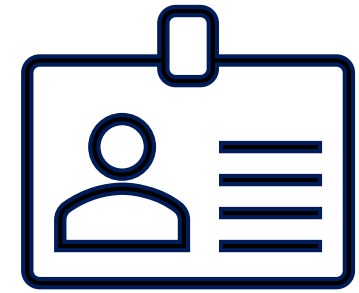


CAS Virtual Trunk Show



August Edition



August 3, 2022

Race and Insurance Pricing: Industry Developments & CAS Research

Mallika Bender, FCAS
Kathy Hurta, FCAS
Susan Kent, FCAS, CPCU



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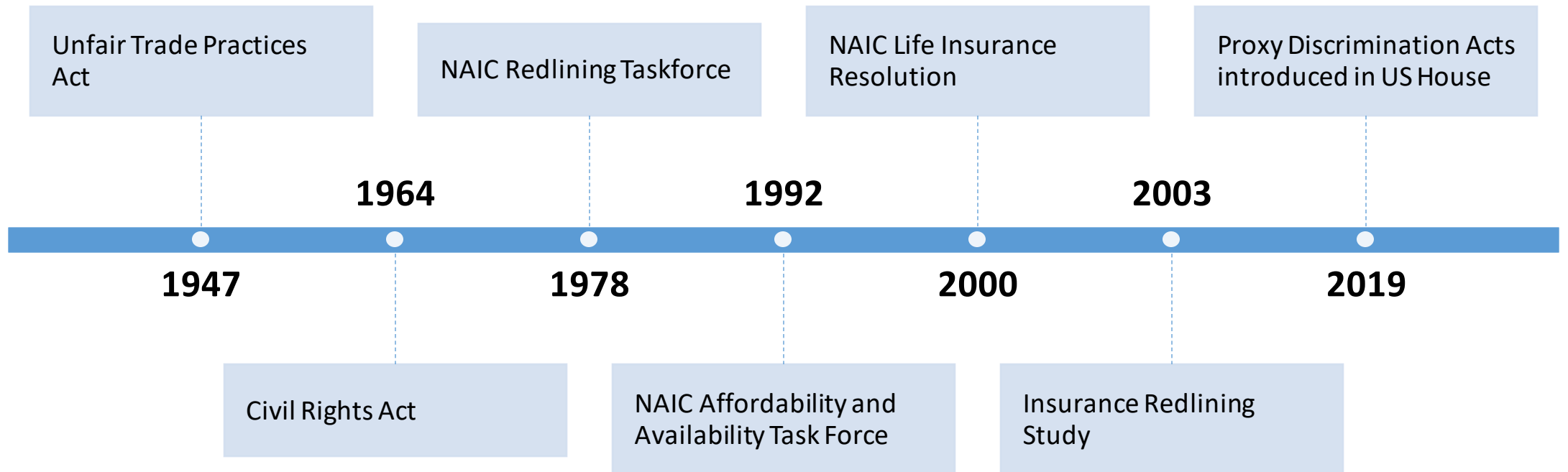


● CAS Approach to Race and Insurance Pricing

August 3, 2022

Mallika Bender

Race – A Recurring Focus



Source: NAIC – Milestones in Racial Discrimination within the Insurance Sector; August 2020
https://content.naic.org/sites/default/files/inline-files/HistoricalContextOutline_Final_0.pdf



CAS Research Series on Race and Insurance Pricing

<https://www.casact.org/publications-research/research/research-paper-series-race-and-insurance-pricing>

