NOVA CREDIT

The Case for Cash

Including the Credit Excluded

March 2022

Credit-Based Underwriting: Where It Works and Where It Doesn't

An essential building block of consumer lending in the U.S. is the use of consumer credit data in the underwriting process for loan origination and portfolio management. These credit risk underwriting processes determine not only which consumers get access to credit but also how much they can borrow and on what pricing and terms. But what if a consumer cannot meet the credit data conditions to be granted access to credit? Their access to credit is severely limited, if not fully prohibited, and any available credit access comes at a high financial price.

Studies show that approximately 190-200 million out of the 250 million U.S. credit-eligible consumers have met the conditions for consideration in mainstream credit risk underwriting i.e. they have a sufficient amount of data on their credit file to be scored by industry credit scores. Consumers meet these conditions simply because they use credit frequently, have a meaningful amount of credit history, and/or have experience using different forms of credit, such as a revolving credit card, auto loan, or mortgage. Any consumer who does not meet these conditions may be excluded from accessing mainstream credit, or only being granted access at a higher cost.

Considering these conditions even briefly highlights the paradox for consumers in obtaining a credit rating. To meet the conditions for accessing credit, consumers must already have credit. Historically, a lender might have believed that a Credit Excluded consumer does not have access to credit for a variety of reasons - e.g. their income level, where they live, or their lifestyle.

The lender could also believe that a Credit Excluded consumer is a high risk consumer. However, Credit Excluded consumers can be found in all walks of life. Credit Excluded consumers may be perfectly capable of maintaining a good credit profile. If they've never had the ability to use credit, or haven't chosen to because they don't like the idea of using credit, they're essentially invisible to the system. In the U.S. alone, at least 60 million consumers are underserved and excluded from accessing credit for these reasons.

