history scoring models, limited to information contained in the records of the major credit reporting agencies, Equifax, Experian and TransUnion. The Board had obtained from TransUnion the full credit records (excluding personal or creditor information) of a national representative random sample of 301,536 persons as of June 30, 2003. The Board subsequently obtained updated information as to these same persons as of December 30, 2004. This eighteen-month period was the

time period for the study. TransUnion included 312 precalculated “credit characteristics” in the data. TransUnion also provided two generic credit history scores, the TransRisk Account Management Score and the VantageScore, for each person in the sample.²

The Social Security Administration provided crucial information necessary to conduct the study, such as citizenship, race or ethnic description, sex and date of birth for the persons in the sample. A demographic information firm also provided data to the Board.

Although the Board had the scores and credit characteristics collected by TransUnion, it apparently did not have access to the proprietary model on which the scores were based. Thus the Board determined to develop its own model, referenced as the “FRB base model.” “This model was used to investigate whether the factors included in credit-scoring models result in negative or differential effects on specific subpopulations [such as racial or ethnic minorities] and, if so, whether such effects could be mitigated by changes in the model development process.” Report at 0-3. The Report notes that this model closely reflects the methodologies used in the industry to develop scoring models, but “it does not represent fully any particular model in use today.” *Id.* at 0-10.

The performance period for the FRB base model was the eighteen-month period for which data was available, and the model was designed to predict whether an individual would have one new or existing account that would become seriously delinquent (such as becoming 90 days or more past due) during the time period. In an effort to replicate industry standards, the model segments the sample population into different “scorecards.” The Board used three scorecards: a “thin file” scorecard for persons with relatively few accounts; a “clean record” scorecard for persons with no major derogatories; and a “major derogatory” scorecard. The three scorecards consist of 19 credit characteristics, drawn from the 312 provided by TransUnion.³

The Report concedes that the FRB base model is only an approximation and does not fully reflect industry models. For example, industry models generally use a larger number of scorecards, measure performance over a longer period of time, and may define performance terms differently. Nonetheless, the Report concludes

that the FRB base model displays predictiveness “that is in line with other generic credit-scoring models that use the same measure of performance for estimation.” *Id.* at 78.⁴

Results of the Study

The Report traces the development of credit scoring and extols its virtues in lowering the cost and increasing the speed of the credit analysis process. The distribution of credit scores across the population in general has been available to the public for some time. The groundbreaking portion of the Report, however, is the portion that addresses the impact of credit scoring on racial and ethnic minorities as well as on the young and old and recent immigrants to the United States. The Report concludes that the “[d]ifferences in credit scores among racial and ethnic groups and age cohorts are particularly large.” *Id.* at 80.

Score differences among subpopulations

Blacks and Hispanics, on average, have markedly lower credit scores than Asians and non-Hispanic Whites. To describe this impact, the Board normalized the scores of persons in the sample such that a score of 50 places a person at the mean of the distribution. The mean TransUnion score for Asians was reported to be 54.8; for non-Hispanic Whites, 54.0; for Hispanics, 38.2; and for Blacks, 25.6. From another perspective, 30.1 percent of the Hispanics, and 52.6 percent of the Blacks in the sample, were in the lowest two score deciles, as compared to only 16.3 percent of the non-Hispanic Whites. *Id.* at 80. Differences correlated with age also were observed. Persons under 30 had a mean score of 34.3, and those 62 and older had a mean score of 68.1. *Id.* at 81.⁵

The differences in credit scores between non-Hispanic Whites, Blacks and Hispanics are narrowed, but not eliminated, by controlling for factors such as income estimation, location of residence, marital status and age.

Although the Report describes the differences in scores that are correlated with race and ethnicity, it also concludes that “each of the three credit scores used in this study predicts future loan performance” (*id.* at 87), and the Report cites performance data to support the conclusion.

