Do We Still Need the Equal Credit Opportunity Act?

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Summary: *The Equal Credit Opportunity Act (ECOA) prohibits discrimination in any aspect of a credit transaction based on sex, marital status, race, ethnicity, age, or other specified factors. Regulation B implementing the ECOA, as applied by the courts, requires that financial institutions challenged on the basis that a policy or practice has a disparate impact on a protected class must demonstrate that such a policy or practice is related to creditworthiness and is justified by a legitimate and necessary business objective. Certain factors that lenders may use in their decisions regarding creditworthiness may be affected by discrimination that occurs in other markets, such as the labor and housing markets. The business necessity test allows financial institutions to distinguish between two categories of credit factors influenced by illegal discrimination in other markets: a) credit factors that have a disparate impact but demonstrably affect risk (so long as a less discriminatory approach would not satisfy the same business objective), and b) credit factors that have a disparate impact but where there is no countervailing legitimate business objective, or a less discriminatory factor would achieve the same business goal. This paper discusses the role of the ECOA and Regulation B in distinguishing between the two categories of credit-related policies and argues that the ECOA continues to be relevant so long as discrimination persists in markets affecting credit qualifications.*

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I. Introduction

The Equal Credit Opportunity Act of 1974 (ECOA) was enacted in an era marked by consumers' increasing reliance on credit, markedly different lending practices than those prevalent today, and vibrant civil rights activism. Beginning in the 1950s and 1960s, consumers increasingly financed large purchases using credit and built wealth through homeownership. Consumer credit outstanding grew rapidly and became an important tool of economic mobility for many American families. At the same time, savings and loan institutions gradually became more diversified and nationally oriented, engaging in lending beyond the borders of their local areas. Both state and federal governments began formulating policies aimed at enhancing protections for consumers served by this increasingly large and diverse industry.[1] Congress passed consumer credit protection legislation in 1968 and continued to expand the scope of this legislation in the years that followed, including by passing the ECOA in 1974.

By the early 1970s, lenders relied on information contained in credit reports as well as additional facts and opinions when making decisions about offering a loan and about the loan's terms. This additional information often included income, gender, age, personal history, references, and "reputation."[2] Several of those factors were arguably susceptible to a loan officer's personal judgment and prejudices. "Credit scoring" as we understand it today was only in the early stages of deployment. The use of a "score card" generally meant that a loan officer would categorize and assign numerical scores to the factors mentioned above in order to produce

[1] An example of such early state efforts is the credit insurance bills passed in several states in the early 1960s.

[2] Cole (1976).

a more succinct assessment of an applicant's overall qualifications.[3] This formal grading device was intended to help inexperienced credit personnel develop good habits of analysis and to begin performing what the more experienced analyst was understood to do unconsciously.[4] In any case, the process was susceptible to direct and indirect considerations of personal characteristics in making lending decisions.

The 1960s also saw a dramatic increase in attention paid to questions of equality, particularly in the context of the civil rights movement. Many provisions of the landmark civil rights laws passed during the 1960s were only beginning to be implemented and enforced, and they rarely directly addressed lending.[5] Congressional testimony and media coverage suggest that lenders often required that single, divorced, or widowed women provide a male relative as a co-signer for a mortgage loan. Evidence suggests that it was also common for lenders to discount the wages of working women — even when they were the primary breadwinners — for the purposes of underwriting a loan.[6] Congressional hearings also reveal that minority (particularly African American) applicants experienced considerable difficulty in obtaining credit. Elderly borrowers faced limited options as well.[7]

It was in this context that Congress passed the Equal Credit Opportunity Act in 1974, prohibiting discrimination based on sex and marital status, and subsequently amended it in 1976

[3] For a more detailed discussion of modern credit scoring models, see Mester (1997). Today, Regulation B, which implements the ECOA, requires that a credit scoring system be "empirically derived, demonstrably and statistically sound" in order not to be classified as judgmental and qualify for certain exceptions.

[4] Cole (1976).

[5] A notable exception is the Fair Housing Act of 1968 (FHAct), which outlaws discrimination in the provision of housing, which encompasses mortgage lending. A much older law, the Civil Rights Act of 1866, allowed civil suits for discrimination based on race or color in employment and housing (including housing-related credit transactions), though only if plaintiffs showed evidence of intentional discrimination.

[6] Ladd (1982) documents that the earnings of women were often discounted by 50 percent or more by a large number of lenders.

[7] See National Commission on Consumer Finance (1972), Chapter 8.

to add protections based on race, ethnicity, age, and other factors (referred to hereafter as "protected classes").

Much has changed in the United States since the ECOA became law. Consumer lending decisions rely considerably more on indicators of verifiable credit history found in the computerized files of credit reporting agencies.[8] Credit scoring models that use these data in making lending decisions are more automated and have matured over time. Such automation may reduce opportunities for bias to influence outcomes in consumer lending.[9] Further, social mores about the factors perceived to be legitimate and relevant to making credit decisions and the prevalence of bias likely have also changed since the ECOA was passed. All of these developments raise the question: Do we still need the Equal Credit Opportunity Act?

Answering that question requires an understanding of how the provisions of the law are interpreted and enforced by regulators and courts. It also requires an understanding, based on sound theoretical and empirical research, of the ways in which these provisions can or cannot address the specific mechanisms through which discrimination can distort today's market for consumer credit. This paper reviews the relevant economic theories and empirical evidence of discrimination in the market for consumer credit. It then examines the effectiveness of the legislative and regulatory efforts embodied in the ECOA and Regulation B in addressing concerns of discrimination in modern-day lending.[10]

[8] For more information on the evolution of credit reporting in the U.S., see Hunt (2005).

[9] Board of Governors of the Federal Reserve, *Report to the Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit*, August 2007 (accessed at http://www.federalreserve.gov/boarddocs/rptcongress/creditscore/creditscore.pdf).

[10] The stated goals and the legal and regulatory interpretation of the ECOA are taken as given; a debate about the merits of the act is outside the scope of this paper.

Regulation B — initially implemented by the Federal Reserve Board (FRB) and, since 2011, the Consumer Financial Protection Bureau (CFPB) — interprets the ECOA as barring practices that have either the *intent* (in the treatment of applicants) or the *effect* (in the outcomes that applicants face) of discrimination.[11] Practices that produce evidence of disparate *effect* or *impact* on members of a protected class are prohibited under Regulation B unless the financial institution demonstrates that the practice is justified by a legitimate business objective.[12] Identifying a valid business objective allows financial institutions to justify the consideration of a credit factor even though such a factor may result in a disparate impact.

According to examination guidance issued by the banking regulators, a strong business justification "must be manifest and may be neither hypothetical nor speculative."[13] Factors that may be relevant to such a justification are typically related to cost, profitability, soundness, or other measurable objectives.[14] In addition, if a less discriminatory, reasonably available alternative practice meets the demonstrated business justification, the practice may still be found

[11] The term "discrimination" is often used in economics, without a negative connotation, to denote any mechanism that distinguishes agents or products based on some characteristic. "Price discrimination," for example, involves charging different amounts to different groups based on their perceived valuation of a product or service, as is the case with business and leisure travelers (both traveling in coach) in the market for air travel. In legal settings, discrimination refers to the treatment or judgment of an individual based on the group to which the individual belongs rather than on individual merit. Such a treatment typically confers a burden or disadvantage on at least one group and thus carries a negative connotation. This paper follows Regulation B in considering discrimination to encompass disparate treatment (regardless of motivation) or disparate impact based on a prohibited basis.

