# FICO Research Brief: Impact of the CRAs' Enhanced Public Record Standards on FICO® Scores

## FICO's analysis indicates:

- **No observed material impact** to the FICO® Score due to expected NCAP changes.
- **Minimal impact** to risk prediction, odds-to-score relationship, and score distributions.
- **No impact** on the FICO scorable rate.

**Background:** The National Consumer Assistance Plan (NCAP) is a comprehensive series of initiatives intended to evaluate the accuracy of credit reports, the process of dealing with credit information and consumer transparency. As part of NCAP, the consumer reporting agencies (CRAs) — Experian®, Equifax® and TransUnion® — are changing the data standards and service level requirements of the public record data they maintain.

The CRAs' preliminary analysis indicates the following likely impacts resulting from these changes:

- No anticipated change to bankruptcy public record data.
- Significant change anticipated to civil judgment public record data. According to the CRAs, it is very likely that civil judgment public record data will not be part of the CRAs' core consumer credit database after the effective date.
- Significant change anticipated to tax lien public record data. According to the CRAs, as much as 50% of this data may not meet the enhanced standards and be removed from the CRAs' core consumer credit database.

FICO's position is that data that is accurate, compliant and has measurable predictive value should be leveraged within the FICO® Score. In this instance, FICO's analysis is based on each CRA's detailed assessment and representation of the judgments and tax liens that remain after their NCAP-related public record standards are implemented in July 2017.

## Executive Summary

On the aggregate population, based on the data sample and methodology described below:

- FICO observed no material impact to the FICO® Score resulting from the CRAs' enhanced public record standards.
- FICO identified minimal impact to risk prediction and the odds-to-score relationship.
- FICO also observed no material impact to score distributions.
- The CRAs' enhanced public record standards had no impact on the FICO scorable rate since the presence of a public record does not factor into the FICO® Score minimum scoring criteria.
- On the impacted population, the decrease in predictive lift post public record removal was more visible, though still modest. Impacted files are very likely to have additional derogatory information on their credit file and therefore tend to score relatively low, even after the public record data in question has been removed. Most impacted records experienced score changes of less than 20 points as a result of the removal of the public record data in question.

## Analysis Methodology

FICO worked with the three US CRAs to obtain the necessary data designed to isolate the changes that the CRAs' enhanced public record standards will have on individual credit files. This enabled FICO to quantify the impact to FICO® Scores on these files. As opposed to analyzing a worst-case scenario, where all judgments and tax liens were removed from the credit file, this analysis is based on each CRA's detailed assessment and representation of the judgments and tax liens that would be removed after the NCAP-related public record standards are implemented in July 2017.

For its analysis, FICO received a nationally representative random sample of approximately 10 million credit files (including roughly 500,000 impacted credit files) from each CRA, and matched datasets were used: an observation snapshot from mid-2014, and a performance snapshot from mid-2016.

FICO confirmed that the datasets provided by the CRAs for this analysis were in line with prior communications from the CRAs about the expected impact of the enhanced public record standards: all bankrupt public record data was retained, all civil judgment data was removed, and a portion of tax lien data was removed. In total, 6–7% of the FICO scorable population had a judgment or tax lien purged from their file as a result of the enhanced public record standards.

FICO conducted impact analyses across the three CRAs, on the most widely used FICO® Score versions (across base FICO® Score versions and industry-specific FICO® Score versions). Results observed were similar in each instance. In the interest of producing a streamlined report, the results presented here will focus on the impact to FICO® Score 9 at one of the CRAs (CRA1) unless otherwise specified. All results presented here are conducted on the sample's total FICO® Score 9 scorable population (aka "Total Population") unless otherwise specified.

## Results

### Total Population

FICO research identified minimal impact to risk prediction resulting from the CRAs' enhanced public record standards. The impact was assessed across industries, across the credit lifecycle, and for various FICO® Score versions. Figure 1 shows the difference in the Kolmogorov-Smirnov (K-S) statistic between the FICO® Score pre-NCAP and post-NCAP. K-S is commonly used to evaluate a model's predictive strength, with higher values indicating more effective risk prediction.

The "pre-NCAP FICO® Score" includes NCAP-impacted public records in the calculation of the score. The "post-NCAP FICO® Score" bypasses those public records identified by the CRAs as being impacted by the enhanced public record standards in the calculation of the score.

