



BROKERING TRUST – CREDIT REPORTING AND THE CREDIT ECONOMY



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NABE-Atlanta Economics Club
Federal Reserve Bank of Atlanta



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Confusion in the Wake of the Breach

- “What if I want to opt out of Equifax? I want to be in control of my information. I never opted in, I never said it was OK to have all my information, and now I want out. I want to lock out of Equifax. Can I do that?”
 - Representative J. Schakowsky (D, Illinois), Congressional hearings on October 3, 2017.



The Rationale of Credit Markets: Savers & Borrowers

- Savers are the backbone of capitalism. They offer their treasure, at a price, to those seeking to grow their own treasure, be it a business investment or a family home, or to smooth over tight finances until more prosperous times
- But before they lend, they need to know their potential borrower:
 - Are they of good character and will they honor the contract?
 - Have they honored other contracts in the past?
 - What means does the lender have to enforce the contract?

The Wheels of Commerce Fueled by Gossip

Long ago, a cobbler in the small local town might ask a local mason for a loan – they have a business relationship and know one another

If the cobbler pays back his loan to the mason, he can borrow again in the future. If he does not pay back his loan his assets could be seized, physical harm could be inflicted, and the mason might gossip to other members of the community regarding the negligent cobbler's behavior

The delinquent cobbler could be forced to move to another village where he is unknown for past deeds good or bad, for surely no one in town would lend to him again



Adam Smith Also Noted in 1763 that Reputation Matters:

Of all the nations in Europe, the Dutch, the most commercial, are the most faithful to their word. The English are more so than the Scotch, but much inferior to the Dutch, and in the remote parts of this country they [are] far less so than in the commercial parts of it. This is not at all to be imputed to national character, as some pretend; there is no natural reason why an Englishman or a Scotchman should not be as punctual in performing agreements as a Dutchman. It is far more reducible to self-interest, that general principle which regulates the actions of every man, and which leads men to act in a certain manner from views of advantage, and is as deeply implanted in an Englishman as a Dutchman. A dealer is afraid of losing his character, and is scrupulous in observing every engagement. When a person makes perhaps twenty contracts in a day, he cannot gain so much by endeavouring to impose on his neighbours, as the very appearance of a cheat would make him lose. When people seldom deal with one another, we find that they are somewhat disposed to cheat, because they can gain more by a smart trick than they can lose by the injury which it does their character.

Smith, A. (1869). *Lectures on Justice, Police, Revenue and Arms, delivered in the University of Glasgow*, by Adam Smith. Reported by a Student in 1763 and edited with an Introduction and notes, by Edwin Cannan. Oxford: Clarendon Press; pp. 253-254

Information Problems in Lending Markets

Information Asymmetry

Only the borrower knows her intentions and her ability to withstand economic stress

Moral Hazard

If borrowers are free from consequences for failure to pay, the temptation to cheat is increased

Adverse Selection & Rationing

If lenders are unable to discern good borrowers from bad, they will assume all are deadbeats and price accordingly – good borrowers drop out

Akerlof (1970) Described the Role of Credit Bureaus

There are many markets in which buyers use some market statistic to judge the quality of prospective purchases. In this case there is incentive for sellers to market poor quality merchandise, since the returns for good quality accrue mainly to the entire group whose statistic is affected rather than to the individual seller. As a result there tends to be a reduction in the average quality of goods and also in the size of the market. It should also be perceived that in these markets social and private returns differ, and therefore, in some cases, governmental intervention may increase the welfare of all parties. Or private institutions may arise to take advantage of the potential increases in welfare which can accrue to all parties. By nature, however, these institutions are nonatomistic, and therefore concentrations of power — with ill consequences of their own — can develop.

Akerlof, G. A. (1970). "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics*, 488-500

Information Problems in Lending Markets – Solved

Jappelli and Pagano (2006) summarize the major implications of economic studies of the development of credit reporting and its influence on the functioning of credit markets. The sharing of information among lenders via credit reporting:

**Reduces
Adverse
Selection**

Facilitates more
accurate
prediction of
repayment
probabilities

**Reduces Moral
Hazard**

By encouraging
repayment to
maintain the
borrower's
reputation (acts as
enforcer)

