



**PROCESSES FOR DETERMINING ACCURACY OF
CREDIT BUREAU INFORMATION**

**Credit Research Center
Monograph #40**

September 2006



Processes for Determining Accuracy of Credit Bureau Information

Pilot Study Performed for the Federal Trade Commission
Under Contract FTC04H0173

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September 12, 2006



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Executive Summary

The purpose of this pilot study was to develop and test research protocols for a national study on the accuracy of credit-bureau information. Thirty consumers from 22 states (including Alaska) were engaged in thorough reviews of their credit reports and credit scores from the three major U.S. credit bureaus. Participants were informed about the dispute resolution process and, in cases where they registered formal disputes, the research team tracked the results.

The study demonstrated that, with meticulous preparation on the part of research associates, consumers can be recruited and engaged effectively in lengthy telephone interviews to review the voluminous information in their credit reports and check it for accuracy. Consumers will cooperate with the researchers in tracking the results of disputes, but not all consumers who identify errors will file disputes without help.

The research protocols employed in the pilot study allowed participants to be engaged without revealing their social security numbers or specific account numbers to the research team. Yet they enabled thorough investigations of the integrity of credit-bureau information, tests of the extent to which errors have a material effect on measures of creditworthiness (credit scores), and assessments of the dispute-resolution process.

The pilot study produced survey instruments, organizational tools and analytical structures for the national study. It demonstrated the importance of facilitative mechanisms for obtaining signed consent and drawing credit reports, and highlighted the need for additional inquiry into why consumers who plan to file disputes often delay the process or fail to do so. In a national study of credit-bureau accuracy, facilitative mechanisms may be required to encourage the filing of disputes by individuals who would otherwise not take the time to do so, despite their allegations of errors that might materially affect their credit standing.

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Processes for Determining Accuracy of Credit Bureau Information

Study Background and Purpose

The purpose of this pilot study is to develop and test procedures for engaging consumers to determine the accuracy of information in credit reports furnished by the three major U.S. credit bureaus (Equifax, Experian and TransUnion) and for assessing the mechanisms in place for dealing with alleged errors in the files. The pilot study is intended to furnish the FTC with vital information for the design of a nationally representative study of credit report accuracy that would provide an unbiased assessment of (1) the prevalence and severity of errors in the three national credit report repositories, (2) the impact of those errors on consumers, and (3) the efficacy of the dispute resolution process under the Fair Credit Reporting Act.

The pilot study itself involved the recruitment and engagement of 30 participants and retrieval of their credit reports and FICO credit scores. An in-depth review of the credit reports was conducted with the participants to identify discrepancies and inaccuracies. Participants were informed about the dispute resolution process. In cases where the participants registered disputes, the research team tracked the results.

In this report we describe the recruitment process and mechanisms used to protect the consumers' private information. We furnish instruments developed to manage the recruitment process, guide the review of credit reports and follow-up on disputes. We provide statistics on yield and attrition at each stage, and we provide anecdotal information that will help in the design of the national study.

Motivating Research

As background, we offer a brief summary of findings from preceding studies on the integrity of credit-bureau data. Staten and Cate (2003) provide an overview of the regulation and performance of the credit-reporting industry under the Fair Credit Reporting Act. Their review of existing studies supports a 2003 assertion from the U.S. General Accounting Office (GAO) that **"... the lack of comprehensive information regarding the accuracy of consumer credit reports inhibits any meaningful discussion of what more could or should be done to improve credit reporting accuracy. Available studies suggest that accuracy could be a problem, but no study has been performed that is representative of the universe of credit reports."**

Avery et al. (2003) examined the contents of 249,000 credit reports from a single credit bureau and highlighted problems associated with data that was missing from a file (e.g., credit limits on revolving accounts; non-reporting of minor delinquencies), out-of-date (e.g., old balance information that had not been updated), and sometimes ambiguous (e.g., multiple collection entries but no clear reference as to the number of incidents; accounts listed as open but with no recent activity). Another study, sponsored by the Consumer Federation of America (2002) and performed in conjunction with the National Credit Reporting Association, examined differences across credit reports produced for

1,700 mortgage applicants by the three major credit bureaus. This study also found inconsistencies across three reports for the same person which would lead to different credit scores (and risk evaluation). However, neither of these studies was designed to identify instances in which a specific item in the credit file was inaccurate at the time it was reported. In an older study (1992), the Associated Credit Bureaus (precursor to the Consumer Data Industry Association) engaged Arthur Andersen and Co. to follow the dispute resolution process for 15,703 randomly chosen consumers who were informed that they had been denied credit. About 8% of these consumers requested a copy of their credit report to follow up, and about one fourth of these consumers disputed information in their file. However, upon reinvestigation (as mandated by the FCRA) only 3% of those who had requested their credit report “would have achieved a different credit decision than was originally rendered by the credit grantor after initial review of the information contained in the credit report.”¹ With more recent risk-based pricing practices, a larger percentage of applicants would presumably be affected by similar errors in the file, but they would likely be affected to a lesser extent, on average (an interest premium being judged as less significant than the rejection of a loan application). Staten and Cate cite other statistics provided by the CDIA before the Senate Committee on Banking, Housing and Urban Affairs, which show that revisions to credit reports were made in response to more than 50% of disputes raised by consumers in 2003, but no indication was offered as to the materiality of such changes on assessments of the consumers’ creditworthiness. Of the changes to the file, 30% involved removal of items which could not be verified within the 30 days required by the FCRA.

The aforementioned studies thus highlight the technical problems in maintaining the integrity of such massive databases and merging them with information from other sources. They explain how discrepancies arise among files maintained by the three major credit bureaus. They also raise questions about the dispute resolution process. The studies were not, however, designed to produce an unbiased assessment of the prevalence of errors in consumer credit files, to gauge the severity of their impact on consumers and businesses, to determine whether particular members of society (ethnic minorities, the elderly or low-income households) are affected disproportionately by such errors, or to ascertain whether alleged errors are resolved with reasonable efficiency.

Staten and Cate succinctly summarize the state of work in this area:

As the GAO report noted, statistically representative studies that quantify the frequency of errors of commission (i.e., the inclusion of items in a credit file that do not belong to the consumer) are rare. In large part this is because they require (1) a sample of consumers representative of some larger population, (2) their cooperation in examining credit reports for discrepancies, (3) reinvestigation of alleged discrepancies to determine whether the items needed correction, and (4) the involvement of an independent arbiter to determine which of the corrected discrepancies are relevant to the credit-granting decision.

¹ Arthur Anderson and Company (1992), Executive Summary.

The pilot study was designed to test methods of addressing the various shortcomings of prior investigations and meet the recognized challenges. It will also help to provide preliminary estimates of the work involved in conducting the national study.

Considerations in the Study Design

The design of a large nationally representative study of a thousand or more consumers and their credit reports poses several challenges in terms of minimizing problems of non-response or attrition when dealing with sensitive personal financial information. In addition, we recognize the need for procedures that avoid bias in the dispute resolution process. Special attention was given to:

- **Engendering confidentiality, trust and consumer participation.** The research team expected that many consumers would initially resist participating in a study that exposes their financial circumstances to third parties. In addition to a reluctance to discuss their credit history and outstanding debt, we expected that consumers would likely be concerned about identity theft and misuse of their personal information. Explicit FTC endorsement and invitation to participate, the credibility of university research centers, and utilization of a highly reputable source for credit bureau information were the devices used to increase consumer willingness to participate in the study and to engender confidence in the process.
- **Maintaining engagement through a rigorous review of credit files and possible dispute resolution.** Consumers vary in ability to interpret and digest information in credit reports and assess their accuracy. Consumers who agreed to participate were involved with university researchers over several weeks or months as they obtained their credit reports, reviewed the reports with the research team, and took action to resolve alleged errors that were uncovered in the review. Generally, a single research associate assumed responsibility for the entire process with a particular consumer to provide continuity and reinforce commitment. In cases where another research associate was involved for some phase of the activity, the participant was given the name of the substituting individual.
- **Avoiding potential bias from repository influence.** The credit bureaus were neither involved in selecting participants nor able to identify them in the dispute resolution process. There was assuredly no preferential treatment offered to study participants versus the population at large.

Study Process

In this section, we relate our experience in executing the research protocol and share findings germane to the design and execution of the national study. We relate details on the process used to build our candidate list, summarize the yields obtained from successive mailings, describe difficulties encountered in efficiently getting documented consent and drawing credit reports, relate the processes used to prepare for and conduct the intensive reviews of credit-bureau information, and elaborate on the process used to track the results of disputes.

