

WEBINAR



VALLIGENT  
TECHNOLOGIES

# Combating Racial Bias In The Mortgage Industry

Through Data, Technology and Diversity



Presented by: The Unified Forces of Veros Real Estate Solutions and Valligent



November 16, 2022, 10:00 – 11:00AM PST





# Today's Line Up...

## Welcome

Hosted By



**Brian Fluhr**

Vice President of Marketing

## AVM Performance: *Is There Evidence of Racial Bias?*

Speakers



**Eric Fox**

Chief Economist



**Reena Agrawal**

Research Economist

## Spotting Potential Bias In Appraisals Through Keyword Identification

Speaker



**Jeff Hogan, SRA, AI-RRS**

Vice President of Valuations

## Building A Diverse Appraiser Workforce

Speaker



**Jeremy McCarty**

Chief Executive Officer / Founder  
of Valligent Technologies

# Much Attention Recently About Racial Bias In Appraisal Process

①

Stories have been reported where minorities receive lower appraised values

②

Some have concluded this is a widespread problem, and others state it is rare

③

Veros and others are leaders into the investigation of the topic

④

Automated Valuation Models (AVMs) take the human element out of appraised values

⑤

Can AVMs be used as a tool to help mitigate these problems due to racial bias?



# AVM Performance – *Is There Evidence of Racial Bias*

Analyze AVM performance in five major U.S. Metropolitan Areas:

1. Chicago, IL
2. Atlanta, GA
3. Houston, TX
4. Los Angeles, CA
5. Philadelphia, PA

Determine if the VeroVALUE AVM produces biased results in minority communities by analyzing:

- P15L & P10L
- P15H & P10H
- Median Absolute Error of the AVM



**Eric Fox**  
Chief Economist



**Reena Agrawal**  
Research Economist

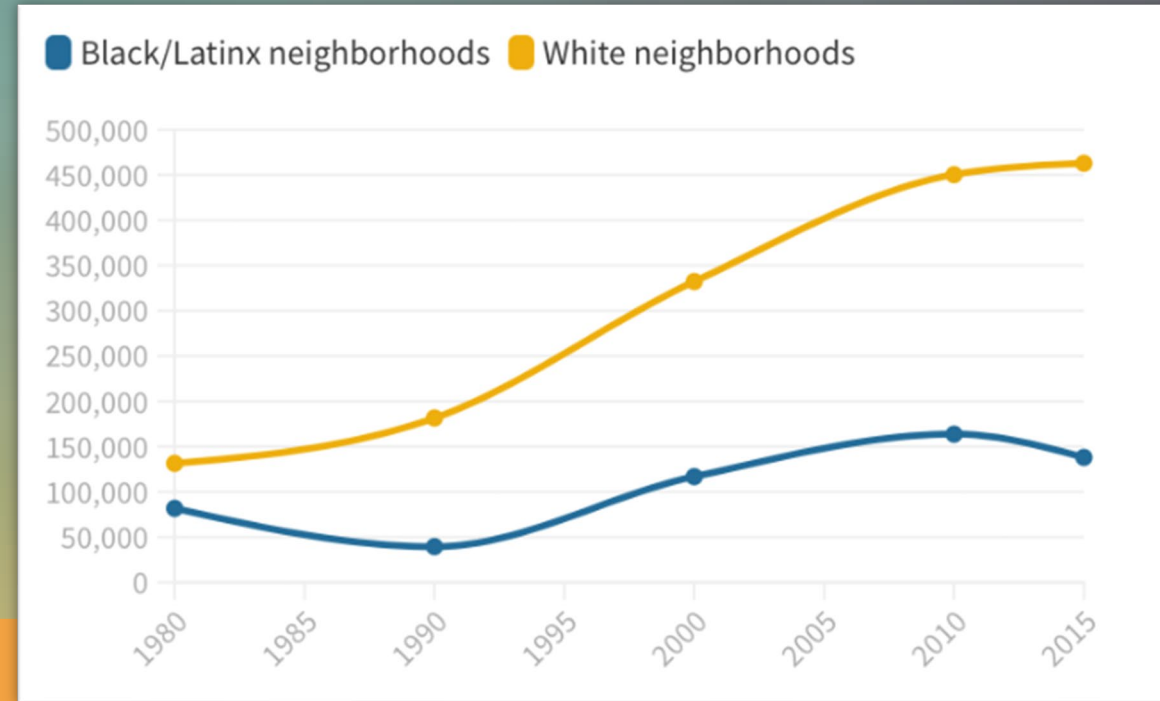
# Chicago, IL



## Demographics:

- White: 33.3%
- Black or African American: 29.6%
- Asian: 6.6%
- Hispanic or Latino: 28.8%

Population: 2.673 Million



According to a Federal Home Loan Mortgage Corporation (Freddie Mac) black and brown homeowners are low-balled by bank appraisers compared to their white counterparts

From <<https://www.chicagoreporter.com/racial-bias-in-home-appraisals/>>

Widening racial gap in home values in the Chicago area – In 1980, the gap was about \$50,000. In 2015, the gap was more than \$324,000

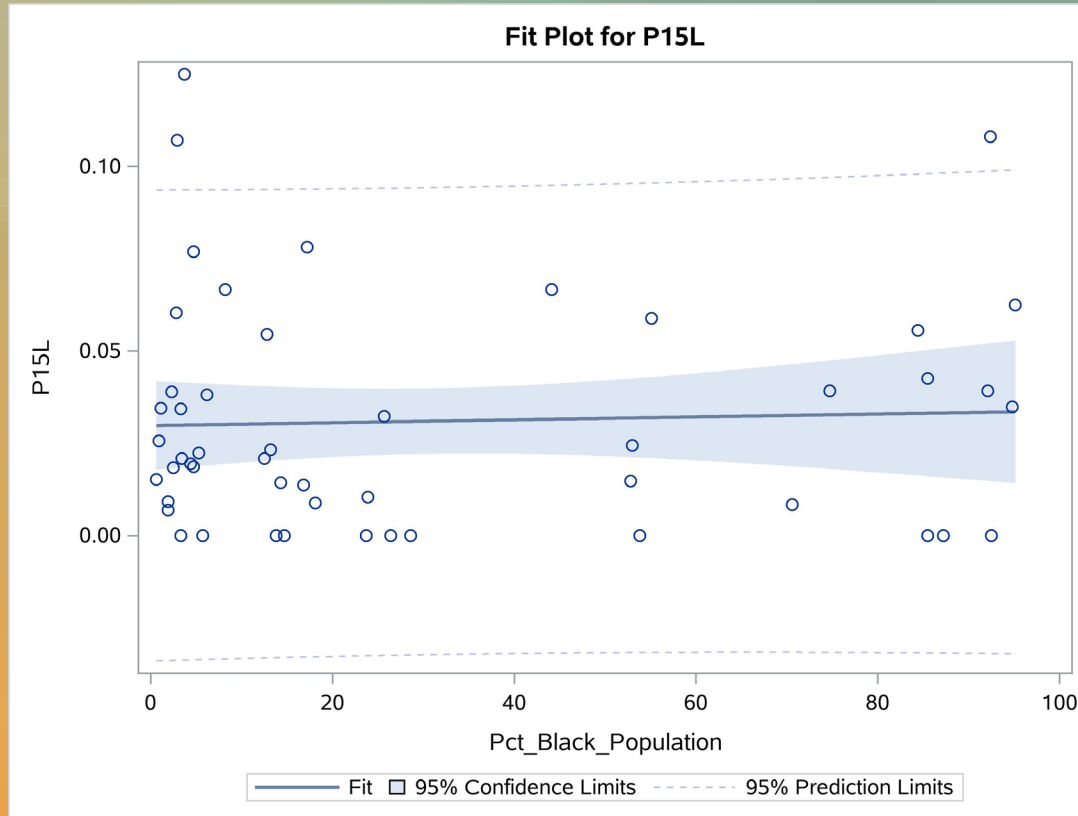
From <<https://www.chicagoreporter.com/racial-bias-in-home-appraisals/>>

Although the Fair Housing Act of 1968 did away with discriminatory race language in decided home values, lingering harmful practices still target Black and Brown communities today

