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FINTECH AND CONSUMER PROTECTION: A Snapshot

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ABOUT THE NATIONAL CONSUMER LAW CENTER

Since 1969, the nonprofit National Consumer Law Center® (NCLC®) has used its expertise in consumer law and energy policy to work for consumer justice and economic security for low-income and other disadvantaged people, including older adults, in the United States. NCLC's expertise includes policy analysis and advocacy; consumer law and energy publications; litigation; expert witness services, and training and advice for advocates. NCLC works with nonprofit and legal services organizations, private attorneys, policymakers, and federal and state government and courts across the nation to stop exploitive practices, to help financially stressed families build and retain wealth, and advance economic fairness.

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EXECUTIVE SUMMARY

The use of technology in financial products and services (fintech) is resulting in a wide array of new approaches to financial products and services. The internet, mobile devices, big data, computer algorithms, and other technologies are impacting the way we borrow, make payments, and manage our money. These technologies are also changing the way that entities from credit reporting agencies to debt collectors affect and interact with us.

Fintech products and services have the potential to provide important benefits to consumers. They promise to lower costs, promote financial inclusion, help people avoid fees and comparison shop, improve personal financial management, and build assets and wealth.

But innovation and fintech approaches are not invariably positive. New products may have hidden or unintended negative consequences, or risks that are not obvious at first. The dangerous pick-a-payment and exploding adjustable rate mortgages that fueled the foreclosure crisis leading to the Great Recession of 2008 were innovations. New technology enabled banks to encourage overdraft fees on debit cards that can turn a $5 cup of coffee into a $40 one.

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The fintech label also does not necessarily mean that much is different. Products and services are constantly evolving, but sometimes the more things change the more they stay the same. Old problems can arise in a new package, and promised benefits of fintech products may not actually materialize.

The allure of shiny fintech products must not lead us into waiving consumer protection rules or oversight of untested products. Just because a product uses new technology does not mean that older protections do not or should not apply or that regulators do not know how to approach a product. It is crucial to look at fintech products carefully and critically, to understand the risks, and not to accept unproven hype about benefits to consumers.

The array of approaches that fall under the fintech rubric is vast. This report provides a snapshot of some of the developments, potential promise, and potential concerns in several areas:

Fintech issues impacting multiple products:

1. Alternative Data and Models: Big Data, New Algorithms, Machine Learning
2. Data Aggregators
3. Fintech "Sandboxes"

Credit, Credit-Related, and Credit-Like products:

4. Credit Reporting and Cash flow Underwriting
5. Online Lending
6. Early Wage Access
7. Student Loans
8. Auto Loans
9. Real Estate Lending

10. Shared Appreciation Home Finance Products
11. Loan Servicing, Debt Collection, and Debt Settlement

Deposits, Payments, and Financial Management

12. Personal Financial Management and Overdraft Protection
13. Mobile Deposit Accounts and "Neo-banks"
14. Faster Electronic Payments and P2P Services
15. Virtual Currencies, Blockchain and "Smart Contracts"

The listing of **potential** benefits and concerns in this report does not mean that those benefits or concerns will actually materialize. Potential benefits are listed if they are touted by companies, but these benefits have not always been proven. Similarly, while some concerns are already evident, others are merely things to watch out for. Some benefits or concerns may apply to some companies but not others.

While the issues raised by fintech products are as myriad as the products themselves, some common themes, issues, and risks span many fintech products.

Common Potential Benefits

- **Better, faster, cheaper.** Automation and new technologies promise to reduce both costs and prices, speed up delivery, increase convenience, and improve the customer experience.
- **Fixing old problems as a market opportunity**. From overdraft fees to high-cost loans to credit invisibility to loan servicing, new entrants to the financial services market promise to use the problems and failures of existing markets as a blueprint to redesign products and services they hope will do better by consumers.
- **Personalization.** Use of personalized data, real time information and feedback, and automated customer interaction tools promise to help providers design products and services around the individual consumer.
- **Access for underserved consumers.** Re-tooled underwriting tools, the widespread use of smartphones even in low income communities, and other developments promise to increase financial inclusion and bring mainstream pricing to underserved communities.