The pilot study was initiated with a team meeting in St. Louis on July 21, 2005. The principal investigators from the Georgetown University Credit Research Center, the University of Missouri-St. Louis, and Fair Isaac Corporation refined the instruments that would be used to guide research associates in the telephone recruiting process and in the review of the credit reports. Drafts were shared with the FTC and refinements were made through subsequent telephone conferences and e-mail communication. In other telephone conferences and e-mail exchanges, the research team, in collaboration with the FTC, drafted and finalized the recruitment letter and consent form that were used to invite participation in the study, authorize the research team to draw the credit reports and review them with participants. The consent form also committed participants to inform the research team of resulting disputes filed with creditors or the credit bureaus and to report the outcomes to the researchers. The FTC worked with the research team to establish proper procedures for protection of data and privacy of consumers' information.

The protocol employed in the study itself was as follows:

1. The solicitation letter (Exhibit 1) and consent form (Exhibit 2) from the United States Federal Trade Commission (FTC) were sent to 254 households selected nationwide to provide a broad socio-economic cross-section of homes in different geographic regions. The letter outlined the purpose of the study and encouraged participation of an adult with credit history that could be checked in databases of national credit bureaus. The FTC letter was followed by a letter from the university (Exhibit 3) with further information on the nature of the engagement and processes to obtain the credit reports without divulging detailed personal information such as SSN or actual account numbers.
2. A screening interview (Exhibit 4) was conducted over the telephone by a university representative to identify eligible participants in the household. The eligible person with the most recent birthday was originally indicated as the preferred participant if available. This seemed to cause a bit of confusion in the early (first 34 pretesting) interviews; so afterwards the person who answered the telephone was asked to identify an eligible participant. Assenting individuals were asked to mail a signed consent form to the university (in the self-addressed and postage prepaid envelope provided), thus authorizing the university to obtain credit reports with credit scores from the three major U.S. credit bureaus and to review them in detail.
3. After receipt of the signed consent form, the university contacted the participant by telephone and sent (by e-mail) instructions (Exhibit 5) with userids and passwords for establishing accounts on the Fair Isaac myFICO website through which copies of current credit reports with credit scores would be obtained.
4. Fair Isaac e-mailed promotional codes to the participant, who, in turn, was able to "purchase" the credit reports free of charge. The reports were available for about 30 days for viewing by the participant and the university was able to download and print the reports with the designated userid and password. Digits of the consumers SSN's and account numbers were suppressed in the reports to protect the consumers' personal information.

5. One copy of the report was mailed to the consumer's home address along with a brochure describing the content and meaning of information in the credit report and a check-list (Exhibit 6) was provided to help the consumer prepare for the in-depth review. Another copy of the report was retained by the university for succeeding steps in the study.
6. University research associates performed a cross-bureau comparison of information furnished in the three credit reports and created an Excel spreadsheet (Exhibit 7) that summarized key elements from each report that influence the individuals' credit scores.
7. With reference to the summary spreadsheet and an interviewing guide (Exhibit 8), university research associates conducted an in-depth telephone interview with the participant to review the credit report and to identify alleged errors.
8. Participants were informed of procedures for challenging information that appears to be erroneous in credit-bureau files. With reference to descriptive information in the myFICO credit-report summary, participants were especially reminded of the types of errors that would likely have a significant impact on their credit scores (and therefore possibly affect their access to or cost of obtaining further credit). In instances where participants indicated that they may register disputes, an e-mail was sent to the participants with further information about the dispute process (Exhibit 9).
9. Alleged errors were classified for statistical summaries.
10. In instances where a material change in credit standing might occur with correction of alleged errors (i.e., changes beyond normal cross-sectional variation in credit scores among the three agencies or changes that would take consumers over traditional thresholds for credit decisions), the university team tracked the results of disputes lodged by consumers. Alleged errors were marked on the university's copy of the credit report and a copy was forwarded to Fair-Isaac for re-scoring against the original credit report. A second credit report was drawn (with at least six weeks to allow corrections to be made) by the same process and checked to see if promised corrections had been applied.
11. Outcomes were classified for statistical reporting.

Recruitment

Recruitment letters were sent to 254 households in a series of seven mailings. The first mailing went to 34 households in the metropolitan St. Louis area (the home of UM-St. Louis) to serve as a pretest of the engagement process. Households were chosen with the help of online reverse telephone directories and property assessment records to provide a cross-section of socio-economic characteristics in suburban and urban neighborhoods. Individuals from seven households (21%) in the St. Louis area agreed to participate without any financial inducement and six completed the process. Because the recruiting yield met our expectations without financial inducement (beyond the free credit reports and credit scores), we decided to continue the recruitment process without offering financial incentives.

The succeeding six mailings were conducted similarly to reach consumers nationwide. The percentage of people who were contacted and who then agreed to participate (the recruiting yield in Table 1) varied slightly among mailings, but well within the range of normal statistical variation. In other words, there was no discernable deterioration in recruiting success as the net was cast farther from home base of the institution from which recruiting took place. The eventual sample had representation from 22 states including Alaska. Only Missouri (home of the pretesting interviews which were included in the sample) had more than two households represented.

In the initial contacts, there was no pervading mistrust expressed about the motive of the telephone recruiter. The FTC reported only two calls to their help line from individuals who were inquiring about the authenticity of the study. The FTC provided the necessary assurance to those individuals. Approximately one contact in five declined forcefully because they did not want to be bothered. Some (perhaps a dozen) had recently checked their credit reports on their own and declined to participate. The vast majority recalled seeing the letters mailed from the FTC and from the university. A couple of individuals did not recall receiving the materials (due to change of address in one case, but with a retained telephone number) but they were willing to be part of the study. We sent follow-up letters and consent forms when such interest was expressed – sometimes by e-mail.

After agreeing to take part in the study, the participants were to mail the signed consent form to the university. This occurred without telephone reminders in fewer than half the cases. If the consent form was not received within a week, the recruiter called with reminders and, in about 30% of the cases, we had to send another copy of the consent form by fax or regular mail. In 20% of the cases where people had agreed to participate in the initial telephone interview, consent forms were never received by the university and we stopped following up after our study quota of 30 individuals was reached. This suggests that the initial assent is sometimes tentative and possibly the subject of further family discussion. Mailing the consent form may also be an easily neglected task if interest in participating is lukewarm. In any case, there seems to be an attrition of about 20% at this stage, even with aggressive telephone follow-up.

Mechanics of Acquiring Credit Reports and Credit Scores

The next stage in the recruitment process was the establishment of the myFICO online accounts with Fair Isaac through which the credit reports were to be obtained. Another series of contacts were required (some by e-mail and some by telephone) to help individuals navigate the myFICO website in a manner that would allow the credit reports to be drawn without divulging their SSNs to the university researchers, and in a manner that gave Fair Isaac assurance that the recipients of the credit reports agreed to their published terms and conditions under the FCRA. There were instances where consumers did not establish their accounts (with the userid's and passwords provided by the university) in a timely fashion and would have to be called for reminders. A few consumers (three or four) used their own choice of userid or mistyped the given userid and calls were necessary to sort that out so that the researchers could get access to the credit reports. Many consumers found the website confusing for the purpose at hand and

abandoned their attempts to navigate it. Only three or four managed to accomplish the task on their own despite our mailing explicit instructions and screenshots. Only with intensive follow-up, were we successful in getting each of the participants registered.

Because of the limited budget for the pilot study and the small number of participants to be engaged, Fair Isaac could not justify creating a secured website expressly for the purpose of the study. Technical staff at Fair Isaac were very helpful in resolving difficulties, but they worked in normal business hours while the consumers were typically involved in the process outside normal business hours. A specially designed website to reduce difficulties, or an alternative procedure whereby the university could acquire reports on behalf of the consumers, would therefore enable a much more efficient execution of the study protocol.

After we received the consent forms and advised the consumers on the process for establishing accounts, Fair Isaac sent (by e-mail) a promotional code to each participant with which the three credit reports and credit scores were to be purchased. Once the consumer had completed the purchase (using the userid and password provided by the university), the university could print the credit reports and mail them to the participants. Again, some intensive follow-up was required to ensure that the consumers completed the transaction. Most would do so within three days of receiving the promotional code, but some required follow-up over three weeks. Interviews were typically scheduled within a week after the reports were mailed (by first-class U.S. postal service). Some (five or six) had to be postponed because of delays in delivery of the mail; others had to be postponed because the consumers acquired higher priority commitments in the meantime. For each credit report printed, Fair Isaac was given the logonid (account designator) so that a frozen file could be preserved for rescoring if necessary. In-depth interviews were successfully completed with every participant for whom credit reports had been drawn. The net results of the recruitment and engagement efforts are presented in Table 1.

