U.S. Consumer Credit Reports: Measuring Accuracy and Dispute Impacts

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PERC
RESULTS AND SOLUTIONS

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Abstract

This report, titled *U.S. Consumer Credit Reports: Measuring Accuracy and Dispute Impacts*, assesses the accuracy and quality of data collected and maintained by the three major nationwide Consumer Reporting Agencies (CRAs): Equifax, Experian, and TransUnion.

It is the first major national study of credit report accuracy to engage a large sample of consumers in a study that interfaces all three CRAs and ultimately the data furnishers. The report enabled consumers to review their credit reports and credit scores from one or more of the three CRAs, to identify potential inaccuracies, and to file disputes as necessary through the consumer dispute resolution process governed by the FCRA, and to report on their satisfaction with the process.

The study offers different measures of credit report quality, including:

The potential dispute rate, which includes all credit reports with one or more pieces of information that a consumer believes or suspects could be inaccurate and is subject to a potential dispute by the consumer;

The dispute rate, which comprises all credit reports with one or more pieces of information that a consumer chooses to dispute through the Fair Credit Reporting Act (FCRA) dispute resolution process;

The modification rate, a narrower measure that counts only those disputed header or tradeline items that, as a result of the FCRA dispute resolution process, are modified by a CRA; and,

The material impact rate, the most meaningful metric as it captures credit report modifications that result in a consumer's credit score migrating to one or more higher credit score risk tiers, which can influence the consumer's credit access and terms.

The research found that credit report data are high quality, with little likelihood of an adverse material impact on consumers.

Glossary

▶ **Asserted accuracy rate** — the share of credit reports with all header and tradeline information judged as accurate by consumers. The "asserted accuracy" rate is an implicit rate derived from 100% minus the potential tradeline dispute rate.

▶ **Disclosure score** — credit score at time the consumer disclosure (credit report) was sent.

▶ **Dispute rate** — comprises the share of credit reports with one or more pieces of information that a consumer disputes through the FCRA dispute resolution process.

▶ **FCRA dispute process** — the investigative process that is initiated when a consumer disputes the accuracy or completeness of credit report information with a CRA.

▶ **Header dispute rate** — comprises the share of credit reports with one or more pieces of only header information that a consumer disputes through the FCRA dispute resolution process.

▶ **Header information** – also known as credit header or above-the-line information and consists of name, date of birth, employer, address, former addresses and other such identifying/consumer information. This information does not directly impact credit scores.

▶ **Header modification rate** — the share of credit reports with only header items disputed and modified by a nationwide CRA as part of the FCRA dispute resolution process.

▶ **Material impact rate** — the narrowest measure, the share of credit reports with modification that can be linked to potentially material consequences in the form of shift of a credit score into a higher pricing tier.

▶ **Modification rate** — the share of credit reports with disputed header or tradeline items that are modified by a nationwide CRA as part of the FCRA dispute resolution process. This includes all modifications, such as those involving data furnishers and those involving business rules.

▶ **Post-modification score** — credit score immediately following when modifications resulting from the dispute process were made.

▶ **Potential dispute rate** —the broadest measure, the share of credit reports with one or more pieces of information that a consumer believes could be inaccurate and are candidates for dispute by the consumer, in header and/or tradeline information.

▶ **Potential errors** — information in a consumer credit report identified by the data subject (consumer) as inaccurate.

▶ **Potential header dispute rate** — the share of credit reports with only header information that a consumer believes could be inaccurate and are candidates for dispute.

▶ **Potential tradeline dispute rate** — the share of credit reports with one or more pieces of tradeline information (even if it also contains header items for dispute) that a consumer believes could be inaccurate and are candidates for dispute.

▶ **Pre-modification score** — credit score preceding any modification(s) due to tradeline disputes.

▶ **Tradeline** — Typically, tradelines refer to credit accounts or credit and collection accounts, for the purposes of this study, tradelines refers to credit, collections, and public record accounts. Disputes or potential disputes involving hard inquires are considered credit tradeline disputes or potential credit tradeline disputes for the purposes of this study.

▶ **Tradeline dispute rate** — the share of credit reports with one or more pieces of tradeline information (even if it also contains header items for dispute) that a consumer disputes through the FCRA dispute resolution process.

▶ **Tradeline modification rate** — a very narrow measure, the share of credit reports with disputed tradeline items (even if it also contains header items for dispute) that are modified by a nationwide CRA as part of the FCRA dispute resolution process, and thus are likely to impact credit scores.

Key Findings

This report reviews the accuracy of data in consumer credit reports from the three major nationwide consumer reporting agencies (CRAs). It also measures the credit market impact upon consumers with modifications to their credit reports.

Key findings from this research include:

▶ **Impact of Modifications on Credit Scores:** Of all credit reports examined:

- ▶ 0.93 percent had one or more disputes that resulted in a credit score increase of 25 points or greater;
- ▶ 1.16 percent had one or more disputes that resulted in a credit score increase of 20 points or greater; and
- ▶ 1.78 percent had one or more disputes that resulted in a credit score increase of 10 points or greater.

▶ **Material Impact of Credit Report Modifications:**
As noted above, less than one percent (0.93 percent) of all credit reports examined by participants prompted a dispute that resulted in a credit score adjustment and an increase of a credit score of 25 points or greater. More significantly, one-half of one percent (0.51 percent) of all credit reports examined by participants had credit scores that moved to a higher "credit risk tier" as a result of a modification. This metric is the best gauge of the materiality of credit report modifications, and suggests that consequential inaccuracies are rare. Credit report modifications that result in material impacts are exclusively modifications of tradelines, that is, of credit, collection and public record account data.

▶ **Disputants Satisfied with Process:**
95 percent of disputing participants were satisfied with the outcomes of their disputes, suggesting widespread satisfaction among participants with the FCRA dispute resolution process.

▶ **Tradeline Dispute Rate:**
Of the 81,238 credit, collections, and public record tradelines examined, 435, or less than 1 percent (0.54 percent), contained information that was disputed.

It should be mentioned that 19.2 percent of the credit reports examined by consumers were set aside as containing one or more pieces of header or tradeline data that a consumer believed could be inaccurate. Of note, 37% of these potential disputes only related to header, or "above the line," information that could have no bearing on a credit score (e.g., the spelling of a former street address or maiden name).

1. Introduction

Credit reporting solves the problem of information asymmetry between borrowers and lenders.[2] The primary results of greater sharing of credit information include sustained growth in lending to the private sector, and the resultant increases in Gross Domestic Product (GDP), productivity, and capital accumulation.[3] Credit reporting has also increased fairness in lending, owing largely to the greater ability of consumers to rely on their credit and repayment history rather than assets as collateral, and to the lessening of human bias associated with manual underwriting from the use of scorecards and automated underwriting. Credit reporting has effectively enabled groups of borrowers that have traditionally faced systemic bias to more easily access affordable mainstream credit.[4]

The accrued benefits of credit reporting have made a considerable difference in the lives of millions of individuals in the United States.[5] For most Americans a key way assets are built is through home ownership and the majority of household assets are in the form real estate and automobile equity as well as assets related to small business ownership, all of which are closely tied to access to credit.[6] As such, asset building and wealth creation are integrally related to the contents of one's credit reports.

Because some errors in credit reports may lead to inappropriately priced loans or interest rates, promoting the accuracy of credit report data is a well-established public policy and business practice.[7] Inaccurate information results in a socially and economically suboptimal allocation of capital with potentially adverse consequences for the entire economy, as recent events in financial markets have demonstrated.

[2] For a theoretical consideration, see Joseph E. Stiglitz and Andrew Weiss, "Credit Rationing in Markets with Imperfect Information," *American Economic Review*, vol. 71, no. 3 (June 1981): 393-410. Also see Marco Pagano and Tullio Japelli, "Information Sharing in Credit Markets," *Journal of Finance* (December 1993): 1693-1718; and Dwight Jaffee and Thomas Russell, "Imperfect Information, Uncertainty and Credit Rationing," *Quarterly Journal of Economics*, vol. 90, no. 4 (November 1984): 651-666. See also essays from Margaret Miller, ed., *Credit Reporting Systems and the International Economy* (Cambridge, MA: MIT Press, 2002). There is also an extensive literature on the positive effects of greater lending to the private sector. See, e.g., Ross Levine, "Financial Development and Economic Growth: Views and Agenda," *Journal of Economic Literature*, vol. 25 (June 1997): 688–726; Jose De Gregorio and Pablo Guidotti, "Financial Development and Economic Growth," *World Development*, vol. 23, no. 3, (March 1995): 433-448; J. Greenwood and B. Jovanovic, "Financial Development, Growth, and the Distribution of Income," *Journal of Political Economy*, vol. 98 (1990) :1076-1107.

[3] Michael Turner et al., *On the Impact of Credit Payment Reporting on the Financial Sector and Overall Economic Performance in Japan* (Chapel Hill: Political and Economic Research Council, 2007). Also see Simeon Djankov, Caralee McLiesh, Andrei Shleifer, "Private Credit in 129 Countries." NBER Working Paper no. 11078 (Cambridge, MA: National Bureau of Economic Research, January 2005), available at http://papers.nber.org/papers/w11078.

[4] For evidence and measures of increased credit access, see Michael Turner, *The Fair Credit Reporting Act: Access, Efficiency, and Opportunity*. (Washington, DC: The National Chamber Foundation, June 2003)

[5] The growth of credit reporting (increased credit information sharing) should not be confused with underwriting (how it is used). The increased availability of credit data, when used appropriately, should only improve underwriting.

[6] See tables 2 and 5 from the US Census Bureau's latest data on *Wealth and Asset Ownership* in the US, available at http://www.census.gov/hhes/www/wealth/2004_tables.html.

[7] 1681e of the U.S. Code, that is, the Fair Credit Reporting Act, requires, "Whenever a consumer reporting agency prepares a consumer report it shall follow reasonable procedures to assure maximum possible accuracy of the information concerning the individual about whom the report relates." Title 15, § 1681e section (b)

Congress recognized the importance of credit report data accuracy in enacting the Fair Credit Reporting Act (FCRA) over 40 years ago.[8] Since then, a number of recent market changes in the industry have benefited consumers, in addition to federal policy supporting accurate credit report data. For example, the consolidation of the consumer credit reporting industry in the U.S. led to the standardization of how credit information is reported (Metro 2) and how consumer disputes are verified (e-Oscar). Furthermore, advances in computing and communications technologies have streamlined the reporting process so that most information is now shared digitally. To the extent that credit report errors arose from combining non-standardized data reported in different ways, it is likely that this movement towards consolidation and increased standardization of fields, formats, reporting and media increased credit report data accuracy.

Competition in the credit reporting sector has also been a likely driver of increased accuracy. For obvious reasons, inaccurate information results in poorer, less reliable predictions or assessments of credit risk. This effect of poorer quality data is witnessed in the improvements in measures of scoring model performance when data is systematically 'cleaned'. Nationwide consumer reporting agencies (or nationwide CRAs), sometimes called credit bureaus, may compete, among other things, on the claim that their data is a better predictor of risk than that of their competitors. The pressure to deliver more predictive data to lenders may serve as a mechanism for greater accuracy.

In 2003, as part of the Fair and Accurate Credit Transactions Act (FACT Act), Congress instructed the Federal Trade Commission (FTC), the primary regulator of nationwide CRAs, to conduct an 11-year study to examine the accuracy of credit reports.[9] To date, the FTC has conducted two pilot studies to evaluate methodologies as it moves toward conducting its large-scale study. The FTC's pilot programs broke new methodological ground, engaging consumers in reviewing their own credit reports as a way to identify potential inaccuracies and then measuring differences in credit scores on the basis of changes made as a result of the dispute process.[10]

As discussed below, this PERC study builds on the methodology established in the FTC's approach and other studies of credit report accuracy in order to develop more scientific measures of both the accuracy of the data in consumer credit reports, and the market impacts from inaccuracies. PERC was retained by the CDIA to conduct the pilot and a subsequent full study given its expertise with credit information sharing in the United States and globally. In addition to its work with the World Bank Group and the Inter-American Development Bank, PERC has consulted with the governments of Australia, Brazil, China, Guatemala, Honduras, Japan, Kenya, Mexico, New Zealand, Singapore, and South Africa. PERC has also consulted with the U.S. federal government on credit reporting issues, and continues to promote information sharing as an avenue for financial inclusion and economic development.
As with the FTC study, PERC used its pilot findings

[8] *Ibid.*
[9] In July 2011, the Consumer Financial Protection Bureau, established by the Dodd-Frank Act, will become the primary regulator of nationwide CRAs.
[10] The authors make clear in the pilot reports that the pilot samples are small and not reflective of the nationwide CRA databases and, therefore, the results are not statistically projectable. The purpose of the pilots was to evaluate methodologies to be used in the large-scale study. Additionally, the FTC has recognized the key role that consumers play in promoting credit report accuracy. "The self-help mechanism [the dispute process] embodied in the scheme of adverse action notices and the right to dispute is a critical component in the effort to maximize the accuracy of consumer reports." Statement of Howard Beales, Director of the Bureau of Consumer Protection at the Federal Trade Commission. Fair Credit Reporting Act: How It Functions for Consumers and the Economy, June 4, 2003, U.S. House of Representatives, Subcommittee on Financial Institutions and Consumer Credit Committee on Financial Services, Washington, DC.

to refine the recruitment approach for a subsequent full study and to identify key methodological issues. Both the pilot and full study engaged consumers and utilized the FCRA consumer dispute resolution process. This report presents the methodology and results of the full study, which is the first-ever published credit report data quality study that engages data subjects (consumers), nationwide CRAs, and data furnishers using a large sample reflective of the CRAs' population.

We believe that as a result of this comprehensive and inclusive approach, this study produces the best estimates to date of the rates of consumer identified inaccuracies and their market impact.[11] It does this by examining the rates at which consumers identify potentially inaccurate data, subsequently dispute those items, and then are materially affected by resultant credit report modifications (impact as defined by upward credit risk score tier migration).

In addition to measuring disputes and material impacts on a per credit report basis, this study also examines the accuracy rate of *tradelines* (credit, collections, and public record accounts) reported to the nationwide CRAs. This is examined by looking at tradeline disputes—as modifications to tradelines are the only changes to a consumer's credit report that could affect them materially. Further, a focus on this level of analysis helps to determine the rate of accuracy per unit of data. This is useful in two respects. First, as with employing credit scores to gauge the impact of credit report modifications, the modification rate per tradeline helps contextualize accuracy rates per credit report or per consumer. Second, comparisons of per credit report or per consumer rates of error over time may not be meaningful if they are confounded by the changing size of the average credit report. For instance, if the rate of one or more errors in a credit report did not change between two points in time, one might conclude that there had been no improvement in credit report accuracy over that period. However, if the average amount of information either halved or doubled in that time, then one may more accurately conclude that the accuracy rate had, in fact, either doubled or halved.

No meaningful and comparable information exists on historical rates of errors in credit report data in the United States. This study therefore creates a benchmark against which to measure future rates of credit report data accuracy. As is addressed in the next section, past studies have aimed to answer questions about consumer credit report data accuracy, but they were either not designed to determine error rates and material impact rates or they suffered from seriously flawed methodologies (small samples or samples not reflective of the population of the national CRAs). By providing more meaningful estimates of rates of nationwide CRA modifications, and notably the *material impact rate*, this study offers a significant contribution to the general understanding of consumer credit report accuracy.

[11] It should be noted that even when a tradeline dispute is modified, we cannot conclude whether or not there was an actual error but can only state definitively that data has been modified in response to the dispute. Some data furnishers, for example, will automatically update an entire tradeline when one aspect of it is disputed and some will default to automatically changing the data in accordance with the consumer's request. Consequently, the tradeline modification rate overstates the verified error rate and is not classified as an error rate.

The study, however, *was not designed to determine the source of errors or accuracy rates among subgroups*, such as consumers with thin credit reports. This report focuses exclusively on the general accuracy of the entire sample, and not relative accuracy rates among types of tradelines. As such, we collected little information on the detailed composition of the entire sample of credit reports in the study. Although it was possible to calculate the rate of disputes and modifications per tradeline, it was not possible to meaningfully calculate dispute and modification rates of specific types of tradelines given the sample size and the lack of needed detailed credit report data from the entire sample. For such an examination of, say, the accuracy of collections tradelines or automobile loan tradelines, it would also be useful to have information on the data furnishers—such as their age, size, how long they have been reporting to nationwide CRAs, whether they report to all three nationwide CRAs, and anything else that could advance a researcher's understanding of potential causes of data errors.

Because this study was designed to assess the accuracy of a sample reflective of the nationwide CRA population, subgroups divided by ethnicity, gender, age, or income were often too small to produce meaningful estimates of dispute and modification rates as well as material impacts. Although there were no statistically significant differences in material impact rates between racial-ethnic or income subgroups of the sample, this may be attributed to the small sample sizes. Further, since race and income are not attributes of credit reports, it would not be these variables that would be impacting credit scores or error rates. It would have to be that these variables would be correlated with aspects of a credit report such as tradeline types present and attributes of data furnishers, and so any thorough exploration of socio-demographic variations of disputes and modifications should take these properties into account. As a result, we do not provide rates by socio-demographic attributes and we draw no conclusions about whether there is evidence of such differences. We use the socio-demographic data only to gauge how well the sample reflected the CRA's population.

This study is also not a study of the FCRA consumer dispute resolution *process*. Although a detailed study of the dispute process would certainly be valuable in assessing its adequacy, it is beyond the scope of this research. However, we found that 86 percent of the disputed tradelines in this study were modified in some way as a result of the extant FCRA consumer dispute resolution process, with the majority being modified exactly as requested by the consumer. In addition, 95 percent of the participants surveyed following the outcomes of their disputes were satisfied with the outcomes. This suggests that if an alternate verification/dispute process were used, it is unlikely that the results would markedly positively differ from the results in this study. Again, the process itself would need to be examined separately to draw any significant conclusions about its efficacy or any possible deficiencies.

Finally, the main focus of this study is on the direct, negative impact of credit report errors on the credit standing of consumers. That is, we examine credit score changes and credit score tier changes with emphasis placed on those participants who would had positive credit score changes and credit score tier migration that are the product of credit report modifications resulting from the disputes of tradeline items they believed to be in error. In a broader context, the larger credit system (consumers and lenders) is affected by errors via

[12] So-called "thin" credit reports are those that contain fewer than three tradelines (credit, collections, and public records).
[13] The total number of tradelines (credit, collections, and public records) and the credit score were the data collected on all credit reports.
[14] In addition to calculating simple error rates by type of tradeline, it would probably be more insightful to control for whether the tradeline contains derogatory information since consumers may be more likely to identify potentially inaccurate derogatory information.

misallocation of capital. This results from impacts of both inaccurate positive and negative scores (and credit standings). Potential changes in loan portfolio performance and capital allocation are beyond the scope of this study and not examined here. It is also reasonable to conclude that a consumer may be harmed if his or her credit score is too high as a result of tradeline errors. He or she could have access to too much credit and become overextended.

This study was not designed to accurately capture the impact of credit report errors that may be elevating a consumer's credit standing, although evidence of such errors was found in this report as some participant disputes resulted in decreases in credit scores. Participants in such a scenario would be unlikely to dispute errors that they felt were raising their credit score. In fact some participants in this study indicated on the survey that that they had not disputed items that they believed were helping their credit standing. A better way to gauge whether credit report errors affect consumer scores *symmetrically* may be approaches that do not affect the consumers' real credit reports or ones that do not include consumers, although these approaches, as discussed later, are not optimal for estimating other credit report accuracy rates and impacts of credit report errors. This is illustrative of the trade-offs inherent in designing a research program in the social sciences.

In what follows, we review the strengths and weaknesses of earlier studies, as these inform the methodology developed and applied in this study. We then detail the approach and findings of this study in sections 3 and 4.

2. Literature Review

Inaccurate credit report data and its ill effects on consumers have long been a concern for regulators, consumers, and the industry. Since the early 1990s, researchers have studied the quality of data being used in credit decisions, and the consequences of inaccurate data to consumers.[15] PERC is adding to this research by building on the best qualities of those earlier studies and by identifying their methodological strengths and weaknesses in order to improve the approach to assessing the quality of credit report data maintained in the databases of nationwide consumer reporting agencies, and the impacts upon consumers of inaccuracies.

Although the serious and consequential methodological differences and weaknesses in earlier generation research render them incomparable with PERC's findings, this is not to suggest that previous research should be entirely dismissed. Indeed, PERC used elements of previous studies—for instance, participants reviewing their credit reports from the nationwide CRAs—to design a more rigorous approach.

