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### Fintech Lending: A Study of Expectations Versus Market Outcomes

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**FINTECH LENDING: A STUDY OF EXPECTATIONS  
VERSUS MARKET OUTCOMES**

VINCENT DI LORENZO\*

***Abstract***

*This article explores expectations and outcomes. It documents the expectations for the fintech lending industry, which has emerged in this decade, and compares such expectations to market outcomes. It presents an evidence-based analysis for policy making decisions. Part one of the article documents expectations—possible benefits and risks of fintech lending—through large-scale surveys and interviews of industry, consumer and government stakeholders. Part two of the article examines market outcomes—benefits and risks that have been realized or failed to materialize as documented by studies of substantial data sets of various types of fintech loans. The benefits and risks explored include increased access to credit, lower costs, lack of transparency and delinquency and default. After comparing expectations and outcomes, the article considers policy implications, particularly the implications for chartering special purpose national banks.*

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### *Introduction*

Fintech lending, sometimes referred to as online marketplace lending, is lending through digital platforms that often collect and base lending decisions on nontraditional data sources. Underwriting is typically automated and may employ nontraditional credit algorithms.

In the consumer and small business credit market, fintech loan originations have experienced an annual compounding growth rate of 163% between 2011 and 2015.<sup>1</sup> It is estimated fintech loan originations (excluding mortgages) could reach \$90 billion by 2020, from approximately \$25 billion in 2015.<sup>2</sup> In the U.S. personal loan market, fintech lenders' market share increased from less than 1% in 2010 to 36% in 2017.<sup>3</sup> In the mortgage market, fintech lenders' market share increased from 2% in 2010 to 8% in 2016, with total dollar volume of originations growing 30% annually.<sup>4</sup>

This article explores the benefits and risks of fintech lending. It documents expectations and compares them to market outcomes. It presents an evidence based analysis for later policy making decisions. Part I of this article explores expectations regarding fintech lending—possible benefits and risks—and the reason(s) for such expectations. Part II of this article examines market outcomes to date—the benefits

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<sup>1</sup> David W. Perkins, CONG. RESEARCH SERV., R4464, MARKETPLACE LENDING: FINTECH IN CONSUMER AND SMALL BUSINESS LENDING 5 (2016) (based on a report by analysts at Deloitte).

<sup>2</sup> AM. BANKERS ASS'N, THE STATE OF DIGITAL LENDING 5 (2018), <http://www.aba.com/Products/Endorsed/Documents/ABADigitalLending-Report.pdf> (reporting results of a 2016 report by Autonomous Research, stating “loan origination volumes could reach \$90 billion by 2020 from about \$25 billion in 2015”).

<sup>3</sup> U.S. DEP'T OF THE TREASURY, A FINANCIAL SYSTEM THAT CREATES ECONOMIC OPPORTUNITIES: NONBANK FINANCIALS, FINTECH, AND INNOVATION 13 (2018), [https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation\\_0.pdf](https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation_0.pdf) [<https://perma.cc/3JY8-FAQA>] [hereinafter Nonbank Financials] (analyzing data from TransUnion).

<sup>4</sup> ANDREAS FUSTER ET AL., FED. RESERVE BANK OF N.Y. STAFF, REPORT NO. 836, THE ROLE OF TECHNOLOGY IN MORTGAGE LENDING 1 (2018), [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr836.pdf](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr836.pdf) [<https://perma.cc/9CFU-PK5S>] (stating that fintech lending has “grown annually by 30% from \$34bn of total originations in 2010 (2% of market) to \$161bn in 2016 (8% of market”).

and risks that have been realized or that failed to materialize. After comparing expectations and market outcomes, the article explores the policy implications of such outcomes.

### *I. Part One: Expectations*

Individual opinions of the potential benefits and risks of fintech lending are not relied upon in this study. Rather, this article documents expectations through large-scale surveys and interviews of various stakeholders in the fintech lending market. Three sources provide information for this study: (i) a survey conducted by the U.S. Department of the Treasury through a Request for Information (RFI) in the summer of 2015;<sup>5</sup> (ii) interviews conducted by the Government Accountability Office (GAO) from July 2016 to April 2017;<sup>6</sup> and (iii) solicitation of comments on Special Purpose National Bank [SPNB] Charters for Fintech Companies by the U.S. Comptroller of the Currency (OCC) in December 2016 and January 2017.<sup>7</sup>

The Treasury Department solicited public input through a series of fourteen questions on, among other things, business models and products offered by fintech lenders, the potential for such lenders to expand access to credit to historically underserved market segments, and the risks arising from data-driven processes relative to those used in traditional lending.<sup>8</sup> They received responses from ninety-four entities including financial industry members, financial industry

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<sup>5</sup> U.S. DEP'T OF THE TREASURY, OPPORTUNITIES AND CHALLENGES IN ONLINE MARKETPLACE LENDING (2016), [https://www.treasury.gov/connect/blog/documents/opportunities\\_and\\_challenges\\_in\\_online\\_marketplace\\_lending\\_white\\_paper.pdf](https://www.treasury.gov/connect/blog/documents/opportunities_and_challenges_in_online_marketplace_lending_white_paper.pdf) [<https://perma.cc/SQ7Y-ARUQ>] [hereinafter Treasury 2016] (explaining that the white paper continues the work initiated by the issuance of a "Request for Information" and establishes an "overview of the evolving market landscape, reviews stakeholder opinions, and provides policy recommendations).

<sup>6</sup> See generally U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-17-361, FINANCIAL TECHNOLOGY: INFORMATION ON SUBSECTORS AND REGULATORY OVERSIGHT (2017) [hereinafter GAO-17-361].

<sup>7</sup> See generally OFFICE OF THE COMPTROLLER OF THE CURRENCY, U.S. DEP'T. OF THE TREASURY, EXPLORING NATIONAL BANK CHARTERS FOR FINTECH COMPANIES 15–16 (2016), <https://www.occ.gov/topics/responsible-innovation/comments/pub-special-purpose-nat-bank-charters-fintech.pdf> [<https://perma.cc/BS5A-3EG9>].

<sup>8</sup> Treasury 2016, *supra* note 5 at 3, 41 app. B (describing this solicitation of public input and providing the list of 14 questions).

associations, public interest organizations, and state and local government entities and regulators.<sup>9</sup> The Treasury Department also convened industry stakeholders in Washington, D.C. to discuss a range of topics including consumer protection, data privacy, capital market issues, and regulatory concerns.<sup>10</sup> The RFI responses and Treasury Department discussions with stakeholders yielded a number of potential benefits and risks of fintech lending.

The expected benefits identified were:<sup>11</sup>

- i. lower costs to consumers and small businesses;
- ii. quicker turnaround times;
- iii. greater convenience; and
- iv. expanding access to credit

The survey identified the following potential risks:

- i. defaults, based on concern that the accuracy of credit risk in use of new data and credit risk models remain untested;
- ii. inaccuracies in new data sources;
- iii. fair lending violations, due to disparate impact of use of new data sources and credit models;
- iv. lack of transparency, in bases for underwriting, lending terms, and information for investors<sup>12</sup>; and
- v. predatory lending and targeting of vulnerable borrower segments.<sup>13</sup>

Congress asked GAO to provide it with information on the fintech industry, including its structure and development and how federal regulators supervise fintech firms.<sup>14</sup> GAO obtained input on a number of fintech products and services, including fintech lending.<sup>15</sup> Interviews were conducted with staff members of federal government regulators, associations of state government financial supervisors, and

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<sup>9</sup> *Id.* at 42 app. C (listing the entities that provided responses).

<sup>10</sup> *Id.* at 19.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.* at 24.

<sup>13</sup> *Id.* at 20.

<sup>14</sup> GAO-17-361, *supra* note 6, at 1.

<sup>15</sup> *Id.* at 3–9 (discussing, among other topics, fintech lending, trends, and regulation).

numerous industry trade associations.<sup>16</sup> Based on these interviews, as well as a literature search of publications from agencies, industry groups and other knowledgeable parties, GAO identified a number of potential benefits and risks of fintech lending, including the following:<sup>17</sup>

- i. lower costs;
- ii. expanded access to credit to underserved populations; and
- iii. faster service.<sup>18</sup>

Potential risks identified were:

- i. lack of transparency in loan terms; making comparison of lenders difficult;
- ii. fair lending violations that may result from use of nontraditional data for underwriting decisions; and
- iii. delinquency and default possibilities in the marketplace lending sector, since little is known as to how the industry's loans will perform in other economic conditions such as a recession.<sup>19</sup>

The OCC's Request for Comments on possible SPNB Charters for Fintech Companies sought input on all aspects of the fintech industry, including input on chartering decisions and requirements.<sup>20</sup> The OCC's Request for Comments led to 110 responses from fintech companies, financial industry associations, state government regulators, public interest groups, public policy centers, and some members of Congress.<sup>21</sup> This formed the data set for this article. After a review of such comments, the expected benefits and risks of fintech lending

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<sup>16</sup> *Id.* at 2–3.

<sup>17</sup> *Id.* at 6–9 (discussing the potential benefits and risks of fintech lending).

<sup>18</sup> *Id.* at 6–7.

<sup>19</sup> The report also identified as a risk the lack of the same legal protections for small business borrowers as are extended to consumers, but the risk is not unique to fintech lending. *Id.* at 8–9.

<sup>20</sup> OFFICE OF THE COMPTROLLER OF THE CURRENCY, *supra* note 7 at 15–16.

<sup>21</sup> OFFICE OF THE COMPTROLLER OF THE CURRENCY, U.S. DEP'T OF THE TREASURY, PUBLIC COMMENTS ON EXPLORING SPECIAL PURPOSE NATIONAL BANK CHARTERS FOR FINTECH COMPANIES, <http://www.occ.treas.gov/topics/responsible-innovation/fintech-charter-comments.html> (last updated Jan. 27, 2017) [<https://perma.cc/U92K-BUYF>] [hereinafter OCC Public Comments] (providing access to all 110 responses to the OCC's Request for Comments).

were isolated—as opposed to other fintech products and services, or the benefits and risks of federal versus state regulation of the industry.

The potential benefits of fintech lending stated by the commentators, by decreasing order of frequency, were:

- i. expanded access to credit;
- ii. faster, more convenient processes and access to credit;
- iii. lower costs to borrowers;
- iv. less systemic risk;
- v. less privacy and data security risk;
- vi. less bias in lending decisions; and
- vii. better loan portfolio performance.<sup>22</sup>

The potential risks of fintech lending stated by the commentators, by decreasing order of frequency, were:

- i. predatory lending and targeting of vulnerable borrowers;
- ii. fair lending violations;
- iii. lack of transparency;
- iv. threats to customer privacy;
- v. delinquency and default risks for both borrowers and lenders;
- vi. challenges to the ability of government to effectively regulate; and
- vii. exclusion of unbanked or low-income consumers.<sup>23</sup>

There was only modest overlap in the parties providing input in the three surveys. Nonetheless, the benefits and risks identified in the three surveys were fairly consistent. What were the precise meanings and reasons associated with each expectation? This article explores such issues, and will assist in analysis of the ability of current legal initiatives to promote benefits and minimize risks of fintech lending. In the OCC Public Comments the benefit most frequently expected from fintech lending was expanded access to credit.<sup>24</sup> This

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<sup>22</sup> *See generally id.*

<sup>23</sup> *Id.*

<sup>24</sup> Some comments expressed this expected benefit without clearly identifying the specific reason for the expectation. Letter from Daniel Gorfine, Vice President, External Affairs & Assoc. Gen. Counsel, On Deck Capital, Inc., to Thomas J. Curry, Comptroller of the Currency (Jan. 15, 2017); Letter from Kevin Foster-Keddie, President & CEO, Wash. State Employees Credit Union, Bd. Member, QCash Fin., LLC, to Thomas J. Curry, Comptroller of

was based on: (i) lack of geographic barriers to access;<sup>25</sup> (ii) better identification of creditworthy customers through data driven processes that consider additional sources of credit information;<sup>26</sup> (iii) new

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the Currency (Jan. 13, 2017) (considering how expansion of fintech products and services will create more access for consumers); Letter from Stephen Denis, Small Bus. Fin. Ass'n, to Thomas J. Curry, Comptroller of the Currency (Jan. 12, 2017) (discussing how emerging technology and the development of new platforms are allowing alternative lenders to reach underserved businesses and those that traditional finance will not or cannot serve); Letter from Robert S. Lavet, Gen. Counsel, Social Fin., Inc. (Jan. 12, 2017) (highlighting how fintech is serving groups with few ties to traditional banks and homeowners not well served by traditional mortgage lenders); Letter from Safa Mahzari, entrepreneur, to Office of the Comptroller of the Currency (Dec. 27, 2016).

