

# Expanding credit access with alternative data

When used responsibly, untapped data sources  
can help score millions more consumers.



## Introduction

Widespread adoption of credit scoring by financial institutions over the past 30 years has made credit available and affordable to a majority of US consumers. But the ongoing challenges millions of Americans face when attempting to access credit remain an issue of great concern to consumers and consumer advocates, financial institutions and policymakers. Is there an opportunity to go further, opening onramps to credit for a much broader population? Can new types of data help lenders safely and responsibly extend credit to consumers who traditionally don't receive credit scores because of insufficient or nonexistent credit bureau information?

FICO believes unequivocally that it can. In fact, we found that with the addition of alternative data sources currently residing outside credit bureau files, we can generate reliable, predictive risk scores for more than half of previously unscorable credit applicants. This approach accurately reveals significant differences in credit health among these consumers — enabling lenders to recognize and extend credit to individuals who would otherwise be difficult to assess.

This white paper outlines how with the right alternative data approach, millions more consumers demonstrate acceptable credit risk and qualify for credit — with most who obtain it then going on to further improve their credit status. We present key research findings showing:

- The six-point criteria FICO uses when evaluating which types of data are appropriate for inclusion in credit scoring models
- The types of data that already exist in traditional credit bureau files — and what is missing
- The existing makeup of the unscorable population
- The types of consumers most likely to benefit from an alternative data-based credit score
- The significant role these innovative scores can play in helping people access credit for the first time and get on the ladder to the mainstream financial system

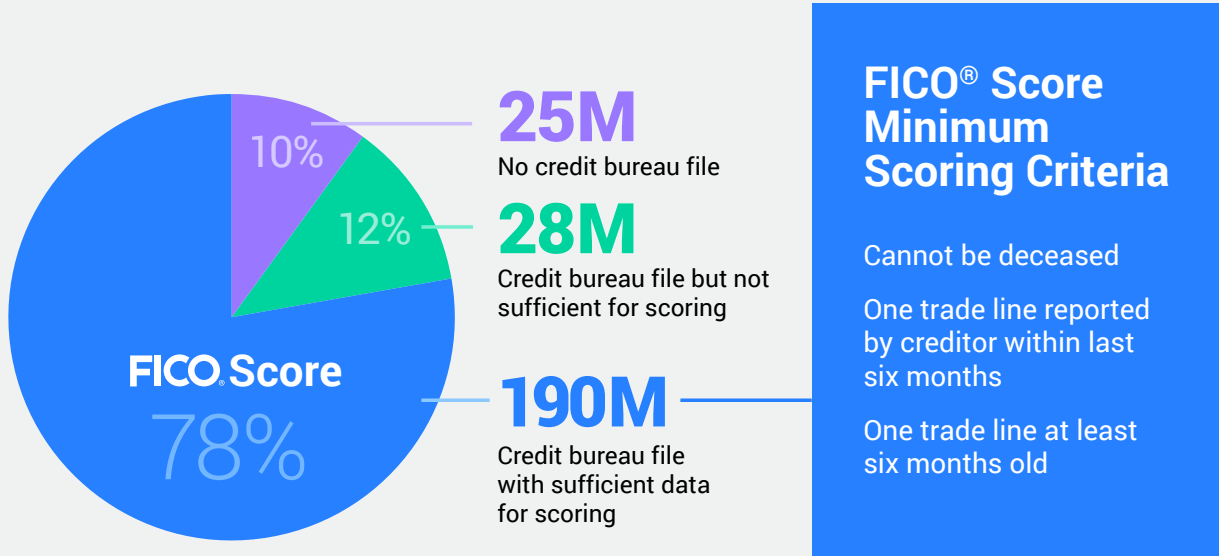
Responsible approaches to alternative data can help millions more consumers qualify for credit — and go on to improve their credit standing.



As part of our credit score development process, FICO regularly conducts research exploring how to generate reliable, predictive risk scores for the more than 50 million US adults who don't currently have FICO® Scores.

This research starts with understanding what allows FICO to give millions of Americans a credit score — and what is holding back the millions more who don't have one. Roughly 190 million US consumers have credit bureau files that meet the minimum criteria for calculating a FICO® Score (Figure 1). But 28 million consumers have files with insufficient data to meet these criteria. And more than 25 million consumers have no bureau file at all.

FIGURE 1: WHO RECEIVES A FICO® SCORE?



These two groups of 53 million “unscorable” Americans include many individuals that financial institutions would welcome as customers. Given scant or nonexistent credit bureau data for these consumers, can scoring be predictive and reliable enough to identify acceptable credit risks so lenders can confidently extend credit to them?

The answer is yes – but only when bureau data is supplemented with alternative data that fill in these consumers’ financial picture.

## Not all alternative data is created equal

In a world that is inundated with vast new sources of data, consumers and lenders both expect modern credit scoring models to incorporate data from as many of those sources as possible. And a key reason there is an opportunity to score more consumers today is the growing number of alternative data sources that have come to market in recent years. But not all types and sources of alternative data provide equal value for credit scoring, and the mere existence of a data source is not sufficient to merit its inclusion in the scoring models used to originate and assess billions of dollars in consumer loans.

Consider telecommunications payment data. It has many similar qualities as data reported in traditional credit files. In fact, telecom companies themselves occasionally report customer account status to the three primary credit bureaus (Equifax, Experian and TransUnion). Yet this information is present in less than 10% of bureau files — and where it is, it tends to be negative.