CAS RESEARCH PAPER
SERIES ON RACE AND INSURANCE PRICING

DEFINING DISCRIMINATION IN INSURANCE

Kudakwashe F. Chibanda, FCAS

CASUALTY ACTUARIAL SOCIETY



CAS RESEARCH PAPER
SERIES ON RACE AND INSURANCE PRICING

UNDERSTANDING POTENTIAL INFLUENCES OF RACIAL BIAS ON P&C INSURANCE: FOUR RATING FACTORS EXPLORED

*Members of the 2021 CAS Race and
Insurance Research Task Force*

CASUALTY ACTUARIAL SOCIETY



CAS RESEARCH PAPER
SERIES ON RACE AND INSURANCE PRICING

METHODS FOR QUANTIFYING DISCRIMINATORY EFFECTS ON PROTECTED CLASSES IN INSURANCE

Roosevelt Mosley, FCAS, and Radost Wenman, FCAS

CASUALTY ACTUARIAL SOCIETY



CAS RESEARCH PAPER
SERIES ON RACE AND INSURANCE PRICING

APPROACHES TO ADDRESS RACIAL BIAS IN FINANCIAL SERVICES: LESSONS FOR THE INSURANCE INDUSTRY

*Members of the 2021 CAS Race and
Insurance Research Task Force*

CASUALTY ACTUARIAL SOCIETY





Defining Discrimination in Insurance

By: Kudakwashe Chibanda, FCAS

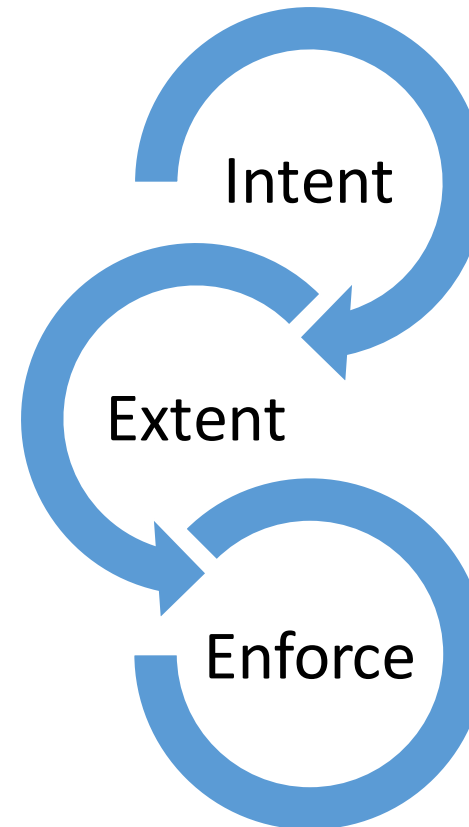
Purpose: To provide clarity on new and old terminology being used in insurance industry discussions on racial bias.



Defining Discrimination in Insurance

Report explores history, context, definitions and inconsistencies in usage of common terms.

- Protected Class
- **Unfair Discrimination**
- **Proxy discrimination**
- Disparate impact
- Disparate treatment
- Disproportionate impact





Understanding Potential Influences of Racial Bias on P&C Insurance: Four Rating Factors Explored

By: 2021 CAS Race and Insurance Research Task Force

Purpose: Explore the impacts of racially biased policies and practices outside of the system of insurance as it relates to commonly used insurance rating factors.





Understanding Potential Influences of Racial Bias on P&C Insurance: Four Rating Factors Explored

- Credit-Based Insurance Scores
- Geographical Location
- Homeownership
- Motor Vehicle Records

Lending
Discrimination

Segregation

Pre-Textual
Traffic Stops





Approaches to Address Racial Bias in Financial Services: Lessons for the Insurance Industry

By: 2021 CAS Race and Insurance Research Task Force

Purpose: Learn from solutions implemented in (non-insurance) financial services sectors to address racial bias.



Approaches to Address Racial Bias in Financial Services: Lessons for the Insurance Industry

- Mortgage Lending
- Personal Lending
- Commercial Lending
- Credit Scoring System

Government
Intervention

Bias Testing &
Monitoring

New Product
Innovation





Methods for Quantifying Discriminatory Effects on Protected Classes in Insurance

By: Roosevelt Mosley, FCAS and Radost Wenman, FCAS

Purpose: Encourage discussions about potential algorithmic bias in insurance and explore methods to identify, measure, and mitigate bias in predictive models.