<sup>25</sup> Letter from Albert Goldstein, CEO, Avant, Inc., to Thomas J. Curry, Comptroller of the Currency (Jan. 15, 2017) (raising fintech's ability to offer consumers ability to access more credit opportunities than those available in the neighborhoods); Letter from Dafina Williams, Opportunity Fin. Network, to Thomas J. Curry, Comptroller of the Currency (Jan. 15, 2017) (discussing the presence of bank deserts, especially in low income communities and communities of color, with marketplace lenders filling the gap); Letter from Peter Renton, Co-founder & Chairman, LendIt Conference LLC, Founder & CEO, Lend Academy LCC, to Thomas J. Curry, Comptroller of the Currency (Jan. 13, 2017) (considering fintech's contribution to the elimination of geographic barriers).

<sup>26</sup> Letter from Scott Talbott, Senior VP of Gov't Affairs, Elec. Transactions Ass'n, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) ("Fintech platforms have also been used by Community Development Financial Institutions ('CDFIs') and other non-profit community lenders and development organizations to help increase efficiency in the lending process and better identify creditworthy small businesses."); Letter from Richard Eckman, Attorney, Pepper Hamilton on behalf of LEND360, to Thomas J. Curry, Comptroller of the Currency (Jan. 15, 2017); Letter from Joan Aristei, Vice President, Regulatory Legal & Compliance, Oportun Inc., to Thomas J. Curry, Comptroller of the Currency (Jan 13, 2017) ("Oportun also helps these 'credit invisible' customers establish a credit history by reporting their payments to two of the three nationwide credit reporting agencies."); Letter from Scott Askins, Gen. Counsel, Kabbage, Inc., to Office of the Comptroller of the Currency (Jan. 13, 2017) ("FinTechs are well-positioned to diversify their business by expanding into other non-deposit business lines, such as technology licensing and paid advanced data insights for customers."); Letter from Lisa S. McGreevy, President & CEO, Online Lenders Alliance, to Thomas J. Curry, Comptroller of the Currency (Jan. 13, 2017); Letter from David Klein, CEO & Founder, CommonBond, Inc., to Thomas J. Curry,



product offerings, including lower loan size;<sup>27</sup> (iv) lower search, transaction and underwriting costs for both borrower and lender;<sup>28</sup> (v) diminished opportunity for human bias in underwriting;<sup>29</sup> and (vi) the ability to reach the unbanked through electronic access.<sup>30</sup> Faster, more convenient access to credit was the second most frequently expected

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Comptroller of the Currency (Jan. 13, 2016) (“The OCC can ensure that perceived concentration risks are mitigated by ensuring appropriate capital and liquidity requirements and asset ratios are maintained—in proportion to a fintech firm’s size, credit quality, and business model type—to offset the particular risks of each authorized activity.”).

<sup>27</sup> Conor French, Gen. Counsel, Funding Circle, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017); Letter from Nathaniel Hoopes, Exec. Dir., Marketplace Lending Ass’n, to Office of the Comptroller of the Currency (Jan. 17, 2017); Letter from Lisa S. McGreevy, *supra* note 26; Letter from Richard H. Neiman, Head of Regulatory & Gov’t Affairs, Lending Club, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (explaining small businesses seeking smaller loans difficult to access from traditional banks); Letter from Responsible Bus. Lending Coal., to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (proposing to focus on lending generally below \$150,000, an underserved segment of the market).

<sup>28</sup> Letter from Frank Altman, President & Chief Exec. Officer, and Nick Elders, Vice President, Cmty. Reinvestment Fund USA, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (explaining that in the post-Great Recession regulatory framework, small loans under \$250,000 cost the same to originate as those over \$250,000); Letter from Nathaniel Hoopes, *supra* note 27; Letter from Richard H. Neiman, *supra* note 27 (explaining the steps the Lending Club uses to lower banking costs, allowing the savings to be passed onto customers in the form of lower rates and better returns); Letter from Jennifer Tescher, President & CEO, Jeanne Hogarth, Vice President, Ctr. for Fin. Servs. Innovation, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (describing technology costs that have lowered costs).

<sup>29</sup> Letter from Conor French, *supra* note 27 (explaining how the proposal would increase consistency across customers and provide equitable access to uniform credit opportunities); Letter from Nathaniel Hoopes, *supra* note 27; Letter from Brian Peters, Exec. Dir., Fin. Innovation NOW, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2016) (“The CRA model would not be appropriate for most Fintechs due to the lack of branches and the declining relevance of geography and diminished opportunity for human bias made more possible by delivery of financial services via the mobile internet.”).

<sup>30</sup> Letter from Manuel P. Alvarez, Gen. Counsel, Affirm Inc., to Office of the Comptroller of the Currency (Jan. 17, 2016) (explaining Affirm’s belief that technology is the key to expanding access to the unbanked).

benefit of fintech lending.<sup>31</sup> This encompassed less time needed to apply,<sup>32</sup> faster loan approvals,<sup>33</sup> user friendly access,<sup>34</sup> 24/7 access,<sup>35</sup> and real time information and advice that aids decision-making by borrowers.<sup>36</sup> Lower costs of borrowing was a third benefit expected, although the number of commentators expressing this expectation was far fewer than the first two benefits previously discussed.<sup>37</sup> Through the use of technology that lowers costs to facilitate loans, commentators expected more affordable loans and lower interest rates.<sup>38</sup>

The other expected benefits were each voiced by one or two commentators in each instance. Commenters expected less systemic risk due to the diversification of types and geographic location of,

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<sup>31</sup> Letter from Conor French, *supra* note 27 (listing “[e]quitable access to credit opportunities as a result of uniformity” as one of the public policy benefits of a nationwide regulatory framework for fintech companies).

<sup>32</sup> *Id.* at 3. (critiquing the “almost 25 hours” needed to complete paperwork for small business loans).

<sup>33</sup> Letter from Scott Askins, *supra* note 26, at 1 (enabling small businesses receive credit decision in fewer than seven minutes and can quickly access funds); Letter from Nathaniel L. Hoopes, *supra* note 27 (explaining how the new technology provides faster loan approvals, which is important because few can afford to wait weeks or months for a loan decision); Letter from Scott Talbot, *supra* note 26.

<sup>34</sup> Letter from Richard H. Neiman, *supra* note 27 (discussing how to allow borrowers to access loans through a fast and easy interface); Letter from Richard C. Litman to Thomas J. Curry, Comptroller of the Currency 1 (Jan. 15, 2017) (explaining that fintech provides services that are more accessible and user friendly for small businesses and consumers); Letter from John A. Costa, Managing Dir., Auriemma Consulting Grp., to Thomas J. Curry 5 (Jan. 13, 2017); ; Letter from Masayuki Hosaka, President, Rakuten Card Co., Ltd., Vice Chairman & Fintech Segment Leader, Rakuten, Inc., to Beth Knickerbocker, Acting Chief Innovation Officer, Office of the Comptroller of the Currency 2 (Jan. 12, 2015) (discussing benefits of fintech, including faster transaction times, and improved customer access and experience); *see also* Letter from Peter Renton, *supra* note 25 (Jan. 13, 2017) (explaining how most fintechs have high NPS scores, which gauges customers’ overall satisfaction).

<sup>35</sup> Letter from Scott Askins, *supra* note 26, at 2 (“Automated, data-driven lending technology and flexible funding distribution options with 24/7 online access fill a notable gap in the lending marketplace and provide a critical service, particularly for time-strapped business owners.”).

<sup>36</sup> Letter from Jennifer Tescher & Jeanne M. Hogarth, *supra* note 28, at 6.

<sup>37</sup> *See* OCC Public Comments, *supra* note 21.

<sup>38</sup> Letter from Richard H. Neiman, *supra* note 27 (explaining how Lending Club allows borrowers to access lower interest rate loans at a lower cost).

diversification of loan terms, and eliminating borrower or depositor assets from being at risk.<sup>39</sup> Commenters also expected less privacy and data security risk because fintech firms are often the first to integrate higher security measures.<sup>40</sup> The use of automated, objective lending techniques created an expectation of minimalizing bias in lending decisions.<sup>41</sup> Finally, commenters expected improved loan portfolio performance because fintech lenders collect, generate, and maintain extensive performance data on borrowers and the industry, and persistent corrections provide insight to borrowers' ongoing risk profile.<sup>42</sup>

The most commonly expected risk of fintech lending commentators voiced was predatory lending. The type of conduct identified as possible risks were: (i) very high interest rates based, in part, on risk adjusted rates and borrower willingness to pay more due to concerns about barriers to access to credit;<sup>43</sup> (ii) encouraging constant renewal of loans and double charging fees when loans are renewed;<sup>44</sup> (iii) unaffordable repayment terms, such as repayment from gross

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<sup>39</sup> *Id.*; Letter from Scott Askins, *supra* note 26.

<sup>40</sup> Letter from Brian Peters, *supra* note 29 (discussing how fintech companies are usually among the first to integrate higher securities measures, such as tokenization of payment data and two-factor authentication).

<sup>41</sup> Letter from Scott Askins, *supra* note 26; Letter from Nathaniel L. Hoopes, *supra* note 33 (highlighting more consistent outcomes from automated decisions).

<sup>42</sup> Letter from Scott Askins, *supra* note 26.

<sup>43</sup> Letter from Adam Rust, Dir. of Research, Reinvestment Partners, and Marceline White, Exec. Dir., Md. Consumer Rights Coal., to Thomas Curry, Comptroller (Jan. 14, 2017) (discussing risk adjusted rates); Letter from Kevin Stein, Cal. Reinvestment Coal., to Thomas Curry, Comptroller of the Currency (Jan. 14, 2017) (discussing concerns about barriers to accessing credit). Many comments expressed concern over the risk of high interest rates and predatory lending practices. *See, e.g.*, Letter from Nat'l Consumer Law Ctr., Consumers Union, Main St. All., and U.S. Pub. Interest Research Grp., to Thomas Curry, Comptroller of the Currency (Jan. 17, 2017); Letter from Responsible Bus. Lending Coal., *supra* note 27 (explaining how APRs are commonly above 50% and can reach 300%); Letter from Eric Weaver, Chief Exec. Officer, Opportunity Fund, to Thomas Curry, Comptroller of the Currency (Jan. 13, 2017) (highlighting average APRs of 94%).