Common Concerns and Potential Problems

- **Old wine in new bottles; same old problems in a new form.** Many fintech products are just variations on older financial products and services. A loan is still a loan. A deposit account is a deposit account. An electronic payment is a payment. It wasn't so long ago that just having a website and offering a product on the internet or by sending emails was considered innovative.
- **Lack of transparency about the costs and business model.** Fintech products often appear free or very low cost but may not be. It should always be a red flag if it isn't clear what a product or service costs, or how it is paid for and by whom. Sometimes the costs are hidden or are not revealed until after a consumer begins the sign-up process, and sometimes the cost is not in dollars but in the use, sharing or selling of the consumer's personal information.

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- **Disparate impacts and the perils of big data, privacy, and security.** Fintechs rely heavily on consumer data. How that data is used, whether it results in unequal treatment of different groups, to whom the data is disclosed and sold, and whether sensitive information is held in a secure fashion are challenges for any company, and especially for start-ups that do not have robust compliance regimes or deep experience. Privacy policies are so opaque as to be useless and consumers cannot know if a company has strong data security. Many fintech products rely on access to consumers' bank accounts or other transaction accounts, increasing these concerns.
- **Avoidance of consumer protection laws.** Some fintech products are designed to avoid consumer protection laws while others claim that existing rules do not apply to them. Nonbank lenders often partner with banks to avoid state interest rate limits. Products that claim not to be a loan may be designed to avoid credit laws. Companies that collect and distribute information about consumers may not follow the Fair Credit Reporting Act. Some regulators are rushing to exempt new products from consumer protection laws through regulatory "sandboxes."
- **Fast and easy can cause problems.** Fast and easy credit can be fast and easy debt. Faster account applications or faster payments can mean faster fraud or identity theft. Slick mobile apps can gloss over how a product actually works.
- **No humans, no records, and lack of customer service when things go wrong.** Fintech products invariably rely on mobile and internet interfaces and electronic communications. But if something goes wrong or you need a person to explain something, customer service may be difficult or impossible to reach. Interactions that take place entirely on a mobile device have no paper record of the agreement or paper statements to call attention to fees and charges. This may leave consumers with little information on what they have agreed to or what they end up paying.
- **Forced arbitration weakens accountability for wrongdoers**. Forced arbitration clauses, buried in the fine print of contracts, take away consumers' day in court and their ability to band together with other injured consumers when companies violate the law. Forced arbitration clauses are a problem in products old and new, but they are especially widespread in fintech products.[1]

Highlighting these problems and others is not intended to take away from the real promise of many fintech products. But it is essential that policymakers, regulators, and consumers keep their eyes wide open and expend the effort to dig deep to understand fintech products and services. A desire to promote innovation must not blind us to the potential risks and the need for consumer protection rules and oversight that are especially needed for untested new products and services.

FINTECH ISSUES IMPACTING MULTIPLE PRODUCTS AND SERVICES

1. Alternative Data and Models: Big Data, New Algorithms, Machine Learning

What's happening? Consumer financial products and services are impacted by the use of more and new sources of data about consumers, massive increases in computing power, and new methods to analyze huge amounts of data, such as machine learning and new algorithms. The use of data impacts the marketing, pricing, delivery, and implementation of almost every product.

The promise:

- **Streamlined applications and improved underwriting.** New uses of data could eliminate the need for cumbersome paper- and records-based loan applications, improve the evaluation of borrowers' ability to repay loans, and enhance access for underserved consumers.
- **Better fraud detection and identity verification.** Better use of data can help keep fraud out of financial systems and limit identity theft in online services.
- **Faster, more personalized service.** Companies use data to target and personalize communications, products and services.

Concerns:

- **Disparate impacts on disadvantaged communities.** Many data elements, alone or in combination with each other, correlate with race, ethnicity, and other protected class characteristics, potentially leading to discrimination and disparate impacts.[2] Use of such data in lending decisions will implicate the Equal Credit Opportunity Act (ECOA).
- **Same problems in a new package.** A recent study found that digital mortgages resulted in higher prices to equally qualified borrowers of color in the same manner as human underwriting does.[3]
- **The poor pay more.** Data can be used to analyze price sensitivity and propensity to comparison shop, leading to higher prices for less sophisticated consumers, those with more limited internet access, and those with fewer options.
- **Lack of transparency.** It is impossible for consumers – and increasingly, even the designers of artificial intelligence or machine learning systems – to know what is in the "black box" of data and computer algorithms that shape how decisions about people on issues ranging from credit applications to pricing are being made.[4]
- **Errors, inaccuracies, and inability to correct them.** Data could be attributed to the wrong consumer or be otherwise erroneous. The conclusions of computer algorithms could be off base. One National Consumer Law Center (NCLC) study found that assessments such as income and education level predictions from several big data companies were often grossly inaccurate.[5]
- **Fair Credit Reporting Act (FCRA) and other consumer laws.** The FCRA limits the uses to which information bearing on a consumer may be used; gives consumers important rights to know what information is being used and when it impacts them adversely; and provides rights, duties and procedures to correct errors. In some circumstances, the protections of the FCRA apply to uses of big data, but many big data companies do not appear to comply. The definitions in the FCRA are very broad, and cover many types of data if used for decisions about credit, employment, insurance, and