[12] While disparate treatment of protected class members in the credit market is commonly understood to be explicitly prohibited under statutory law, the employment of the disparate impact doctrine in fair lending cases continues to be the subject of debate. Based on the Official Staff Interpretation of Regulation B (Supplement I of 12 C.F.R. § 202), the FRB incorporated an "effects test" concept based on the legislative history of the ECOA, and the CFPB has announced its intent to continue to employ a disparate impact "effects test" in fair lending examinations and enforcement actions (CFPB Bulletin 2012-04, from April 18, 2012). As courts continue to hear arguments about the legislative history behind the ECOA, and whether Congress intended to incorporate a disparate impact theory for liability, the interpretation of the ECOA (first by the FRB and now the CFPB) is taken at face value in this paper, notwithstanding the ongoing debate. For more details on the debate, see Sandler et al. (2011).

[13] *Interagency Fair Lending Examination Procedures*, August 2009, found at http://www.ffiec.gov/pdf/fairlend.pdf.

[14] See *Interagency Fair Lending Examination Procedures*. Case law and regulators both have emphasized creditworthiness as the primary relevant countervailing factor under the ECOA, although that need not foreclose the possibility that there are other considerations that could justify a business policy and pass scrutiny under Regulation B.

to be in violation. In litigation, the burden of proof for the existence of an alternative, less discriminatory practice that would attain the same business goal is typically on the challenger to the practice.[15]

The business justification plays a particularly important role in circumstances where criteria used by financial institutions in decision-making are affected by or determined in other markets. Some members of protected classes may struggle to obtain credit on favorable terms if they are affected by discrimination in these other markets, such as the labor, education, or housing markets. Unfavorable outcomes in those markets could affect measures of creditworthiness (lower or less stable incomes or home values, for example). Thus, there is the potential that discrimination in nonfinancial markets could influence supply (or demand) in the market for consumer credit.

The business justification requirement of Regulation B provides one means of ensuring that the consequences of discrimination in these related markets do not unjustifiably spill over to the credit market. When a financial institution uses a credit factor in its decisions that results in a disparate impact on members of a protected class, it must be able to provide evidence that relying on this information helps to attain a legitimate, measurable business goal. In that sense, even in the absence of any discrimination in the credit market, Regulation B would continue to provide some protection for applicants who may be exposed to discrimination in other markets. The business justification mechanism represents a method for curbing practices that may unjustifiably perpetuate discrimination, while still allowing financial institutions to account for

[15] For more details on the legal precedents for the burden of proof of a less discriminatory practice, see Sandler et al. (2011).

legitimate sources of risk. Under this lens, the ECOA continues to be relevant even in settings with little bias in lending and mature credit decision processes.

The discussion proceeds as follows: Section II describes the legal and regulatory framework behind fair lending laws, in particular, the Equal Credit Opportunity Act. Section III describes the major economic theories of channels through which discrimination may arise in a competitive market, as well as the challenges associated with detecting discrimination in credit markets. Section IV presents the available evidence of discrimination in lending. Section V reviews the evidence of discrimination in markets whose outcomes may also affect the availability of credit. Section VI presents a discussion and concludes the paper.

II. The Legal and Regulatory Framework

A. Consumer Credit Protection Act

The ECOA is part of an early set of consumer protection regulations and was added as Title VII of the Consumer Credit Protection Act of 1968 (CCPA). Federal regulation of consumer credit markets is a relatively recent phenomenon. At least two factors contributed to this development. The first was the rapid expansion of consumer credit since World War II. After 1945, when it stood just short of $7 billion (or about $50 per capita), consumer credit outstanding grew four times faster than the economy as a whole. By 1967, the total amount of consumer credit exceeded $100 billion (or about $500 per capita), and consumers were paying finance charges in an amount approximately equal to the amount of annual interest on the federal debt. The second was the expansion in the geographic scope of consumer lending. Over time, more and more consumers were accessing credit from lenders located in other states.

Congress enacted the CCPA on May 29, 1968, in order to "safeguard the consumer in connection with the utilization of credit."[16] The bill initially contained four substantive titles; the ECOA became Title VII of the CCPA in 1974.

B. National Commission on Consumer Finance

Title IV of the CCPA established the National Commission on Consumer Finance and charged it with further study of the state of consumer credit in the United States. The commission, a bi-partisan body, was tasked with assessing the operation and structure of the consumer finance industry, as well as of the existing supervisory and regulatory mechanisms to protect the public from unfair practices and to ensure the informed use of consumer credit.[17] With the submission of the commission's final report to President Nixon, on December 31, 1972, the commission disbanded. [18]

Public hearings held by the commission and the recommendations it made in its report stimulated a passionate debate about alleged discrimination in the market for consumer credit that set the stage for the introduction of the ECOA. On the subject of discrimination, the commission's hearings focused on allegations of discrimination on the basis of gender and race, presenting numerous accounts of women facing difficulties obtaining credit. Although the commission did not recommend a federal anti-discrimination law in its report, it did urge states to reexamine laws that may have the effect of reducing credit availability to creditworthy women.

[16] 15 U.S.C. §101-504.

[17] The commission consisted of nine members: three senators, three members of the House, and three experts drawn from the public at large appointed by the President.

[18] See National Commission on Consumer Finance (1972), Chapter 8.

The commission's report briefly discussed evidence of alleged race-based discrimination in the consumer credit market, but it did not rule out the possibility that variation in credit offers to different racial groups was due to disparities in income rather than race.[19] Ultimately, the commission did not provide definitive guidance on what forms of discrimination in the credit market exist or should be legally prohibited. The hearings and the report did begin a national discussion on discrimination in this market, which prompted legislators to consider legal protections for segments of society for whom accessing consumer credit was challenging.

C. Passage of the ECOA

The commission's public hearings and its report prompted the introduction of several anti-discrimination bills in the House of Representatives. Most of these would have established protections from discrimination based on sex and marital status or based on age alone. Only one of the bills introduced in the House would have provided additional protections against discrimination based on a broader set of applicant characteristics, including sex, marital status, race, color, religion, national origin, and age.[20] The Senate, on the other hand, only introduced bills prohibiting discrimination based on sex and marital status.

During the deliberations, there were disagreements in Congress about the relative prospects of bills with different coverage for protected classes. Many felt that a bill prohibiting discrimination based on sex and marital status alone could gain broader support and quicker passage.[21] Some argued that existing federal laws, such as the Civil Rights Act of 1866 and the

[19] The commission did not address whether differentiating applicants based on income is acceptable in the credit market.

[20] The hearings by the House Committee on Banking and Currency were held on the more expansive proposal.

[21] Hearings of the Subcommittee on Consumer Affairs of the Committee on Banking and Currency of the House of Representatives on H.R. 14856 and H.R. 14908, June 20 and 21, 1974, pp. 13-14.

FHAct, already provided some protections against race-based discrimination. Civil suits alleging discrimination based on race or color in employment and housing (including housing-related credit transactions) could be brought under the Civil Rights Act of 1866, although plaintiffs had to present evidence of *intentional* discrimination. The government could initiate legal action under the FHAct as well but only in instances involving the financing of *housing* conditioned on the race, religion, or national origin of the borrower. As of the writing of the commission's report and ECOA-related hearings in the House, no law enabled the federal government to bring action and prevent discrimination in other areas of consumer credit or on behalf of a broader set of protected classes.

In 1974, the House passed and sent to the Senate a bill amending some of the existing titles of the CCPA. The Senate inserted Title VII prohibiting discrimination based on sex and marital status into the text of the bill and passed the amended bill unanimously in June 1974.[22] This version of the ECOA was subsequently passed in conference, signed by President Ford on October 28, 1974, and became effective one year later.

In 1976, the ECOA was amended to strengthen the enforcement of anti-discrimination laws and to include a broader set of protections: (1) on the basis of race, color, religion, national origin, sex or marital status, or age, (2) when all or part of the applicant's income derives from any public assistance program, or (3) when the applicant has in good faith exercised any right under the CCPA.[23]

[22] Any definition of "discrimination" was removed from the bill's text by the Senate because of the difficulty in defining the term, as well as to allow the FRB more flexibility in issuing the implementing regulation.

