



**The Challenge of Big Data in Insurance:
Regulatory Innovation to Empower Consumers**

Insurance Department of Insurance CLE Session

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The Center for Economic Justice

CEJ is a non-profit consumer advocacy organization dedicated to representing the interests of low-income and minority consumers as a class on economic justice issues. Most of our work is before administrative agencies on insurance, financial services and utility issues.

On the Web: www.cej-online.org

Why CEJ Works on Insurance Issues

Insurance Products Are Financial Security Tools Essential for Individual and Community Economic Development.

CEJ works to ensure ***fair access*** and ***fair treatment*** for insurance consumers, particularly for low- and moderate-income consumers.

Insurance is the Primary Institution to Promote Loss Prevention and Mitigation, Resiliency and Sustainability:

CEJ works to ensure insurance institutions maximize their role in efforts to reduce loss of life and property from catastrophic events and to ***promote resiliency and sustainability*** of individuals, businesses and communities.

Captive Insurance Markets: Who Are the Gatekeepers for Insurance Sales and Claims?

Today, there are a number of smaller insurance markets in which the consumer is captive to the intermediary:

- Consumer Credit Insurance / Payment Protection sold by Lenders
- Force-Placed Insurance, Private Mortgage Insurance “sold” by Lenders and Loan Servicers
- Travel Insurance Sold by Airlines, Travel Agents
- Rental Car Insurance Sold by Rental Car Companies

Reverse competition” means competition among insurers that regularly takes the form of insurers vying with each other for the favor of persons who control, or may control, the placement of the insurance with insurers.

Reverse Competition and Captive Markets: Why a Problem?

The Lender is the gatekeeper for a captive market – the lender as intermediary determines what products will be sold to which consumers and how much of the premium the lender will extract from the insurer as consideration for the lender’s market power to open the gate to its consumers for the insurer.

Over the past ten years, captive markets have spread to many other types of insurance product and markets, but **now, the gatekeepers are Big Data Algorithms.**

Without public policy action, captive markets will no longer be limited to add-on products markets like credit-related insurance. Other insurance markets – whether personal or commercial lines – will become captive markets where control over access is with the data vendors and algorithms describing and scoring the individual consumer or business.

Big Data Algorithms as Insurance Market Gatekeepers

- Marketing: web searches and web advertising that pre-score and channel consumers to particular products, providers and price-levels.
- Pricing: pre-fill applications and pricing without the consumer providing information, pricing based not just on risk but on price optimization / consumer demand models, real-time competitive options and/or socio-economic characteristics
- Claims: automated, instant claim settlement proposals based on data generated by a vehicle, home telematics or wearable device and utilizing price optimization/consumer demand models to determine amount of claim settlement offer a particular consumer is likely to accept based on his or her personal data.
- Common characteristics – opaque algorithms, little or no disclosure or transparency to consumer, great potential to penalize most vulnerable consumers, limiting loss mitigation role of insurance

What is Needed to

- **Keep Insurance Markets Competitive and Fair to Consumers?**
- **Improve Insurance Role for Economic Security, Loss Mitigation, Resiliency and Sustainability for Individual and Businesses?**

1. Articulate What the Future of Insurance Should Look Like

2. Monitor Markets More Comprehensively and Efficiently

3. Empower Consumers With Information on Insurer Performance

4. Develop / Improve / Reinvigorate Capabilities for Economic Analysis of Markets, Competition and Anti-Trust.

Big Data Defined

Insurers' use of Big Data has transformed the way they do marketing, pricing, claims settlement and their approach to risk management. For purposes of my talk, Big Data means:

- Massive databases of information about (millions) of individual consumers
- Associated data mining and predictive analytics applied to those data
- Scoring models produced from these analytics.

The scoring models generated by data mining and predictive analytics are algorithms. Algorithms are lines of computer code that rapidly execute decisions based on rules set by programmers or, in the case of machine learning, generated from statistical correlations in massive datasets. With machine learning, the models change automatically. Coupled with the increased volume and granularity of data is the digital technology to generate, access, process, analyze and deploy big data algorithms in real time

What's So Big About Big Data?

1. Insurers' use of Big Data has huge potential to benefit consumers and insurers by transforming the insurer-consumer relationship and by discovering new insights into and creating new tools for loss mitigation.
2. Insurers' use of Big Data has huge implications for fairness, access and affordability of insurance and for regulators' ability to keep up with the changes and protect consumers from unfair practices
3. The current insurance regulatory framework generally does not provide regulators with the tools to effectively respond to insurers' use of Big Data. Big Data has massively increased the market power of insurers versus consumers and versus regulators.
4. Market forces alone – “free-market competition” – cannot and will not protect consumers from unfair insurer practices. So-called “innovation” without some consumer protection and public policy guardrails will lead to unfair outcomes.

5. Regulators and policymakers must understand the economic and competitive implications of Big Data on insurance. Without public policy action, captive markets will no longer be limited to add-on products markets like credit-related insurance. Other insurance markets – whether personal or commercial lines – will become captive markets where control over access is with the data vendors and algorithms describing and scoring the individual consumer or business.