Many data elements, alone or in combination with each other, correlate with race, ethnicity, and other protected class characteristics, potentially leading to discrimination and disparate impacts.

many other uses. Whether or not the FCRA itself applies, the rights and duties it confers are important for many uses of data.

- **Privacy**. Consumers often have no control over use of their data, especially if the database company believes it is not subject to existing laws such as the FCRA or the Gramm-Leach Bliley Act. Even when consumers do need to provide permission, the data may be collected for one purpose but then used or sold for other purposes or in ways that the consumer never understood or would have consented to.
- **Alternative data with adverse consequences.** Use of alternate data can harm consumers and undermine programs intended to help them. For example, some are urging gas and electric utilities to submit "full file" reports to the credit bureaus on a monthly basis, not merely seriously delinquent accounts. But millions of consumers, including fragile seniors, fall briefly behind when faced with large winter or summer bills. Full-file reporting could interfere with state policies against winter disconnections and could harm the credit scores of millions.[6]

See also the next section on Data Aggregators and also the section on Credit Reporting and Cash flow Underwriting on page 9.

2. Data Aggregators

What's happening? Many of the services described in this report, including credit reporting, cash flow underwriting, savings tools, personal financial management apps, and P2P services are made possible through the use of a data aggregator to access transaction information from, or to verify, consumers' bank accounts and sometimes other financial accounts. Companies such as Finicity, Plaid and Yodlee are not consumer-facing but are used by fintech companies to funnel the information from consumers' financial accounts to the fintechs.

The promise:

- **Right to access your own data.** Data aggregators give consumers a way to consolidate and make better use of their own bank, credit card, investment, and other transaction account information.
- **Multitude of new uses of data to improve services.** The services described in this report are just a small snapshot of the fast growing uses of consumer financial transaction information to offer new, improved, and re-imagined products and services that promise many benefits for consumers.
- **Faster account verification.** Data aggregators can verify an account that is being linked for payment or savings purposes more quickly than using micro deposits and waiting a day or more.
- **Competition for banks.** Consumers can be a captive audience for banks, which have an edge over competitors due to the information they hold on consumers. Data aggregators enable fintechs to reach consumers and compete, and also push banks to improve their own services.

Concerns:

- **"Consumer-permissioned" today will be required tomorrow.** While consumers must consent to allow data aggregators to access their accounts, consent is required for many fintech products and services. Today, people can easily choose to avoid those fintechs, but as the use of aggregators spreads, refusing to click "I agree" will become much harder. Plus, if this data gets incorporated into credit reports or is sold and resold, consumers may not even have the minimal control of providing consent for new uses.