**Enhances
Competition**

by reducing the
costs to new
lenders of entering
loan markets

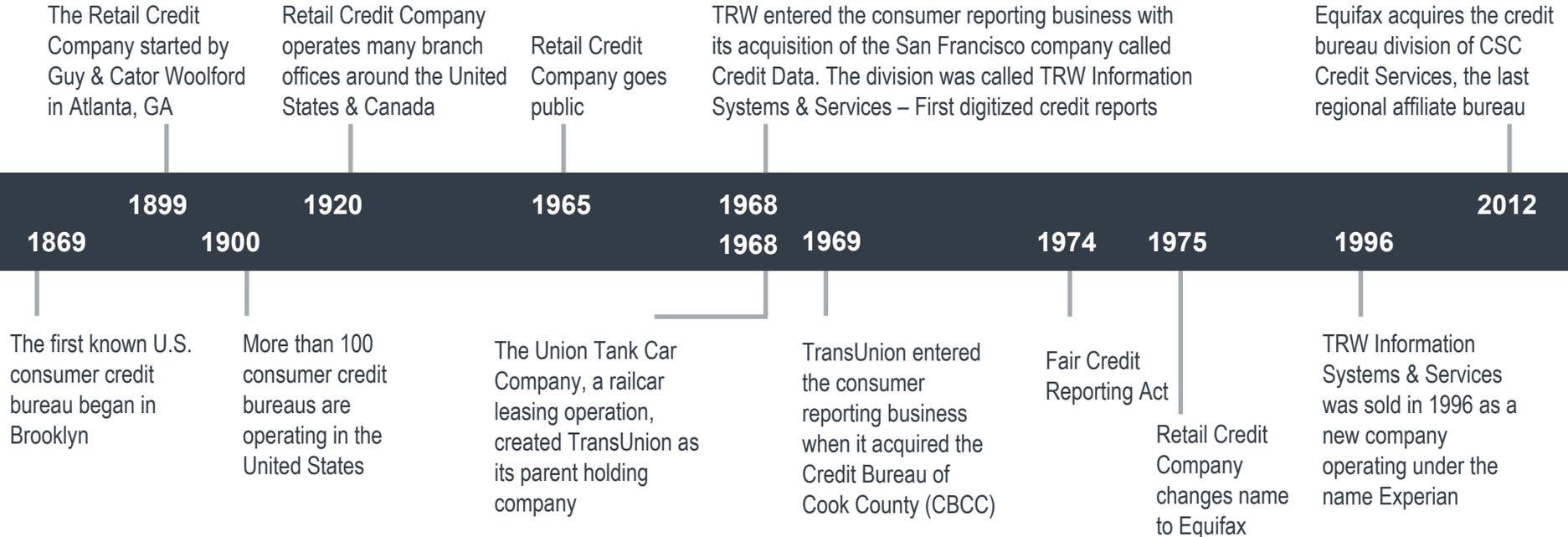
**Prevents
Overextension**

by borrowers
as lenders gain a
more
comprehensive
view of borrower
credit obligations

Japelli, Tullio and Marco Pagano, "The Role and Effects of Credit Information Sharing," in *The Economics of Consumer Credit*, edited by Guiseppa Bertola, Richard Disney and Charles Grant, The MIT Press, 2006, pp 347-371.

The Origin of Today's Credit Reporting Agencies

1803 - The first known credit bureau originated in London when a group of tailors began sharing records on customer payment habits



The Origin of Today's Credit Reporting Agencies

1803 - The first known credit bureau originated in London when a group of tailors began sharing records on customer payment habits



1869

The first known U.S. consumer credit bureau began in Brooklyn

1899

1900

More than 100 consumer bureaus operating in the United States

1974

Fair Credit Reporting Act

1975

Retail Credit Company changes name to Equifax

1996

TRW Information Systems & Services was sold in 1996 as a new company operating under the name Experian

2012

Equifax entered the market for business credit reporting in 2012, required the creation of the Bureau of Consumer Credit (CBCC)

The Origin of Today's Credit Reporting Agencies

The Retail Credit Company Started by Guy & Cator Woolford in Atlanta, GA

originated in London when a group of tailors began sharing records on customer payment habits

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Equifax acquires the credit bureau division of CSC Credit Services, the last regional affiliate bureau

1899

1920

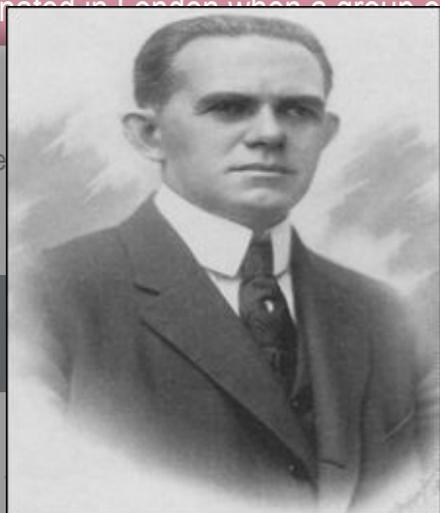
2012

1869

1900

1996

The first known U.S. consumer credit bureau began in Brooklyn



Cator Woolford

its parent holding company



Guy Woolford

Credit Bureau of Cook County (CBCC)

Company changes name to Equifax

TRW Information Systems & Services was sold in 1996 as a new company operating under the name Experian

The Origin of Today's Credit Reporting Agencies

1803

Retail Credit Company operates many branch offices around the United States & Canada

The Retail Credit Company was founded by Guy C. Moore in Atlanta, Georgia.

1869

The Consumer Bureau of Reports was founded in Brooklyn, New York.

More than 1000 consumer credit bureaus are operating in the United States

1899

1920
1920

1965

The Union Tank Car Company, a railcar leasing operation, created TransUnion as its parent holding company.



Special Collections Department, Pullen Library, Georgia State University

TransUnion entered the consumer reporting business when it acquired the Credit Bureau of Cook County (CBCC).

Fair Credit Reporting Act

1975

Retail Credit Company changes name to Equifax

Records on customer payment habits

with credit information

Equifax acquires the credit bureau division of CSC Credit Services, the last regional affiliate bureau

1996

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2012

The Origin of Today's Credit Reporting Agencies

1803 - The first known credit reporting agency



Retail Credit Company goes public

1920 - Retail Credit Company goes public

Retail Credit Company
operating in the
office
State

1920
1920

1965

TRW enters the consumer reporting industry with its acquisition of the San Francisco company called Credit Data. The division was called TRW Information Systems & Services – First digitized credit reports



TRW entered the consumer reporting business with its acquisition of the San Francisco company called Credit Data. The division was called TRW Information Systems & Services – First digitized credit reports

1968
1968 1969

The first known U.S. consumer credit bureau began in Brooklyn

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The Union Tank Car Company, a railcar leasing operation, created TransUnion as its parent holding company

TransUnion enters the consumer reporting industry with the acquisition of CBCC (Credit Bureau of Cook County)



1974

1975

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Credit Reporting Act

TRW Information Systems & Services was sold in 1996 as a

The Origin of Today's Credit Reporting Agencies

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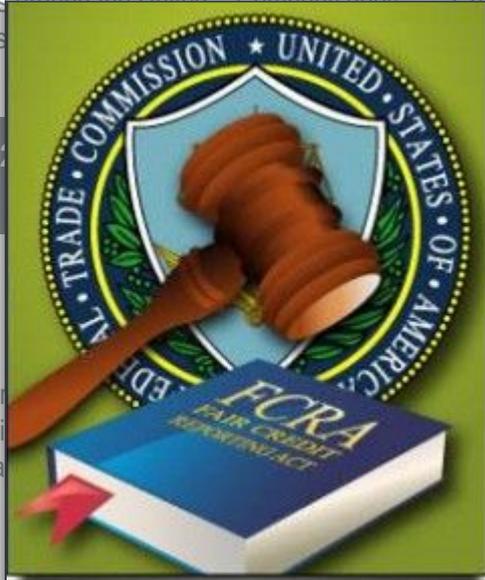
Retail Credit Company goes