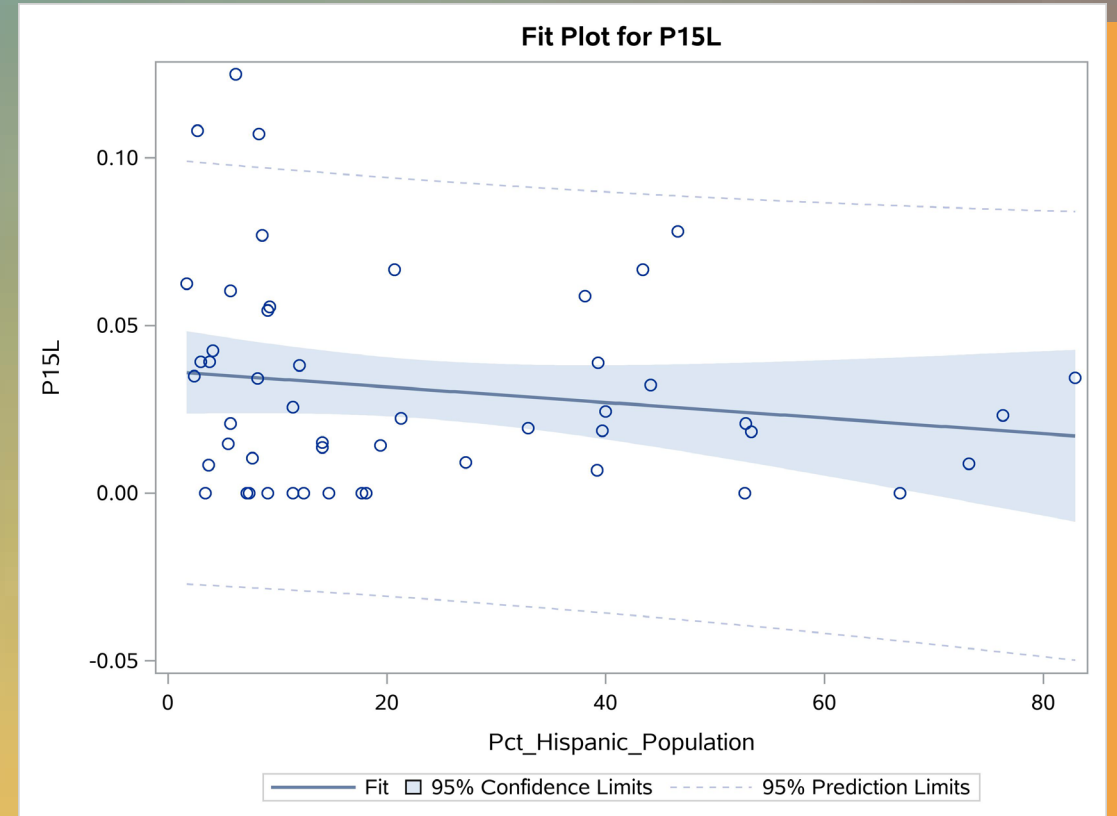
From <<https://www.chicagoreporter.com/racial-bias-in-home-appraisals/>>

# Performance of P15L (Chicago, IL)

Coefficient = -0.005, p-value = 0.46 (statistically insignificant)



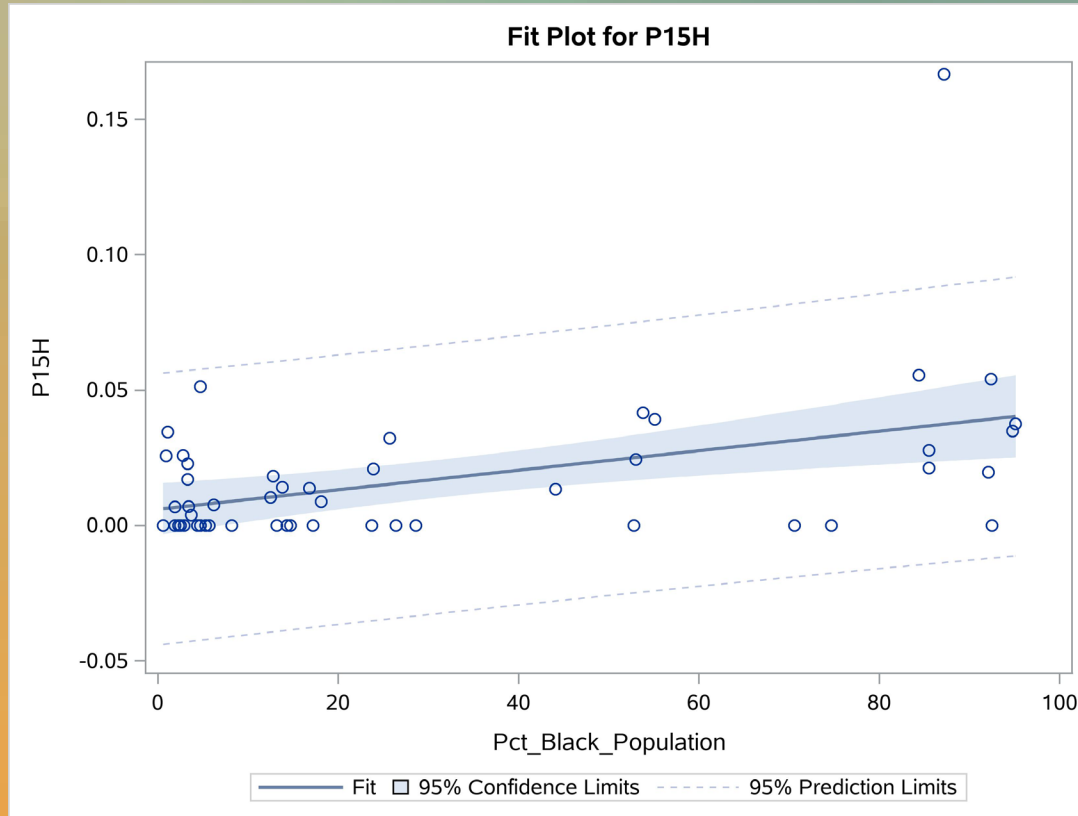
Coefficient = -0.012, p-value = 0.22 (statistically insignificant)



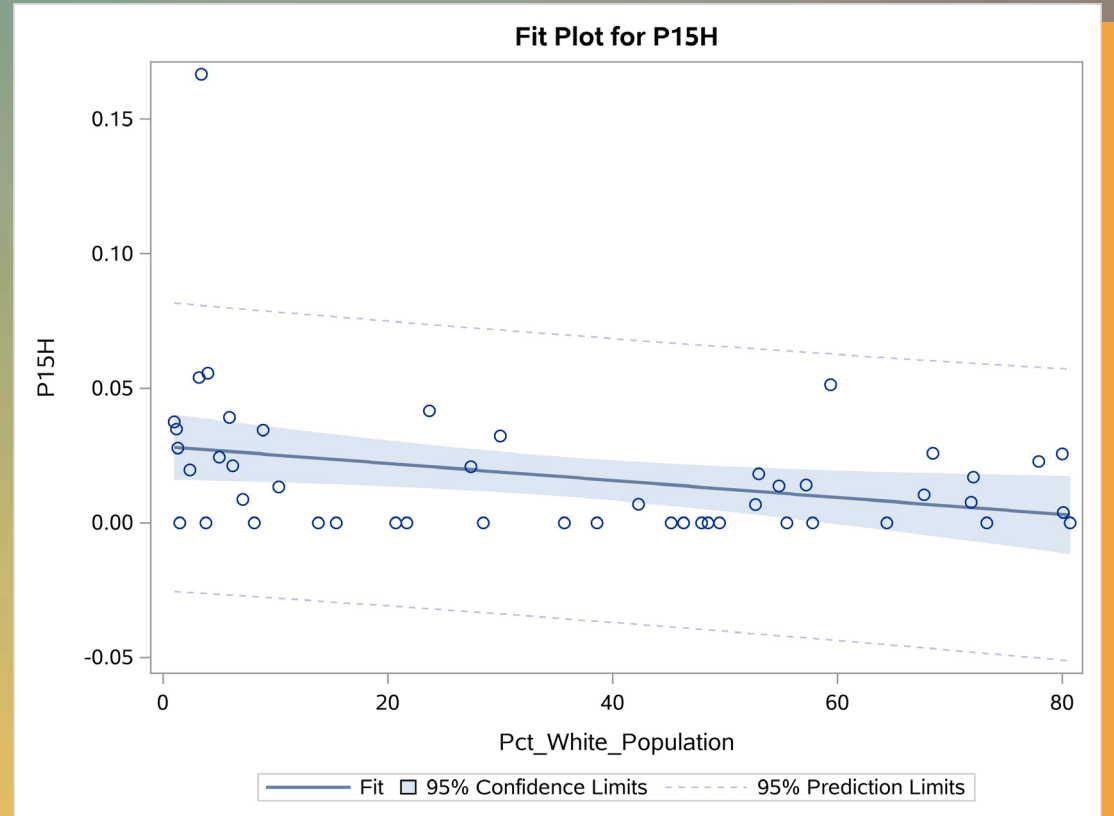
The results for P10L for Black and Hispanic populations were similar – no significant correlations were found between proportion of minority populations and the percentage of properties that were undervalued by 10% or more.