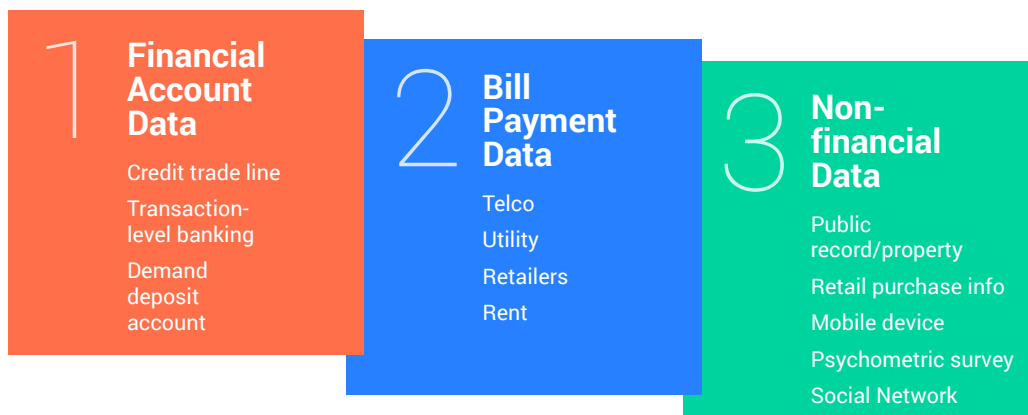
Much more complete telecom data is available from alternative sources — and it includes positive as well as negative information. That's important for expanding credit access since it can provide current evidence of good financial behavior where that's missing from bureau files. For consumers with no credit history and those emerging from financial difficulties, opening a telecom account can be a first step on the road to increased access to credit.

Of course, not all forms of data are equally helpful for the primary function of a credit score — predicting a consumer's default risk — either. Figure 2 outlines a hierarchy of which forms of consumer data are most useful in credit score development. Unsurprisingly, the most predictive tier is financial account data, such as a consumer's already existing credit trade lines and their demand deposit account data (activity in checking, savings and money market accounts).

Not all types and sources of alternative data provide equal value for credit scoring.

However, the second tier of data — telco, utility payments, rental payments, and the like — can also be beneficial, particularly in cases where little data exists on a given consumer from the first tier. And while FICO incorporates some limited data sets from the third tier, such as public records, in U.S. credit models, they are most valuable in overcoming the absence of data from the other two tiers, which is more often the case in some international markets.

**FIGURE 2: FINANCIAL AND BILL PAYMENT DATA IS MOST USEFUL FOR CREDIT RISK PREDICTION**





In recent years, FICO has also piloted credit scores that use demand deposit account (DDA) data, including checking, savings and money market account data, that reflects responsible financial management activity. Based on our research and experience, alternative data sources must demonstrate that they make the grade across a number of important dimensions.

All of the alternative data sources we use in the research discussed in this paper and in our real-world products pass these hurdles:

FICO Six-Point Test	
<b>Regulatory compliance</b>	<p>Any data source must comply with all regulations governing consumer credit evaluation. To comply with the Fair Credit Reporting Act (FCRA), for example, a data provider must have a process in place for investigating and resolving consumer disputes in a timely manner. In addition, for the data to be useful in high-volume scoring, the vendor must have an infrastructure that supports compliance at a significant scale.</p> <p>In evaluating potentially useful data, it's also critical to think ahead about how creditors will communicate with consumers, for example, about adverse action decisions resulting from the use of the data. Will creditor decisions be palatable and defensible? Can the role the data plays in decisions be clearly explained to consumers and regulators?</p>
<b>Depth of information</b>	<p>The deeper and broader the data, the greater its value. Consider a repository of rental data: Does the data reflect both on-time and late payments? Is the account history captured from the beginning of a consumer's rental history or just for a recent period? If the consumer has moved, are there records from multiple addresses?</p>
<b>Scope and consistency of coverage</b>	<p>Since the objective is to score as many consumers as possible, useful databases must cover a broad percentage of the population. For instance, with over 90% of US adults using cell phones, mobile companies are a potential data source with broad coverage. The data must also be consistent in nature – not undergoing significant change in capture or reporting that would undercut its value for comparative analysis.</p>
<b>Accuracy</b>	<p>Inaccurate data compromises the predictiveness and, therefore, the value of the data. Data repositories must have a mature data management process in place to ensure data accuracy. It's important to ask questions like: How reliable is the data? How is it reported? Is it self-reported? Can the data be easily manipulated by applicants or others? Are there verification processes in place?</p>
<b>Predictiveness</b>	<p>The data should predict future consumer repayment behavior. For example, analysis of public record databases shows that in many cases, consumers who have been at their address for a longer period of time are more likely to pay their credit obligations than those more transient. Such a data source would add value for credit risk evaluation.</p>
<b>Additive value – aka “orthogonality”</b>	<p>Useful data sources should be supplemental or complementary to what's in credit bureau reports. For example, if a repository collects only foreclosure data from public record information, that data may add little value since it is already largely captured in bureau reports. On the flip side, as discussed in the next section, the National Consumer Telecom &amp; Utilities Exchange can supplement the traditional credit bureau files with regard to telco and cable bill payment data.</p>