Divergence from performance predicted by score

In addition to describing the score differences among subpopulations, the Board concluded that some of the subpopulations, on average, actually performed better or worse than their credit score would indicate. The Report finds that “blacks, single individuals, individuals residing in lower-income or predominately minority census tracts show consistently higher incidences of bad performance than would be predicted by the credit scores.” *Id.* at 89. On the other hand, “Asians, married individuals, foreign born (particularly recent immigrants), and those residing in higher-income census tracts consistently perform better than predicted by their credit scores.” *Id.*

Possible explanations for score differences among subpopulations

The Board examined whether differences in performance might be caused by loan terms provided to minorities, but concluded that “differences in the kind of loans used by different populations and the interest rate paid do not appear to be the source of differences in performance once credit score is taken into account.” *Id.* at 94. The Report concedes that its methodology may not properly capture the full price of all loans, particularly variable-rate loans or loans for which substantial fees were charged. The Board also noted that “Black borrowers experienced higher interest rates than non-Hispanic whites for each loan category in which interest rates can be determined, although . . . some differences were small.” *Id.* at 5.

The Board also described other factors, referenced as “the five C’s,” that likely impact the differences in credit performance correlated with factors such as race, national origin, or age:

- Capacity—Income flow to service debts.⁵
- Capital—assets available to repay a loan.
- Collateral—value of assets backing a loan.
- Conditions—trigger events that may disrupt income flow.
- Character—financial experience, skills and willingness to manage financial obligations.

Some might argue that our Nation’s long history of discrimination against racial and ethnic minorities

causes lingering effects in each of “the five C’s,” which, in turn, have obvious impact on credit scores and credit performance.

Possible proxies for prohibited factors

The Board conducted extensive research in considering whether the factors considered in credit scoring (*i.e.*, the credit characteristics provided by TransUnion) were mere proxies for race or national origin, or whether they were necessary to accurately predict performance. The Report concludes that “[f]or race and ethnicity, almost all of the credit characteristics . . . are more correlated with performance than with demographic characteristic . . . regardless of the specific group considered.” Report at 101. “Indeed, most credit characteristics are only minimally correlated with race and ethnicity, many are not correlated at all, and none are highly correlated. . . . [T]he characteristics that are most correlated with both performance and race are all related to past payment history. Each of these characteristics is also highly correlated with performance.” *Id.* at 102.

The analysis of age led to a different conclusion. Many characteristics are highly correlated with age, most of which relate to the time factors, such as “length of credit history.” These factors are also highly correlated with the status of “recent immigrant,” inasmuch as the factors affecting the young also impact recent immigrants.

Consideration of options to lessen impact on subpopulations

Even though the Board concluded that the credit scoring models accurately predicted performance, it also evaluated whether the predictiveness could be retained with factors that might lessen the impact on some subpopulations, such as Blacks and Hispanics. For most subpopulations, dropping any single characteristic had only a slight effect. The one exception was that dropping “average age of accounts” significantly raised the credit scores for young people and recent immigrants.

In addition to considering dropping individual characteristics, the Board considered the impact of dropping groups of credit characteristics. Dropping the group of characteristics related to payment history caused an increase in the scores of Blacks. Dropping the group related to “length of credit history” caused

large changes in the scores by age and for recent immigrants.

The Board further examined the impact of adding other credit characteristics to the model, but found little impact on credit scores across subpopulations. “None of the additional credit characteristics changed the mean credit score for blacks by more than 0.39 points.” *Id.* at 108.

The Board specifically considered the impact of adding characteristics related to finance company trades, inasmuch as this characteristic has been criticized as possibly creating a racial bias.⁶ The conclusion was that adding these factors had very minimal negative or positive impact on the scores of Blacks.

Race- and age-neutral analyses

Adding and subtracting credit characteristics supported the Board’s conclusion, but the Board determined that the most academically accurate measure of the model would be an evaluation under race-neutral and age-neutral models. Such tests were performed. “For the racial assessment, the sample was restricted to non-Hispanic whites (the “white only” model). For age, the estimating sample was limited to individuals aged 40 or older (the “older age” models).” *Id.* at 110. Another methodology used the entire sample, “but in reestimating the attribute weights the estimations include shifts in the racial intercept (the “racial-indicator variable” model) or shifts in the age intercept (the “age-indicator variable” model).”

These tests revealed “virtually no difference” correlated with race. “[M]ean scores for blacks are only 0.1 point higher for the white-only and racial-indicator-variable models.” *Id.* at 112.