[23] The ECOA, together with the related anti-discrimination statutes described earlier, is often referred to simply as a "fair lending law." Much of the subsequent analysis in this paper of the interpretation, enforcement, and future applicability of the ECOA is also pertinent to fair lending laws generally. While the related fair lending laws are important and frequently referenced in litigation as well as enforcement actions, the ECOA uniquely covers all

D. Regulation B and Interagency Fair Lending Guidelines

To interpret and implement the ECOA, the FRB issued Regulation B and has continuously updated its text in response to amendments to the statute, judicial precedent, and changing industry standards. Regulation B contains two basic prohibitions:

i. "A creditor shall not discriminate against an applicant on a prohibited basis regarding any aspect of a credit transaction," and

ii. "A creditor shall not make any oral or written statement, in advertising or otherwise, to applicants or prospective applicants that would discourage, on a prohibited basis, a reasonable person from making or pursuing an application."

The lender is, therefore, barred from discriminating on a prohibited basis before, during, and after an application is submitted. Regulation B also sets out standards for credit scoring systems (which must be "empirically derived, demonstrably and statistically sound" for certain rules to apply, e.g., to be explicitly permitted to consider an applicant's age), data collection activities, and self-testing incentives.[24]

The Federal Financial Institutions Examination Council's (FFIEC) fair lending examination guidelines state that Regulation B prohibits discrimination in the form of *disparate*

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aspects of a credit transaction, a broad array of credit products, and the most exhaustive set of protected classes. An exception to this statement is the FHAct's additional prohibition of discrimination based on familial status and handicap, which are protected classes only in the case of real-estate-related credit transactions. Consequently, ECOA's applicability and continued relevance are the focus of this paper.

[24] Board of Governors of the Federal Reserve System. *Equal Credit Opportunity Act, Regulation B* (12C.F.R. § 202), July 15, 2011, effective August 15, 2011. For the full text of Regulation B, please see http://www.fdic.gov/regulations/laws/rules/6500-2900.html. This reference is to the most recent incarnation of Regulation B; the initial text dates back to October 28, 1975.

treatment of similarly situated borrowers, as well as in the form of policies that result in a *disparate impact* on credit availability or quality for members of a protected class. [25]

i. *Disparate treatment* may present itself in the form of *overt discrimination* (for example, when a lender explicitly offers different loan amounts to single and married applicants, regardless of their qualifications) or in a more subtle form. *Comparative evidence* of disparate treatment may present itself when a difference in treatment based on a prohibited basis exists, but there is no evidence of prejudice or a conscious effort to discriminate against a group. When lenders, for example, spend more time or effort assisting nonminority applicants with resolving issues in their credit histories in order to qualify for a mortgage loan, their practices disparately affect the likelihood that a minority applicant will receive an offer of credit. Other activities that may fall under disparate treatment include steering members of a protected class into less favorable loan products and redlining (i.e., discriminating against applicants from certain, typically minority neighborhoods).

ii. *Disparate impact* results from policies or practices that are applied consistently across groups of borrowers and yet have a disproportionally adverse impact on members of a protected class. Such policies or practices can be neutral, yet discriminatory in their effect. For example, if lenders prohibit mortgage loans for an amount of less than $50,000, the policy may disproportionally exclude minority borrowers, whose incomes and home values may be lower on average.

[25] The FFIEC is a formal interagency body of the United States government empowered to prescribe uniform principles, standards, and report forms for the federal examination of financial institutions by the Board of Governors of the Federal Reserve System (FRB), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA), the Office of the Comptroller of the Currency (OCC), Mergers & Acquisitions International Clearing (MAIC), and the Consumer Financial Protection Bureau (CFPB) and to make recommendations to promote uniformity in the supervision of financial institutions.

In effect, the FRB and the FFIEC have interpreted the ECOA in such a way that both the unfavorable treatment of individuals in a protected class and the unfavorable outcomes of their credit applications relative to the comparison group (once appropriate factors are taken into account) may result in an enforcement action. As mentioned in the introduction, the application of the disparate impact doctrine in fair lending litigation is a matter of some debate, but both the CFPB and the Department of Justice (DOJ) have indicated that they intend to act on evidence of disparate impact in lending, even in cases of unintentional discrimination.[26]

E. Examination and Enforcement

Until 2011, the FRB was responsible for drafting and implementing Regulation B, but examination and enforcement responsibility rested with a creditor's primary regulator. Responsibility for oversight with respect to the ECOA is shared among three enforcement agencies (the Department of Housing and Urban Development (HUD), the Federal Trade Commission (FTC), and the DOJ), four depository institution regulatory agencies (the FDIC, FRB, NCUA, and OCC), and the CFPB. [27] On July 21, 2011 ECOA rulemaking powers were transferred to the CFPB, established under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank).[28]

[26] For a discussion of the CFPB's position, see CFPB Bulletin 2012-04 from April 18, 2012, accessed at http://files.consumerfinance.gov/f/201404_cfpb_bulletin_lending_discrimination.pdf. The *Memorandum of Law in Opposition to the Defendant's Motion to Dismiss the Complaint* (accessed at http://www.justice.gov/crt/about/hce/documents/gfi_mem_omd_6-29-12.pdf) filed by the DOJ in its case against GFI Mortgage Bankers, Inc. discusses the DOJ's position on the validity of the disparate impact doctrine, particularly in light of the Supreme Court's recent decision in the *Wal-Mart v. Dukes* class action lawsuit.

[27] As mentioned previously, the four regulatory agencies are all members of the FFIEC. The newest agency, the CFPB, has rule-writing, supervisory, *and* enforcement arms and is also a member of the FFIEC.

[28] In addition, as of July 21, 2011, the CFPB is responsible for supervising financial institutions with more than $10 billion in assets with respect to compliance with consumer protection regulations. Institutions with assets of less than $10 billion continue to be examined by the regulator that has supervised the institution in the past. Examination and supervision for the purposes of prudential regulation continue to be vested in the bank's primary regulator, as determined by its charter.

Compliance with the provisions of the ECOA may be reviewed during periodic examinations, as well as demonstrated through evidence of self-testing in which lenders are encouraged to engage.[29] In some cases, the primary regulators refer potential violations of the ECOA to the DOJ or HUD for consideration of legal remedies, including compensation for affected individuals and modification of lending procedures and practices. In other cases, depending on the violation, the primary regulator may not be required to refer the matter for enforcement, but rather may take administrative enforcement action on its own. This compliance framework entails significant resources. Fair lending enforcement and prosecution have received particular attention in recent years.[30]

III. Economic Theory of Discrimination and the Lending Process

Despite a well-developed body of legislative and regulatory prohibitions against discrimination, credit market participants and observers face considerable challenges detecting discrimination in lending. This section reviews the existing economic theories of discrimination, as well as the challenges inherent in modeling a complex lending process for purposes of detecting discrimination. A review of these concepts is necessary in order to understand the particular mechanisms through which discrimination may affect the market for consumer credit,

[29] For information on the anatomy of a fair lending exam, see the *Interagency Fair Lending Examination Procedures*, August 2009, found at http://www.ffiec.gov/pdf/fairlend.pdf.