U.S. Credit Excluded Consumers

60 million of **250** million

U.S. consumers are locked out of mainstream credit

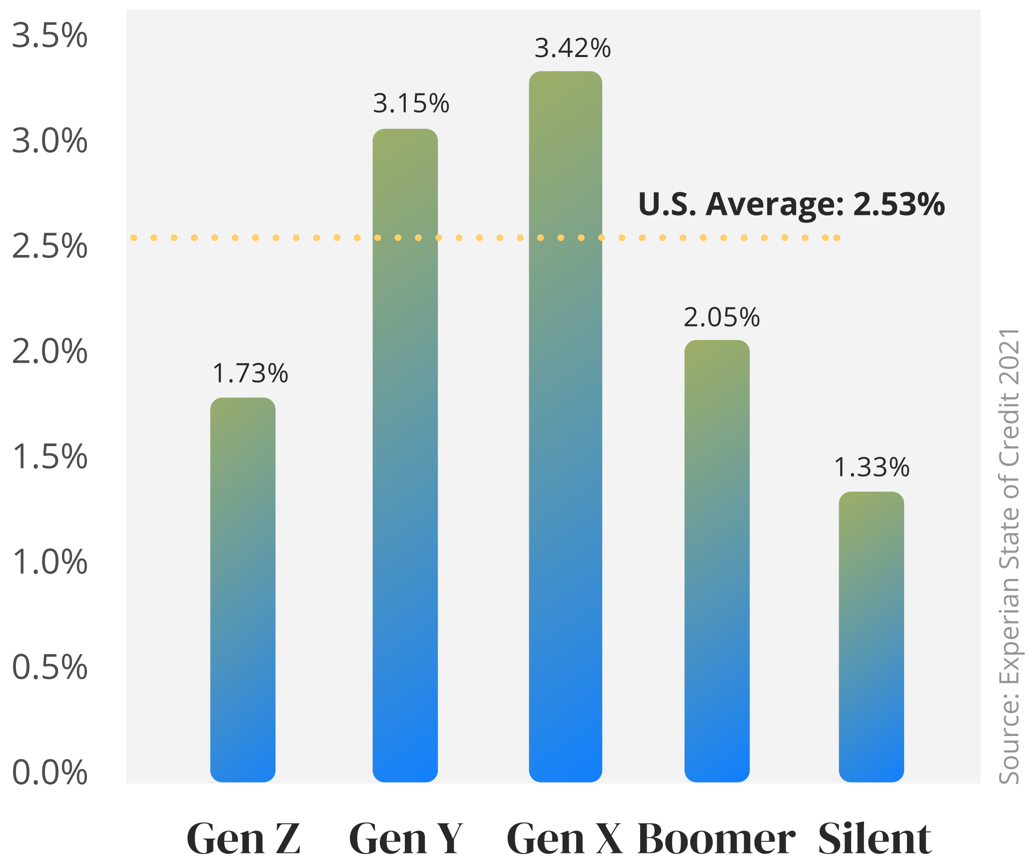
The Credit Excluded Consumer

Credit Excluded consumers can be found in all walks of life, spanning diverse age ranges, ethnicities, and income tiers. In reality, these underserved consumers often haven't demonstrated any high risk behaviors. This diversity counters the misperception that Credit Excluded consumers are universally high risk. Instead, they simply haven't exhibited the right financial behaviors in terms of credit management for mainstream credit data and analytic systems to accurately calculate their risk.

A classic example is younger consumers who lack any credit history, given the legal restrictions on when consumers can take on debt. Compounding this situation, Gen Z consumers, born between 1995-2013, also have to wait longer to apply for their first credit card compared to prior generations. The Credit Card Accountability Responsibility and Disclosure Act of 2009 raised the minimum age to obtain a credit card from 18 to 21. The law also limited how credit card companies could market to college students. As a result, this generation is entering their higher education and workforce years with a need for financial education, but faces limited access to credit products.

Breakdown of Credit Delinquency Rates By Generation

90-180 DPD Deliquency



Younger consumers aren't necessarily higher risk borrowers. A recent Experian study found that risk levels for Gen Z consumers are 10% lower than the average of the overall U.S. population, and more than 30% lower than Gen Y and Gen X consumers. (Source: Experian State of Credit 2021). Not only do Gen Z consumers exhibit relatively lower risk, but they also have a meaningful appetite for mainstream credit: they were the leading source of growth in credit cards coming out of the pandemic, according to a TransUnion study.

Including the Credit Excluded

Overview

Over the last decade, the U.S. lending industry has developed several data and analytics solutions designed to enable financial inclusion. However, while these often provide opportunities for a specific sub-population of Credit Excluded consumers, few offer a robust solution for the majority of them.

Characteristics of Effective Solutions

- **Credit Risk Insight**
  How well does the solution differentiate consumers who are likely to repay debt from those who won't?
- **Scalability or Coverage**
  How many Credit Excluded consumers does the solution serve?
- **Integration Ease**
  Can the solution easily and effectively be incorporated into existing underwriting processes?

Alternative Data Additions

Subprime data assets hosted at the national bureaus, such as Clarity, FactorTrust, and DataX, provide risk differentiation for consumers who use deep subprime credit products such as payday loans and furniture rental. By design, these data sources don't have universal coverage.

Rent, mobile, and utility payment data are widely recognised as offering strong predictive insight. However, the fragmented nature of the industries, coupled with diverse reporting standards, results in no standard source and process for data aggregation. The information has limited coverage and lacks uniformity, making its application more complicated than broadly reported data assets.

International credit data can be leveraged to support one of the populations that falls within the Credit Excluded segment - the millions of newcomers to the United States who come each year for school or work. These consumers have never engaged with the U.S. credit system, and therefore have no credit data file at the main U.S. credit bureaus.

Alternative Data Solutions (continued)

However, they often have a credit data file in their home country. Nova Credit's Credit Passport® helps these consumers by accessing their credit data file from their home country, as available, and translating the data into a US-standardized format and delivering it to the lender.

Enhanced Analytics Within Scores

Score developers such as VantageScore and FICO have also tried to fill in the gaps. Using machine learning techniques and trended credit data, score developers have been able to develop more precise risk assessment for consumers with sparse data and consequently have expanded the population of consumers they can score. Despite this progress, these scores ultimately still rely on core credit data from lenders, public records, and the like. Consumers without data at a credit bureau remain Credit Excluded.

Hybrid Data-Analytics

More recently, solutions from companies like Experian and FICO have begun to allow the inclusion of bank account data. Applicable data is incorporated into a conventional credit risk score via consumer opt-in, typically only given if including the data raises the score.