“In contrast to race, it appears that mean credit scores and performance residuals for recent immigrants differ between the models estimated in a race neutral environment and the FRB base model. Notably, mean credit scores for recent immigrants are 0.3 point higher in the two racially neutral models, and their overperformance declines also by about 0.3 percentage point.” *Id.* at 112.

Overall, the report concludes that “in the aggregate, there is no differential effect for race or ethnicity in the FRB base model.” However, “there is some evidence that the FRB base model credit characteristics may embed some disparate effects by age, but the effect

appears small.” *Id.* at 115. The effects are caused by the same characteristics that impact recent immigrants, “average age of accounts” and related characteristics. At the same time, the Report notes that dropping these characteristics from the model would negatively impact its predictive value. *Id.* at 116.

The Board suggests that the scores of recent immigrants might be made more consistent with performance if nontraditional credit factors, such as rent or utility payments, could be added to the credit bureau records.

Legal Meaning of the Board’s Findings

The Report does not declare a winner, but the factual conclusions of the Board support a conclusion that the FRB base model does not have an illegal discriminatory impact that would violate ECOA or the Fair Housing Act.

Most fair lending cases present claims of “disparate treatment,” which is a form of intentional discrimination. A more controversial legal theory contends that even policies and practices that are adopted and implemented without a discriminatory purpose can be unlawful if they have a discriminatory impact. A plaintiff can thus challenge a racially neutral policy and, to support the claim, present statistical evidence demonstrating that the policy detrimentally impacts a significantly greater percentage of a particular racial or ethnic group than it does Whites. To avoid a finding of liability, the defendant can show that, notwithstanding this differential impact, the policy is based on sound business reasons or, as sometimes is said, a “business necessity.” A plaintiff can still prevail if she can demonstrate that the business purpose can be achieved by policies that have a significantly smaller differential impact.⁷

The Report subjects the FRB base model to this disparate impact analysis. It concludes that the credit scoring model results in significantly lower scores for Blacks and Hispanics as compared to non-Hispanic Whites. Thus, a plaintiff (if she had this data) may satisfy the first step of the test. Young persons and new immigrants similarly experience such impact.

The Board demonstrates, however, that the characteristics of the model are not proxies for race or national origin, but rather, accurately predict

performance. In fact, the Board concludes that Blacks are somewhat **advantaged** by the model in that, on average, their relative performance is worse than their score would predict. Lenders have a legitimate business interest in having loans repaid, and factors that accurately predict the likelihood of repayment would most likely qualify as a legitimate business justification or “business necessity.” The Board further considered whether other factors might satisfy the legitimate business interest but have less of a differential impact, but could not identify any such factor. Thus, in a legal challenge based on claims of disparate impact on Blacks or Hispanics, the mythical company using the FRB base model likely wins.

ECOA (but not the Fair Housing Act) also prohibits discrimination on the basis of age, and a disparate impact claim pursued by young borrowers might require more analysis. Unlike the issue discussed above, the Board concluded that young borrowers actually perform better than their score would indicate. But the factor that causes the differential impact upon young borrowers (average age of account) also is highly predictive of performance. Thus, the Report may be read to establish the business justification for the differential. The Board was not able to identify an alternate characteristic that eliminated the differential impact but preserved the business justification. Thus again, the mythical company using the model would likely prevail.⁸

The Impact of the Report

This Report likely will be the subject of fierce debate, much like the FTC’s related study on credit-based insurance scores or even the well-known study of disparate treatment in underwriting conducted by the Federal Reserve Bank of Boston in 1991. The Board itself recognizes the limitations of the FRB base model, and other academics and advocacy organizations may have more critical comments. And, of course, the model the Board developed has not been used by any company, and whether the proprietary models used by numerous lenders would fare as well under a disparate impact analysis remains an open question.

The Report, at the same time, presents important public policy questions. The disparity in credit scores correlated with race and national origin is revealed not just by the FRB base model, but also by the

TransRisk model and the VantageScore model. For many years, raw HMDA data revealing racial and ethnic disparities has caused a focus on the policies of lenders. While that will not go away entirely by this Report, the Report, for the first time, documents more basic causes of the disparities. It will be important for policymakers, such as the Congress to whom the Report is addressed, to consider these underlying issues in order to achieve equality in home ownership and other financial opportunities.