- **Uncertain data security.** Data aggregators access a host of sensitive personal and financial information and provide much of that information to third parties. There is no way for consumers to know whether the data aggregator or the end user fintech has strong security controls. Data breaches are common even at the largest companies with extensive compliance programs. Small fintech startups may be especially vulnerable.
- **Widely condemned screen scraping lives on.** Data aggregators and fintechs sometimes require consumers to turn over their bank account and login credentials so that they can engage in "screen scraping" of the account records.[7] This practice increases security risks. Though data aggregators have struck agreements with many banks to use more secure application programming interfaces (APIs), screen scraping is still used to access accounts at smaller institutions.
- **Privacy impacts of collections and uses far beyond consumers' understanding.** Consumers may sign up for a clever app, not realizing that the app is using account data for purposes far broader than necessary for the immediate use. Or they may apply for a loan, thinking that account access is just for the immediate purposes of granting the loan without realizing that the company has ongoing access to their account.
- **Sale and sharing of data?** Privacy policies are incredibly opaque. Consumers may not realize that their data has been shared or sold, potentially to unrelated third parties. Data aggregators could be covered under Gramm Leach Bliley, but it is unclear whether they are complying with the privacy notice and consent provisions of that law.
- **No way out, forever?** Some companies may use an aggregator to keep collecting data even if an account is closed. Even if there is an option to end access, it may not happen automatically upon account closure and consumers are unlikely to realize they need to take other steps. Consumers may give an app permission, use it once, and then forget about it, not realizing and having no way of knowing that it is continuing to access their accounts.
- **Debt collectors too?** Once consumers grant account access to creditors or credit bureaus, that permission might be broad enough to apply to collections activity too even if the consumer does not intend that result. Will debt collectors be able to peak into bank accounts to time the serving of garnishment orders, to identify employers, or to stalk consumers at their regular coffee shop?
- **FCRA compliance.** Data aggregators collect, use or expect to use much of the data they collect for credit, insurance, and other purposes covered by the FCRA. Some data aggregators, such as Finicity, accept that they are consumer reporting agencies covered by the FCRA. But others do not, claiming that they are only "dumb pipes" funneling data to end users. Even if the aggregator accepts FCRA responsibilities, consumers are unfamiliar with these entities and do not know how to exercise their rights.

3. Fintech "Sandboxes"

What's happening? States, federal agencies, and other countries are considering "sandboxes" where purportedly innovative products and services can be tried out, sometimes without obtaining state licenses or complying with consumer protection laws. Arizona has adopted a fintech sandbox and the Consumer Financial Protection Bureau is considering one for disclosures[8] and another one for products more generally.[9]

The promise:

- **Encouraging innovation.** New approaches to products and services are encouraged with less threat of regulatory action.

- **Relief from uncertainty and regulations.** The application of existing regulations to new products and services could create uncertainty or limit new approaches.
- **Testing of new approaches and sharing of information.** Regulators could benefit from information gained in pilot projects with data sharing.

Concerns:

- **Eliminating important consumer protections.**[10] The CFPB has proposed to allow its employees to grant companies immunity from consumer, state or federal enforcement of critical laws and regulations governing fair lending, truth in lending, electronic payments, and possibly even unfair, deceptive, or abusive practices.[11] Arizona waives licensing for sandbox participants, including related conditions that protect consumers, such as bonding and review of a company's safety and soundness.[12] But most international sandboxes have not waived rules; the United Kingdom's sandbox, for example, "is not a de-regulatory initiative."[13]

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- **Little scrutiny before and after products are promised regulatory relief.** Relief may be granted on the basis of company representations and vague promises, with little opportunity for review and no public input. The proposed CFPB product sandbox, for instance, has only a 60-day review period, and weak or no ongoing supervision to monitor risks. Participants in the UK's sandbox receive close ongoing scrutiny by regulators, but Arizona's relieves companies of supervision by the Department of Financial Institutions.
- **Promoting risky "innovations" that may harm consumers.** The exploding interest rate and negative amortization loans that led to the 2008 financial crisis were an innovation. Similarly, the spread of increasingly complex and dangerous derivatives transactions was encouraged through a series of interpretative letters given to national banks by their regulator, the Office of the Comptroller of the Currency, without considering the broader picture.[14] One of the first participants in the Arizona sandbox is Sweetbridge, a company that combines elements that alone are very risky and in combination are mind-numbing: auto-title loans, no-credit-check asset-based lending, virtual currencies, and "smart contracts."[15]
- **Vague promises of consumer benefit or innovation.** Every company claims that its product benefits consumers, and vague definitions of innovation could apply to any company.
- **"Pilots" that go on for years and cover entire markets.** Sandboxes, intended to allow controlled small-scale experimentation, may be distorted to allow long-term, market-wide changes. For example, the CFPB has proposed to allow trade associations and service providers to apply on behalf of thousands of members or clients impacting millions of consumers, with time limits that could be extended to a decade or longer.
- **Harm to competitors, in-state companies.** Companies that are admitted to a sandbox get a leg up on their competitors from the implicit blessing of the agency and by the relief granted. This may give them a favored status in attracting investments or reaching consumers. License waivers are most likely to be sought by out-of-state companies that wish to forgo a presence in the state, not those that create local jobs.
- **No transparency.** The CFPB has asserted that much of the information from companies interested in a product sandbox would be exempt from public records laws. The Arizona law establishing the fintech sandbox does the same, and the Arizona attorney general has refused to release more than

one-sentence descriptions of the companies admitted to the sandbox, with no information on what exemptions they have received, or even addresses and websites of participant companies.