[30] The DOJ received 49 referrals from partner agencies to investigate allegations of discriminatory lending in 2010, 26 of which involved discrimination based on race or national origin. By contrast, from 2001 through 2008 the DOJ received a total of only 30 referrals involving discrimination based on race or national origin. For more details, see the *2010 Annual Report to Congress Pursuant to the Equal Credit Opportunity Act Amendments of 1976*, submitted by the DOJ on April 5, 2011 (accessed at http://www.justice.gov/crt/about/hce/documents/ecoa_report_2010_bw.pdf).

as well as to assess whether the protections of the ECOA, as written, continue to be effective in the presence of such mechanisms.[31]

A. Taste for Discrimination

Gary Becker, an economist and Nobel laureate from the University of Chicago, proposed a pioneering economic theory of discrimination in an era when discussion of this topic was dominated by sociologists, psychologists, and other noneconomists.[32] Becker (1957, with a second edition in 1971) proposed a framework where money serves as a measure of discrimination — an individual has a *taste for discrimination* if she acts "*as if* she were willing to pay something, either directly or in the form of a reduced income, to be associated with some persons instead of others."

Becker introduced the concept of a *discrimination coefficient*, which can be used to measure the magnitude of discrimination. For example, if a prejudiced loan officer is determining the rate of interest on a mortgage loan, he may charge a female borrower a rate of $i = r(1 + d)$, where r is the profit-maximizing rate the loan officer would charge to a male borrower and $d > 0$ is the loan officer's discrimination coefficient against female borrowers (a premium). The discrimination coefficient represents a monetary measure of the nonpecuniary element of the transaction in that it quantifies the nonpecuniary *dis*utility (or burden) to the loan

[31] The material contained in this section will likely be familiar to most advanced readers, but it is provided here to draw attention to the most important theoretical considerations.

[32] Becker, along with several other economists, has approached discrimination primarily from the viewpoint of labor economics, but the theory is equally applicable to a discussion of the market for consumer credit.

officer of doing business with a disliked individual.[33] Becker's theory therefore explains the existence of discrimination in a market with rational, profit-maximizing lenders because discriminating lenders maximize their utility while taking into account their distaste for dealing with individuals from certain groups.

Becker added to his theoretical analysis with an empirical examination of factors that may be likely to influence the degree of discrimination faced by minority groups, particularly African Americans. By examining income disparities after accounting for many variables thought to determine wage levels, he provided an early indirect method of identifying information about tastes for discrimination through descriptive statistics. Using data available to him at the time, Becker found that income disparities between whites and African Americans increased as the number, purchasing power, age, and education of African Americans increased, thus raising concerns about the potential persistence of discrimination.[34]

Applying Becker's theory to consumer credit, observing differences in loan denial rates faced by or differences in interest rates charged to individuals identical in all ways except their membership in a protected class, would provide an estimate of the extent of discrimination against members of the protected class.

In practice, however, estimating the discrimination coefficient is challenging because it is rarely possible to compare otherwise identical individuals in such a fashion. A careful

[33] Becker notes that it is necessary to emphasize the words "as if" because the precise definition of the discrimination coefficient depends on the circumstances. For example, if an employer refuses to hire an African American applicant, the discrimination coefficient represents the percentage of the wages by which the employer would have to be compensated in order to be willing to hire the applicant. Similar reasoning is applied to the loan officer example here.

[34]Becker acknowledged several competing explanations (in addition to discrimination) for income differences, but concluded that these other reasons are unlikely to be sufficiently important to explain the full magnitude of observed income differences.

assessment requires accounting for all possible (or at least all measurably relevant) factors that systematically differ across groups and are correlated with protected class status. Otherwise, an estimated discrimination coefficient might be distorted by other factors, such as omitted variables in the structural or econometric models. In addition, even the best data available to lenders are not perfect. If there is measurement error in such data that happens to be correlated with race, this too might contribute to a statistically significant discrimination coefficient. The particular challenges lenders and regulatory agencies face in assessing fair lending compliance, and especially identifying intent to discriminate, are discussed in greater detail later in this section.

B. Statistical Discrimination

Statistical discrimination, proposed independently by Arrow (1972) and Phelps (1972), arose out of existing insights on the difficulty of obtaining complete information about a job applicant. Employers are not prejudiced in this literature, but informational frictions or excessive costs of inquiry prevent them from ascertaining an individual's true ability. Race or sex is taken as a proxy for information that could not be obtained by an employer (or, in the context of credit markets, a lender). In this theoretical model, the employer relies on his *a priori* beliefs about the relative performance of different groups in his decision.

A lender in this theoretical framework uses the individual's group identity as a *proxy* for the individual's creditworthiness. The lender may seek to minimize losses from defaults by taking into account, for example, that minority applicants may have lower job stability and higher unemployment rates (thus potentially carrying a higher risk of default) and refuse an application or charge a higher interest rate to the minority applicant. Under the theory of

statistical discrimination, this would occur even in the absence of any direct knowledge of the individual's own job prospects. These *a priori* expectations might stem from previous experience or from prevailing sociological beliefs (in which case discrimination may be self-perpetuating). This theory could help to explain instances in which applicants appear to be treated differently, yet the lender shows no prejudicial intent — only an effort to account for (perceived) default risk.

C. Cultural Affinity

The theory of cultural affinity, introduced by Calomiris, Kahn, and Longhofer (1994) and extended by Longhofer (1996), posits that it may be more costly (in terms of time or profits) for lenders to evaluate applicants with whom they do not share a common background, or a "cultural affinity." Discrimination arises in this context in that some qualified individuals suffer negative externalities in access to credit as a result of their group membership because gathering information about the creditworthiness of these individuals is hindered by cultural barriers.

In contrast to the theories of discrimination described above, this theoretical approach was formulated specifically in response to the particular challenges of studying discrimination in lending. As with the theory of statistical discrimination, it presumes no ex-ante intent to discriminate on the lender's part. The theory does, however, assume that the signal of credit quality is more precise for white applicants than for minority applicants, although this precision may not be fully observable to outsiders.[35] The theory suggests that risk-averse lenders may

[35] Longhofer (1996) models cultural affinity with the incorporation of an additional private signal for the group with which the lender shares an affinity. It may be helpful to think about this private signal as information explaining, for example, issues in the applicant's credit history that may serve as a compensating factor for marginal candidates.

attempt to offset the larger uncertainty over the underlying credit quality of these applications by holding minority applicants to stricter standards when their average creditworthiness is lower.

Longhofer (1996) expands the discussion by pointing out that cultural affinity combined with differing average credit quality across groups would not lead to cross-racial differences in default rates of marginal candidates so long as lenders could vary cutoff levels across groups.[36] However, the mandate for consistent treatment prohibits lenders from setting higher cutoff levels for less qualified groups (since this would constitute disparate treatment under fair lending laws). The threat of regulatory scrutiny would therefore lead lenders to select lower cutoffs (and higher default rates) for less qualified and higher cutoffs for more qualified applicants than they would in the absence of fair lending enforcement. Longhofer (1996) points out that, in cases of higher average credit quality of white applicants relative to minority applicants, higher observed minority default rates may then actually signal that fair lending enforcement is having an effect.

As Ross and Yinger (2002) discuss, the concept of "cultural affinity" may not have contributed to a better understanding of the motivations for discrimination, but it has helped focus researchers' attention on the significance of incomplete information in the lending process.

D. Challenges in Detecting Discrimination in the Credit Market

An analysis of discrimination in the credit market must begin with an understanding of the practices and decision processes by which credit is marketed, extended, priced, and serviced.

[36] Cutoff levels simply denote the minimum requirements necessary to attain a positive decision (e.g., minimum credit score in underwriting).

Ross and Yinger (2002) and many other studies provide a thorough treatment of the mortgage market, and many insights presented in them apply across a broad set of credit categories.[37] For purposes of this paper, it is important to discuss the aspects of the marketing and underwriting process that particularly frustrate researchers studying discrimination in lending, and these are examined in the following paragraphs.[38]

i. Consumer Product Choice and Potential Steering by Lenders

Consumers may apply for a particular loan product and approach a lender with some preferred loan terms (or a range around each term) already selected. Consumers can inform their choices by independent research and conversations with family or friends, but these choices can also be affected by the marketing in which financial institutions engage.