To have the opportunity of benefitting from the higher score, the consumer must then engage with a lender who accepts these enhanced scores (something that is unknowable to most consumers because usage is considered part of the lender's confidential underwriting strategy). As with traditional credit risk scores, these enhanced solutions are similarly challenged by the same lack of transparency regarding how data is considered by the score.

Solution Comparison

The table below evaluates these solutions in the context of their effectiveness across various criteria. Many of these solutions offer effective credit risk insight and can satisfy regulatory controls provided the data is used sans bias against protected classes. Still, the pervasive challenge associated with these solutions is their lack of scale and the complexity of integration.

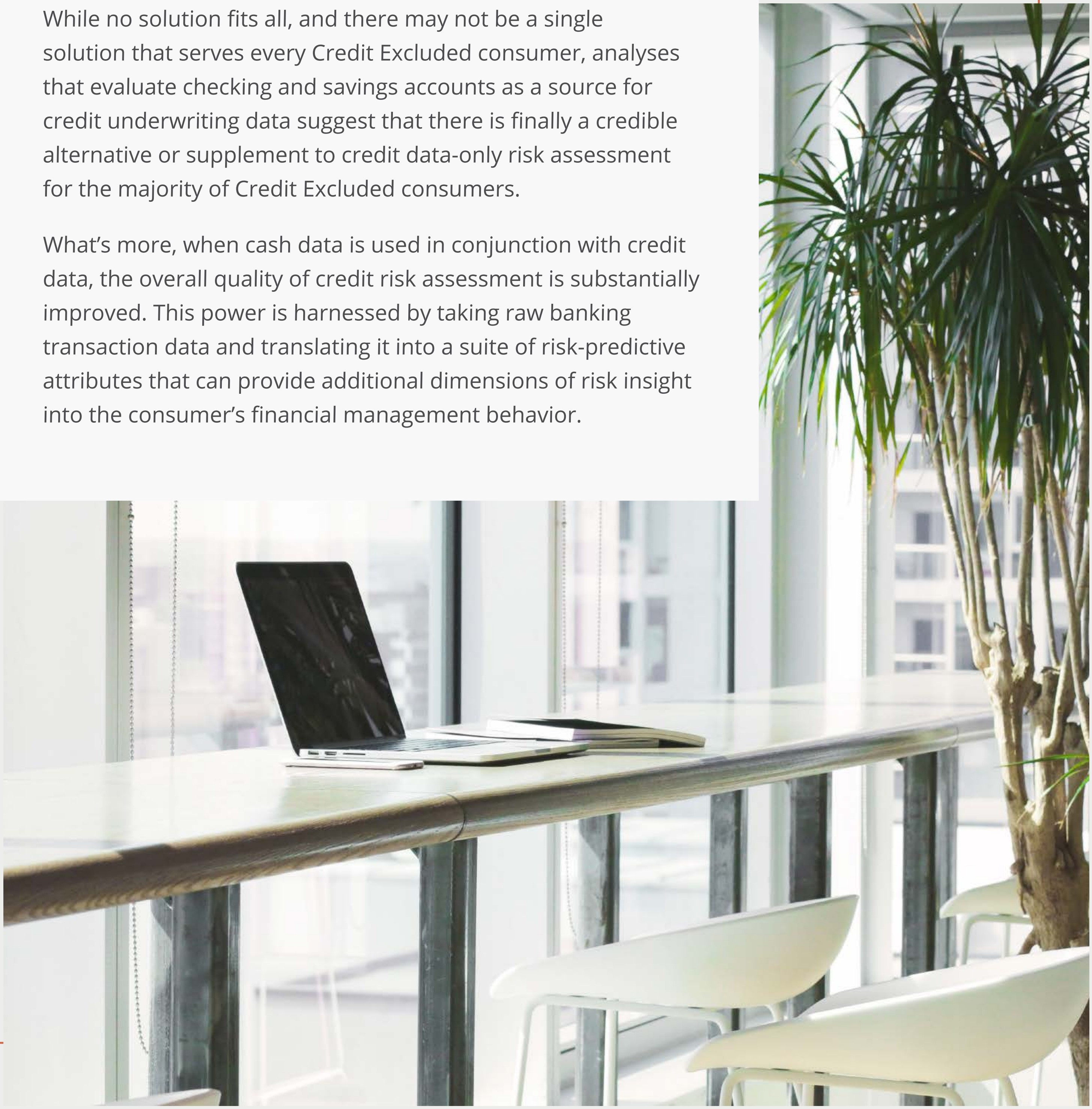
Comparing Recent Innovations in Underwriting Analytics