CREDIT, CREDIT-RELATED, AND CREDIT-LIKE PRODUCTS

4. Credit Reporting and Cash Flow Underwriting

What's happening? Credit reporting agencies and some lenders are using bank account and other transaction data to evaluate credit applications and enhance credit reports. Services such as Experian Boost (using utility and telecommunications payments as identified in bank account records) and UltraFICO (using bank account transactions) access consumers' account histories, with consumer permission, for purposes of generating an enhanced FICO score. Lenders such as Petal are also using transaction data for cash flow underwriting but obtain the information from data aggregators rather than through the credit bureaus. High-cost lenders may also access cash flow information. Some blockchain applications (discussed under Virtual Currencies, Blockchain and "Smart Contracts" on page 20) could also be a form of credit reporting.

The promise:

- **Streamlined residual income underwriting.** Analysis of a consumer's actual inflows and outflows, income and expenses – obtained through a simple process without intensive documentation – may provide a realistic picture of whether the consumer regularly has sufficient funds at the end of the month to handle a loan payment or, conversely, whether the consumer has difficulty meeting expenses.
- **Improved access for thin/no file consumers and those with informal or irregular income.** Analysis of transaction data may provide a way to underwrite consumers who do not have significant credit histories or who are recovering from a temporary setback. It may also help those whose income comes from informal or irregular sources that is otherwise difficult to document.
- **Better, optional way to incorporate utility payments without harming the scores of millions.** Consumers who want creditors to consider their utility payments can grant access without pushing utility companies to report all payments for all consumers.
- **Only a boost?** Some services only kick in to enhance a consumer's credit score in order to see if a consumer who was denied can be approved or if the consumer can be given a lower rate. They have the ability to help consumers without exposing them to the risk of lower credit scores or harming their existing credit report.

Concerns:

- **Not just what you spend but where you shop?** Giving credit bureaus and lenders access to all transaction data may lead them to analyze not just what your expenses are but details of where you transact, potentially leading to privacy violations and disparate impacts on protected classes. For example, people who shop at expensive stores may get better rates than those who live in poorer neighborhoods and shop at discount stores.
- **Will an optional service become mandatory?** Once the credit bureaus have regular access to people's accounts, they may not ask permission to make other uses of the data just as they don't ask permission to provide credit reports today.

- **Impacts won't always be positive.** While many consumers may see a boost from this data, others will not. If the data is used more universally, it could harm credit scores though it could also potentially help consumers stay away from debt they cannot afford.
- **Help predatory lenders or debt collectors time payments?** The use of bank account data might not be limited to responsible underwriting. An inside look at accounts could be used to help high-cost lenders or debt collectors time payments or debits when deposits come in, before rent is paid.
- **Will companies comply with the FCRA?** The credit bureaus will likely follow the FCRA. However it's not clear if others who gather data for cash flow analysis or identification purposes will, even though the FCRA clearly covers entities that aggregate third-party financial information used in credit decisions.[16]

5. Online Lending

What's happening? Internet lending platforms, streamlined application and approval processes, new types and uses of data, and algorithmic decision-making have led to a new industry of online lenders and have changed the way existing players from banks to payday lenders make loans. Newer entrants include marketplace lenders, such as Lending Club, Prosper, SoFi, Avant, Marlette (Best Egg); point-of-sale products such as Affirm and Uplift; and credit cards such as Petal. In addition, some high-cost online lenders label themselves fintechs, such as Elevate (with its Rise loans, Elastic line of credit and Today credit cards); LendUp; and online retail lender American First Finance.

The promise:

- **Fast and convenient application process**. Online lenders can approve and fund loans in a matter of minutes.
- **More access to mid-size loans**. Marketplace lenders are fulfilling unmet demand for mid-sized consumer loans in the $1,000 to $40,000 range, and for small business loans – and encouraging banks to return to those markets.
- **Lower prices**. Many loans are offered at mainstream prices and may help consumers or students refinance higher-priced debt or access credit needed for other purposes.
- **Better repayment options**. Online loans and new point-of-sale products tend to be closed-end installment loans with fixed payments and a clear end date, which can make it easier for consumers to manage payments and repay their debt sooner than with traditional credit cards.

