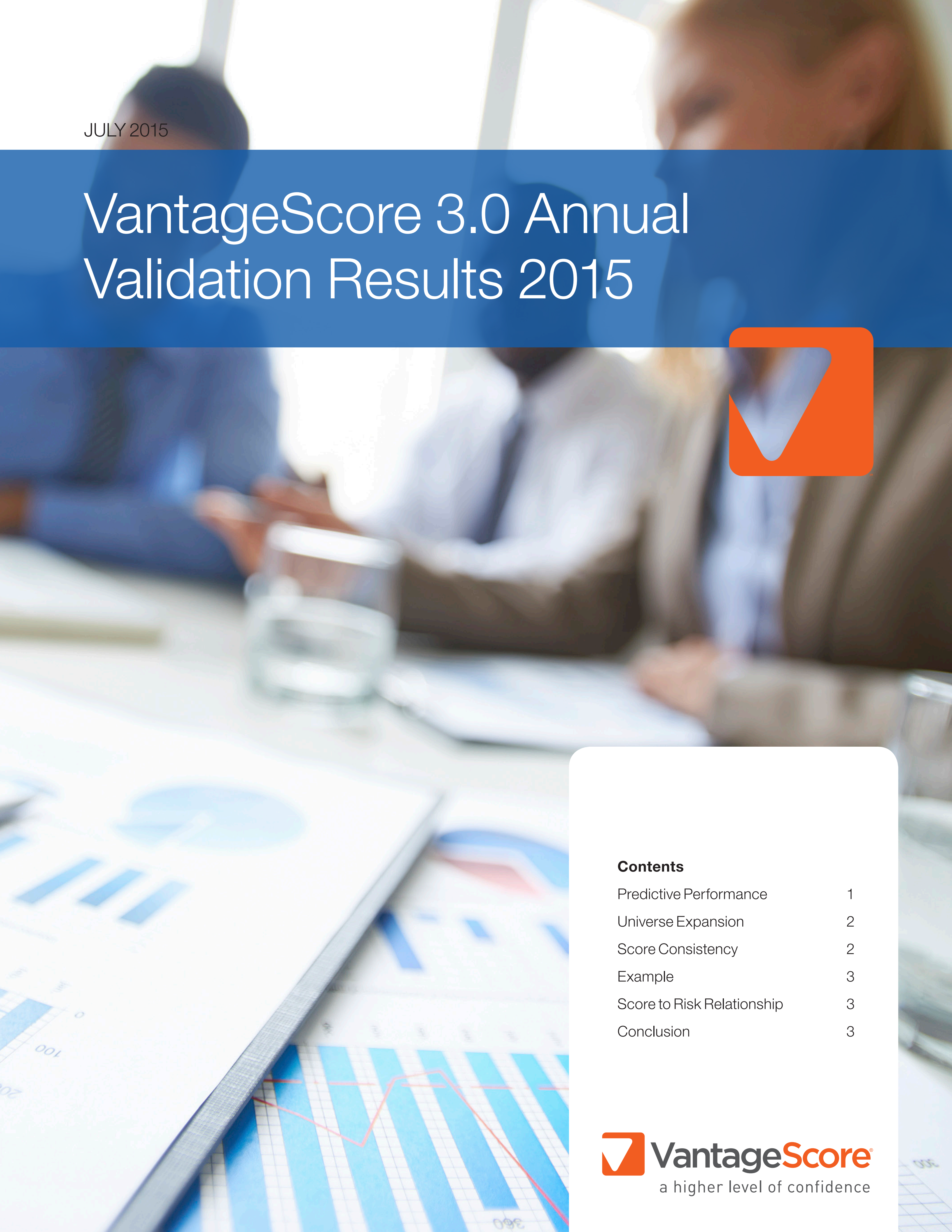

JULY 2015

VantageScore 3.0 Annual Validation Results 2015

Contents

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VantageScore 3.0 Annual Validation Results

INTRODUCTION

If performance is king in the hierarchy of consumer credit scoring models, transparency and governance are queen and crown prince. This is the result of the heightened awareness of the role that model validations play in today's consumer credit marketplace. The importance of model validations is due in part to the Office of the Comptroller of the Currency's (OCC) 2011 guidance[1], which advises industry participants who rely on modeling and analytics for making financial decisions to develop robust validation procedures.

To assist financial institutions in this effort to comply with the OCC's guidance, VantageScore Solutions annually validates its models and, in pursuit of transparency, publishes the results for all to see.

VantageScore 3.0 was validated based on 4.5 million anonymized and randomly selected U.S. consumer credit files from the databases at each national credit reporting company (CRC): Equifax, Experian and TransUnion. The performance timeframe was from 2012 to 2014.