	Subprime Data Assets	Rent, Telco, and Utilities Data	International Credit Data	Enhanced Analytics	Hybrid Data-Analytics
Credit Risk Insight	● Best used to augment conventional data	● Best used to augment conventional data	● Full international credit report	● Incremental improvement on conventional data	● Structured for either cash flow or credit risk
Scalability/ Coverage	● Subprime consumers only	● Fragmented access and reporting	● Newcomer consumers only	● Requires a credit file at bureau	● Limited by consumer opt-in
Integration Ease	● Accessible via bureau	● Accessible via bureau or consumer permission	● Accessible via consumer permission	● Accessible via bureau	● Requires credit data and consumer opt-in

The Promise and Power of Cash Data

While no solution fits all, and there may not be a single solution that serves every Credit Excluded consumer, analyses that evaluate checking and savings accounts as a source for credit underwriting data suggest that there is finally a credible alternative or supplement to credit data-only risk assessment for the majority of Credit Excluded consumers.

What's more, when cash data is used in conjunction with credit data, the overall quality of credit risk assessment is substantially improved. This power is harnessed by taking raw banking transaction data and translating it into a suite of risk-predictive attributes that can provide additional dimensions of risk insight into the consumer's financial management behavior.

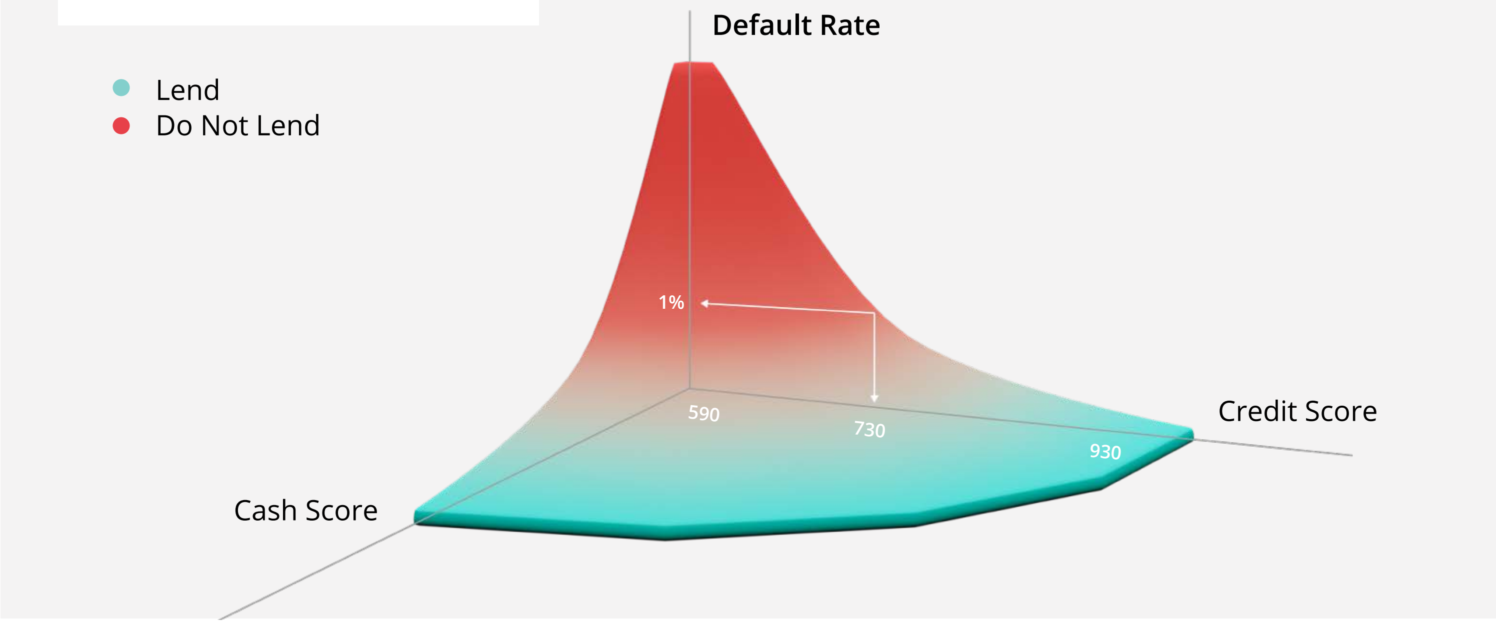


Credit Risk Insight: Enhanced Underwriting Accuracy

Perhaps most compellingly, incorporating bank transaction data in credit underwriting provides an opportunity to undertake a more holistic analysis of the consumer's financial and potential credit management profile. An evaluation of a consumer's ability or capacity to pay (i.e. affordability) using their bank transaction data - including whether there are currently sufficient funds in their accounts, and whether those funds are consistently available - informs the consumer's likelihood or propensity to pay (i.e. creditworthiness).

Neither ability to pay nor propensity to pay independently capture the complete narrative of how the consumer is likely to manage their debts. However, analysis shows that underwriting processes that incorporate both of these dimensions deliver a significant enhancement in predictive insight, generating higher approval rates and reduced losses.

Enhanced Risk Analysis with Cash Flow Data



Credit Risk Insight: Data Quality

The average tenure of a U.S. consumer's bank account is just over 14 years (source: bankrate.com), which makes this a tremendous source of history and insight into the consumer's behaviors. Pairing this information with the opportunity to access an up-to-the minute read of the consumer's transactional activity provides significant insight into the consumer's employment and income patterns that is either not available or challenging to derive from credit data.

Additionally, the data more fully represents the nuances of the modern financial structures, including non-traditional and gig economy income, person-to-person transfers, and non-credit expenses such as rent. These all help create a more holistic financial view of the consumer.