Methods for Quantifying Discriminatory Effects on Protected Classes in Insurance

- Fairness Definitions in Modeling
 - Demographic Parity / Independence
 - Equal Opportunity / Separation
 - Calibration / Sufficiency
- Bias Mitigation Techniques
 - Pre-processing / Inputs
 - In-Processing / Modeling
 - Post-Processing / Predictions



● Approaches to Address Racial Bias in Financial Services: Lessons for the Insurance Industry

August 3, 2022

Kathy Hurta, FCAS



Financial Services

1. Mortgage Lending
2. Personal Lending
3. Commercial Lending
4. Credit Scoring



Mortgage Lending





Audience Poll #1

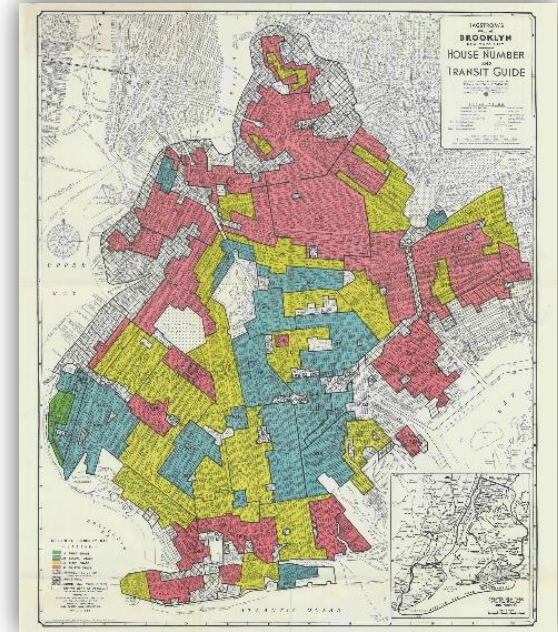
What was the approximate Black and White Homeownership Gap in 1960?

- A. 10%
- B. 20%
- C. 30%
- D. 40%



Contributing Policies and Practices

- 1934 Federal Housing Act (New Deal)
- Valuation maps color-coded areas
 - “Red” >> As little as 10% minority owned
- Allowed covenants on titles prohibiting sales to Blacks
- 1934-1962 –Underwrote \$120B in new housing
 - < 2% to non-White groups
- Penalties on “Predatory Loans”