# Performance of P15H (Chicago, IL)

Coefficient = 0.028, p-value < 0.001 (statistically significant)



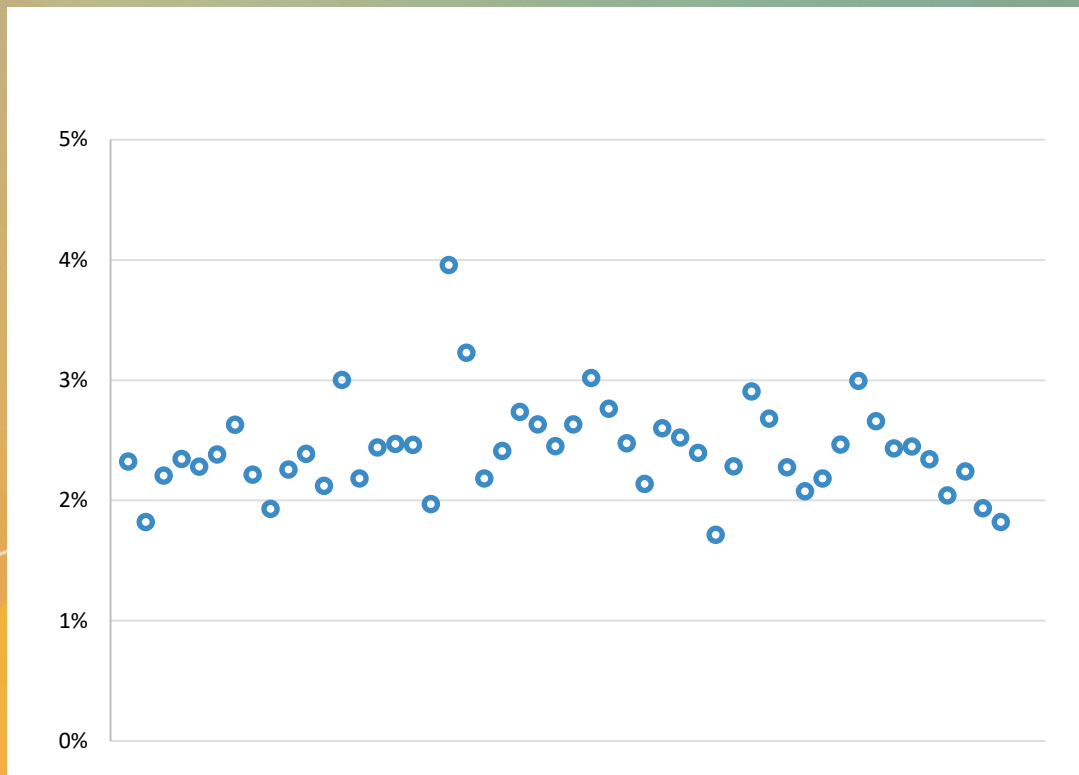
Coefficient = -0.041, p-value < 0.001 (statistically significant)



Similar results were found for P10H values – P10H does not increase as the percentage of White population increases

# Performance of Median Absolute Error (Chicago, IL)

Scatter Plot Of Median Absolute Errors



Estimation Results Of Regression

Parameter	Estimate	p-value
Intercept	0.0068	0.93
Percent of Black Population	-0.0003	0.91
Percent of Hispanic Population	0.0035	0.27
Percent of Asian Population	-0.0132	0.09***
Median Year Built	0.0000	0.80
Median Rooms	0.0007	0.39
Vacant Units	0.0065	0.57
Percent of Homes Sold	-0.0539	0.01**
Adjusted R Squared	0.44	

\*\*Significant at 5%, \*\*\*significant at 10%



# Atlanta, GA



## Demographics:

- White: 40.42%
- Black or African American: 49.79%
- Asian: 4.80%
- Hispanic or Latino: 4.9%

Population: 0.5 Million

In some instances, real estate agents have been known to steer black homebuyers to less desirable neighborhoods

From <<https://www.cbsnews.com/news/housing-discrimination-black-home-appraisal/>>



“It’s shocking to a lot of people that a home should be an objective valuation, but when the appraiser appraises it believing it’s a black-owned home, it gets one value, and suddenly it’s worth 50% more when the appraiser believes it’s a white-owned home.”

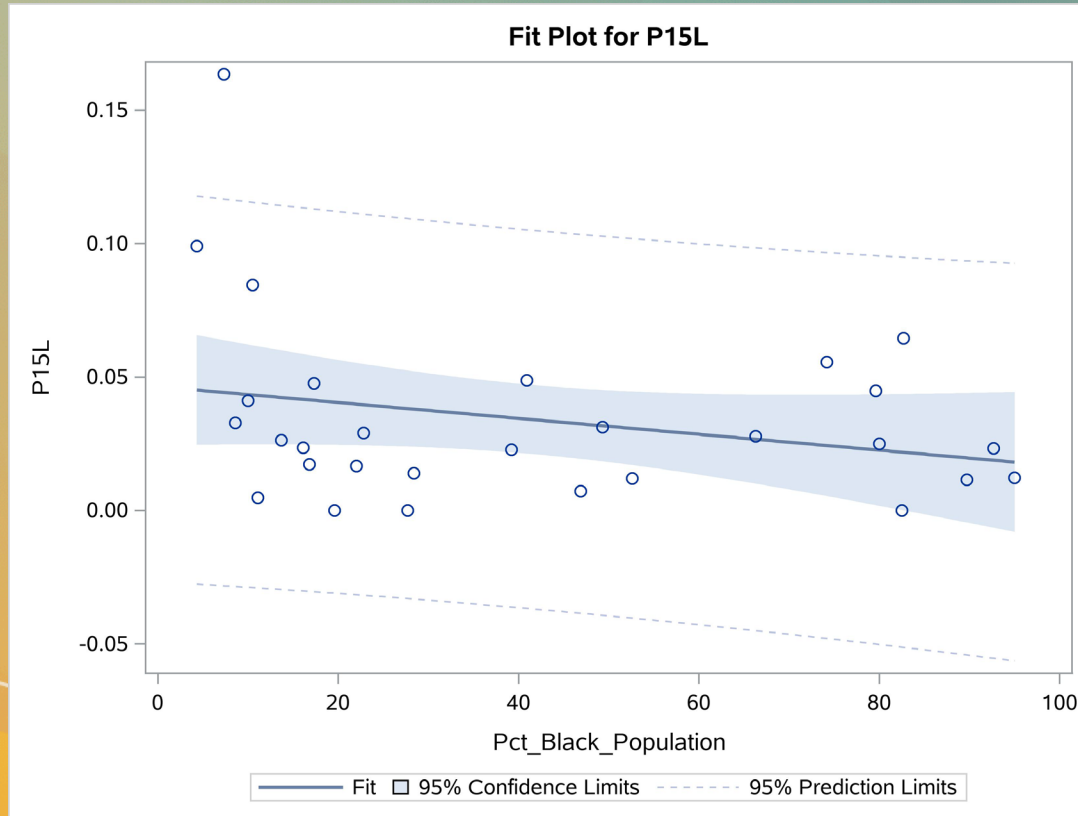
From <<https://www.cbsnews.com/news/housing-discrimination-black-home-appraisal/>>

“You’re the appraiser?” Sanedria Potter is asked. Potter smiles to herself, understanding she’s an anomaly in her industry as a black woman. Ninety-eight percent of home appraisers in Atlanta are white, according to the Bureau of Labor Statistics.