Concerns:

- **Easier access to high-cost loans and unaffordable debt.** Even when fintech lenders follow state licensing and rate cap regimes, the ease of online platforms and the targeting of vulnerable consumers may make it easier to incur unaffordable debt.[17] LendUp offers payday loans that can reach 458% APR and encourages repeat reborrowing.[18] American First Finance works through retailers to offer mobile-based retail installment contracts at rates up to 279% APR.[19] Though marketplace loans are typically below 36% APR, some consumers who use these loans to refinance credit card debt may end up worse off with bigger debt loads and lower credit scores after their credit card balances rise again.[20]
- **Evasion of state interest rate caps to enable high-cost loans.** Some nonbank lenders are using bank partnerships to avoid state licensing and interest rate laws and in order to make loans at rates as high as 160% APR that would otherwise be illegal.[21] FinWise Bank is helping Opploans and Elevate's Rise make loans at 145% to 160% APR in states where those rates are not permitted. Marketplace lenders

that use bank partners offer lower rates generally within state rate caps. But for large $10,000 to $40,000 loans, even 30% to 36% APR can exceed the 25% median rate cap for a $10,000 loan in states that limit rates.[22]

- **Inadequate oversight.** Lenders that avoid state licensing may not be directly supervised or examined by anyone, with minimal indirect supervision through the regulators of their bank partners.
- **Obscure pricing.** Some loan products, such as Elevate's Elastic product, avoid disclosing a clear APR by offering a line of credit with fees but no explicit interest rate.[23] Others, such as Earnin, obscure pricing in purportedly voluntary "tips" or other fees.[24]
- **Lending based on ability to collect, not ability to repay.** Underwriting models may be focused on the likelihood that a lender will be able to recover payments, not the borrower's ability to repay while meeting other expenses. Online lenders strongly encourage, and in some cases coerce, borrowers into repaying loans through automatic electronic repayment. Lenders who can debit consumer's accounts automatically on or near payday may pay less attention to whether the consumer can afford the payment along with other expenses.

> Some nonbank lenders are using bank partnerships to avoid state licensing and interest rate laws and in order to make loans at rates as high as 160% APR that would otherwise be illegal.

- **Lack of skin in the game.** Marketplace loans are securitized and sold to investors. The lending platform often earns the bulk of its revenues through an initial origination fee and not through actual repayment of the loan. Just as in the mortgage market, securitization can lead originators to pay insufficient attention to the borrower's ability to repay.[25]
- **Loss of protections for defective goods or services.** Point-of-sale products may not have the chargeback protections required of credit cards. Some may have voluntary protection policies, but they are unlikely to be as strong as legal chargeback rights.

6. Early Wage Access

What's happening? Companies such as PayActiv (used by Walmart through a partnership with Even), FlexWage, DailyPay (used by the payroll processor ADP) and Green Dot (used by Uber) enable workers to use mobile apps or online tools to access earned wages ahead of their scheduled paycheck.

The promise:

- **Low-cost option to meet expenses.** When expenses come up before payday, accessing wages already earned is far less expensive than a payday loan. The cost is typically a few dollars and sometimes is partially covered by employers.
- **No debt or debt collection.** True earned wage products are integrated with the employer's payroll and do not result in a loan or debt.
- **Segue to personal financial management.** Many early wage access products come with financial management tools.

Concerns:

- **Chronic use and cycle of early spending.** Repeat use, as often as every pay period, is common, similar to the pattern of payday borrowers. A habit of spending early and a lower biweekly paycheck may make it harder to meet large expenses, such as rent, and may necessitate another early access – a cycle similar to payday loans.

- **Paying to be paid.** Fees to access wages erode thin pay, potentially for little benefit if workers have effectively only shifted their pay schedule earlier.

Payday advance products, such as Earnin (formerly ActiveHours), appear to be early wage access products but are offered directly to the consumer with no payroll connection and many of the features of payday loans, with purportedly voluntary "tips" instead of set fees.