In reviewing earlier studies, three basic methodologies emerged in one or a combination of the following:

- **Examination of nationwide CRA and data furnisher records that exclude consumer participation;**
- **Examination of credit reports for the same consumers across the three nationwide CRAs to identify inconsistencies in data provided by each; and,**
- **Consumer surveys that allow consumers to review their own records and determine errors but not necessarily verify those self-reported errors.**

[15] It is noteworthy that the systemic impact of errors is less discussed than the direct impact upon a data subject. Arguably, the contraction of credit from rationing, the higher prevailing price of credit, and the suboptimal allocation of capital that would occur as a result of significant consumer credit report errors are of paramount importance yet are scarcely discussed in policy debates on this issue.

Each method has both positive and negative attributes, suggesting that a hybrid or combination of existing methodologies may allow for the level of analysis that is needed to better understand the extent of data errors in consumer credit reports and their consequences.

Excluding Consumer Participation

Dr. Robert Avery and colleagues at the Federal Reserve Board (FRB) conducted two studies (2003 and 2004) on consumer credit report data accuracy using data collected by the FRB from one of the three national credit reporting agencies.[16] These FRB studies did not involve consumers in determining possible rates of error. Instead, they used a random sample of 301,000 individuals' credit reports to identify the consequences to consumers of credit report data errors.[17] This study involved approximating a proprietary generic credit-risk model. The approximation was used to evaluate the effect of modified, updated, and reported information on credit scores of those consumers whose credit reports had contained possible errors, stale data, and unreported data and tradelines. The authors point out that many of the possible data problems (such as tradelines not being reported to all nationwide CRAs or credit limits or positive information not being reported) are not errors per se. The authors estimated the population affected by each potential data problem. For consumers who were affected, the authors estimated how many consumers would see either an increase or decrease in their credit scores, and the degree of increase or decrease when the tradeline(s) was modified. The key findings included:[18]

- **The proportion of individuals affected by any single type of data problem was small, with the exception of missing credit limits (which is not an error and is a data element that is now reported by all large lenders).[19]**
- **In most cases, the effect of each category of data problem on credit scores was modest because:**
  - **Most individuals have a large number of credit tradelines and problems in any given tradeline have a relatively small effect on overall credit profiles; and**
  - **Credit modelers recognize many data problems when developing risk assessment models and construct weights and factors accordingly.**
- **Data problems with collections tradelines were much more likely to have significant effects on credit scores.**
- **Individuals with thin files or low credit scores were more likely to experience significant effects when their credit reports contain data problems, though thin files have a lower incidence of data quality problems.[20]**

While the focus of the FRB research was on a broader range of data shortcomings, not just errors, it begs the critical questions of the frequency of data errors in consumer credit reports and their resultant consequences, based on *consumer* identification of possible errors, and subsequent disputes lodged by consumers with nationwide CRAs.

[16] Robert Avery et al., "Credit Report Accuracy and Access to Credit," *Federal Reserve Bulletin* (Summer 2004). Robert B. Avery, Raphael W. Bostic, Paul S. Calem, and Glenn B. Canner (2003), "An Overview of Consumer Data and Credit Reporting," Federal Reserve Bulletin, vol. 89 (February)

[17] Avery et al., "Credit Reporting Accuracy and Access to Credit," *Federal Reserve Bulletin* (Summer 2004).

[18] Ibid., p. 321.

[19] This is no longer the case as lenders have moved toward reporting credit limits. For instance, Avery et al. note that credit-limit information omissions declined greatly between 1999 and 2003, from affecting 70 percent of consumers to 46 percent. Since 2003, the final large lender to not report credit limits has begun reporting credit limits. Moreover, the "Furnisher Rules" under the FACT Act now require furnishers to report credit limit "if applicable and in the furnisher's possession."

[20] Contrary to Avery et al., we find that those with lower credit scores have smaller increases in credit scores following modifications after disputes.

Comparisons across the Three Major Nationwide CRAs

A 2002 study by the Consumer Federation of America (CFA) and the National Credit Reporting Association (NCRA) [21] used an alternative approach to that used in the FRB study—but one that also excluded direct consumer participation. In the CFA/NCRA study, a third party examined an individual's credit reports from each of the three nationwide CRAs and noted all discrepancies in information among the three credit reports.[22] However, inconsistencies across nationwide CRAs cannot necessarily be classified as data errors, as a data furnisher voluntarily provides information to the nationwide CRAs. Under the FCRA, any data furnisher may elect to report to one, two, three, or none of the nationwide CRAs. Therefore, such omissions are not errors and should not be considered as errors. Inconsistencies may also arise because tradeline information is updated at different times for each of the credit reports or if the credit reports are pulled at different times. Differences due to timing should obviously not be considered errors as long as the data was accurate at the time it was reported.

Conversely, consistency across the three major nationwide CRAs should not necessarily be taken to mean the data are accurate. It may be that a data furnisher is incorrectly reporting the same data to all three nationwide CRAs. Also, if one credit report contains an inconsistency, then it is unknown whether this is the result of possibly one or two errors. Such cross-report comparisons may not satisfactorily assess the degree to which unverified errors are impactful, as credit reports (and thus credit scores) may vary and be inconsistent for reasons other than errors.

Including Consumer Participation

There are specific advantages to involving consumers in determining the accuracy of their credit reports, as they are well equipped to recognize likely errors and have the most incentive to report errors in the form of improved scores. However, consumer contentions of errors cannot stand alone as conclusive, as allowing a consumer to determine errors without further verification may lead to mistaken identification of errors and unwarranted modifications of tradelines. These mistaken identifications of errors include not understanding personal credit obligations,[23] viewing tradeline omissions as an error,[24] intentional or unintentional biases, and confusion.[25] Without this check, the results could be greatly misstated.

It should also be noted that even when a disputed item is modified, one cannot conclude whether or not there was an actual error but can only state definitively that data has been modified in response to the dispute. Some data furnishers, for example, will default to automatically changing the data in accordance with the consumer's request. Nonetheless, engaging consumers

[21] Consumer Federation of America and National Credit Reporting Association, "Credit Score Accuracy and Implications for Consumers." (Washington, DC: Consumer Federation of America: Dec. 17, 2002), available at: www.consumerfed.org/.../121702CFA_NCRA_Credit_Score_Report_Final.pdf. Accessed on October 25, 2010.

[22] "Summary of FTC Roundtable on Accuracy and Completeness of Credit Reports" (Washington, DC: FTC Bureau of Economics, Consumer Federation of America, June 30, 2004, A-9, 10).

[23] This may include changes in life situation (death of spouse, divorce, separation) and/or loss of employment, among others factors, where the consumer does not understand his/her maintained credit responsibilities.

[24] Reporting of information to each nationwide CRA is voluntary and, therefore, differences can exist between nationwide CRAs. This is not an error, but a reflection of voluntary reporting. See Section 603(p)(2) of the FCRA, which authorizes nationwide CRAs to collect credit account information and section 623 of the FCRA, which details the responsibility of data furnishers to nationwide CRAs, at www.ftc.gov/os/statutes/031224fcra.pdf.

[25] For example, credit reports are not necessarily intuitive, and consumers may fail to recognize tradelines that do not belong to them, tradelines that do indeed belong to them, or specific coding information that details account activity.

and following up in the dispute verification process is the best available method for identifying likely errors. For these reasons, using a consumer-centric approach developed for their pilot studies, the FTC relied on the FCRA consumer dispute resolution process as their verification method. The FTC's interim report indicates that the full study will make similar use of the FCRA dispute process.[26]

In addition to the two FTC pilots, a further example of this consumer-centric approach is the U.S. PIRG report (2004).[27] The US PIRG report uses a consumer survey methodology to identify possible errors, but has notable shortcomings. The report fails to determine whether those identified errors have any effect on credit scores, or even determine if they are more than just potential errors. Importantly, the sample size was small and it is unclear whether it was reflective of the adult U.S. population or nationwide CRA population.

When considering the significance of earlier generation examinations of credit report data accuracy, the General Accounting Office (GAO) noted the gravity of these problems in its review:

> **We cannot determine the frequency of errors in credit reports based on the Consumer Federation of America, U.S. PIRG, and Consumers Union studies. Two of the studies did not use a statistically representative methodology because they examined only the credit reports of their employees who verified the accuracy of the information, and it was not clear if the sampling methodology in the third study was statistically projectable.**[28]

In 1992, the CDIA (then the Associated Credit Bureaus, or "ACB") undertook a data accuracy study utilizing a different methodology that focused on nationwide CRA data, lender records, credit decisions and consumer disputes. The study examined 1,223 consumers who had been declined credit and had requested a copy of their credit report. Of these, 304 consumers disputed information found in their credit reports, and thirty-six, or 3 percent, had the original decision to deny credit reversed based on the modified credit reports.

The ACB study is an example of one that utilizes both consumer involvement (though indirectly) and an examination of nationwide CRA and data furnisher data. This study revealed information about a consumer's ability to identify errors in their own credit reports, and how the extant FCRA dispute resolution system can be utilized to verify items disputed by the consumer. It was found that less than 3 percent of the consumers who were declined credit would have achieved a different credit decision if the credit report data had been modified.[29] Albeit somewhat crude, this represents an early attempt to gauge the materiality of inaccurate credit report (tradeline) information.

However, given that pricing systems are more dynamic now than in 1992, and most consumers are not given a simple yes/no lending decision, identifying consumers who only received adverse actions could be a small sample and would not fully capture the potential material impacts of credit report modifications that result from consumer tradeline disputes. In today's credit market, a consumer may receive less favorable terms (higher

[26] FTC, "Report to Congress Under Section 319 of the Fair and Accurate Credit Transactions Act of 2003," prepared by Peter Vander Nat and Paul Rothstein. (Washington, DC: Federal Trade Commission, 2010), available at http://www.ftc.gov/os/2010/12/101230facta-rpt.pdf. Accessed on December 17, 2010.
[27] National Association of State PIRGs, "Mistakes Do Happen: A Look at Errors in Consumer Credit Reports" (Washington, DC: National Association of State PIRGs June 2004), available at: http://cdn.publicinterestnetwork.org/assets/BEevuv19a3KzsATRbZMZlw/MistakesDoHappen2004.pdf. Accessed on: August 18, 2010.
[28] See statement of Richard J. Hillman Director, Financial Markets and Community Investment. *Limited Information Exists on Extent of Credit Report Errors and Their Implications for Consumers* (Washington, DC: General Accounting Office, 2003), available at www.gao.gov/new.items/d031036t.pdf
[29] Consumer Data Industry Association, "Credit Reporting Reliability Study: Executive Summary," (Washington, DC: CDIA, February 4, 1992), available: http://cdia.files.cms-plus.com/PDFs/andersenexecutivesummary.pdf. Accessed on September 19, 2010.

price and/or lower credit limit) rather than be denied credit access. Further, such a methodology would tend to overstate error rates, given that only consumers who face an adverse action would be counted, as opposed to a sample reflective of all consumers. Finally, it is unclear how the results could be extrapolated to the entire nationwide CRA population. For these reasons, the 1992 CDIA study does not fully inform the current understanding of consumer credit report data accuracy.

In 2006, the FTC initiated a pilot study of consumer credit reports, and implemented a generally sound methodological approach.[30] It is worth noting that PERC was one of a handful of organizations consulted by the FTC on the methodology for the pilot. Both of the FTC's two pilot studies asked consumers to review their credit reports and determine if there were any items they wished to dispute. Participants discussed their review of their credit reports with a credit reporting "expert" to determine whether a dispute should be filed. The strengths of this methodology were the direct involvement of consumers in identifying items to be disputed, the education of consumers regarding the dispute process, and the use of the consumer dispute resolution process to substantiate a consumer's claim. Although the FTC's two pilots focused only on credit score changes to measure the effect of a given set of data inaccuracies, the "request for proposal" for their full study and their December 2010 report to Congress suggests that some measure of the materiality of data modifications resulting from the dispute resolution process will be developed for their forthcoming full study.

Because the FTC pilot studies were designed to test the approach rather than measure impacts, the sample sizes are small and not sufficiently reflective of the nationwide CRA population to provide very meaningful comparisons to results presented in this report. However, methodologically, the FTC's approach shows that using a consumer survey method can be improved when the consumers' disputes are vetted through the FCRA dispute resolution process. Unlike the pilots, the FTC's full study will focus on all consumers and will attempt to recruit a sample population that is reflective of the U.S. population with credit reports in the nationwide CRAs. The FTC will use the same vendors for the larger study that had conducted their earlier pilot studies.

Literature Review Summary

Although all three basic research approaches have both positive and negative features, the methodology used by the FTC in their pilots provides the most complete research design prior to this study. Consequently, owing to these strengths, the FTC's pilot studies have a number of similarities with the methodology employed in this study.

[30]This study completed its Pilot 2 phase in 2008. "Pilot Study 2 on Processes for Determining the Accuracy of Credit Bureau Information," performed for the Federal Trade Commission under contract FTC07H7185.

3. Data and Methodology

Given the study's primary objectives, to examine the overall accuracy of credit reports and the overall rate of material impacts from credit file inaccuracies, PERC used a large sample of the adult population reflective of the population with records in the databases of the three nationwide CRAs. In addition, the research:

- **Relied on participants to identify items to be disputed;**
- **Ensured that items that participants disputed were verified;** [31]
- **Gauged the frequency, impact on the credit score, and the material impact of credit report modifications resulting from the dispute resolution process.**

3.1 Study Design

PERC assembled a team of experts to develop and implement a consumer credit report data quality research agenda, including a pilot and a full study.[32] This study was structured to sample a minimum of 1,200 participants in order to obtain meaningful results.

PERC designed a pilot to sample 300 participants to work out potential methodological issues, including recruitment. The FTC pilot discusses challenges in consumer recruitment, and we took these into account.[33] On the basis of these pilot studies, PERC researchers made minor changes to recruitment strategies and methodology in our study. The principal methodology adjustment was use of a single credit report (rather than three) for some participants to better understand the potential impact of "carbon copies" (when other nationwide CRAs are notified of a modification made at another nationwide CRA; see section 3.6 for elaboration). This also enables comparisons between those who examine just one credit report disclosure and those who examine three (one from each of the nationwide CRAs). Importantly, the pilot study identified no major differences in rates of participation between key groups, such as race. That is, a group reflective of the adult US population was invited to participate and ultimately participated. As a result, it was determined that it would not be necessary to either over- or undersample

[31]As mentioned above and as discussed further later in this section (in the Definitions subsection), when an error is verified it is not known whether or not an actual error was identified but only that some data modification had occurred. This can occur for reasons other than an error (see Definitions).
[32] The team assembled for this study includes Synovate, a global market research company, PERC, a non-profit research organization, experts from each of the three nationwide CRAs (Equifax, Experian, and TransUnion).
[33] Federal Trade Commission, *Report to Congress Under Section 319 of the FACT Act*, December 2006. http://www.ftc.gov/reports/FACTACT/FACT_Act_Report_2006.pdf.

certain groups in order to arrive at an appropriate composition of participants. As with PERC's pilot study, the full study itself was very successful in recruiting consumers, resulting in 2,338 participants.[34]

In both the pilot and the full studies, PERC contracted with the global market strategy firm Synovate that recruited and surveyed participants. Synovate carries out consumer studies with federal government agencies (including the FTC and CFPB) and market research for private corporations and is well versed in structuring recruitment of participants.

Synovate solicited the participants from its panel of more than one million consumers. Using a quota sampling method (with random selections from the panel) it created an invitation pool that reflected U.S. Census estimates for five key demographic groups: age; household income; race and ethnicity; marital status; and gender. One of the most important unobserved factors is the credit score on the panelists' credit reports. Unlike demographic information, because credit score is not available information in the panelist' profiles, there was no way to target participants on this attribute. Participants received their credit scores only after panel members agreed to participate. Nonetheless, the distribution of the participants' credit scores aligns closely with the distribution obtained from one of the three participating nationwide CRAs.

Synovate initially identified 11,637 individuals to contact via phone and 45,829 individuals via email. While attrition was estimated to reduce the sample to 1,200, the final number was 2338. Synovate conjectured that the significantly higher response rate was indicative of an engaging topic.

Synovate's online panel is composed of members with regular access to the internet; PERC included a sample of respondents with no regular internet access to include coverage of these adults (on the assumption that those with no regular Internet access may differ from those with regular Internet access). These were the individuals contacted by telephone and they only qualified if they did not have regular Internet access.[35] Table 1 indicates levels of participation from the solicited groups of individuals and indicates the number of participants from each segment who completed the process.

Table 1: Overview of Recruitment

	Total	Online	Phone
Invited to participate	57,466	45,829	11,637
Agreed to participate/ qualified	6,158	5,658	500
Ordered credit report(s)	3,040	2,745	295
Reviewed credit report(s) and answered survey question(s)	2,338	2,161	177

As seen above in Table 1, a much smaller share from the phone sample agreed to participate or were qualified. The reason for the relatively lower response rate among the phone population was that many had access to the Internet and thus did not qualify. Prior to participation, each participant was provided a Guidebook with

[34] Synovate's panel experience dates back to 1949, establishing it as one of the preeminent such operations across the globe. In 1996, Synovate launched its online panel, which has been grown dramatically. It currently includes more than 3 million consumers. In 2009 alone, Synovate conducted more than 7 million Internet interviews. It conducts a wide range of surveys, ranging from very simple to highly complex. The topics of the surveys run a broad range of research including, but not limited to financial services, tech and telecommunications, healthcare and consumer packaged goods. The FTC and CFPB have also used Synovate. Synovate considered this survey to be in line with what their panelists have seen in other Synovate research. The survey was considered of moderate complexity, and comparable to many that they routinely field.

[35] These consumers were from Synovate's mail panel. Synovate invited mail panel members by telephone from a pool with characteristics reflective of the population without Internet access (from US census).

the details of the project objectives and a FAQ sheet.[36] with answers to frequently asked questions (See Appendix 3). These materials were sent to participants and served as educational tools to assist with the credit report review process so they would be better prepared to identify potential errors.

This differs from the FTC's approach, which used coaches to help consumers identify and dispute potential errors in their credit reports. Comparing the results in this study with those of the FTC full study could help determine whether the use of coaches introduces bias into the results or offers any additional benefit from the more real world approach used here—namely providing participants with a Guidebook and FAQ sheet.

Upon agreeing to participate in the study, Synovate provided participants with a unique transaction code that served as their identification number. Each participant then obtained his or her credit report(s) from one or all three of the nationwide CRAs. Each participating consumer was provided with a free credit report(s) (which did not count against their free annual credit reports) and VantageScore credit scores from one or all three nationwide CRAs, as well as a participation incentive from Synovate.

Participants reviewed the credit report(s) and reported any error(s) to Synovate before completing an exit survey. All participants who reported a potential error were instructed to file a dispute with the relevant nationwide CRA(s). All participants reporting a potential error were contacted by Synovate and provided reminders to file their dispute(s). Those that didn't dispute initially were subsequently offered further incentives to do so in order to maximize participation in the consumer dispute process. See Figure 1 for a more complete description of the process.

Additional details regarding the process include:

- **If the participant filed a dispute, the exit survey was delayed until the dispute process was completed so that the consumer could discuss his or her experience with the dispute process;**
- **If participants noted a possible error but did not dispute it, Synovate provided them with further incentives (Synovate points, which can be redeemed for cash at 1,000 points/$1), not disclosed up front, to encourage them to file a dispute. If they still refused, they were surveyed to determine why they did not dispute.**

Once a dispute was filed, each nationwide CRA submitted the dispute through the normal FCRA consumer dispute resolution process, with one important caveat: when the consumer dispute resolution process was completed, each nationwide CRA would score the credit report of the consumer prior to making the modifications resulting from the dispute process. The nationwide CRA then applied the results of the dispute to the credit report and scored the credit report again. This provides the study with a real-time measurement of the impact of the dispute on the participants' credit scores, before the modifications are loaded and afterwards. The exit survey then allowed the team of analysts to determine when a participant had fully completed the study.

Each of the three nationwide CRAs provided a team of consultants to assist with the execution of the study. They informed the PERC research team about details of the potential errors disputed by consumers, how each dispute was processed, the outcome of each dispute, and how each set of disputes ultimately affected a consumer's credit score. The information provided by these consultants on the filing of disputes and the dispute

[36] Comparisons between the results of this research and the two FTC pilots to date would not be meaningful as those pilots were not aiming to produce data accuracy results and did not have large samples relective of the CRA population. Beyond the direct impact of coaches, the use of coaches may make participation in the study more of a commitment and could affect recruitment or require greater incentives. Fewer consumers may want to participate in a study in which they open up their financial history to others in a direct dialogue. Whether such a perceived commitment and requirements to participate may affect sample selection in unobservable ways is unknown. As more data quality studies are carried out with varying methodologies, we can begin to assess the impact of these important methodological differences.

resolution process was used to develop the questions and answers for the FAQ sheet and provided much of the information for the Guidebook distributed to all participants. Other than the tracking of study participants and the recording of their disputes and dispute outcomes, the participants were treated in exactly the same manner as other non-participating disputing consumers.[37] Figure 1 below provides a visual overview of consumer involvement and the dispute process.

