



Next generation enhancements to credit-based insurance scores

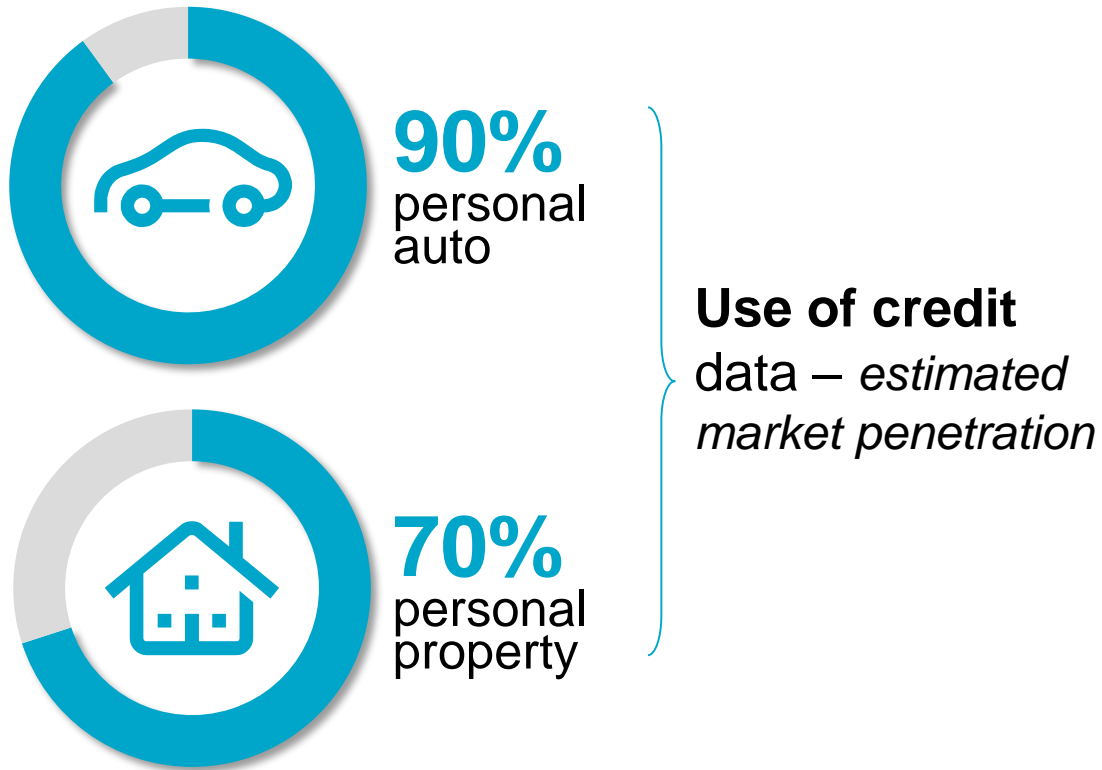
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Use of credit data in Property & Casualty (P&C) personal lines pricing and underwriting is an established practice



Source: Insurance carrier rate/rule filings and carrier input

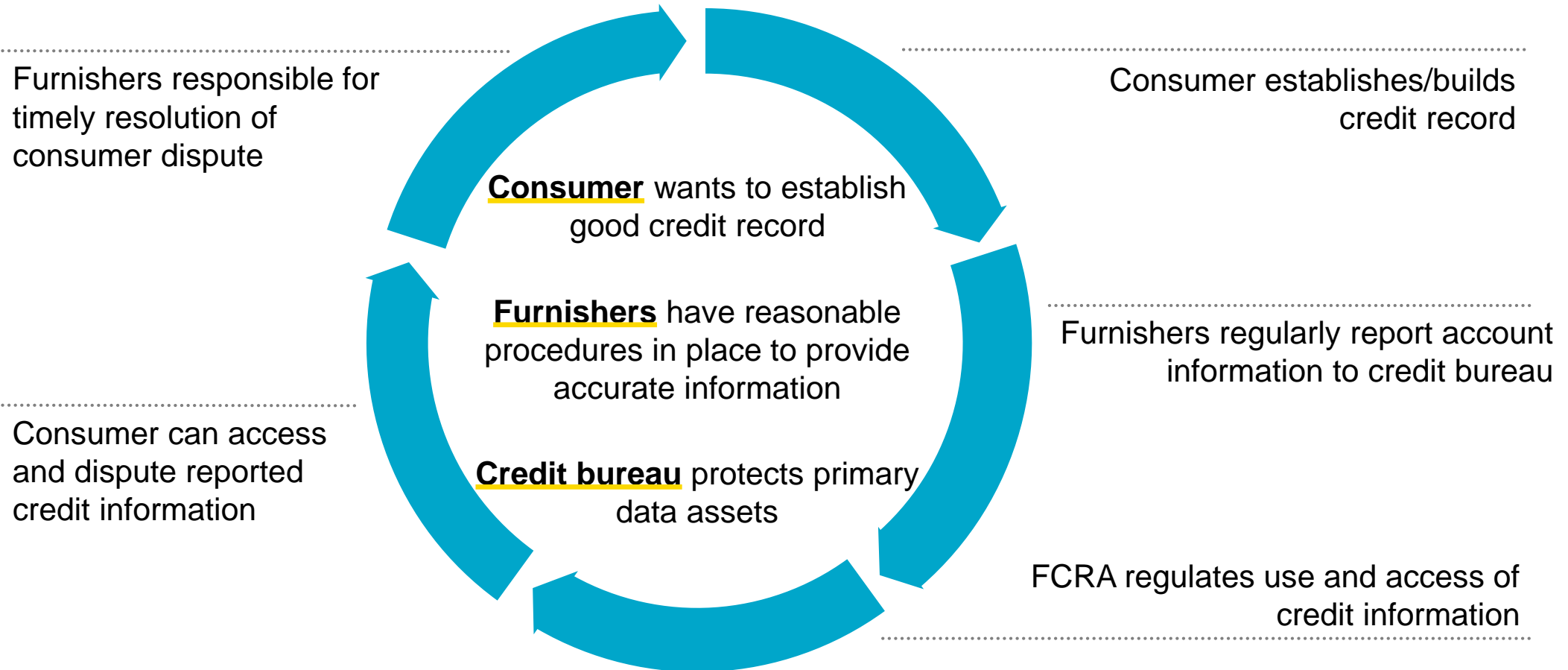
- ### Benefits of credit-based insurance scores
- ✔ Strong correlation with insurance loss costs
 - ✔ Objectivity of measurement
 - ✔ Scale and ease of administration