- **A substitute for regular pay and a living wage?** Employers should offer regular hours, advance scheduling notice, and wages that enable workers to make ends meet between paydays. These products may simply facilitate a marketplace that doesn't work for many people.
- **Look-alike products evading credit laws.** The early wage access products previously listed are implemented through the employer with a direct integration with payroll. In contrast, payday advance products, such as Earnin (formerly ActiveHours), appear to be early wage access products[26] but are offered directly to the consumer with no payroll connection and many of the features of payday loans, with purportedly voluntary "tips" instead of set fees. Advances are repaid automatically through preauthorized bank account debits, without Truth in Lending disclosures, and may lead to overdraft and non-sufficient fund (NSF) fees if the service miscalculates when or how much the consumer will be paid. Consumers may also face unexpected restrictions if purportedly voluntary "tips" are not high enough.[27]

7. Student Loans

What's happening? Lenders such as SoFi use an online platform and data analytics to offer student loan refinancing. FutureFuel works through employers and other partners to offer contributions towards student loan repayment and to make refinancing offers. SixUp offers student loans to high-achieving low-income students based on their school record. Income-share agreements (ISAs), such as Purdue's or those supported by Vemo, use alternative criteria, such as the student's major and GPA, to underwrite student loans in exchange for a percentage of the student's earnings for a number of years.

The promise:

- **Lower cost loans or refinancing.** Students or graduates may get lower rates than offered by federal or traditional private student loans.
- **Accelerated repayment.** Employers can contribute to student loan repayment as an employee benefit.
- **Access to credit for lower income students.** Students who come from families that are unable to access credit may get loans.
- **Protection if the graduate's income is low.** ISA's promise an "alternative to debt" and the risk that it cannot be repaid.

Concerns:

- **Loss of federal student loan protections.** Students who refinance federal loans into private ones lose protections, including income-based repayment programs and loan forgiveness in some situations. Parents who take out private loans lose the federal protections of PLUS Loans.
- **Too much debt.** Low-income students or their families who take on additional debt on top of grant aid and safer federal loans could end up with unaffordable debt.
- **Disparate impacts.** Lenders may offer refinancing only to students who attend certain schools and not to students at other schools that may have a larger population of students of color. ISA's pricing, based on predictors of a student's future income, invites significant risk of fair lending impacts.[28]

- **Hidden risk of onerous collection practices.** Income-share agreements (ISAs) are touted as better than loans, but ISA providers may have "written extreme collection practices into their agreements; they can collect the money owed directly from students' state tax refunds and institute punitive terms if they fail to pay."[29]
- **Obscure pricing and lack of protection of credit laws**. ISA providers claim that their products are not "loans" or "credit" under consumer protection statutes. Positive payments may not be reported to build credit. Students get no APR disclosures and may not realize the high price tag or burden of turning over a share of their future income. It is unclear how affordable payments will be or how defaults will be handled.

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- **Risk to public service forgiveness.** In some situations, extra payments may jeopardize a borrower's eligibility for loan forgiveness for public service.

8. Auto Loans

What's happening: Marketplace lenders (see Online Lending on page 10) are getting into auto finance. Fintechs such as AutoGravity and AutoFi use bank partners to prequalify buyers. Subscription arrangements such as Fair and Flexdrive promise access to a car without a long-term commitment and ownership costs, both for today's cars and tomorrow's autonomous vehicles. Dealers are using electronic pads and signatures rather than paper documents at closing. Auto dealers are using electronic means to track vehicles and disable them when consumers fall behind.

The promise:

- **More competition, lower prices**. Online lenders and prequalified buyers could provide competition for captive auto dealer financing.
- **Streamlined application processes.** Electronic applications and closings can be faster.
- **Broader access to credit**. Allegedly the ability to take away a debtor's car with the touch of a smartphone app will make creditors willing to extend credit more widely.

Concerns:

- **More competition to gouge consumers**. Some online lenders seem to consider dealers, not consumers, their real customers, offering the dealers a higher penetration of add-on products that pad and disguise the price of financing.[30]
- **Faster closing and the use of electronic documents and signatures can make deception easier.** Some dealers have used computers and tablets to induce consumers to sign documents they have not seen at prices they did not agree to.
- **Lack of protections found in credit and leasing transactions.** The new subscription models lack consumer protections, such as disclosures and fair lending rules that apply to financing and leasing models.
- **Endless payments and bait-and-switch pricing?** Under a subscription model, the consumer will never own a car outright and will lose transportation if they cannot make a payment. When access to a vehicle or even the software to operate it is on a subscription, the cost could be raised upon renewal with large and unexpected costs to the consumer.

- **Privacy concerns.** Electronic tracking devices raise a host of privacy concerns. They will enable the creditor to know where the consumer shops, who the consumer visits, what meetings the consumer attends, whether the consumer goes to church, and an array of other information that most people consider private.
- **Easier abuse of borrowers without due process**. Dealers or lenders that can repossess a car at the touch of an app may do so before making sure that repossession is appropriate, even if the consumer does not owe the money or has been defrauded about the car.