6. The insurance industry and insurance regulatory systems are at a crossroad. **One possible future is empowered consumers and businesses partnering with risk management and sustainability companies who also provide insurance.**

Another choice is a small set of insurers, data brokers and consulting firms who control access to insurance through opaque algorithms.

Allstate CEO to Investment Analysts, May 2017¹

The insurer's "universal consumer view" keeps track of information on 125 million households, or 300 million-plus people, Wilson said.

"When you call now they'll know you and know you in some ways that they will surprise you, and give them the ability to provide more value added, so we call it the trusted adviser initiative," said Wilson.

Allstate's Data Analytics Subsidiary²

"Arity is a data company — an insight company, really — whether or not it's data from fitness sensors or home sensors," Hallgren says. "But everything out of the gate so far is focused on the connected car." That's because the company is benefiting from the wealth of data its parent company has gathered from its DriveWise programs and other telematics initiatives — 22 billion miles in total, according to Hallgren.

¹ "Allstate CEO: Agents Will Have Access to Data on 125 Million Households," Best's New Service, May 30, 2017

² "Allstate's Arity Unit Navigates Rapidly Changing World of Data," Digital Insurance, June 5, 2017

How Insurance Is Different from Other Consumer Products

1. **The insurance is required** – by law and by lenders requiring protection of home or vehicle collateralizing the loan. Limits normal competition.
2. **Contract is a promise for future benefits** if an undesirable event occurs. If the product “fails” – the consumer learns the insurance policy won’t cover the loss – she is stuck and can’t purchase another policy that would protect her against a known loss. ***Consumers have little or no information about the insurers’ performance.*** Again, limits normal competition.
3. **Cost-based pricing is required and consumer challenges to prices are prohibited.** The requirement for cost-based pricing is to protect insurer financial condition and prevent intentional or unintentional unfair discrimination
4. **There is Profound Public Interest in Broad Coverage** – failure or inability of consumers and businesses to access insurance has implications not just for individual families and businesses, but for taxpayers, communities and the nation.

Big Data Algorithms Can Reflect and Perpetuate Historical Inequities

Barocas and Selbst: *Big Data's Disparate Impact*

Advocates of algorithmic techniques like data mining argue that they eliminate human biases from the decision-making process. But an algorithm is only as good as the data it works with. Data mining can inherit the prejudices of prior decision-makers or reflect the widespread biases that persist in society at large. Often, the “patterns” it discovers are simply preexisting societal patterns of inequality and exclusion. Unthinking reliance on data mining can deny members of vulnerable groups full participation in society.

A computer algorithm reflects historical biases of the data and the developers.

Insurance Regulation in an Era of Big Data

1. Articulate the Future of Risk Management, Sustainability, Resiliency and Insurance:

Empowered consumers and businesses partnering with risk management and sustainability companies who also provide insurance.

Greater, not less, transparency in insurance pricing, sales and claims settlements.

2. Innovation in Insurance Regulation – Enhanced Data Collection for Market Monitoring and for Development of New Tools for Consumers

- a. What data are insurers using for what purposes? Routine collection – and publication – by regulators of the types, sources and uses of data by insurers for marketing, sales, pricing, claims settlement and loss mitigation.
- b. What consumer outcomes are insurers producing? Routine collection and analysis by regulators of granular consumer insurance market outcomes, including transaction-detail data on quotes, sales and claim settlements.
- c. Public data to empower consumers. Routine publication of insurer-specific anonymized consumer market outcomes.

3. Innovation in Insurance Supervision – New Tools to Empower Consumers – A Future in Which Consumers Shop for Insurance Based Not Only on Price, But:

a. What data about me are you collecting and how well are you protecting my personal information?

Insurers' and producers' transparency about and use and protection of consumers' personal information;

b. What is your actual history of treating consumers?

Insurers' and intermediaries' performance based on actual market outcomes for consumers; and

c. What types of tools and assistance do you offer to help me manage my risk and control my premium?

Insurers' and intermediaries' tools and partnerships for loss mitigation, loss prevention and consumer empowerment for risk management to control premium costs

4. Innovation in Insurance Supervision – Develop / Improve / Reinvigorate Capabilities for Economic Analysis of Markets, Competition and Anti-Trust.

Will future success in insurance market be determined by quality of products and services or by amount of consumer data insurer/intermediary controls?

Regulatory Intervention to align market forces with consumer interest, when needed.

Beyond Big Data

Insurance Consumer Protection Issues: A Partial List

- **Prohibit Insurance Credit Scoring**
 - Arbitrary, Not Cost-Based Pricing
 - Empty “Life Event Exception,” Unfair Penalties for Victims of Economic and Natural Disasters
 - Problems from Data Breaches, Identify Theft, Incomplete/Erroneous Data/Inconsistent Practices Across Major Credit Bureaus
- **Ongoing Credit-Related Insurance Problems**
- **Investment Advice – Upgrading Suitability to Consumers’ Best Interest**
- **Life Insurance and Annuity Illustrations and Disclosures**
- **Flood Insurance Reform**
- **Long-Term Care Insurance**
- **Improving Consumer Stakeholder Participation in Regulatory Process**