<sup>44</sup> Letter from Responsible Bus. Lending Coal., *supra* note 27; Letter from Adam Rust & Marceline White, *supra* note 43.

revenue;<sup>45</sup> and (iv) hidden or deceptive prepayment charges, or an inability to prepay at all or without penalty.<sup>46</sup>

A second expected risk of fintech lending was a unique risk of fair lending violations. Commenters feared the disparate impact of data driven decisions, specifically due to the use of data to make inferences based on group profiles,<sup>47</sup> the use of algorithms that may have discriminatory factors embedded in their formulas,<sup>48</sup> the use of data containing errors,<sup>49</sup> and the potential redlining of borrowers with limited social networks<sup>50</sup> or neighborhoods through the ability of investors to configure borrower profiles.<sup>51</sup>

A third expected risk of fintech lending was a lack of transparency. This encompassed risks for borrowers, such as (i) opaque and unclear loan terms and conditions, including failure to disclose rates on small business loans and obfuscation of high financing costs,<sup>52</sup> and (ii)

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<sup>45</sup> Letter from Responsible Bus. Lending Coal., *supra* note 27; Letter from Adam Rust & Marceline White, *supra* note 43; Letter from Kevin Stein, *supra* note 43.

<sup>46</sup> Letter from Responsible Bus. Lending Coal., *supra* note 27; Letter From Michelle Sternthal, Deputy Dir. of Policy & Gov't Affairs, Main St. All., to Thomas Curry, Comptroller of the Currency (Jan. 16, 2017).

<sup>47</sup> Letter from Jeff Chester & Katharina Kopp, Ctr. for Dig. Democracy, Edmund Mierzwinski, U.S. Pub. Interest Research Grp., to Thomas Curry, Comptroller of the Currency (Jan. 15, 2017).

<sup>48</sup> Letter from A-1 Cmty. Hous. Serv., et al., to Thomas J. Curry, Comptroller of the Currency (Jan. 14, 2017). *See also* Letter from Gregory W. Meeks, Cedric L. Richmond, Gwen Moore, Terri A. Sewell, Donald M. Payne, & Tony Cardenas, Members of Cong., to Thomas J. Curry, Comptroller of the Currency (Jan. 13, 2017) (referencing a 2016 White House report that “provided a number of examples of the unintended consequences of technological innovation for underserved communities, including ‘the potential to perpetuate, exacerbate, or mask discrimination’”).

<sup>49</sup> Letter from Chester, & Kopp, & Mierzwinski, *supra* note 47 (reminding the OCC of its duty to prevent nonbank lenders and affiliated depository institutions from engaging in discriminatory lending practices by using “alternative data” that often contains errors that lead to unfair treatment of consumers).

<sup>50</sup> Letter from Gregory W. Meeks, et. al., *supra* note 48.

<sup>51</sup> Letter from Frank Altman & Nick Elders, *supra* note 28 (highlighting how fintech investors can configure investor profiles in order to target specific groups in the market, including “the ability to define neighborhoods she wishes to lend to” which is against federal law prohibiting “redlining”).

<sup>52</sup> *See* Letter from Richard Neiman, *supra* note 27; Letter from the Responsible Bus. Lending Coal., *supra* note 27; Letter from Members of

use of underwriting methods and pricing metrics that borrowers would not understand.<sup>53</sup> This also extended to risks for investors, and — especially unsophisticated investors in peer-to-peer lending, due to issues surrounding transparency and complexity issues.<sup>54</sup>

These first three risks were voiced by the largest number of commentators.<sup>55</sup> Several commentators voiced two additional risks.<sup>56</sup> One risk was an expected threat to customer privacy.<sup>57</sup> This is because fintech lenders collect and use a broad spectrum of personal information to make financial decisions, and may be subject to cybersecurity risks.<sup>58</sup> A second risk several commentators voiced was possible

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Main St. All., to Thomas J. Curry, Comptroller of the Currency 1 (Jan. 16, 2017) (expressing concern that the proposed fintech charter would place small businesses “at grave financial risk”); Letter from Eric Weaver, *supra* note 43. *See also* Letter from John Taylor, President & CEO, Nat’l Cmty. Reinvestment Coal., to Office of the Comptroller of the Currency (Jan. 13, 2017) (voicing an urgent need for the OCC to enforce rigorous standards of safety and soundness when assigning fintech charters given recent concerns of “the possibility of payday lenders and other unscrupulous actors applying for fintech charters.”).

<sup>53</sup> Letter from Richard Neiman, *supra* note 27. *See also* Letter from Adam Rust & Marceline White, *supra* note 43 (“As the Treasury Department’s research on online marketplace lending notes the underlying operations and underwriting models remain fairly untested.”).

<sup>54</sup> Letter from Brian Simmonds Marshall, Policy Counsel, Ams. for Fin. Reform, to Thomas J. Curry, Comptroller of the Currency 7 (Jan. 15, 2017) (“[P]eer-to-peer online lending platforms . . . are by definition funded entirely by frequently unsophisticated retail investors.”).

<sup>55</sup> OCC PUBLIC COMMENTS, *supra* note 21 (listing public comments solicited on the exploration SPNB bank charters for fintechs).

<sup>56</sup> *Id.* (listing public comments to OCC exploration).

<sup>57</sup> Letter from Nat’l Consumer Law Ctr., *supra* note 43 at 49–50 (dedicating significant discussion to consumer privacy concerns); Letter from Richard H. Neiman, *supra* note 27; Letter from Andrew Morris, Regulatory Affairs Counsel, Nat’l Ass’n of Federally-Insured Credit Unions, to Thomas J. Curry, Comptroller of the Currency 3 (Jan. 14, 2017); Letter from Chester, Kopp, & Mierzwinski, *supra* note 47.

<sup>58</sup> Letter from Nat’l Consumer Law Ctr., *supra* note 43 at 49–50 (highlighting the importance of personal information with regard to fintechs); Letter from Richard H. Neiman, *supra* note 27 at 18–19 (“The charterholder should have in place robust security controls to safeguard the personal information of borrowers and investors and to prevent unauthorized access of information.”); Andrew Morris, *supra* note 56; Letter from Chester, Kopp, & Mierzwinski, *supra* note 47, at 2 (“The use of personal data by Fintech companies is pervasive and touches every aspect of their business operation, including

delinquency and default risk.<sup>59</sup> One aspect of this risk focuses on the lenders, which are new firms with “evolving business models that have not been fully tested.”<sup>60</sup> Another aspect of default risk focuses on the borrower.<sup>61</sup> Fintechs use new lending models based on recently-developed algorithms that have not yet been adequately tested.<sup>62</sup> Their portfolios have yet to experience periods of recession and economic distress “that could impact repayment, delinquency, and losses.”<sup>63</sup>

Finally, at least one commentator identified two additional risks.<sup>64</sup> First was the ability of government to understand and effectively regulate the business models and algorithms of fintech lenders, as well as its ability to respond to market changes.<sup>65</sup> The second risk

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marketing, customer loyalty management, pricing, fraud prevention, and underwriting.”)

<sup>59</sup> Letter from Nat’l Consumer Law Ctr., *supra* note 43 at 30 (discussing a responsible lending program as one that adequately deals with risk of default); Letter from Dafina Williams, *supra* note 25, at 6 (pointing out that fintechs do not have experience handling delinquencies or similar situations); Letter from John Taylor, *supra* note 52, at 2 (supporting a uniform regulatory regime including fintechs to reduce risks).

<sup>60</sup> Letter from Nat’l Consumer Law Ctr., *supra* note 43 at 11 (pointing out the novelty of fintechs and the consequences if they were to become national too quickly). *See also* Letter from Dafina Williams, *supra* note 25 (“Once the marketplace lending portfolios . . . experience a recession, it will be clear [if] new streams of data . . . and predictive analytics added value to the overall lending risk and default equation,” citing Letter from Frank Altman, President & Chief Exec. Officer, Nick Elders, Vice President, Cmty. Reinvestment Fund USA, to Laura Temel, U.S. Dep’t of the Treasury (Sept. 30, 2015)).

<sup>61</sup> Letter from John Taylor, *supra* note 52, at 4 (observing predatory fintech loans and providing suggestions to reduce risks related to minority and low income borrowers).

<sup>62</sup> Dafina Williams, *supra* note 25, at 4 (“Many of the technology platforms and algorithm-based lending models used by fintech companies to underwrite loans and assess risk are new and untested business models.”).

<sup>63</sup> *Id.* at 4 (describing the lack of adverse market conditions since many fintechs began operating); Letter from Nat’l Consumer Law Ctr., *supra* note 43 at 11; Letter from John Taylor, *supra* note 52, at 2 (listing recession as a key risk to lenders).

<sup>64</sup> Letter from Adam Rust & Marceline White, *supra* note 43 at 1 (advising against allowing fintechs to get an SPNB charter); Letter from Dafina Williams, *supra* note 25, at 5 (discussing the speed that fintechs adjust to changing external environments).

<sup>65</sup> Letter from Dafina Williams, *supra* note 25, at 5 (“Advancements in technology have created a fast paced world in which business models and

was that of further exclusion of unbanked and low-income consumers was raised.<sup>66</sup> This fear results from a business model that relies on automated clearing houses for repayments and that encounters literacy, numeracy, and technology challenges many low-income consumers experience.<sup>67</sup>

The benefits and risks noted in these surveys were those that knowledgeable industry, government, and consumer stakeholders believed were likely outcomes as the fintech lending industry emerged.<sup>68</sup> Section II of this article examines whether these outcomes were realized.

## **II. Part Two: Market Outcomes**

Have the expected benefits of fintech lending been realized? Have the expected risks of fintech lending surfaced? Anecdotal evidence is not presented. The article relies not on anecdotal evidence, but on outcomes measured by studies of substantial data sets of various types of loans.

### **A. Expanded Access Benefit**

The most frequently mentioned expected benefit of fintech lending in the OCC Public Comments was expanded access to credit.<sup>69</sup> Many studies have addressed this expectation,<sup>70</sup> and have explored various factors that might lead fintech firms to produce this benefit.<sup>71</sup> They have examined the sizes of loans available, the sizes and ages of

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underwriting algorithms can be adjusted quickly, but the ability of government to respond to these changes is far more limited.”).

<sup>66</sup> Letter from Adam Rust & Marceline White, *supra* note 43 at 3.

<sup>67</sup> *Id.* (“[M]any [lenders] are not equipped to address the literacy, numeracy, and technological challenges that many low-income consumers experience.”).

<sup>68</sup> OCC Public Comments, *supra* note 21 (listing possible costs and benefits of a special-purpose fintech charter).

<sup>69</sup> *See id.* (stating expanded access to credit most frequently as one of the benefits of a special-purpose fintech charter).

<sup>70</sup> Claessens et al., *Fintech Credit Markets Around the World: Size, Drivers and Policy Issues*, BANK FOR INT’L SETTLEMENTS Q. REV. 29, 39 (Sept. 2018) (citing several studies as “evidence that fintech platforms have widened access to credit.”).

<sup>71</sup> *Id.* at 39–40.

businesses applying for credit, the geographic distribution of lenders and borrowers, and the creditworthiness of borrowers.<sup>72</sup>

As will be explored below, overall, market outcomes indicate fintech lenders have increased access to credit, although the evidence is divided on whether fintech firms make credit available to borrowers who are less creditworthy under traditional underwriting standards.

Studies documenting market outcomes are in agreement that fintech lending increases access to credit for borrowers seeking smaller loans.<sup>73</sup> Tang examined access to credit in the consumer loan market using LendingClub loans as the data set.<sup>74</sup> This data set consisted of loan applications and originations by LendingClub in the period between 2009 to 2012, as well as data from annual Call Reports from banking institutions. When examining loan size, Tang concluded peer-to-peer platforms operate “as complements to banks by offering smaller loans.”<sup>75</sup> Jagtiani and Lemieux’s 2016 study of fintech lenders<sup>76</sup> confirms that fintech lenders make available smaller loans. The table of underwriting terms of fintech lenders they collected documents how many lenders make loans available in amounts as low as \$2,000 or \$3,000.<sup>77</sup>

Increased access to credit was also an expectation that was intended to address the difficulties faced by smaller businesses, younger firms, and minority-owned firms in accessing credit through traditional credit channels. Wiersch, Kipman, and Barkley analyzed the results of the Federal Reserve Banks’ 2015 Small Business Credit

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<sup>72</sup> *Id.* (identifying possible beneficiaries of fintech lending including smaller business and less affluent individuals whose access to bank credit is limited).

