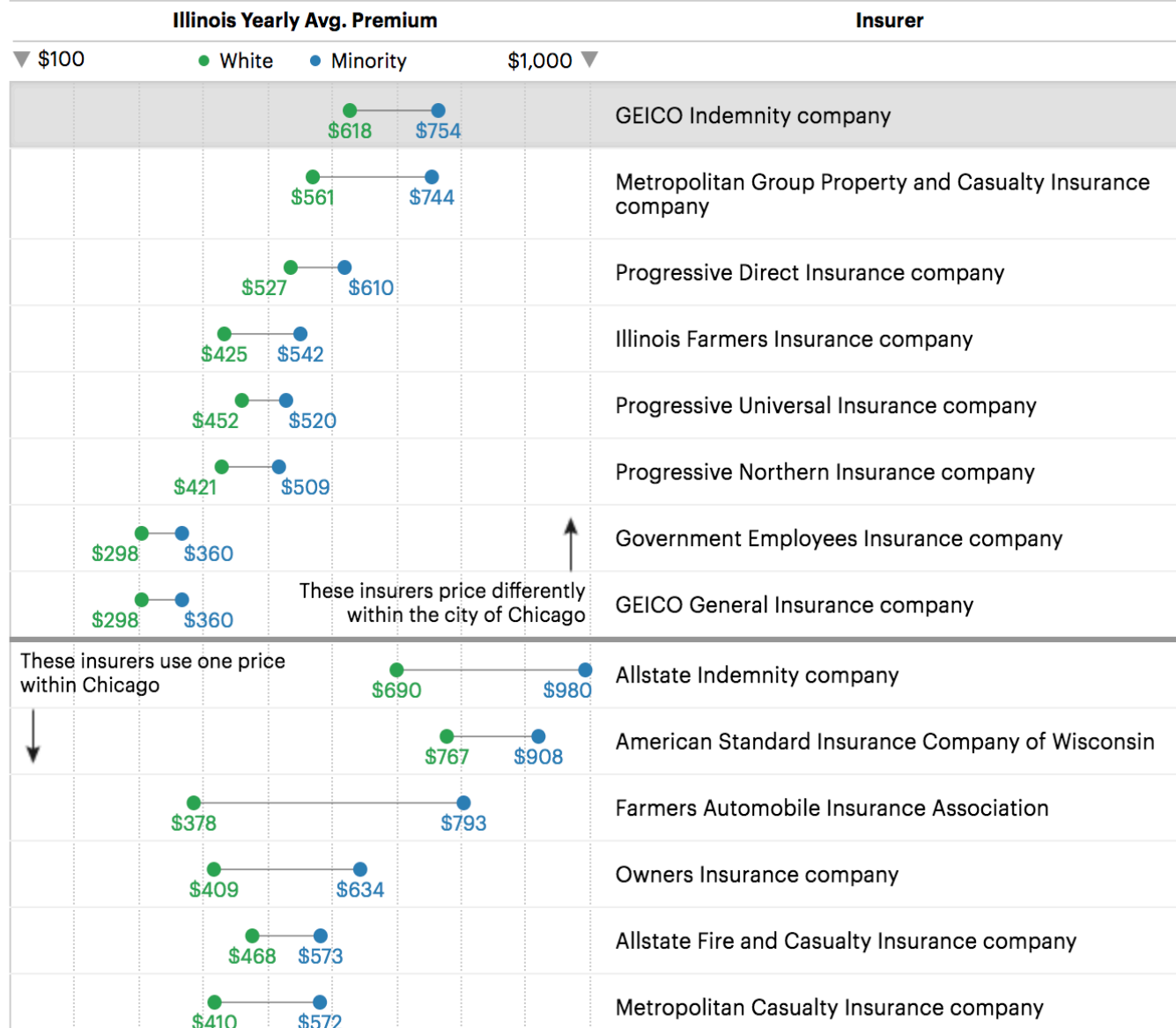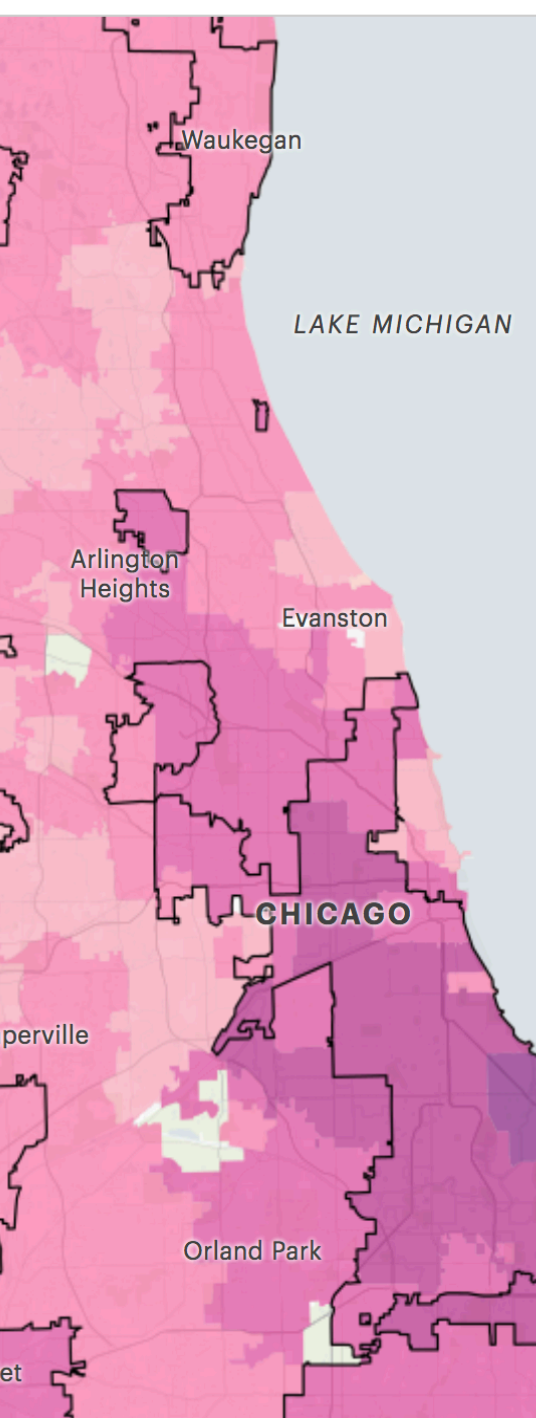# Five Reasons Why Algorithmic Accountability Is Hard