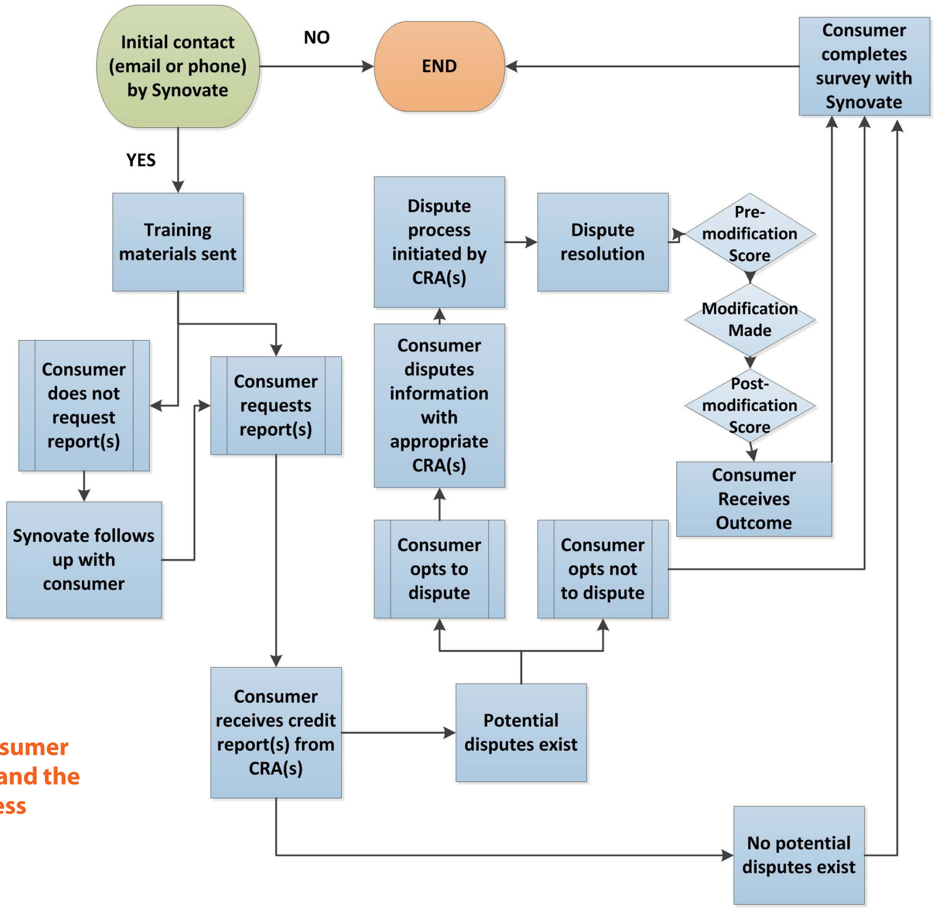


Figure 1: Consumer Involvement and the Dispute Process

[37] For purposes of participant identification and tracking, one of the three nationwide CRAs used a separate phone number for disputing study participants. There is no indication that this affected the results in any way as there were no observed differences suggesting the results from this nationwide CRA were meaningfully different from the others. For instance, in the sample there was no statistically significant difference between either the potential dispute rates among the three nationwide CRAs subgroups or the rate of credit score changes greater than 20 or 25 points (at a 90 percent confidence level). On both measures, this nationwide CRA rate fell between the other two.

Although Figure 1 shows that participants received the guidebook at the beginning of the process, in reality, the participants had access to this throughout the process via web links provided by Synovate. PERC tracked the study participants and received weekly reports from the nationwide CRAs. In addition, Synovate provided PERC with socio-demographic information for each transaction code. No personal identifying information was exchanged among PERC, Synovate, and the three participating nationwide CRAs. Instead, the anonymized information was exchanged and matched using random transaction codes provided by Synovate to the participants. The final results and data are aggregated at the industry level and not broken out by CRA. Such measures are routinely used in analysis within competitive industries.

PERC analyzed the collected data to measure the number of disputes, the number of modifications of disputed items and the impact of these modifications on credit scores among the study participants. PERC also used the socio-demographic information on the participants to determine the extent to which they reflected the United States adult population and the population of data subjects maintained in the credit report databases of the nationwide CRAs.[38]

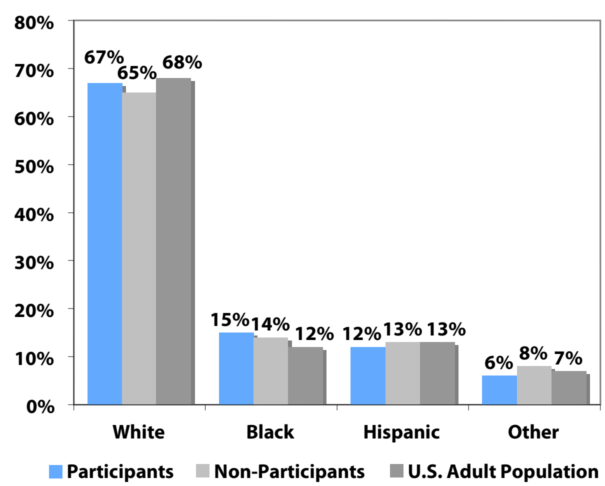
3.2 Socio-demographic Characteristics of the Participants

Figures 2 through 6 below compare demographic information of the 2,338 survey participants, the non-participants (for which data were available), the adult population of the United States, and when relevant the population of data subjects in the nationwide CRAs' credit report databases.[39] Because the focus of this study is upon the accuracy of the credit report databases of the nationwide CRAs, and further because there are important differences among the population characteristics of the general U.S. population and the population in the credit report databases of the nationwide CRAs, comparisons of the study sample to both broader populations were necessary.

Using both Census Bureau and nationwide CRA credit report database sources, PERC is able to demonstrate the success of its efforts to include diverse demographic groups in its study sample.

Participant and non-participant demographic information came from Synovate's database and directly from the survey of participants. Not all socio-demographic information was available on non-participants. As such, the following figures show the distributions of the socio-demographic information that was available for the non-participants. Since the vast majority of non-participants did not request credit disclosures, the credit score distribution for non-participants is unavailable. Given that no significant participation biases by socio-demographic characteristics were found in the pilot study, PERC used the same sampling methodology for the full study.

Figure 2: Participants & Non-participants by Race and Ethnicity (Self-Identified)[40]



[38] While representatives from each of the three nationwide consumer reporting agencies were consulted for subject matter expertise, the study design and the interpretation of results are exclusively the work product of PERC.
[39] See Census Board estimates for July 1, 2008. Available at http://www.census.gov/popest/national/asrh/.
[40] White refers to non-Hispanic White and Black refers to non-Hispanic Black

As Figure 2 shows, the black population was slightly oversampled, and the white population was slightly undersampled (their shares are higher than the U.S. adult population). Overall, the sample is reflective of the adult U.S. population with regard to race and ethnicity and there appears to be no participation bias.

Figure 3 below shows that the study sample closely tracks each age group in the general U.S. population except younger Americans. Advisors from each of the three nationwide CRAs have suggested that the the youngest age group (18-24) is underrepresented in their databases.[41] In *Give Credit Where Credit is Due*, PERC found the 18-25-year-old segment accounts for 2.6 percent of the nationwide CRA population (sample of 3.98 million).[42] At this age, many younger consumers likely continue to use their parents' credit lines until they obtain their first full-time job. A comparison between the study's sample and one of the nationwide CRA's database is shown in Figure 4 (although the nationwide CRA provided slightly different age ranges than in Figure 3).

Figure 3: Participants and Non-participants by Age

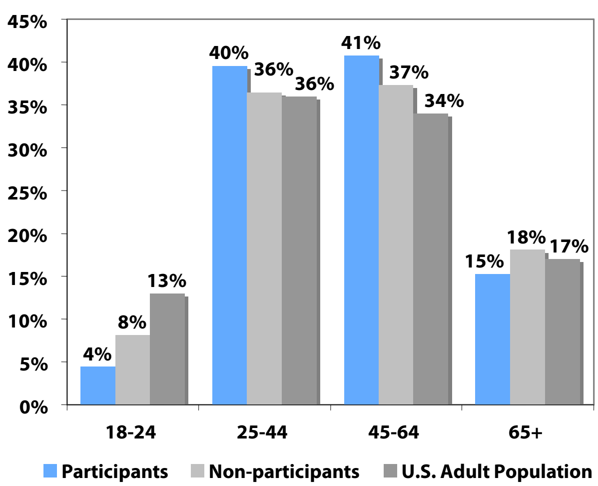
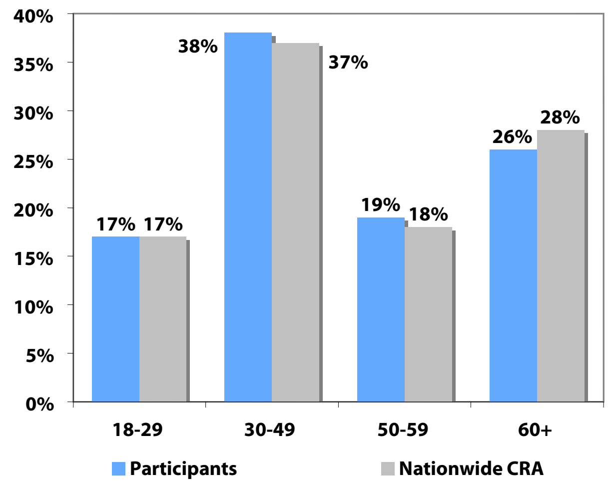


Figure 4: Participants and a Nationwide CRA's Population by Age



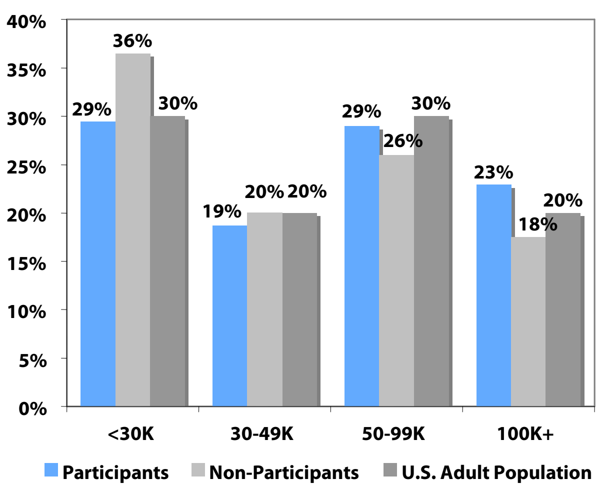
As Figure 4 above illustrates, the PERC sample accurately mirrors the composition of the credit report population maintained in the databases of the nationwide CRAs, both of which are somewhat under representative of the youngest US adult age group. Given that the focus of this report is on credit report data accuracy, whenever relevant—as is the case with discrepancies between the general U.S. population and the CRA credit report database data subject population—PERC strongly prefers a study sample with characteristics that are closely aligned with the credit report database population's characteristics.

As shown in Figure 5 on the next page, the PERC sample again mirrors the household income distribution found in the United States overall. In this case, while there are no significant differences between the household income profile of the participants and the U.S. population as a whole, it is interesting that there is

[41] This may be because the age group, by definition, is new to credit as well as public policy decisions to reduce credit card offers/marketing to the young.
[42] Michael Turner et al., *Give Credit Where Credit is Due* (Washington, DC: Brookings Institution, December 2006).

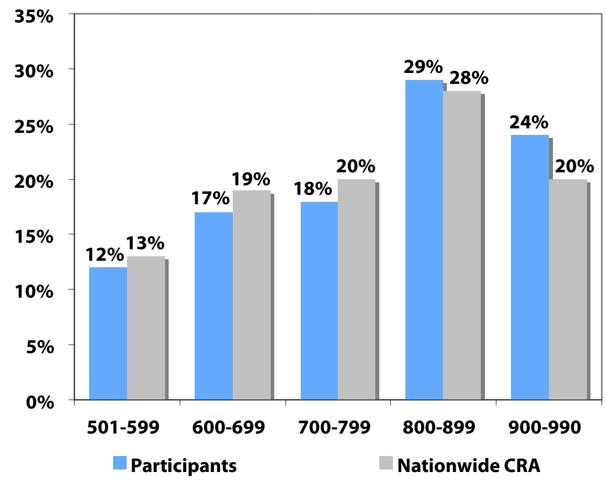
a relatively higher rate of non-participation among those in the lowest income tier. As non-participants weren't surveyed for the reasons they chose not to participate, and given the close alignment between the participation rate for the lowest income tier and the U.S. general population, PERC is not alarmed by the elevated non-participation rate among those in the lowest income tier.

Figure 5: Participants and Non-participants by Income



The PERC sample is also highly reflective of the overall score distributions in at least one of the nationwide CRA credit report databases, and likely all three, even though we did not sample participants on the basis of credit scores. Figure 6 compares the credit score distribution of the 2,338 participants to a July 2010 distribution of VantageScore credit scores from a random sample of approximately one million credit reports from a participating nationwide CRA's database.

Figure 6: Participants by Credit Score (VantageScore)



As can be seen in Figure 6 above, the PERC sample modestly over samples the top score band (900-990) by about 18 percent and under samples the 600-699 score band by about 11 percent. Each of the remaining bands is under or over-sampled by less than 10 percent. As with the socio-demographic characteristics of the sample, the distribution of credit scores appears to be reasonably reflective. Such differences as exist are not troubling as they appear to be minor and are likely attributable to the relatively small size of each sub-population (the different score tiers).

That the PERC study sample is highly reflective of both the U.S. general adult population and the population contained in the credit report databases of the nationwide CRAs was neither due to chance nor an extraordinary accomplishment. Synovate has a great deal of experience in producing samples to specification, the earlier PERC pilot study indicated no major differences in participation rates across key socio-demographic groups of interest, and invitations targeted a pool reflective of the adult US and adult credit populations along several key dimensions.[43] The FTC's 2010 interim

[43]Although no major participation differences were noted across groups in this study, it should not be inferred that this would be true when recruiting participants either through different channels or for a project that interacts with consumers differently. An initial test of recruitment is prudent.

report to Congress that outlines plans for the FTC's full national study on accuracy of credit reports suggests that a good deal of emphasis is being placed on obtaining a sample that reflects the makeup of the nationwide CRA databases.[44]

3.3 Synovate Panels, Incentive to Participate, Selection Issues, and Participant Motivations

Synovate Panels

The Synovate Global Opinion Panels had 1.7 million active members in 2008.[45] In addition to industry, researchers, including those at the Federal Trade Commission, use Synovate panels. Synovate uses quality-control techniques to delete duplicate panel members, remove "cheats," "satisfiers," those who do not participate, and those who provide fraudulent responses from the panels. Synovate describes the way it recruits its panel members as follows:

> **To reduce the presence of 'professional respondents', Synovate prohibits recruitment of panelists through websites that promote or advocate completing online surveys solely for rewards. Synovate panel recruiting advertisements (banners, email, targeted ads) stress the importance of sharing opinions and survey behavior rather than a monetary reward. When registering for the panel, respondents must accept membership terms and conditions that include protection of confidentiality, the need for accurate and engaged responses, and the automatic revocation of membership due to fraud. Panelists are recruited on a continuous basis.[46]**

Although the attrition rate varies for the different Synovate panels, it is generally between 30 percent and 50 percent per year. Synovate controls for overuse of panelists by limiting the number of survey invitations and contacts within a weekly period. On average, Synovate panelists complete 12 to 14 surveys annually.

As mentioned previously, the PERC data quality study survey was considered of moderate complexity, and comparable to many that Synovate routinely fields. The higher-than-expected rate of participation in the PERC survey, relative to other Synovate surveys, indicated substantial interest in the topic of consumer credit reports among members of the Synovate panel. This is unsurprising given the increasing importance of credit reports and credit scores in consumers' lives.

Selection Issues, Incentive to Participate and Participant Motivations

Since this study uses a sample that is not randomly selected from the entire population of concern, consumers with credit reports, it may be the case that unobserved characteristics of members of Synovate panels and the sample used in this study differ from those in the entire population.

That being said, we are not aware of why an individual would be any more or less typical or unusual in ways that would impact the results of this study for answering an unsolicited invitation to participate in a study versus agreeing to be a member of a panel, and then participating in a survey as part of the panel.

[44] FTC, "Report to Congress Under Section 319 of the Fair and Accurate Credit Transactions Act of 2003," prepared by Peter Vander Nat and Paul Rothstein. (Washington, DC: Federal Trade Commission, 2010), available at http://www.ftc.gov/os/2010/12/101230facta-rpt.pdf. Accessed on December 17, 2010. See also http://www.ftc.gov/os/2011/01/1101factareport.pdf

[45] In addition to the participants from the Synovate's online panel, 177 of the participants came from Synovate's mail panel. Synovate invited mail panel members by telephone from a pool with characteristics reflective of the population without internet access (from US census).

[46] Synovate, *Response to the ESOMAR 26 Online Panel Questions* (New York, NY: Synovate, October 10, 2008).

A major challenge facing any effort to recruit participants to review their credit reports is that it requires a good deal of effort for the participants. From the FTC's pilots and PERC's study we see that fewer than five percent of those invited actually fully participated. This suggests that self-selection issues may present themselves in any study that asks consumers to review credit reports and dispute information. For instance, even if a random sample was created from which invitations are sent out, those who actually participate may not be representative of the population in either observable or unobservable ways. Of most concern would be if the sample differed markedly from the general population in unobservable ways (that could not be accounted for) that would impact the results.

It seems reasonable to conclude that individuals who suspect data errors in their credit reports, or who have had past problems and recurring problems with information in their credit reports would be more likely to participate than those lacking such suspicions and experiences. Yet how such suspicions or past problems correlate with a willingness to participate or the actual occurrence and severity of errors is unknown.

Not so long ago, asking consumers to participate in a survey in which they would review their credit report and receive credit scores might have produced a sample disproportionately made up of those who were either very financially savvy or who had recent or current dealings with their credit reports (such as those going through a mortgage loan application process). In the last few years, however, the media has widely covered the virtue of reviewing credit reports and credit scores. Prominent personal finance advisors such as Suze Orman and Clark Howard have also advocated that consumers review their credit reports and learn about credit scores. Nationwide CRAs have also invested heavily in television commercials with catch jingles exhorting consumers to regularly monitor their credit reports and scores, and have sustained multi-media campaigns to that effect.

Given recent increased public visibility of credit reports and scores, there is likely now a sizable share of the population who would be interested in participating in such a study at no cost. It also seems reasonable that those interested in receiving their credit report(s) and score(s) would also be motivated to review them whether or not they participated in this study. That is, those electing to participate in this study are likely those most interested in their credit reports and credit scores. In addition, the material sent to the participants emphasized not only the requirements of the study—that they identify and dispute all potential errors in their credit reports—but also that their own credit standing was directly affected by the accuracy of their credit reports.

A less compelling driver of participation would appear to be financial. While Synovate does offer points to motivate participation, the actual dollar value is modest. For instance, the typical participant would have received 600 Synovate points, or 60 cents, for participation. And an additional incentive of 5000 points (or $5) was given as an incentive for participants to dispute perceived inaccuracies found if they had not when they were surveyed about that. As such, it is unlikely that participants were motivated to fill out the survey with incorrect responses in order receive the points. If participants did not have the time or were unable to review their credit reports, they could inform Synovate of that fact (23 percent of those who ordered credit reports did not review any of them).

It appears, then, that the main drivers of participation were the desires to share information regarding the accuracy of their credit reports and the consumer's own interest in ensuring that their credit reports did not contain errors that could harm their credit standing. Given this, it would seem reasonable to assume that the participants would be most motivated to identify and dispute errors that they believed lower their credit score. For instance, a participant would very likely pursue an incorrect bankruptcy or severe delinquency indicator.

This motivation suggests that we can place a good deal of confidence in the rates of moderate and major positive score changes resulting from modifications arising from the dispute process, given that participants are very unlikely to leave a severe derogatory uncontested if they thought it was inaccurate.

3.4 Definitions: Potential Disputes, Disputes, Dispute Outcomes and Material Impacts

3.4.1 Potential Disputes as Measure of Credit Report Data Accuracy

Because the research design directly involves consumers, the natural point of departure for any discussion of credit report data accuracy, and its corollary a data inaccuracy or error rate, is the consumer's own view. In this report, the number of credit reports containing one or more potential errors as reported by survey participants (consumers) is referred to as the "*potential dispute rate*." At least one earlier study on credit report data accuracy referred to this metric as a potential error rate. Using this label is imprecise and misleading. Technically, all pieces of information in a credit report are potential errors. But not all potential errors can impact a consumer's credit score. Further, information in a credit report that a consumer classifies as errant but subsequently fails to dispute suggests that something may have subsequently affected their decision-making process (e.g. their memory may have been jogged about an account for which they co-signed). For this reason, this report labels information in a consumer credit report that has been identified by a survey participant (consumer) as inaccurate and that are candidates for a consumer dispute as potential disputes. This should be understood as a proxy for potential errors.