The small negative K-S difference values in Figure 1 indicate a modest decline in risk prediction between the pre-NCAP and post-NCAP FICO® Score, tied to the removal of impacted public records. The results from each CRA are presented in separate columns.

Similarly, there was virtually no perceptible impact to the FICO® Score odds-to-score relationship, as shown in Figure 2 for FICO® Score 9. In this chart, we graphed the fitted odds-to-score relationship of FICO® Score 9 pre-NCAP and compared that to the fitted odds-to-score relationship of FICO® Score 9 post-NCAP.

**Figure 1: K-S of post-NCAP FICO® Score minus K-S of pre-NCAP FICO® Score, on the total population**

| Score Version | Use Case | CRA1 | CRA2 | CRA3 |
|---|---|---|---|---|
| FICO® Score 9 | All Industries – New & Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Bankcard – Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Bankcard – New Accounts | 0.0 | -0.1 | -0.1 |
| | Auto – New Accounts | 0.0 | 0.0 | 0.0 |
| | Mortgage – Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Mortgage – New Accounts | -0.2 | 0.0 | 0.0 |
| FICO® Score 8 | All Industries – New & Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Bankcard – Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Bankcard – New Accounts | -0.1 | -0.1 | -0.1 |
| | Auto – New Accounts | 0.0 | 0.0 | 0.0 |
| | Mortgage – Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Mortgage – New Accounts | 0.0 | 0.0 | 0.0 |
| Previous FICO® Score[1] | All Industries – New & Existing Accounts | 0.0 | 0.0 | 0.0 |
| | Bankcard – Existing Accounts | 0.0 | -0.1 | 0.0 |
| | Bankcard – New Accounts | -0.1 | -0.1 | -0.1 |
| | Auto – New Accounts | 0.0 | 0.0 | -0.1 |
| | Mortgage – Existing Accounts | -0.1 | -0.1 | -0.1 |
| | Mortgage – New Accounts | 0.0 | -0.2 | +0.1 |

[1] Previous FICO® Score is FICO® Score 2, FICO® Score 4, or FICO® Score 5. Formerly Known As:

| | | | |
|---|---|---|---|
| FICO® Score 8 | BEACON® 09 | FICO® Risk Score Classic V8 | FICO® Risk Score Classic 08 |
| Previous FICO® Score | BEACON® 5.0 | FICO® Risk Score Classic V2 | FICO® Risk Score Classic 04 |