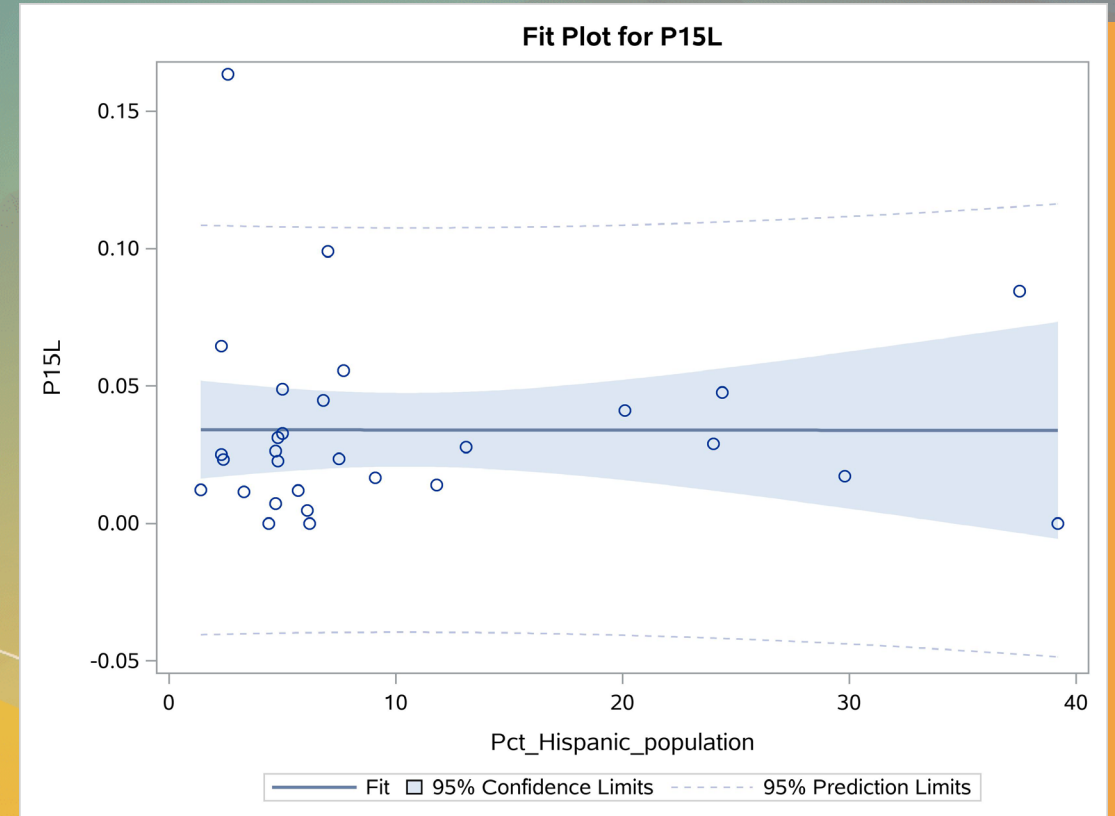
From <<https://www.nbcnews.com/news/nbcblk/black-homes-are-often-undervalued-black-appraisers-are-fighting-change-rcna23091>>

# Performance of P15L (Atlanta, GA)

Coefficient = -0.00029, p-value = 0.164 (statistically insignificant)



Coefficient = -0.000005, p-value = 0.992 (statistically insignificant)



Similar results were found for P15L for Houston, TX; Los Angeles, CA; and Philadelphia, PA (P15L did not show positive correlation with minority populations)



# Los Angeles, CA



## Demographics:

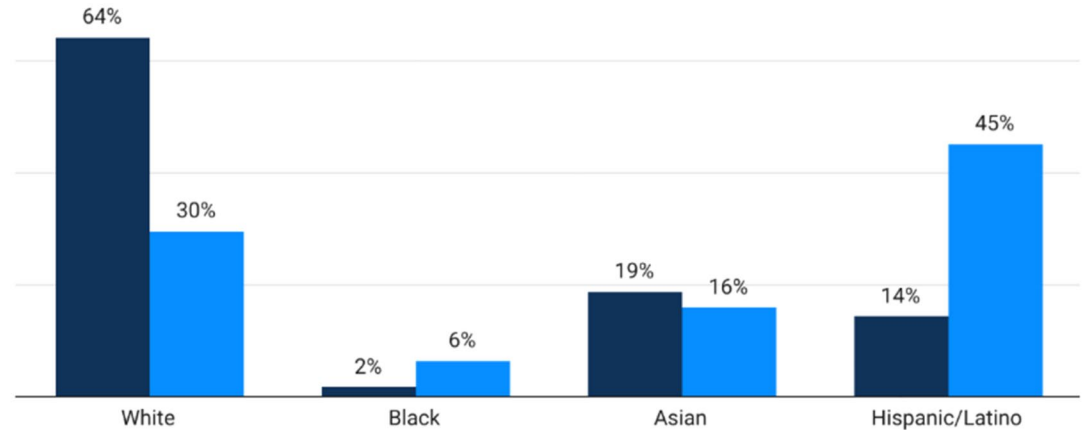
- White: 48.93%
- Black or African American: 8.78%
- Asian: 11.78%
- Hispanic or Latino: 22.68%

Population: 3.91 Million

## PROPERTY APPRAISER RACIAL DEMOGRAPHICS

LA & ORANGE COUNTIES \*

■ Appraisers ■ Population



\*LOS ANGELES METRO AREA

Chart: Grace Manthey/ABC7 • Source: U.S. Census American Community Survey 2019 5-year estimates, via IPUMS

“Most of the time we get appraisers from outside of the neighborhoods that they are appraising in. Appraising in an area that they're sometimes scared to be in”

From <<https://abc7.com/racial-disparities-in-home-appraisals-bias-discrimination-diversity/11496088/>>

The Bureau of Labor Statistics estimates the percentage of white appraisers may be as high as 96%.

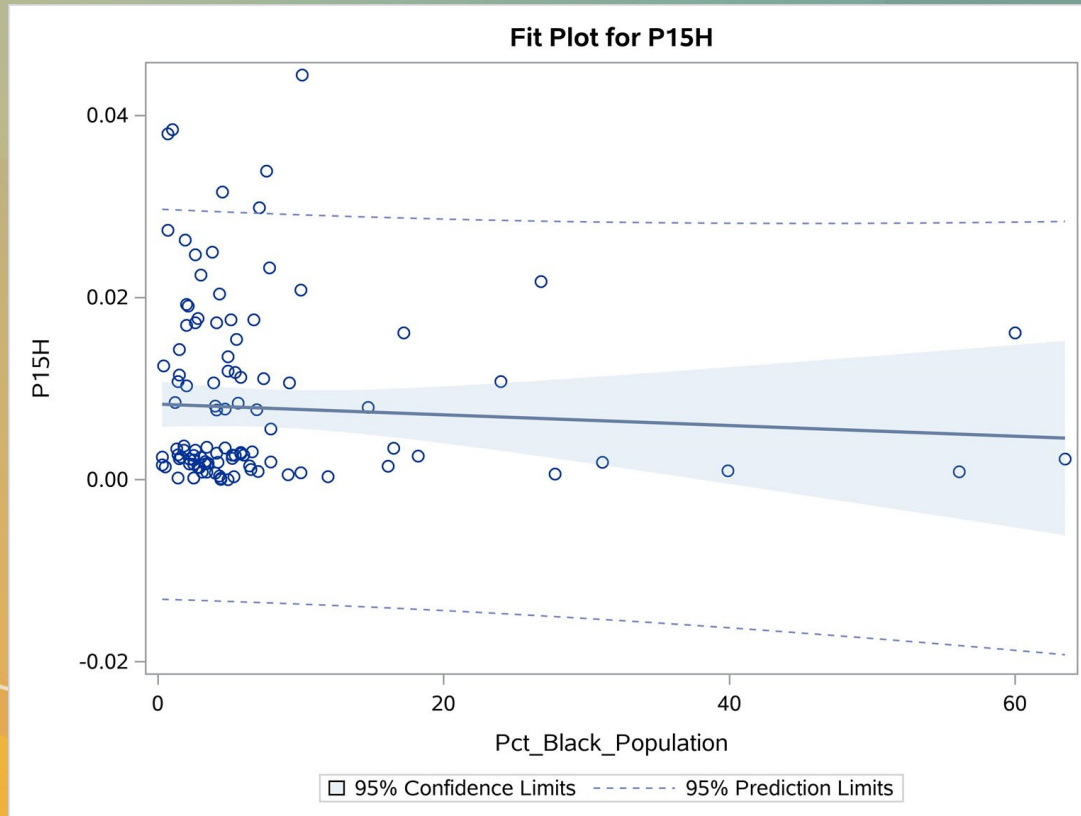
From <<https://abc7.com/racial-disparities-in-home-appraisals-bias-discrimination-diversity/11496088/>>