Where credit bureau data falls short

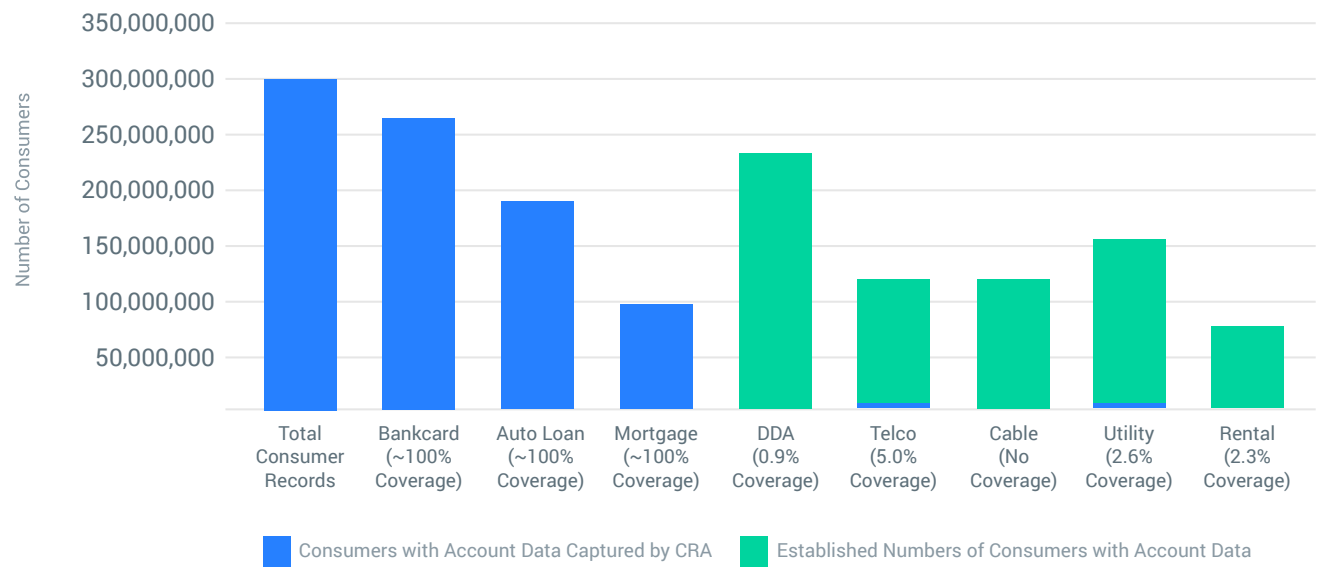
Alternative data has garnered increased interest in recent years due to the approximately 53 million Americans who have scant or nonexistent credit bureau files and thus do not have a FICO® Score. A major reason for those numbers is that while banks reliably report payment information about existing loans to the credit bureaus, data reporting for other forms of consumer data is much less frequent. This places tens of millions of consumers in what is known as the credit “catch-22.” To receive credit, they need to demonstrate a successful history of credit repayment, which cannot be accomplished without being able to access credit in the first place.

The important thing to know is that this problem *can* be solved — millions of consumers every year establish a credit history for the first time — but it *cannot* be solved simply by putting a new spin on the existing credit bureau data.

New models that incorporate data from sources beyond the traditional credit bureau data file are necessary.

To illustrate why credit bureau data alone is insufficient, we must look at some categories of data sometimes referred to as “alternative,” and when it exists at the credit bureaus. For example, in the US, 92 percent of consumers have cell phones, but just 5 percent of consumers have telco data in their traditional credit bureau files (Figure 3). The story is similar for rental payments: of the roughly 80 million U.S. adults who live in rental housing, just 1.8 million (2.3 percent) have a rental trade line reported in their traditional credit file. That means credit scoring models relying solely on traditional credit bureau data will be unable to leverage this data to expand access to credit.

FIGURE 3: CREDIT BUREAU COVERAGE IS GREATER FOR SOME TYPES OF DATA THAN OTHERS



Instead, new models that incorporate data from sources beyond the traditional credit bureau data file are necessary to reap the potential benefits of alternative data for credit scores.

## Scoring the unscorables

Measuring the potential benefits of alternative data requires first understanding what enables companies like FICO to calculate credit scores for tens of millions of Americans — and what gaps prevent us from doing the same for all consumers.

As noted previously, there are 28 million Americans who don't receive a FICO® Score because they have insufficient data in their credit bureau files to meet FICO's minimum scoring criteria. And there are a further 25 million who are credit-invisible due to having no credit bureau files at all.

FICO research regarding the 28 million with sparse or old bureau data consistently shows that predictive scoring models relying solely on sparse or old credit data do a poor job forecasting future performance. Such data is not sufficient to accurately identify the good risks creditors will accept — and, therefore, not helpful for expanding access to credit.

For lenders, use of a weak score could mean declining applicants they should have accepted, and vice versa — producing higher levels of delinquency and lower lending volume than necessary. For consumers, it could mean receiving lower credit lines/loans than requested and needed or higher than they can handle.

Moreover, for the majority of the 28 million consumers with scant or stale bureau data, scoring based on that data alone won't make it easier for them to establish credit. About two-thirds of these consumers have a negative item on their files and no active accounts. With no positive data flowing into their files to offset the negative, they would likely score too low to obtain credit, absent the ability to demonstrate credit and financial health via some other form of data.