If members of protected classes are ex-ante systematically more likely to select loan products with less favorable terms for reasons not observable to the researcher and independent of any financial institution's influence (however unlikely), differences in the mix of loan products held by consumers would exist between groups even in the absence of discrimination. Since this outcome would not be a result of any institutional policy, but rather an independent choice by the consumer, no disparate treatment claims could be sustained, although the data may suggest evidence of disparate impact.

On the other hand, lenders could push or "steer" borrowers into certain products on a prohibited basis, restrict product choice by offering only a limited set of options to (some)

[37] Several studies provide thorough technical treatments of many of the challenges discussed in this subsection; see, for example, LaCour-Little (1999) and LaCour-Little (2001).

[38] Many of these will be revisited in Section IV, where empirical studies of discrimination are discussed in greater detail.

applicants, or tailor their marketing campaigns to attract applicants of a particular group into particular product categories.[39] If such a difference in treatment occurred on a prohibited basis, this would violate current fair lending regulations. Some features of the mortgage market provide suggestive evidence of steering. They also pose significant methodological challenges to the interpretation of observed patterns.[40] From the borrower's perspective, Courchane et al. (2004) show that subprime borrowers are less knowledgeable about the mortgage process, are less likely to search for the best rate, and are less likely to be offered multiple choices with respect to mortgage terms. Given these findings, it is very challenging to disentangle what responsibility (if any) a financial institution may (or should) bear in the ultimate distribution of products across groups.

ii. Endogeneity of Loan Terms[41]

Unlike product selection in some other markets, certain terms of a consumer loan are not predetermined; they may be adjusted during negotiations or after an application has been submitted. Consumers choose loan attributes (with or without input from the lender) from a complex menu and the choices consumers make may be correlated with group identity for unobserved (or not easily recorded) reasons.[42] At the same time, the loan officer may provide suggestions, recommendations, or information regarding the loan product or the most effective

[39] Several class action lawsuits alleging steering into subprime loans or other exotic loan products have been brought before U.S. courts in the aftermath of the financial crisis of 2008. There have also been a number of regulatory settlements and actions related to steering post-2008.

[40] For example, statistics show that subprime loans are more concentrated in minority (particularly African American) neighborhoods, even after accounting for several observable factors. See, for example, Pennington-Cross et al. (2000), Calem et al. (2004) and Meyer and Pence (2009).

[41] For a more detailed consideration of this topic, see Yezer et al. (1994).

[42] For example, borrowers may possess differing levels of financial sophistication and are differently able to analyze the trade-off between the interest rate and the down payment (i.e., loan-to-value ratio). Financial sophistication, on the other hand, may be correlated with borrower race, gender, and age.

way to document an application. If this coaching is done on a prohibited basis, it may give rise to fair lending concerns.[43] The interactive nature of the lending process thus presents additional methodological challenges for a researcher aiming to assess the cause of differences in the ultimate outcomes between groups.

A borrower seeking a particular interest rate may agree to increase the amount of the down payment on a mortgage loan in order to obtain that rate. As a result, the interest rate and the loan-to-value ratio are determined simultaneously in this process. A borrower may adjust other qualifications in response to the oral offer in order to attain the desired terms. The interactions between different aspects of the loan approval process are relevant because some factors that determine loan approval, such as the loan-to-value ratio, may be endogenous as a result of these interactions. In addition to unobservable determinants of the loan-to-value ratio, the selection of the loan-to-value ratio is influenced both by the likelihood of default and by the likelihood of rejection. The loan-to-value ratio may therefore be affected by the unobservable determinants of several different factors, and any number of these unobservables may be correlated with protected class status. The endogeneity problem may result in disparities that go in the same direction as those predicted in a setting with coaching on a prohibited basis, making the distinction between these two mechanisms considerably difficult.

iii. Lender Choice and Heterogeneity in Lending Standards

Different lenders may provide their services under varying sets of standards for underwriting, pricing, and servicing. If members of protected classes systematically choose

[43] In its investigation of Decatur Federal Savings and Loan in Atlanta, the DOJ found that loan officers provided more assistance with application preparation to white than to minority applicants, which increased white applicants' likelihood of loan approval. For a discussion of the Decatur case, see Ritter (1996).

lenders with less favorable product offerings, an analysis of credit outcomes across lenders would suggest the presence of discrimination even if none occurred.[44] On the other hand, if protected class members are attracted by lenders with unfavorable credit offerings based on a prohibited basis as in the context of steering discussed above, discrimination may be present, yet difficult to detect in an analysis of a single lender's portfolio.

Additionally, evidence suggests that many U.S. consumers do not engage in extensive comparison shopping when searching for credit, even in the case of large purchases, such as a home.[45] Differences in the extent of comparison shopping among different types of borrowers may result in disparate outcomes for borrowers in a protected class when their loan records are compared with those of the base group across loan portfolios of different lenders.

Studies have shown that accounting for lender heterogeneity alone may go a long way in explaining differences in credit outcomes between groups in a setting where multiple lenders are present in the analysis.[46] At present, the ECOA is not equipped to address market-wide disparities in credit outcomes if such disparities cannot be tied to a specific policy at a specific lender (or a set of lenders) that results in the disparate impact for members of a protected class.

iv. Renegotiation and Revolving Credit

Many credit types, most notably credit cards, can be subject to renegotiation of terms during the life of the relationship between the borrower and lender. If different groups are more

[44] This may occur if, for example, applicants systematically choose the nearest institution, and banks with more favorable terms are located in higher-income neighborhoods.

[45] For example, Courchane et al. (2004) show that only half of prime mortgage holders and a third of subprime mortgage holders searched "a lot" for the best mortgage. Hall and Woodward (2010) posit that the only reasonable model that explains the observed patterns of broker compensation is one where most borrowers consider no more than one to two mortgages.

[46] See Chapter 6 of Ross and Yinger (2002) for a review of these studies.

or less successfully able to renegotiate their credit lines or interest rates (due to innate skill or financial education, for example), researchers will observe differences in credit outcomes between groups that arise through no (discriminatory) action on the part of the lender. For example, if white borrowers are more likely to contact their lender and negotiate a reduction in their annual fee or interest rate, minority borrowers of similar qualifications will pay more for credit even if the lender addressed each call received in a fair and consistent manner.

On the other hand, if a lender offered rate reductions or fee waivers only to borrowers with certain spending patterns, the language of Regulation B suggests — in the absence of a strong, empirically sound business justification — an impermissible disparate impact for members of a protected class. Unfortunately, publicly available data on lender or borrower actions after a relationship has been established are very limited.

These examples illustrate the difficulties empirical researchers face in attempting to isolate differing outcomes in the market for consumer credit that, under the standards established in Regulation B, would be attributed to illegal discriminatory conduct on the part of the lender. It is important to note that the challenges highlighted here are only relevant to the extent that there is *systematic heterogeneity in behavior between members of protected and base classes*. If differences in product choice, shopping behavior, negotiation skills, etc. are truly independent of protected class status, the inference problem is greatly simplified. The findings and shortcomings of studies along these dimensions are the subject of the section that follows.