VantageScore 3.0 achieved material performance lift in all three key dimensions of the validation analysis:

Score predictive performance: Highlighted by double-digit percentage increases in Gini coefficient[2] for mortgage Origination[3] and Account Management[4] versus benchmark models[5] in the key score range of 600 - 850[6]. Results also demonstrated lift across credit industries.

Universe expansion: Over 35 million more consumers were scored using VantageScore 3.0 versus conventional models, and the Gini coefficient associated with these scores demonstrates a high level of accuracy.

Score consistency: 90.3% of the consumers had three scores within a 40 point range based on the files at the three national CRC databases[7].

PREDICTIVE PERFORMANCE

VantageScore 3.0 was compared against generic credit risk scoring models developed internally by each of the CRCs. Performance was evaluated for mainstream lending credit tiers with a score range of 600-850, and for the subprime credit tier, with a score range of 300-599. Performance was measured on both Originations and Existing Account Management. (Figure 1)

1 *Board of Governors of the Federal Reserve System, Office of the Comptroller of the Currency, Supervisory Guidance on Model Risk Management, April 4, 2011: http://www.occ.treas.gov/news-issuances/bulletins/2011/bulletin-2011-12a.pdf.*

2 *For a credit score, the Gini coefficient compares the distribution of defaulting consumers with the distribution of non-defaulting consumers across the credit score range. The coefficient has a value of 0 to 100. A value of 0 indicates that defaulting consumers are equally distributed across the entire credit score range. In other words, the credit score fails to assign more defaulting consumers to lower credit scores. A coefficient value of 100 indicates that the credit score has successfully assigned all defaulting consumers to the lowest score possible. A Gini coefficient of 45 or greater is considered a good result by industry standards.*

3 *Originations: Accounts that were opened within the three months prior to the time of performance measurement.*

4 *Account Management: Accounts that are at least two years old at the time of performance measurement.*

5 *The benchmark models were commercially available, proprietary generic risk models provided by the three national credit reporting companies (CRCs).*

6 *The VantageScore 3.0 model's range is 300 – 850.*

7 *Every 40 points on the VantageScore scale represents a doubling (or halving) of the odds of default.*

VantageScore 3.0 uniformly outperformed the CRC benchmark models for all major industries and lines of business. (Figure 2)

Similarly, VantageScore 3.0 outperformed the CRC models on all dimensions. Mortgage performance was again especially strong.

UNIVERSE EXPANSION

Approximately 36 million[8] more incremental consumers can be scored using VantageScore 3.0 when compared with conventional credit scoring models. The Gini coefficient for the validation sample of the new scoring population was 52.3, indicating a high level of predictiveness.

Four groups of U.S. consumers were newly scored (Figure 3):

- New Entrants – consumers with trades that are six months or younger;
- Infrequent Users – consumers who have not used credit within the last six months but have used credit within the last 24 months;
- Rare Credit Users – consumers who have not used credit in the last 24 months; and
- No Trades – consumers with only public record and collections records.

Figure 3: New scoring consumer populations (millions).

SCORE CONSISTENCY

VantageScore 3.0 and earlier VantageScore models are the only credit score models to employ the same characteristics information and the same model at each of the three CRC national databases.

Consequently differences in credit scores are solely attributable to variances in the consumer's credit file data. On a sample of one million consumers with credit files at all three CRCs, 75.8% had three VantageScore credit scores within a 20 point range and 90.3% of the consumers had three scores within a 40 point range. (Figure 4)

8 *Results extrapolated from the validation sample to the full consumer population are available in the CRC U.S. national databases. Absolute volume of conventionally unscoreable consumers varies by CRC.*