Take a consumer who has recovered from a negative financial event occurring three years ago: Without current information flowing into the credit file, no amount of analytic segmentation or other innovation can generate a score reflecting that consumer's current risk profile. Thus, scoring based on credit bureau data alone won't help consumers with inactive credit and those who need to rebuild their credit standing.

Predictive scoring  
models relying solely on  
sparse or old credit data  
do a poor job forecasting  
future performance.

This is not to say that borrowers with older data should be ignored. Instead, it shows that scoring models that utilize alternative data can bridge the gap if they demonstrate more recent examples of responsible financial behavior. Similarly, scoring from bureau-only data won't help the 25 million with no credit bureau files at all. They're stuck in the same catch-22.

**The bottom line: Traditional credit bureau data must be supplemented with alternative forms of data to score more consumers in a manner that reliably reflects their true level of credit risk.**

Who benefits from alternative data?

The next step is understanding who within the unscorable population is a) most likely to actually be applying for credit, and b) most likely to benefit from a score that is supplemented with alternative data.

FICO’s newest alternative data score is FICO® Score XD. A partnership with LexisNexis® Risk Solutions and Equifax®, FICO Score XD utilizes the most recent data from expansive data sources, ensuring the scoring results reflect current behavior trends. To develop the model, FICO utilizes Fair Credit Reporting Act (FCRA)-compliant alternative data sources, including new sources of telco and utility payments, to provide reliable scores to people who can’t be scored using traditional credit bureau data alone.

The model is able to score over 26 million previously unscorable consumer files, including over 11 million who are without credit files and unscorable by

any scoring system relying on traditional credit bureau data alone, and increases the applicant population able to be given a FICO® Score from 91% to 98%.

Another new product, the UltraFICO™ Score, launched as a pilot program with Experian and Finicity in early 2019, utilizes consumer-contributed data, such as checking, savings and money market account data, that reflects responsible financial management activity. Our research has found that up to 15 million people in the US can receive an UltraFICO Score, even if they don’t have enough credit history to generate a FICO® Score.

The benefits of alternative data scores flow disproportionately to those for whom it is most beneficial.

And 7 out of 10 people in the US who have had consistent cash on hand in recent months and kept positive balances on their accounts, could see an UltraFICO™ Score that is higher than their traditional FICO® Score.

The benefits of alternative data scores like FICO® Score XD flow disproportionately to those for whom it is most beneficial. As shown in Figure 4, those who are unscorable because they are new to credit make up about 40% of the pool of credit applicants among currently unscorable consumers — and more than four in five are scorable using FICO Score XD. These are also the youngest members of the unscorable population, with a median age of 23. Contrast that with the population that is “voluntary inactive,” meaning that they have largely stopped using credit. While this group is less scorable using FICO Score XD, they are also much older (median age: 73) and much less likely to even be seeking credit. It is thus less consequential that alternative data proves less beneficial to this group.

FIGURE 4: Alternative data is most beneficial for scoring those who are new to credit

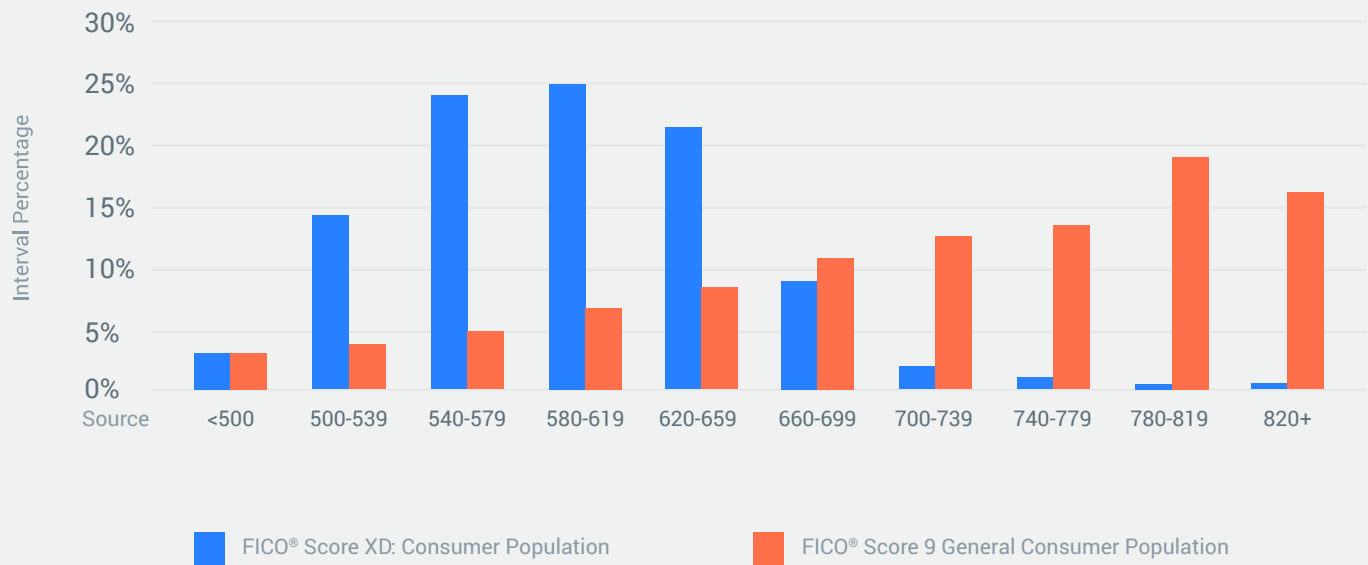
Segments	Median Age	Traditional Credit Data Available	Typical Proportion of Applicant Pool	Typical Segment Scorable Rate
Voluntary Inactive	73	Stale – Median time since last update is 56 months	(1 - 4 %)	(60 - 65%)
Derogatory Info on File (Involuntary Inactive)	43	Stale – Median time since last update is 36 months	(20 - 30%)	(70 - 75%)
New to Credit	23	Majority among applicant groups are inquiry only - most systems will not score	(35 - 40%)	(80 - 85%)
No Traditional Credit File (CB No-Hit)	27	No	(35 - 40%)	(50 - 55%)