<sup>73</sup> See generally Huan Tang, *Peer-to-Peer Lenders versus Banks: Substitutes or Complements?*, 32 REV. FIN. STUD. 1900 (2019).

<sup>74</sup> *Id.* at 1902.

<sup>75</sup> *Id.*

<sup>76</sup> See generally Julapa Jagtiani & Catharine Lemieux, *Small Business Lending after the Financial Crisis: A New Competitive Landscape for Community Banks*, Economic Perspectives, 2016, <https://www.chicagofed.org/publications/economic-perspectives/2016/3-jagtiani-lemieux> (discussing the increased competition in the market for small business loans, which has traditionally been dominated by community banks, because of new technology such as fintech, but also because big banks have entered the market).

<sup>77</sup> *Id.* at 21 (stating that the range of loan amounts offered by LendingClub and Prosper Marketplace). (E.S. changed the pincite to the actual page that the table is on).



Survey.<sup>78</sup> That survey received responses from 3,459 employer firms.<sup>79</sup> Barkley et al. reported first on applications for loans, and found that online lender applicants are smaller firms (83% have annual revenues of \$1 million or less), younger firms (those in existence for five or fewer years), and are more likely to be minority-owned firms (36% of the online applicant pool compared to 14% of traditional-source applicants).<sup>80</sup>

They then reported on loan approvals. They found that of applicants that applied to online lenders, large banks and small banks were more likely to be approved by online lenders for at least some of the financing sought.<sup>81</sup> Among online lender applicants, 71% were approved for at least some financing at online lenders, compared to 28% at small banks and 17% at large banks.<sup>82</sup>

The 2016 Small Business Credit Survey received responses from 10,303 employer firms,<sup>83</sup> and confirmed that smaller firms are more likely to apply for loans at online lenders.<sup>84</sup> It also found small firms were more likely to be approved at online lenders compared to

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<sup>78</sup> ANN MARIE WIERSCH ET AL., FED. RESERVE BANK OF CLEVELAND, CLICK, SUBMIT: NEW INSIGHTS ON ONLINE LENDER APPLICANTS FROM THE SMALL BUSINESS CREDIT SURVEY (2016), <https://www.clevelandfed.org/newsroom-and-events/publications/special-reports/sr-20161012-click-submit.aspx> [<https://perma.cc/9HWM-YY4J>].

<sup>79</sup> *Id.* at 2 (“The participating Reserve Banks released in March 2016 the findings for the sample’s 3,459 employer firms.”).

<sup>80</sup> *Id.* at 4 (“Online lender applicants are smaller, younger, and more likely to be minority-owned.”).

<sup>81</sup> *Id.* at 8 (“Firms that applied to online lenders had lower success rates, although 77 percent of these applicants received at least some credit.”).

<sup>82</sup> *Id.* at 8 (providing graphs showing the success rate of applicants who applied for funding from online lenders).

<sup>83</sup> FED. RESERVE BANK OF ATLANTA ET AL., 2016 SMALL BUSINESS CREDIT SURVEY: REPORT ON EMPLOYER FIRMS (2017), <https://www.newyorkfed.org/medialibrary/media/smallbusiness/2016/SBCS-Report-EmployerFirms-2016.pdf> [<https://perma.cc/QN4F-CVTP>] [hereinafter 2016 SMALL BUSINESS CREDIT SURVEY] (“The 2016 SBCS, which was fielded in Q3 and Q4 2016, yielded 10,303 responses from employer firms in 50 states and the District of Columbia.”).

<sup>84</sup> *Id.* (showing that twenty-one percent of small business credit applicants applied to online lenders, but this share was 26% of smaller applicants (with revenues of \$1 million or less) compared to 12% of larger applicants).

large banks and credit unions.<sup>85</sup> However, such firms were equally likely to be approved at small banks.<sup>86</sup>

Studies documenting market outcomes have also concluded that fintech lenders remove geographic barriers and constraints to credit availability.<sup>87</sup> Jagtiani & Lemieux examined LendingClub's consumer loans that originated from 2010 to 2016 and compared them to credit card loans that carry balances reported to the Federal Reserve in the 2014–2016 period by banks with at least \$50 billion in assets.<sup>88</sup> They examined the geographic distribution of loans<sup>89</sup> and concluded:

LendingClub's consumer lending activities have penetrated areas that could benefit from additional credit supply, especially highly concentrated banking markets and other areas that have fewer bank branches per capita. Finally . . . LendingClub had a higher market share in areas where economic variables indicated a more challenging environment . . . evidence that fintech lenders can fill credit gaps in areas where bank offices may be less available and the local economy may be more challenging.<sup>90</sup>

Studies documenting market outcomes are divided, however, on whether fintech lenders increase access to credit to borrowers with

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<sup>85</sup> *Id.* at 16. (showing that approval rates for firms with \$1 million or less of revenue were 59% at online lenders, 45% at large banks and 43% at credit unions).

<sup>86</sup> *Id.* (reporting an approval rate at small banks for such firms of sixty percent and an approval rate at community development financial institutions of seventy-seven percent).

<sup>87</sup> See, e.g., Julapa Jagtiani & Catharine Lemieux, *Do Fintech Lenders Penetrate Areas That Are Underserved by Traditional Banks?* 5–6 (Fed. Reserve Bank of Phila. Working Paper No. 18-13, 2018), <https://doi.org/10.21799/frbp.wp.2018.13> (“This analysis points to the possibility that fintech lenders can provide credit in areas that may be underserved by traditional banks.”).

<sup>88</sup> *Id.* at 5–6 (setting out the methodology and analytical framework of the study).

<sup>89</sup> *Id.* at 9 (concluding that consumer lending was concentrated in the Northeast and West Coast).

<sup>90</sup> *Id.* at 5–14.

credit challenges under traditional creditworthiness criteria.<sup>91</sup> Jagtiani & Lemieux examined loan-level data on loans originated by LendingClub in its consumer platform, in the period 2007–2017, as the data set to correlate lending to credit scores.<sup>92</sup> They found “the use of nontraditional information from alternative data sources has allowed consumers with fewer or inaccurate credit records (based on FICO scores) to have access to credit. Some creditworthy consumers (but who have poor FICO scores) have been identified using additional information and have been rated as low-risk borrowers by LendingClub.”<sup>93</sup>

The 2017 Small Business Credit Survey received responses from 8,169 employer firms.<sup>94</sup> It explored credit applicants’ approval rates by comparing low credit risk applicants and medium/high credit risk applicants.<sup>95</sup> The approval rate among medium/high credit risk applicants was 71% at non-bank alternative and marketplace lenders, 35% at large banks, 47% at small banks and 26% at credit unions.<sup>96</sup>

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<sup>91</sup> Julapa Jagtiani & Catharine Lemieux, *The Roles of Alternative Data and Machine Learning in Fintech Lending: Evidence from the Lending Club Consumer Platform* 6–7 (Working Paper No. 18-15, 2018) <https://doi.org/10.21799/frbp.wp.2018.15> [<https://perma.cc/N259-6E8T>] (examining, in addition, loan level data in Y-14M reports submitted by banks, deposit market concentration data and bank information based on the FDIC summary of deposits database, and economic factors from the U.S. Census Bureau and the Haver Analytics database).

<sup>92</sup> *Id.* at 6–7 (comparing account-level credit card data with consumer loans made for credit card payoff).

<sup>93</sup> *Id.* at 18. This study is a refinement of the earlier one conducted by Jagtiani and Lemieux in which they compared average FICO scores and concluded “Lending Club borrowers do not have very low FICO scores. Their average FICO score is only very slightly below the average of overall Equifax consumers . . . .” Julapa Jagtiani & Catharine Lemieux, *Fintech Lending: Financial Inclusion, Risk Pricing, and Alternative Information* 16 (Fed. Reserve Bank of Phila., Working Paper No. 17-17, 2017), <https://www.fdic.gov/bank/analytical/cfr/bank-research-conference/annual-17th/papers/14-jagtiani.pdf> [<https://perma.cc/JP8X-SK4C>].

<sup>94</sup> See generally FED. RESERVE BANK OF ATLANTA ET AL., 2017 SMALL BUSINESS CREDIT SURVEY: REPORT ON EMPLOYER FIRMS (2017), <https://www.fedsmallbusiness.org/medialibrary/fedsmallbusiness/files/2018/sbcs-employer-firms-report.pdf> [<https://perma.cc/G55X-84QY>] [hereinafter 2017 SMALL BUSINESS CREDIT SURVEY].

<sup>95</sup> *Id.*

<sup>96</sup> *Id.* at 26. Low credit risk was defined as 80–100 business credit score or 720+ personal credit score. Medium credit risk was defined as 50–79 business

However, not all studies found that fintech lending increased access to credit for borrowers with creditworthiness challenges.<sup>97</sup> TransUnion's study of the personal loan market between 2014 and 2016 concluded that fintech borrowers do not turn to fintech lenders as their only source of funding.<sup>98</sup> Instead, "FinTech consumers typically have other loans, and have a similar distribution and penetration to bank and credit union consumers. FinTech consumers elect to incorporate FinTech loans into their broader personal finance portfolio."<sup>99</sup> This does not mean that fintech lenders do not increase access to credit at all, but rather suggests that the majority of fintech borrowers qualify for loans through traditional credit channels.

Tang also examined access to credit in the consumer loan market using LendingClub loans in the 2009–2012 period as the data set.<sup>100</sup> When examining borrower quality based on FICO scores, the study concluded that "P2P [peer-to-peer] loans are substitutes to bank loans,"<sup>101</sup> that is, they serve the same customers. Tang found the same results when borrower quality was measured by combining FICO score, debt-to-income ratio, and length of employment.<sup>102</sup> Tang concluded that "[o]verall, these findings indicate that P2P platforms are substitutes for banks in that they serve the same borrower population."<sup>103</sup>

Finally, Buchak, Matvos, Piskorski & Serie examined mortgage loans originated in the 2007–2015 period.<sup>104</sup> They examined

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credit score or a 630–719 personal credit score. High credit risk was defined as a 1-49 business credit score or a personal credit score equal to or less than 620. *Id.*

<sup>97</sup> See, e.g., John Wirth, *Fact or Fiction: Are FinTechs Different than Other Lenders?*, TRANSUNION (Nov. 11, 2017), <https://www.transunion.com/blog/fact-or-fiction-are-fintechs-different-than-other-lenders> [<https://perma.cc/HUK2-5E7D>] (showcasing a study that did not find that fintech lending increased access to credit for borrowers with creditworthiness challenges).

<sup>98</sup> *Id.*

<sup>99</sup> *Id.*

<sup>100</sup> See generally Tang, *supra* note 73.

<sup>101</sup> *Id.* at 3.

<sup>102</sup> *Id.* at 4–5.

<sup>103</sup> *Id.* at 5.