The potential dispute rate should be viewed as the broadest, most inclusive, and least meaningful definition. First, these potential disputes are not actual disputes; that is, for whatever reason a consumer may determine not to dispute some potential disputes. This suggests, at least, that a portion of the potential disputes that are not actually disputed may no longer be considered as inaccurate by the consumer. Second, many potential disputes may not be credit related (such as identifying information that does not impact credit scores). In fact, a large share of identified "errors" have nothing to do with credit or payment data, but rather relate to "credit header" or personal identifying information—such as a misspelled former employer.

When considering consumer credit report data accuracy, a primary consideration must be the prevention of undue consumer harm resulting from inaccurate information. Thus, an error rate that fails to distinguish between potentially consequential and inconsequential data inaccuracies likely overstates possible consumer harm and misinforms policy as a result. For these reasons, this study bifurcates the potential dispute rate into "*potential header disputes*" and "*potential tradeline disputes*."

The *potential header dispute rate* includes credit reports with only header information that a consumer believes could be inaccurate and are candidates for dispute by the consumer. By contrast, the *potential tradeline dispute rate* refers to those potential errors that do concern credit and payment data and that are also candidates for dispute by the consumer. As the term suggests, these errors relate to tradelines or credit, public record or collection accounts. Modifications of these that may result from the dispute resolution process could affect a consumer's ability to qualify for credit and the terms of credit offered.

3.4.2 Disputes as Measure of Credit Report Data Accuracy

A narrower measure of consumer credit report data accuracy involves a subset of credit reports containing one or more pieces of information identified by a consumer as potentially inaccurate and that a consumer disputes with the CRA through the FCRA dispute resolution process. This measure is referred to as the "*dispute rate*." As with the potential dispute rate, it is further divided into the "*header dispute rate*" and the "*tradeline dispute rate*." When considering the different metrics presented in this report, the dispute rate is the closest proxy measure for the potential credit report error rate as it reflects those potentially inaccurate pieces of information—as identified by the consumer—about which a consumer cared about enough to mobilize them to take action. In this case, that action involved entering into the FCRA consumer dispute resolution process.

3.4.3 Dispute Outcomes: Modifications as Measure of Credit Report Accuracy

Credit reports with disputed pieces of information (header and tradeline) that cannot be verified by a nationwide CRA as being accurate, and that are consequently modified in some manner, collectively comprise the "*modification rate*." Compared to the varying dispute rates defined above, this narrower measure is a relatively more accurate reflection of the actual error rate in nationwide CRA consumer credit databases. It comprises verified disputes that result in a modification of the credit report's header or tradeline data.

Because a modification is not necessarily an error per se, the study uses the term "modification rate." It may be that as data furnishers are verifying information disputed by consumers, they simply update the entire tradeline, whether or not an actual error was identified. Second, some data furnishers may take the word of the consumer in some or all cases. Given that PERC cannot precisely separate verified credit report errors from information that while accurate was nonetheless modified by a data furnisher as a matter of protocol, it is more accurate to say that a modification occurred as a result of the dispute process, whether or not an actual error was identified.

As with the potential and actual dispute rates, this study also identifies the "*header modification rate*" and the "*tradeline modification rate*." These two measures count the number of credit reports with disputed header and tradeline items respectively that were modified as a result of the consumer dispute resolution process. As only tradeline modifications can affect a consumer's credit score, this division of modifications by type of dispute (tradeline vs. header) is meaningful in the context of public policy. This rate is of interest as changes in tradeline information resulting from the dispute and reverification process commonly leads to changes in credit scores (both score increases and decreases) and thereby may affect a consumer's access to credit and/or the terms of credit they receive.

The narrowest, but perhaps the most meaningful, measure of credit report data accuracy is one that links tradeline modifications to possible material consequences, which in this study is called the "*material impact rate*." This measures the change in score from a credit report modification and whether the changed score would have shifted a consumer onto a higher pricing tier—from subprime to nonprime, for example. If it would have, it is considered to be a material change. As above, material change may not be the result of actual errors, but instead the result of modifications resulting from the consumer-initiated dispute process, whether or not an actual error was identified.

It is also worth noting that deriving the material impact rate involves two separate but related steps. The first step involves assessing the impact of a tradeline modification upon a consumer's credit score. In earlier generation studies on credit report data accuracy, this step is the most common metric used to represent the impacts of credit report inaccuracies. Stopping the analysis of impacts at this point is a serious limitation. First, it relies on the logic that greater score changes must have a greater (read more harmful) impact on a consumer. While the reasoning is not entirely flawed—the probability of a 100 point change having consumer consequences seems higher than the probability of a one point change having consequences—it is misleading. The impact of a score change critically depends upon where the score is on a continuum of credit scores and the type of transaction that is using credit report information.

In credit granting, lenders use an array of scorecards that bin consumers in tranches of risk (e.g. subprime, nonprime, near-prime, prime, super-prime). Each individual tranche may embody a relatively broad or narrow range of credit scores. Thus, a consumer with a score in the middle of a broad tranche may have a large score change from a modification—even a hundred points—but may still be located within the same credit score risk tier. In such a scenario, the consumer would not be materially impacted by a tradeline modification. By contrast, a consumer who is extremely low risk and on the proverbial cut-off between two tranches may experience a material impact from a single point change resulting from a tradeline modification. Consequently, it is inaccurate and misleading to suggest that credit score changes alone are meaningful metrics of the impacts of credit report data inaccuracies (measured using modifications as a proxy) upon consumers. Because this measure assesses only credit score impacts, it is not a measure of material impacts but is instead a necessary input into a measure of material impact.

Second, truly measuring material impacts requires an understanding of a consumer's context. For instance, the type of loan (or other FCRA permissible purpose) for which the consumer is applying while inaccurate information populates his/her credit report matters significantly. For large dollar loans, such as a home mortgage loan, the underwriting process is typically more manual and relies heavily upon non-credit report information such as debt-to-income and loan-to-value ratios. One can well imagine scenarios in which a credit score has been negatively impacted owing to inaccurate tradeline information, but for which there are offsetting circumstances—such as a sizeable down payment or a low debt-to-income ratio. Raising this point should in no way be interpreted to diminish the very real consumer impacts that result from inaccurate tradeline data in consumer credit reports. It does illustrate, however, the difficulty associated with presenting unequivocal error and impact rates.

Given this measurement constraint, consumer impacts from tradeline modifications can only meaningfully be gauged when the credit score changes are translated into upward (and downward) credit score risk tier migration. Such a measure gives a sense of the scope of the population who could potentially be impacted by tradeline inaccuracies.

This report uses eleven distinct measures—nine that gauge the accuracy of information contained in the consumer credit report databases of nationwide CRAs, and two that demonstrate impacts from modifications to consumer credit reports resulting from consumer disputes. As this may seem to be a daunting number of metrics, it may help to think about the nine data accuracy metrics in three groups of three metrics. With regard to data accuracy, there are three metrics for potential disputes, three for actual disputes, and three for modifications or dispute outcomes. The second group of metrics, of which there are two (tradeline modification impact on credit scores, and material impact rate), measures the impacts of tradeline modifications. These last two metrics reflect not the accuracy of consumer credit reports, but rather the likely consequences from credit report inaccuracies, albeit through proxy measures.

To summarize, the ten different measures of consumer credit report data accuracy and the impacts of inaccuracies examined in this report are:

- **potential dispute rate**—the broadest measure, includes all credit reports with one or more pieces of information that a consumer believes could be inaccurate and are candidates for dispute by the consumer, in header and/or tradeline information;
- **potential header dispute rate**—includes credit reports with only header information that a consumer believes could be inaccurate and are candidates for dispute by the consumer;
- **potential tradeline dispute rate** —includes all credit reports with one or more pieces of tradeline information (even if it also contains header items for dispute) that a consumer believes could be inaccurate and are candidates for dispute by the consumer;
- **dispute rate** —comprises all credit reports with one or more pieces of information that a consumer disputes through the FCRA dispute resolution process;
- **header dispute rate** —comprises all credit reports with one or more pieces of only header information that a consumer disputes through the FCRA dispute resolution process;
- **tradeline dispute rate** —comprises all credit reports with one or more pieces of tradeline information (even if it also contains header items for dispute) that a consumer disputes through the FCRA dispute resolution process;
- **modification rate**—a narrower measure that counts only those disputed header or tradeline items that are modified by a nationwide CRA as part of the FCRA dispute resolution process;
- **header modification rate**—consists of only those cedit reports with only header items disputed and modified by a nationwide CRA as part of the FCRA dispute resolution process;
- **tradeline modification rate**—a very narrow measure that counts only those credit reports with disputed tradeline items (even if it also contains header items for dispute) that are modified by a nationwide CRA as part of the FCRA dispute resolution process, and thus are likely to impact credit scores;
- tradeline modification impact on credit scores—various score impacts, such as 20+, 25+ or 50+ point score increases resulting from modifications;
- **material impact rate**—the narrowest measure that focuses only on those modification that can be linked to potentially material consequences in the form of shift of a credit score into a higher pricing tier.

3.5 Pilot Study, Full Study, and the Dispute Process

The PERC pilot study to test aspects of the study's overall methodology was conducted from April 2 to June 30, 2009. PERC's full study was conducted from February 1, through May 31, 2010. Besides a much larger sample size in the full study, the other principal difference was that some participants in the full study were asked to review just one credit report. In the pilot, participants were asked to request and review credit reports from all three nationwide CRAs. Table 2 outlines these differences.

Table 2: Overview of Pilot and Full Study

	No. of Participants	No. of Credit Reports Reviewed
Pilot study	395	1,104
Full study	2,338	3,876
Asked to review one credit report	1,461	1,461
Asked to review three credit reports	877	2,415

Source: Consumer survey, PERC analysis

After consumers had requested and received their credit report(s), they were asked to review their credit report(s) for accuracy. The guidebook provided to each consumer who requested a credit report served as an educational tool for use during the review process. If the consumer found their credit report(s) to be accurate, he or she certified the accuracy through an online survey with Synovate.

If consumers perceived that one or more credit reports contained a potential error, they were instructed to enter a dispute with the appropriate nationwide CRA(s). When participants disputed information, the respective nationwide CRAs collected the necessary dispute information and initiated the reinvestigation process. Once the dispute process was completed, each nationwide CRA scored the credit report prior to making the modifications provided through the dispute process, then applied the results and scored the credit report again. This provides the study with a measurement of the impact of the dispute(s) on the consumers' credit scores, both before and after the modifications to the credit files are made.

This change in score, including the score before the results of the dispute were applied and afterwards, was then sent to PERC with the other necessary details for analysis. This other information included the transaction code, the dispute investigation process that was used (e.g., was the disputed item modified using internal nationwide CRA policy, or by data furnisher policy with nationwide CRA, or data sent for verification), the result of the dispute, and changes in the credit report resulting from the dispute.

In some cases, consumers opted not to dispute identified potential errors in their credit reports. Synovate offered an additional incentive to these consumers to encourage them to complete the dispute process. In the exit survey, each such consumer was asked if they failed to dispute potential errors and to indicate why they did not dispute. In their survey responses, most who did not dispute said the potential error was inconsequential or that reporting the potential error would ultimately lower their credit score.[47]

[47] This raises an interesting point. When considering the consumer consequences of credit report inaccuracies, focus tends to be on potential consumer harms and not harms to other stakeholders, including lenders, insurers, employers, and landlords whose decision-making process could be greatly affected—to their detriment—by inaccurate data. Lenders could both wrongly deny a consumer credit owing to the presence of errant tradeline information, or wrongly extend credit (or extend credit in an amount that exceeds what a consumer can actually afford) based on the presence of inaccurate information or the absence of accurate information, such as occurs when credit repair organizations are used by consumers to remove accurate derogatory tradelines to improve a consumer's credit score.

For consumers who agreed to participate in the study but failed to request their credit reports, Synovate followed up with the consumer every two weeks until either (a), the invitation stage expired, or (b) the consumer requested their credit report(s). Similarly, for consumers who requested their credit report(s) from the nationwide CRA(s) but then did not file disputes or complete an exit survey, Synovate routinely requested that these consumers review their credit report(s) and complete the study. Further, Synovate increased the incentive for these individuals. Such persistent efforts and incentive schemes were designed to ensure maximal consumer participation and follow through in all instances, but especially whenever a participant identified one or more potential errors in their credit report(s).

3.6 Credit Score Impact Estimation

In the PERC pilot study, all participants were asked to review their credit reports from each of the three nationwide CRAs—TransUnion, Experian, and Equifax. One way to measure the credit score impacts arising from tradeline disputes is to calculate a credit score immediately prior to updating a credit report (pre-modification score) and then calculate the score immediately after the modification. The difference in score, then, should be due solely to the updates.

However, one of the benefits of the FCRA dispute process is that when a modification is made at one of the nationwide CRAs or at a data furnisher, a so-called "carbon copy" of the modified information is sent to the other nationwide CRAs. Therefore, if a participant disputed a tradeline with both nationwide CRAs A and B and the issue was resolved at nationwide CRA A first, nationwide CRA B would be automatically notified and the consumer's nationwide CRA B credit report automatically updated. The problem for this study is that this modification from CRA A could already be captured in the pre-modification score in nationwide CRA B, and the impact of this dispute would not be fully and accurately captured for nationwide CRA B. Hence, carbon copies would tend to downwardly bias estimates of credit score impacts from tradeline modifications.

This "carbon copy" issue—first identified during the PERC pilot study—was resolved in the PERC full study in two ways. First, PERC requested that a randomly selected and sizable share of the participants review a single credit report, evenly distributed among the three nationwide CRAs. PERC/Synovate chose which randomly selected nationwide CRA participants were to request their credit report in order to foreclose the possibility that one or more of the nationwide CRAs would be heavily over- or underrepresented.

The score changes for these 1,461 credit reports were calculated from the differences in the pre- and post-modification scores. Because these consumers only disputed potential errors with a single nationwide CRA, there was no possible downward bias from carbon copies. Therefore, the estimates of credit score impacts provided a precise measure of the true impact tradeline modifications had on a consumer's credit score.

[48] Assume, reasonably, that the movement in score between disclosure and pre-dispute resolution that has nothing to do with the disputes is distributed symmetrically with a mean of zero, and call this change e. Call the score change resulting directly from the dispute outcome d. Then, Prob(post-correction score – pre-correction score > 25) = Prob(d > 25). And Prob(disclosure score – pre-correction score >25) = Prob(d + e >25). Therefore, the distribution of d+e is a mean preserving spread of d. So long as the mean and median of d are less than 25, we would typically expect Prob(d + e >25) > Prob(d >25). More simply put, if there are more dispute-score changes less than or equal to 25 points than there are greater than 25 points, then by adding some "noise" to each of these changes, one would expect that more of the changes would hop from less to greater than 25 points than vice versa. There are simply more on one side of 25 than the other.

[49] This comparison used a 95% confidence level, compares differences between subgroups of the sample only, and any such difference may not hold for the entire CRA population.

Interestingly, and somewhat counter-intuitively, those consumers who reviewed three credit reports were no more likely to identify potential errors than those who reviewed one credit report. We will examine the lack of difference in these rates of identification in Section 4.

The second way the carbon copy issue was resolved was as follows. For those participants in the three-disclosure sample who either disputed different tradelines at different nationwide CRAs, only disputed at one nationwide CRA, or did not dispute at all, nothing needed to be done, given that there would be no carbon copy issues. In these cases, the pre- and post-modification scores were used. For those consumers who did dispute the same tradeline at different nationwide CRAs (on which modifications were made), the pre-modification score was used at the first nationwide CRA to resolve the dispute(s). For the second and/or third nationwide CRAs to resolve the disputes, the respective disclosure scores were used. The likely impact of this modification is a slight upward bias in the rates of credit score changes, as additional changes are captured between the time of disclosure and dispute resolution.[48] However, for the purposes of this study, erring on the side of caution, and producing a slight upward bias, was preferable to no modification and a slight downward bias.

The rates of credit score changes following modifications in the one-disclosure subgroup of the sample were statistically identical to those in the three-disclosure subgroup of the sample.[49] On this basis, PERC maintains a high degree of confidence in the results.

4.Results and Analysis

Summary

- **An average of 0.5 percent of reviewed credit reports had modifications resulting in a credit score tier increase—the material impact rate.**
- **Slightly over 1 percent (1.16 percent) of reviewed credit reports had modifications resulting in a score impact of 20+ points.**
- **Fewer than 1 percent (0.41 percent) of reviewed credit reports had modifications resulting in a score impact of 50+ points.**
- **Fewer than 1 percent (0.54 percent) of tradelines examined were disputed.**

4.1 Results from the Consumer Survey: Unverified Errors

Unless otherwise specified, the measures of credit report data accuracy used in this report are presented on a per report basis. The broadest proxy measure for credit report data accuracy in this report is the potential dispute rate.[50] Using this measure, participants identified no potential errors in just under 81 percent of their credit reports (see Table 3). Conversely, participants reported potential errors that could be disputed—the potential dispute rate—in 19.2 percent of credit reports examined.[51]

[50] Another approach to determining the rate of potential disputes (a crude proxy for potential errors) is to divide the total number of consumer survey participants who indicated that they had identified an inaccurate piece of information in one or more of the credit reports by the total number of participants. This per consumer approach is used by the FTC in their second pilot. The limitation of this approach is that it overstates the potential dispute/error rates per credit report. In other words, it identifies all three nationwide CRAs equally for a potential error that may occur in only one nationwide CRA. From a practical standpoint, this means that even if the three nationwide CRAs have the same error rate individually, they would only all have the same rate as the industry if the same consumers had inaccurate credit reports at all three nationwide CRAs. On the other hand, if there were no overlap at all, then the industry rate would be three times the individual nationwide CRA rate. Therefore, if the number of nationwide CRAs in the study increased, so too would the error rate. If a nationwide CRA wanted to set a goal to benchmark its error rates, using the rates per credit report should be used, not (industry wide) rates per consumer.

[51] For those participants who examined all three credit reports, 25 percent identified at least one potential error in at least one of their credit reports. This is the per consumer potential dispute rate, as opposed to the per credit report dispute rate discussed in this report.

Table 3: Percent of Credit Reports Containing Potential Disputes

Number of credit reports reviewed	3,876
Percent of credit reports with no identified potential disputes	80.8
Percent of credit reports with one or more potential disputes	19.2
Percent of credit reports in which participant indicated they had disputed information	12.7
Percent of credit reports in which participants indicated they had not disputed information	6.5
Percent of credit reports with potential disputes that were not disputed but were planned to be disputed	2.8
Percent of credit reports with potential disputes that were not disputed and were not planned to be disputed	3.6

Source: Participant survey, all percentages are in terms of per credit reports reviewed (3,876) by participants. Due to rounding, not all figures add up to the respective total shown.

Two-thirds of participants who identified one or more potential errors indicated they had contacted the nationwide CRA(s) to dispute and/or modify information. Among the remaining one-third, 18.75 percent did not plan to dispute, and 14.6 percent did plan to dispute in the future but did not complete the process within the timeframe for this study.

Methodologically, the group with potential errors that did not dispute must be preserved in the overall sample. These are participants who agreed to be part of the study and received the materials, requested and received credit reports and scores from one or more of the nationwide CRAs, and who completed the exit survey.

PERC adjusted its methodology during the pilot in response to the number of consumers with potential errors who decided not to dispute, and had Synovate query this group as to why they were not disputing potential errors. The most common response was that that the potential errors were too minor to dispute. Greater detail on these participants is provided later in this section.

Almost three-quarters of the credit reports with potential disputes contained just one or two potential disputes (14 percent of the total sample).[52] The frequency of credit reports having "many" potential disputes was low, with around 2 percent of all credit reports reviewed containing five or more potential disputes.