Another oft-expressed concern with alternative data is that most consumers scorable using alternative data will receive scores that are too low for them to receive credit, locking them into low scores and perpetuating the catch-22. But as Figure 5 shows, while the distribution of FICO® Score XD scores for the previously unscorable is lower than the distribution of traditional FICO® Scores, nearly nine million previously unscorable consumers receive a score above 620. And in our testing, those with a FICO Score XD over 620 who go on to obtain credit maintain a high traditional FICO® Score in the future – 75% scored 620 or higher in the subsequent 24 months.



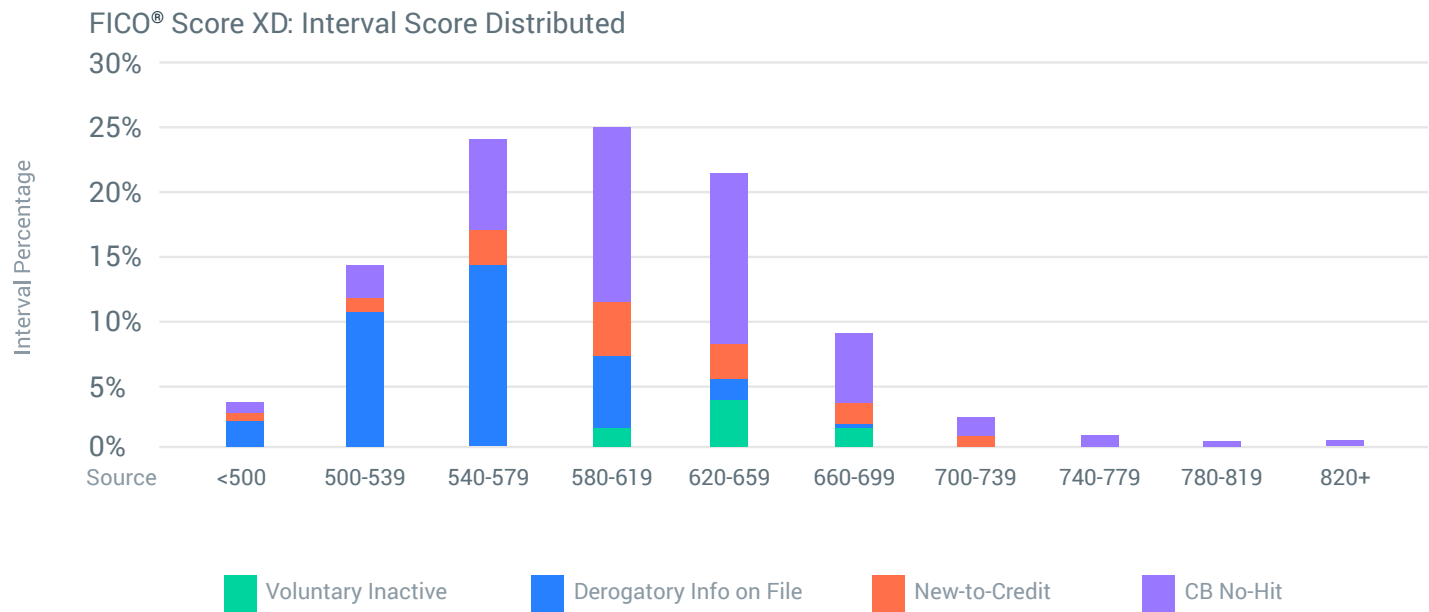
**FIGURE 5: NEARLY 9 MILLION NEWLY SCORABLE CONSUMERS RECEIVE A FICO® SCORE XD ABOVE 620**

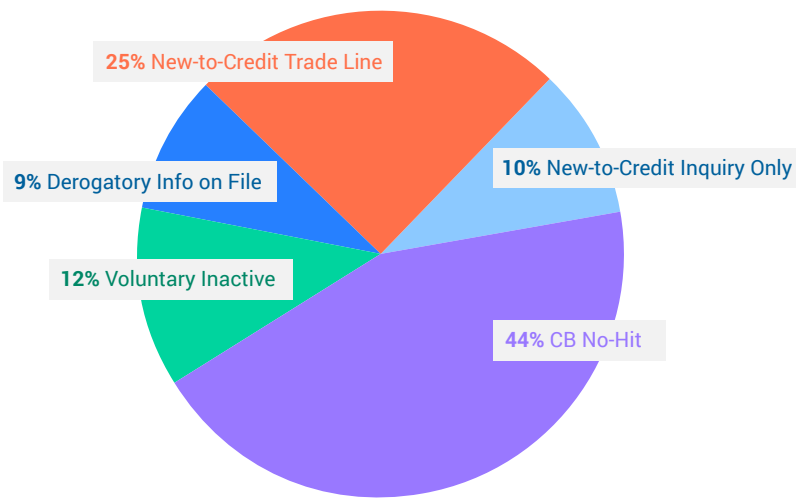


Segmenting even further reveals the benefits of this type of alternative data score in more detail. Figures 6 and 7 demonstrate that the low end of the distribution for FICO® Score XD is largely consumers who already have derogatory information on their traditional credit bureau file, while the high end is more likely to be those who are new to credit or have no credit bureau file — the populations that can benefit the most from getting on the ladder to the mainstream credit system.