<sup>104</sup> See generally Greg Buchak et al., *Fintech, Regulatory Arbitrage, and the Rise of Shadow Banks* (Nat'l Bureau of Econ. Research, Working Paper No. 23288, Sept. 2018), <http://www.nber.org/papers/W23288> [<https://perma.cc/UB8H-N6PT>]. The data sets used consisted of loan-level and area-level data

traditional banks' loans, non-fintech shadow banks' loans, and fintech loans.<sup>105</sup> They concluded “[f]intech lenders serve different segments of the mortgage market than non-fintech shadow banks . . . .”<sup>106</sup> Further, “fintech lenders are less likely to serve less creditworthy FHA borrowers and higher unemployment geographies.”<sup>107</sup> Additionally, “fintech lenders’ origination activity overwhelmingly focuses on refinancing[.]”<sup>108</sup> One possible reason is that the more standardized tasks involved in mortgage refinancing are the best fit for fintech technology.<sup>109</sup>

Studies also dispute the expectation that fintech lending can increase access to credit among the unbanked.<sup>110</sup> The OCC Public Comments identified use of technology by fintech lenders as the basis for increased access to credit by unbanked or underbanked individuals.<sup>111</sup> A study by McHenry, Goldberg, Lewis, Carlson, & Mehta provides evidence of challenges in achieving this expected benefit.<sup>112</sup>

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collected under the Home Mortgage Disclosure Act, Fannie Mae Single-Family Loan Performance data in the 2000–16 period, Freddie Mac loan-level data for the 2005–15 period, FHA insured single-family loan data in the 2010–16 period, and U.S. Census data.

<sup>105</sup> See *id.* at 2–3 (studying how “regulatory differences and technological advantages” contributed to changes in the mortgage loans market).

<sup>106</sup> *Id.* at 4.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* at 17 (speculating that fintech technology is better suited for mortgage refinancing because it involves a more standardized procedure than new purchases).

<sup>110</sup> See, e.g., Giulia McHenry et al., *Digital and Financial Inclusion: How Internet Adoption Impacts Banking Status 4* (Nat’l Telecomm. & Info. Admin., Working Paper, 2017) (“Fintech promises to bring economic inclusion and lower financial costs to un(der)banked populations. Our research suggests, however, that these populations are also often less digitally connected than other groups. Minimal digital adoption could represent a significant barrier to adoption of fintech services for many underserved individuals.”).

<sup>111</sup> OCC PUBLIC COMMENTS, *supra* note 21 (positing that the main benefit of easing regulations on fintech companies is the increase in access to banking services for members of the American population who currently do not have access to them).

<sup>112</sup> McHenry et al., *supra* note 110, at 4 (“Unfortunately, the most recent 2015 supplement on Internet and computer use by the US Department of Commerce’s National Telecommunications and Information Administration (NTIA) shows that the digital divide persists. In 2015, 27 percent of US

It examined data from the 2015 FDIC Unbanked and Underbanked survey and the 2015 U.S. National Telecommunications and Information Administration survey,<sup>113</sup> and found that 45% of unbanked households used neither a personal computer nor mobile device, compared to 17% of underbanked and fully banked households.<sup>114</sup> Overall, the authors concluded:

Fintech promises to bring economic inclusion . . . to the un(der)banked populations. Our research suggests, however, that these populations are also often less digitally connected than other groups. Minimal digital adoption could represent a significant barrier to adoption of fintech services for many underserved individuals. Reaching these communities could require a combination of financial and digital literacy training.<sup>115</sup>

#### **B. Speed and Convenience Benefit**

The benefit of speed and convenience in the application process for fintech loans and in the receipt of loan proceeds was a frequently repeated expectation in the OCC Public Comments.<sup>116</sup> Available studies focus on small business loans and help document the existence of this benefit and also its degree—namely, the speed at

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households did not use the Internet at home and 21 percent of households did not go online anywhere. Further, only 73 percent of Americans used a mobile Internet service.”).

<sup>113</sup> *Id.* at 6–7 (“The FDIC’s supplement to the CPS, the ‘National Survey of Unbanked and Underbanked,’ was first fielded in 2009, partly in response to a Congressional mandate, to help measure trends in banking inclusiveness. Similar to NTIA, the FDIC publishes reports following its biennial survey with key findings. These comprehensive reports provide a wealth of information related to the un(der)banked, including the current banking status of households, change in banking status, types of banking activities, income volatility, and reasons households were unbanked, among other things.”).

<sup>114</sup> *Id.* at 17, tbl. 3.

<sup>115</sup> *Id.* at 4.

<sup>116</sup> OCC PUBLIC COMMENTS, *supra* note 21 (highlighting the difference between service times, availability of assistance, and customer care between traditional lenders and fintech companies).

which applications are processed and loan proceeds distributed.<sup>117</sup> Overall, existence of the speed/convenience benefit was evidenced by the 2015, 2016, and 2017 Small Business Credit Surveys conducted by Federal Reserve Banks.<sup>118</sup> The surveys compare satisfaction levels among applicants at large banks, small banks, and online lenders.<sup>119</sup> In the 2017 survey, 28% of applicants were dissatisfied with a difficult application process at large banks, compared with 24% at small banks, and 10% at online lenders.<sup>120</sup> In addition, 33% of applicants were dissatisfied with a long wait for a credit decision or funding at large banks, compared to 25% at small banks and 10% at online lenders.<sup>121</sup>

The 2016 Small Business Credit Survey asked for applicants' primary reasons for dissatisfaction with particular lenders.<sup>122</sup> In response to this question, 44% of applicants at large banks cited the difficult application process as the primary reason for their dissatisfaction, compared to 42% of applicants at small banks and 26% of applicants at online lenders.<sup>123</sup> The contrast between large banks and online lenders widened when applicants were asked about long waits for credit decisions.<sup>124</sup> For this factor, 44% of applicants at large banks cited a long wait for a credit decision as the primary reason for dissatisfaction, compared with 45% at small banks, and 17% at online

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<sup>117</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94 (emphasizing that bank applicants answered that they were most dissatisfied with long wait times for credit decisions or funding decisions); 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83; FED. RESERVE BANK OF ATLANTA ET AL., 2015 SMALL BUSINESS CREDIT SURVEY: REPORT ON EMPLOYER FORMS (2016),

<http://www.newyorkfed.org/medialibrary/media/smallbusiness/2015/Report-SBCS-2015.pdf> [<https://perma.cc/J9D5-7SRX>] [hereinafter 2015 SMALL BUSINESS CREDIT SURVEY] (featuring responses from 3,459 employer firms).

<sup>118</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94; 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83; 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117.

<sup>119</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94; 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83; 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117.

<sup>120</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94.

<sup>121</sup> *Id.* (demonstrating survey results indicating the percentage of borrowers dissatisfied with long wait times).

<sup>122</sup> 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83, at 17.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

lenders.<sup>125</sup> The 2015 Small Business Credit Survey also asked successful applicants the reason(s) for any dissatisfaction.<sup>126</sup> Similar to the 2016 Small Business Credit Survey, a difficult application process was cited as a reason for dissatisfaction by 51% of applicants at large banks, 52% at small banks, and 21% at online lenders.<sup>127</sup> A long wait for a credit decision was cited as a reason for dissatisfaction by 45% of applicants at large banks, 43% of applicants at small banks, and 22% of applicants at online lenders.<sup>128</sup> The evidence from the preceding studies confirms the existence of the expectation of convenience in the application process and greater speed for credit decisions from fintech lenders.<sup>129</sup> It also indicates, however, that convenience and speed are not characteristic of all fintech lenders.<sup>130</sup>

Jagtiani & Lemieux also studied experiences with small business loans.<sup>131</sup> They examined the application and funding timelines reported on the websites of Fintech lenders.<sup>132</sup> Application times advertised varied from “minutes” to “less than 10 minutes.”<sup>133</sup> Funding times varied from “minutes,” to “as little as 2 business days,” to “fewer than 10 business days.”<sup>134</sup> This data is not as useful as that in the small business credit surveys. It documents advertised business practices as opposed to actual outcomes, and makes no comparison to application or funding timelines for small business loans at traditional lenders.<sup>135</sup> It does however document fintech lender targets for the services they are providing.<sup>136</sup>

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<sup>125</sup> *Id.*

<sup>126</sup> 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117, at 14.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

<sup>129</sup> *See id.*; 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83, at 17; 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117, at 14.

<sup>130</sup> *See generally* 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94; 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83; 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117.

<sup>131</sup> Jagtiani & Lemieux, *supra* note 76, at 4–16 (examining small business loans from nonbank institutions).

<sup>132</sup> *Id.* at 21–22 tbl. 2.

<sup>133</sup> *Id.*

<sup>134</sup> *Id.*

<sup>135</sup> *See id.* at 1–24.

<sup>136</sup> *Id.*



Researchers at the Federal Reserve Bank of New York studied experiences with respect to mortgage loans.<sup>137</sup> They used loan level data “on the near-universe of U.S. mortgages from 2010 to 2016.”<sup>138</sup> They found fintech lenders reduced “processing time by 10 days, or 20% of the average processing time.”<sup>139</sup> The effect was larger for refinance mortgages (14.6 days), and smaller for purchase mortgages (9.2 days).<sup>140</sup>

Overall, in both the small business loan market and the mortgage market, researchers have documented improved experiences in speed of processing and/or funding of loan applications on the part of fintech lenders.

### C. Lower Cost Benefit/Predatory Lending Risk

The OCC Public Comments based their expectation of lower costs on the pass through of lower transaction costs by fintech lenders.<sup>141</sup> By contrast, the expected risk of predatory lending was, in part, based on risk adjusted rates—a consequence of reaching borrowers that would not qualify for credit from traditional lenders.<sup>142</sup> However, it was also based on negative effects of behavioral decision making. These negative effects include borrower acceptance of higher rates due to concerns about limited access to credit, hidden charges and fees, and lenders encouraging renewal of loans.<sup>143</sup>

This article separates studies that focus on differentials in rates and fees (i.e., if fintech lenders provide lower cost of funds for borrowers) and studies that address issues of predatory lending.

#### 1. Lower Cost Benefit

Past studies focusing on differentials in rates and fees reached varying conclusions. Some studies found fintech lenders charged lower interest rates to borrowers. Jagtiani & Lemieux compared loan

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<sup>137</sup> See Fuster et al., *supra* note 4, at 1 (studying “the effects of FinTech lending on the U.S. mortgage market”).

<sup>138</sup> *Id.* at 2.

<sup>139</sup> *Id.*

<sup>140</sup> *Id.* at 1.

<sup>141</sup> See generally OCC PUBLIC COMMENTS, *supra* note 21 (showcasing the responses to the OCC’s Request for Comments).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*

level data on consumer loans made by LendingClub from 2007–2017 with credit card loan data reported to the Federal Reserve by bank holding companies with at least \$50 billion in assets.<sup>144</sup> They concluded that “given the same credit risk (i.e., for borrowers with the same expected delinquency rate), consumers would be able to obtain credit at a lower rate through LendingClub than through traditional credit card loans offered by banks.”<sup>145</sup> In their study, lower transaction costs were not identified as a source of the lower rates.<sup>146</sup> Interestingly, the study identified the source of cost savings as the use of alternative data, allowing some borrowers, who would be classified as subprime using traditional lending criteria, to achieve “‘better’ loan grades and therefore obtain lower-priced credit. [Moreover], it does not appear that this credit is ‘mispriced’ in terms of default risk . . . .”<sup>147</sup>

Wolfe and Yoo compared consumer loans made by banks from 2009–2015 with loans made by Prosper Marketplace and LendingClub.<sup>148</sup> They estimated that “the average bank issues loans at rates approximately 164 BPs [basis points] higher than the peer-to-peer platform Prosper after accounting for origination fees.”<sup>149</sup>

Buchak, Matvos, Piskorski, & Seru studied mortgage loans originated by traditional banks, non-fintech shadow banks, and fintech lenders in the period between 2000–2015.<sup>150</sup> In contrast to the findings reported by Wolfe and Yoo above, they found that “[f]intech firms charge 13 basis points more than traditional banks to observably similar borrows in the same zip code and quarter.”<sup>151</sup> Furthermore, the

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<sup>144</sup> Jagtiani & Lemieux, *supra* note 87, at 5 (“We compare account-level credit card data that large banks submitted to the Federal Reserve for stress testing with online consumer loans that were made for credit card payoff (and debt consolidation) purposes. These data will allow us to investigate the determinants for risk pricing used by LendingClub and the performance of these loans over time as well as serving to compare these loans with similar loans made by traditional banks.”).