➔ Use of credit data in underwriting is accepted by most state insurance regulators



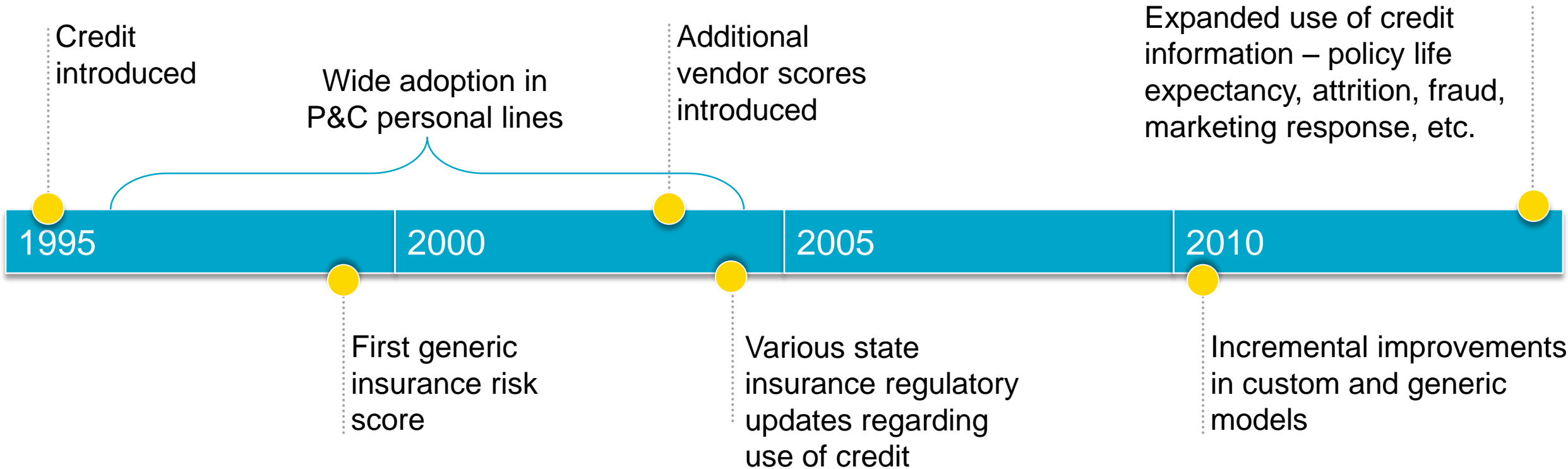
Consumer credit data is one of the most accurate and complete data sources for insurance customers

Reporting standards and dispute resolution create self-managing system





A brief history of insurance use of credit



Early adoption of credit created large segmentation improvements in the P&C personal lines markets

Today we will review some next generation innovations for uses of consumer credit data in insurance:

Understand how trended, time series credit data provides new insights into consumer behaviors



Use of alternative credit data to reduce the occurrence and improve risk segmentation of no-hits and thin files



Expanded use of credit information in commercial lines underwriting





Today, much of the credit view is static, making it difficult to know where consumers came from, or where they're going

Limitations of traditional credit data

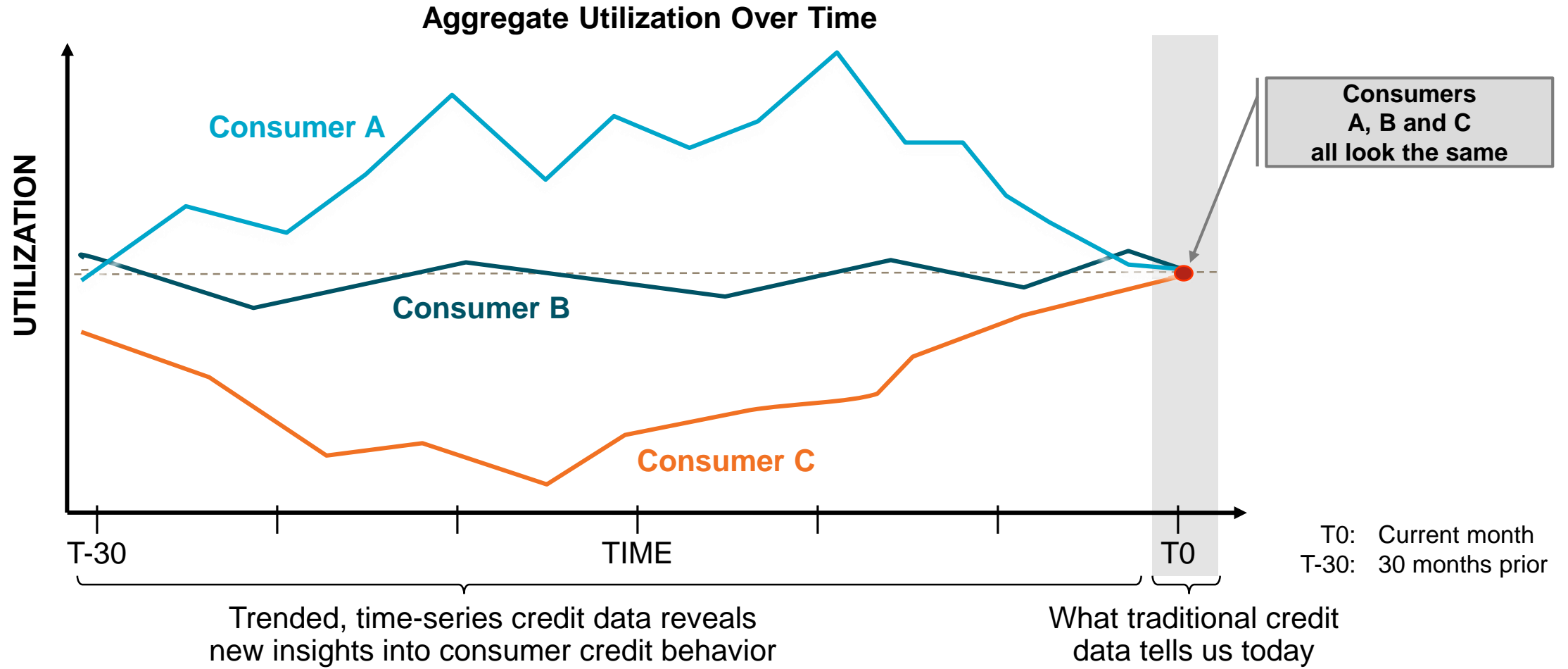
- Point-in-time view of balance, minimum payment, high credit, credit limit, etc.
- No view of historical payment patterns
- Can lead to anecdotal outcomes – for example:

I normally have good credit, I just had a bad month.