**FIGURE 6: ALTERNATIVE DATA SCORES PROVIDE THE MOST BENEFIT TO CONSUMERS WHO ARE NEW TO CREDIT OR HAVE NO CREDIT BUREAU FILE**



**FIGURE 7: MANY CONSUMERS WITH ALTERNATIVE DATA SCORES ABOVE 620 ARE NEW CREDIT SEEKERS**

FICO® Score XD Segments Applicants  
with Score Greater than or Equal to 620

Applicants of higher credit quality include many new credit seekers.

Over 50% of applicants scoring over 620 are composed of consumers with no credit file or inquiry only files.

Traditional credit data alone is insufficient to assess risk on these sparse/no file applicants.

With this approach, most previously unscorable applicants granted credit go on to not just receive credit, but also manage their credit obligations responsibly. A majority of applicants with an alternative data score of 620 or higher at account origination have a FICO® Score of 620 or higher 24 months later. Two-thirds achieve a FICO Score of at least 660, and nearly half rise above 700. This data supports the premise that an alternative data score can be an effective tool in providing unbanked or underbanked consumers a safe onramp to mainstream credit.

### The first step is the hardest

While there is significant work to be done in educating all consumers about credit management and responsible financial behavior, the critical step in

solving the catch-22 of credit invisibility is simply getting consumers into the mainstream credit system in the first place. No one is born with a file at the credit bureaus, but according to research from the Consumer Financial Protection Bureau, 91% of consumers acquire a credit record before they turn

The critical step in solving the catch-22 of credit invisibility is simply getting consumers into the mainstream credit system in the first place.

30.<sup>1</sup> As noted earlier, that 91% aligns very closely with the overall percentage of consumers seeking credit who can be

scored by FICO using credit bureau data alone — in other words, it is uncommon for a consumer who is credit-invisible at 30 to later become credit-visible.

Therefore, the critical window for bringing consumers onto the mainstream credit ladder is the window from ages 18 to 30. Recalling Figure 4, this group (median age 23 for those who are new to credit, and median age 27 for those with no bureau file) also makes up the bulk of the actual credit applications among the unscorable population. Using alternative data to close much of this gap at a point in time when consumers are most likely to be actively seeking the early credit they need to establish a reliable payment history is thus the trick to unlocking the entire challenge of credit invisibility.

<sup>1</sup>[https://files.consumerfinance.gov/f/documents/BecomingCreditVisible\\_Data\\_Point\\_Final.pdf](https://files.consumerfinance.gov/f/documents/BecomingCreditVisible_Data_Point_Final.pdf)

## Considering fraud and alternative data

As we think about financial inclusion, it's important to be mindful of the fact that any available credit bureau data is likely to be sparse. Alternative data can help fill holes, but sparsity of data will still likely be an issue. As well intentioned as lenders may be with new efforts to broaden financial inclusion, there will always be bad actors who see this as an opportunity.

As the number of available data points in making a credit risk decision become sparser, the potential for first-party fraud increases. It is easier to create a false identify or synthetic ID based on fewer data points. Implementing an alternative data scoring solution needs to be viewed through a fraud lens as well as an inclusion lens. Ensuring proper fraud screening grows in importance and could be challenging in the absence of a credit bureau file.

When it comes to the source of the scoring data from a third-party database, attention to the collection, maintenance and security of that data is critical (as is noted earlier in FICO's six-point test). Being able to cross check and verify the data with other elements either within the database or with external sources is equally important. Establishing a process that requires greater consumer interaction and establishing identity, such as acquiring consumer permissioned data from secure bank accounts, may deter some fraud.

Engineering predictive characteristics that are more difficult to manipulate, such as relying on longer time observations or multiple data sources can help reduce fraud. Use of alternative data in scores used for the continued assessment of credit risk for unscorable consumers once an account is booked (i.e., account management) may provide visibility into fraud trends in the first few months of the account life beyond the initial account origination screening.

Just as there are ways of assessing credit risk with alternative data, the use of new data sources and techniques for reducing fraud risk is constantly evolving and should be considered an important component of any strategy for bolstering financial inclusion.

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Lessons from international credit markets

As a provider of analytic solutions in more than 120 countries around the world, FICO is able to zoom out and incorporate insights from the challenges of risk assessment in other countries with different consumer populations to inform our work in the US.

For example, we have recently piloted Telco and Mobile Wallet Scores geared toward countries in Africa where less than 10% of the population has a traditional credit bureau file but mobile phone adoption exceeds 70%. Globally, two-thirds of unbanked adults have a mobile phone, making telco data a prime candidate for greater incorporation into alternative data-based credit scores.



FIGURE 8: IN COUNTRIES WHERE CREDIT BUREAU COVERAGE IS POOR, ALTERNATIVE DATA PROVIDES CRITICAL INSIGHTS

Why Telco and Mobile Wallet Scores?

