## The Economic Power of Uncertainty: The Role of Consumer Credit Bureaus

Federal Reserve Forum on Credit Scores December 14, 2007

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Having started in the 19<sup>th</sup> century, major credit bureaus now have more than 300 variables containing information about approximately 200 million Americans, and hundreds of millions of other people around the world.

> Together with credit scores, these products have helped reduce the information asymmetry between principals and agents.



In **credit markets**, that information means that lenders are more certain today than they once were about the ability of borrowers to repay.

In **insurance markets**, it means that insurance companies are more certain today than they once were about the probability that drivers will file insurance claims.

In **employment markets**, it *may mean* that employers are more certain today than they once were about the probability that employees will show up to work on time.

In **rental markets**, it *may mean* that landlords are more certain today than they once were about the probability that rental applicants will make payments on time.



What have been the economic effects of this reduction in uncertainty?

#### Our knowledge of that impact is incomplete.



Within credit markets, scores and reports for about 200 million Americans help lenders loan to more people than they were once able to. A number of other developments also fueled growth in credit markets:

**Technological changes** 

**Public policy** 

Other developments, like urban sprawl and mortgage contract changes

Nonetheless, it's hard to see how the more than 2 million credit reports that are sold daily do not play a major role in promoting economic growth and prosperity. FICO estimates that over 180 billion decisions are now made using these reports.

Probably the most rigorous assessments of this effect has been the work that's looked at international data. Over 17 countries have seen bureaus start up since 1989, which means we can look at the before and after effects.

For instance, work by economists at the Central Bank of Chile found that loan consumption would have been 40 percent lower without the introduction of a credit bureau in 1989.

> In the U.S., we can't specifically look at what would have happened in the absence of credit scores, but we can look more generally at the role that credit reporting has had in driving lending and borrowing.



New Uncertainties

Another way to look at this is by looking at the change in credit usage in the bureau data.



Source: Analysis of data from TransUnion

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This same trend was illustrated in the mortgage market...

Number of mortgages per consumer in the  $3^{rd}$  quarters of 1993, 2000, and 2007







<u>The bottom line</u>: By creating billions of bits of data on consumers, credit reports and scores reduce the information asymmetry between borrowers and lenders. That helps increase loan consumption and economic growth, and has supported the democratization of credit.

But alongside those contributions to growth and prosperity, scores and reports also contributed to new uncertainties, carrying economic consequences, too.



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The first of two types of uncertainty I want to address is caused by error in credit score predictions.

To illustrate this, I want to look at several pieces of data that illustrate the error in predictions about future behavior.



This trend is also illustrated if we look at default predictions. These data are from a recent briefing by Fitch Ratings. This shows, again, that most people who are characterized as having a high risk of default are not predicted to default on their loans.

Predicted foreclosure rate, by FICO score and level of credit risk



#### **New Uncertainties**

Finally, the best data I've seen on this point are from a recent Boston Fed report, which show that between 1993 and 2007, only a small share of subprime mortgages in Massachusetts actually fell into foreclosure.



There are a number of consequences that follow from this error.

One of those consequences is that the error associated with the scores has helped to make the subprime market extremely attractive in recent years, because the higher prices-toforeclosure ratio looked very attractive to investors.

#### **New Uncertainties**

HMDA data show, for instance, that in 2004, high-cost mortgage originations made up 22.5 percent or more of all originations in 5 states.

![](_page_19_Figure_3.jpeg)

## **Reducing Uncertainty New Uncertainties** In 2005, the number of states where high-cost originations made up 22.5 percent or more of all originations grew to 38 states... High-cost mortgages as a share of all mortgages, 2005 Below 7.5% 15.0-22.4% 30.0% or higher 22.5-29.9% 7.5-14.9% \* -----Metropolitan Policy Program в Source: Analysis of data from the Home Mortgage Disclosure Act

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

A second major economic consequence of this error is that at the very same time it promoted growth, it also acted as a curb against growth in the credit markets, because many people have been and continue to be denied for credit when they actually may qualify for it.

#### **New Uncertainties**

This hypothetical figure is based off of recent work by the Center for Financial Services Innovation and the Information Policy Institute, showing the error in credit performance forecasts may decrease in size and bias as credit scores increase.

![](_page_23_Figure_3.jpeg)

![](_page_24_Figure_0.jpeg)

In summary, the consequences of this error made in future predictions are...

...for high-risk consumers, more access and higher prices;

...and for businesses, major economic opportunity, but curbed economic opportunity, too.

![](_page_24_Picture_4.jpeg)

![](_page_25_Figure_0.jpeg)

The second type of uncertainty I want to address relates to the uncertainties that consumers have about the opportunities that scores have helped them gain access to.

![](_page_25_Picture_2.jpeg)

![](_page_26_Picture_0.jpeg)

I've already argued and shown data that indicate the billions of bits of information about over 200 million U.S. consumers has helped promote access to credit by giving lenders a great deal of useful information.

What scores and reports also did is allow businesses to better segment their customers and develop and then market specific products toward those customer segments.

![](_page_27_Figure_0.jpeg)

One of the market consequences of this financial services innovation is that there is now a great deal of complexity in markets. Consumers have many more choices than they once did.

> This has helped consumers find products that match their needs, but it may have also helped make them less certain about which products are in their best financial interest.

I want to illustrate this in two ways.

![](_page_27_Picture_4.jpeg)

![](_page_28_Figure_0.jpeg)

![](_page_29_Figure_0.jpeg)

The second example I want to point to is not in choices between contracts, but instead about the decision of whether to sign a contract at all. Let's talk about mortgages, since they're getting so much attention right now.

> Several pieces of data SUGGEST that many mortgage buyers would have been better off renting.

![](_page_29_Picture_3.jpeg)

#### **New Uncertainties**

First, we know that the foreclosure rate has recently shot upward despite solid economic growth, rising income, and low unemployment levels, calling into question whether consumers can evaluate whether homes are in their best interest.

![](_page_30_Figure_3.jpeg)

**New Uncertainties** 

Second, while the Flow of Funds Accounts indicates the value of home equity has increased, a growing share of homeowners have negative equity, calling into question whether consumers can evaluate whether homes are in their best interest.

Cumulative distribution of homeowner equity, by year of origination

![](_page_31_Figure_4.jpeg)

Source: Christopher L. Cagan, "Mortgage Payment Reset: The Rumor and the Reality," First American Real Estate Solutions (2006)

Finally, a small, but growing number of studies are challenging the financial wisdom of homeownership, relative to other investments, calling into question whether consumers can evaluate whether homes are in their best interest. Much work remains to be done in this literature...

Estimated total potential amount of wealth potentially gained or lost by renting and investing in the stock market instead of owning, in nine Canadian cities between 1979 and 2006

![](_page_32_Figure_4.jpeg)

and Brent W. Ambrose, eds., Household Credit Usage: Personal Debt and Mortgages (New York: Palgrave McMillan, 2007)

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![](_page_33_Picture_0.jpeg)

In summary, credit reports and scores have helped create substantial leverage and opportunities for consumers, but the potential of those opportunities is not fully realized when consumers cannot effectively make decisions about them.

![](_page_34_Figure_0.jpeg)

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![](_page_35_Figure_0.jpeg)

Market innovations will continue to reduce uncertainties by improving risk predictions. This will expand markets and opportunities.

Yet more innovation and policy are needed to address the consequences of new uncertainties fostered by those predictions.

In response, one of the roles of the Federal Reserve that I'd like to see expanded is its capacity to collect data that inform market adaptation.

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