Government intervention

Fair Housing Act (FHA) - 1968

Home Mortgage Disclosure Act - 1975

Community Reinvestment Act – 1977

National Community Reinvestment Coalition – 1991

Housing Finance Agency (HFA) - 2008





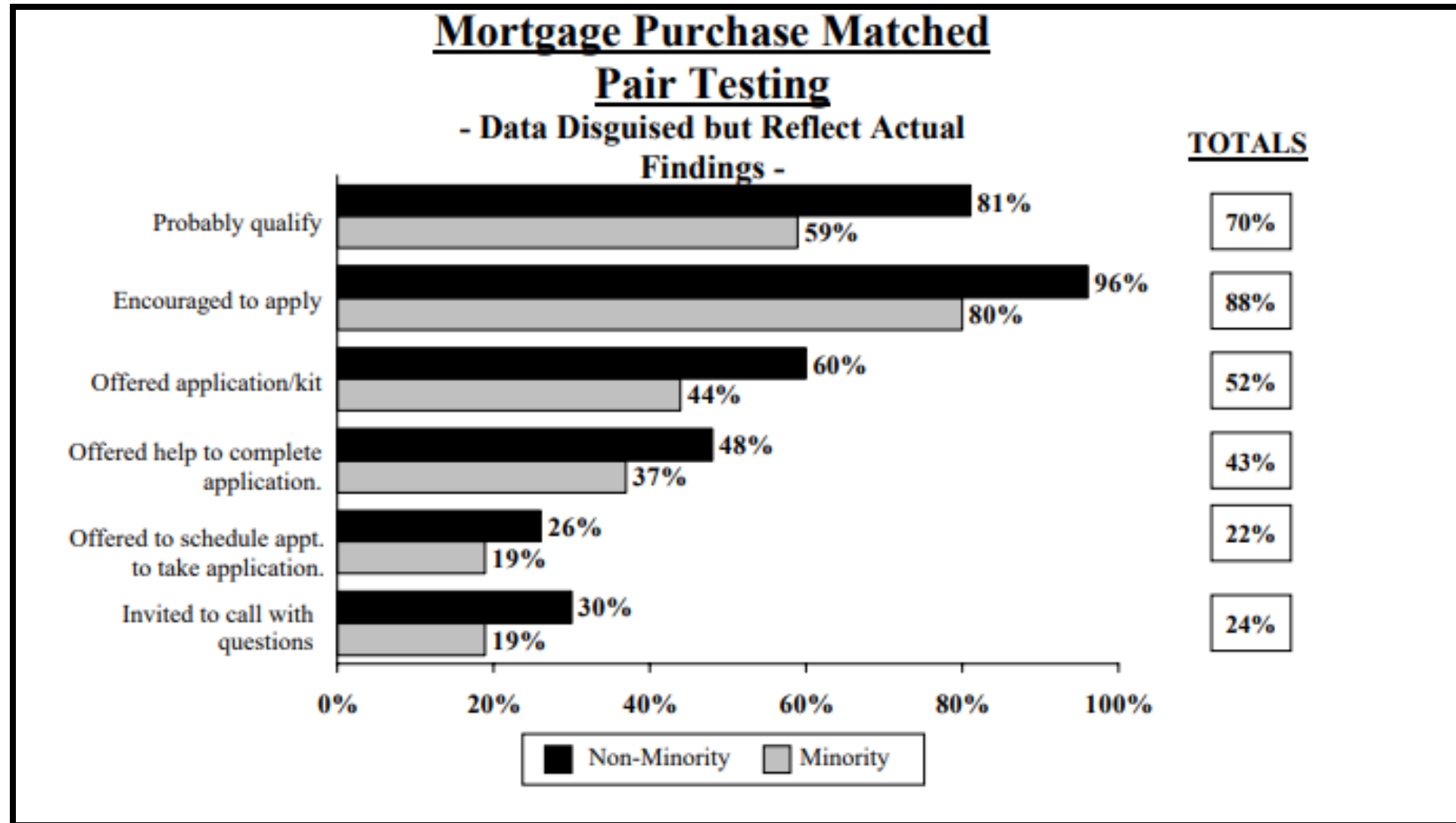
Audience Poll # 2

What was the approximate Black and White Homeownership Gap in 2020?