Scalability and Coverage

Approximately 93% of U.S. households (source: FDIC) have either a checking or savings account linked to them, with an estimated 600 million checking accounts across the credit eligible US population (250 million) (source: CUTimes). By any measure, this is the single most expansive financial data source about U.S consumers. While the industry continues to evolve in its application of this data, there is no doubt that its use offers tremendous potential for resolving the barriers to entry for the credit-excluded population.

Additional Reasons for Considering Bank Data

Scalability And Coverage: Consumer Permissioned Data

For consumers, cash flow-based underwriting gives them more control over their credit inclusion. Rather than pulling data from a third party that the consumer may not be familiar with, cash flow-based underwriting requires that the consumer choose and permit which accounts are considered.

Bias-selection concern is valid here given the possibility of the consumer linking only those accounts with positive information. However, analytic developers are addressing this concern by developing routines that signal the possibility of incomplete information.

Another concern is the consumer reluctance to link and share their bank transaction data. However, just as the early resistance to digital banking has receded, this reluctance has already begun to diminish. Younger generations who have fully embraced the digital banking experiences are a sign of this trend.

Regulatory Controls

Scores and attributes built using bank transaction data can be readily translated for inclusion in applicable adverse action notices. They can also satisfy E.D.D.S.S. model development criteria and SR11-7 regulatory model governance guidelines.

Furthermore, bank transaction data is permissioned by and accessible to the consumer before it's shared with the lending institution. That provides additional regulatory strength because the consumer has presumably had the opportunity to review the transactional data and dispute any transactions directly with the financial institution, resulting in a lower likelihood of disputes after the lender has made its decision based on the data.

The Bottom Line On Cash Flow Underwriting

Traditional credit underwriting practices have **unintentionally excluded millions** from credit and financial services.

Though traditional credit data-based underwriting practices have historically provided a strong barometer for decision makers, they have unintentionally excluded a broad swath of consumers from credit and financial services. These consumers are Credit Excluded not because they're high risk, but because the current system simply doesn't assess their potential risk properly. Incorporating bank transaction data into underwriting practices clearly and compellingly addresses this concern. This not only enhances the lender's capacity to accurately assess consumer credit risk, but has the potential to end the very idea of a Credit Excluded population in the United States.