**Figure 2: Odds-to-score relationship of pre-NCAP FICO® Score 9 & post-NCAP FICO® Score 9, on the total population**

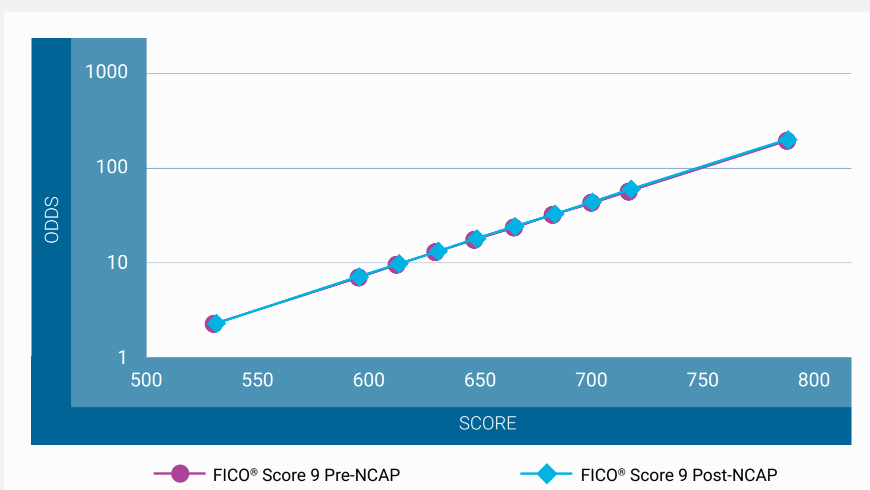
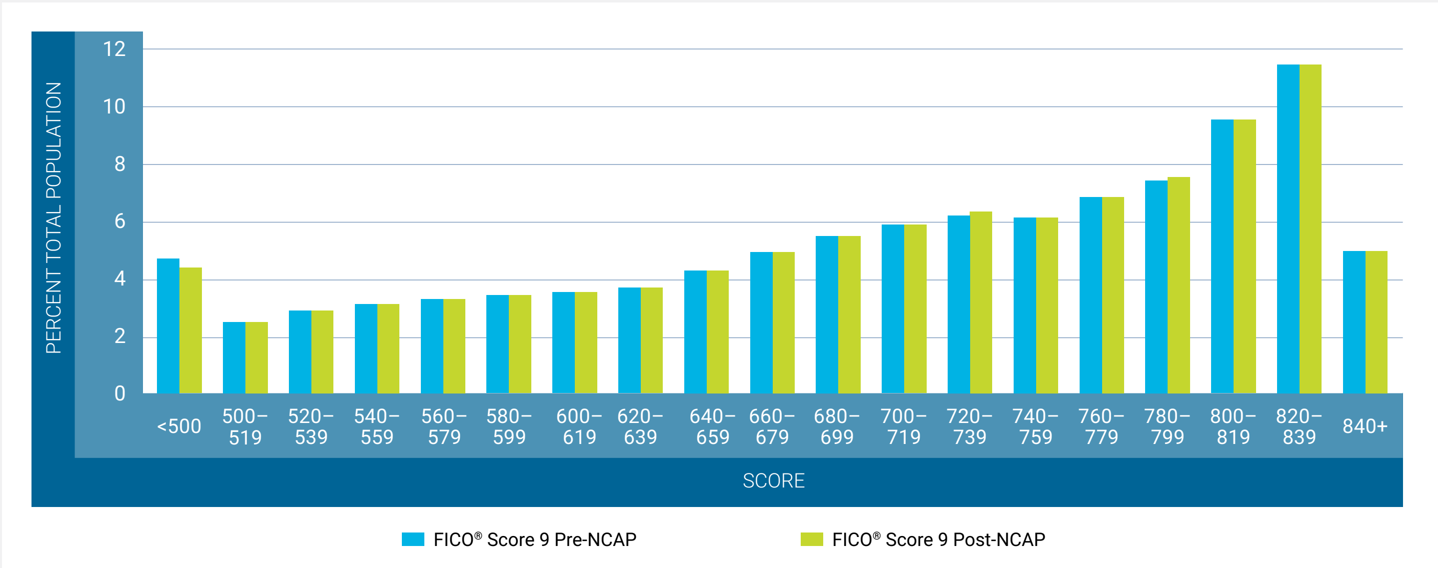


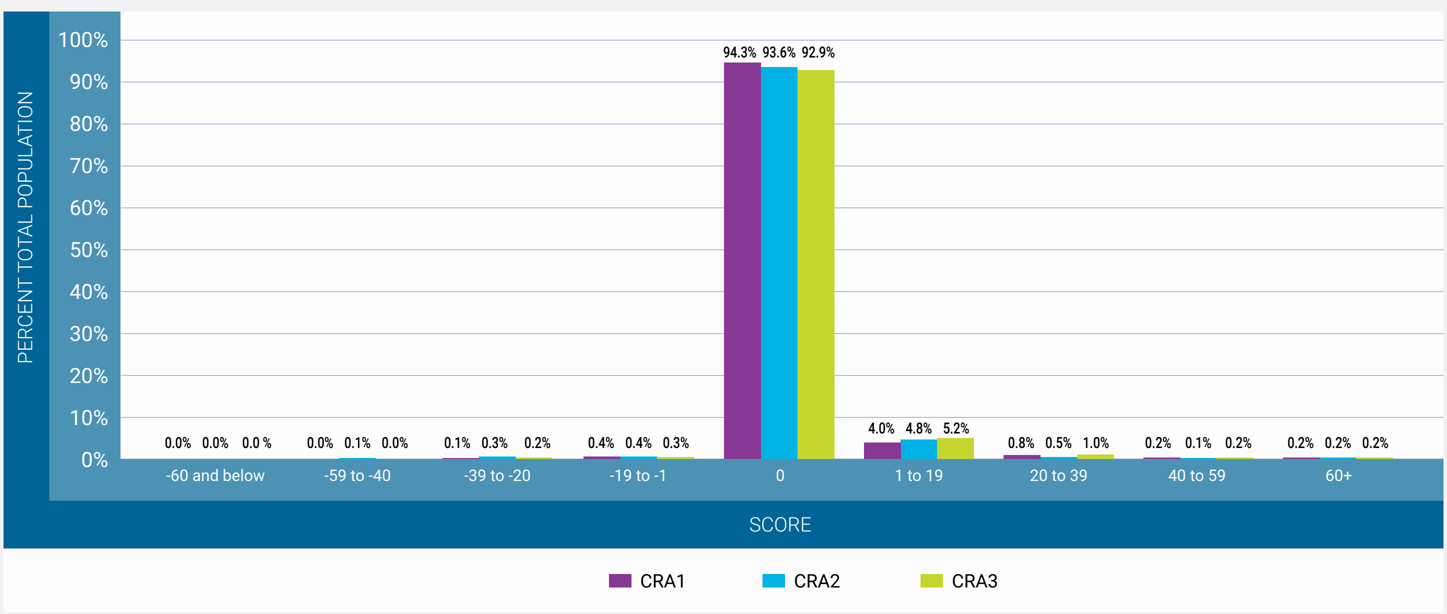
**Figure 3: Interval score distribution of pre-NCAP FICO® Score 9 & post-NCAP FICO® Score 9, on the total population**