- A. 10%
- B. 20%
- C. 30%
- D. 40%



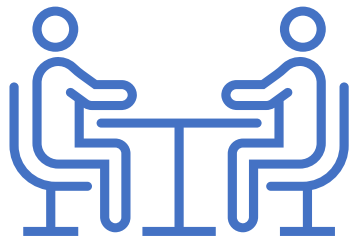
Ongoing Bias Testing – Matched Pairs



Personal Lending



Personal lending issues



Face-to-Face
Lending

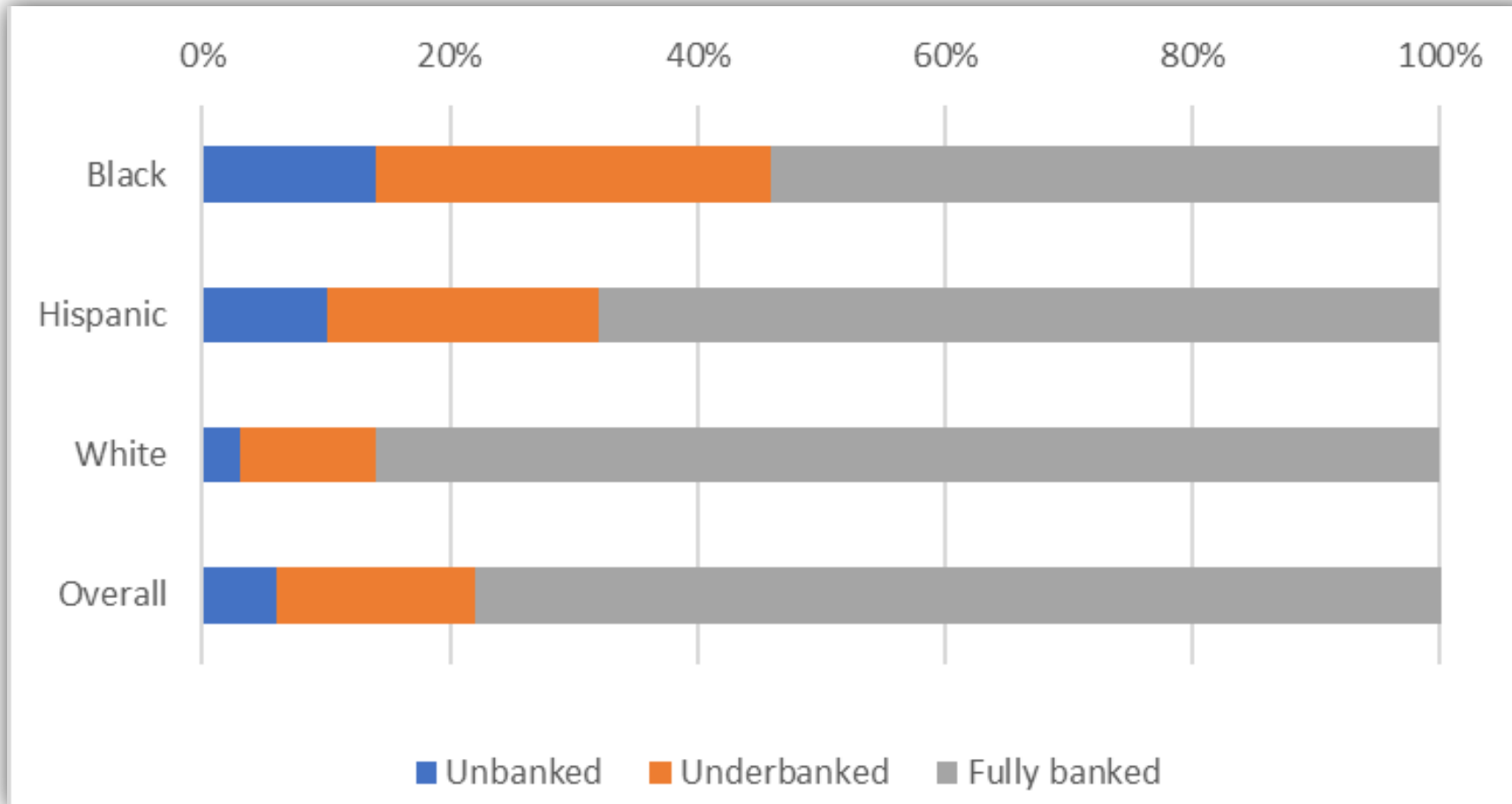
Access to
Banking



Unbanked &
Underbanked
Lack of Credit
history



Banking Status by Race/Ethnicity





Personal lending solutions

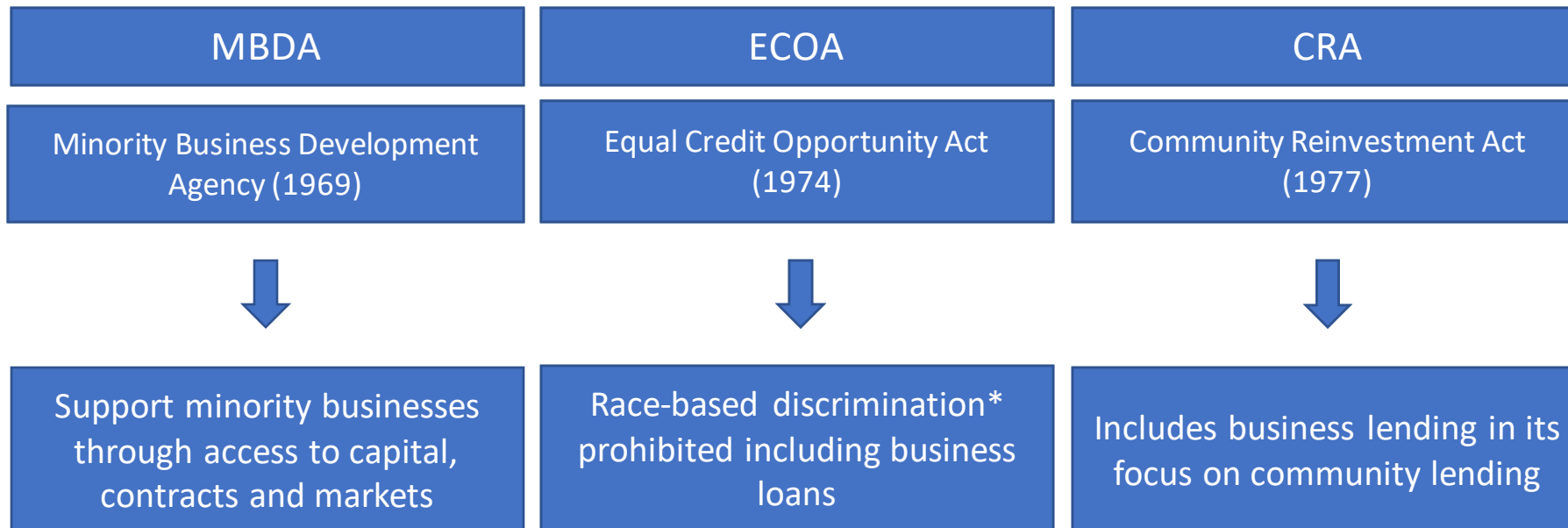
- Application of Community Reinvestment Act
- Implement low-cost banking services via USPS
- Community Development Financial Institutions (CDFI)
- Fintech products