IV. Empirical Evidence of Discrimination in the Credit Market

Despite clear interest in the topic of discrimination in lending — as evidenced by the passage of the ECOA and the surrounding public discourse — there was little systematic

empirical evidence of discrimination in lending before the mid 1990s.[47] At least for mortgage lending, this changed after the 1989 amendment to the reporting requirements of the Home Mortgage Disclosure Act (HMDA), which required lenders to include the gender, race, and ethnicity of the loan applicant for loans reportable under this statute.[48] This made it possible to compare lender and (local or national) market-level loan denial rates by demographic group, beginning with the HMDA data collection for 1990 (made publicly available in 1994). In addition, the DOJ's litigation against Decatur Federal Savings and Loan (which had been the subject of a flurry of newspaper articles alleging discrimination against Atlanta's African American applicants) and the subsequent settlement resulted in further attention to the issue of discrimination in mortgage lending.[49]

i. The Boston Fed Study

Based on the 1990 HMDA data, with supplemental detailed information provided by lenders surveyed in the Boston area, researchers at the Federal Reserve Bank of Boston presented an analysis of denial probabilities for mortgage applications in the Boston area (Munnell et al., 1992). In what is often simply referred to as "the Boston Fed study," the authors initially found that minority mortgage applicants were approximately 60 percent more likely to be denied a mortgage loan than whites with comparable qualifications and loan products.[50] The

[47] Early studies of discrimination in mortgage lending include Black et al. (1978), King (1980), Peterson (1981), Schafer and Ladd (1981), and Maddala and Trost (1982). These studies suffered from many methodological and data limitations, but helped sustain interest in this topic.

[48] HMDA was enacted in 1975. HMDA already required most mortgage lenders to report geography, applicant and loan characteristics, and ultimate loan disposition.

[49] *United States v. Decatur Federal Savings and Loan Association*, Atlanta, consent decree, 1992, No. 1-92-CV-2198-CAM (N.D. Ga., Sept. 17, 1992); consent decree accessed at http://www.justice.gov/crt/about/hce/documents/decatursettle.php.

[50] For context, the denial rates for white and minority applicants for this set of lenders, before any adjustments for credit risk are taken into account, were approximately 10 percent and 28 percent, respectively.

final version of the study, published in the *American Economic Review* in 1996, revised this disparity up to 82 percent after incorporating a myriad of comments from readers, researchers, and referees for the journal. The significance of the contribution made by these researchers was based not only on the magnitude of their finding with respect to denial probabilities for minorities versus white mortgage applicants but, perhaps more important, also in their study's role as a somewhat controversial, yet effective, catalyst for further research.

ii. Subsequent Studies of Mortgage Loan Approval

To say the least, the Boston Fed study generated a stream of widely varied opinions on its methodology and findings.[51] Criticisms ranged from omitted variable bias, to miscoding errors in the dependent or explanatory variables, to the influence of outliers (a small number of influential observations), and other econometric issues. The debate around the Boston Fed study particularly highlighted the previously discussed challenge in quantifying the extent of discrimination in mortgage loan origination across multiple lenders, namely, taking into account possible heterogeneity in lenders' underwriting standards.[52] Ross and Yinger (2002) provides the most rigorous and complete reanalysis of the Boston Fed study's data and addresses each of

[51] For a detailed discussion of the literature following the Boston Fed study, see Chapter 5 of Ross and Yinger (2002).

[52] For example, many researchers argue that the loan-to-value ratio is an endogenous variable in the loan origination process, as discussed in the previous section. As pointed out by Yezer et al. (1994), the Boston Fed study did not account for any such possible endogeneity.

the criticisms in turn, finding that the analysis is fairly robust to most of the challenges (though not conceptually irrefutable).[53]

The evidence from examinations of loan approval practices using data other than those analyzed in the Boston Fed study reveals statistically significant denial disparities for some lenders but not for others. However, following the discussion in the previous section, statistical analysis of loan records suffers from several potential issues, including omitted variable bias if statistically important determinants of loan approval are not included in the empirical model. As Calem and Longhofer (2002) show, much of the statistically significant denial disparity at the FRB-supervised lender they examine may be explained by the higher incidence of unverifiable documentation and derogatory credit report items found in loan files for minority borrowers. During supervisory exams, regulatory agency staff sometimes concludes that there is no systematic evidence of discrimination at a particular lender after reviewing a sample of individual loan files.[54]

iii. Studies of Mortgage Loan Pricing

Another issue made clear from a review of the literature is that studies of discrimination in mortgage loan pricing (rate overage charges, broker compensation, or annual percentage rate

[53] Since the U.S. market for consumer credit consists of many small lenders and since a limited number of lenders are large enough to be analyzed individually with statistical confidence, the discussion of the aggregation of records across lenders may have important repercussions for fair lending enforcement. Chapter 6 of Ross and Yinger (2002) reviews the "next generation" of studies, whose approach to this potential issue was to relax some of the assumptions inherent in the Boston Fed study and the subsequent literature. Since this paper is forward-looking and fair lending investigations today focus almost exclusively on lender-by-lender analysis, further detail on this topic is left to the reader.

[54] Per FFIEC guidelines, supervisory agencies today may supplement fair lending statistical analysis with examiner judgment during loan file review in order to arrive at a complete picture of loan approval practices at a particular lender.

— all portions of the borrower cost that are not set formulaically) are scarce.[55] Ross and Yinger (2002) describe the early studies that provide some evidence of discrimination in the determination of overage charges and interest rates. As the industry moved toward pricing risk instead of denying credit in the mid-2000s, the question of discrimination in mortgage loan pricing became ever more relevant.

In a recent study of mortgage loan pricing, Courchane (2007) used detailed proprietary data from several national lenders to study disparities in the annual percentage rate (APR) between race/ethnicity groups. The study found differences in APRs between minority and non-Hispanic white borrowers of up to 11 basis points, even after accounting for a rich set of loan and borrower characteristics, product features, and local market conditions.[56] In other words, while the inclusion of credit characteristics explains the majority of the difference in rates charged to borrowers in each group (up to 90 percent of the raw differential), there remains a nontrivial "residual" portion that is not explained by factors observable to the researcher.[57,58]

[55] An important limitation to this line of study is that only very limited data on mortgage loan pricing have historically been part of the publicly available HMDA data, and HMDA data included no pricing data until 2004. HMDA reporting requirements have recently been changed, and soon there will be much more information available on the annual percentage rate for all HMDA-reportable loans.

[56] Excluding certain tract-level explanatory variables with the potential for correlation with minority status (including tract mortgage denial percentage, tract percentage owner-occupied, tract percentage subprime originations in the previous year, and Herfindahl-Hirschman index) results in unexplained APR differentials of up to 21 basis points.

[57] However, this study also suffers from aggregation across lenders discussed above.

[58] While one could argue that the statistical analysis of loan pricing may suffer from the same omitted-variable bias as the statistical analysis of approvals, loan pricing tends to be much more formulaic and typically follows a rate sheet (often updated daily). As a result, it seems less likely that researchers or examiners would omit important determinants of the APR from statistical analyses. Of course, loan officers still have some degree of discretion, but any such discretion may present a fair lending concern only to the extent that it is not consistently applied across borrower groups. On the other hand, since the APR includes any points paid upfront by the borrower and since points may be an endogenous variable, estimates of APR disparities are certainly not conclusively unsusceptible to bias.

To illustrate the effect of seemingly minor disparities in the APR on the lifetime cost of a loan, consider a hypothetical mortgage loan in the United States. Based on census data, the average home price in the U.S. stood at $272,900 in 2010. Assuming a 20 percent down payment (a conservative assumption) and a 5.5 percent interest rate (the average in 2010), the total amount paid by the borrower over a 30-year period would be $446,255. Increasing the rate to 5.61 percent (that is, by 11 basis points, as in the study) would increase the total amount paid by nearly $5,000 (or about 1 percent).[59] This represents approximately $15 per month in additional interest charges on a $1,240 payment, which is roughly equivalent to a downgrade in FICO score of about 10 to 20 points at the time of application, which in this example is attributable solely to racial heritage.