In addition to minimal predictive impact, no material impact to score distributions was observed. Volumes within interval score ranges were very similar, as shown in Figure 3 for FICO® Score 9.

The score difference distributions shown in Figure 4 quantify how individual credit files are affected by the removal of these impacted public records, across the three CRAs. Positive score differences on the right-hand side of the graph indicate a score increase after the public record is removed, while negative score differences on the left-hand side of the graph indicate a score decrease.

**Figure 4: FICO® Score 9 score difference distributions, on the total population**



For example, for CRA1, 4.0% of the population has a score increase of 1–19 points after the impacted public record(s) are removed.

Because only 6–7% of the population is projected to have a judgment or tax lien removed from their credit file as a result of the CRAs' enhanced public record standards, the vast majority of the population will not experience any impact to their FICO® Scores from these changes. We can see that 5–7% of the population does experience a score increase as a result of the removal of public records; a significant majority (in excess of 75%) of these score increases are between 1 and 19 points.

Less than 1% of the population experiences a score decrease as a result of the enhanced public record standards. This can occur when the change in the consumer's credit file (as a result of the public records being removed) causes the consumer to shift into a different scorecard, and to be evaluated by a different set of characteristics.

There are several reasons why impacted consumers did not tend to experience significant shifts in their FICO® Scores:

- Characteristics based on non-public record data such as credit accounts have a substantially larger influence on the FICO® Score than characteristics based on public records.

- 92% of the impacted population has other derogatory information on their credit file. So even though these impacted credit files all experienced some degree of derogatory public record information being removed, these files typically have other derogatory information that weighs on the FICO® Score and prevents the score from increasing more significantly.