Commercial Lending



Government Intervention to Mitigate Discriminatory Impacts

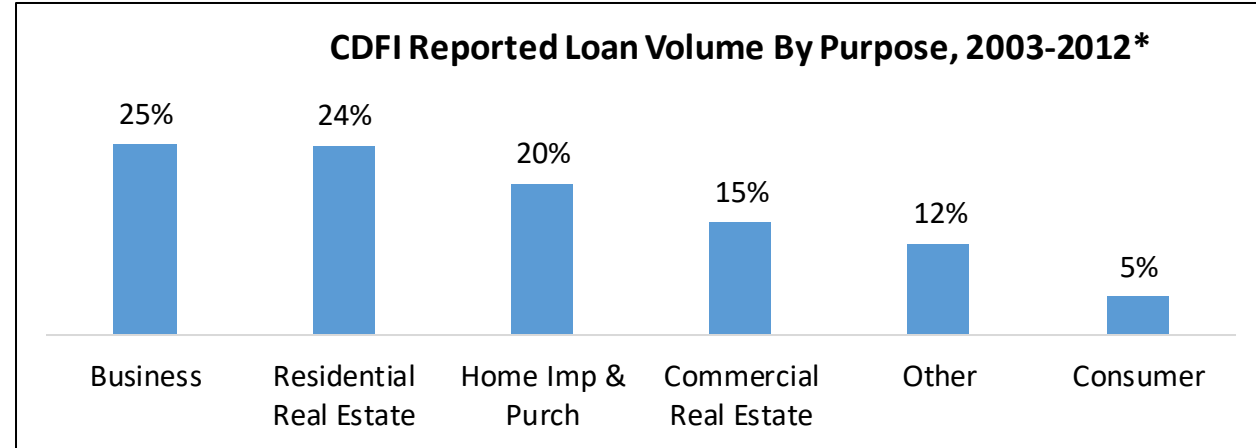


*Race, color, religion, national origin, sex, marital status or age discrimination unlawful

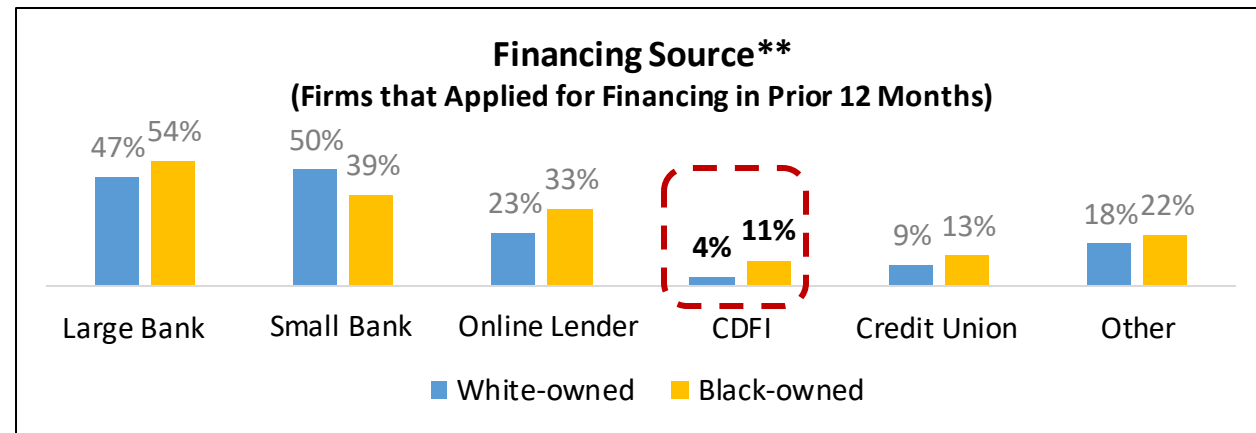


Community Development Financial Institutions

A significant portion of CDFI lending is focused on businesses...