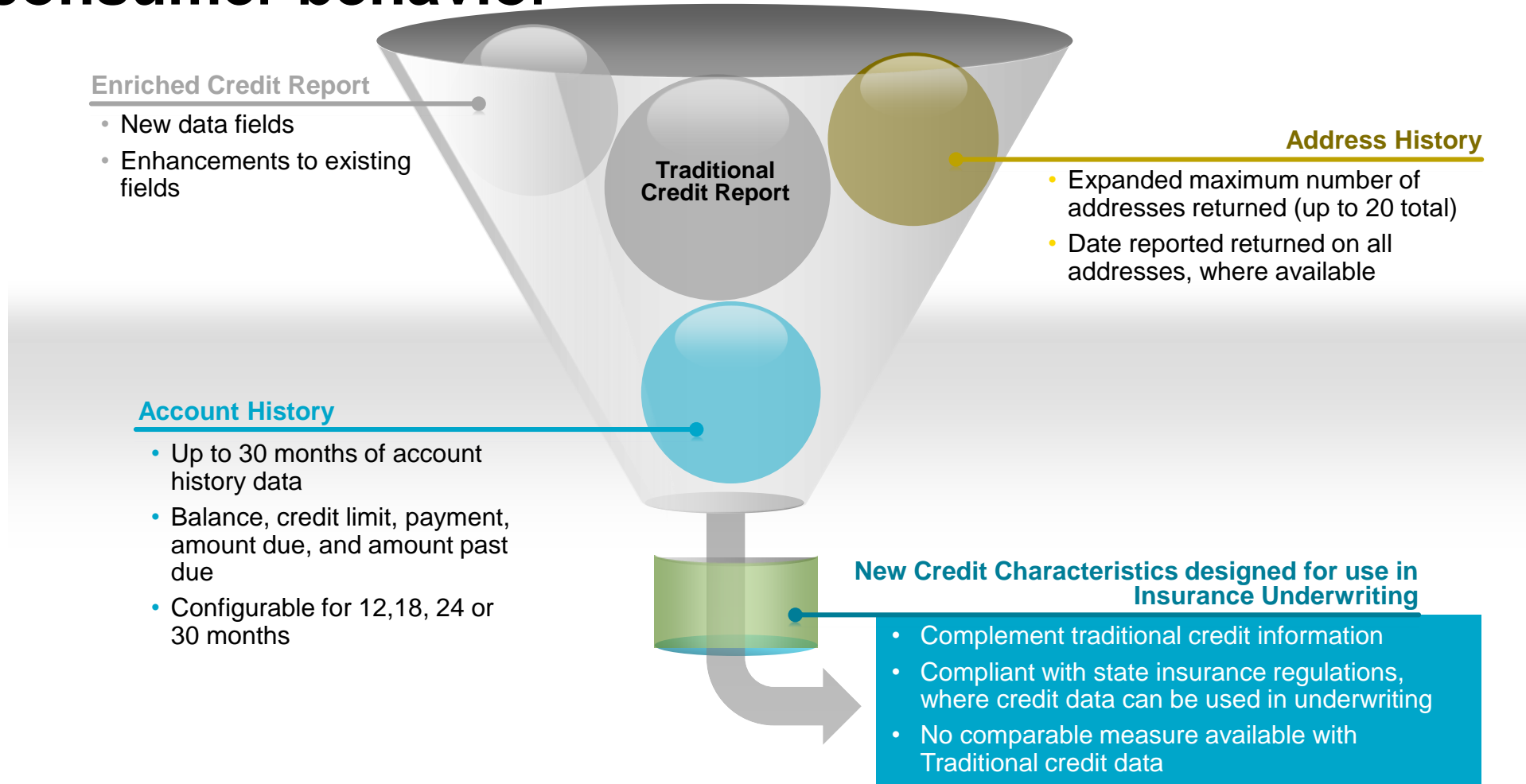
What's occurring in reality

- Aggregate average insurance scores remain relatively stable over time
- However, individual-level scores do move over time, and the movement is predictive of risk
- Over time, more than **70%** of risks move in a meaningful way
 - Generally masked by overall lower lost costs associated with renewals

Consumers who appear to display the same credit behavior today may actually have arrived there very differently



Trended credit data provides carriers with new insight into consumer behavior



Account history measures uncover new insights into credit-based, loss cost segmentation

Example: Payment to Balance Ratio



Traditional Credit Data

Balance at time of credit report pull

Gaps

- Historical balance
- Payment amount
- Cannot determine the historical balance and payment information

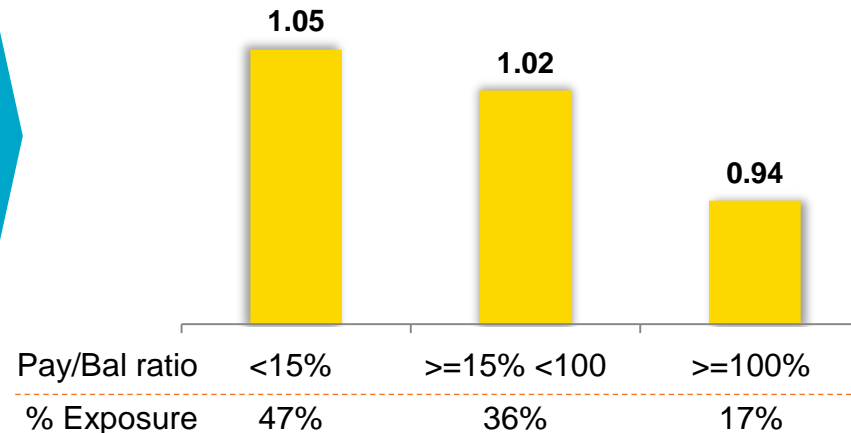
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Trended Credit Data

Ratio of aggregate payment to balance over past 12 months

Pure Premium Relativity
By Aggregate Payment to Balance Ratio



Example: Slope of Credit Card Utilization



Traditional Credit Data

Balance at time of credit report pull
 Credit limit at time of credit report pull