Some fair lending investigations reveal differences in APRs paid by minority borrowers relative to similarly situated white borrowers that are substantially larger than the disparity identified in the Courchane (2007) study.[60] Such disparities may represent an incremental cost that, for many families, would require either a reduction in other consumption, less saving for education or retirement, or perhaps increases in hours worked. Of course, this redistribution would occur only among minority applicants who are *granted* a loan; additional cost or other harm may be incurred among minority applicants who are either unable to obtain loans or who are discouraged from applying.

iv. Studies of Nonmortgage Lending

[59] Note that this calculation does not adjust for inflation or the time value of money. In any case, interest payments on mortgages are concentrated in the earlier years of a loan.

[60] For example, the DOJ's 2012 case against GFI Mortgage Bankers alleges disparities in note interest rates of up to 41 basis points for African American borrowers and up to 23 basis points for Hispanic borrowers, as well as fee disparities of up to 105 basis points for African American borrowers and up to 56 basis points for Hispanic borrowers. *United States v.GFI Mortgage Bankers, Inc*, New York, consent order, 2012, No. 1-12-CV-02502-KBF (S.D. NY., Aug. 27, 2012); consent order accessed at http://www.justice.gov/crt/about/hce/documents/gfisettle.pdf.

Evidence of discrimination in consumer credit outside housing finance is as scarce as the data necessary for a rigorous analysis, primarily because there is no equivalent to the HMDA data for other types of consumer credit. The DOJ has litigated or settled a number of matters involving discrimination in vehicle lending, but few empirical studies of the severity or extent of discrimination in auto or credit card lending exist. A notable exception is Charles et al. (2008), who find that racial minorities pay more for vehicle loans than do whites both because they are more likely to obtain a vehicle loan from financing companies (which often charge higher rates than traditional banking institutions) and because they are charged more, on average, at such institutions. Another is Cohen (2012), who documents the disparities in vehicle financing markups between minority borrowers and non-Hispanic whites based on data presented through a series of class action lawsuits against auto dealers.

In summary, the empirical literature shows that much of the differential between protected class and base groups in the underwriting and pricing of mortgage loans can be explained by differences in applicant credit characteristics and loan product features. Nevertheless, statistically significant differences between groups remain even after accounting for a variety of factors and using a range of econometric techniques. No clear consensus on the magnitude of the disparities has yet emerged. This uncertainty is largely due to data limitations in sources used and the challenges of the theoretical and empirical models used to isolate disparities attributable solely to the disparate treatment of or the disparate impact on members of a protected class. The majority of available evidence cannot *rule out* the presence of discrimination, but neither can it *demonstrate* it beyond doubt.

Furthermore, a statistical analysis of loan records in itself is unable to distinguish the evidence of disparate impact stemming from an illegal practice from the evidence of disparate

impact that is caused by a practice with a legitimate business justification. In other words, the evidence of disparate impact is a necessary but not a sufficient condition for declaring an act or practice illegal under the ECOA. An additional condition is the lack of a legitimate business justification that would support the use of a credit factor in lenders' decisions despite a resulting disparate impact.

Conversely, the evidence of factors that appear to explain the disparity found in the statistical analysis is a necessary but not a sufficient condition for absolving the institution of disparate impact claims; the business justification requirement must also be satisfied. Otherwise, as Ross and Yinger (2002) state, the possibility exists that financial institutions are "transforming disparate-treatment discrimination into disparate-impact discrimination through the use of unique underwriting standards that are correlated with minority status but not with business necessity."[61]

V. Empirical Evidence of Discrimination in Other Markets

This section discusses the extent to which members of protected classes continue to face discrimination in markets whose outcomes may also affect access to consumer credit. It also discusses how the disparate outcomes for members of a protected class in these related markets may or may not contribute to discrimination in lending and what role the existence of a legitimate business justification plays in such an analysis. The discussion focuses particularly on the labor and housing markets because of the wealth of empirical evidence they offer and their

[61] Ross and Yinger (2002), p. 211. It need not be the case that a financial institution (or, in particular, a loan officer) intentionally selects underwriting standards that place a burden on minority applicants; it may simply be the case that a particular credit characteristic does not satisfy the business justification requirement of Regulation B.

importance in contributing to factors considered by lenders in the extension and pricing of consumer credit.[62]

Labor market studies of discrimination against women and minorities have fascinated economists for decades. As Section III outlines, the search for a framework that could explain the observed wage gaps and hiring rate disparities among different racial groups inspired the seminal works of Gary Becker, Kenneth Arrow, and Edmund Phelps. An abundance of studies improving and extending the theoretical frameworks and applying them to various data sources have since been published.

Blank and Altonji (1999) provide an overview of the most important research on the persistent differential outcomes by race and gender in the labor market, beginning with studies that use the existence of an "unexplained gap" in wages to indicate that discrimination may be present in the labor market. Arguably, one reason for the existence of this "unexplained gap" is that researchers are unable to account for all factors affecting wages that are observable to employers and some of these omitted factors may be correlated with gender or race.[63] The authors proceed to describe some more direct and potentially more convincing tests of discrimination, such as audit studies and blind hiring. Each of these methods attempts to compare groups that closely resemble each other, so that differences in outcomes across race or gender groups likely indicate discrimination.

[62] However, a comprehensive treatment of discrimination in housing and labor markets is outside the scope of this paper, so a few illustrative articles are reviewed instead.

[63] It is important to point out that the presence of an "unexplained gap" need not mean that more information would "explain" this gap away. Blank and Altonji (1999) explain that the true extent of discrimination estimated using this approach could be understated *or* overstated, depending on how the discrimination is affecting the choice of education, career track, etc. In other words, the addition of explanatory variables can either increase or decrease the size of the gap.

Several audit studies sent applicants with similar backgrounds but different race or gender to the same employers and measured the gap in interview and hiring rates. The surveyed studies generally indicate that discrimination in hiring and compensation continues to occur and that the sources of the observed discrimination are likely diverse (i.e., there is some evidence suggesting discrimination on the part of the employer, the employee, and even customers). Regardless of the source of the discrimination, the evidence shows that African American and Hispanic applicants face hiring rates up to 16 percentage points lower than do comparable whites.[64]

In a widely cited field experiment, Bertrand and Mullainathan (2004) attempt to control for observable and unobservable applicant quality by assigning "white-sounding" and "black-sounding" names randomly to comparable resumes sent in response to job ads in Boston and Chicago. The authors find that resumes with African American sounding names are up to 50 percent less likely than those with white-sounding names to receive an interview request following an application and that these resumes face lower returns to education, work experience, and tenure (contrary to many previous studies, but consistent with Becker's observations).[65] These results are relevant for ultimate labor market outcomes only to the extent that more callbacks result in more job offers, although there is no evidence to suggest this would not be the case.

Similarly, Goldin and Rouse (2000) rely on the introduction of blind auditions in orchestra hiring to detect the extent of gender discrimination by comparing the treatment of

[64] Cross et al. (1990).

[65] Because of the experimental setting, the authors could vary the amount of education, experience, and tenure across resumes. Thus, they could compare high-quality and low-quality resumes for each racial group and compare the magnitudes of the estimated education, experience, and tenure premiums.

female candidates before and after the hiring policy change. The authors find that the introduction of blind auditions increases both the likelihood that a female will advance to the next round and that she will be selected in the final round. Overall, the blind auditions can account for approximately 25 percent of the increase in the share of female musicians in orchestras.

As discussed here, the vast majority of available studies focus on the male-female and black-white disparities; further research should shed light on the experiences of other communities or of multi-faceted communities. What evidence there is on the labor market and other outcomes for minority women suggests that they tend to fare worse than either women or African Americans alone, which raises additional concerns of "compound" discrimination (which is not covered by the ECOA).[66]

Most recently, Lang and Manove (2011) attempted to disentangle the effects of education and cognitive ability on wages by controlling for performance on the Armed Forces Qualifications Test (AFQT) in studying the black-white wage differential. Their results show that blacks of similar cognitive ability obtain significantly more education that do whites, yet earn less, on average. This observation cannot be explained by differences in the quality of schools individuals of different races attend. The authors posit that education is generally a more valuable signal of productivity for blacks than for whites, and they cannot rule out that blacks have lower wages because of discrimination in the labor market.