<sup>145</sup> *Id.* at 12. The study did not include origination fees in its calculations.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.* at 12.

<sup>148</sup> Brian Wolfe & Woongsun Yoo, *Crowding Out Banks: Credit Substitution by Peer-to-Peer Lending* 11, 12, 14 (Univ. of Buffalo Sch. of Mgmt., 2018), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3000593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3000593) (examining the FDIC Summary of Deposits database and the Call Reports filed by banking institutions).

<sup>149</sup> *Id.* at 35.

<sup>150</sup> Buchak et al., *supra* note 104, at 2–4.

<sup>151</sup> *Id.* at 18.

difference between fintech and non-fintech shadow banks “is even larger at 14-16 basis points.”<sup>152</sup> The authors note “that this premium is unlikely to be explained by differences in origination fees between fintech and non-fintech lenders.”<sup>153</sup> The reason for this difference is not known, but the researchers posit that borrowers might pay a premium for convenience, high income borrowers attracted to fintech are less price elastic, or fintech lenders may be able to use big data to better price discriminate.<sup>154</sup>

In a similar vein, surveys of small business owners consistently note dissatisfaction with interest rates charged by fintech lenders and far less dissatisfaction with interest rates charged by traditional bank lenders. The 2015 Small Business Credit Survey conducted by various Federal Reserve banks asked successful applicants their reason(s) for dissatisfaction with various lenders in the small business loan process.<sup>155</sup> Of the successful applicants, 70% reported high interest rate as a reason for dissatisfaction with online lenders, compared to 18% of successful applicants at large banks and 15% of successful applicants at small banks.<sup>156</sup>

The 2016 Small Business Credit Survey conducted by the Federal Reserve banks asked successful applicants for their primary reason for dissatisfaction with the small business loan process.<sup>157</sup> High interest rate was cited as the primary reason for dissatisfaction by 33% of applicants to online lenders, compared to 6% of applicants to large banks, and 3% of applicants to small banks.<sup>158</sup>

The 2017 Small Business Credit Survey conducted by the Federal Reserve banks asked loan applicants what they were most dissatisfied with in the small business loan process,<sup>159</sup> and found that online lender applicants were most dissatisfied with high interest rates.<sup>160</sup> In the survey, 52% of online lender applicants were most dissatisfied with high interest rates, compared to 20% of applicants at

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<sup>152</sup> *Id.* at 18–19. The authors note this premium is unlikely to be explained by differences in origination fees.

<sup>153</sup> *Id.* at 19 n.21.

<sup>154</sup> *Id.* at 28.

<sup>155</sup> 2015 Small Business Credit Survey, *supra* note 117, at 14.

<sup>156</sup> 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 116, at 14 (reporting results of specific survey questions).

<sup>157</sup> 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83, at 17.

<sup>158</sup> *Id.* at 17.

<sup>159</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94, at 14 (reporting results of the specific survey question).

<sup>160</sup> *Id.*

large banks and 12% of applicants at large banks and 12% of applicants at small banks.<sup>161</sup>

The results of these various studies might be harmonized by noting that several studies of online lenders have found interest rates and fees vary. It is possible that the studies that used loans made by Lending Club and Prosper as the basis for their analysis chose two lenders that have shared cost savings with borrowers, while some or many other online lenders have not shared cost savings.

Reported interest rates by fintech lenders vary widely. As Jagtiani and Lemieux found:

Interest rates can be competitive with traditional banks, but [nonbank alternative lenders] do report the potential for much higher loan rates. For example, Lending Club reports annualized percentage rates (APR) of 6 percent to 36 percent for consumer loans and 8 percent to 32 percent for business loans. OnDeck Capital reports APR ranging from 14 percent to 36 percent on their line of credit.<sup>162</sup>

OnDeck Capital also reports APRs ranging from 7.3% to 98.4% on small business term loans.<sup>163</sup>

The New York State Department of Financial Services surveyed online lenders operating within the State for years 2015–2017,<sup>164</sup> and received responses from thirty-five lenders. As for the loans most commonly offered in 2017, respondents reported their APRs reported a median APR of 15.7% and average APR of 14.8% on loans to individuals for personal, investment or family purposes, but these varied from 4.3% to 25%.<sup>165</sup> For loans to individuals for business or commercial purposes the median APR was 16.3%, and average APR was 22.2%, but these varied from 10.0% to 62.3%.<sup>166</sup> For loans to businesses, the median APR was 18.5%, and the average APR was 25.9%, but the rates varied from 8.2% to 61.8%.<sup>167</sup> The Department noted that “[a]dditional information is required to evaluate what

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<sup>161</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 93, at 14.

<sup>162</sup> Jagtiani & Lemieux, *supra* note 76, at 14.

<sup>163</sup> *Id.* at 22.

<sup>164</sup> N.Y. STATE DEP’T OF FIN. SERVS., ONLINE LENDING REPORT 1 (2018).

<sup>165</sup> *Id.* at 17.

<sup>166</sup> *Id.*

<sup>167</sup> *Id.*

proportion of high APRs are driven by risk or by a high demand on the part of consumers or sole proprietors and small businesses . . . .”<sup>168</sup>

## 2. *Predatory Lending Risk*

Very high interest rates charged by some online lenders for some consumer or small business loans raised the distinct risk of predatory lending, and predatory lending was the most frequent risk commenters expressed in the OCC Public Comments.<sup>169</sup> Commenters voiced various aspects of this risk: very high interest rates, encouraging constant renewal and double charging fees, unaffordable terms of repayment, and hidden or deceptive prepayment charges or an inability to prepay or without penalty.<sup>170</sup> Opportunity Fund examined small business loans received by 104 businesses representing a “diverse swath of the California economy.”<sup>171</sup> The study analyzed 150 loans from fifty-four different lenders, all of which were online and alternative lenders.<sup>172</sup> The study found the mean APR on these loans was 93.9%, and the median APR was 72%.<sup>173</sup> It observed that “APR varied widely and inconsistently by borrower and business characteristics . . . . [T]he rate charged should decline as signs of potential risk decrease, but such a pattern is not evident in the data set.”<sup>174</sup>

The Opportunity Fund report also examined whether terms of repayment were affordable.<sup>175</sup> It looked to business net income to evaluate Cash Flow Available for Debt Service (CFADS).<sup>176</sup> It found that “nearly half (47%) of borrowers in the Opportunity Fund data set

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<sup>168</sup> *Id.*

<sup>169</sup> *See generally* OCC PUBLIC COMMENTS, *supra* note 21.

<sup>170</sup> *See generally id.*

<sup>171</sup> Opportunity Fund is the nation’s largest nonprofit micro lender. *See* ERIC WEAVER ET AL., OPPORTUNITY FUND, UNAFFORDABLE AND UNSUSTAINABLE: THE NEW BUSINESS LENDING 4 (May 2016), [http://www.opportunityfund.org/assets/docs/Unaffordable%20and%20Unsustainable-The%20New%20Business%20Lending%20on%20Main%20Street\\_Opportunity%20Fund%20Research%20Report\\_May%202016.pdf](http://www.opportunityfund.org/assets/docs/Unaffordable%20and%20Unsustainable-The%20New%20Business%20Lending%20on%20Main%20Street_Opportunity%20Fund%20Research%20Report_May%202016.pdf) [<https://perma.cc/S5FZ-54H5>].

<sup>172</sup> *Id.*

<sup>173</sup> *Id.* at 6 (observing that that “the alternative lending market subjects small businesses to charges that many might consider usurious . . . .”).

<sup>174</sup> *Id.* at 6.

<sup>175</sup> *Id.* (suggesting that many alternative lenders induce otherwise credit-worthy borrowers to take out overpriced loans).

<sup>176</sup> *Id.*

were devoting more than 100% of their monthly take-home pay to debt repayment . . . .”<sup>177</sup> On average, the portion of a small business owner’s monthly net income devoted to payments to alternative lenders was almost 178%.<sup>178</sup> It found average monthly payments varied widely by borrower and business characteristics, and among Hispanic borrowers in the sample, the average monthly loan payment was more than 400% of net income.<sup>179</sup> However, the authors noted that “not all alternative small-business lenders were offering” unsustainable loan products;<sup>180</sup> for example, some offered “sustainable loans of one year or longer and APRs not exceeding 30%.”<sup>181</sup> A distinct relevant study conducted by Fuster et al. (discussed above),<sup>182</sup> which examined mortgage loans, does not compare interest rates on loans, but found “little evidence the FinTech lenders disproportionately target marginal borrowers with low access to finance.”<sup>183</sup> Targeting vulnerable groups is often viewed as a characteristic of predatory lending.<sup>184</sup>

#### D. Fair Lending Risk/Benefit

The OCC Public Comments contain a divide in expectations concerning possible fair lending violations.<sup>185</sup> Some comments expected automated, data driven underwriting would decrease the risk of bias in lending decisions,<sup>186</sup> while others feared that bias would be embedded in the data or algorithms used by fintech lenders.<sup>187</sup>

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<sup>177</sup> *Id.* at 7.

<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

<sup>180</sup> *Id.* (“It should be noted again that not all alternative small-business lenders are offering toxic products.”).

<sup>181</sup> *Id.*

<sup>182</sup> See Fuster et al., *supra* note 4, at 1.

<sup>183</sup> *Id.* at 4.

<sup>184</sup> Kathleen C. Engel & Patricia A. McCoy, *A Tale of Three Markets: The Law and Economics of Predatory Lending*, 80 TEX. L. REV. 1255, 1260 (2002).

<sup>185</sup> Compare WEAVER ET AL., *supra* note 171 (observing that small loans frequently leave their borrowers in cycles of crushing debt), with Fuster, *supra* note 4 (finding little evidence that FinTech lending disproportionately targets minority borrowers).

<sup>186</sup> Letter from Peter Renton, *supra* note 25 (“New data sources and the application of artificial intelligence to the underwriting process means that more people than ever before can access credit.”). See Letter from Scott

There are few studies available concerning the risk/benefit of fintech lending with respect to fair lending violations. Bartlett, Morse, Stanton & Wallace studied the level of ethnic discrimination among conventional and fintech lenders in the mortgage market.<sup>188</sup> They examined loan applications and approved loans sourced to government sponsored entities (i.e., Fannie Mae and Freddie Mac) between 2007–2012.<sup>189</sup> They analyzed information at the loan level on income, ethnicity, debt-to-income ratios, loan-to-value ratios, contract terms, and indicators for whether the lender used algorithmic underwriting.<sup>190</sup> They concluded the following: “[a]fter controlling for observable differences, we find that African-American and Hispanic borrowers are almost 5% more likely to be rejected for a mortgage [by traditional lenders] than other borrowers. . . .”<sup>191</sup> By contrast, “[f]intech lenders are nearly 1% (92 basis points) *less* likely to reject an African-American or Hispanic loan applicant for reasons unrelated to observable life-cycle covariates.”<sup>192</sup> In addition, with respect to pricing of loans, after controlling for observable differences, they found African-American and Hispanic borrowers “pay [traditional lenders] a slightly (0.08%) higher interest rate for purchase mortgages and about 0.03% higher mortgage interest rate for refinance mortgages.”<sup>193</sup> They note, however, that “[t]hese differences are less pronounced among refi lenders who utilize algorithmic underwriting, for whom the differential

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Askins, *supra* note 26, at 2–3 (stating that “objective lending technology reduces the perceived bias in funding loans).