**Figure 5: K-S of post-NCAP FICO® Score minus K-S of pre-NCAP FICO® Score, on the impacted population**

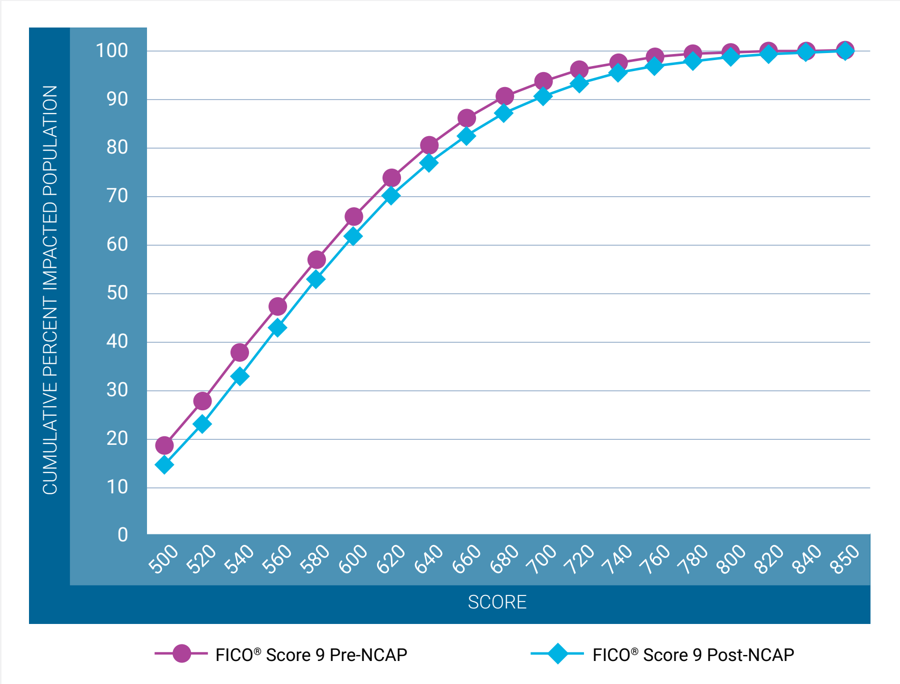
| Score Version | Use Case | CRA1 | CRA2 | CRA3 |
|---|---|---|---|---|
| FICO® Score 9 | All Industries – New & Existing Accounts | -0.3 | -0.1 | -0.2 |
| | Bankcard – Existing Accounts | -0.7 | -0.3 | -0.4 |
| | Bankcard – New Accounts | -0.1 | -0.3 | -0.2 |
| | Auto – New Accounts | -1.0 | -0.4 | -0.4 |
| | Mortgage – Existing Accounts | +0.8 | +1.1 | +1.3 |
| | Mortgage – New Accounts | | Low counts | |
| FICO® Score 8 | All Industries – New & Existing Accounts | +0.1 | +0.2 | +0.2 |
| | Bankcard – Existing Accounts | +0.2 | +0.1 | 0.0 |
| | Bankcard – New Accounts | -0.4 | -0.1 | -0.4 |
| | Auto – New Accounts | -0.6 | +0.3 | -0.2 |
| | Mortgage – Existing Accounts | +1.0 | +1.0 | +0.6 |
| | Mortgage – New Accounts | | Low counts | |
| Previous FICO® Score | All Industries – New & Existing Accounts | +0.4 | -0.1 | -0.1 |
| | Bankcard – Existing Accounts | +0.5 | +0.1 | 0.0 |
| | Bankcard – New Accounts | -0.1 | +0.1 | -0.6 |
| | Auto – New Accounts | -0.5 | -0.1 | -0.4 |
| | Mortgage – Existing Accounts | +0.3 | -0.1 | +0.1 |
| | Mortgage – New Accounts | | Low counts | |

## Impacted Population

When focusing solely on the population that had a judgment or tax lien removed because of the CRAs enhanced public record standards, we observe a modest impact to FICO® Score risk prediction. The K-S stats in Figure 5 show larger shifts than were observed on the total population (see Figure 1 above), but the shifts are still modest, with no cases where the decrease in K-S exceeds 1%.

**Figure 6: Cumulative score distribution of pre-NCAP FICO® Score 9 & post-NCAP FICO® Score 9, on the impacted population**




The cumulative score distribution in Figure 6 indicates that the post-NCAP FICO® Score for the impacted population shifts roughly 10 points higher across most of the score spectrum. This upward shift in score is to be expected, since most consumers who have a derogatory public record removed from their credit file will experience a FICO® Score increase. Figure 6 also reinforces a point made earlier in this brief, that the impacted population is generally low scoring: this population has a median pre-NCAP FICO® Score 9 of 565, compared to a median pre-NCAP FICO® Score 9 of 727 on the total population.

## Conclusion

We made the following observations when examining the impact to FICO® Scores of NCAP-driven removal of public records from the credit file:

- No material impact to FICO® Score on the total population.
  - Minimal impact to FICO® Score risk prediction, the odds-to-score relationship and score distributions.
  - Zero impact on FICO scorable rate.
- 6–7% of the FICO scorable population had a judgment or tax lien removed from their file as a result of the CRAs' enhanced public record standards.
- On the impacted population, the decrease in predictive lift post public record removal was more visible, though still modest.
- Impacted files are very likely to have additional derogatory information on their credit file and therefore tend to score relatively low, even after the public record data in question has been removed.

Lenders are encouraged to conduct similar analyses on their portfolios and/or their proprietary bureau-based analytics to fully understand the potential impact to their specific situation. Please contact a FICO representative for more information about FICO's adoption, validation and diagnostic services.

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