TRW en its acqu Credit D items

Fair Credit Reporting Act passed in 1974

Retail Credit Company changes its name to Equifax

the credit CSC the last bureau



1869

1899

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1912

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The Origin of Today's Credit Reporting Agencies

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Retail Credit Company operates many branch offices around the United States & Canada

Retail Credit Company goes public

TRW enters its acquisition Credit Data Systems



Equifax acquires the credit bureau division of CSC Credit Services, the last major regional affiliate bureau

1869 1899 1900 1920 1965 1968 1968 1969 1974 1975 1996 2012

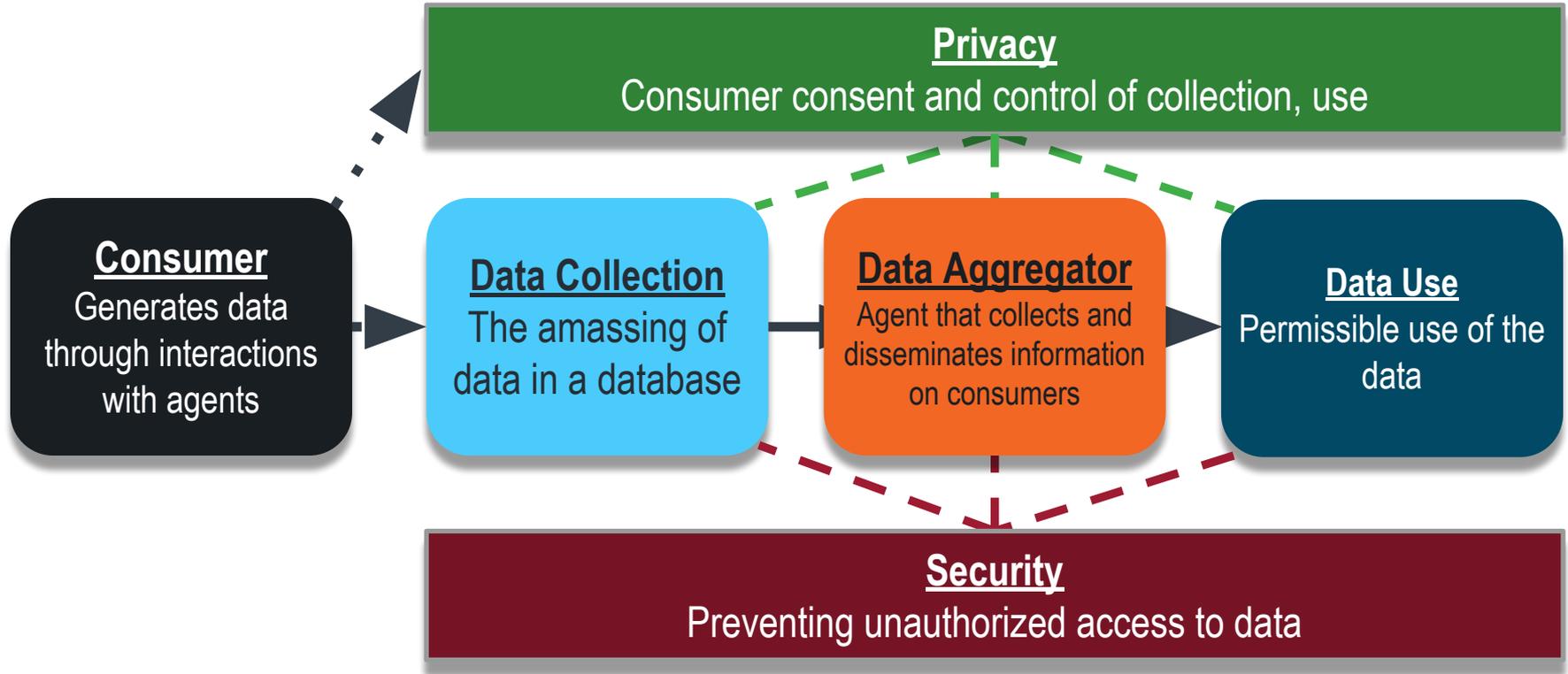
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Consumer Information – Who's in Control?



Consumer Information – What Law's Apply?

 FEDERAL TRADE COMMISSION
PROTECTING AMERICA'S CONSUMERS

 **cfpb** Consumer Financial Protection Bureau

FCRA
Governs use of data in credit decisions (includes insurance, employment & benefits)

 FEDERAL TRADE COMMISSION
PROTECTING AMERICA'S CONSUMERS

GLBA
Under the Safeguards Rule, financial institutions must protect the personally identifiable financial information they collect

 **edpb** European Data Protection Board

GDPR
In EU, governs the collection of consumer data with right to be forgotten

 FEDERAL TRADE COMMISSION
PROTECTING AMERICA'S CONSUMERS

ECOA
Governs discrimination in any part of a credit application (use)

 FEDERAL TRADE COMMISSION
PROTECTING AMERICA'S CONSUMERS

 **cfpb** Consumer Financial Protection Bureau

UDAAP (Dodd-Frank)
Covers unfair, deceptive and abusive practices by companies against consumers in commerce and credit transactions

 XAVIER BECERRA
Attorney General



California CPA
Passed in 2018, CA's version of GDPR (collection)

A few federal and many more at state levels that are not on this list

FCRA – Key Provisions: Acceptable Use

FCRA

Governs use of data in credit decisions

User	Acceptable Use or Purpose
Creditors	<ul style="list-style-type: none">• Underwriting applicants• Marketing “firm” offers of credit• On-going monitoring for risk exposure
Insurers	<ul style="list-style-type: none">• Underwriting applicants• Marketing “firm” offers of insurance• On-going monitoring for risk exposure
Collection Agencies	<ul style="list-style-type: none">• Resolving delinquent accounts, tax liens, and foreclosures
Employers	<ul style="list-style-type: none">• Background checks on potential hires (written consent required)
Landlords, telecom companies, utilities	<ul style="list-style-type: none">• Background checks on prospective tenants or customers
Government Agencies	<ul style="list-style-type: none">• Eligibility Determination for certain purposes
Financial Regulators	<ul style="list-style-type: none">• Safety and soundness monitoring of regulated financial institutions