As of the end of 2018, 85% of appraisers nationwide were white, while less than 2% identified as Black, according to a report from the Appraisal Institute.

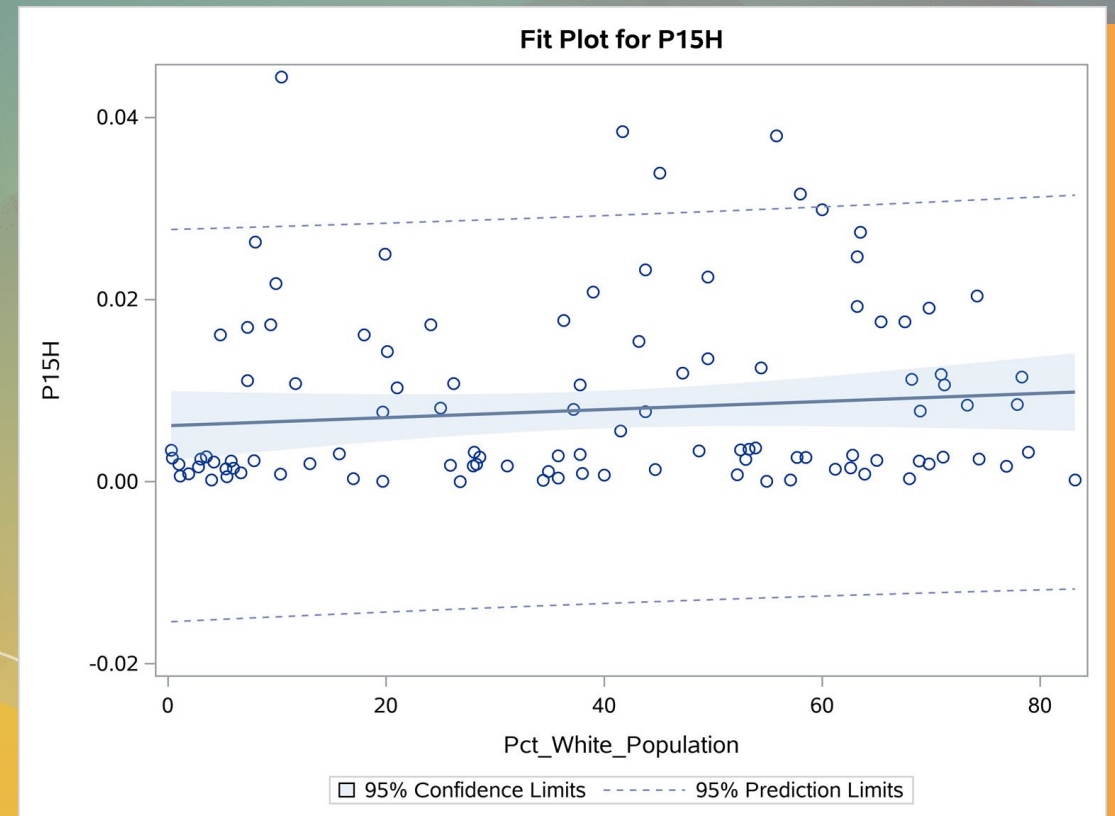
From <<https://www.npr.org/2021/09/23/1039771981/black-latino-homeownership-real-estate-wealth-disparities-appraisals-undervalue>>

# Performance of P15H (Los Angeles)

Coefficient = 0.00006, p-value = 0.53 (statistically insignificant)



Coefficient = -0.00004, p-value = 0.30 (statistically insignificant)



Similar results were found for P15H for Atlanta, GA; Houston, TX; and Philadelphia, PA  
P10Hs also were not significantly negatively related to percentage of minority populations or significantly positively related to percentage of White populations



# Philadelphia, PA



## Demographics:

- White: 39.36%
- Black or African American: 41.36%
- Asian: 7.42%
- Hispanic or Latino: 7.27%

Population: 1.61 Million



In Philadelphia, homes in primarily Black neighborhoods are undervalued by an average of nearly \$26,000, according to Redfin. Anecdotally, gaps like these have led Black homeowners to “whitewash” their homes — remove family photos and other identifying objects — before a real estate appraisal in an effort to not lose out.

From <<https://why.org/articles/philly-task-force-home-appraising-bias/>>

What became clear through the Task Force meetings is that racial bias in home appraisals is a real problem with multiple causes, and both neighborhood and personal consequences,” Ira Goldstein, Reinvestment Fund.

From <<https://phlcouncil.com/philadelphia-home-appraisal-bias-task-force-issues-final-report-and-recommendations/>>

In Philadelphia, 95% of appraisers are white. The vast majority are men. And most of them live in the suburbs

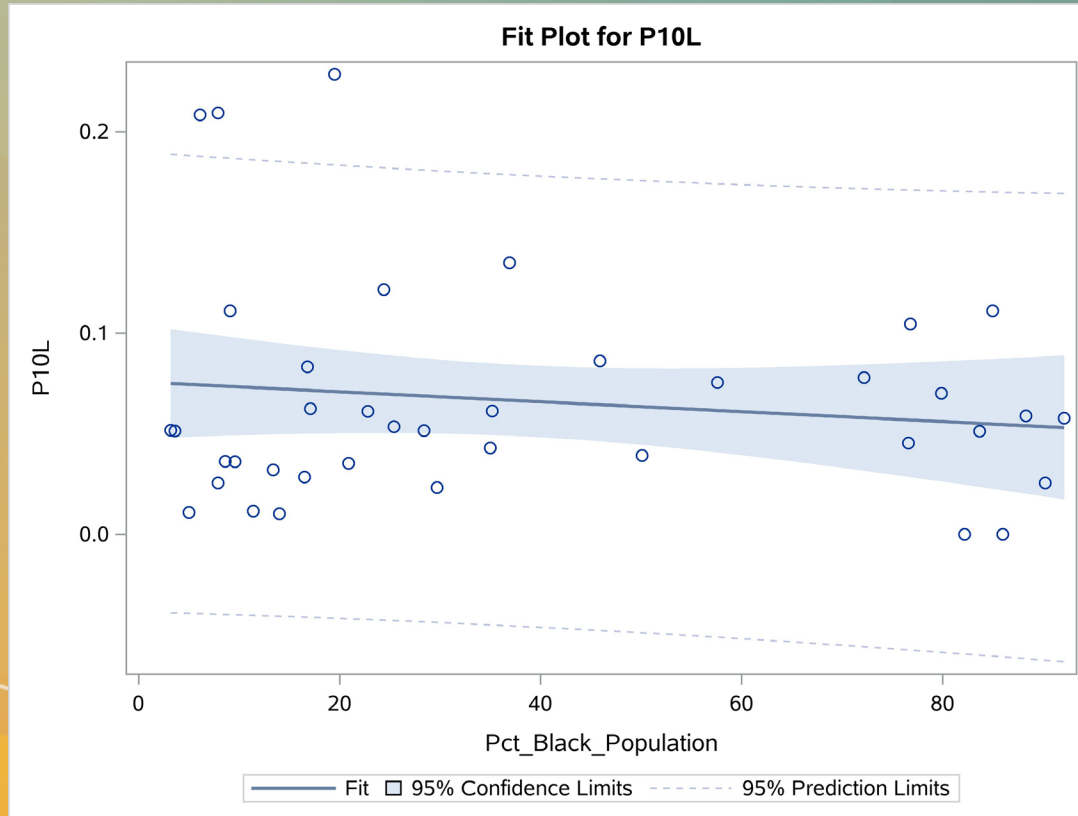
From <<https://www.planetizen.com/news/2022/08/118096-philadelphia-wants-address-racial-bias-home-appraisals>>

A home in a prosperous Black neighborhood is still only worth as much as a home in a disadvantaged, but predominantly white, neighborhood.