Table 1 – Net Success Rates for Recruitment and Engagement

	Letters Mailed	Willing to Participate	Recruiting Yield	Consent Received	Accounts Established	Reviews Completed	Percent Engaged
List I	34	7	20.6%	7	6	6	17.6%
List II	40	5	12.5%	5	3	3	7.5%
List III	40	9	22.5%	7	5	5	12.5%
List IV	30	5	16.7%	2	2	2	6.7%
List V	50	10	20.0%	7	7	7	14.0%
List VI	40	7	17.5%	6	4	4	10.0%
List VII	20	3	15.0%	3	3	3	15.0%
Total	254	46	18.1%	37	30	30	11.8%

As seen in the statistics in Table 1, we successfully engaged and completed in-depth reviews of the credit reports with individuals in 30 of the 254 households (12%) targeted for possible participation.

We further examined the involvement and retention at each stage of the research protocol. This was intended to identify steps at which procedural improvements may increase efficiency and to enable a rough estimate (from a small sample size) of the scale of outreach required to provide a representative sample in a national study. This information is summarized in Table 2.

Again, in Table 2, we note that letters were mailed to 254 households. As of June 7, letters from 19 households had been returned to the university or to the FTC as undeliverable. Telephone contact was made with individuals in 175 households (69% of the total targeted). In the course of the initial recruiting interval, 46 (26%) expressed a willingness to participate in the study. Properly executed consent letters were received from 37 individuals (80% of interested participants). Of those individuals, 30 (81%) established accounts at myFICO.com. We managed to mail the reports and complete the interviews for all 30 (100%) of those who established the myFICO accounts. We thus obtained comprehensive reviews of the credit files for 12% of the targeted households.

Table 2 – Involvement at Successive Stages

Stage in Research Protocol	Number	Marginal Percent	Cumulative Percent
Letters mailed	254	100	100
Telephone contact made	175	68.9	68.9
Expressed interest in participating	46	26.3	18.1
Provided signed consent	37	80.4	14.6
Established accounts	30	81.1	11.8
Purchased credit reports	30	100.0	11.8
Completed in-depth review	30	100.0	11.8
Expressed intention to dispute	7	23.3	2.8
Provided evidence of filing dispute	1	14.3	0.4
Provided documentation of results of dispute	1	100.0	0.4

There are probably many reasons for completing the engagement with just 65% of the individuals who expressed initial interest. In one case a consumer called in response to follow-up phone messages and e-mails to apologize. Her house had burned to the ground as a result of teenage vandalism, but she was willing to take part when things returned to normal – perhaps late August. In another, we were told that a person’s travel schedule had become so intense that he did not have time to participate. In another, a person’s business affairs had taken him out of the country. Some of the initial interest may have been tentative or a polite brush-off. Some attrition may have been due to the difficulty of catching people who are employed outside normal business hours. Caller ID enables individuals to avoid callbacks that they wish not to receive; so we cannot provide more definitive reasons for our failure to keep all the initially interested parties engaged

through the entire process. We judge, however, that a simplified process for registering consent (perhaps electronically) and better mechanics for establishing accounts and drawing the credit reports could improve participation rates considerably.

In summary, there is considerable room for streamlining recruitment, obtaining consent and drawing credit reports, but it is clear that consumers can be engaged successfully in the process without financial incentives.

Preparing for In-Depth Review of the Credit Reports

Thorough preparation by the interviewer is essential for an effective review of the credit reports, as the consumers themselves vary greatly in their own preparation. Preparation begins with a systematic review of the credit reports to identify:

- current name, address and date of birth
- previous names and addresses
- employment history
- active accounts
- accounts with nonzero balances
- negative items (e.g., number and severity of reported delinquencies)
- derogatory public records (e.g., bankruptcy)
- total outstanding account balances including
 - mortgages
 - installment loans
 - revolving credit (home equity lines of credit, revolving accounts and credit cards)
- inquiries in connection with credit applications
- length of credit history
- specific mortgage amounts and current balances
- automobile loans with origination amounts and current balances
- other installment credit with origination amounts and current balances
- specific open revolving accounts with credit limits and current balances
- number of accounts that have been submitted for collection
- total amounts that have been submitted for collection
- current balances on accounts under collection.

These are the key items from the credit reports that are used to assess creditworthiness and therefore would be expected to be reflected in the consumer's credit scores.

To assist in the interview, a spreadsheet (Exhibit 7) was produced to summarize the critical information in the reports from the three bureaus. Each spreadsheet was individually constructed with the same basic template, but augmented as appropriate to include relevant information for the individual consumer. In preparing the spreadsheet, the researcher started with information from the credit bureau that had most information on file (usually the one with the lowest credit score), and then extracted corresponding information and complementary information from the other bureaus' reports.

To help the consumer prepare for the interview in a similar manner, we mailed a checklist (Exhibit 6) with the copies of the credit reports. Some consumers prepared meticulously and enabled a thorough review of even complicated situations to be done in an interview of 15-20 minutes. Other consumers did not find the time for significant preparation in advance of the telephone review. In such cases the interview took longer (30-45 minutes), but in every case in the pilot study, the review was able to be completed to the satisfaction of both the consumer and the research team. The interviews themselves took an average (and median) of 28 minutes, with 90 percent taking between 15 and 45 minutes. The participants reported taking an average of 73 minutes (median of 60 minutes), with 90% taking between 15 and 270 minutes) to prepare for the interview.

Conducting the In-Depth Reviews of the Credit Reports

Armed with the checklist of items to cover in the report (Exhibit 6), the summary spreadsheet of items reported (Exhibit 7) and the interviewing guide (Exhibit 8), university research associates conducted the telephone interview with the consumer and made notes of items that the consumer thought may be erroneous. Care was taken to inform the consumer that all creditors do not report to all bureaus and that we were therefore concentrating on the presence of erroneous information in a file, rather than trying to identify information that could have been reported to the bureaus but which was not reported. We also reminded them that the bureaus could send reports at different stages in a billing cycle and that they may therefore be reporting an account balance for a different day of the month. Consumers were generally quite adept at recognizing these normal variations and validating the information reported for open accounts with balances.

Accounts with zero balances posed some difficulty to consumers (and the researchers) because sometimes they had been closed and re-established with a different name or account number (as after a corporate acquisition or report of stolen credit card). The credit bureaus do not use uniform and unambiguous descriptors for such events and there was sometimes guessing as to whether an account should be considered to be currently open when computing the consumer's total line of credit on revolving accounts.

In the early stages, the interviewers relied heavily on the interviewing guide (Exhibit 8) to structure their discussion, but as they gained experience and improved the spreadsheet summary, they relied more on the individualized spreadsheets (Exhibit 7), the reports themselves, and on the checklist (Exhibit 6) to structure their interviews. When it appeared that the credit scores could be affected by correcting the alleged errors, the research associates marked the credit reports with explanations of the discrepancies and sent copies of the marked reports to Fair Isaac for rescoring. The purpose of rescoring was to identify cases where the creditworthiness of the borrower *might* have been materially misrepresented (i.e., where access to credit or terms of credit may have been significantly affected if the *alleged* errors were substantiated and not corrected). Results of rescoring were not to be shared with the consumers.

After conducting the interview, the research associate summarized the findings to ensure that the consumer's perspective was understood. In situations where errors were alleged and where the consumer indicated that he or she might consider filing a dispute, the research associate briefly discussed the options available and sent an e-mail to the consumer with information about filing disputes (Exhibit 9).

A summary record of the interview was inserted into a SAS (Statistical Analysis System) dataset for research and reporting purposes. The SAS record contained no identifying consumer information except the randomly generated ID that was used for the myFICO logonid (without password), the birthdate for computing the age of the consumer, the gender of the participant, ZIP code of residence and standard demographic characteristics obtained from the recruitment survey (or from a follow-up survey requesting the same data). The demographic data allow us to characterize the composition of the sample. The contents of the SAS dataset created to summarize the credit-bureau information and the outcomes for each participant are presented in Exhibit 10.

Disputes and Dispute Resolution

Participants agreed to provide copies of the related correspondence between themselves and creditors or credit bureaus if they filed disputes. About one month after completion of the review of the credit report, we sent an e-mail letter (Exhibit 11) to each consumer who indicated that they were considering filing a dispute and made a follow-up phone call to any (one, in this case) consumer who had provided evidence of filing a dispute. Having received just one response to the e-mail inquiry as the end of the pilot study approached, we added a final step to the research protocol in which we called participants to confirm outcomes and gather their impressions of the review process.

Final Assessment

As mentioned above, we added a final step to the study protocol to make sure that there was no unreported dispute activity, to obtain missing demographic data for some participants, and to obtain an assessment of the process from the perspectives of the participants. We called each of the participants a final time to execute the assessment survey (Exhibit 12) and added any missing information to the SAS database. Every participant in the study was satisfied with the review process and judged the review as thorough.