Gaps

- Historical balance
- Historical credit limit

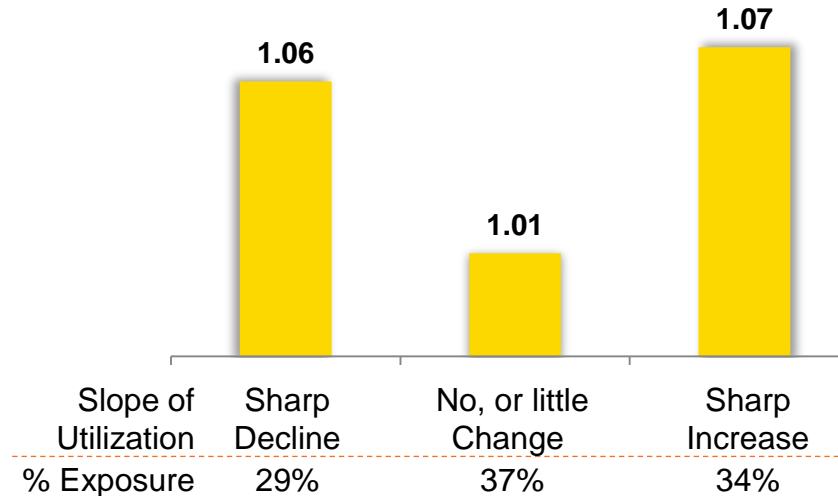
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Trended Credit Data

Slope of credit card utilization, after payment, over last 12 months

Pure Premium Relativity
 By Slope of Credit Card Utilization



Example: Number of Balance Decreases



Traditional Credit Data

Balance at time of credit report pull

Gaps

- Historical balance

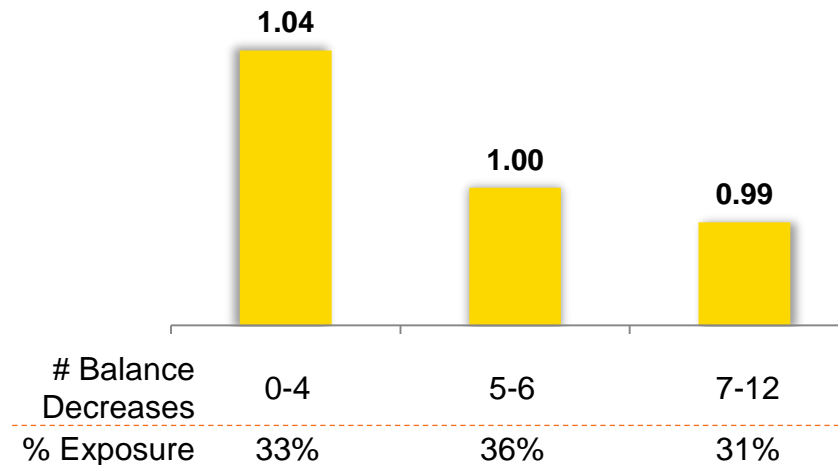
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Trended Credit Data

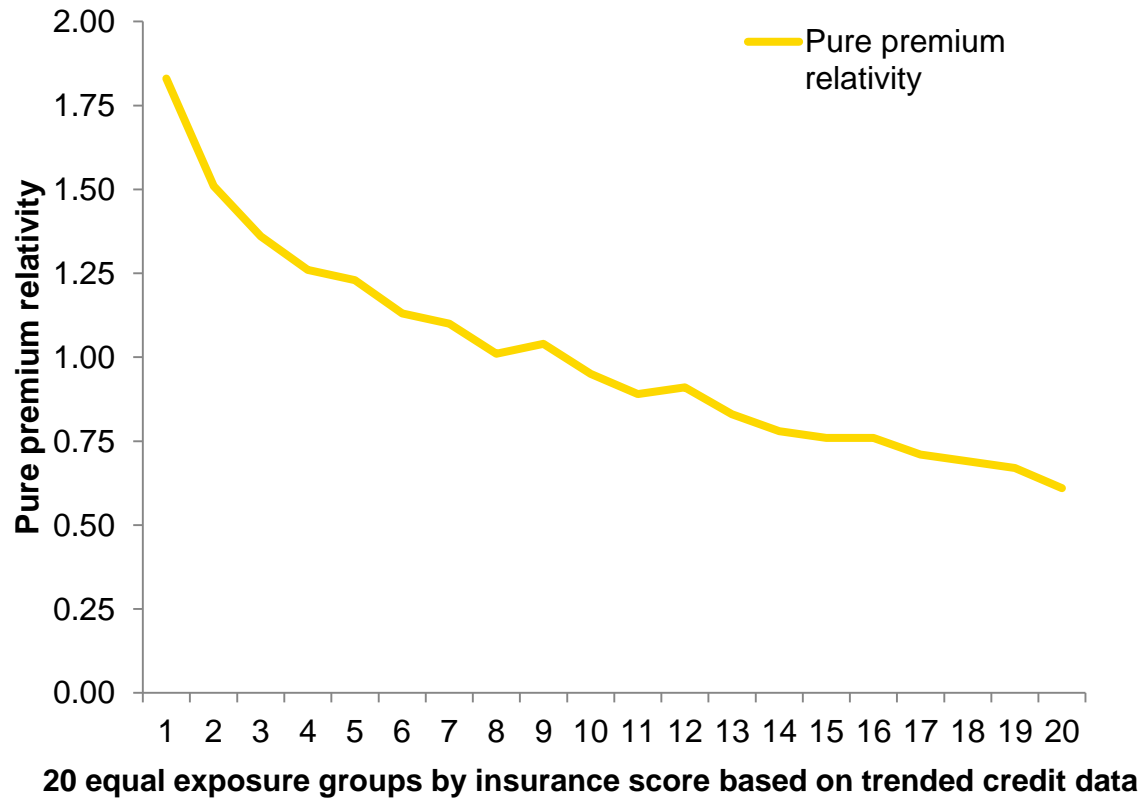
Number of balance decreases over last 12 months