Table 4: Distributions of the Number of Potential Disputes Per Report Examined

Number of Potential Disputes per Credit Report Examined	Entire Sample %	One Credit Report Examined Subsample (%)	Three Credit Reports Examined Subsample (%)
0	81%	79%	82%
1	9	10	8
2	5	5	5
3	3	3	2
4	1	1	1
5+	2	2	2

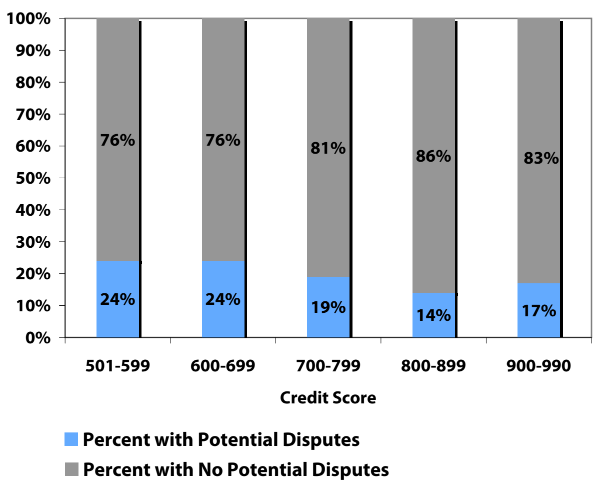
Source: Participant survey, Entire Sample percentages are in terms of per credit reports reviewed by all participants. The remaining columns are in terms of the subset of credit reports that were reviewed by those who either reviewed one credit report or those who reviewed three credit reports. Counts include all potential disputes (from a misspelling of an employer's name to an erroneous late payment). Counts are somewhat subjective, one participant may count two incorrect late payments on a single tradeline as one potential dispute while another may count this as two potential disputes. Due to rounding, not all figures add up to the respective total shown.

Table 4 reports the distribution of potential disputes for those who examined only one credit report and for those who examined three. As noted, rates of credit score impacts from tradeline modifications are based on results for both those that examined only one credit report and those that examined three. For this reason, it is important to verify that those who examine only one credit report are not less likely to identify potential

[52] The almost three-quarters figure comes from dividing 14 percent (those credit reports with only one or two potential disputes) by 19.2%, (all of the credit reports with potential disputes).

disputes, and in fact the results indicate that those who examined just one credit report identified slightly more potential disputes than those who examined three.[53] This demonstrates that there is not a large or practical difference in the number of potential disputes identified between those who examined one credit report and those who examined three. And, importantly, those who examined three credit reports do not identify more potential disputes.

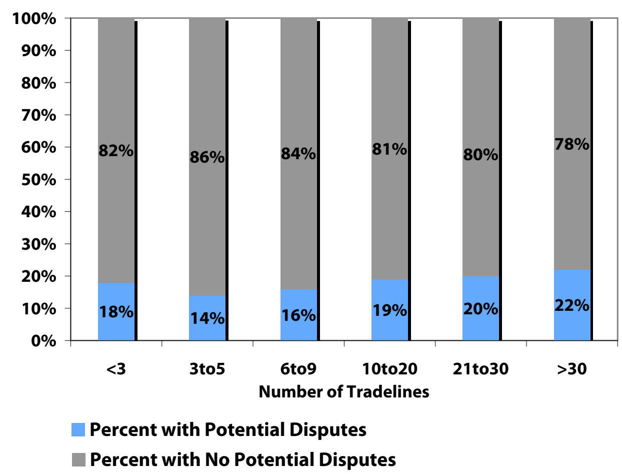
Figure 7: Potential Dispute Rate by Credit Score Band[54]



Two attributes of a credit report that may have an impact on the number of potential disputes identified are the number of tradelines (thickness of the credit report) and the credit score of the credit report, for instance, in their pilot studies, the FTC speculated that those with lower credit scores may have more potential errors (items that would be challenged, or what this paper refers to as "potential disputes").

Figure 7 shows that while the difference in the rate of credit reports with potential disputes between those in the lowest and highest score bands is not enormous (17 percent compared with 24 percent), it is also not trivial. Those in the lowest band were more likely to identify one or more potentially disputable items in their credit reports than were those in the highest score band, and this difference between the subgroups of the sample is statistically significant.[55] As will be discussed in detail below, this finding should not be considered in isolation, but rather together with the credit score impacts from tradeline modifications. When this is done, a very different picture emerges.

Figure 8: Potential Dispute Rate by Number of Tradelines[56]



The other credit report attribute that may be related to the likelihood of a consumer disputing a potential error is the number of tradelines; that is, the number of credit, collections, and public record accounts in the credit report. As with the number of credit reports examined, the more information a consumer reviews, the more likely they will be to identify something as potentially inaccurate.

[53] Given the large sample sizes of those that examined one report and those that examined three, this difference between these subgroups of the sample is statistically significant at the 95 percent confidence level, such difference may not hold for the entire CRA population.
[54] Source: Participant survey, number of tradelines from Nationwide CRAs data.
[55] This comparison of sample subgroups used a 95% confidence level, such difference may not hold for the entire CRA population.
[56] Source: Participant survey, number of tradelines from Nationwide CRAs data.

As shown above in Figure 8, those with more tradelines in their credit reports were typically more likely to report finding one or more potential disputes. Unsurprisingly, those consumers with the thickest credit reports (more than 30 tradelines) were 22 percent more likely to report finding one or more potential disputes than the thin-file consumers (fewer than three tradelines).

Although the differences between these two subgroups of the sample was not statistically significant (perhaps because of a relatively small number of credit reports with fewer than three tradelines), the difference was significant between those with more than 30 tradelines and those with five or fewer.[57]

Table 5: Asserted Accuracy by Credit Score and Number of Tradelines

Vantage-Score	Percent by Number of Tradelines					
	<3	3 to 5	6 to 9	10 to 20	21 to 30	>30
501-599	95%	71%	76%	79%	77%	61%
600-699	76	87	85	74	69	80
700-799	89	85	84	78	81	84
800-899	100	92	85	87	84	81
900-990		100	91	81	85	81

Source: Participant survey, number of tradelines from Nationwide CRA data

Table 5 above shows the rate of asserted accuracies by credit score and tradelines. (The "asserted accuracy" rate is an implicit rate derived from 100% minus the potential dispute rate.) Table 5 reveals that the likelihood of reporting a potential dispute varies greatly with joint values of credit score and number of tradelines. Those in the highest score bands and with the fewest number of tradelines reported few if any potential disputes in their credit reports. For instance, fewer than 7 percent of those with a VantageScore of 800 or higher and with fewer then six tradelines reported finding a potential dispute (this figure is not shown in the table but corresponds to the four lower left cells). On the other hand, nearly 40 percent of credit reports in the lowest score band *and* with more than 30 tradelines were identified as having at least one potential dispute. The difference between these two is sufficiently large that it is statistically significant despite the relatively small sample sizes.

Of course, the presence and number of potential disputes does not necessarily indicate what impact these potential disputes could have on a consumer's credit score or their ability to access credit and the terms. For instance, one potential dispute involving a bankruptcy would be much more consequential than eight errors involving previous addresses listed and the proper spelling/name of employers, spouse, and credit grantors (which would likely have no impact at all).

[57] The potential dispute rate for the group with 5 or fewer tradelines is 16% (this group is not shown in Figure 8, it is a combination of the <3 and 3 to 5 groups). This comparison of sample subgroups used a 95% confidence level, such difference may not hold for the entire CRA population.

Types of Potential Disputes

Table 6 below indicates the types of potential disputes identified by participants. Approximately one-half of the credit reports with potential disputes contained one or more potential credit header disputes, such as a misspelling of current or former names and addresses, and (from table 7) 63 percent contained one or more potential tradeline disputes in credit/collections or public record data.

Table 6: Types of Potential Disputes (in credit reports with potential disputes)

Type of Potential Disputes	Percent of Those Credit Reports with Potential Disputes
Header data	52
Credit/Collections data	55
Public record data	16
Other	9
Don't Know / No Answer	0

Source: Participant survey. Figures are on a per credit report (with an potential dispute) basis. Figures do not add up to 100% as multiple types of potential disputes were reported by participants for some credit reports.

Table 7: Possible Materiality of Potential Disputes in Credit Reports

Type of Potential Disputes	Percent of Those Reports with Potential Disputes
Possibly Material - Credit, collections, or public record	63
Not Possibly Material - Only header data/other	37

Source: Participant survey. Figures are on a per credit report (with potential disputes) basis.

Because header data do not impact a consumer's credit score, these potential disputes should not lead to material harm. Of the 19.2 percent of credit reports in which consumers identified potential disputes, 63 percent of the reports, or just 12.1 percent of all credit reports examined, possibly contain modifications that can have material impacts (i.e., that lead to possible adverse consequences). As shown in Table 8, excluding from this group of credit reports those in which the consumer had no plans of contesting these items, the rate of potential tradeline disputes falls to 10 percent.

Table 8: Summary of Rates of Potential Disputes from Consumer Survey

Percent of credit reports with one or more potential disputes	19.2
Percent of credit reports with one or more potential disputes in which consumers indicate they have disputed or plan to dispute	15.6
Percent of credit reports with one or more potential tradeline (credit, collections, or public record) disputes	12.1
Percent of credit reports with one or more potential tradeline (credit, collections, or public record) disputes in which consumers indicate they have disputed or plan to dispute	10.0

This is likely as much as can be gleaned about the possible materiality of potential tradeline disputes from the consumer survey data alone. As discussed earlier, knowing the number of potential tradeline disputes may say little about the actual impact of the potential tradeline disputes. Even if additional questions regarding the details of potential tradeline disputes were included, discerning the potential impact from the details might be difficult. For instance, consider a consumer who reports that a credit tradeline listed in his or her credit report indicated that he or she had recently been 90 days late in making a payment when he or she was in fact on time. Even in this case, it is unclear what the impact on the consumer's credit score would be if the "90 days late" indicator were replaced with an on-time indicator. If the consumer had recently been 90 days late on several other tradelines included in the credit report, then the removal of just one of these adverse entries may have little impact. On the other hand, the removal of such a severe mark from a credit report with no other problems could have large impact on the credit score. That is, it is necessary to consider potential tradeline disputes in the context of the consumer's entire credit report. This is what is done in the following subsections, in which credit reports are scored before and after modifications are made to potentially disputed items received through the dispute resolution process.

4.2 Results from the Dispute Resolution Process

Table 9 details the number of disputes received by the nationwide CRAs from the study participants, as well as the number or participants disputing and number of credit reports involved. Table 10 below translates the dispute totals shown above to rates. The results are broadly consistent with those obtained in the pilot. In addition, while not strictly scientific evidence, an advisor with one of the nationwide CRAs finds similar rates in her work with their credit report database. That this study's results are not standard deviations apart from the experience of the custodians of the data being analyzed lends confidence to the findings.

What these tables show is that nearly 95 percent of all credit reports examined in this study were free of potential errors identified and disputed by consumers that could impact their credit scores and consequently their standing in the credit market. Alternatively, when shifting the unit of analysis to tradelines, nearly 99.5 percent of all tradelines examined were either confirmed as accurate or were not disputed by consumer participating in this study. This suggests that potentially consequential errors are rare.

Table 9: Number of Credit Reports and Tradelines with Disputes

Number of credit reports where a participant contacted a nationwide CRA (disputes/questions/other reasons)[58]	297
Number of credit reports in which a participant only contacted a nationwide CRA with questions, to add a fraud alert, or to add a security freeze	11
Number of credit reports with information disputed	286
with only header disputes (above the line)	76
with tradeline disputes (below the line)	210
Total number of tradelines disputed[59]	435

Source: Study data from nationwide CRAs. Top three lines are credit report totals by dispute type. Last row is total number of tradelines disputed in all credit reports.

Table 10: Various Dispute Rates

Dispute rate (credit report disputes as share of total credit reports)	7.4%
with only header disputes	2.0%
with tradeline disputes	5.4%
Tradeline Disputes (as share of total tradelines)	0.54%

Source: Study data from nationwide CRAs. Top three rows are percents of all credit reports examined by participants (3,876). Last row is a percent of all 81,238 tradelines examined by participants(observed average number of tradelines assumed for 36 reports with missing number of tradelines data).

Using data collected from the nationwide CRAs on the participants' disputes reveals more detail regarding the types of disputes made and credit report modifications (ostensible corrections) requested (see Tables A4

[58] Restating this in terms of consumers, 229 consumers contacted a CRA, which is a rate of 9.8% of all consumers participating.
[59] This includes all tradelines disputed, across all reports examined. Therefore, if the same account was disputed on two different credit reports then two disputed tradelines would have been counted. In under four percent of disputed reports, the details of the disputed accounts were missing. For these the number of tradelines disputed was assumed be the observed median, two.

and A5 in the Appendix 2). Note that a single dispute can be described by up to two codes[60] for two of the nationwide CRAs and each disputing participant could have multiple disputes, so the sum of the descriptions of disputes/modification requests can be greater than the number of participants who disputed, the number of credit reports disputed, or the actual number of disputes and modifications requested.

The most common credit header data modification requests made pertained to previous addresses listed and the current or former name of the participant (see Table A4 in Appendix 2 for more details). The most common credit/collections dispute involved participants indicating that a particular tradeline did not belong to them (see Table A5 in Appendix 2). Because some participants had multiple occurrences of the same type of dispute across multiple tradelines, the 21 percent listed for "account not his/hers" should not be interpreted as 21 percent of participants or credit reports were disputed with an account that did not belong to the consumer. Rather 21 percent of all items disputed had a code indicating "account not his/hers". For instance, one participant disputed six occurrences of "account not his/hers" with one of the nationwide CRAs.

As Figure 9 above illustrates, those credit report with more tradelines were more likely to have information disputed with the nationwide CRAs. For instance, 6 credit reports (6/286=2%) with fewer than three tradelines had information disputed compared to the 4% of credit reports in the sample with fewer than 3 tradelines. This is consistent with the finding earlier that those with thicker credit reports were more likely to report finding unverified errors. Taken together, this evidence suggests that those who identify potential disputes are likely to take action.

Figure 9: Credit Reports Disputed by Number of Tradelines[61]

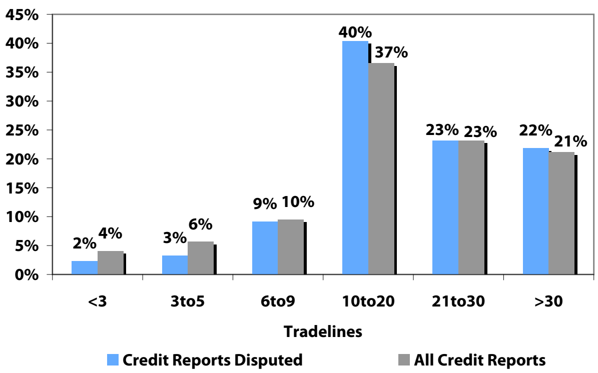


Table 11: Type of Changes Made by Nationwide CRAs to Consumer Tradelines

Type of Change	Percent of Disputed Tradelines
Tradeline information modified	45
Tradeline deleted	41
No change	14

Source: Participant dispute data from nationwide CRAs

Tables 11 shows the basic change of tradeline items made by the nationwide CRAs to individual tradelines disputed.

A tradeline may be deleted for a number of reasons. If a consumer disputes that a tradeline is his/hers, then the tradeline would be deleted if the FCRA process confirms that the tradeline was not his/hers. Second, if the accuracy of the data can not be confirmed with the data furnisher or if the data furnisher does not respond to the nationwide CRA in 30 days, then the nationwide CRA must delete the tradeline. And some data furnishers may have a policy for some tradelines that if tradeline information is disputed that the tradeline is to be deleted or tradeline item modified as per the consumer's request.

[60] The nationwide CRAs provide codes that describe the nature of the dispute.
[61] All Credit Reports refers to the 3,876 credit reports in this study.

In all, 86 percent of tradeline information of disputed tradelines was modified in some way. Slightly more than one-half of the modifications were information modifications and slightly less than one-half were deletions.

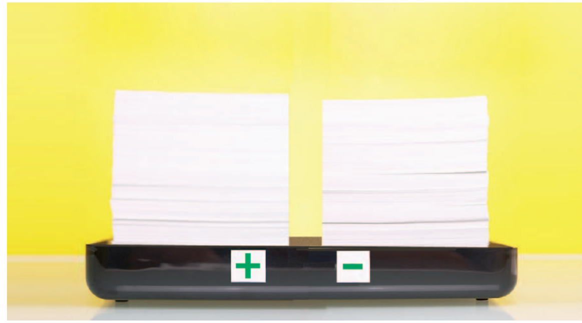
4.3 Consequences of Credit Report Modifications: The Material Impact Rate

Score Change Methodology

Score changes, when possible, were calculated from a participant's score immediately prior to and immediately after the modification resulting from the dispute process. This method ensured that the change only captured the impact resulting from tradeline modifications. As discussed in the methodology section, score changes among those who examined more than one disclosure must be analyzed differently from those who examined only one disclosure to avoid the "carbon copy" issue. Therefore, the study used the consumer's disclosure credit score rather than the consumer's pre-modification score when one nationwide CRA resolved a dispute after another nationwide CRA had resolved the dispute. No such adjustments were needed for credit reports from those who examined only one disclosure, who disputed at only one nationwide CRA, or had disputes resolved first.

Changes in Credit Scores

Table 12, later in this section, shows that the modifications resulting from tradeline disputes lead to decreases in scores, increases in scores, and no score changes. Five credit reports were not applicable to the study question as they were unscoreable (had insufficient credit to be scored). Following the modifications, 16 percent of the credit reports resulted in a lower score and more than twice as many (40 percent) had a higher score. The fact that there were



more score increases than score decreases should not be interpreted as indicating that modified tradelines tend to raise credit scores, given that this may simply be the result of consumers being less willing to dispute potential errors that they believe are lowering their scores.

The first two columns of Table 12 are unadjusted for carbon copies. As noted above, failing to account for the carbon copy effect may underestimate the impact of a modification on a credit score and, potentially, on the materiality of the resultant score change. Accounting for this, the third and fourth columns use the credit score at disclosure, which are unaffected by carbon copies, as the pre-modification score in the instances in which carbon copies may present a problem. Specifically, the disclosure score is used for the second or third nationwide CRA to resolve disputes for a consumer. This adjustment has little qualitative impact, though it does result in modestly greater score changes.

The rationale for the score change categories in Table 12 is twofold. First, from a very practical standpoint, they describe the distribution of changes, fitting nicely with the 100 point score bands used by VantageScore, and using larger ranges for the less common and more extreme score changes. Second, the categories attempt to distinguish between no changes, very minor changes (1 to 9-point changes), and greater score changes. While there is no established criteria or convention of what constitutes a minor score change or a major score change, 25 points represents at least 5 percent of consumers in the VantageScore distribution for much of the distribution.[62] Twenty-five points represents less than 5 percent of consumers in only about 30 percent of the distribution (in the upper and lower tails of the distribution). Therefore, a consumer shifting with an increase of 25 points in the VantageScore distribution is likely shifting ahead of at least 5 percent of consumers in the distribution. Also, the average difference between the maximum and minimum credit report scores (between the three nationwide CRAs) for participants in this study is about 24 points. Therefore, there should be little controversy that changes of 25 points or greater are considered moderate or large VantageScore changes. This leaves a "minor change" category of credit score changes between 1 and 9 points, and an "indeterminate" category of changes between 10 and 24 points, which some may feel is minor and others may feel are more serious. To accommodate all views, PERC examines a wide range of tradeline modification impacts on credit scores.

This approach, ultimately, is plagued with a degree of arbitrariness and subjectivity. A one-point change could be material for a consumer and a 90-point change may not be, depending on the consumer's pre-change score in relation to an important cutoff score. That is, a one-point change could result in a consumer gaining credit approval or receiving or better terms, or a 90 point change could result in neither—which would be more likely for those with very low or very high credit scores. It is for this reason that PERC extends the tradeline modification impact analysis from just credit scores to include changes in consumer credit risk tiers as well.

Understanding the credit score and credit risk tier impacts of tradeline modifications has important implications, then, for interpreting the results from a consumer-centric angle, on the one hand, and from a public policy angle, on the other hand.

From the perspective of a consumer (study participant):

- **The incentive to go forward with a potential dispute is greatest for serious claims (bankruptcy, collections, significant delinquencies, liens, evictions);**
- **With respect to credit scores, the incentive to go forward with a potential dispute is lowest for potential tradeline errors that a consumer believes are improving their credit score and credit standing, and above-the-line/header/non-tradeline information (misspelled maiden name, misspelled former address);**
- **Multiple potential tradeline disputes likely provide a greater incentive to engage the dispute resolution process, all else being equal;**
- **As the data above demonstrated, consumers with more tradelines may have more potential disputes.**

Ultimately, though, the actual impact of a credit score change is very much consumer- and credit-product specific.

[62]The following referenced studies are examples that show that there are no established point changes or point differences that are considered important. Avery et al., "Credit Report Accuracy and Access to Credit," *Federal Reserve Bulletin* (Summer 2004) estimates changes in credit scores from possible inaccuracies, stale data, and unreported data. The credit score changes from the individual data issues were broken down into five categories, no change, less than 10 point decrease, less than 10 point increase, and 10+ point increase and decrease. On the other hand, The Consumer Federation of America and The National Credit Reporting Association, "Credit Score Accuracy and Implications for Consumers." (Washington, DC: CFA, 2002) uses a criterion of a 50-point credit score difference between a consumer's high and low credit score as one criterion for further review, it also considers a 20-point difference to represent extremely consistent scores across the three nationwide CRAs.