Characteristics of the Resulting Sample

The credit scores themselves and the demographic information provided by the consumers enable us to characterize the composition of the sample and to compare the characteristics of the sample with those of the population at large.

The distributions of credit scores in the sample appear in Table 3a. and 3b. The score ranges in Table 3a were selected to approximate the quintiles in the universe of credit scores as inferred from the information provided in the credit-bureau reports. A representative sample of credit bureau reports would thus be expected to have approximately equal numbers of scores in the respective groups. The actual distributions that emerged in the pilot sample indicate that we had a tendency to engage individuals whose credit histories produce higher than average credit scores.

Another way of looking at the distribution of scores is to compare the sample frequencies with those in fixed intervals that emanate from the scoring process in general. With information derived from Fair Isaac historical records, we are able to compare frequencies in 50-point intervals in Table 3b. The implications, of course, are the same. The sample contains a greater proportion in the upper intervals and a smaller proportion in the lower intervals.

Table 3a - Distribution of Credit Scores for Participants

Score Range	Bureau A (percent)	Bureau B (percent)	Bureau C (percent)	Total (percent)
Under 610	3 (10.3)	1 (3.5)	2 (6.9)	6 (7.0)
610-689	5 (17.2)	8 (27.6)	7 (24.1)	20 (23.0)
690-749	5 (17.2)	5 (17.2)	4 (13.8)	14 (16.1)
750-789	8 (27.6)	2 (6.9)	4 (13.8)	14 (16.1)
790 plus	8 (27.6)	13 (44.8)	12 (41.4)	33 (37.9)

Table 3b – Comparison of Score Distributions for Fixed Intervals in Credit Scores

Score Range	Sample percent	Bureau percent
Under 600	7	13
600-649	6	12
650-699	18	15
700-749	15	20
750-799	25	28
800 plus	29	13

The sample consisted of 17 women (57%) and 13 men (43%). Each of the households were reported to have total incomes in excess of \$25,000, although several had undergone periods of financial stress and lower incomes (from unemployment and medical problems) that were reflected in the recent credit history. Six households (21%) reported household incomes in excess of \$100,000. Most of the participants (45%) were in the 55-64 age group. Twenty-eight (93%) were white. Seventy percent were currently married and half the sample had college degrees. A disproportionate number were classified as being in professional occupations or employed with managerial or administrative responsibilities (65%).

Procedures would have to be employed in a national study to offset bias toward older and more affluent consumers. With the ZIP codes used in the mailing addresses, we have the ability to compare geo-demographic characteristics for participating versus nonparticipating households in the target population and could use sequential sampling techniques to increase participation in segments that are underrepresented as the sample evolves. We also retained the assessed real-estate valuations of each of the individual targeted households with the expectation that it would add precision to the analysis of response rates and adaptation of recruiting strategies. Alternative recruiting strategies (such as through credit counseling services or other public services) might also be needed to increase participation of individuals with lower credit scores and from groups with lower socio-economic status. Requiring the consumer to use the internet to participate in the study may itself bias the sample toward more affluent segments of the population. With a small sample sparsely distributed nationwide, we do not have sufficient data to investigate the relationships among household characteristics, participation rates, credit scores and error rates. An expanded pilot (taking the sample size above 150) would enable preliminary investigation of such relationships. A national study would allow an in-depth investigation.

Illustrative Findings from the Pilot Study

In this section we provide some prototypical results to illustrate the information that would be garnered from a national study. Based on the intensive reviews of the credit reports, we produced a consolidated assessment of the accuracy of the credit records for

each participant. Specifically, we noted whether there was a significant error (other than typographical information) in each of:

- current address
- previous addresses (listing an address with which the person had no prior affiliation)
- employment history (citing an employer for whom the person had not worked)
- reporting of invalid accounts (accounts that were allegedly not belonging to or cosigned by the participant)
- reporting of incorrect balances on accounts (beyond balance ranges in the reporting period)
- reporting of inquiries for credit that were not initiated by the consumer
- reporting of negative items (late payments)
- number of accounts with nonzero balances
- number of public derogatories (e.g., bankruptcies)
- accounts submitted for collection and current balances thereon
- revolving credit utilization.

In Table 4, we provide statistical summaries of error rates and the research team's judgment of their potential materiality (before rescoring of the credit reports). Counting the number of instances of alleged errors of any kind, we had 14 consumers (47%) with no errors alleged in any of the bureau files. Eight consumers (27%) alleged one type of error. Seven consumers (23%) alleged two types of error. One consumer (3%) alleged that three types of error were present in his credit reports. The majority of consumers (16 out of 30) asserted that something was incorrect in their credit records. Several cases with alleged errors involved wrong addresses or employment information that would not affect a consumer's credit score.

Two faculty investigators examined the credit reports and considered the nature of the alleged errors in conjunction with the current credit scores to assess whether the error should be classified as material. Two criteria dominated this judgment. First, the error was classified as material if it seemed likely that correction of the record would have a materially beneficial effect on the credit score. Secondly it was classified as material if the investigators agreed that it would seem to protect the consumer against a significant risk of identity theft (as with the presence of an account not belonging to the consumer or exposure to future damage in the credit record from other information wrongly tied to the file). While this process admittedly injects a subjective element into the study, we shall see below that the ability to determine whether an error has "material" impact on a consumer's credit profile is helpful for identifying cases for additional follow-up effort in tracking consumer actions (or inaction) taken to resolve alleged inaccuracies.

Examining whether the errors could have a significantly detrimental effect on the consumer's credit standing, the researchers judged that there was a reasonable likelihood of a material improvement in credit standing in three cases (10% of those studied) if further investigation should validate the consumers' claims. In two other cases, the researchers assessed a smaller (but nonnegligible) likelihood that correction of the alleged errors would materially improve the participant's credit scores. It must be

emphasized that these statistics represent the mere *possibility* of material errors uncovered from the initial review. The consumers themselves may, after further investigation on their own, discover the reason for the alleged anomalies and decide not to register disputes. Careful follow-up of their actions after the review is therefore required to get a complete picture. **Further, these statistics are based on a very small sample and are presented for illustrative purposes only.**

**Table 4 – Types of Error and Judgments of Materiality
(Prior to Rescoring and Dispute Validation)**

Number of Error Types Alleged	Likely Material Effect	Not Likely Material Effect	Unsure of Materiality	Total Number of Instances
0	0	14	0	14 (47%)
1	2	6	0	8 (27%)
2	1	4	2	7 (23%)
3	0	1	0	1 (3%)
Total (pct)	3 (10%)	25 (83%)	2 (7%)	30

With the data collected, we can examine accuracy and actions taken by consumers on a number of dimensions. In Table 5 we show the classification of outcomes according to average credit score for the consumer. Perhaps not surprisingly, the percentage of consumers without allegations of material errors is much greater among those with high credit scores. Conversely, the percentage of consumers with allegations of material errors is higher among those with low credit scores.

Next we consider the reactions of consumers upon identifying discrepancies in the credit reports. At the end of the in-depth review, the research associate summarizes the findings and asks if the participant is inclined to register a dispute of the items brought into question. In Table 6 we summarize those expressed intentions according to the materiality assessments of the research team (that were made on the basis of the statistical extract from the interview). Each of the three respondents (100%) with potentially material errors indicated at the end of the interview that they intended to file disputes. Two individuals without errors of material magnitude indicated that they will ask that the minor items be corrected (e.g., an account shown as closed in a file with no bankruptcies or public derogatory but with bankruptcy stated as one possible reason, or with explainable reasons for a wrong address such as rental property or relative's address). The two consumers with alleged errors in the credit records, but of a magnitude to make the faculty researchers unsure whether they would have a material effect on the credit scores, said that they intended to file disputes.

Table 5 – Allegations of Errors according to Credit Score Groupings

Credit Score Category	Likely Material Effect	Not Likely Material Effect	Unsure of Materiality	Percent with No Alleged Errors Likely to Affect Creditworthiness	Percent with Alleged Errors Judged Likely to Affect Creditworthiness
Under 610	1	0	1	33.3	33.3
610-689	2	5	1	82.5	25.0
690-749	0	5	0	100	0
750-789	0	2	0	100	0
790 plus	0	13	0	100	0
Total (pct)	3 (10%)	25 (83%)	2 (7%)		

As mentioned earlier, consumers may investigate matters on their own and decide not to file disputes, or they may feel that the process is too cumbersome to make it worthwhile. Consequently, before any final judgment is made regarding the accuracy of credit report content, it is crucial to determine consumers’ subsequent actions taken to resolve disputes and to examine the resulting impact upon the credit records.