Pure Premium Relativity
By Number of Balance Decreases

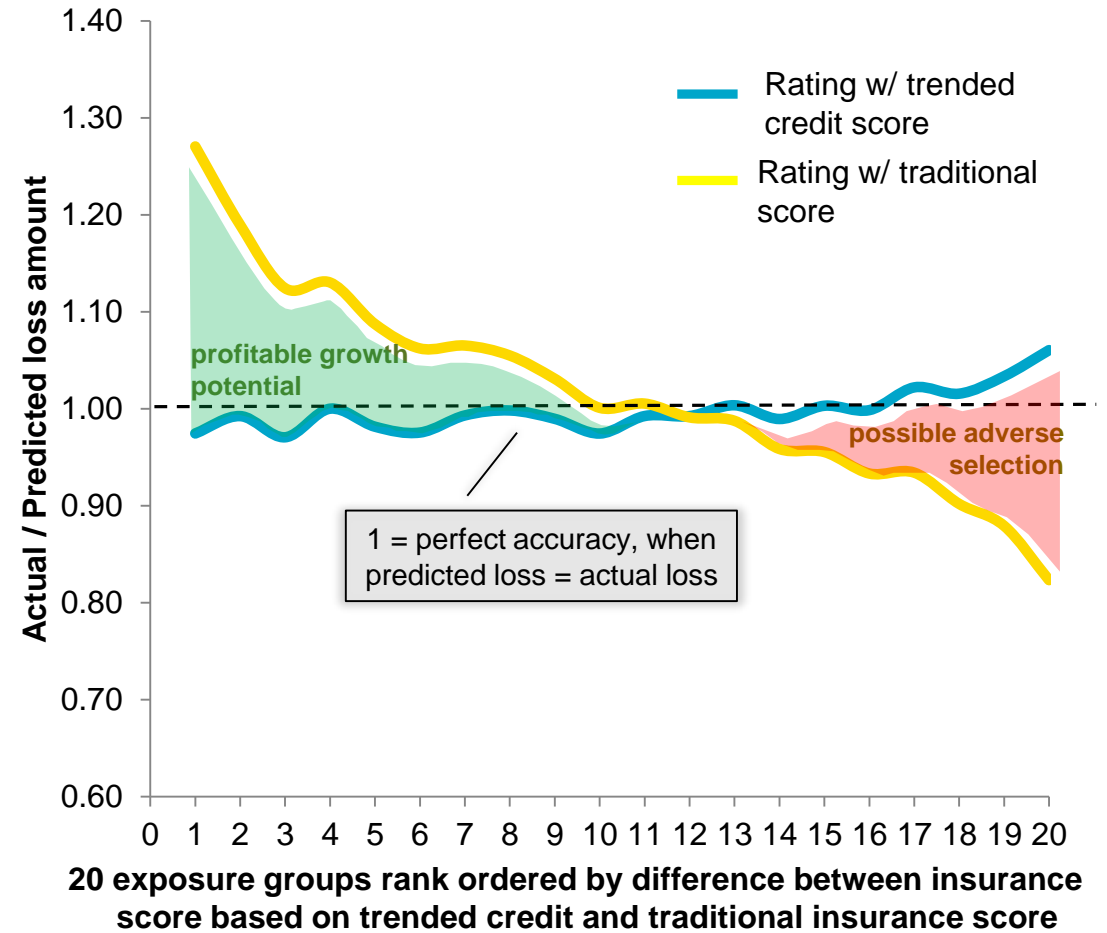


Rate plans adding trended credit data have demonstrable improvement in accuracy

Relative pure premium



Actual versus predicted loss amount



Trended credit data creates direct benefits for insurance carriers



Historical balance and payment history to be used in risk assessment



Shifts in bankcard balances, between cards, may be indicative of other behaviors (insurance shopping)



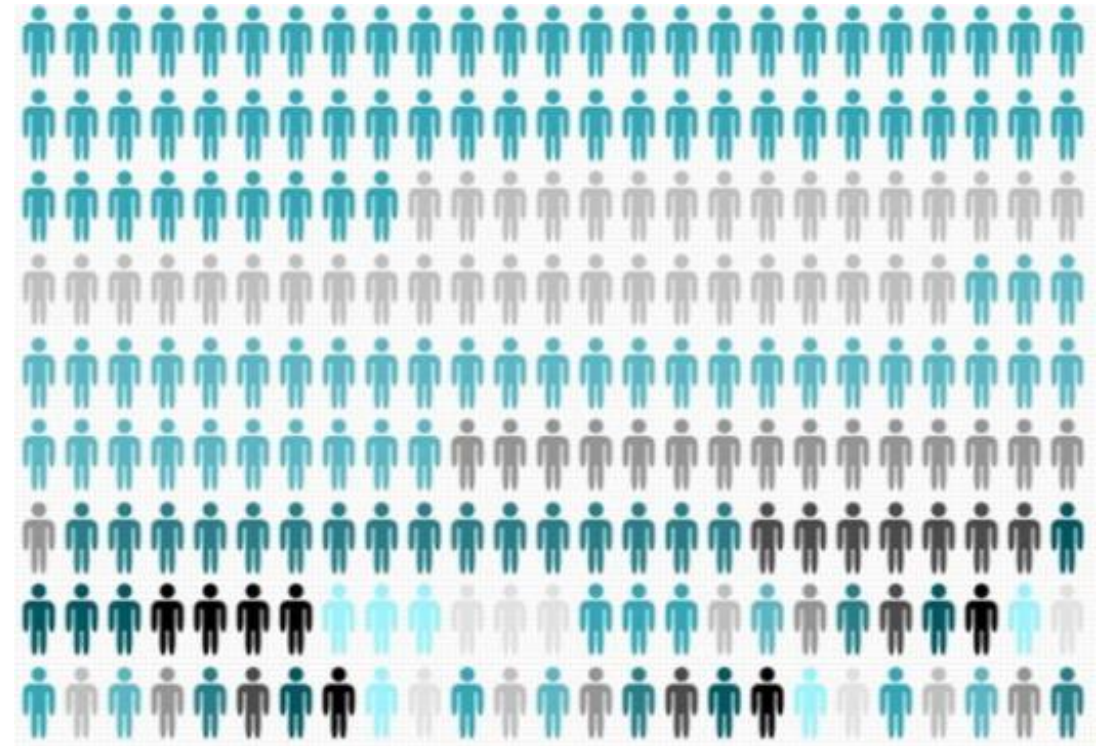
Address history information could offer new insights into insurance loss behaviors



Trended credit data presents promising opportunities, but what about the under-banked population that don't have established, traditional credit?

As many as 50 million under-banked consumers represent a diverse and growing customer base

- Nearly 2-in-10 consumers lack full credit record:
 - Age limitations
 - Limited access to credit
 - Acculturating immigrants
 - Distrust of credit system
- Lack of credit information may lead to:
 - Inability to objectively evaluate customer base
 - Limited product offering
 - Generalized treatment of customers



Alternative data sources

- Identified alternative credit data sources with up to 300 million consumer records from a variety of industries.
 - Most are considered *specialty consumer reporting agencies* (CRA) – Governed by FCRA
 - Several hundred data attributes available
 - Up to 50% hit-rate on sample set of TransUnion credit no-hit and thin-file records