Table 12 reveals that the impact from the carbon copy issue is not too great and that few modifications result in large score changes.

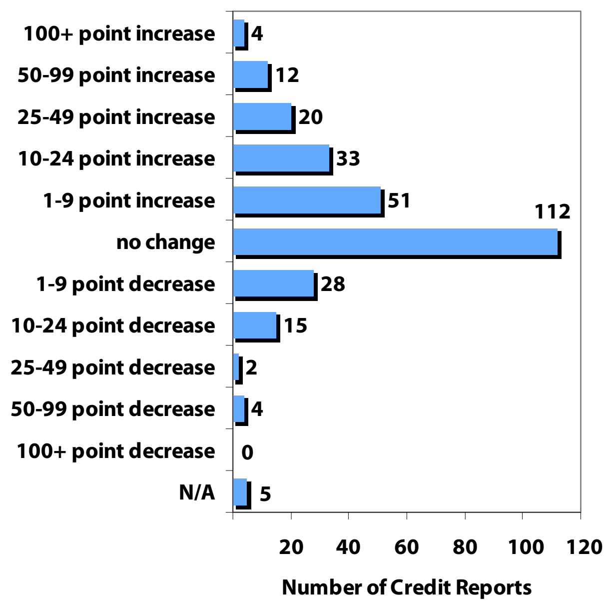
Table 12: Distribution of Pre- to Post-Dispute Resolution Score Changes (N=286 Credit Reports)

	Unadjusted		Adjusted for Carbon Copies	
	Count	per Credit Report Examined (%)	Count	per Credit Report Examined (%)
N/A	5	0.13%	5	0.13%
100+ point decrease	0	0.00	0	0.00
50-99 point decrease	5	0.13	4	0.10
25-49 point decrease	1	0.03	2	0.05
10-24 point decrease	16	0.41	15	0.39
1-9 point decrease	24	0.62	28	0.72
no change	129	3.33	112	2.89
1-9 point increase	47	1.21	51	1.32
10-24 point increase	28	0.72	33	0.85
25-49 point increase	17	0.44	20	0.52
50-99 point increase	12	0.31	12	0.31
100+ point increase	2	0.05	4	0.10

Source: Participant dispute/credit score data from nationwide CRAs, rates based on percent of all credit reports examined by participants (3,876).

Figure 10 shows the score changes (adjusted for carbon copies) from table 12 in graphical form. Interestingly, the credit scores for 161 credit reports with one or more tradeline modifications either didn't change (112) or actually decreased (49). It is further worth noting that of the 130 credit reports with one or more tradeline modifications resulting in credit score increases, 65 percent (84) increased by less than 25 points. The credit score impacts from tradeline modifications suggest that material impacts upon consumers from tradeline modifications are likely infrequent occurrences.

Figure 10: Distribution of Pre- to Post-Dispute Resolution Score Changes[63]



[63] Score changes shown include the correction for carbon copies.

Table 13 below summarizes the observed rates for 1+, 10+, 20+, 25+, 50+, and 100+ and other credit score increases resulting from tradeline modifications.

Table 13: Observed rate of 1,10, 20, 25, 50, and 100 plus point credit score increases

	Estimate
1+ point increase rate	3.10%
10+ point increase rate	1.78%
20+ point increase rate	1.16%
25+ point increase rate	0.93%
50+ point increase rate	0.41%
100+ point increase rate	0.10%

Source: Participant dispute/credit score data from nationwide CRAs, rates based on percent of all credit reports examined by participants. Credit score changes are adjusted for carbon copies.

The rate of a 20 plus point credit score increases is slightly over 1 percent (1.16 percent). There are no statistically significant differences in Table 13 above between the subgroup of participants who examined only one credit report and those who examined all three.[64] The same holds for those rates calculated with and without the adjustments for carbon copies. In addition, there are no statistically significant differences between these rates and those from the pilot. Given that the pilot and full study used different consumers and were about a year apart, this suggests a degree of robustness in these findings.

One way to contextualize the results in Table 13 is to compare them with the changes in scores for participants between the time of disclosure and just prior to the resolution of the disputes (a few weeks). These changes would be the result of normal updates to the credit reports. Further, only those who disputed at only one nationwide CRA are considered so as to eliminate the issue of carbon copies. For this group of credit reports, 2.84 percent of reports with tradeline modifications witnessed a resultant 25+ point increase, and 0.57 percent witnessed a 50+ point increase. For purposes of comparison, note that the Fair Isaac Corporation (FICO) reports that in a typical three-month period, about one-fourth of FICO scores shift by 20 or more points.[65]

The rate of these typical weekly/monthly/quarterly score fluctuations as well as the magnitude of score changes revealed in past PERC research suggest that the results in Tables 12 and 13 are not particularly large, at least at the level of the total distribution of scores.[66] However, for those individuals with very large score changes, such as 100+ point score changes, there is no doubt that the impact of tradeline modifications can be large.

The second appendix to this report translates the credit score changes to changes in the consumers' rank order among all consumers and to changes in the associated probability of default. It is found that 0.96 percent of credit scores migrate up 5 percentage points or more in rank ordering as a result of the tradeline modifications. It is also found that 1.06 percent of credit reports have a 1 percentage or greater increase in the associated default risk as a result of tradeline modifications.

[64] This comparison of sample subgroups used a 95% confidence level, such difference may not hold for the entire CRA population.
[65] Fair Isaac Corporation, "Understanding Your Credit Score." Downloadable at www.myfico.com
[66] PERC's research on the impact of adding alternative data (utility and telecom payment) tradelines to consumer credit reports provides another way to compare the results in Table 18. In that research, eight million credit reports were scored once with a utility or telecom tradeline included and once without it. The VantageScore was also used in that research. Results showed that a single utility tradeline raised the VantageScore 25 or more points in 4.6 percent of credit reports; 1.7 percent of credit reports had score increases of 50 or more points. In addition, an additional 10 percent of credit reports became scoreable. See Michael Turner et al., *Give Credit Where Credit is Due*. Washington, DC. Brookings Institution, December 2006.

Changes in Credit Tiers: Gauging the Materiality Impact of Tradeline Modifications

Viewed through the prism of public policy, while the credit score impact from tradeline modifications is important, how that score change affects a consumer's access to credit and pricing (credit terms) are the more critical questions.[67]

Offers and terms of credit are not a continuous function of a person's credit score, but are usually segmented with cutoff points and tiers. As discussed above, for one person, a three-point increase could result in better credit terms while a 43-point increase for another may not.

To understand how the score changes impact migration across credit score tiers, PERC used three sets of credit score tiers based on research carried out by VantageScore, from a description of the VantageScore on a nationwide CRA's website, and from a research report for auto lending.[68] These score tiers consist of the four or five classifications commonly used to differentiate consumers with regard to risk, such as *superprime, prime, near prime, non prime* and *subprime*. While cutoff points and tiers differ by credit product, lender, and over time,[69] and no one set of tiers perfectly describes how all credit is priced and made available, our experience suggests that credit tiers also do not differ dramatically, using the same basic divisions. Therefore, we believe the following sets of credit tiers well approximate those used by lenders in general.

Tier 1 (VantageScore ABC Tier):

A Super Prime 900-990
B Prime Plus: 800-899
C Prime: 700-799
D Non Prime: 600-699
F High Risk: 501-599

Tier 2 (VantageScore Research Tier):

Super Prime: 900-990
Prime: 700-899
Near prime: 640-699
Subprime: 501-639

Tier 3 (CRA Auto Credit Tier):

Super Prime: 800-990
Prime: 700-799
Non-Prime: 641-699
Subprime: 600-640
Deep Subprime: 501-599

Using these tiers, Table 14 below shows the incidence of credit tier migration for the participants. It is noteworthy that the vast majority of tradeline modifications, and subsequent score changes, have no material impact on a consumer's credit standing. And among those with scores that migrated across one or more tiers, nearly a quarter of the cases were downward tier movements. In no case did tradeline modifications result in a downward migration

[67] Credit scores are one aspect of a lenders' underwriting decision, other factors such as income, employment history, and collateral may be taken into account, but for purposes of this study, to illustrate material consequences from tradeline modifications, we assume that a credit score is the sole determining factor in a lender pricing decision. As a result, the estimated material impact rate in this study likely overstates the actual material impact of tradeline errors upon consumers. Measuring actual material impacts must be done on a case-by-case basis, and depends critically upon the type of credit for which a consumer is applying, the risk tolerance of the relevant prospective lender(s), and the consumers income, employment and assets at the time of the credit application(s) among other things.
[68] See http://www.vantagescore.com/research/creditworthyconsumers/,http://www.experian.com/consumer-products/personal-credit-rating.html, http://theamericanrepossessor.com/2010/09/experian-were-seeing-a-turnaround-in-auto-loan-delinquencies/ which has the tiers begin at 801, 701, etc. For this last case we began the tiers at 800, 700, etc. to be consistent with the other tiers. Using this tier beginning at 801, 701, etc. would produce 2 fewer reports increasing in credit tiers.
[69] Each lender determines, based on its risk profile, the type of loan and other factors where it will "draw the line" between one pricing tier and the next.

by more than 1 tier, or an upward migration by more than two tiers. These findings somewhat diminish the claims of those who have argued that a consumer's credit standing is frequently and radically affected by inaccurate tradeline information. This report concludes that such instances are indeed uncommon.

Using these tiers, Table 14 below shows the incidence of credit tier migration for the participants. It is noteworthy that the vast majority of tradeline modifications, and subsequent score changes, have no material impact on a consumer's credit standing. And among those with scores that migrated across one or more tiers, nearly 25 percent of reports (19) witnessed a downward tier migration, and just 2.5 percent (2) of credit reports with a tradeline modification witnessed a score change resulting in an upward migration by more than one tier (two tiers for both reports). In no case did tradeline modifications result in a downward migration by more than 1 tier, or an upward migration by more than two tiers. These findings somewhat diminish the claims of those who have argued that a consumer's credit standing is frequently and radically affected by inaccurate tradeline information. This report concludes that such instances are indeed uncommon.

Table 14: Credit Report Score Movement across Credit Score Tiers

	ABC Tiers	Tiers 2	Tiers 3
N.A.	5	5	5
Decrease 4 Tiers	0	0	0
Decrease 3 Tiers	0	0	0
Decrease 2 Tiers	0	0	0
Decrease 1 Tier	6	8	6
No Change	253	259	253
Increase 1 Tier	21	13	21
Increase 2 Tiers	0	1	1
Increase 3 Tiers	0	0	0
Increase 4 Tiers	0	0	0

Source: Participant credit score data from Nationwide CRAs, rates based on percent of all credit reports examined by participants. Credit score changes used are adjusted for carbon copies.

As shown in Table 15 below, the observed rate of a credit tier increase in the sample that is due to tradeline modifications following the consumer dispute resolution process ranges between 0.36 percent and 0.59 percent, and averages 0.5 percent.

Table 15: Observed Rate of 1+ Credit Tier Increase

	Estimate
ABC Tiers	0.59%
Tiers 2	0.36%
Tiers 3	0.57%

Source: Participant dispute/credit score data from nationwide CRAs. Credit score changes used are adjusted for carbon copies.

Most score changes simply occur between risk bands (shown above as tiers) or above or below them. One of the credit report's migration patterns did illustrate that it matters where a score falls in the distribution. This particular credit report had a score increase of only one point, but moved from 899 to 900, thereby migrating across score tiers in two of the score tier cases. But as seen above, while using credit bands, cutoffs, tiers, or bucketing data may allow for small score or data changes to sometimes bring about large outcomes, generally, this tends to reduce the share of individuals who are affected by score changes. However, when they are affected, they would likely face altered access to credit and prices, or more commonly in the contemporary credit market, altered credit terms. In this sense, the rate of credit tier migration is the best approach to estimating the incidence of material impacts. For these reasons, the "material impact rate" is defined in this study as the percentage of participants migrating to a higher tier.

Use of the Average or Middle Score

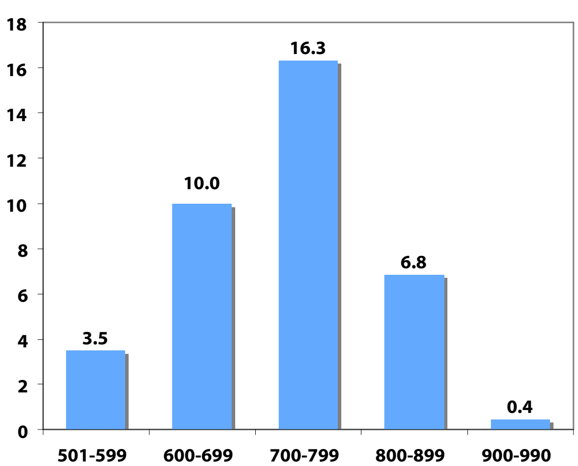
For some lenders and some types of credit products, one credit score alone may not be enough to determine credit offers and terms. In some cases, creditors use the average or median of the three scores.

PERC examined this scenario in the pilot study, and as one would expect, averaging scores tends to lessen the impact of credit report modifications. For instance, the rate of a 20+ point score change for the average three-nationwide CRA credit score was about 10 percent less than the rate for individual credit reports. A 40+ point score change from tradeline modifications was about 45 percent less than the rate for individual credit reports. This strongly suggests that simply averaging the credit scores for the three credit reports mitigates much of the larger impacts from modifications that result from the dispute resolution process. Given that averaging or the use of middle scores is typically done with larger extensions of credit, the tier changes and score changes shown in the previous section very likely overstate the actual material impacts of tradeline modifications upon consumers in the credit market.

Average Score Changes by Credit Tier

Figure 11 below shows what may be a surprising pattern regarding the average credit score changes resulting from tradeline disputes. That is, the largest average credit score changes occurred in the middle of the distribution. In the highest credit score bands, this may be attributable to little possible upward movement (or it may be very difficult). On the low end of the VantageScore continuum, it may be that those who disputed tradelines had credit reports populated with many additional derogatories that were not disputed, and so modifications to one or a few tradelines had very little impact on their credit score on average.

Figure 11: Average Credit Score Changes by Credit Score Tier



Source: Participant dispute/credit score data from nationwide CRAs

This finding has important implications for those arguing that credit errors tend to be most consequential for those with lower average credit scores. While there was not a statistically significant difference between the 501-599 and 700-799 subgroups, using a two-tailed t-test with 95% confidence, there was when comparing a middle group, either 700-799 or 600-899 and the group made up of those at either end of the distribution (501-599 and 900-990). Therefore, we find credit reports disputed in this study with scores in the middle of the credit score distribution to be more impacted than those with credit scores at the tails of the score distribution. Avery et al. had earlier suggested that those with lower scores and those with thin files are most likely to be significantly impacted by errors.[70] These results, in contrast, suggest that it is those consumers in the middle of the score distribution who are most affected by tradeline modifications.

Our segmentation by number of tradelines did not contain enough observations to derive meaningful conclusions about the claim that those with thin files are most affected by errors; the results are, however, consistent with that hypothesis. These results do suggest that any policy effort to somehow improve consumer credit report data quality is likely to have little impact on those with subprime scores. It further suggests, and again consistent with a body of earlier PERC research, efforts to improve the credit standing of those with thin or no credit files are best accomplished by thickening credit files with additional tradelines.

[70] Avery et al., "Credit Reporting Accuracy and Access to Credit," *Federal Reserve Bulletin* (Summer 2004).

Since it may be the case that credit score impacts from inaccuracies vary by credit score, we re-weighted the sample data to match the credit score distribution found at a nationwide CRA. The change in results was very small, the rate for 25+ point increases changes from 0.93% to 0.98%, the rate for 50+ point changes from 0.41% to 0.44%, and the average rate of tier increases changes from 0.50% to 0.54%. These changes do not alter the conclusions drawn from the analysis in this study.

4.4 Survey Results of Those Who Do Not Intend to Dispute Potential Errors

Participants indicated that they did not plan to pursue potential disputes through the FCRA dispute resolution process in 19 percent of credit reports in which potential errors were identified, even though Synovate offered them an additional incentive to complete the dispute process.

Table 16: Reasons for Not Pursuing Potential Disputes in Credit Reports

	Percent of those who chose not to dispute one or more potential disputes
Not certain the information was inaccurate	18
Potential inaccuracies not important/ significant enough	46
my credit was already good enough	33
my credit was otherwise too bad	11
error was too minor	66
The dispute process seemed too difficult	23
The potential inaccuracies were benefiting me	8
Other	26
Either not certain or not significant enough	61
Important and too difficult	15

Source: Consumer survey, figures do not add to 100% as more than one choice could have been indicated.

Most (61 percent) who did not plan to dispute were not certain the information was inaccurate or believed the potential disputes were not important enough to warrant any action on their part. Another 15 percent indicted that they did not dispute because the process seemed too difficult, though they did not attempt to start the dispute process. Finally, a further eight percent did not dispute because they believed the items that could potentially be disputed were benefiting them.

4.5 Accounting for Those Planning to Dispute and Others Who Did Not Dispute

It may be the case that the observed rate of confirmed material impact would be higher if three certain groups disputed claims:

1) Those who believed the dispute process to be too difficult but had potentially important disputes;

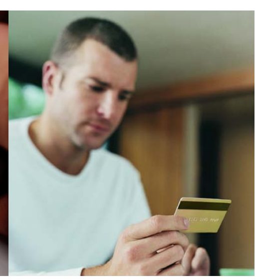
(2) Those who planned to dispute information on a report but did not;

(3) Those who said they disputed information on a report but actually did not.

Because there is no reason to believe that the dispute outcomes of those who found the process too difficult would be different from those who did dispute, the same dispute outcomes can be reasonably assigned to these participants. Likewise, those who planned to dispute later were assigned the observed dispute outcomes. This is likely extremely conservative, as it is likely that those who plan to dispute later have less serious errors than those that actually disputed.

Assigning the same modification rate/dispute outcomes as found in those who did dispute to the group that had potential disputes but did not dispute likely overstates this latter group's material impact rate. Those with the most potentially impactful and egregious tradeline errors would logically have a much greater incentive to actually dispute.

As such, the following *adjusted* estimates could reasonably be considered estimated upper bounds if all of the following would have disputed: (1) those who indicated they disputed, (2) those who planned to dispute, and (3) those with potential disputes who said the process was too difficult but did not indicate their unverified errors were unimportant.[71] For the 20+ point increases the adjusted rate is 2.4 percent, for the 25+ point increases the adjusted rate is 1.9 percent and the adjusted rate for positive credit tier changes (material error) is 1.0 percent. On the other hand, if we assume that all of those who choose not to dispute information on their credit reports must have no actual potential disputes then the potential dispute rate would fall from 19.2% to actual rate for which participants disputed information, 7.4%.



4.6 Consumer Attitudes Regarding Dispute Outcomes

The participants' views of changes made to their credit reports are listed in Table 17.

Table 17: Participants' Views of Changes at the End of the Dispute Process

View of Change(s)	Percent of Participants
Modified as participant requested	87%
Modified, but other than as participant requested	5
Not Modified	7
Don't Know/ No Answer	0

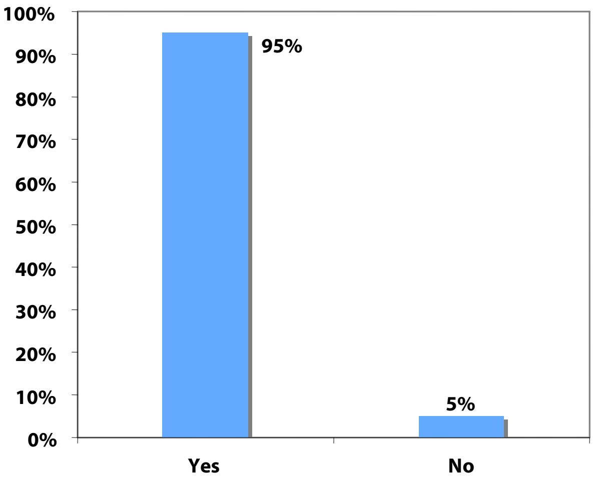
Source: Participant exit survey. Figures do not add up to 100% due to rounding.

As shown in Table 17 above, more than nine in ten (92 percent) of participants who completed the consumer dispute resolution process indicated that modifications had been made to the information they disputed, and nearly nine in ten (87 percent) indicated that modifications had been made as requested. Admittedly, many of these modifications were to credit header data and had no impact on a person's credit score, but the results do show that the nationwide CRAs are highly responsive to consumer disputes.

That fact is further supported by the overall satisfaction with the consumer dispute outcomes. Study participants were satisfied with 95 percent of credit report dispute outcomes (see Figure 12 below)".