FCRA – Key Provisions: Important Rights

Objective	Provision	Objective	Provision
Transparency	<ul style="list-style-type: none"> ● Creditors, employers and insurers who deny an application based on a consumer’s credit file must notify the applicant and identify the entity that provided the information ● Consumers have the right to request and obtain all information contained in their credit file. They also have the right for a free credit report each year, or if they are: <ul style="list-style-type: none"> – subject to an adverse action based on their credit file – the victim of identity theft or fraud – receiving public assistance, or – unemployed but expecting to seek employment within 60 days ● Consumers have the right to request their credit scores ● Consumers have the right to dispute incomplete or inaccurate information in their file 	Privacy	<ul style="list-style-type: none"> ● Access is strictly limited to parties with “permissible purpose” ● Access by employers requires explicit consumer consent ● Consumers have the right to remove their name from marketing lists upon request ● Consumers have the right to “freeze” their credit file for free
		Accuracy	<ul style="list-style-type: none"> ● CRAs are required to investigate any disputed information with the data furnisher, and to correct or delete any inaccurate information once resolved ● Consumers have the right to add an explanatory statement to disputed items if they are not resolved
		Forgiveness	<ul style="list-style-type: none"> ● All negative information must be deleted from credit file after 7 years (or 10 years old in the case of bankruptcies)

GDPR – A New Law in (EU) Town

Data portability	<ul style="list-style-type: none">• an individual has the right to transport his personal data from one organisation to the next – hence the word 'portability'.• The personal data must be provided to the individual in a structured, commonly used and machine readable format.• when technically feasible, organisations should facilitate electronic transfer of personal data from one to another, if the individual requests this.
Audit Trail	<ul style="list-style-type: none">• Entities must keep an inventory of all personal data processed. The minimum information of what should be in the inventory is specified and goes beyond just knowing what data the organization processes• Also included should be whether the personal data is exported and all third parties receiving the data

Data breach notification	<ul style="list-style-type: none">• Entities are to notify regulatory authorities within 72 hours of discovery• Notify individuals if their data has been compromised
Data protection by design and by default	<ul style="list-style-type: none">• When designing a new system or process, data protection must be incorporated into the plan and documented• If the system, process, service, etc. to be designed will include choices for the individual on how much personal data he shares with others, the default setting is the most privacy friendly one, the one that says to not share any information at all (data minimization)

GDPR – A New Law in (EU) Town

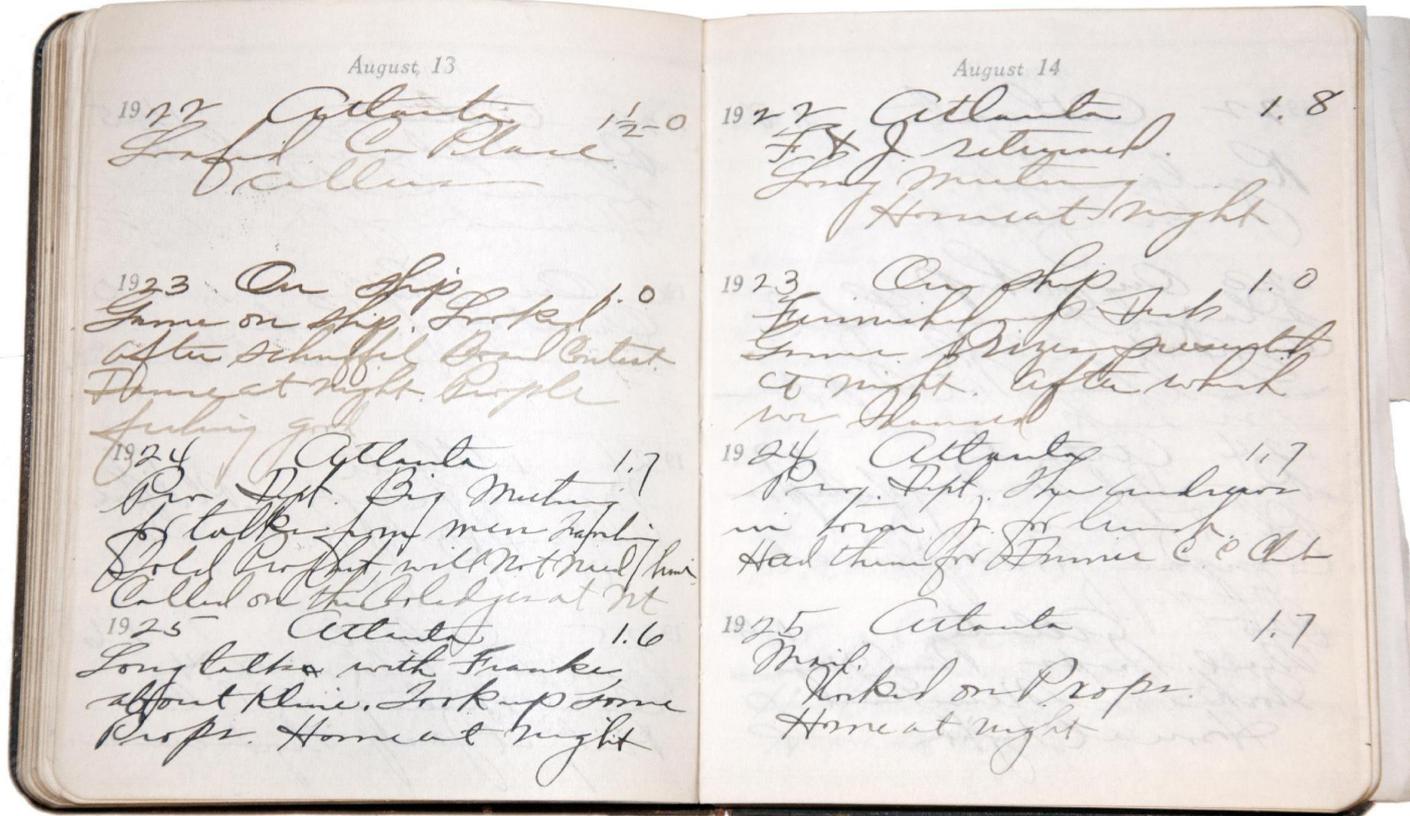
Expanded territorial scope	<ul style="list-style-type: none">• This states that the GDPR (and therefore the European privacy laws) also applies to organisations that are not located within the EU, but that do offer goods or services to, or monitor behaviour of data subjects in the EU
Right to be Forgotten	<ul style="list-style-type: none">• Under the new regulation all organisations that process personal data must remove all of that data if one condition (out of a list of six) is met. The list of conditions includes when it is clear that data have been processed unlawfully and the case when a data subject withdraws previously given consent.• Carve out for reporting of consumer credit data to repositories - consumers cannot opt out of this reporting
Sanctions	<ul style="list-style-type: none">• The maximum fines depend on what the “category” in which the violation occurs: For less serious violations, the maximum is € 10 million or 2% of total annual worldwide turnover of the preceding year (whichever is higher); for more serious violations this goes up to € 20 million or 4%.