Banking

- Inquiries
- Account closures
- Fraudulent closures

Consumer Rental

- Rent-to-own, etc.
- Inquiries
- Charge-offs

Utility

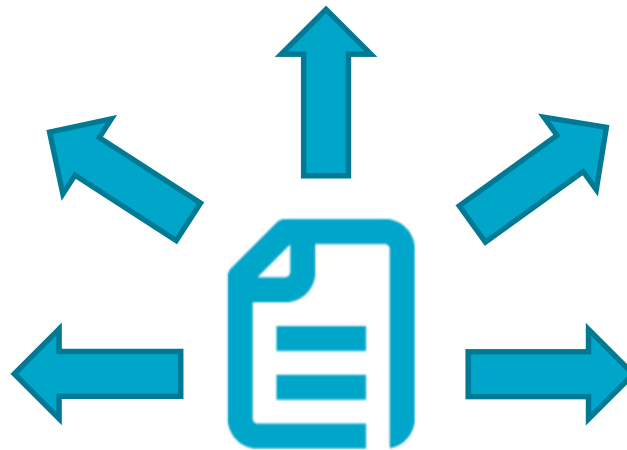
- Inquiries

Consumer Finance

- Non-banking loan inquiries (Cash Advance, Auto, etc.)
- Credit issuance
- Charge-offs

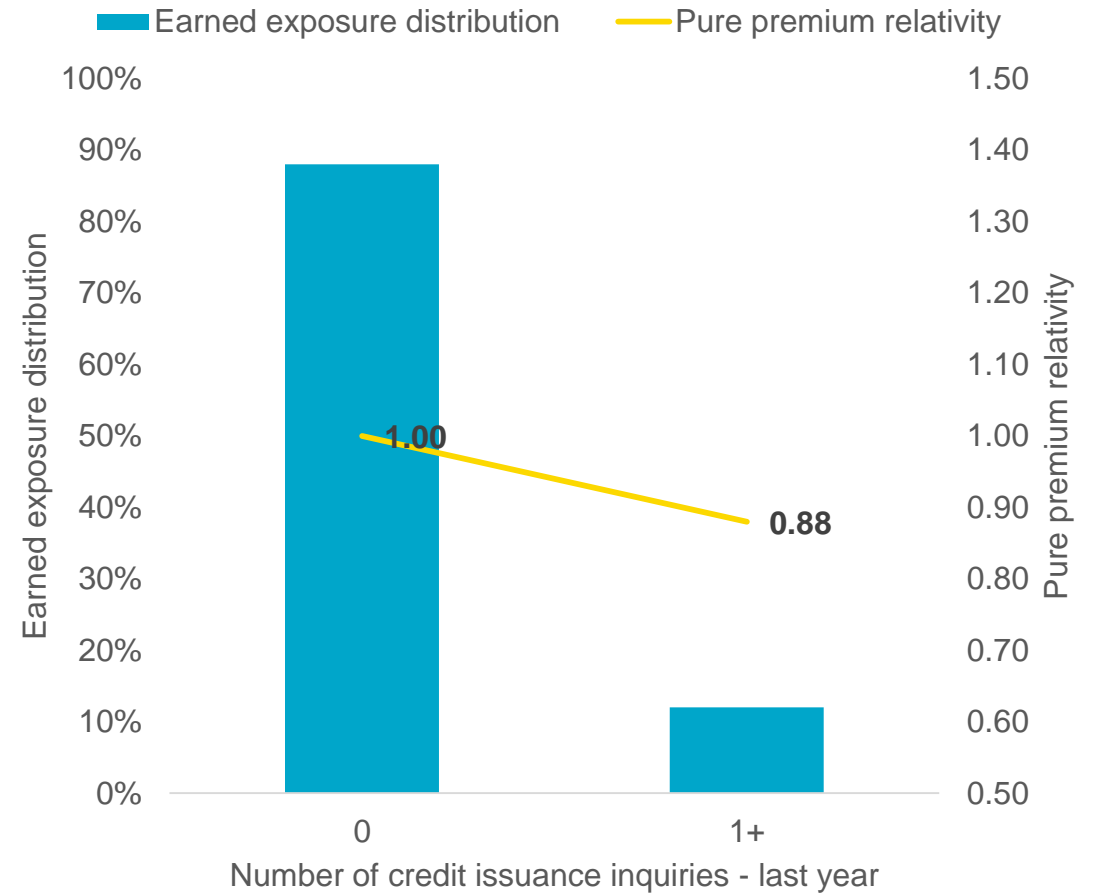
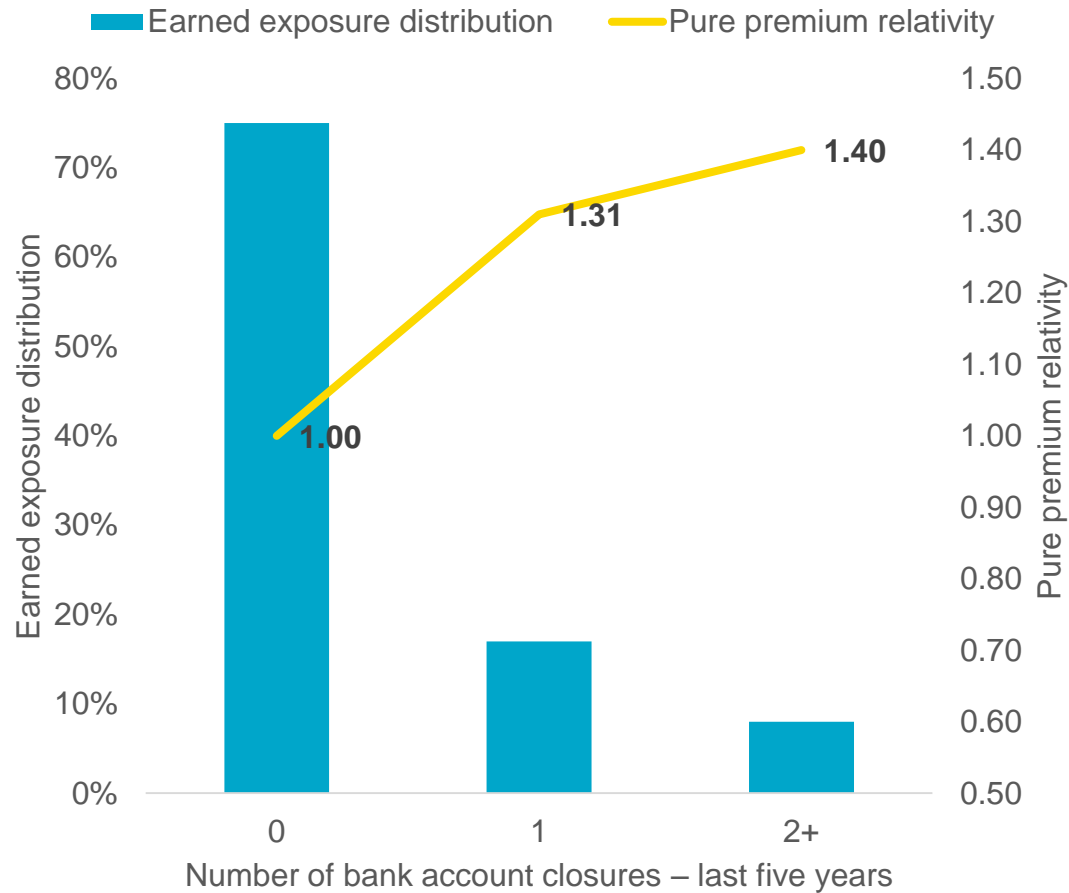
Subscription/Clubs