Figure 1: Percentage lift in Gini for VantageScore 3.0 over CRC models

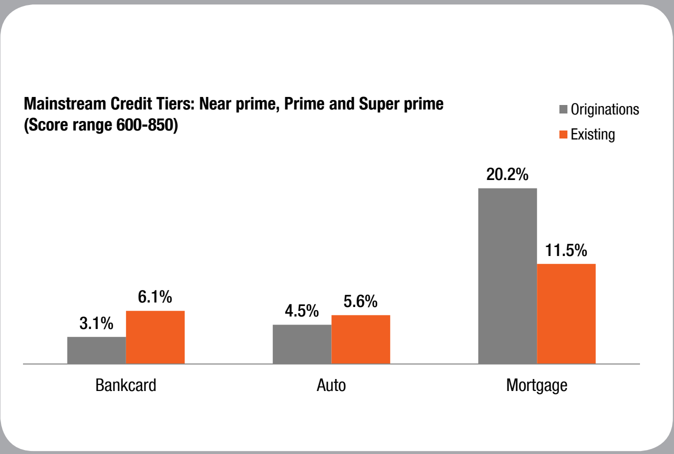


Figure 2: Percentage lift in Gini for VantageScore 3.0 compared with CRC models

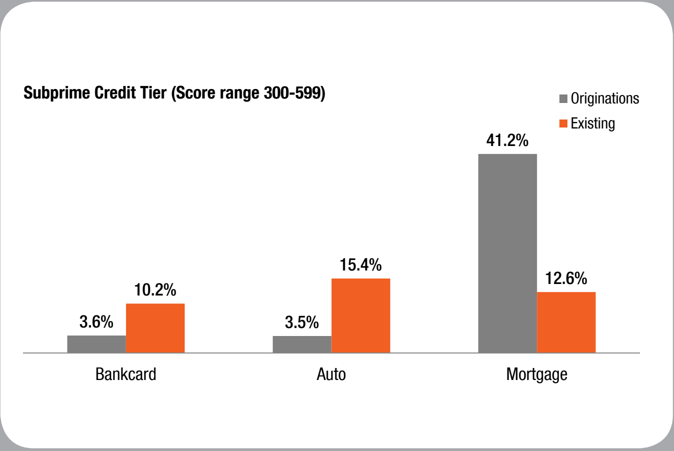


Figure 3: New scoring consumer populations (millions)