Yet, CDFI commercial lending reach to Black businesses is still limited.



*CDFI Fund Transaction Level Report data

**2017 Small Business Credit Survey, Federal Reserve



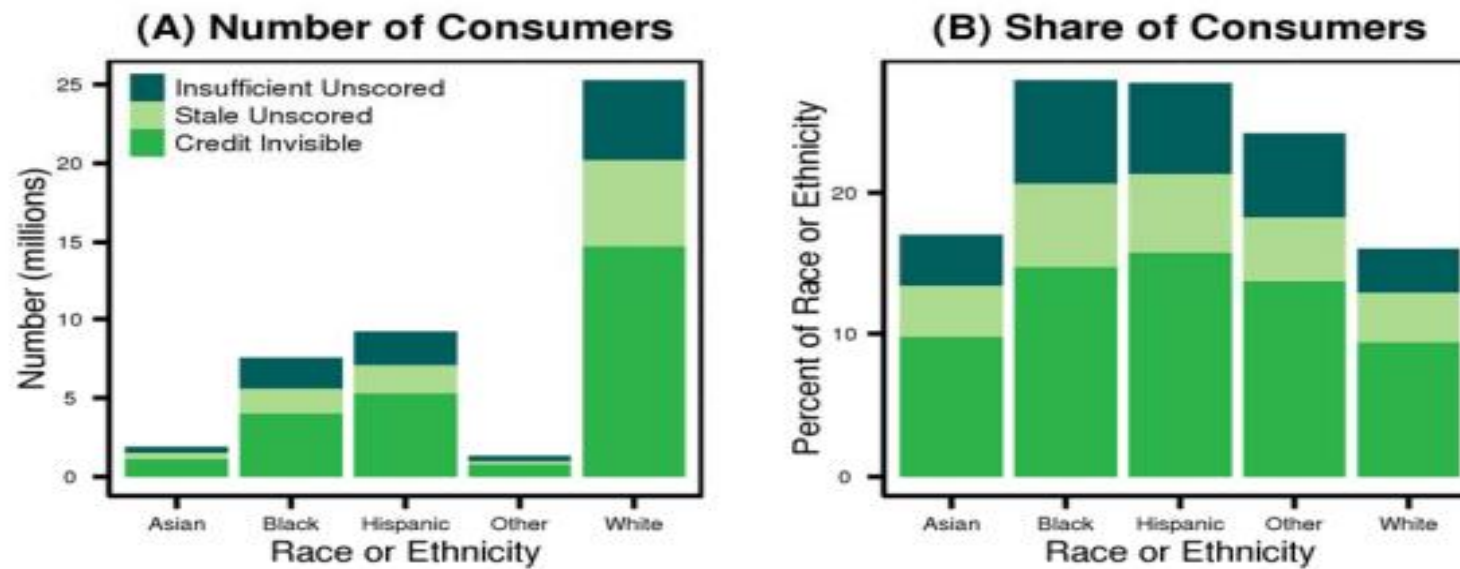
Credit Scoring



Lack of or Limited Credit History

CFCB research found that Black and Hispanic populations have higher rate of no credit / unscored records.

FIGURE 3: NUMBER AND INCIDENCE OF CONSUMERS THAT ARE CREDIT INVISIBLE OR HAVE AN UNSCORED CREDIT RECORD BY RACE OR ETHNICITY





Alternative Data for Credit Scoring

Data Elements that may mitigate racial bias

- Rent
- Utility bills
- Phone bills
- Deposit account history
- Community group affiliation
- Netflix payments

Brookings Institution:

- Utility payments ➡ increased acceptance rates
- New products using such data
 - Experian
 - Trans Union
 - Equifax





Conclusion

- Focus on outcome, not intent
- Solutions can be a combination of public and private actions
- Bias testing useful tool to measure disparate impact



● Legislative and Regulatory Developments

August 3, 2022

Susan Kent



Audience Poll #3

How would you characterize your company's efforts in addressing racial bias in ratemaking and underwriting?