[71] Specifically, this adds together the (1) 2.8% of reports that participants indicated they planned to dispute later, (2) 0.5% (15% of the 3.6% reports that were not planned to be disputed, where 15% is the share of disputes not considered unimportant that were not disputed due to difficulty, and (3) 5.0%, the difference between the share of reports that were indicated to have been disputed, 12.7% and the share of reports that a CRA was at least contacted, 7.7%. The same dispute outcomes are then assumed for this group as was observed among those reports in which the consumer contacted a CRA.

Figure 12: Were You Satisfied with the Outcome of the Dispute?



Source: participant survey

This is broadly consistent with the participants' observation that:

(1) **most disputes resulted in modifications made by the nationwide CRAs; and,**

(2) **most modifications were consistent with the consumers' requests.**

Crucially, these results attest to using the outcome of the FCRA consumer dispute resolution process as a proxy "confirmation" of an error, and the resulting score changes as an input to generate a measure of material impact. If the FCRA consumer dispute resolution process did not result in the modification of a serious error that a participant was fairly certain was truly an error, that participant would not likely be satisfied. If this were a frequent occurrence, then we would expect to see high rates of participant dissatisfaction with the process. Under such circumstances, the research utility of using the FCRA dispute resolution process would be cast into serious doubt. However, given the high overall participant satisfaction level observed in this study, the use of the FCRA dispute resolution process as a means of confirming credit report errors and generating material impacts from tradeline modifications has been validated.

5. Conclusion

This report fills a significant gap in the research on the quality of data in consumer credit reports. As with all legitimate scientific inquiry, it attempts to integrate the successful elements of past research into the study methodology, while avoiding past deficiencies. Elements preserved include:

- **The direct involvement of consumers in an assessment of the accuracy of their own credit reports;**
- **Requiring participants to fully review credit reports examined;**
- **The use of a commercial grade credit score;**
- **Real-time score assessment;**
- **Examination of tradeline modifications;**
- **Assessing the impact of data modifications on credit scores.**

This report makes a substantial contribution methodologically by:

- **Identifying and controlling for the "carbon copy" issue;**
- **Using a large sample of consumers and reports reflective of the CRA population;**
- **Using multiple media to recruit and enlist participants; and**
- **Generating the first measure of materiality that is nonarbitrary and tethered to an actual credit underwriting protocol.**

This report helps explain the gap between widely cited anecdotal evidence that errors in credit reports are very common, and industry claims that the data contained in their databases are reliable and of high quality. Although participants reported potential disputes in one-fifth of reports examined, and one-fourth of those who examined all three reports found a potential dispute in at least one of their reports, most modifications were minor or inconsequential. Fewer than one percent of the accounts (tradelines) examined were disputed, and fewer than one percent of the reports contained modifications that resulted in a credit score change of 25 points or greater or a migration to a higher credit tier.

The core of the credit reporting industry is experiencing rapidly advancing information technology, and the last few decades have witnessed a consolidation of the industry and creation and use of industry-wide standards. As such, what is true now regarding the accuracy and quality of consumer credit reports likely may not have been true 10 or 20 years ago—and may not be true 10 years from now.

Individual perceptions of the quality and reliability of credit reports may be unduly influenced by whether a potential dispute had been identified in any credit report in the past several years or decades. Consumer surveys that do not adequately differentiate between consequential and inconsequential modifications are also likely to misrepresent the true quality of consumer credit reports.

From the perspective of the consumer, it is not the rate that credit files contain any sort inaccuracy or even the rate that modifications impact a credit score by 5, 10, or 20 points that are of concern. For consumers, the concern is the rate that modifications resulting from disputes lead to increased access to credit or access to credit on better terms. This material impact rate in which participants' credit scores moved to a higher credit score tier following the resolution of their disputes was found to be 0.5%, on average. This narrow, and more appropriate, focus on the share of the participants' credit reports that contain a potentially significant and material dispute reveals that very few do.

Results from the FTC's first full report on consumer credit report data accuracy are expected to be publicly available in December 2012. It is our expectation that the release of this PERC report and the later release of the FTC report will result in a much-improved understanding of the accuracy and quality of consumer credit reports. It is also our expectation that additional research will follow, improving methodologies, updating results on a rapidly changing IT-centric industry, and examining narrower and specific data quality issues.

Appendix 1: Description of VantageScore

The VantageScore credit score is the property of VantageScore Solutions, LLC, which is independently managed but owned by the nationwide CRAs—Experian, TransUnion, and Equifax. The VantageScore credit score is widely marketed and commercially available through each of the three nationwide CRAs. It is a generic credit score (like the general FICO scores) that predicts the credit risk of individuals. The score ranges between 501 and 990, with a higher score representing lower risk. Experian, TransUnion, and the VantageScore websites offer the following ABC grading system as an easy-to-understand breakdown of the values of the VantageScore.

A: 900–990 (Super Prime)
B: 800–899 (Prime Plus)
C: 700–799 (Prime)
D: 600–699 (Non-Prime)
F: 501–599 (Subprime/High Risk)

The following are factors influencing the VantageScore with approximate weights.[72]

Payment History: 28 %
Utilization: 23 %
Balances: 9 %
Depth of Credit: 9 %
Recent Credit: 30 %
Available Credit: 1 %

VantageScore reports that 4 of the top 5 financial institutions, 5 of the top 5 credit card issuers, and 2 of the top 5 auto lenders use the VantageScore in some capacity and says it is used in billions of credit decisions annually.[73]

The VantageScore credit score has been used in past PERC research, as well as research by the Federal Reserve,[74] and is expected to be used by the FTC in their data accuracy study, at least to help determine the representativeness of their sample and guide sample selection.[75]

As mentioned in Section 4 of this report, no one credit score would perfectly capture the impact that tradeline modifications in a credit report would have on all credit decisions. While the generic FICO score is usually what the public thinks of as a credit score, and has a larger market share in that segment than the VantageScore, the reality is that many credit scores are used for different credit and financial decisions. Fair Isaac's FICO has separate models for each of the CRAs and has multiple versions of each that are still in use. Each of the CRAs produces its own lines of credit scores, and each also having multiple versions. Lenders, particularly large lenders, use their own proprietary models, and there are also multiple *types* of credit scoring models. Some are designed to predict bankruptcy, some predict insurance risk, some predict mortgage credit risk, some predict card credit risk, some predict auto credit risk, and so on. Depending on the type of loan or financial product, scores are used in different ways. Finally, for larger loans such as mortgage or auto loans, credit report data and credit scores are just one set of variables among many—including income, loan value, debt-to-income ratios, neighborhood, property value trends, and the macroeconomy among others.

[72] Experian, "Achieve your financial goals with VantageScore®." See http://www.experian.com/consumer-products/vantage-score.html. Accessed on November 11, 2010.
[73] VantageScore, "Market Adoption." http://www.vantagescore.com/about/marketadoption/. Accessed on November 11, 2010.
[74] Board of Governors, *Report to the Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit*, (Washington, DC: Federal Reserve System, August 2007).
[75] FTC, "Report to Congress Under Section 319 of the Fair and Accurate Credit Transactions Act of 2003," prepared by Peter Vander Nat and Paul Rothstein. (Washington, DC: Federal Trade Commission, 2010), available at http://www.ftc.gov/os/2010/12/101230facta-rpt.pdf. Accessed on December 17, 2010.

Regarding the number and diversity of models in use by credit underwriters, it is PERC's experience that although there are differences between how consumers are ranked by varying credit scores, the differences are usually not very large. It is really the small differences that are valuable for lenders. We would not expect that these small differences would affect the results of this type of research in meaningful ways.

To add another layer of complexity, the actual default probabilities associated with a particular score also changes over time. In response to this and changing regulations, lending environment, economic climate, and appetite for risk, lending standards and credit score tiers and cutoffs also change over time. As such, the likelihood of credit score or risk tier migration is estimated using three different sets of credit tiers used for the VantageScore.

It is worth noting that an advantage for using the VantageScore credit score in this sort of research is that it was specifically designed to be completely consistent across the three nationwide CRAs. Therefore, if the data were the same across the three CRAs for a consumer, then the VantageScore would also be the same. This is not the case for the FICO score or other credit scores. That is, a consumer may have the exact same data at all three CRAs but could have different FICO scores at each. This is because the FICO scores were designed separately for each of the nationwide CRAs, and each of the three versions of the general FICO scores has a different formula (presumably not too different though) from the others. Whether or not this is considered an advantage depends on the intended use of the scores. When comparing scores and changes in scores across the three CRAs, consistency is a desirable feature.

Appendix 2: Additional Results

Score Changes

Since the actual value of the credit scores and changes in the credit scores may be less meaningful than how the rank ordering of consumers changes as a result of tradeline modifications from consumer credit report dispute resolutions, the following converts the credit score changes to changes in consumer percentile ranking. Specifically, how many consumers would rise less than one percentage point, rise one to two percentage points, and so on. Table A1 below shows the distribution for such rank ordering changes.

As seen above in Table A1, 0.96 percent of the total sample of participants moved up 5 percentage points or more in the distribution of scores. This is similar to what was seen for score increases of 25 or more points.

Table A1: Percentile Change among Participants, Pre- to Post-Dispute Resolution

Change	Number	Share
NA	5	0.13%
Decline ≥30%	0	0.00
Decline 20.0-29.9%	1	0.03
Decline 10.0-19.9%	1	0.03
Decline 5.0-9.9%	4	0.10
Decline 2.0-4.9%	15	0.39
Decline 1.0-1.9%	10	0.26
Decline <1%	18	0.46
No Change	112	2.89
Rise <1.0%	38	0.98
Rise 1.0-1.9%	18	0.46
Rise 2.0-4.9%	27	0.70
Rise 5.0-9.9%	20	0.52
Rise 10.0-19.9%	10	0.26
Rise 20.0-29.9%	6	0.15
Rise ≥30.0%	1	0.03

Percentiles from July 2010 distribution of VantageScore credit scores from one of the participating CRAs.

In some respects, percentile changes may be preferred to raw credit score change because any set of credit scores, such as FICO credit scores, VantageScore credit scores, or CRA credit scores can be converted into *more* comparable percentiles. But as with raw credit score changes, actual material impacts—the impacts on the availability and terms of credit—will depend on where in the distribution of credit scores the percentile change occurred. For instance, moving from the 91st to the 96th percentile may not alter terms of credit, as both rankings would likely garner the best terms, whereas movement from the 55th to 60th percentiles may very well affect terms.

Alternatively, because the generic credit scores that would prove useful in gauging the impact of changing credit report data are designed to predict the probability of a future default (or a future serious delinquency), the change in credit scores can also be expressed in terms of changes in the likelihood of default. This is done by using a publicly available document on the rate of 90+ day delinquencies per 20 points of the VantageScore credit scores.[76] The rates of the 20-point intervals were assigned to the mid-point score of the interval and a linear extrapolation between these points assigned rates to the score between the interval midpoints.[77] While an alternative functional form that assumes an exponential or logarithmic distribution may be used, the data was sufficiently granular (20-point intervals) that using mid-points and a simple linear extrapolation is sufficient.

Changes in terms of predicted probability of default are presented in two ways. The first is the actual change. In this case, a participant changing from a 3 percent to a 2 percent probability of default would show a 1 percent decline. This is labeled *change*. The second is the *percentage change*, In this case, moving from 3 percent to 2 percent would result in a 33 percent decline in the probability of default.

The appeal of the first calculation, the actual change, is that, because it is the change in the probability of default, a 1 percent decline could approximately be associated with a similar change in interest rate that would be needed to charge that consumer, around a 1 percent decline.

Table A2: Serious Delinquency/Default Probability Change among Participants, Pre- to Post-Dispute Resolution

Change	Number	Share
NA	5	0.13
Rise≥10%	2	0.05
Rise 4.0-9.9%	1	0.03
Rise 2.0-3.9%	4	0.10
Rise 1.0-1.9%	4	0.10
Rise 0.5-0.9%	1	0.03
Rise < 0.5%	31	0.80
No Change	128	3.30
Decline <0.5%	53	1.37
Decline 0.5-0.9%	16	0.41
Decline 1.0-1.9%	13	0.34
Decline 2.0-3.9%	11	0.28
Decline 4.0-9.9%	16	0.41
Decline ≥10.0%	1	0.03

Table A2 shows that 1.06 percent of the participants in the study witnessed a 1 percent or greater reduction in their associated probability of default/serious delinquency as a result of dispute modifications. As before, caution should be taken in interpreting these results. It is unlikely that a person would actually receive better offers and terms of credit if he or she moved from a 45 percent to a 44 percent probability of default. However, moving from a 2 percent to a 1 percent probability of default may result in better terms.

[76]For 90+ delinquency data see figure 2 *Credit Scoring In Volatile Times*, available at www.vantagescore.com/docs/American_Banker_Insert_9-28-09.pdf

[77]For the tails of the distributions, where there would be a midpoint on only one side, the linear extrapolation (step value) was continued from the adjacent interval.

Table A3 shows the change in probability of default. Again, significant credit effects will depend on where the changes occur.

Table A3 shows that 1.14 percent of participants witnessed a 20 percent decline in their probability of default/serious delinquency as a result of modifications resulting from the dispute process.

Table A3: Percent change in Serious Delinquency/ Default Probability among Participants, Pre- to Post-Dispute Resolution

Percent Change	Number	Share
NA	5	0.13
Rise≥80%	2	0.05
Rise 40.0-79.9%	4	0.10
Rise 20.0-39.9%	8	0.21
Rise 10.0-19.9%	9	0.23
Rise < 10%	20	0.52
No Change	128	3.30
Decline <10%	45	1.16
Decline 10-19.9%	21	0.54
Decline 20-39.9%	20	0.52
Decline 40.0-79.9%	21	0.54
Decline ≥80.0%	3	0.08

Types of Disputes

Table A4: Above-the-Line Modifications

Type	Number
Name	58
Address (current)	36
Address (previous)	86
Phone Number	24
Spouse Name	9
SSN	5
DOB	12
Employment	27

Table A5: Below-the-Line Disputes

Type	Per-cent
Not his/her account	21%
Disputes present/previous account status/payment history profile/payment rating	11%
Claims account closed by consumer	10%
Claims account closed	8%
Disputes current balance	5%
Claims inaccurate information	5%
Disputes dates of last payment/opened/of first delinquency/closed	5%
Not liable for account (i.e. ex-spouse, business)	5%
Credit Limit and/or High Credit amount incorrect	4%
Claims paid the original creditor before collection status or paid before charge-off	3%
Disputes special comment/compliance condition code/narrative remarks	3%
Belongs to another individual with same/similar name	3%
Claims company will change	3%
Claims true identity fraud/account fraudulently opened	3%
Account reaffirmed or not included in bankruptcy	2%
Public Record	2%
Claims company will delete	1%
Account included in bankruptcy	1%
Settlement or partial payments accepted	1%
Hard Inquiries	1%
Late due to change of address - never received statement	1%
Disputes account type or terms duration/terms frequency or portfolio type disputed	1%
Not aware of collection	1%
Insurance claim delayed	0%

Source: Participant dispute data from Nationwide CRAs. Percent of all dispute codes received. Some Nationwide CRAs generate more than one dispute code per dispute. Although additional dispute categories exist, the above table includes all categories for which disputes were received in this study.

Appendix 3: Materials Sent and Presented to Consumers

- **Invitation**
- **Guidebook**
  - Frequently Asked Questions (FAQ)
  - Instructions For Participating In Study
  - Information About Consumer Credit Files and Credit Scores
  - Consumer Disclosures
- **Survey**

Note that these documents are the three CRA versions. The single CRA versions would not ask questions or provide phone numbers for all three CRAs, they only referred to the CRA that participant was assigned. As such, the language was modified so instead of the phrase "review your credit reports" the single CRA version would say "review your credit report".

The phone participants were mailed the Guidebook and the online participants were provided a link to it when they agreed to participate, each time they were contacted to determine if they reviewed their reports, and during the survey. Each time the link for the Guidebook was provided the participant was asked to save a copy to their computer or print it out if they had not already done so.

Consumer Invitation

Synovate Global Opinion Panels is participating in a research program to assess the accuracy of consumer information in credit reports provided by the three nationwide consumer credit reporting companies ("credit reporting companies"). If you agree to participate, you will be provided with free copies of your credit reports and credit scores from each of the three credit reporting agencies. You will be able to check all three of your credit reports for free to review their accuracy. You will also be sent an instructional guide on how to properly check for any potential inaccuracies.

Your credit reports are for your review only and will not be shared with anyone other than you. Synovate Global Opinion Panels will not disclose any of your personally identifiable information (name, current address, Social Security Number, and date of birth) to anyone except as may be necessary for you to receive copies of your three credit reports and credit scores.

To participate, you will need to call a toll-free number to order your credit reports and scores. Upon receipt of your credit reports and credit scores, we ask that you thoroughly review them for the accuracy of the information. If you believe that there are errors in your credit reports, you will be able to call each credit reporting company directly to dispute any potential inaccuracies you may have found. Whether your credit reports are accurate or at the conclusion of your review of the credit reports and communicating any disputes you may have with the appropriate credit reporting company, Synovate will contact you via email with a short 10 to 15 minute survey to obtain your opinions on your experience with this process.

Protecting your privacy is important to us. You will ++never++ be asked to buy anything or contribute to any organization. We will ++never++ sell or send your name (or e-mail address) to another party that might want to sell you anything. Any information you provide to us in your responses to the survey will be combined with responses given by others and reported in aggregate. Individual information, including your e-mail address, will be kept strictly confidential.

Please be assured that your requesting your credit reports for participation in this research project will not negatively affect your credit score.

Qu. 1 If you would like to participate in this research and receive your free credit reports and scores please select "Yes, I want to participate".

Yes, I want to participate
No, I do not wish to participate.

If you have further questions about this research project or the process, please feel free to contact Synovate Global Opinion Panels at 1-800-XXX-XXXX or by email at xxxxx@synovate.net. You may also click on the link below which will allow you to access a list of Frequently Asked Questions and other information and documents related to the study, including background information, study instructions and a consumer disclosure document.

[If yes to Qu. 1]

Thank you for agreeing to participate. Please call the toll-free phone number listed in the box below within the next week to receive your free credit reports and credit scores. You will be asked to provide your Transaction Code, provided below, and some identifying information in order to obtain your credit reports and credit scores.

Once you close this screen you will not be able to reopen this e-mail, so if you would like to participate, you may either call the number below now.

OR

You may choose to print out this page or write down the number below if you wish to participate at a later time.

Again, all personally identifiable information you provide is only used to obtain your credit reports and credit scores from the three credit reporting companies and will not be shared with any other party.

Clicking on the link below allows you to access frequently asked questions, background information, specific instructions for participation in the study and information on how to review your credit reports for inaccuracies. Please print out these instructions, as you will need them once you receive your credit reports.

[LINK]

The reports will be sent to you by U.S. Mail in separate mailings from each of the three credit reporting companies and should arrive within 15 days.

Synovate Global Opinion Panels will also be sending you a follow-up e-mail containing the study materials (Phone number, Transaction Code, FAQ's, Background Info, Study Instructions and Consumer Disclosure). Please print out the information and do not delete the e-mail.

Again, if you have any questions about this research project or the process, please feel free to contact Synovate Global Opinion Panels at 1-800-XXX-XXXX or by email at xxxxx@synovate.net

Guidebook - Frequently Asked Questions (FAQ)

1) **What is the purpose of this research?**

2) **How is this research project being conducted?**

3) **How much time will this take?**

4) **Is there an incentive for participation in this research?**

5) **What is a credit report?**

6) **What is a credit score?**

7) **What type of personally identifiable information is required to request my credit reports and scores when I call the 800# I was given?**

8) **Why do I need to give out personally identifiable information to receive my credit reports and scores?**

9) **Will accessing my credit reports affect my credit scores?**

10) **How do I determine if there are any inaccuracies in my credit reports?**

11) **How do I dispute any inaccuracies I find in my credit reports?**

12) **What do I do if my credit reports are accurate?**

13) **What happens with my dispute request?**

14) **What happens if the data provider cannot verify the information?**

15) **What happens if the data provider does not respond within the required timeframe?**

16) **If the data provider verifies the information, what happens next?**

17) **After a dispute is complete, what do I receive?**

18) **What if I submit more than one dispute at the same time?**

19) **What if I disagree with the results of an investigation?**

20) **What is a consumer statement?**

21) **Who can I contact with any questions about this study?**

1 What is the purpose of this research?

The purpose of this survey is to utilize consumer examination of their credit reports to determine the prevalence and severity of inaccuracies in their credit reports.