Credit Bureaus Vouch for a Consumer's (Credit) Character

In the old days, character, social reputation, and credit history were synonymous concepts

Page taken from a ledger from the Retail Credit Company (1922-1924)



Information that makes up credit files is voluntarily shared by lenders

- The public is often surprised to find out that financial institutions could stop sharing your payment information to credit bureaus tomorrow and there are no legal regulations that could step in and make them share that information
- There is a tension between sharing, in which case competitors might try to steal your best customers, and not sharing, in which case all lenders are hurt by not having complete information on consumers they might want to lend to
- In the U.S. lenders long ago decided that sharing was best, and this model has worked well.
- If they do report, they are subject to the FCRA regarding the accuracy of the data and must respond timely to consumer disputes about reported information
- Equifax, Experian and TransUnion require reporting institutions to provide full file reporting, which is both positive and negative information, on U.S. accounts

But What if We're Wrong?

- Adverse information is never pleasant – it means a failure on our part to honor a promise
- What if the information submitted by a merchant is “wrong”? Shouldn't we be able to opt out of that information if it wasn't “our fault”?

Reasons why data might be wrong:

- Attributed to wrong person (not my account)
- Not updated recently
- Updated incorrectly
- Incomplete

In the U.S., credit reporting agencies are required to keep the most accurate data possible. Thus we look for reporting anomalies but we cannot know whether it is all correct without the consumer's participation

Credit Bureaus Face a Trade-off Between 2 Types of Inaccuracies Involving Adverse Information

A creditor communicates a piece of adverse information to a credit bureau. That information is:

ACCURATE

INACCURATE

The credit bureau decides whether to

INCLUDE
the information

The bureau makes the **Correct** decision

Type I Error: Inclusion of inaccurate information. The lender foregoes some profit and the identifiable consumer may suffer

EXCLUDE
the information

Type II Error: Exclusion of accurate information. Lender losses are material and many *other, unidentifiable* consumers may suffer

The bureau makes the **Correct** decision

What is Credit Reporting like around the world?

- Credit reporting varies widely across the globe – Public, private, or both types
 - Private is driven by needs and wants of commercial enterprises
 - Public may have other goals such as financial system regulation (bank solvency) and not all loans within reporting institutions may be reported
- Some restrict reporting to negative only, others embrace full file reporting aka affirmative-negative system that includes positive payment information
 - Negative only gives an incomplete picture of consumer's indebtedness and loans are priced higher
- Some countries have voluntary reporting, others mandatory
- More countries are starting to develop laws to protect their citizens' data regarding collection, use and security, for example, GDPR
- Credit reporting is not generally portable across international borders – when you move you start over

How Much Does Positive Information Help?

Table 1

Effect on Default Rate for Various Approval Rates

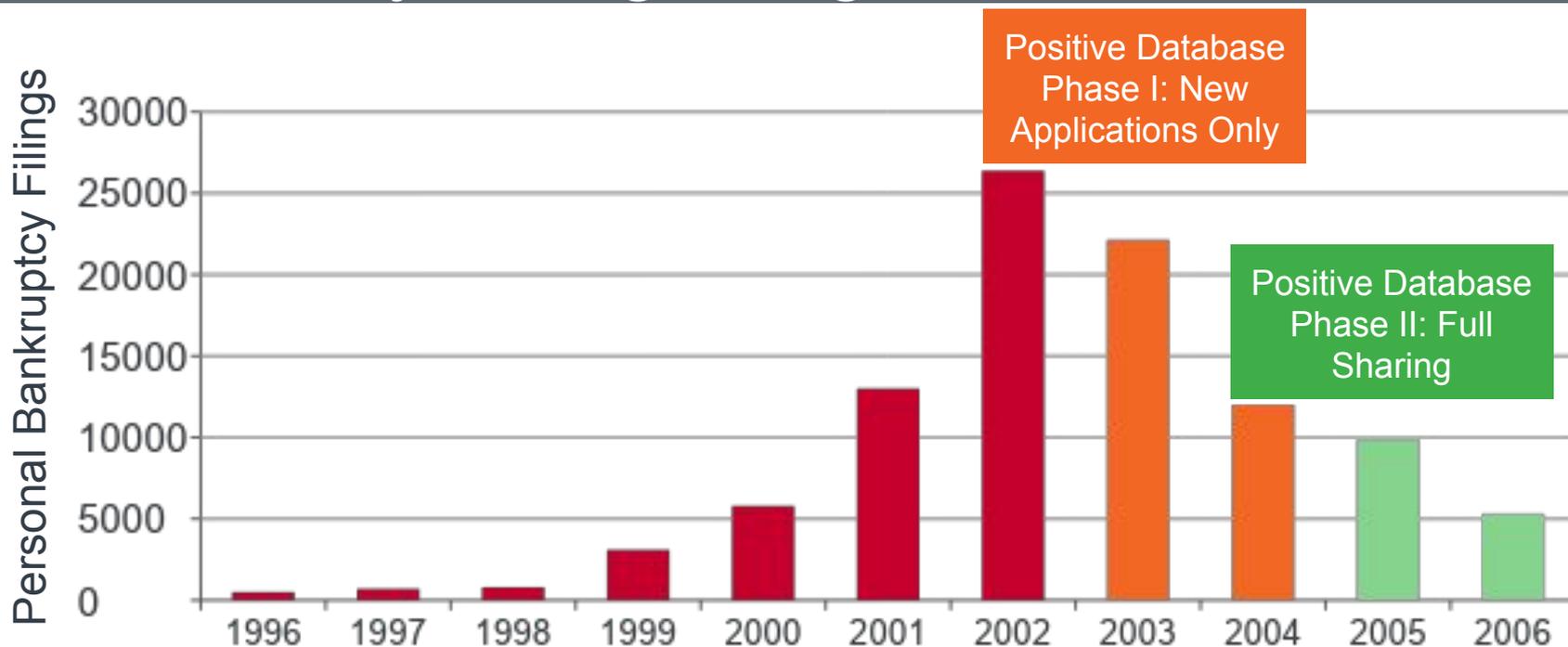
Target Approval Rate	Negative-Only Model	Comprehensive, Full-File Model	Default Reduction
40%	2.91%	1.15%	153.0%
60%	3.36%	1.95%	72.3%
75%	4.10%	3.09%	32.7%
100%	9.38%	9.38%	0.0%