**Table 6 – Expressed Intentions to File Disputes
(Row Percentages in Parentheses)**

Presence of Material Error	Plan to File Dispute	Do Not Plan To File Dispute	Unsure of Dispute Intention
Yes	3 (100)	0 (0)	0 (0)
No	3 (12.0)	21 (84.0)	1 (4.0)
Unsure	2 (100)	0 (0)	0 (0)
Total	7 (24.1)	21 (72.4)	1 (3.5)

Following Disputes

There were only two consumers as of June 14 who had informed the researchers that they had actually filed formal disputes. One consumer filed the dispute with his bank, claiming that the bank had made a processing error in applying a payment to the wrong account. Within just a few days of his interview he faxed to the university a copy of a letter from his bank apologizing for the processing error and assuring him that the credit records would be corrected. A new set of credit reports was finally drawn on June 14 (after a half dozen calls and e-mail messages to the consumer with requests to purchase the new credit reports with the second promotional code sent to him by e-mail). The

disputed item had been removed from two bureau reports that had contained the error. The new credit scores from the affected bureaus increased accordingly (by 103 points and 100 points) respectively. The score for the unaffected bureau had changed by 54 points, presumably because of other interim changes in the consumer's credit profile. The sizeable increases in credit scores from the affected bureau files, relative to the unaffected bureau score, is consistent with the researchers' judgment that correction of the error would have a material effect in this case.

The other individual, in the follow-up interview, reported that she had used the online service of the single credit bureau with whom she had a dispute. She claims to have received no communication from the bureau as a result. She claims also to have acquired a credit report from that bureau two months later and that there was no change to the record. She did not furnish us with hard-copy evidence of the transactions.

Two other participants planned to file disputes but had not done so three months after their review of the credit reports. We managed to reach both these individuals to discuss why they had not filed the disputes as intended. One of these persons had reported errors that were judged to have a potentially material effect on the person's credit scores. The other individual alleged errors of a type that left us unsure about their impact. The former said that she was overwhelmed as a single mother with twins and could not muster the time to file a dispute. The latter similarly said that her life was too busy to take the time and she did not know when or whether she would get to it. When asked if they were discouraged by the thought that filing a dispute would have no significant impact on their credit scores, both individuals denied that this affected their behavior. When asked further if they would have signed and mailed paperwork for the dispute process if it had been prepared for them by the research associates and mailed a couple of months after their review of the credit reports, both individuals said that they would have done so.

The case where the person claimed to have tried to file a dispute unsuccessfully via an on-line process, and the two cases of unfulfilled intentions illustrate that the task of following the results of disputes poses a greater problem than we expected. We expected that participants would be motivated to have any errors in their credit records corrected promptly. This did not generally occur. It underscores the need for adding follow-up interviews as part of the protocol to determine why disputes are not filed when errors are alleged. As we mentioned earlier, some consumers may discover that their recollections in the review of the credit reports were mistaken. Others may be deterred because they do not have time to go through the process or do not expect significant benefits from the exercise. We strongly recommend that for a national study, a follow-up interview should be conducted with consumers whose credit reports are alleged to contain errors that are judged by the researchers to be potentially material in magnitude, but who do not provide evidence (related correspondence) of filing a dispute. Consideration might also be given to facilitating the process, perhaps by having the research assistants prepare the relevant paperwork after the review of the credit reports and mail it to the participants for their perusal and signature. Such a mailing could be done after a couple of months, thus giving the researchers some opportunity to assess the extent to which errors may go uncorrected because the consumers fail report them.

Information Generated for Analyzing Errors and Assessing Bureau Consistency

The methodology employed in the pilot study provides information for a thorough analysis of the accuracy of information placed in credit-bureau files and presented in credit reports. It also provides the necessary information for a penetrating analysis of the consistency of information across the three major credit bureaus. In this section, we present some statistics from the pilot study to show the types of specific information that could be garnered from the national study using this study methodology. Again, the statistics are for illustrative purposes only. **The sample size of 30 is much too small to be a reliable indicator of information in the universe of credit reports.** Beyond the assessment of errors as material or not, there are many questions that a national study based on this methodology could address. Examples are:

- What is the specific nature of the errors alleged by consumers? Do certain categories of credit report information generate more frequent concerns?
- Are the alleged errors present in the credit reports of more than one bureau?
- After further examination, did the consumers take initiative to have the errors corrected (i.e., did they file a formal dispute)? A follow-up questionnaire could probe further as to why the consumers who intended to file disputes did not do so.
- How consistently did the credit bureaus represent the creditworthiness of consumers? In addition to variation in credit scores derived from the credit-bureau files, we can assess consistency in reporting
 - Personal information such as addresses and employment status
 - Length of credit history
 - Late payments
 - Public derogatories
 - Implied utilization of revolving credit
 - Responsible discharge of mortgage debt
 - Responsible discharge of installment debt
 - Collection activity and results of collection activity

To illustrate the type of statistical information that can be produced from this research design, we list some of the critical pieces of information for each of the 30 participants. Then we offer a few illustrative statistical summaries directed to the questions above. All of this information was extracted from the de-identified SAS database with summary information extracted from the credit reports by the research associates and faculty investigators. The case number is used to identify the study participant and may be used to correlate information in the different tables that follow.

In Table 7 we show, for each study participant, the number of credit reports that could be drawn, the minimum credit score from any bureau, the maximum credit score for any bureau, the range in credit scores, the number of types of errors alleged on the in-depth review of the credit report, whether the consumer planned to file a dispute, and whether the faculty researchers judged the alleged errors to have a material effect on the consumer's creditworthiness (eligibility for credit based on the credit score). If, for example, all the scores placed the consumer in the top 2% of borrowers, a correction of

the error was not deemed to have a material effect unless there was an error that suggested the potential for contamination from another consumer's information (as with open accounts that did not belong to the consumer). In one case, only one out of three bureaus reported a minor delinquency that was six years old, but that bureau's credit score was already the highest of the three scores, suggesting that the old delinquency was exerting little, if any, negative effect on the score. Consequently, correction of the record was judged not to have a material effect.

In Table 8 we show, for each study participant, which of the specific errors were alleged to have occurred in one of the three bureau files. Excluding the personal identification fields, the categories of credit report information with the most frequent allegations of problems involves the presence and frequency of delinquency information, with eight out of 30 respondents alleging inaccuracies in that item. The last column in Table 8 pertains to the degree to which a consumer has utilized his currently available revolving credit lines. The bureaus did not report a summary ratio of revolving credit balance to revolving credit limit. Instead, we computed the ratio for each bureau's file by summing the credit lines and current balances for credit cards, home equity lines of credit, and other accounts labeled revolving. For purposes of judging whether an alleged error regarding utilization rates was material, we used the following criteria. If no error was reported in revolving account balances and if the utilization percentages computed from all bureaus' data were within 10% of each other, or if the maximum account utilization was less than 20%, we concluded there was no material error in the degree to which a consumer was utilizing his revolving credit lines. This criterion could, of course, be adjusted with further research.

We subjected cases in which consumers said they planned to file disputes (other than errors in address or employment information, which would have had no impact on credit scores), and cases thought to have a potentially material impact on credit score, to further scrutiny and made them candidates for rescoring to confirm whether the errors would have had a material impact. Changes to correct the errors were imposed on the credit reports and they were sent to Fair Isaac for "rescoring".

The rescoring process for the pilot study was just partially automated. Changes were imposed on a computerized file and the values of the predictive variables for the MYFICO scoring models were recomputed for each of the credit bureaus with alleged errors. A Fair Isaac expert noted the marginal changes that would have occurred in the computation of the credit scores and finished the revisions manually. In a national study, this process would be completely automated.