A: Our algorithms make explicit adjustments for bias.

B: We are in the process of reviewing our algorithms for racial bias.

C: We are unsure how to address racial bias.

D: We don't collect race data, so we are unable to evaluate bias.





Legislative and Regulatory Developments

- NCOIL Special Committee on Race in Insurance Underwriting
- Colorado Statute
- NAIC Special (EX) Committee on Race and Insurance
- Others





NCOIL –Special Committee on Race in Insurance Underwriting

“Proxy Discrimination” means the **intentional substitution of a neutral factor** for a factor based on race, color, creed, national origin, or sexual orientation **for the purpose of discriminating against a consumer** to prevent that consumer from obtaining insurance or obtaining a preferred or more advantageous rate **due to that consumer’s race, color, creed, national origin, or sexual orientation.**





NCOIL –Special Committee on Race in Insurance Underwriting

Adopted Resolutions

- Use of Certain Rating Factors
- Use of Artificial Intelligence in Underwriting
- Insurance Score Transparency





Colorado Revised Statute

§ 10-3-1104.9

Prohibits an insurer – regarding any insurance practice – from:

- **Unfairly discriminating** based on race, color, national or ethnic origin, religion, sex, sexual orientation, disability, gender identity, or gender expression; or
- Using any **external consumer data and information sources, algorithms, or predictive models that use external consumer data and information sources** in a way that unfairly discriminates based on race, color, national or ethnic origin, religion, sex, sexual orientation, disability, gender identity, or gender expression.



Colorado Revised Statute

§ 10-3-1104.9

- **"Unfairly discriminate" and "unfair discrimination" include the use of one or more external consumer data and information sources, as well as algorithms or predictive models using external consumer data and information sources,**
- **that have a correlation to race, color, national or ethnic origin, religion, sex, sexual orientation, disability, gender identity, or gender expression, and**
- **that use results in a disproportionately negative outcome for such classification or classifications,**
- **which negative outcome exceeds the reasonable correlation to the underlying insurance practice, including losses and costs for underwriting.**





NAIC – Property/Casualty Work Stream of Special (EX) Committee on Race and Insurance

- **Develop analytical and regulatory tools** to assist state insurance regulators in defining, identifying, and addressing unfair discrimination in Property/Casualty insurance
- Consider **enhanced data reporting and record-keeping requirements** across product lines **to identify race and other sociodemographic factors of insureds**, including consideration of legal and privacy concerns. **Consider a data call** to identify insurance producer resources available and products sold in specific ZIP codes to **identify barriers to access**.





AAA P/C Racial Equity Task Force Response

Objective: Provide independent actuarial perspective to inform public policymakers on issues related to racial equity in insurance practices as they relate to property and casualty insurance.



Actuarial Standards of Practice

- Actuarial Standard of Practice (ASOP) No. 12, *Risk Classification*: Rates within a risk classification system would be considered equitable if **difference in rates reflect material differences in expected cost** for risk characteristics. This is demonstrated if it can be shown that the experience correlates to the risk characteristic.
- Others, including
 - ASOP No. 23, *Data Quality*
 - ASOP No. 53, *Estimating Future Costs for Prospective P/C Risk Transfer and Risk Retention*
 - ASOP No. 56, *Modeling*





AAA P/C Racial Equity Task Force Response

- Activities

- Comment letter to NAIC Special Committee
- Comment letter to National Council of Insurance Legislators
- Letters to Colorado concerning statute
- Contribution to Auto Committee comment letter to Federal Insurance Office on automobile insurance affordability
- Issue Brief on Sourcing Protected Class Information in P&C Insurance
- Issue Brief on Causation and Correlation
- Testimony and comment letter to DC DISB

- Upcoming

- Recommendations to regulators on approaches to identify and address racial bias





Potential Regulatory Approaches

- Prohibit certain rating variables
- Allow only pre-approved rating variables
- Employ statistical models to examine whether rating variables are acting as proxies for protected characteristics
- Require a loss ratio test; i.e., that loss ratios be similar across classes



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