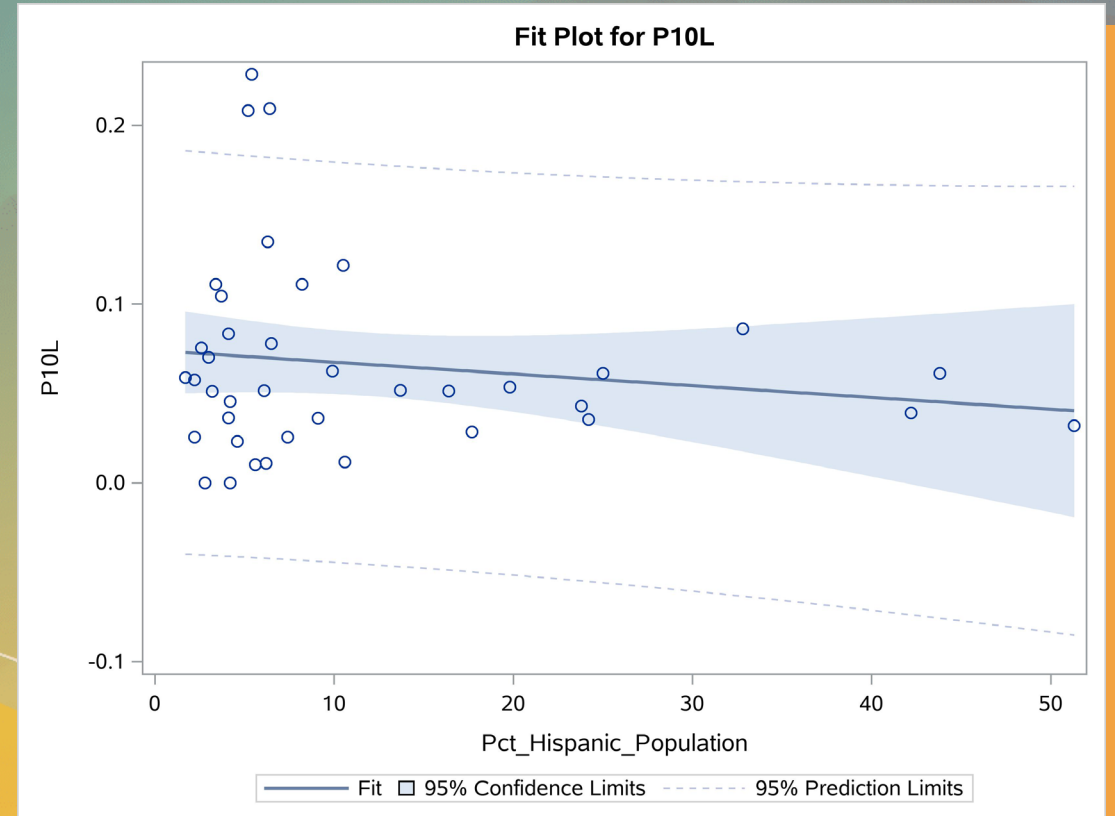
From <<https://shelterforce.org/2022/02/28/a-homes-true-worth-getting-beyond-appraisal-bias/>>

# Performance of P10L (Philadelphia, PA)

Coefficient = -0.00024, p-value = 0.39 (statistically insignificant)



Coefficient = -0.00065, p-value = 0.36 (statistically insignificant)



Similar results were found for P10L for Chicago, Houston, Los Angeles, and Philadelphia



# Houston, TX



## Demographics:

- White: 51.54%
- Black or African American: 22.83%
- Asian: 6.87%
- Hispanic or Latino: 7.02%

Population: 2.288 Million



“When we are using an appraisal method that is historically rooted in racism and contempt ... we are furthering this inequality every time we're allowing home prices to quickly appreciate in some areas and lag so far behind in others.” – Elizabeth Korver-Glenn of Washington University

From <<https://www.kut.org/austin/2022-11-03/homes-in-austins-white-neighborhoods-are-valued-much-higher-than-ones-in-communities-of-color>>

An influx of minorities in a neighborhood drives white homeowners out and decreases demand for an area as well as its home values. Appraisers don't rationalize their understandings of race in the appraisal process. Not questioning the status quo is a common story for how contemporary racial inequality happens.

From <<https://kinder.rice.edu/urbanedge/study-how-houstons-appraisal-industry-reinforces-racial-inequality>>

"In 2015, 78 percent of Texas appraisers were men, 86 percent were white, 6 percent were Hispanic and 2 percent were black," said Howell, Sociologist of the University of Pittsburgh. "Given the demographics of the state as a whole, that's very shocking."

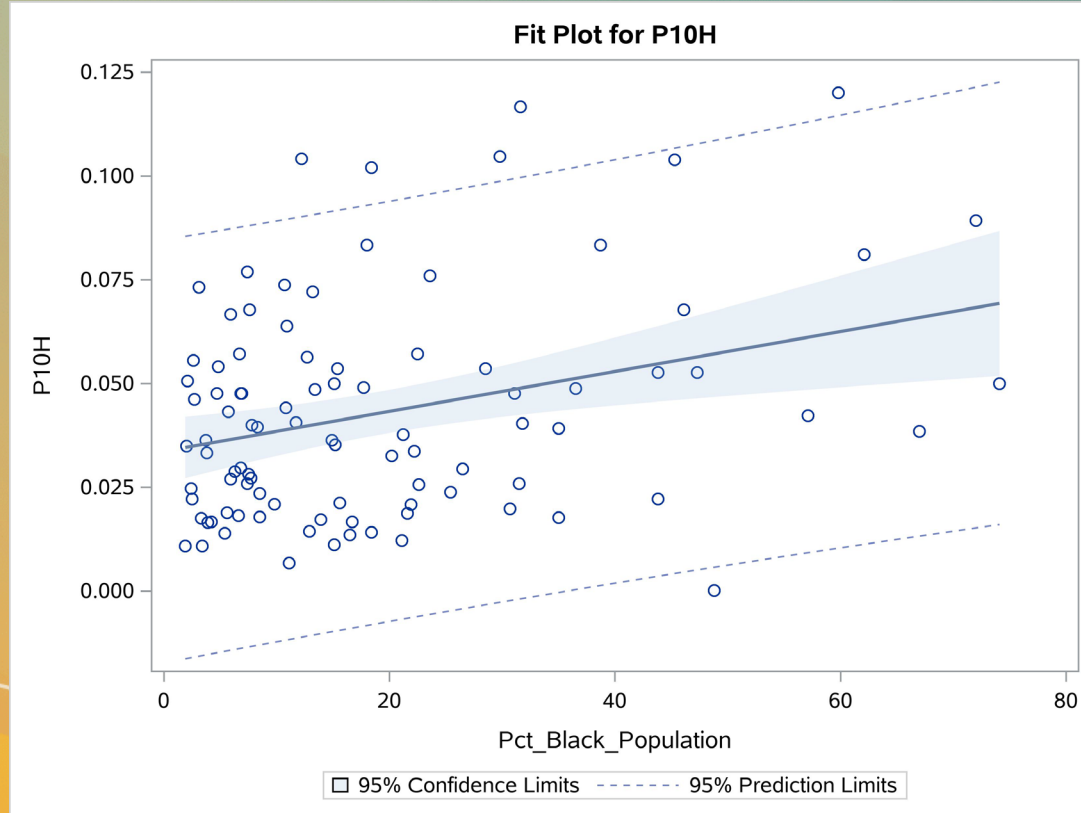
From <<https://kinder.rice.edu/urbanedge/study-how-houstons-appraisal-industry-reinforces-racial-inequality>>