Table 7 - Credit Score Ranges, Number of Errors Alleged, Plans for Dispute and Assessments of Materiality 1
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case	no. of scores avail.	minimum credit score	maximum credit score	range in credit scores	no. of alleged errors	plans to register dispute	errors judged material
1	3	659	680	21	2	YES	YES
2	3	649	700	51	2	NO	NO
3	3	806	835	29	1	NO	NO
4	3	560	626	66	2	YES	UNSURE
5	3	651	672	21	2	YES	UNSURE
6	3	794	821	27	0	YES	NO
7	3	810	820	10	0	NO	NO
8	3	782	810	28	1	NO	NO
9	3	769	783	14	2	UNSURE	NO
10	3	753	783	30	1	UNSURE	NO
11	3	722	733	11	0	NO	NO
12	3	800	815	15	1	NO	NO
13	1	688	688	.	0	NO	NO
14	3	784	808	24	0	NO	NO
15	3	791	815	24	0	NO	NO
16	3	785	840	55	0	NO	NO
17	2	585	651	66	0	NO	NO
18	3	699	774	75	3	NO	NO
19	3	701	729	28	1	NO	NO
20	3	797	808	11	0	NO	NO
21	3	667	682	15	0	NO	NO
22	3	801	814	13	0	NO	NO
23	3	705	727	22	1	NO	NO
24	3	799	820	21	3	YES	NO
25	3	788	799	11	2	NO	NO
26	3	704	724	20	0	NO	NO
27	3	764	819	55	0	NO	NO
28	3	658	672	14	1	YES	YES
29	3	530	541	11	1	YES	YES
30	3	615	626	11	0	NO	NO

Table 8 - Specific Types of Errors Alleged by Participants

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case	error in current address	error in previous addresses	error in employment history	invalid account(s) reported	invalid acc.balance reported	wrong credit inquiries	error in no. of neg items	error in nonzero balances	error in no. of public derogs.	error in amt. sent to coll.	error in rev. credit utiliz
1	NO	YES	NO	NO	UNSURE	NO	NO	NO	UNSURE	YES	NO
2	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	UNSURE
3	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
4	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	UNSURE
5	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO
6	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
7	NO	NO	NO	NO	NO	NO	NO	NO	NO	UNSURE	NO
8	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
9	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
10	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO
11	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
12	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
13	NO	NO	NO	NO	NO	NO	NO	NO	UNSURE	NO	NO
14	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
16	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
17	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	UNSURE
18	YES	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO
19	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
20	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
21	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
23	NO	YES	NO	NO	NO	NO	NO	NO	NO	UNSURE	NO
24	NO	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO
25	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO
26	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
27	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
28	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	UNSURE
29	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	UNSURE
30	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

In Table 9 we indicate, for the eight resulting cases, the apparent severity of the error and whether the errors appeared in one, two or three bureau reports. There were three instances in which alleged errors in the bureau records were judged to be of material magnitude. In one of those cases the dispute would have to be filed with a single bureau. In another, two bureaus would have to be involved. In another, three bureaus would have to be involved. Similar statistics are presented for instances where the alleged errors were judged to have a marginal or uncertain effect on aggregate measures of creditworthiness, and for instances where the errors were not judged to be material. Overall, errors were alleged to appear in all three bureau records in three of the eight cases (37%), in two of the three bureau records in three instances (37%) and in only one bureau file in two instances (25%). There was no discernable difference in the number of credit bureaus that would have to be contacted to remedy minor errors versus errors judged as potentially material.

**Table 9 - Number of Bureaus with Disputed Information
For Errors of Different Degree**

Material Error	One Bureau Involved	Two Bureaus Involved	Three Bureaus Involved
Yes	1 (33%)	1 (33%)	1 (33%)
Unsure	0 (0%)	0 (0%)	2 (100%)
No	1 (33%)	2 (67%)	0 (0%)
Total	2 (25%)	3 (37%)	3 (37%)

We shall not perform detailed analyses of frequencies of errors of specific types because we have a very small sample. It should be evident, however, that the data extracted from the credit reports, coupled with the consumers' demographic information and information garnered through the dispute process will enable an extremely comprehensive analysis of the accuracy of credit-bureau information, and the impact of inaccuracies on consumers' potential eligibility for and cost of credit.

Because not all creditors report information to all three bureaus, and because creditors may report to bureaus on different days, there are inevitable variations in measures of consumers' creditworthiness that can be derived from individual bureaus' information. With information derived from our research protocol, it will be possible (in a national study) to determine the extent to which erroneous information contributes to those differences. One simple analytical approach would be to compare variances among bureau scores between cases with alleged errors versus cases without alleged errors. This analysis can be refined further at different stages of the dispute process - identifying first the cases with alleged errors judged to be potentially material, then alleged cases verified

to be potentially material (through retrospective rescoring), and so on through the dispute process (considering errors affirmed and corrections applied versus others). Of course, this is possible only with a study that involves consumers in credit report evaluation and dispute resolution.

To illustrate, in Table 10 and Table 11, we show how several key items used to judge creditworthiness of consumers varied among the credit bureaus for the 30 pilot study participants. These tables give the maximum and minimum values across the three bureau reports for selected items. Table 10 illustrates variations in several measures of credit utilization. Table 11 illustrates variations in several negative indicators of past payment behavior or other derogatory information. Given the ranges of values for the critical indicators of creditworthiness, it is not surprising to see variations across bureaus in the resulting credit scores for an individual consumer. Note that in Table 11, “negative items” refers to the number of instances (accounts) with late payment information.

Effects of Errors on Representations of Consumers’ Creditworthiness

We took pains in this study to distinguish between errors that may substantially affect assessments of a consumer’s creditworthiness and those that do not. We used the Fair Isaac (FICO) credit score as the standard for this assessment. The credit score is derived to indicate the likelihood that a consumer will become seriously delinquent on his or her credit obligations, and therefore likely to default. In this study, the materiality judgment occurred informally at an initial stage and formally at four additional stages. First, an informal assessment must be made by the interviewer at the completion of the end of the in-depth review of the credit reports. Sometimes the participants ask whether filing a dispute is likely to improve their credit score. The research associates directed the participants’ attention to descriptive material provided with the credit report (which did not always match the information in the particular report) and explained the items that generally have a significant effect on the credit score. They purposely refrained from being overly directive, as we wanted to get an idea of how consumers would respond to the information in credit reports on their own. Arrangements were discussed with the consumer for keeping the researchers informed about the dispute process.

Table 10 - Variations in Credit Bureau Information on Credit Utilization

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case	no. of scores avail.	min years credit history	max years credit history	minimum tot credit bal	maximum tot credit bal	min no. nonzero bal accounts	max no. nonzero bal accounts	minimum mortgage bal	maximum mortgage bal	min pct rev credit utiliz	max pct rev credit utiliz
1	3	23	23	209914	210059	5	5	197048	197193	34	39
2	3	13	13	332708	333240	2	3	327143	327909	32	36
3	3	20	20	1132	1132	2	2	0	0	4	4
4	3	11	11	14897	19894	3	4	0	0	71	129
5	3	18	18	293450	293756	9	9	240893	241199	84	92
6	3	20	27	440	440	3	3	0	0	1	2
7	3	23	23	1347	1347	1	1	.	.	5	5
8	3	23	23	304326	305133	8	9	240911	240911	18	18
9	3	17	17	3139	13527	1	3	.	.	0	0
10	3	13	18	167379	167548	4	4	136177	136346	36	37
11	3	22	22	159140	159140	6	6	153325	153325	9	9
12	3	27	27	542	1286	2	3	0	0	1	3
13	1	29	29	1064217	1064217	6	6	1048023	1048023	1	1
14	3	21	21	95350	97861	6	7	77615	77725	0	0
15	3	24	24	49776	50248	3	3	45251	45251	2	2
16	3	25	25	87746	87750	9	9	68303	68303	2	2
17	2	5	10	238	9514	2	6	.	.	52	52
18	3	33	33	17342	19654	7	8	0	0	12	12
19	3	16	36	71260	71338	2	3	71092	71285	0	3
20	3	17	29	24190	24190	4	4	20875	20875	4	4
21	3	18	28	13636	13930	5	5	.	.	4	4
22	3	27	28	10013	10013	4	4	0	0	3	4
23	3	17	28	2587	44077	4	4	0	40892	4	6
24	3	23	23	394175	411460	5	6	376548	377059	3	3
25	3	15	15	17373	44577	4	7	12496	12496	1	1
26	3	7	7	8429	8429	6	6	.	.	7	7
27	3	12	12	4188	10188	1	2	0	0	15	17
28	3	12	13	238878	239647	10	10	150239	158239	39	56
29	3	16	18	372954	397105	12	13	347834	348029	46	71
30	3	15	15	111032	128873	10	11	83803	83803	71	73

Table 11 - Variations in Negative Information among Credit Bureau Files

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case	no. of scores avail.	min no. neg items	max no. neg items	minimum coll credit amt	maximum coll credit amt	minimum coll credit bal	maximum coll credit bal	min no. pub derogs	max no. pub derogs
1	3	0	2	444	444	444	444	0	0
2	3	3	4	0	0	0	0	1	1
3	3	0	0	0	0	0	0	0	0
4	3	11	14	0	2684	0	2684	2	4
5	3	11	14	0	0	0	0	1	1
6	3	0	0	0	0	0	0	0	0
7	3	0	0	0	0	0	0	0	0
8	3	0	0	0	0	0	0	0	0
9	3	0	0	0	0	0	0	0	0
10	3	0	3	0	0	0	0	0	0
11	3	2	2	0	0	0	0	0	0
12	3	0	0	0	0	0	0	0	0
13	1	1	1	0	0	0	0	0	0
14	3	0	0	0	0	0	0	0	0
15	3	0	0	0	0	0	0	0	0
16	3	0	0	0	0	0	0	0	0
17	2	2	3	0	0	0	0	0	0
18	3	0	1	0	0	0	0	0	0
19	3	0	2	0	0	0	0	1	1
20	3	0	0	0	0	0	0	0	0
21	3	1	1	0	0	0	0	0	0
22	3	0	0	0	0	0	0	0	0
23	3	0	0	0	0	0	0	0	0
24	3	0	0	0	0	0	0	0	0
25	3	0	0	0	0	0	0	0	0
26	3	2	2	0	0	0	0	0	0
27	3	0	0	0	0	0	0	0	0
28	3	1	2	0	0	0	0	0	0
29	3	9	11	0	0	0	0	0	1
30	3	6	7	0	1560	0	269	0	4

The first formal judgment of materiality occurred as information from the credit-report review was inserted into the SAS database. Two faculty researchers reviewed the summaries of information in the credit reports (Exhibit 7) and the interviewers' notes and discussed questionable items with the interviewer before making a subjective judgment of whether the alleged errors would materially affect the credit scores. The next formal assessment occurred in the form of a recorded subjective assessment by the Fair Isaac researcher responsible for rescoring. The third formal assessment was accomplished by a simulated rescoring of the credit file in which the disputed items were changed and new credit scores were generated from the "frozen" credit record used to generate the initial scores. The fourth formal assessment of the materiality of the error was from the magnitude of the change in credit score that occurred after the outcomes from the formal dispute were determined.

