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## **EVIDENCE FROM THE PHILADELPHIA FEDERAL RESERVE ON FINTECH LENDING IN THE UNITED STATES**

Brett Stuckey  
Economic, Fiscal and Monetary Policy Section  
Parliamentary Information and Research Service

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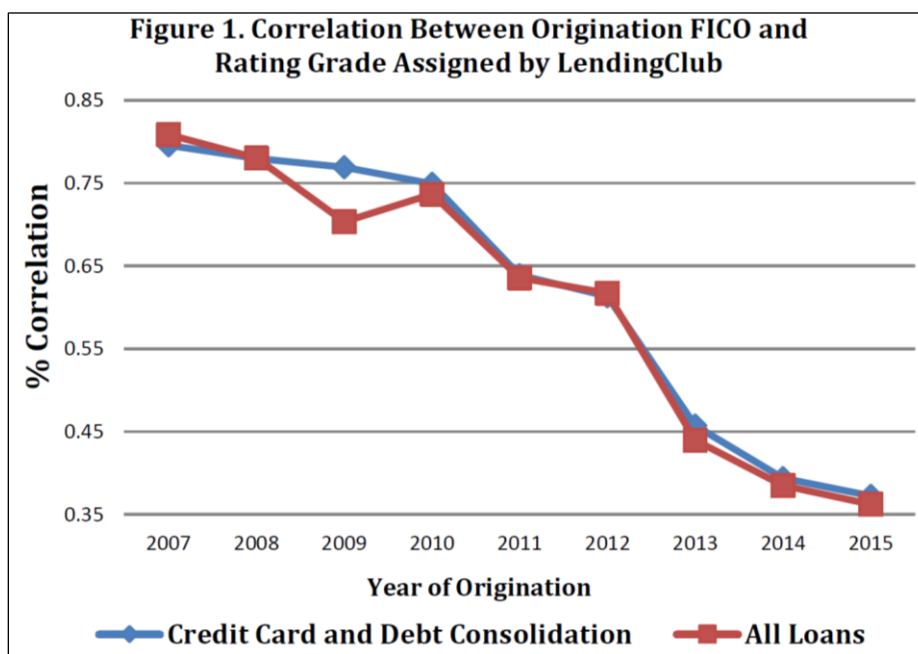
## INTRODUCTION

In the context of a global pandemic and federal economic response plans, the role of fintech lending is being used by some governments, such as the United Kingdom and the United States, as an alternative way in which to originate and distribute government-backed loans. The findings of the working paper [\*The Roles of Alternative Data and Machine Learning in Fintech Lending: Evidence from the LendingClub Consumer Platform\*](#), originally published in April 2018 (pre-pandemic) by the Federal Reserve Bank of Philadelphia, could provide some insight with respect to the role that fintech could play in pandemic response efforts.

The paper uses loan-level data from [LendingClub](#), a fintech company specializing in peer-to-peer lending, and compares it with similar loan-level data from traditional lenders in the United States to demonstrate the potential consumer benefits that fintech lenders provide. Fintechs such as LendingClub have developed methods using non-traditional data, such as postal codes, social media and phone bills to evaluate borrowers' credit risk. This method is compared with FICO scores, which are credit scores calculated with the Fair Isaac Corporation (FICO) software commonly used in the United States by traditional lenders such as banks.