Source: Barron & Staten, 2003

- In the U.S. we don't have the ability to see credit markets operate without the inclusion of positive data. But we can see the impact of ignoring it. These results are consistent with what we see when countries change their credit reporting to include positive data.

How Much Does Positive Information Help?

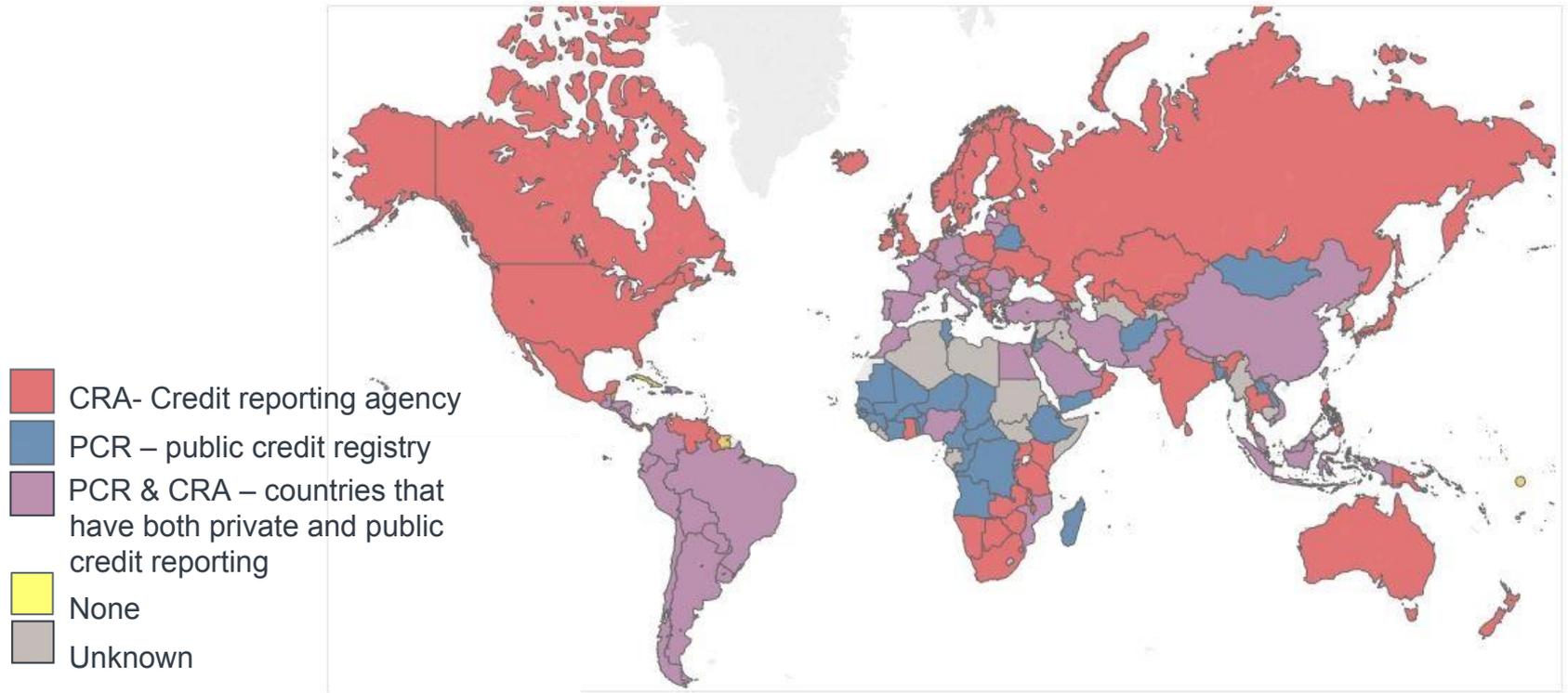
Case Study: Hong Kong



Overall, personal bankruptcies showed a decline after the moratorium on positive data sharing expired.