2 How is this research project being conducted?

Synovate is asking a random sample of consumers like you to participate in this research project. You will be asked to call a toll-free number and to request your credit reports and credit scores from each of the three nationwide credit reporting companies ("credit reporting companies"). Once you receive your credit reports and credit scores, we ask that you review them for any potential inaccuracies. If your credit reports are accurate, you will not need to do anything other than to complete a brief exit survey. If you find any potential inaccuracies, you will have the opportunity to dispute them with each of the credit reporting companies that are showing the potential inaccuracy in your credit report from them. At the completion of the process, Synovate will follow up with you to ask you about your experience with the process.

3 How much time will this take?

Depending upon how extensive your credit history is, completing your review of your three credit reports could take between half an hour to three hours.

4 Is there an incentive for participation in this research?

Participation in this study grants you free access to your credit reports and credit scores from all three major credit reporting companies. Detailed instructions are provided to you on how to properly check for any potential inaccuracies in your reports and how to dispute them. Inaccuracies which are changed may lead to an increase in your credit scores. You will also receive rewards points for completion of the survey and an additional entry into the Sweepstakes drawing for completing the survey.

5 What is a credit report?

A credit report contains information on many of your financial obligations and how you pay them. Potential lenders may use your credit report to help them evaluate whether you are a good credit risk.

6 What is a credit score?

A credit score is a numeric value based on a statistical analysis of a person's credit file which can help a lender predict the creditworthiness of that person. A credit score is based on the information in a credit report.

7 What type of personally identifiable information is required to request my credit reports and scores when I call the 800# I was given?

Your name, phone number, current address, Social Security Number and date of birth are needed to authenticate your identity. As an added security measure, you can choose to have your credit reports display no more than the last four digits of your Social Security number when they are sent to you.

8 Why do I need to give out personally identifiable information to receive my credit reports and scores?

To assure that your credit file is disclosed only to you, you will need to authenticate your identity when you call to request your credit reports. This information will only be used to process your request.

9 Will accessing my credit reports affect my credit scores?

No. Your requesting your credit reports for participation in this research project will not adversely affect your credit score.

10 How do I determine if there are any inaccuracies in my credit reports?

If you agree to participate in this research, you will be provided with instructions on how to review your credit reports for potential inaccuracies.

11 How do I dispute any inaccuracies I find in my credit reports?

If you agree to participate in this research, you will be provided instructions on how to dispute potential inaccuracies in your credit reports. When you receive your credit reports, you will be provided with a toll-free number to call, one for each credit reporting company, which you should call to dispute any potential inaccuracies. You will receive resolution within 30 days of filing your dispute. You will need to contact each of the credit reporting companies that is showing any potentially inaccurate information in their credit report on you to dispute that information.

12 What do I do if my credit reports are accurate?

Synovate will contact you with an opportunity to indicate that your credit reports are accurate.

13 What happens with my dispute request?

When the credit reporting company receives your dispute request, it will contact the data provider or source that provided the disputed information. The source will investigate whether the information it reported is correct, and, if not, provide the credit reporting company with the correct information.

14 What happens if the data provider cannot verify the information?

If the data provider or source cannot verify the information, it will be removed from your credit report. Otherwise, the information will be updated as instructed by the data provider. An updated credit report reflecting the results of the investigation will be sent to you.

15 What happens if the data provider does not respond within the required timeframe?

If the data provider or source does not respond within the required timeframe, the credit reporting company will change or delete the information as appropriate, based on your dispute. An updated credit report reflecting the results of the investigation will be sent to you.

16 If the data provider verifies the information, what happens next?

If the company or source that provided the information to the credit reporting company verifies the record, it will remain on your credit report. At the completion of the investigation, you will be notified in writing that the information was verified as accurate and will remain on your credit report. However, you can provide a consumer statement explaining your position on the disputed information.

17 After a dispute is complete, what do I receive?

You will receive a credit report reflecting the results of the reinvestigation from each of the credit reporting companies with whom you disputed information.

18 What if I submit more than one dispute at the same time?

The credit reporting company will investigate all of the information you dispute with it during the same time period. At the conclusion of the investigation, you will receive an updated credit report reflecting all of the results.

19 What if I disagree with the results of an investigation?

If you disagree with the results of an investigation on your credit report, you have the right to add a consumer statement to your report that explains your side of the situation. Customer service representatives at each of the credit reporting companies are available to assist you in writing your statement. If you would like to contact the data provider directly, contact information is included on your credit report.

20 What is a consumer statement?

A consumer statement is a personal statement that you may add to your credit report, to explain, for example, why an adverse item is listed in your credit report. Creditors or lenders should review the consumer statement and may take it into consideration when making their credit decisions. The statement remains on your credit report until you request that it be removed or the information to which it pertains is no longer in the credit report.

21 Who can I contact with any questions about this study?

You can call Synovate toll-free at 1-800-XXX-XXXX to speak to a company representative.

Guidebook - Instructions For Participating In Study

1. Per the instructions from Synovate, please call 1-866-XXX-XXXX to request your credit reports and scores.

You will be asked to provide your personal Transaction Code, found on your invitation from Synovate, and some personally identifiable information, such as your name, address, social security number and telephone number, but this information will ONLY be used to provide you with your credit report.

Your credit reports and scores should begin to arrive from each consumer reporting company a few days after you call this number.

2. Please review the Information About Consumer Credit Files and Credit Scores document, located in this packet. This will give you some background about what is in your credit report, which will help you review it for accuracy.

3. Prior to your credit reports arriving you may want to gather the latest statements from your active financial accounts (such as mortgages, auto loans, student loans, credit cards, and other loans) to enable you to quickly verify some basic account information on your reports.

4. Once your credit reports begin to arrive you can begin reviewing the instructions sent with each report. This is important since each credit report may be organized differently with the information presented in a different manner.

You do not need to wait for all your credit reports to arrive before you begin to review your reports. As noted in the Information About Consumer Credit Files and Credit Scores document, there will likely be some differences in the information in each of your credit reports (and scores) that are not due to inaccuracies, and so each report should be reviewed independently.

5. Please review all information in each one of your credit reports to verify its accuracy. And please remember that the account information may not be as up to date as your most recent account statement, since account information is usually sent to and updated by the credit reporting companies monthly. This is not an inaccuracy. Each account listed should have the month and year the information was last updated, so you should simply verify that the information was accurate during that month reported.

Please be sure to verify the following information and note any inaccuracies found:

▶ Your name, address, date of birth, and other identifying information.

▶ For each mortgage, auto loan, credit card, and other loan, verify the accuracy of:

i. Name of the lender – loans are often sold, so the name of the lender may not be the same as the original lender;
ii. Outstanding balance;
iii. Credit limit;
iv. Date opened;
v. Any adverse information (such as late payments and how late they were made);
vi. If the account is closed, whether the account was closed by you or the lender;
vii. And other information.

▶ For collection accounts, verify that the collection data is accurate.

▶ Verify any public record item listed and that the information for the public record is accurate.

6. Repeat Step 5 with each of the credit reports from the other consumer reporting companies.

7. If you have found no inaccuracies and/or have nothing to dispute, there is nothing you need to do other than to fill out a brief exit survey which Synovate will send to you at the end of the process.

8. If you have found inaccuracies gather your notes of the disputes, the credit reports, and any supporting or additional information you may need, and call each of the credit reporting companies with which you have a dispute. You should call each credit reporting company whose credit report contains the disputed information, even if the disputed information is on all three credit reports. Use the following contact numbers:

Equifax: 1-888-XXX-XXXX
Experian: 1-866-XXX-XXXX
TransUnion: 1-800-XXX-XXXX

IMPORTANT: Please only dispute your credit reports with the numbers listed above and not via mail, other phone numbers, web sites, or with the data furnishers.

Once you have disputed all the inaccuracies and receive the reinvestigation results from each credit reporting company you contacted regarding a dispute you are now done with this stage of the study. Thank you for participating. Please look for a follow-up email or call from Synovate that will confirm you have made all of your planned disputes and have you complete a brief exit survey.

Guidebook - Information About Consumer Credit Files and Credit Scores

Information About Consumer Credit Files and Credit Scores

Details about your financial behavior and identification information are contained in your personal credit report. This is sometimes called a credit file or a credit history. A copy of your credit report makes it easy for you to understand the information a lender would see if they review your credit history.

Types of information in credit reports:

1. Personal information can include your name(s) and addresses associated with your credit accounts, telephone number, your Social Security number, date of birth and current and previous employers.

2. Inquiries. Credit reporting companies record an inquiry whenever your credit report is provided to another party, such as a lender, service provider, landlord, or insurer. Inquiries remain on your credit report for up to two years. Credit reporting companies also keep a record of those companies who obtained information from your credit report for the purpose of extending a pre-approved credit or insurance offer or to review an existing account. These pre-approved offer and account review inquiries are sometimes referred to as 'soft' inquiries, are retained for your information and are not revealed to creditors nor impact your ability to obtain credit.

3. Credit information includes specific information about your credit accounts, such as the date opened, credit limit or loan amount, balance owed, payment terms and monthly payment history. The report also states whether you are a joint account holder or co-signer, an authorized user, or individually responsible for paying the account. Favorable credit information may remain on your credit report indefinitely, while most adverse information, including accounts paid late, remains only for up to seven years.

4. Third party collection information includes information about debts that have been referred to a third party collection agency for collection. The original creditor and the balance owed are generally reported. Collection accounts, even if paid, can remain for up to seven years from the date of the original delinquency.

5. Public record information may include civil judgments, tax liens, overdue child support, bankruptcy and other public record information. Bankruptcy information can remain on your credit report up to 10 years; and most other public record information can remain up to seven years.

Your credit report does not contain data about race, race, religion, specific medical or health records, personal lifestyle, political preference, friends, criminal records or any other information unrelated to credit or debts. Nor is there information about your income, or checking or savings accounts.

Not all accounts are reported to credit reporting companies. Some creditors do not report all their accounts to all credit reporting companies for inclusion in consumer credit reports. Reporting to a credit reporting company is voluntary, so the absence of accounts that are not reported does not constitute an inaccuracy.

"Statements of dispute" also may be added by you or your creditors, if you and your creditor cannot agree on an account's status. This statement may be reviewed by anyone who reviews your credit report. Creditors may also report temporary dispute statements when you challenge an account's status with them. The statement is no longer reported when the dispute is resolved, usually within 30 days. When a statement of dispute is added at your request it is also called a "consumer statement".

Why credit file data and credit scores may differ across credit reporting companies?

Accounts that are reported to one credit reporting company are not always reported to all three credit reporting companies - The three nationwide consumer credit reporting companies each maintain separate credit reporting databases. Data furnishers, such as credit card companies, mortgage lenders, or collections agencies voluntarily report their information and may choose to report to one, two, or all three of these major credit reporting companies. For this reason, information may appear on your credit report from one credit reporting company that does not appear on your credit reports from one or both of the other credit reporting companies. The absence of an account on one report that appears on the other reports is not in itself an inaccuracy.

Consumer account information is usually updated monthly, and this take place at different times for each of the credit reporting companies – Account information at the credit reporting companies are not generally updated in real time, so the information may not line up exactly with your current billing statement. The month the account information was sent to the credit reporting company will be shown on the credit reports. The exact timing of each month when your account information was provided to each credit reporting company may vary. So, each credit reporting company may have different account information for the same account, depending on when it was sent the account information. Such issues regarding the exact timing of information updates do not constitute inaccuracies.

Due to these potential differences in timing and accounts reported by the credit reporting companies, your credit score (see below) may vary among the credit reporting companies, even if using the same credit scoring model.

What is a credit score?

Credit scores are generated by statistical models using information from your credit report. Credit scores are also called risk scores because they can assist lenders to predict the risk of whether you will repay your debt to them as agreed. For example, a credit score can help lenders decide: "If I give this person a loan or credit card, how likely is it I will get paid back on time?" Credit scores are not stored as part of your credit history in your credit report. Rather, credit scores may be generated at the time a lender requests your credit report, using that current credit report to calculate the credit score. The credit score is then delivered with the credit report.

Credit scores change as the data elements in your credit report change. For example, making or missing a payment or opening a new account could cause scores to change. There are many different credit scoring models, and thus different credit scores that can be calculated from your credit report. Not all lenders use scores, and the type of score used will vary from lender to lender. A single lender may even use different types of scores for different types of loans (such as a car loan vs. a credit card).

The credit score that is to be sent to you as part of this study is for your own information. With your score you will also receive information to help you understand what information in your credit report had the greatest impact on your score. We will not ask you to verify that your scores are accurate, but do ask that you verify that the information in your credit reports are accurate, since that information is used to compute your credit scores.

The scoring model used to calculate the score you receive may not be the same credit scoring model as the ones used by lenders or by other credit reporting companies in this survey.

How scores are calculated?

Developers of credit scoring models review anonymous information on a set of consumers – often over a million. The anonymous credit reports are grouped based on the behavior the score is designed to predict, such as those who paid their accounts on time vs. those who paid late. The historical credit information of the consumers in each group is examined to identify common variables they exhibit. The developers then build statistical models by selecting the credit variables most predictive of the future behavior the credit scoring model is designed to predict and assigning appropriate weights to each variable.

Models for specific types of loans, such as auto or mortgage, more closely consider consumer payment statistics related to these loans. Model builders strive to identify the best set of variables from past credit history that most effectively predict future credit behavior.

What affects a credit score?

The information that impacts a credit score varies depending on the credit scoring model being used. Credit scores are affected by various elements in your credit report, such as:

Payment history. A record of late payments on your current and past credit accounts will typically lower your score. Being consistent about paying on time can, over time, have a positive impact on your score.

Public records. Matters of public record such as bankruptcies, judgments, and tax liens may lower your score.

Length of credit history. In general, managing your credit history responsibly over a longer period of time is better and will have a positive impact on your score.

New accounts. Opening multiple new accounts in a short period of time may negatively impact your score.

Hard inquiries. "Hard" inquiries typically result when your credit is checked as a result of a credit application. A large number of recent "hard" inquiries may negatively impact your score.

Accounts in use. The presence of too many open accounts can have a negative impact on your score, whether you're using the accounts or not.

Credit utilization. Utilization refers to how much of your available credit you are using. Carrying large balances on revolving accounts (such as credit cards) relative to your credit limits may lower your credit score.

Credit scores do not consider the following information:

- Information that is not included in your credit report, such as your race, color, religion, national origin, sex or marital status. U.S. law prohibits credit scoring models from considering these facts, as well as any receipt of public assistance, or the exercise of any consumer right under the Consumer Credit Protection Act.
- Your age, except in very limited situations
- Your salary, occupation, title, employer, date employed or employment history; however, lenders may consider this information outside of a score in making their approval decisions
- Where you live
- Certain types of inquiries (requests for your credit report). Credit scoring models do not count "consumer disclosure inquiry" requests or similar inquiries that you have made to check your own credit report. Scores also do not count "soft" or "promotional inquiry" requests made by lenders in order to make a "pre-approved" credit offer – or "account review inquiry" requests made by lenders to review your account with them. Finally, inquiries for employment purposes are not counted by credit scores.

Guidebook – Consumer Disclosures

By agreeing to participate in this survey, you agree that you will follow all of the protocols required by the survey. You will receive a free copy of your consumer disclosure from all three nationwide consumer credit reporting companies ("credit reporting companies"), commonly referred to as your "credit report," along with a free copy of your credit score from each credit reporting company as calculated using a VantageScore or FICO scoring model. You agree to carefully review your three credit reports and to only dispute those items that you believe are inaccurate. You also agree that you will report to Synovate if you do not find inaccuracies in your credit reports.

Your requesting your credit reports for participation in this research project will not negatively affect your credit report nor your credit score.

This survey is not affiliated with www.annualcreditreport.com, and your participation will not affect your ability to obtain a free annual credit report from any of the three nationwide consumer credit reporting companies.

Personally Identifiable Information:

Neither Synovate nor any of our partners in this survey process will share any personally identifiable information except to the extent it is required for you to obtain your credit reports and credit scores.

You must complete all of the protocols of this survey, including:

- Calling the toll free number provided with this survey to obtain your credit report, and utilizing the unique Transaction Code assigned to you by Synovate;
- Reviewing all 3 credit reports for possible inaccuracies;
- Reporting to Synovate if you find that your credit reports are accurate;

- If you have questions about your credit report or the information contained therein, or if you determine that there are potential errors in your credit reports, you will promptly contact each credit reporting company which provided a credit report containing a potential error. You will contact each credit reporting company using the designated dispute number provided on the credit report that you received as part of this study and follow the dispute procedures provided;
- If you have additional materials you want to provide to one or more of the credit reporting companies, be sure to tell that company's agent when you call that company as described above, as provided for under the FCRA;
- If you choose to submit a dispute to one or more of the credit reporting companies, it will be resolved in the same manner as all other disputes, in accordance with the Fair Credit Reporting Act;
- If you choose to submit more than one dispute with one or more of the credit bureaus, it may be processed (applied to your credit report) in a way that may take more time than the normal process, but in any case will still be completed within 30 days or less as required by the Fair Credit Reporting Act;
- You agree not to disclose your participation in this study nor the existence of the study.

If you do not follow and complete the protocols of this study, you will not be eligible for the incentives for participation in this research.

Partners:

In order to complete this survey, Synovate is working with a number of partners. However, no personally identifiable information is being shared by Synovate or any of its partners except to the extent required to provide you with your credit report and score.

Survey

S1. Please indicate which company's credit report you have received by mail. / Have you received your credit report?

Select all that apply

TransUnion
Experian
Equifax
I have not yet received any of my credit reports

S2. Have you thoroughly reviewed (the credit reports / your credit report) you received?

TransUnion (Yes/No)
Experian (Yes/No)
Equifax (Yes/No)

S3. Do you plan to review the other credit report(s)? (Yes/No)

S3A. Have you thoroughly reviewed the credit reports you received?

TransUnion (Yes/No)
Experian (Yes/No)
Equifax (Yes/No)

1. Did you find what you believed were inaccuracies in (any of the credit reports / the credit report) you reviewed?

Select all that apply

Yes, in my report from TransUnion
Yes, in my report from Experian
Yes, in my report from Equifax
No, there were no inaccuracies in (any of the reports I / the report I) reviewed

SKIP TO Q.13

2. Was the perceived inaccuracy the same in each report?

Yes
No

3. How many perceived inaccuracies were there?

TransUnion #_______
Experian #__________
Equifax #_________

4. What types of inaccuracies were there?
Please select all that apply.

	TransUnion	Experian	Equifax
Personal information (Name, Address, SSN, Date of Birth, Employment, etc)			
Creditor / Collections Information			
Public Record information			
Other (Specify)			

5. Did you dispute the perceived inaccuracies?

	TransUnion	Experian	Equifax
Yes, all.			
Yes, some.			
No, None.			

6. Do you plan on disputing these perceived inaccuracies?

Please select one.

	TransUnion	Experian	Equifax
Yes, all.			
Yes, some.			
No, None.			

7. Why do you plan to not dispute all of the inaccuracy(s) you found in your credit (reports / report)?

Select all that apply.

	TransUnion	Experian	Equifax
I was not certain that the information was actually inaccurate.			
I did not think the inaccuracies were important enough or were impacting my credit scores/credit reports / credit score/credit report) enough to justify disputing.			
The dispute process seemed too difficult or time consuming.			
I believe the inaccuracies were benefiting me, so I did not dispute them.			
Other (Specify)			

7a. You mentioned you did not dispute one or more of your credit report inaccuracies because they were not important enough or were not impacting your credit score or report enough to justify disputing. Was that mostly because...?

Select all that apply.

	TransUnion	Experian	Equifax
The inaccuracy seemed MORE THAN MINOR, but your credit (reports and scores / report and score) are sufficiently good that you don't believe the inaccuracy has a meaningful enough impact to justify disputing.			
The inaccuracy seemed MORE THAN MINOR, but your credit (reports contain / report contains) other negative items and you don't think correcting the inaccuracy would make a meaningful difference to your credit (reports or scores / report or score).			
The inaccuracy seemed MINOR so you don't think the impact on your credit report or score justified disputing.			
Other (Specifiy)			

8. Did you experience any difficulties with the dispute process?

Yes, please explain___________________________
No.

9. Has your dispute been resolved?

TransUnion (Yes/No)
Experian (Yes/No)
Equifax (Yes/No)

10. How was the dispute resolved?

	TransUnion	Experian	Equifax
Adjusted in the way I requested			
Adjusted, but not in the way I requested			
Not adjusted			

11. Were you satisfied with the outcome of the dispute(s)?

TransUnion (Yes/No)
Experian (Yes/No)
Equifax (Yes/No)

12. Have you done or do you plan to do any of the following based on your claim experience with the company?

Select all that apply.

	TransUnion	Experian	Equifax
Re-dispute your claim with additional information			
Add a comment to your credit report			
Dispute the inaccuracy directly with the merchant or service provider			
None of these			

13. Are there any changes that you would recommend to improve this study and/or make it easier to explain to participants how to review their credit files or file a dispute?

Yes, please explain_________________________
No.

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