Advanced Financial Inclusive via Mobile/Digital Lending

Credit bureau coverage poor or non-existent in some markets (<10%)

While mobile adoption is high (>70%)

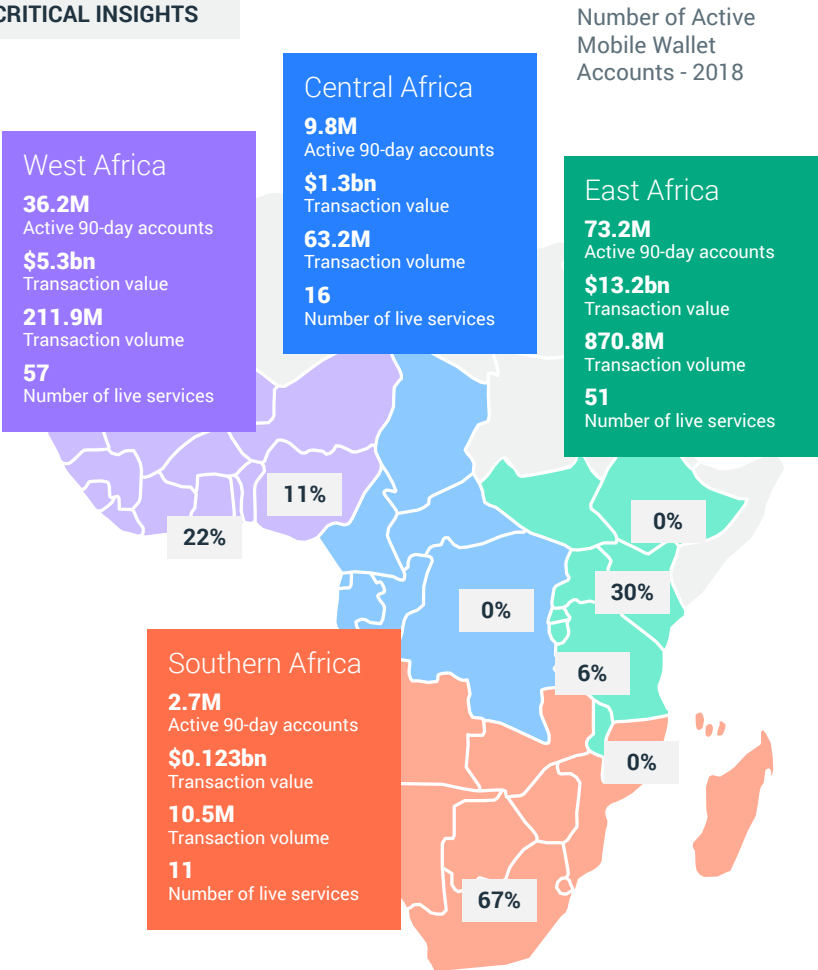
Two-thirds of unbanked adults worldwide have a mobile phone

In Sub-Saharan Africa:

- 396M registered mobile money accounts
- 146M active 90-day accounts
- Surpassed traditional deposit accounts in 2015, and have widened the gap since.

2018 Private Credit Bureau Coverage (% of adults) - World Banks

Source: GSMA Mobile Money Program





## Conclusion

The financial services industry and the majority of US consumers have benefited immensely from the broad and expanded access to credit made possible by credit scoring. As we enter a new decade, we have an opportunity to extend scoring to millions more consumers who have previously been invisible to mainstream financial institutions.

The goal, however, is not to just generate more scores — but to generate scores that enable lenders to safely and responsibly extend credit to more people. Today, credit bureau data alone isn't enough to do that. Alternative data is essential for

scoring to accurately reflect the financial behavior and risk of previously unscorable consumers seeking to join the credit mainstream, ultimately leading to a fairer, more inclusive financial system.

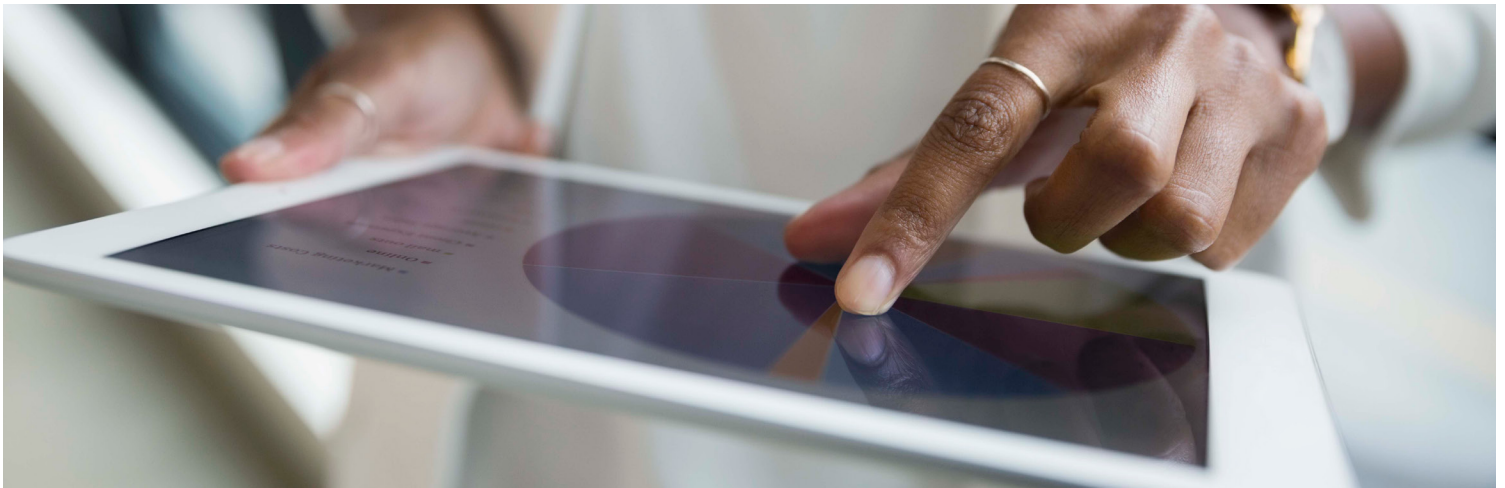
The FICO research in this paper provides the foundation for our ongoing work to develop more predictive scores that incorporate alternative credit data. Lenders interested in learning more can contact us at [FICOscoreinfo@FICO.com](mailto:FICOscoreinfo@FICO.com). To keep tabs on the latest FICO research on scoring best practices and credit risk trends, visit the FICO Blog.