When holding home size and quality constant, houses in White neighborhoods are worth 2.5 times more than houses in Hispanic neighborhoods and 3.7 times more than houses in Black neighborhoods

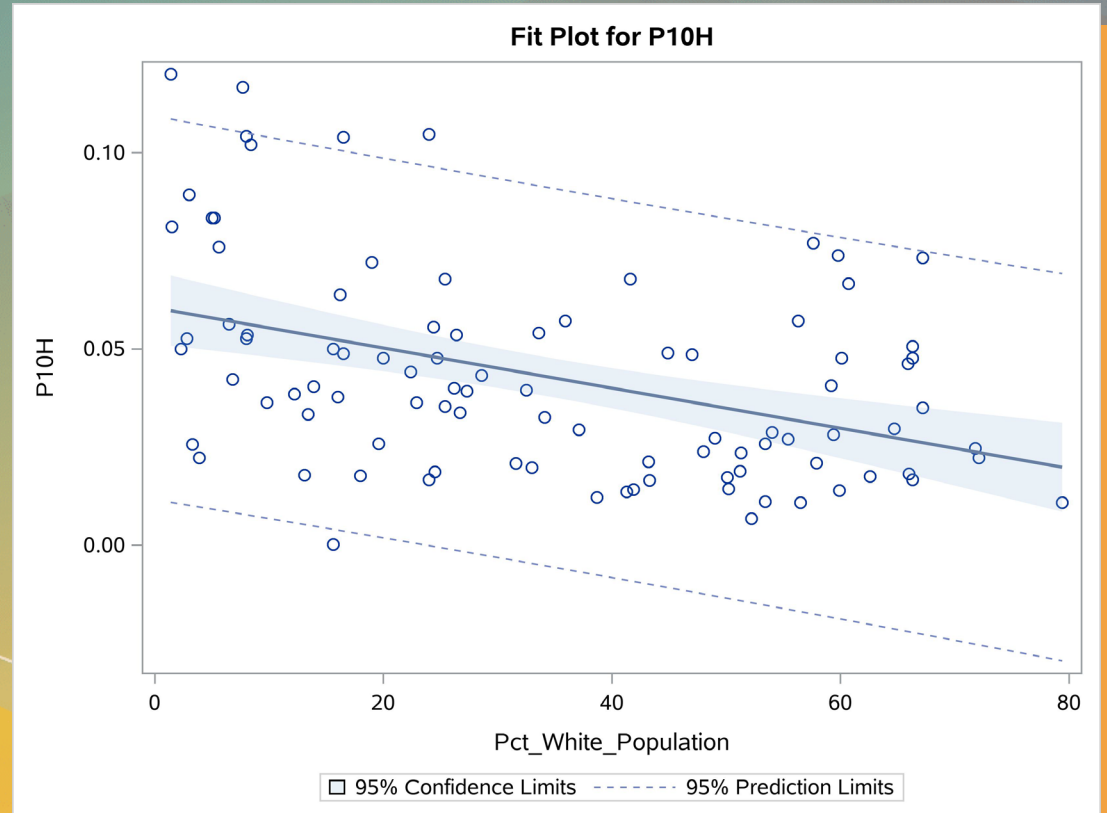
From <<https://kinder.rice.edu/urbanedge/study-how-houstons-appraisal-industry-reinforces-racial-inequality>>

# Performance of P10H (Houston, TX)

Coefficient = 0.0004, p-value = 0.002 (statistically significant)



Coefficient = -0.0005, p-value < 0.001 (statistically significant)

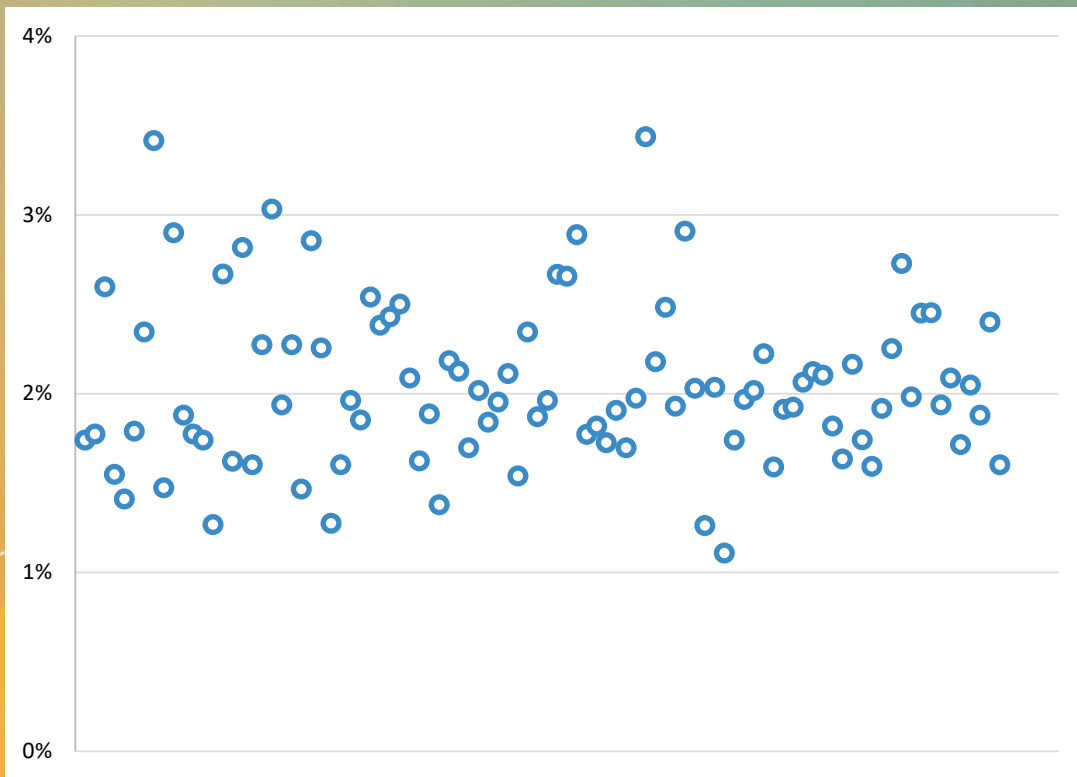


We did not find a positive correlation between P10H and percentage of White population in any of the 5 cities



# Performance of Median Absolute Error (Houston, TX)


























Scatter Plot Of Median Absolute Errors



Estimation Results Of Regression

Parameter	Estimate	p-value
Intercept	-0.099	0.34
Percent of Black Population	0.00006	0.07
Percent of Hispanic Population	0.00002	0.61
Percent of Asian Population	0.00004	0.67
Median Year Built	0.00006	0.24
Median Rooms	0.00003	0.96
Vacant Units	0.00003	0.87
Percent of Homes Sold	-0.1022	0.10
Adjusted R Squared	0.16	

# Summary of Results

	P15L	P15H	MAE	P10L	P10H
Chicago					
Atlanta					
Houston					
Los Angeles					
Philadelphia					



No significant correlation with racial compositions



**P15L** and **P10L** are negatively significantly correlated with the percentage of minority populations and/or positively significantly correlated with the percentage of White population

Or

**P15H** and **P10H** are positively significantly correlated with the percentage of minority populations and/or negatively significantly correlated with the percentage of White population



**P15L** and **P10L** are positively significantly correlated with the percentage of minority populations or **P15H** and **P10H** are positively significantly correlated with the percentage of White population (indicates bias)



# Conclusions



## **Address concerns about undervaluations of properties in minority neighborhoods**

No evidence of systemic undervaluation by the VeroVALUE AVM in minority communities as P15L and P10L are not positively correlated with minority compositions.