The first three formal materiality judgments all apply to *alleged* errors. The last applies to *confirmed* errors where the changes had been imposed and to *alleged but not confirmed* errors in instances where the bureaus and the consumers did not agree at the end of the dispute process. Note that a follow-up interview with the consumer should be refined to address instances when change in the credit report does not occur. The interview should determine the consumer's understanding of why changes did not occur, which may include: the consumer files a dispute and is told that the bureau records are correct; the consumer files a dispute and receives no communication from the bureau in the matter; the consumer never files a dispute.

Table 12 summarizes the outcomes for the seven consumers (23%) who planned to seek to have their credit records corrected. This included all instances where the faculty researchers judged that a material change could occur if corrections were applied to the credit files. The final outcome is classified as one of the following:

1. resolved for consumer and material (RM)
2. resolved for consumer and immaterial (RI)
3. resolved for consumer and marginally material (RU)
4. resolved for bureau (RB)
5. unresolved and material (UM)
6. unresolved and immaterial (UI)
7. unresolved and marginally material or unknown (UU)
8. outcome of dispute pending bureau response (DP)
9. dispute not filed (NF)
10. consumer alleges credit bureau did not respond to dispute registered (NR)
11. item made irrelevant by circumstances (NA).

The "unknown (UU)" category is necessary because, in some cases, it is hard to unravel the actual situation for an individual consumer who provides conflicting information.

One consumer who initially alleged that the credit bureau reports contained errors softened his position during the follow-up survey. He had a large number of negative items and derogatory items in the records of each of the credit bureaus. In the follow-up

survey, he indicated that he had not yet filed a dispute and, by the tone of the discussion, implied that he was unlikely to do so. He made a vague assertion that it was too hard to keep abreast of details and that he was inclined to accept the credit bureaus' presentation of the information. That account was not rescored and the entry "NA" appears in corresponding cells of Table 12.

In categorizing the impact of the tentative rescoring (stage 3), we treated any change in rescoring of less than 30 points (roughly the average inter-bureau range) as not material. We classified changes of 31-49 points as marginally material and changes of 50 points or more as material. We also considered whether the new score would move a consumer over a commonly used lending threshold. This judgment was made by a Fair Isaac expert who has worked with lenders on origination and account management strategies, including risk based pricing. In a larger study with more data available, we may want to modify these categories and could develop specific quantitative criteria for the assessment.

Table 12 – Concordance in Materiality Assessments and Final Resolution

Case	Tentatively Judged Material Stage 1	Tentatively Judged Material Stage 2	Tentative Material Score Change	Material Final Score Change	All Tentative Judgments Agree	Final Outcome
FTCR2GG	YES	YES	YES	YES	YES	RM
FTCSP83	YES	YES	YES	NA	YES	NF
FTCFL58	NO	NO	NA	NA	YES	NA
FTCJMDI	UNSURE	UNSURE	UNSURE	NA	YES	NF
FTCUNK1	NO	NO	NO	NO	YES	NA
FTC55GG	UNSURE	NA	NA	NA	NA	NA
FTCBJX5	YES	UNSURE	NO	NA	NO	NR
FTCUIDG	NO	NO	NO	NA	YES	NF

Implications for the Conduct of the National Study

There are two vitally important findings from the pilot study. First, consumers can be engaged to conduct a thorough and effective review of their credit records via a telephone interview. Members of the research team and consumers themselves were unanimous in judging the review of information as thorough and objective. Second, effective mechanisms to protect consumers' private information can be employed in the process. In the research protocols employed in the pilot study, participants were not required to reveal their SSNs to the university-based members of the research team and specific identifying information such as account numbers were suppressed in all information available to the university research associates. These restrictions did not hinder the quality of information produced.

That said, the pilot study has identified two areas that pose particular challenges in the design of a national study. First, recruitment and engagement of participants to produce a sample representative of the universe of credit reports may require a variety of approaches. The approach used in the pilot was effective for reaching individuals with internet access. With sequential sampling, mailings can be adjusted to concentrate on segments of the population that are underrepresented as the study evolves. Spanish-speaking research associates could be engaged to reach individuals who do not speak English. For consumers without internet facility, alternative means of engagement would be required. Second, it will be critical to expand the follow-up interview procedures and protocols to determine the final outcome of any disputes filed and to determine why disputes are not filed when errors are alleged.

Alternative Approaches to Constructing the Sample

Our methodology relies on geo-demographic data and property-assessment information to produce a mailing list for building a representative sample of consumers. Ultimately, we wished to produce a representative sample of credit reports with approximately equal numbers in each of the five groups defined by credit-score quintiles. This could be accomplished more directly if the credit bureaus could provide the researchers with a file containing a unique identifier (a simple account sequence number – not the consumer’s SSN) for a designated fraction (e.g., 1 in 1000) of their active credit files along with the ZIP code, one other field for confirming cross-check, and possibly a few other pieces of information that affect the consumers’ credit scores. For example, the researchers could select the candidates for the study using a few key variables such as the number of negative items, number of public derogatories, number of active revolving accounts, total credit utilization and revolving credit utilization in a manner that would help to build a stratified sample consisting of consumers with different degrees of creditworthiness. The researchers could identify the consumers that they would like to try to engage and return the corresponding sequence numbers to the bureaus who, in turn, would provide current contact information to the researchers. The researchers could then invite the consumers to participate in the pilot study.

Another possible route to the consumer is through referrals from trusted financial institutions as they deal with consumers’ applications for credit. The consumers could be informed that credit-bureau data were used as part of the application process and that the institution could offer, on behalf of the FTC, an opportunity to ensure that the credit decision was being made with the help of accurate data. Interested consumers would then “apply” to the research team to be part of the study.

With either of these methods, participation can be arranged in a manner that does not require the consumer to divulge SSN to the researchers as long as the consumer had internet access. These methods could be used as a complement to the pilot-study recruiting methodology and would still retain arms-length objectivity in selecting participants (i.e., would not create questions of credit-bureaus’ selecting consumers whose records are unlikely to contain errors). A possible disadvantage of these

alternatives, however, is the greater difficulty that would occur in managing the process with more participating parties.

Protecting against “Phishing” Schemes by Imitators

The pilot study reached only a few hundred consumers in the recruiting process and thus created *de minimus* risk of planting ideas for new “phishing” schemes like those undertaken in the names of financial institutions. Under such schemes unscrupulous individuals obtain personal information that enables them falsely to use the victims’ accounts or to steal the victims’ identities for acquiring credit. In a nationwide study, care must obviously be taken to avoid such risks.

Among the randomly selected participants in the pilot study was a deputy state attorney general who was initially very cautious about participating in the study. This person took pains to validate the study’s authenticity by checking the FTC website referenced in the recruiting letter and by visiting the UM-St. Louis website to check the background of members of the research team. Only after discussing the study with state legal staff and financial officials did the person agree to participate. The consensus among the state officials was that the protocols for this study were so complex and the verification mechanisms were so transparent that they could hardly have been conceived or implemented for “phishing” purposes. Streamlining the consent process to allow it to occur online and possibly enabling the acquisition of credit reports to flow directly from that transaction (as suggested earlier in this report) should therefore be done in a manner that would retain the face validity that seems to have accompanied the pilot study protocol.

Data Security

Special consideration must be given to protection of consumers’ confidential information and formal protocols were established for this purpose in the pilot study. In the course of the study, each participating institution and individual members of the research team took care to work in conformity with relevant data safeguards described in "Financial Institutions and Customer Data: Complying with the Safeguards Rule", extracted from <http://www.ftc.gov/bcp/online/pubs/buspubs/safeguards.htm>. Processes were approved by the university’s IRB committee.