The Report certainly will not be the final word on the subject, but the industry could not have asked for a better start. Since the beginning of the fair lending enforcement program, lending industry leaders have feared the application of the disparate impact legal theory, largely because the differential impacts of many lending policies were surmised, even if not documented, and the burden that might be imposed to justify the policies was unknown. At least as to this model, however, the defendant wins, and a path has been laid to defend challenges in the future.

Endnotes

¹ The law assigned responsibility for conducting the study to the Federal Trade Commission (FTC) and the Board, and both agencies were required to consult with the Department of Housing and Urban Development (HUD). The Board assumed lead responsibility for assessing the effects of credit scoring on credit markets. The FTC assumed lead responsibility in the area of insurance and issued a report on the subject in July, 2007. The FTC reached conclusions similar to those reached by the Board as described in the text above, finding that “credit-based insurance scores are effective predictors of risk under automobile insurance policies . . . [including] within racial, ethnic, and income groups.” See *Credit-Based Insurance Scores: Impacts on Consumers of Automobile Insurance, A Report to Congress* by the Federal Trade Commission (the “FTC study”), at 82-83. In a July 24, 2007 press release, the Consumer Federation of America, the Center for Economic Justice, the National Consumer Law Center and the National Fair Housing Alliance contended that the FTC study “is fatally flawed” and called on Congress to reject the study and to ban the use of credit scoring in insurance.

² The TransRisk score is a proprietary model of TransUnion. The VantageScore was developed jointly by Equifax, Experian and TransUnion and is designed to score persons consistently across the three companies.

³ The Report states:

The thin-file scorecard has eight credit characteristics and includes 9.9 percent of the individuals in the estimation sample. The clean-record scorecard has eight credit characteristics and covers 58.9 percent of the estimation sample. The major-derogatory scorecard has 10 credit characteristics and includes 31.2 percent of the sample.

Id. at 76.

⁴ Only 7.3 percent of the persons in the “clean file” category experienced bad performance, as compared to 34.8 percent of the persons in the “thin file” category, and 64.7 percent of the persons in the “major derogatory” category. *Id.* at 77.

⁵ The Report states that married persons scored higher than singles, but that these scores vary little by gender. Differences correlated with income, location of residence and other factors are addressed in the Report but will not be discussed further in this Alert.

⁶ The Report notes, for example, “for black families, mean income in 2000 was \$38,700; for non-Hispanic white families, \$56,870; and for Hispanic families, \$42,800.” *Id.* at 99, n.128.

⁷ The inclusion of this characteristic in modeling has been criticized because it causes a negative impact on a score even if the finance account was paid in a timely manner. The Board seems to conclude that this characteristic, although not included in the FRB base model, would not have a discriminatory impact if it had been used.

⁹ For an additional description of the disparate impact legal theory and its applicability to lending, see K&L Gates Mortgage Banking/Consumer Finance Commentary, “Loan Eligibility Criteria Subject to Disparate Impact Attack” by Paul F. Hancock, October 2006. Many courts have held that a violation of the Fair Housing Act and ECOA can be established under the disparate impact theory, but the issue has not yet been addressed by the United States Supreme Court. Also, Section 805 of the Fair Housing Act, which prohibits certain types of discrimination in mortgage lending, has not yet received extensive judicial interpretation.

¹⁰ The Report also describes the differential effect of the model on “recent immigrants.” Neither ECOA nor the Fair Housing Act prohibits discrimination on the basis of “recent immigrant” status and, thus, a claim alleging discrimination against “recent immigrants” would likely fail at the starting gate. In certain factual settings, however, the term “recent immigrants” may correlate highly with a particular national origin, and a claim of discrimination on the basis of national origin may be presented. As described in the Report the differential effect experienced by “recent immigrants” arises because they exhibit the same traits as young borrowers. If a disparate impact claim could be pursued, the final conclusion may require more analysis since the Board suggests a method by which the legitimate business justification can be satisfied by a less discriminatory alternative, *i.e.*, the use of nontraditional credit factors.

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