<sup>187</sup> Letter from John Taylor, *supra* note 52, at 9 (“They have developed unorthodox underwriting approaches using automation and algorithms that are often opaque. These algorithms pose possible disparate impacts if they implement seemingly objective criteria that nevertheless result in disproportionately rejecting applications of credit for minorities, women, or other protected classes.”).

<sup>188</sup> See generally Robert P. Bartlett et al., *Consumer Lending Discrimination in the FinTech Era* (UC Berkley Pub. L. Res. Paper, 2017), <https://ssrn.com/abstract=3063448>. (examining Home Mortgage Disclosure Act data provided by Dataquick, McDash, and Equifax).

<sup>189</sup> *Id.* at 3.

<sup>190</sup> *Id.* at 1.

<sup>191</sup> *Id.* at 24; see also *id.* at 18 (detailing the unexplained discriminatory rates of large and small fintechs).]

<sup>192</sup> *Id.* at 18.

<sup>193</sup> *Id.* at 24.

is only 0.01%.<sup>194</sup> In other words, fintech lending decreases the risk of fair lending violations, both for loan approval and fair pricing.

### E. Loan Portfolio Performance: Default and Delinquency Benefit/Risk

Expectations concerning risks of default pertaining to loans underwritten by fintech lenders was largely voiced as a word of caution; i.e., they related to the uncertainty regarding loan performance for loans underwritten based on new models (and particularly in the event of an economic downturn).<sup>195</sup> While such a downturn has not yet occurred, the current market, fintech lenders have experienced lower default rates than traditional lenders.<sup>196</sup>

Fuster, Plosser, Vickery & Schnabe examined fintech lenders in the mortgage market.<sup>197</sup> They examined U.S. mortgages originated from 2010 to 2016, and studied default rates on FHA loans, and found that “loans originated by FinTech lenders are 35% less likely to default than comparable loans originated by non-FinTech lenders.”<sup>198</sup> Balyuk examined default rates in consumer loans.<sup>199</sup> She examined data on loans made by Prosper Marketplace, one of the largest peer-to-peer lenders in the United States, in the period between 2011 and 2015.<sup>200</sup> She found total debt of borrowers who receive peer-to-peer loans was 3.6% higher than those whose loans were rejected.<sup>201</sup> However, the

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<sup>194</sup> *Id.* (“These differences are less pronounced among refi lenders who utilize algorithmic underwriting, for whom the differential is only 0.01%.”).

<sup>195</sup> *See* Fuster et al., *supra* note 4, at 1–2.

<sup>196</sup> *Id.* at 2–3 (“We find that default rates on FinTech mortgages are about 25% lower than those for traditional lenders, even when controlling for detailed loan characteristics.”).

<sup>197</sup> *Id.*

<sup>198</sup> *Id.* at 16 (“[W]e find that loans originated by FinTech lenders are 35% less likely to default than comparable loans originated by non-FinTech lenders.”). Default rates were calculated based on loans that were at least ninety days delinquent or were subject to an FHA insurance claim. The results were the same for a one-year and two-year default rate, and “quantitatively similar . . . when considering home purchase loans or refinances separately,” as well as for loans to underserved communities. *Id.*

<sup>199</sup> Tetyana Balyuk, *Financial Innovation and Borrowers: Evidence from Peer-to-Peer Lending* (Rotman Sch. of Mgmt. Working Paper No. 2802220, 2018), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2802220](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2802220).

<sup>200</sup> *See generally id.*

<sup>201</sup> *Id.* at 37.



higher total debt does not lead to higher delinquency rates.<sup>202</sup> This result is consistent with a study by TransUnion Credit Bureau of over forty million personal loans that originated between 2014 and 2016.<sup>203</sup> The study found that fintech lenders have delinquency rates higher than other lenders in the subprime risk tier;<sup>204</sup> this tier accounts for ten percent of fintech balances.<sup>205</sup> It noted that “looking at the near prime risk tier, FinTech delinquencies drop below traditional lender delinquencies. For prime risk tiers, delinquency rates for all lenders begin to converge,” and, moving up the credit spectrum, become “almost indistinguishable.”<sup>206</sup>

In the economic climate of recent years, the underwriting model used by fintech lenders has not resulted in higher default/delinquency in loans.<sup>207</sup> Indeed, in the consumer loan and mortgage markets, rates of delinquency are lower for fintech lenders.<sup>208</sup> However, this still leaves open the question of how these loans will fare in the event of an economic downturn or recession.

#### F. Lack of Transparency Risk

The expected risk of lack of transparency was a concern in OCC Public Comments both for the borrower and the investors funding fintech lending.<sup>209</sup> Studies of transparency to date have largely focused only on the small business borrower.<sup>210</sup> Are terms and rates clearly disclosed to applicants and borrowers? Two studies of market practices both signal there may be some cause for concern, although concern also exists with respect to transparency at large banking institutions.<sup>211</sup>

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<sup>202</sup> *Id.*

<sup>203</sup> Wirth, *supra* note 97.

<sup>204</sup> *Id.*

<sup>205</sup> *Id.*

<sup>206</sup> *Id.*

<sup>207</sup> *Id.*

<sup>208</sup> See Balyuk, *supra* note 199, at 38; Fuster et al., *supra* note 4, at 2–3.

<sup>209</sup> See OCC Public Comments, *supra* note 21.

<sup>210</sup> See e.g., 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117.

<sup>211</sup> See 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83; 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117 (highlighting that the “31% of firms [that were] dissatisfied with their experience pointed to a lack of transparency” regardless of the lending institution).

The 2015 Small Business Credit Survey collected information from businesses in twenty-six states.<sup>212</sup> Part of the survey involved satisfaction with the application process,<sup>213</sup> and respondents reported nearly equal levels of dissatisfaction with the lack of transparency at both large banks and online lenders.<sup>214</sup> Lack of transparency was a reason for dissatisfaction among 33% of successful applicants at large banks, 32% at online lenders, and 22% at small banks.<sup>215</sup>

The survey was repeated in 2016 with information collected from small businesses in all 50 states and the District of Columbia.<sup>216</sup> Respondents reported similar results with respect to applicants' dissatisfaction due to lack of transparency.<sup>217</sup> Forty-nine percent of applicants cited lack of transparency as their primary reason for dissatisfaction with online lenders, compared to 48% with large banks, and 47% with small banks.<sup>218</sup>

The survey was repeated again in 2017 with information from small businesses in the fifty states and the District of Columbia.<sup>219</sup> This survey yielded similar results, although the overall frequency of dissatisfaction due to lack of transparency in the application process declined.<sup>220</sup> Specifically, the survey found 15% of applicants dissatisfied with online lenders for lack of transparency, compared with 14% at large banks, and 9% at small banks.<sup>221</sup>

Each survey was slightly different, both in terms of number and distribution of respondents and in terms of method of reporting.<sup>222</sup> The 2015 survey reported dissatisfaction among successful appli-

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<sup>212</sup> 2015 SMALL BUSINESS CREDIT SURVEY, *supra* note 117, at iii.

<sup>213</sup> *Id.* at 14.

<sup>214</sup> *Id.*

<sup>215</sup> *Id.* at 14.

<sup>216</sup> 2016 SMALL BUSINESS CREDIT SURVEY, *supra* note 83, at iii.

<sup>217</sup> *Id.* at 17.

<sup>218</sup> *Id.* at 17.

<sup>219</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94, at iii.

<sup>220</sup> *Id.* at 14.

<sup>221</sup> 2017 SMALL BUSINESS CREDIT SURVEY, *supra* note 94, at 14 (showing that “borrower satisfaction is consistently highest with CDFIs, credit unions, and small banks, but satisfaction with online lenders has increased.”).

<sup>222</sup> Compare 2015 Small Business Credit Survey, *supra* note 117 at 14 (finding that successful applicants were not satisfied), and 2016 Small Business Credit Survey, *supra* note 83, at 14 (focusing on the reason for applicants' lack of satisfaction with their primary lender), with 2017 Small Business Credit Survey, *supra* note 94, at 18 (including responses from applicants but not targeting the primary reason for dissatisfaction).”

cants.<sup>223</sup> The 2016 survey reported dissatisfaction among all applicants and also focused on the primary reason for dissatisfaction with the particular lender.<sup>224</sup> The 2017 survey also included responses from all applicants but it did not target the primary reason for dissatisfaction with the particular applicant.<sup>225</sup> Thus, the most useful information lies in the comparison of lenders in each survey. Small businesses reported they are equally dissatisfied with lack of transparency at both online lenders and large banks.<sup>226</sup> Further research is required to examine market outcomes with respect to the expected benefit or risk to customer privacy and data security, or the expected risk of lack of sufficient transparency for investors.

### **III. Policy Implications and Conclusion**

The overriding issue when considering regulatory or legislative intervention is whether market choices can be relied upon to deliver the benefits of fintech lending and to address its risks. This is especially important in the fintech industry that has introduced many innovations in a lightly regulated environment.

In OCC Public Comments the expected benefit of fintech lending most frequently recited was increased access to credit.<sup>227</sup> It was an expected benefit identified in the Treasury Department and GAO surveys as well.<sup>228</sup> Overall, market outcomes largely confirm delivery of this benefit in the consumer loan market and small business market.<sup>229</sup> Increased access was provided through removal of geographic barriers to credit and through availability of smaller loans.<sup>230</sup> It was also available through increased access for younger firms, smaller firms, and minority-owned firms.<sup>231</sup> However, the evidence is divided as to whether consumers with credit challenges under traditional criteria for creditworthiness experienced increased access to credit in

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<sup>223</sup> See 2015 Small Business Credit Survey, *supra* note 117, at 14.

<sup>224</sup> See 2016 Small Business Credit Survey, *supra* note 83, at 17.

<sup>225</sup> See 2017 Small Business Credit Survey, *supra* note 94, at 18.

<sup>226</sup> 2017 Small Business Credit Survey, *supra* note 94, at 18; 2016 Small Business Credit Survey, *supra* note 83, at 14; 2015 Small Business Credit Survey, *supra* note 117, at 14.

<sup>227</sup> See, e.g., Letter from Stephen Denis, *supra* note 24.

<sup>228</sup> See GAO-17-361, *supra* note 6, at 19.

<sup>229</sup> See, e.g., Jagtiani & Lemieux, *supra* note 76 at 11–13.

<sup>230</sup> See *id.* at 13–15.

<sup>231</sup> See WIERSCH ET AL., *supra* note 78, at 4.

either the consumer loan market or mortgage market.<sup>232</sup> Moreover, it is unlikely that fintech lending has increased access to credit among the unbanked.<sup>233</sup>

Market outcomes also confirm the expected benefits of faster and more convenient access to credit.<sup>234</sup> However, the evidence is divided on the expected benefit of lower costs to borrowers.<sup>235</sup> Market outcomes evidence high interest rates in some markets, and even usurious or predatory terms in some cases.<sup>236</sup> In other words, market risk, rather than market benefit, was actually in evidence.

Market outcomes also confirmed the expected risk of lack of transparency in loan terms and pricing in the small business loan market.<sup>237</sup> However, two expected risks have not surfaced. One is a heightened risk of default due to nontraditional methods of credit assessment.<sup>238</sup> The other is the risk of fair lending violations.<sup>239</sup> Indeed, the evidence suggests that automated credit underwriting procedure performed by fintech firms has decreased the risk of biased outcomes.<sup>240</sup> Those outcomes signal a need to embrace regulatory or legislative initiatives that control excessive interest rates and fees, which in turn require transparency, especially in the small business loan market.<sup>241</sup> Nonetheless, the outcomes to date generally do not require greater financial inclusion on the part of fintech lenders, except, perhaps, in the mortgage loan market and technological literacy initiatives for the unbanked.<sup>242</sup> The outcomes to date also do not signal a need to address the risk of loan defaults through substantial

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<sup>232</sup> See McHenry et al., *supra* note 110, at 4.