- Orders
- Payments
- Write-offs



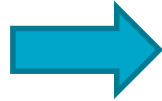


Alternative credit data is a predictive and valuable supplement to traditional credit data



Alternative credit data characteristics can be used to build a credit based insurance score

Analytic dataset



Policy record	Performance	Standard Rating Characteristics		
		Policy Characteristics	Driver Characteristics	Vehicle Characteristics
Policy 1
Policy 2
...

Modeling Methodology

Insurance Losses =

Standard Rating Characteristics

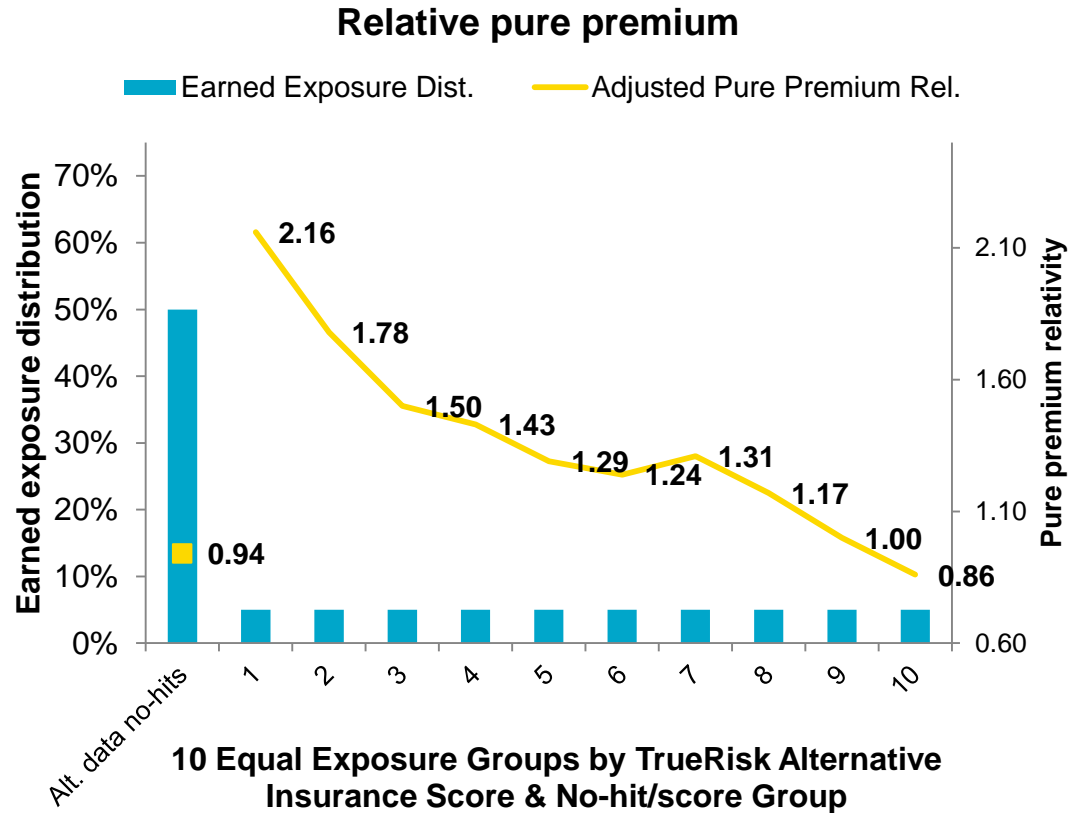


Alternative credit data attributes



Alternative credit insurance risk score

Example: Pure premium lift of alternative credit insurance score on a multi-carrier dataset



- ✔ 50% hit-rate on sample set of TransUnion credit no-hit and thin-file records
- ✔ 2.5x times pure premium pure premium separation between the highest/lowest risk deciles
- ✔ Additional segmentation opportunity for 50% if risk classified as alternative data no-hits/scores

Alternative credit data creates direct benefits for insurance carriers



Reduces the occurrence of no-hits and thin-files



Improves segmentation and pricing accuracy within existing rating plan



Offers additional segmentation opportunity on credit-active population



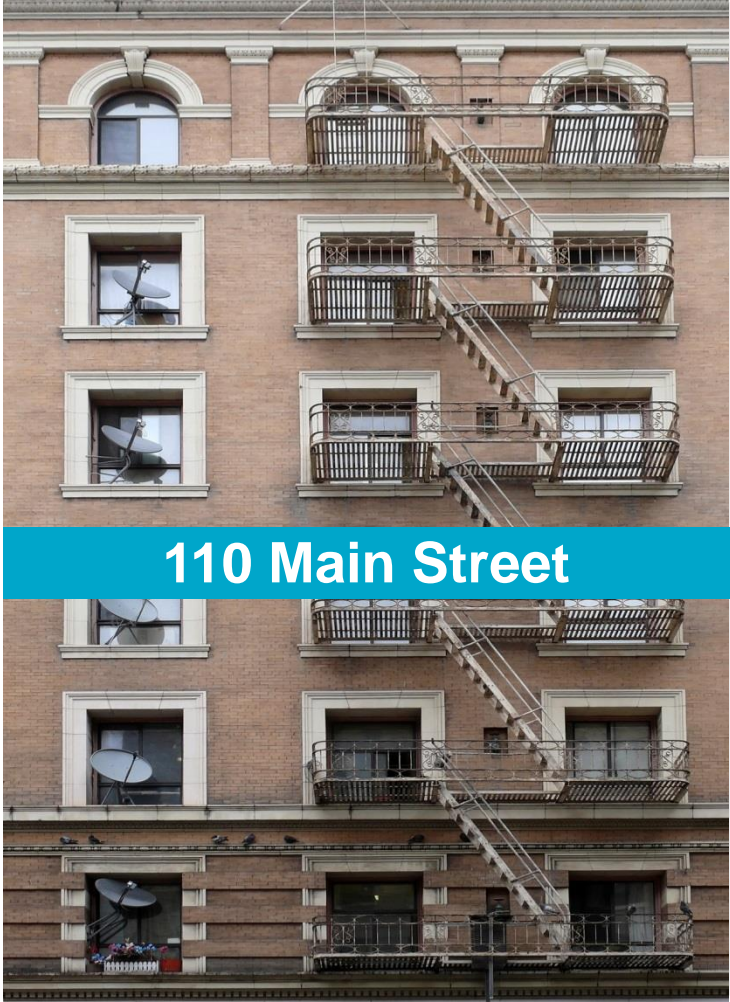
How can using aggregated credit information enable expanded use of credit data in Commercial lines?