Each member of the research team was provided with detailed descriptions of the data that will be handled in the course of the study (including prototypical credit reports) and was trained to conform to the research protocols for protecting the consumer against the release or misuse of data. Access to information was limited to persons who had a need to see it.

Information systems. Consumer data in hard-copy form were stored in a secured area (locked office and locked cabinet). Identifying information (consumer SSN and all but the last four digits of credit account numbers) were suppressed in hard copies of the credit reports that were mailed to the consumers and used by the researchers. A unique

identifier was used as a cross-reference between consumer contact information (name, address and phone number) and information in the credit report. Electronic copies of consumer contact information were kept in separate computer files from those used to record data derived from reviews of the credit reports. We thus retained background information (such as name and address for contacting the consumer for the credit review) separately from the credit-report and demographic data. Password protection was used to limit access to computerized data. In the course of reviewing the credit files, extracts from the credit reports and consumers' demographic data and responses to inquiries from the follow-up questionnaire were placed in database for which the myFICO account number and consumer ZIP code were the only consumer identifiers.

Upon receiving written notice from the FTC that lists of consumer contacts and cross-references of consumer information with credit-report information are no longer needed, the research team will permanently delete the computer files that contain consumer names, addresses, etc. They will shred paper records with the consumer contact information.

Effort and Costs of Conducting a National Study

Checking the accuracy of credit-bureau information and studying the efficacy of the dispute-resolution process will inevitably require intensive involvement with a large sample of consumers. The effort required and incidental costs incurred at various stages of the pilot study can shed some light on the costs that would be incurred in the conduct of a national study that employs similar protocols.

The pilot study involved the following activities with related costs:

- Design and refinement of processes and instruments for recruitment of participants, authorizing access to credit-bureau information, preparing for in-depth reviews of credit reports, conducting reviews of credit reports and summarizing results
- Development of mailing lists using property assessment records and reverse online telephone directories (Purchasing mailing lists of homes with addresses and telephone numbers that meet specific estimated demographic criteria would be a likely alternative for a national study.)
- Telephone recruitment with follow-up to secure written consent
- Guiding participants in establishing myFICO accounts and purchasing credit reports
- Production of credit reports (via myFICO.com), printing reports and mailing them to consumers with instructions (A streamlined process would be Implemented for a national study)
- Preparation for the in-depth reviews of the credit reports
- Conducting in-depth reviews in telephone interviews
- Documenting results of reviews and examining them to judge materiality of errors
- Following disputes

- Rescoring credit reports to assess materiality of alleged errors (An automated process would be implemented for a national study)
- Examining new credit reports to determine the results of disputes
- Analyzing results
- Documenting findings.

For purposes of this report we shall focus on the variable costs of executing the unique features of the pilot study's protocol. We shall exclude costs of developing and refining the processes and survey instruments to be employed, costs of developing/acquiring mailing lists (many commercial services are available for that task, for a fee), costs of designing and creating computer databases for the statistical extracts, costs of administrative overhead, and costs of conducting statistical analysis and preparing a final report. Some of these excluded items (e.g., development of survey instruments) have been initially addressed in the pilot study. Others would differ in nature depending on the scope of the national study.

The variable costs of executing the study protocol will depend on the scale and intensity of work for the national study. They will also depend on the compensation of personnel. For human resources, we shall therefore estimate hours of personnel time required for various tasks based on times that were required for tasks unique to the pilot study. These time estimates are subdivided by type of personnel required to successfully execute the tasks. For example, in the pilot study the use of graduate research assistants and university office personnel was considerably less expensive (but equally effective) for some tasks than the time of the university principal investigators. Our time estimates are based on the assumption that 1000 consumers will undergo an in-depth review of their credit reports over a one-year period and follow-up for disputes will take place similarly to the pilot study. This allows for interruptions that may occur due to technical issues; leads and lags between recruiting, review of reports and dispute resolution; periodic pauses required to deal with problems that may arise; and suspension of consumer-contact activities around holiday periods.

In Table 13 we present the planning parameters that would drive the costs of executing the national study with the protocol that we employed in the pilot study. We used the yield rates and attrition rates that occurred in the pilot study except that we allowed for attrition of 10% after credit reports are drawn, with the expectation that the intensive follow-up that we used for the pilot study (including e-letters and calls from a university PI) would be replaced by a more extensive and less intensive strategy (i.e., by recruiting more into the pool and having RA's do the follow-up). We allow for some anticipated efficiencies in the recruitment process from economies of scale. We also allow for efficiencies that can be garnered by having the study team members deliver the promotional codes to the participants instead of involving Fair Isaac in delivering them to the consumer. We have not accounted for additional streamlining that could be derived from the creation of dedicated websites created specially for a study or from allowing allow electronic (vs. paper-based) consent. Nor have we accounted for processes for consumers without internet access.

Table 13 - Planning Parameters

Pct of mailings leading to contacts	68.90%		
Pct of contacts interested	18.50%	Contacts requd per credit review	9.2
Pct of interested engaged	65.00%	Pct engaged/contact	12.0%
Attrition after engagement (pct)	10.00%	Pct reviews/letter	8.3%
Pct who plan to file disputes	23.33%		
Pct who do file disputes	13.33%		
Pct of disputes with changes to bureau record	50.00%		
Mins.to prepare and document mailing	4		
No-answer calls per contact	5	Hours recruiting per contact	0.67
Mins. per no-answer call	5		
Minutes for recruiting interview	15		
Minutes for in-depth review	30		
No-answer calls per in-depth review	4		
Prelim calls per in-depth review	2		
Minutes per prelim call	5		
Mins to draw, document and mail report	30.00		
Hours to prepare for in-depth review	1.50		
Hours to conduct and document in-depth review	0.8		
Mins. To contact consumer for follow-up	30		
Mins. To conduct folllow-up	5		
Batch size for drawing frozen reports	5		
Hours to draw batch of reports from bureaus	1.75		
Hrs per consumer to draw reports from bureaus	0.25		
Hours to rescore each report	1.25		

In Table 14, we show the resulting hours of effort under these assumptions. We also include the cost of purchasing the three bureau credit reports and credit scores at \$50 per purchase. The numbers do, of course, change with changes in the planning parameters. The scenario presented excludes the costs of acquiring the initial mailing list, postage, long distance telephone charges, and computer supplies. Nor have we considered the costs of whatever publicity the FTC may wish to employ in the study.

Note that in designing the national study, consideration should be given to weighting the outreach toward lower-income households. That will almost certainly result in changes to the planning parameters for that segment. Fewer consumers will have internet access; their credit reports may be more complicated; and disputes may be more frequent. We have, however, provided the framework within which these factors may be considered.

Additional Recommendations

The pilot study has demonstrated that consumers can be successfully engaged to conduct a thorough and effective review of their credit reports via a telephone interview. However, in the judgment of the research team, the FTC would be well advised to expand the pilot study to include another 120 consumers, thus giving a solid base of 150 completed credit reviews for refining estimates of the parameters used to forecast the time and costs in a national study. The parameters would differ for consumers in different demographic segments and, with additional experience gained through an expanded pilot, the budgeting and planning for the national study can occur with greater precision. An extended pilot would allow experimentation with alternative methods of

engaging consumers (including the impact of offering financial incentives for participation now that the novelty of obtaining free credit reports is diminishing), allow preliminary statistical analysis to be done on a nontrivial sample, and it would provide data that could be folded into the national study. It would also allow experimentation with processes that facilitate the filing of disputes, thereby increasing the number of consumers for which the final outcome can be determined. Expanding the pilot study would thus allow incremental progress to be made toward the completion of the national study and, at the same time, produce refinements that would improve the efficiency and efficacy of the national study.

Table 14 - Resulting Activities, Personnel Hours and Costs of Purchasing Credit Reports

Activity	Number	Hours Required					Report Cost (dollars) (\$50 ea.)
		Univ RA	Univ Sup	Univ PI	FIC RA	FIC PI	
Consumers engaged	1,000						
Mailings required	13,410	894	179				
Contacts required	9,239	6,159	1,232				
Sets of credit reports required	1,112	556	111				55,600
In-depth interviews required	1,000	2,300	460				
Prelim rescoring required	234				59	293	
Prelim rescoring batches	47				82		
Follow-up interviews required	1,000	583	117				
Dispute filings expected to be intended	234						
Dispute filings expected to occur	134						
Second reports expected to be needed	134	67	13				6,700
Final rescorings expected to be needed	68					85	
Project direction and professional staff			0	2,500		40	
Personnel hours for tasks and dollars for credit reports		10,560	2,112	2,500	141	418	62,300

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