<sup>233</sup> *Id.*

<sup>234</sup> See generally Letter from Stephen Denis, *supra* note 24; Letter from Daniel Gorfine, *supra* note 24; Letter from Robert S. Lavet, *supra* note 24.

<sup>235</sup> See, e.g., Letter from Richard H. Neiman, *supra* note 27 (explaining that small businesses seeking smaller loans usually find it hard to access traditional loan markets).

<sup>236</sup> See, e.g., Letter from Nat'l Consumer Law Ctr., *supra* note 43 (presenting an example of 333% interest rate imposed by lender, and charges of misleading consumers and imposing unlawful fees); Letter from Responsible Bus. Lending Coal., *supra* note 27; Letter from Kevin Stein, *supra* note 43.

<sup>237</sup> Letter from Richard H. Neiman, *supra* note 27.

<sup>238</sup> Wirth, *supra* note 97.

<sup>239</sup> Letter from Chester, Kopp & Mierzwinski, *supra* note 47.

<sup>240</sup> *Id.* See also Letter from Gregory W. Meeks, Cedric L. Richmond, Gwen Moore, Terri A. Sewell, Donald M. Payne, & Tony Cardenas, *supra* note 48.

<sup>241</sup> Letter from Brian Simmonds Marshall, *supra* note 54.

<sup>242</sup> *Cf.* McHenry et al., *supra* note 110, at 4.

capital requirements.<sup>243</sup> The caveat is that fintech lenders' underwriting procedure has not been tested in an economic downturn.

On July 31, 2018 the OCC announced it will begin to accept applications for SPNB Charters for Fintech Companies.<sup>244</sup> This followed the Department of the Treasury's endorsement of such a charter.<sup>245</sup> What regulatory requirements should such a charter impose to address risks and benefits of fintech lending identified in this article? The Licensing Manual for charter applications from fintech companies, issued July 31, 2018, makes no mention of transparency requirements,<sup>246</sup> nor does the OCC Policy Statement on Financial Technology Companies.<sup>247</sup> This is understandable in that the risk of lack of transparency for borrowers is a risk identified in the small business loan market.<sup>248</sup> The Truth-in-Lending Act requires transparency in consumer loans, but its reach does not extend to small business loans.<sup>249</sup> This is a matter, therefore, that the Comptroller cannot address by regulation, but requires legislative action.

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<sup>243</sup> See OFFICE OF THE COMPTROLLER OF THE CURRENCY, COMPTROLLER'S LICENSING MANUAL SUPPLEMENT: CONSIDERING CHARTER APPLICATIONS FROM FINANCIAL TECHNOLOGY COMPANIES (July 2018), <https://www.occ.treas.gov/publications/publications-by-type/licensing-manuals/pub-considering-charter-apps-from-fin-tech-co.pdf> [<https://perma.cc/9L55-N6JY>] [hereinafter Licensing Manual Supplement] (stating that the capital requirement only sets a floor and may not be sufficient for measuring capital adequacy for some SPNBs).

<sup>244</sup> Press Release, Office of the Comptroller of the Currency, NR 2018-74, OCC Begins Accepting National Bank Charter Applications from Financial Technology Companies (July 31, 2018), <https://www.occ.gov/news-issuances/news-releases/2018/nr-occ-2018-74.html> [<https://perma.cc/C32X-Ys92>].

<sup>245</sup> Nonbank Financials, *supra* note 3, at 10 ("At the federal level, Treasury encourages the Office of the Comptroller of the Currency to further develop its special purpose national bank charter. . . .").

<sup>246</sup> Licensing Manual Supplement, *supra* note 243.

<sup>247</sup> Office of the Comptroller of the Currency, Policy Statement on Financial Technology Companies' Eligibility to Apply for National Bank Charters (Jul. 31, 2018), <https://www.occ.gov/publications/publications-by-type/other-publications-reports/pub-other-occ-policy-statement-fintech.pdf> [<https://perman.cc/ARV2-2J46>] [hereinafter Policy Statement on Eligibility] (omitting any transparency requirement for fintech's eligibility to apply for a national bank charter).

<sup>248</sup> See *supra* notes 213–21 and accompanying text.

<sup>249</sup> 15 U.S.C. §§ 1601(a), 1603(1) (2012) (outlining the focus of the TILA on protecting consumers from uninformed use of credit and specifying that the

The benefit of increased access to credit and the risk of excessive or predatory rates and fees are briefly mentioned in the Comptroller's newly issued Policy Statement and Licensing Manual Supplement.<sup>250</sup> The Policy Statement addresses access in its discussion of financial inclusion, in these terms:

The OCC . . . expects a fintech company that receives a national bank charter to demonstrate a commitment to financial inclusion. The nature of that commitment will depend on the company's business model and the types of products, services, and activities it plans to provide. By providing a high standard similar to the Community Reinvestment Act's expectations for national banks that take insured deposits, the financial inclusion commitment will help ensure that all national banks provide fair access to financial services and treat customers fairly.<sup>251</sup>

The market outcomes discussed in Part II of this article indicate market forces are already generating many forms of increased access to credit in the consumer personal loan market and the small business loan market. The mortgage market, however, has not clearly realized this benefit. Moreover, the evidence is divided as to whether credit-challenged borrowers under traditional underwriting criteria experience greater access in the fintech loan market. Some of the OCC Public Comments raised questions concerning the OCC's power to impose a financial inclusion requirement for licensing<sup>252</sup> That issue is beyond the scope of this article. However, financial inclusion obligations in the mortgage market do arise from the Community Reinvest-

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TILA is not applicable to extensions of credit primarily for business, commercial or agricultural purposes).

<sup>250</sup> Licensing Manual Supplement, *supra* note 243, at 18 (describing how, prior to approval, the OCC will review the extent to which the SPNB will help meet the credit needs of underserved populations); Policy Statement on Eligibility, *supra* note 247, at 4.

<sup>251</sup> Policy Statement on Eligibility, *supra* note 247, at 3. *See also* Licensing Manual Supplement, *supra* note 243, at 17–18.

<sup>252</sup> Brian R. Knight, *Federalism and Federalization on the Fintech Frontier*, 20 VAND. J. ENT. & TECH. L. 129, 191 (2017). (arguing for further regulation in relation to expanding or modifying the Community Reinvestment Act). *See generally* OCC Public Comments, *supra* note 21 (describing the public's reaction to proposed OCC changes).

ment Act.<sup>253</sup> That statute applies to “regulated financial institutions”, defined as “an insured depository institution (as defined in section 1813 of this title . . .”<sup>254</sup> The Act does not apply to financial institutions that do not receive insured deposits, and therefore does not apply to current fintech lenders absent legislative action.<sup>255</sup>

Finally, with regard to the risk of excessive rates, fees, and other predatory lending issues, the OCC’s Policy Statement merely mentions that in providing a charter the OCC “will consider whether a proposed [fintech] bank . . . will provide fair access to financial services, will treat customers fairly, and will comply with the applicable laws and regulations.”<sup>256</sup> However, it also warns that “proposals that include financial products and services that have predatory, unfair, or deceptive features or that pose undue risk to consumer protection, would be inconsistent with law and policy and would not be approved.”<sup>257</sup>

Some of the OCC Public Comments pointed out that a national charter might exacerbate the risk of excessive interest rates and predatory lending by preempting state laws.<sup>258</sup> The scope of federal preemption of state law is beyond the reach of this article. However, in light of the evidence of excessive rates and predatory

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<sup>253</sup> See generally Community Reinvestment Act, 12 U.S.C. §§ 2901–2908 (2012).

<sup>254</sup> See *id.* §§ 2901(a)(1)–2902(2).

<sup>255</sup> *Id.*

<sup>256</sup> Policy Statement on Eligibility, *supra* note 247, at 1.

<sup>257</sup> *Id.* at 3–4.

<sup>258</sup> Letter from Thomas J. Miller, Attorney Gen. of Iowa, to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (explaining that because fintech companies with national charters may not be subject to state consumer protection laws, such charters may make predatory lending practices more rampant); Letter from Maria T. Vullo, Superintendent, N.Y. State Dep’t of Fin. Servs. to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (“A national fintech charter . . . would harm . . . the rights of consumers to financial choice and protection from predatory practices.”); Letter from Robin L. Wiessman, Pa. Dep’t of Banking and Sec. to Thomas J. Curry, Comptroller of the Currency (Jan. 17, 2017) (discussing risks that may arise due to the preemption of state consumer protection laws provided to fintech companies through the national charter). See generally OCC Public Comments, *supra* note 21 (listing various public letters written to OCC providing opinions and commentary on the OCC’s proposal to provide a national charter option to fintech companies)

terms found in Part II of this article, the possible heightened risk of predatory lending is an issue that requires close scrutiny.<sup>259</sup>

The issue of risk management and capital requirements is addressed in the OCC Licensing Manual Supplement for fintech companies.<sup>260</sup> After stating fintech banks with a national charter will be subject to the minimum leverage and risk-based capital requirements that apply to all national banks, the Licensing Manual highlights risks posed by nontraditional strategies.<sup>261</sup> The OCC then states that “organizers should propose minimum capital levels the bank will adhere to after profitability that would be appropriate for” the risks associated with the applicant’s business plan, including “volatility specific to a business line.”<sup>262</sup> The market outcomes to date on default and delinquency suggest a low level of risk from fintech lending, indicating that there is no need for significantly greater capital requirements.<sup>263</sup> However, there are two words of caution in embracing this conclusion. First, fintech lenders’ nontraditional underwriting practices have created loans that have not faced an economic downturn.<sup>264</sup> Second, the Opportunity Fund’s study highlights that some fintech lenders are making loans with terms that are not sustainable.<sup>265</sup>

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<sup>259</sup> WEAVER ET AL., *supra* note 171, at 9 (“Alternative small-business lending is a rapidly developing market sector, often operating outside the purview of regulations designed both to provide market clarity and to protect consumers from predatory and insupportable practices.”).

<sup>260</sup> Licensing Manual Supplement, *supra* note 243, at 7, 15.

<sup>261</sup> *Id.* at 9.

<sup>262</sup> *Id.* at 9 (“[O]rganizers should propose minimum capital levels the bank will adhere to after profitability that would be appropriate for its ongoing operations. Organizers also should discuss how the bank would address adverse market conditions that could deplete capital, such as broad market volatility or volatility specific to a business line.”).

<sup>263</sup> Fuster, et al., *supra* note 4, at 18 (“Our analysis of default rates finds no evidence that FinTech (sic) lenders originate riskier mortgages --- in fact, in the FHA market we find the opposite result.”).

<sup>264</sup> Claessens et al., *supra* note 70, at 40 (“[T]he resilience of new fintech credit processes and firms has not yet been tested over a full economic and credit cycle. [I]t is not clear how fintech credit will perform when conditions deteriorate.”).

<sup>265</sup> See *supra* notes 171–72 and accompanying text (discussing whether new fintech lending options are ultimately sustainable). See also WEAVER ET AL., *supra* note 171, at 7 (“[S]hort-term, high-cost alternative lending contracts are unsustainable.”).



Seeking an SPNB charter is merely an option for a fintech lender.<sup>266</sup> If fintech lenders chose not to obtain such a charter, the risks identified in this article must be addressed under other, existing federal or state laws and regulatory requirements. Whether such laws and requirements are up to the task of minimizing the risks of predatory lending and potential default risks while maximizing the benefit of increased access to credit, are issues to be explored as fintech lending quickly emerges.

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<sup>266</sup> Press Release, *supra* note 244, at 2 (“A national bank charter is only one option among many for companies engaged in the business of banking.”).