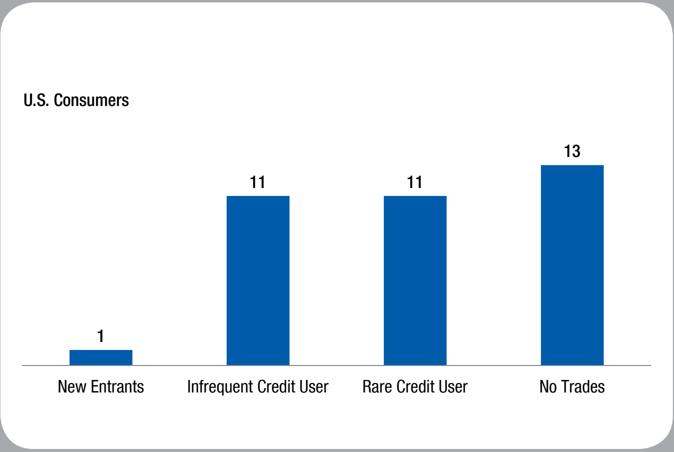


Figure 4: Consumers scores within point range

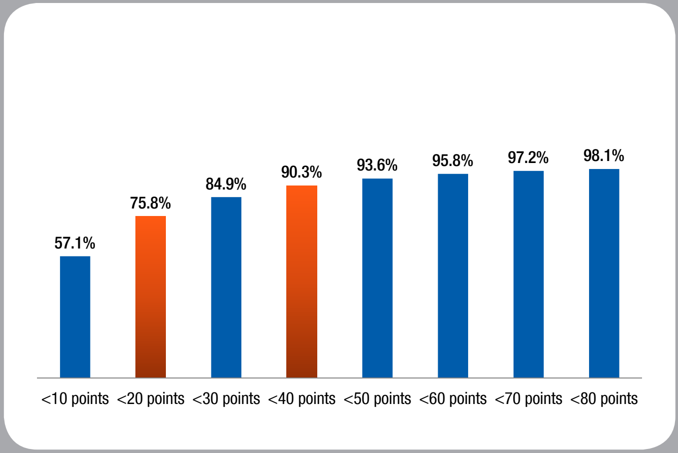


Figure 5: Consumers scores at or above 680 by credit bureau

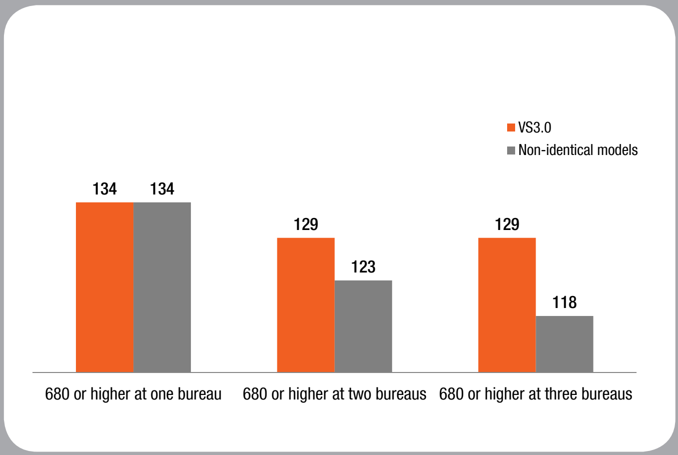
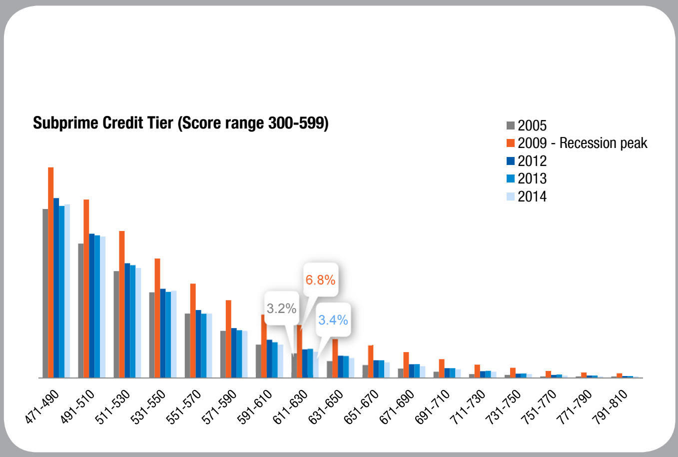


Figure 6: All industry originations default rates by score band



VALUE OF SCORE CONSISTENCY WITHIN LENDING STRATEGIES

Some consumer lending strategies consider scores that have been pulled from multiple credit bureaus. Ideally, every one of a consumer's scores would exceed the lending strategy score cut-off in order to minimize the lending risk. Scores calculated from models that are identical at all three bureaus reflect variances solely due to credit file data; whereas, "non-identical" models would also display variances due to scoring model design. The net effect of the additional source of variation may be a higher volume of consumers who have scores that fall below the score cut-off at one or more of the bureaus, thereby introducing greater risk to the portfolio and a smaller credit accessible universe.

EXAMPLE

With a lending score strategy cut-off of 680, 134 million consumers have scores at or above the score cut-off when their scores are generated at one credit bureau.

Of those 134 million, 129 million have scores that are at or above 680 from the second and third CRC when the VantageScore 3.0 model has been used. The five million consumers who have scores below 680 at the second and third CRC do so because of variances in the consumers' credit file data.

When using scores from non-identical models, only 123 million of the original 134 million have scores at or above 680 at the second CRC. The 11 million consumers who fail the score cut-off are a result of either data or model design differences. An additional five million consumers, for a total of 16 million, fail the score cut-off for the same reasons when scores are generated at all three credit bureaus.

Comparing score consistency between VantageScore 3.0 and non-identical credit scoring models, demonstrates that using the identical model across all three CRCs can reduce risk exposure and potentially increase the lending universe by as much as 11 million consumers. (Figure 5)

SCORE TO RISK RELATIONSHIP

Default rates by score band have stabilized compared to recession levels over the last several years and now appear to be in line with pre-recession score to default rates. For example, a score of 620 now reflects a default rate of 3.4% in 2014, compared with a default rate of 6.8% at a score of 620 in 2009, and a default rate of 3.2% for a score of 620 in 2005.

Score cut-offs that were established at the peak of the recession should be re-evaluated at this time because they may represent overly restrictive credit criteria. (Figure 6)

CONCLUSION

The 2015 validation of VantageScore 3.0 has shown a material lift when compared to benchmark models in the key areas most associated with performance: predictiveness, universe expansion, and consistency.

Although lenders should independently validate models based on their own portfolios and strategies in accordance with the OCC guidelines, those who use the VantageScore 3.0 model in their decision making processes can have confidence in the model's best-in-class performance.

The VantageScore model is licensed to the three major CRCs, Equifax, Experian, and TransUnion, who each in turn market and sell the credit scores. Lenders and other commercial entities interested in learning more about the VantageScore models may contact one of the CRCs listed to the right for additional assistance.

The VantageScore credit score models are sold and marketed only through individual licensing arrangements with the three major credit reporting companies (CRCs): Equifax, Experian and TransUnion. Lenders and other commercial entities interested in learning more about the VantageScore credit score models, including the VantageScore 3.0 credit score model, may contact one of the following CRCs listed for additional assistance:

EQUIFAX

Call 1-888-202-4025

www.equifax.com/vantagescore

Experian

Call 1-888-414-4025

www.experian.com/consumer-information/vantagescorelenders.html

TransUnion

Call 1-866-922-2100

www.transunion.com/corporatebusiness/solutions/financialservices/bank_acq_vantage-score.page

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