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Illinois Yearly Avg. Premium — Insurer

▼ $100 ● White ● Minority $1,000 ▼

Insurer	White	Minority
GEICO Indemnity company	$618	$754
Metropolitan Group Property and Casualty Insurance company	$561	$744
Progressive Direct Insurance company	$527	$610
Illinois Farmers Insurance company	$425	$542
Progressive Universal Insurance company	$452	$520
Progressive Northern Insurance company	$421	$509
Government Employees Insurance company	$298	$360
GEICO General Insurance company	$298	$360

These insurers price differently within the city of Chicago ↑

These insurers use one price within Chicago ↓

Insurer	White	Minority
Allstate Indemnity company	$690	$980
American Standard Insurance Company of Wisconsin	$767	$908
Farmers Automobile Insurance Association	$378	$793
Owners Insurance company	$409	$634
Allstate Fire and Casualty Insurance company	$468	$573
Metropolitan Casualty Insurance company	$410	$572

☐ Minority-majority Zip codes

Higher difference between premium and risk →

Five Reasons

1. Information Deficits

2. Sociotechnical Assemblages

3. Temporal Instability

4. Expectation Setting

5. Legal Barriers

INFORMATION DEFICITS

External auditing may suffer
from knowledge gaps

Omitted variable **bias**

Mechanism identification
difficult from observational studies

Cooperating target still
controls access

SOCIOTECHNICAL

Intertwined assemblages of **algorithms** and **people**

Feedback loops reflect / amplify human behavior

Notion of **responsibility** diffused through complexity

INSTABILITY

Dynamic systems that can change at almost any time (or not)

Randomness and probabilistic behavior

Tradeoffs between sampling **rates** and resources for auditing

Conveying results dynamically, beyond monitoring dashboards

EXPECTATIONS

What **should** be the behavior of an algorithm?

Where does that **expectation** come from?

How do we **define** that and measure it quantitatively?

FAIRNESS ZONE

Image: @Clarital on Flickr

LEGAL FRICTION

Public records laws (e.g. **FOIA**) and accessibility of government algorithms

Computer Fraud and Abuse Act (**CFAA**) and chilling effects on audits

Thanks! Questions?

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