## Appendix: FICO research insights

FICO data scientists are regularly evaluating new sources of alternative data to evaluate their merit for inclusion in our credit scoring models. The following explores additional findings from our product development process and further considerations for the use of alternative data in credit scoring:

- Research results consistently show that predictive scoring models relying solely on sparse or old credit data do a poor job forecasting future performance. For instance, we have developed a research score for the approximately 7 million consumers (about 25% of the total unscorable population with credit files) who have one or more collections or adverse public records but no other credit account information. For these scant-file consumers, the Gini index of the score was 0.147, significantly less than the 0.600 to 0.800 Gini indices for scorable consumers. A lower Gini index means the score is less predictive of future behavior and thus less able to separate acceptable credit risk from high credit risk.
- We examined the credit behaviors of consumers within the unscorable population. Since our goal is to help expand credit access, we focused on those within the unscorable population who are most likely to apply for credit. These are the consumers for whom extending scoring capabilities can make the most difference, and we want to better understand how to more accurately assess their credit risk. We find that these consumers differ from the mainstream credit population — and from each other. While a consumer without a traditional FICO® Score represents more risk to a lender, risk levels vary considerably.
- To achieve more risk differentiation for traditionally unscorable credit applicants, we needed to fill in the partial or missing picture of current financial behavior available from credit bureau files. In other words, by complementing bureau data with alternative data, can we generate scores that are strongly predictive of risk within segments? To find out, we built a research model and scored New-to-Credit consumers using bureau data only (which generally consisted of only one or more credit inquiries). We then compared the model's performance when bureau data was complemented with alternative data. As a reference, we also included a closely comparable group of consumers with traditional FICO® Scores — those with credit histories of five years or less. Results demonstrate that alternative data indeed offers a performance lift. While the Gini index for the research score based on bureau data alone is very low, the Gini index for the score based on both bureau and alternative data increases substantially, bringing the model's predictive strength near the range of a traditional FICO Score for consumers with new credit histories.



- Scorable rates still vary by segment. However, there is a significant percentage of applicants who, while unable to meet FICO® Score minimum criteria, are able to meet new FICO minimum scoring criteria for their respective segment with the addition of alternative data. How did we arrive at this segment-based minimum scoring criteria? By using several well-established analytic techniques in an innovative way:
  - **Bigger data** — maximizing what we know about how unscorable applicants perform when granted credit. We conducted research on over 14 million consumers, including one of the largest data samples of the traditionally unscorable ever analyzed. This oversampling was necessary because model development requires a sample of consumers who are representative of the population and who have observable credit behavior (what we call “classifiable performance”) over a subsequent period. Obtaining an adequate sample on traditionally unscorable consumers is difficult for a simple reason: only a relatively small percentage — about 10% — are granted credit and open accounts resulting in observable behavior. To observe credit behavior on at least a million unscorable consumers, for example, we would need to sample from a random population of at least 10 million such consumers. For our research, we utilized stratified sampling on the full unscorable population of 28 million Americans to arrive at an analysis dataset consisting of 7.5 million unscorable records. By analyzing such a large and stratified sample, we were able to capture classifiable performance on more consumers.
  - **Reject inference** — reducing bias in the development population by considering those who did not receive credit. It is impossible to observe payment performance on those unscorable applicants who did not receive credit. We have to infer this behavior analytically based on the data we do have. But performance data on those consumers who were able to open accounts may be biased because these applicants were likely “cherry picked.” In lieu of a score, lenders may have granted credit to some individuals based on a special aspect of the borrower, such as verified income or assets. Or they may have offered only credit products with strict risk controls, such as secured credit cards. As a result, consumers granted credit are unlikely to be representative of their population segment as a whole. Ignoring this effect can lead to models that grossly understate the true credit risk of applicants. Applying the tried-and-true analytic technique of reject inference allows us to mitigate this bias and build reliable models.
  - **Propensity modeling** — determining how far to go in applying the model to the unscorable population. After building a segmented research model based on our sample population, we used propensity modeling to ensure that the profile of consumers scored by the model is similar to the profile of the consumers on which the model was built. These similarities were key inputs in establishing segment-based minimum scoring criteria for our alternative data sources. The resulting alternative data score provides a consistent measure of risk across all consumer populations.



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