Another fruitful area of research has been racial discrimination in the access to housing (prohibited by the FHAct). Yinger (1986) and a number of similar studies discuss racial

[66] For an overview of the concepts and suggestive evidence of compound discrimination, see Makkonen (2002).

discrimination in the context of fair housing audits, which are a common tool for detection of disparate treatment in the provision of housing. In such audits, similarly qualified housing seekers of differing races were provided different options (for example, African American housing seekers were told about 30 percent fewer available housing units), and agents were likely to steer minority applicants into neighborhoods they perceived would be more "appropriate" for them.

Ondrich et al. (2003), based on the sample of houses seen during HUD's 1989 national Housing Discrimination Study (a large fair housing study), produce qualitatively similar results and also contribute to the understanding of real estate agents' actions and attitudes toward minority applicants.[67] The authors find evidence that suggests that agents act on the belief that certain types of transactions are more or less likely for minority customers, which is consistent with statistical discrimination. For example, agents will increase their marketing efforts for homes with higher list prices when the prospective buyers are white but not when they are African American, and so forth.

Zhao et al. (2006), a study based on HUD's 2000 Housing Discrimination Study, document that discrimination in housing applications continues to be strong but that the extent and severity of discrimination have decreased somewhat since the comparable 1989 study. The authors find that both broker preconceptions and white customers' prejudice continue to stimulate discrimination in this context.

[67] The study covered 25 metropolitan areas. Auditors, one white and one black, responded to the same advertisement and asked to see the property. They were given the same instructions and did not communicate with their teammates. The data set available to researchers recorded all showings, together with the characteristics of the property and the auditor. For more detail on the methodology of the study, see http://www.huduser.org/portal/Publications/pdf/Phase1_Executive_Summary.pdf.

Discrimination in these two areas (work and housing) and other aspects of economic life may have important consequences in terms of the access to and the cost of credit if it negatively affects the (perceived) creditworthiness of members of a protected class. To the extent that our legal and regulatory systems have not succeeded in eradicating discrimination in these related markets, the absence of the ECOA might continue a self-perpetuating pattern of discrimination that could negatively affect the credit outcomes of members of a protected class.

In essence, any negative effect that related markets have on credit qualifications can fall under one of two categories: a) credit factors that have a disparate impact but demonstrably affect creditworthiness (so long as a less discriminatory factor would not achieve the same business objective), and b) credit factors that have a disparate impact on members of a protected class but cannot be shown to achieve a legitimate business justification (which would result in a violation of Regulation B). The final section discusses the role of the ECOA in distinguishing between the two.

VI. Discussion and Conclusion

This paper reviews the legal and regulatory framework around the ECOA, outlines the major economic theories of discrimination and their relevance vis-à-vis provisions of the ECOA, and reviews the empirical evidence of discrimination in the market for consumer credit and in the labor and housing markets. The essential question addressed in the paper is whether continued enforcement of the ECOA and related laws is still necessary given the substantially different social and lending environments compared with those in place in 1974.

The ECOA was enacted in order to protect members of certain groups from discrimination in the access to credit, regardless of the motivation for their disparate treatment.

The implementing Regulation B considers no less acceptable the explicit statistical discrimination based on group identity or the disparate impact of facially neutral lending policies that are not accompanied by a solid business justification. The business justification requirement is a tool intended to ensure that the spirit and the letter of the ECOA are respected — that credit is available to all creditworthy applicants regardless of race, ethnicity, sex, age, or any other prohibited basis.

To understand the role of the business justification test better, consider an environment in which fewer and fewer lenders exhibit ex-ante prejudice against any particular group. Even in such a world, a lender may wish to consider certain risk characteristics that are difficult to measure or document but happen to be correlated with protected class status. [68] Were a lender to consider membership in a protected class directly (as a proxy for the desired risk characteristics) in its underwriting, it would be found to have engaged in a form of statistical discrimination such that there would almost certainly be an ECOA violation. That would be the case even in cases where the lender was attempting to account for the average creditworthiness of applicants in a cost-effective manner, despite the fact that the lender had no inherent desire to disadvantage a protected class (i.e., prejudicial intent).

If, on the other hand, the lender identified a factor that captures much of the creditworthiness, but which happens to also strongly correlate with race, the use of such a factor would likely produce evidence of disparate impact but not disparate treatment (in the absence of facts indicating that the use of the factor was merely a pretext to cover up discriminatory intent). The lender would then have to clearly establish that this factor captures creditworthiness and is

[68] Examples of such characteristics include education and financial literacy. Neither of these factors would appear in a statistical analysis of outcomes without increased data collection costs on the part of the lender, but each of them may be correlated with membership in a protected class.

justified by a valid business necessity. Assuming the lender succeeds on both counts, the lender may still have to defend against a claim that an alternative practice would achieve the same business goal but with a lesser degree of disparate impact.

The business justification test thus not only ensures that credit factors that have a disparate impact remain firmly based in sound analysis but also pushes lenders to steer clear of statistical discrimination and to select specific, measurable criteria to begin with. In this way, poor outcomes from other markets that are affected by discrimination cannot be used to make decisions about extending credit or the terms on which it is offered unless they can be shown to affect creditworthiness.

By insisting on a business necessity to support a policy or practice resulting in demonstrated disparate impact, regulatory agencies help to ensure that creditworthy applicants may obtain loans even in cases where the decision process uses information on borrower qualifications that may have, in part, been affected by discrimination in related markets. In essence, Regulation B, as currently implemented, requires financial institutions to consider in their decision only those factors that can be demonstrated to substantively affect a borrower's creditworthiness if such factors show disparate impact.

It has been suggested that the transition from manual to automated credit decisions based on verifiable data has reduced opportunities for discrimination in consumer credit markets. This is likely true, but, as the discussion in this paper makes clear, adoption of these newer technologies is not a sufficient condition for ensuring that disparate treatment or impact does not occur. Disparate treatment of protected classes in credit markets is certainly less common than it was 40 years ago. Disparate impact, however, may persist so long as the credit qualifications

that lenders consider are affected by markets where discrimination continues to occur. The goal behind the business justification test of Regulation B is to eliminate that portion of denial, pricing, or other disparities that either do not relate to creditworthiness or for which there is no business necessity. It is for this reason that the ECOA continues to be relevant today.

That said, it is not entirely clear whether there is consistency in how different regulatory agencies assess the validity of business justifications provided by financial institutions following evidence of disparate impact. For example, most regulators discourage (even prohibit) the explicit consideration of income as an underwriting factor because income tends to be correlated with factors such as race and gender.[69] Yet, some researchers argue that minority applicants have, on average, *higher* incomes than whites once their credit scores are taken into account, which should presumably make it easier for them to obtain credit based on the likelihood of repayment. This example demonstrates the challenge of determining whether a criterion should be analyzed for evidence of disparate impact in isolation (*unconditional* correlation with a prohibited basis) or within a fully developed empirical model (*conditional* correlation with a prohibited basis). A consideration of such challenges in the enforcement of Regulation B is left for future discussions.

[69] An "explicit consideration of income" would consist of an analysis of income in isolation, for example, by applying pricing adjustments based on income brackets. Income is frequently considered in combination with debt in underwriting and is unlikely to be challenged in that case. However, it may be possible that a higher *level* of income can provide evidence of creditworthiness above and beyond its magnitude *relative* to debt, in which case income may be an important determinant of default risk.

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