## KEY FINDINGS

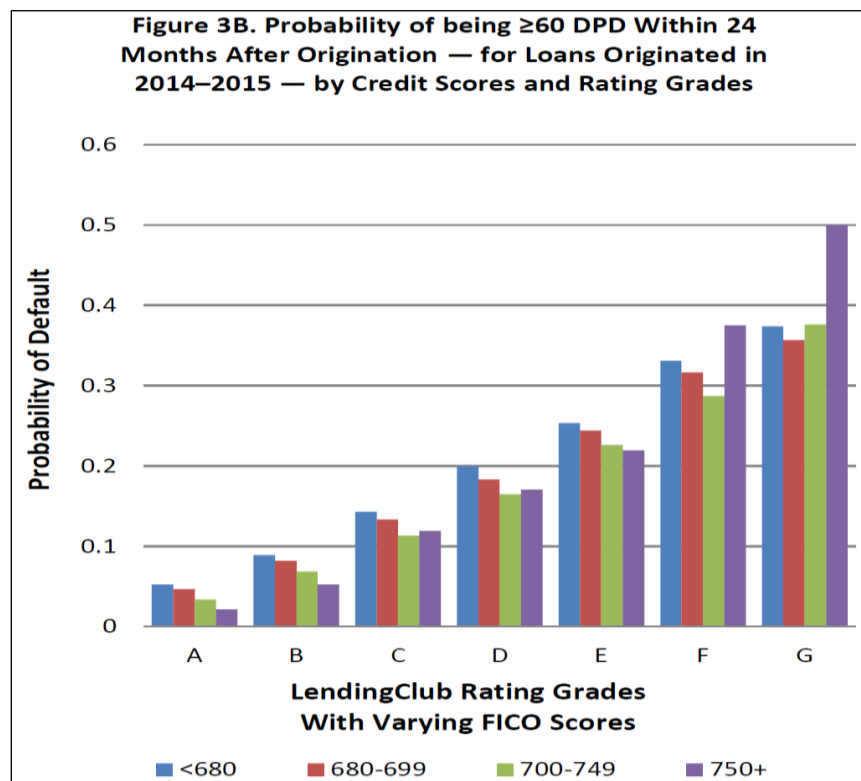
According to Jagtiani and Lemieux, alternative sources of information have been used increasingly while FICO scores have been less vital to the final credit ratings assigned to borrowers by LendingClub. The correlation between LendingClub rating grades and FICO scores declined from about 80% for loans that were originated in 2007 to only less than 35% for loans that were originated in 2015.



Source: J. Jagtiani and C. Lemieux, *The Roles of Alternative Data and Machine Learning in Fintech Lending: Evidence from the LendingClub Consumer Platform*, Federal Reserve Bank of Philadelphia, WP 18-15, January 2019.

Their findings also show that LendingClub was successful in making loans to “subprime” customers, or borrowers with low FICO scores who are deemed to represent a higher risk to lenders. These borrowers may be denied credit or charged much higher interest rates than “prime” borrowers. LendingClub identifies “invisible prime” borrowers, or borrowers whom it considers to be “prime” but have low FICO scores, using alternative data and extends credit to them at lower rates than they would otherwise receive from traditional lenders. Furthermore, losses that were incurred as a result of lending to these “invisible prime” borrowers were lower than the expected level of loss on loans to average customers. These borrowers are given higher loan grades as a result of calculations based on alternative data. For example, approximately 8% of borrowers that were given LendingClub’s highest credit rating were borrowers with FICO scores of 680, typically “subprime” borrowers. Therefore, the authors conclude that the use of additional information sources could allow some borrowers with low FICO scores to access credit and potentially better pricing.

In Figure 3B, the authors show that the credit ratings assigned to borrowers from LendingClub, with “A” being the highest and “G” being the lowest, were a much better predictor of default than the FICO scores. It shows that the use of alternative data has allowed subprime borrowers who are not risky to be separated from those who are and thus to potentially receive a better price.



Source: J. Jagtiani and C. Lemieux, *The Roles of Alternative Data and Machine Learning in Fintech Lending: Evidence from the LendingClub Consumer Platform*, Federal Reserve Bank of Philadelphia, WP 18-15, January 2019.

The authors also conducted regression analysis with the data. The results of the regression analysis showed that LendingClub’s credit ratings were superior to FICO scores in predicting whether a borrower would default and for accurately determining the interest rates that should be charged. In fact, the authors state

that “the rating grades assigned by LendingClub are more powerful in predicting the borrower’s default probability than a set of FICO scores, other traditional risk variables, and economic factors combined.”

Therefore, the key findings of the paper, in terms of fintech’s societal value as lenders are:

1. Fintechs can provide increased access to credit, at a lower cost, to those creditworthy individuals who have poor credit scores or little credit history.
2. While consumers’ information and privacy should be protected by laws and regulations, certain alternative information could play a key role in allowing lenders to fully understand the credit quality of borrowers.
3. Loans from fintech lenders can be “appropriately” risk priced.