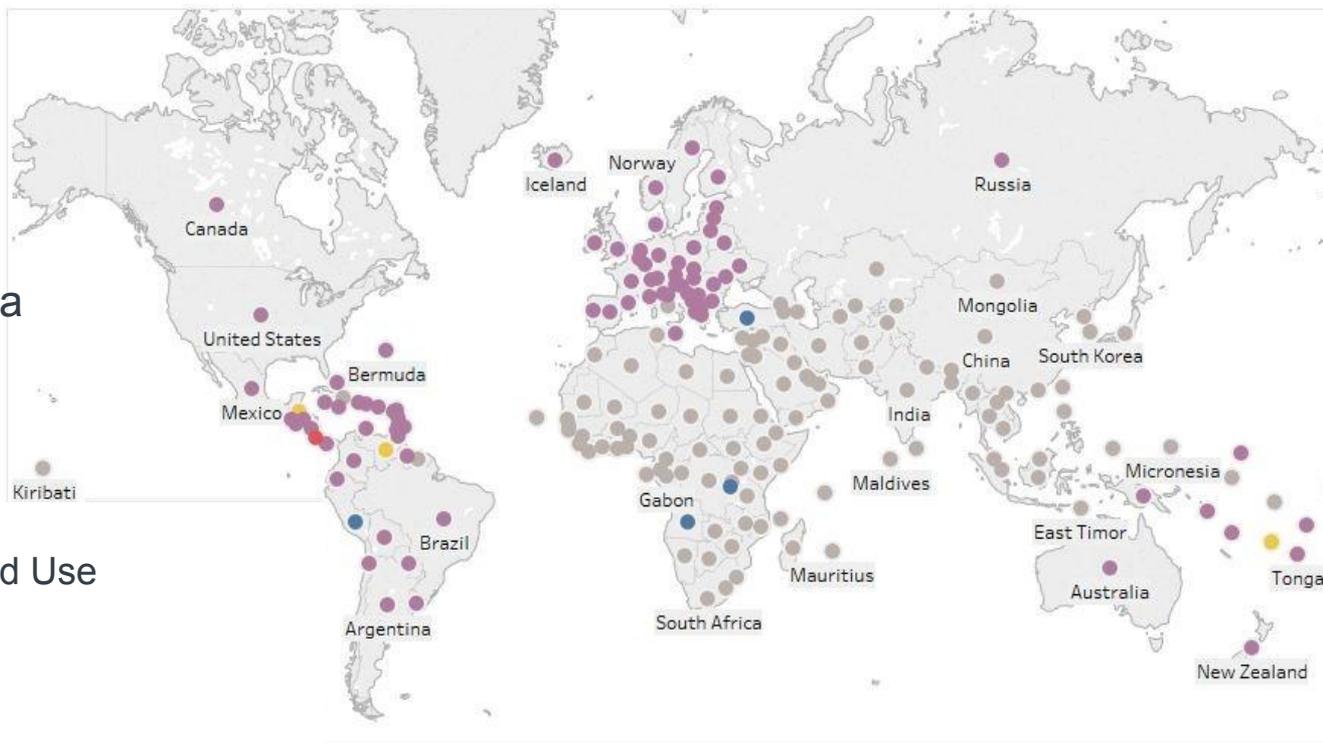
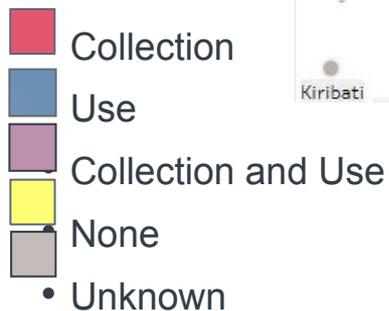
SOURCE: Official Receiver's Office, The Government of the Hong Kong Special Administration Region

Credit Reporting Differs Across the Globe

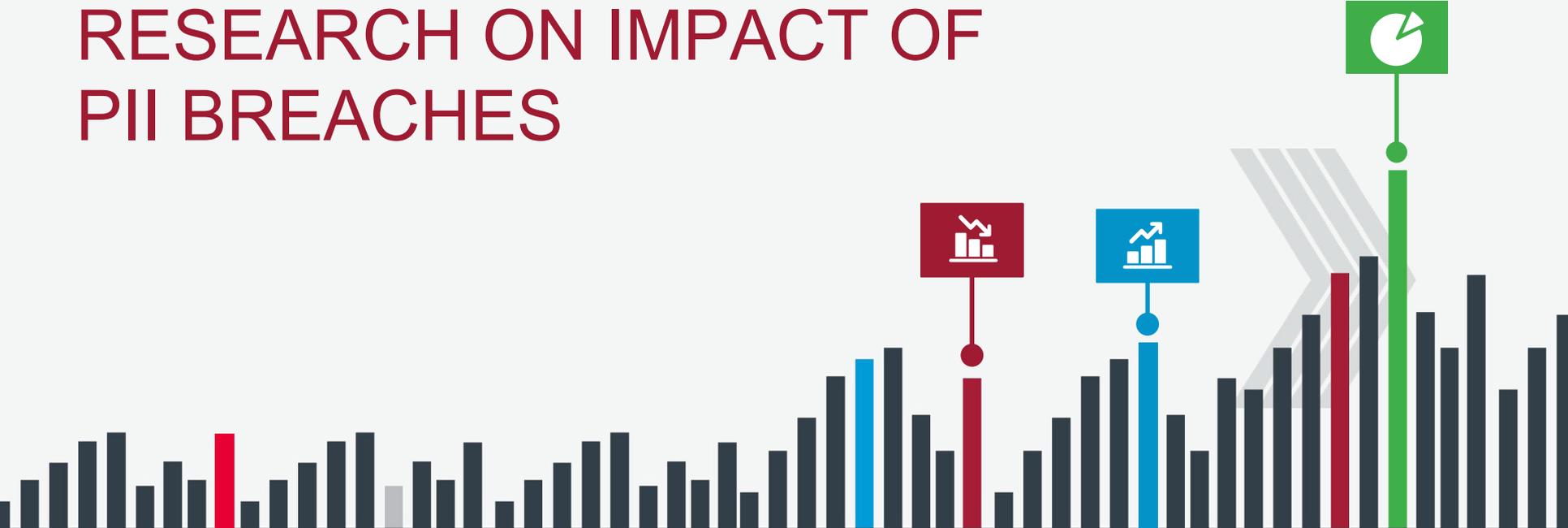


Data Restrictions Also Vary Widely

Consumer credit data regulations govern:



RESEARCH ON IMPACT OF PII BREACHES



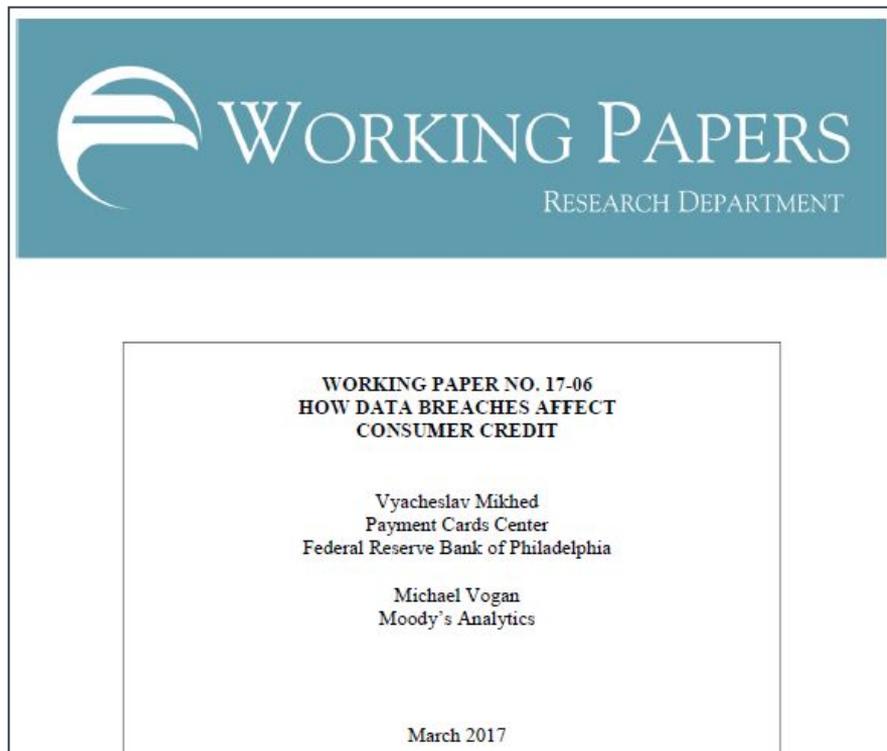
What is known about consumer behavior

Perspective – Major PII Breaches 2011-2016 Equal 320⁺M U.S. Records; 2017 Had 275⁺M

- Personally identifiable information (PII) includes name, address, *social security number*, etc.
- These breaches all involved the theft of PII:
 - **2011** – Tricare (5M), State of Texas (3.5M)
 - **2012** – CA Dept of Child Support Services (800K)
 - **2013** – T-Mobile & Experian (15M), **SC Dept of Revenue (3.8M)**, Scottrade (4.6M)
 - **2014** – Sony (47K), Community Health Systems (4.5M), eBay (145M)
 - **2015** – OPM (22.1 M), Anthem BlueCross (78.8 M), IRS (724K), 9 other major medical insurance companies combined (32.0M)
 - **2016** – UCLA Health (4.5M)
 - **2017** – America’s JobLink (4.8M), Equifax (147M), FAFSA-IRS (100K), Washington State Univ (1M), SVR Tracking (0.5M), Maine Foster Care (2K), TIO Networks (1.5M), Alteryx (120M) – **in sum more than 275M records in 2017**
 - **2018 YTD** – Sacramento Bee (19.4M), Facebook (120M), Exactis (340M), Orbitz (880K) – **more than 480M and counting**

Source: <https://www.identityforce.com/blog> & others

Research on Breaches of Consumer P.I.I.



[Link to paper here](#)

This study examines the affects of the South Carolina Department of Revenue breach in which the online tax records of 81% of SC residents were stolen. These records included names, addresses and SSNs.

Research on Breaches of Consumer P.I.I.



[Link to paper here](#)

They use the 2012 South Carolina Department of Revenue data breach to study how data breaches

and news coverage about them affect consumers' take-up of fraud protections.

Conclusion: Unless directly affected by the breach, consumers do not take action, and In the absence of a clear indication of their direct exposure, consumers did not appear to revise their beliefs about future expected losses associated with data breaches.

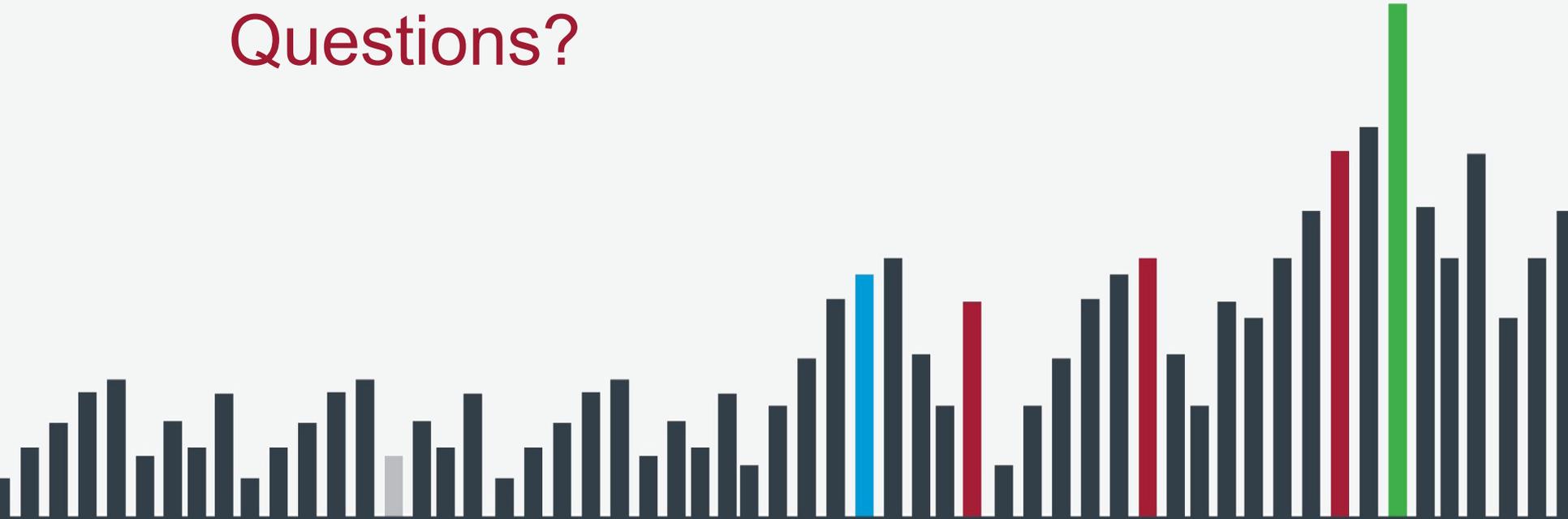
**WORKING PAPER NO. 15-42
OUT OF SIGHT, OUT OF MIND:
CONSUMER REACTION TO NEWS
ON DATA BREACHES AND IDENTITY THEFT**

Vyacheslav Mikhed
Federal Reserve Bank of Philadelphia

Michael Vogan
Federal Reserve Bank of Philadelphia

November 2015

Questions?



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Credit Reporting and
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