## **Overvaluation of properties in non-minority neighborhoods can lead to the disparate creation of wealth**

No evidence of systemic overvaluation by the VeroVALUE AVM as the percentage of White population increases.



## **Variation in MAE is not significantly explained by the racial compositions of communities**

The VeroVALUE AVM is no less accurate in minority communities

# Identifying Potentially Biased Words in Appraisals



**Jeff Hogan, SRA, AI-RRS**

Vice President of Valuations





# Conscious Bias VS Unconscious Bias

**Conscious bias** is the biased attitudes about a certain group we are aware of. In conscious bias, we know we are being biased, and we are doing it intentionally

**Unconscious bias** (or implicit bias) refers to biased attitudes that operate outside your awareness and control. Here, you may be doing something without realizing you are doing it.



# Unacceptable Language



5603.4

## Unacceptable appraisal practices

Effective 10/05/2022

### Unacceptable appraisal practices

The following are examples of unacceptable appraisal practices. Evidence of any of the practices listed in this section will be a breach of Seller's warranty as to the professional quality of the appraisal.

1. Consideration of the race, color, religion, sex, sexual orientation, gender identity, age, marital status, disability, familial status, exercise of any federally protected civil right, receipt of income derived from any public assistance program, birthplaces of residents at the property or in the neighborhood, national origin of the prospective owners or occupants of the subject property or of the present owners or occupants of the properties in the vicinity of the subject property. (See also [Section 1301.2](#) for equal opportunity compliance requirements.)
2. Use of unsupported or subjective terms to assess or rate, such as, but not limited to, "high," "low," "good," "bad," "fair," "poor," "strong," "weak," "rapid," "slow," "fast" or "average" without providing a foundation for analysis and contextual information
3. Incorporating terminology or veiled language that may be code words that could indicate underlying bias that include, but are not limited to, "pride of ownership," "crime-ridden area," "desirable neighborhood or location" or "undesirable neighborhood or location," "gentrified," "preferred community," "up and coming," predominantly Hispanic or Black neighborhood, substantial amount of Black or Hispanic residents at the property, diverse school system, amenities specifically geared to a race, ethnic or religious group or using terms such as Millennials, Generation X or Baby Boomers
4. Inclusion of inaccurate or incomplete data about the subject property, the neighborhood or any comparable sale used in the appraisal analysis



# Subjective Language vs Objective Language

**Subjective** - based on the personal perspective or preferences of that person— subjective implies that it comes with (or is based on) personal biases about what is being observed or analyzed.

**Objective** - not influenced by an individual's personal viewpoint—unbiased (or at least attempting to be unbiased) about what is being observed or analyzed. Something that's objective has nothing to do with a person's own feelings or views—it just deals with facts.



# Examples of Objective Language



Problematic phrase	Objective description
<b>Desirable neighborhood</b> Different families have different needs, which change what they will see as "desirable."	List the neighborhood's features or amenities that potential buyers would find of value. For example: Newly updated neighborhood swimming pool.
<b>Crime-ridden area</b> Crime-ridden is a subjective assessment. All locations can experience some crime. Where does one draw the line between "ridden" or not?	"The crime rate in this area is x%" is objective and allows the reader to make their own judgment about the potential impact of crime.
<b>Affordable neighborhood</b> While some may have enough to purchase this property, others may find it is outside what they can afford.	State whether the valuation of the property is aligned with the price range of the neighborhood.
<b>Integrated community</b> Language pertaining to demographic composition, whether subjective or objective, should not be included.	The valuation should focus on the property, not the residents.



# Appraiser Diversity



## Action Plan to Advance Property Appraisal and Valuation Equity

Closing the Racial Wealth Gap by Addressing Mis-valuations for Families and Communities of Color



MARCH 2022



## PAVE Initiative

(Property Appraisal & Valuation Equity)

- Major initiative with all federal Agencies and lenders
- Collaborating with Fannie and they asked Valligent to speak at 6/16/22 conference
- Developed a comprehensive training program on valuation principles and technology
- Diverse appraisers and technology virtually eliminate valuation bias

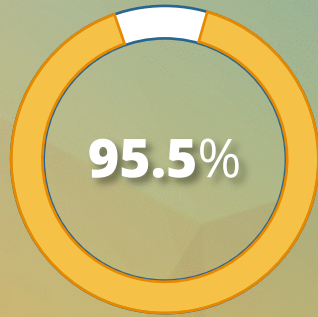


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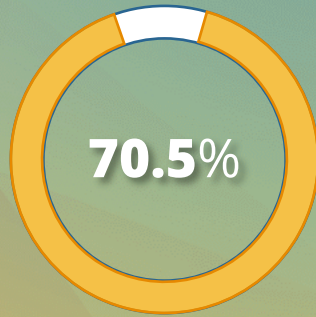
# **Adding Diversity Initiatives To The Industry**



# Systemic Inequities In The Appraisal Profession



95.5%  
of appraisers are  
white\*



70.5%  
of appraisers are  
men\*



“We all have implicit biases”  
– Appraisal Subcommittee  
Executive Director Jim Park



5.2% more often, the "appraisal value  
is lower than the contract price,"  
in black versus white neighborhoods\*\*

\* According to the Bureau of labor statistics

\*\* The Freddie Mac Study on Racial Valuation Gaps



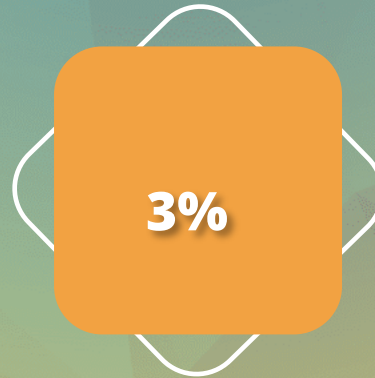
# Troubling Trends In The Appraisal Profession



52 is the average age of appraisers\*



Appraisal turn times are typically 2-4 weeks



3% of appraisers leave the profession every year, but less than 1% are added\*



Due to the limited supply of appraisers, appraisal fees are significantly rising



Regulations require about 1 year of education and supervised training to become an appraiser

\* According to the Bureau of labor statistics

\*\* Appraisal Institute – pre-pandemic



# Valligent Appraiser Training Program

## TRAIN 100

Goal of training 100  
new, diverse  
appraisers in the next  
12 months



Coordinating with the  
Fannie/Freddie  
Appraiser Diversity  
Initiative

## VALLIGENT TRAINEES

All trainees/trainers  
are employees of  
Valligent



Trainees wear Go-Pro  
like video camera to  
enable trainer to  
virtually be present at  
inspections



Training includes  
latest technology,  
data integrations and  
market analytics



Speaker

**Jeremy McCarty**

Chief Executive Officer / Founder  
of Valligent Technologies



# A Simple way You Can Make A Difference

## VATP



Sponsor a trainee  
in the Valligent  
Appraiser  
Training Program



Just pledge to  
order 30  
appraisals in a  
month

## 5-Day



Standard fee, 5-day  
turn time on orders  
you are currently  
placing elsewhere



Signed, reviewed and full  
responsibility taken by  
Supervisory appraiser



Press release opportunity  
advancing your company  
as a leader in diversity  
initiatives



# Questions?



**Brian Fluhr**

Vice President of Marketing



in/brianfluhr



**Reena Agrawal**

Research Economist



in/drreenaagrawal



**Jeff Hogan, SRA, AI-RRS**

Vice President of Valuations



in/jeff-hogan-sra-ai-rrs-8a9aa552



**Eric Fox**

Chief Economist



in/eric-fox-380624216



**Jeremy McCarty**

Chief Executive Officer / Founder  
of Valligent Technologies



in/jeremy-mccarty-9489168

# Resources Mentioned In This Presentation



- Veros Study:  
[AVM Performance – Is there Evidence of Racial Bias](#)
- [Appraised: The Persistent Evaluation of White Neighborhoods as More Valuable than Communities of Color](#)

## Questions?

Feel free to contact us at [communications@veros.com](mailto:communications@veros.com)