Commercial residential insurance: Habitational



- Two identical risks based on physical characteristics (same age, location, size)
- How does personal lines segment these types of similar risk?

TransUnion's patent-pending occupant address search technology allows us to create unique aggregated habitational risk profiles



Data search

Street Address	Person	Apartment	Credit attributes	Model scores
110 Main Street	XXX	A	X	X
110 Main Street	XXX	A	X	X
110 Main Street	XXX	B	X	X
110 Main Street	XXX	B	X	X
110 Main Street	XXX	C	X	X
110 Main Street	XXX	C	X	X
110 Main Street	XXX	C	X	X
TransUnion database				
110 Main Street	XXX	F	X	X
110 Main Street	XXX	G	X	X
110 Main Street	XXX	H	X	X
110 Main Street	XXX	I	X	X
110 Main Street	XXX	I	X	X
110 Main Street	XXX	K	X	X

TransUnion's aggregated habitational data risk profile

TransUnion Habitational Risk allows insurers to assess the occupant insurance risk

Insurance Score

Measures and assesses the occupant loss propensity and how that risk has changed over time

- Raw credit attributes aggregated to create an occupant insurance risk score
- Historical 12M and 24M prior scores are available to assess how the risk has changed over time

Stability Factors

Measures the overall occupant risk stability

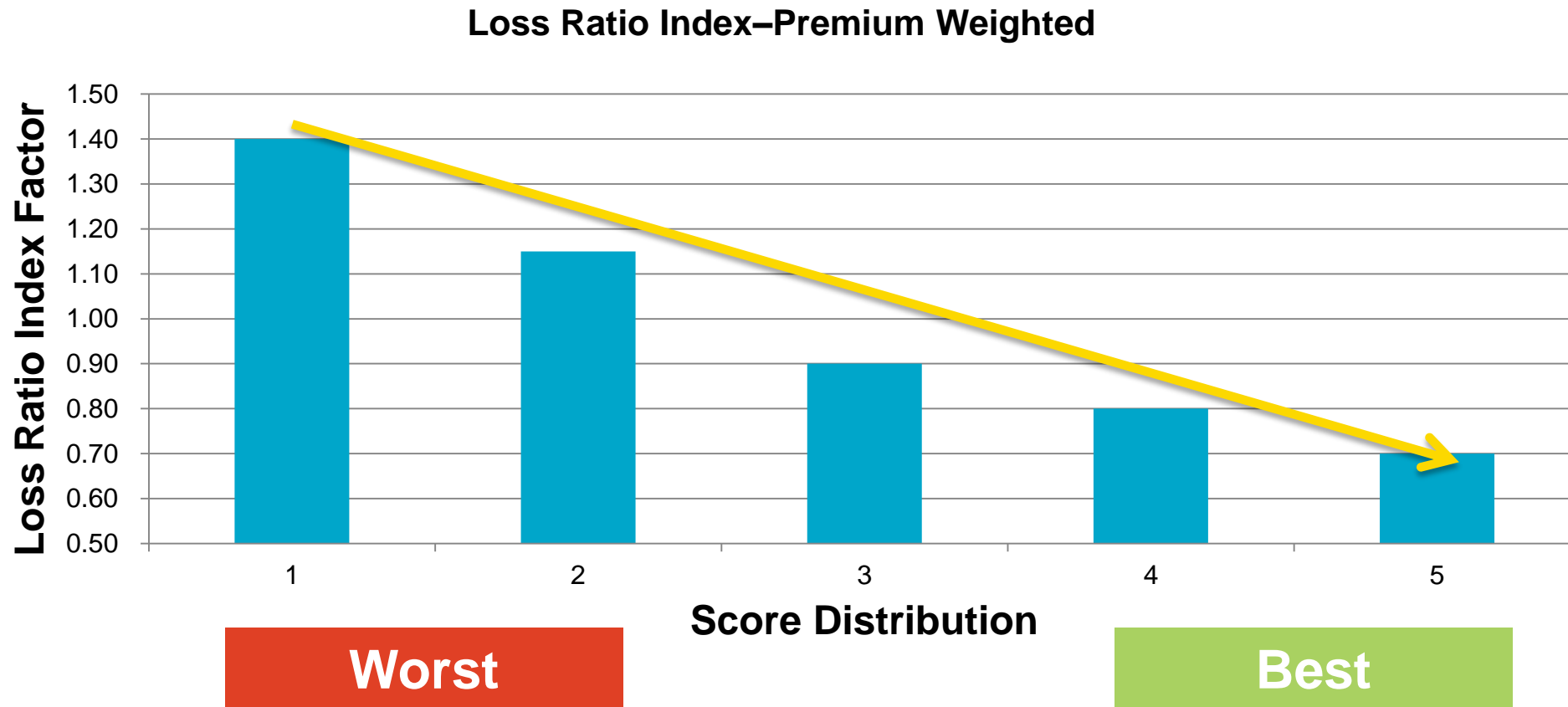
- Measures the average tenant tenure
- Tenure distribution
- Historical 12M and 24M prior stability factors allow insurers to measure how the property stability has changed over time

Age

Enhances underwriting and inspection decisions

- Calculates average age of tenants
- Calculates age distribution

Summarized retrospective analysis habitational model performance



Source: TransUnion internal data



Summary: Next generation enhancements to credit based insurance scores

- New credit data provides the opportunity to improve risk segmentation and pricing accuracy
 - Improved underwriting results
 - Improved competitive position in market
- New credit data can be incorporated into existing pricing and underwriting process
 - Standalone attributes
 - Insurance risk score
- New credit data is an extension of existing consumer credit information
 - Governed by Fair Credit Reporting Act (FCRA)
 - Fits within most states' regulations regarding the use of credit information in insurance underwriting



Thank you!

For questions, please contact Stothard Deal

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