9. Real Estate Lending

What's happening? Quicken's Rocket Mortgage and other mortgage lenders are using online and mobile tools along with new underwriting models, such as automated income verification or cash flow analysis. Lenders and banking regulators are promoting the replacement of traditional, personalized appraisals with automated valuation models (AVM). Companies such as Ygrene Energy and Renovate America are using alternative underwriting criteria and new lending models to offer Property Assessed Clean Energy (PACE) loans for home improvements that are repaid through the property tax system.

The promise:

- **Faster, more efficient application processes.** Technology can streamline applications, reduce costs, and speed up approvals.
- **Improved underwriting and expanded access to credit.** New approaches to analyzing affordability aim to expand access to credit and better measure a borrower's ability to repay.
- **More energy saving or other important investments.** PACE loans encourage homeowners to invest in solar panels, energy-efficiency measures, hurricane hardening, and other projects.

Concerns:

- **Faster can be dangerous.** A mortgage is a risky undertaking that people should think about carefully. Home contractors pushing PACE loans use mobile tablets on consumers' doorsteps to commit people in minutes to thousands a year in tax increases they often do not understand.
- **Inaccurate appraisals.** Automated valuation models vary in their accuracy and lack the regulatory oversight of traditional appraisals. An inaccurate valuation could leave homeowners with negative equity, leading them to overpay for a house or loan and making it hard to sell or refinance.
- **PACE loans evade consumer protections and lead to contractor scams.** PACE lenders claim they are not covered by mortgage laws, including ability-to-repay rules and protections against contractor scams. Many homeowners, especially seniors, have been defrauded with promises of free government programs for overpriced, unaffordable work that does not pay for itself, may be available through lower cost or free government programs, has little energy savings, or does not qualify for tax benefits.[31] While some limited protections have passed in California, problems with PACE loans remain.[32]

Many homeowners, especially seniors, have been defrauded with promises of free government programs for overpriced, unaffordable work that does not pay for itself, may be available through lower cost or free government programs, has little energy savings, or does not qualify for tax benefits.

10. Alternative Home Finance Products

What's happening? Shared appreciation home finance products such as Point and Unison use data and algorithms to offer quick access to home equity by purchasing a fractional share of the home that is repurchased, along with any appreciation (or depreciation), when the term expires, the home is sold, or upon certain other events. Figure's Home Advantage is a sale/leaseback alternative to reverse mortgages that uses data and automated valuation models (discussed previously) to assess and then buy the home, granting the homeowner a lease that renews annually.

The promise:

- **Easy access to cash.** Consumers are able to access their home equity with a fast and easy process.
- **No loan, no interest, no debt.** With shared appreciation products, the consumer has no immediate payment obligation. With a sale/leaseback, the consumer pays rent but has no loan or debt.
- **Shared risk.** With shared appreciation, the cost to buy off the fractional ownership goes up if the home appreciates and goes down if the property depreciates and the home is sold after three years in good condition. With a sale/leaseback, the homeowner can lock in the gains of the current real estate market.

Concerns:

- **A balloon payment loan?** Shared home appreciation products are marketed as being repaid when the home is sold. However, there is a "term," sometimes as short as 10 years, and the "position" must be paid off by then. Repayment also may be required if the mortgage is refinanced.
- **Little to no underwriting for repayment.** Though shared appreciation companies may evaluate the homeowner's ability to repay the existing mortgage, they do not appear to evaluate the ability to repay the "position" if it comes due before the home is sold. With a sale/leaseback, the senior pays rent – unlike a reverse mortgage, which has no payment – and there may not be a significant assessment of a senior's ability to afford the rent, including annual increases.
- **Hidden costs?** Though there is "no interest" with shared home appreciation, there are fees, including appraisal, processing and escrow fees, as well as the cost of turning over a share of the home's appreciation. With a sale/leaseback, the cash is also net of unclear fees and costs; though future repairs may be taken care of by the company, it is unclear if repairs could result in large rent increases or other charges.
- **Foreclosure/home loss risks without protections.** These products are touted as low risk, but affording the payoff of a shared home appreciation product when the term is due could be difficult and could result in forced refinancing or loss of the home without any of the traditional foreclosure protections. With a sale/leaseback, there is no housing counseling as there would be with a reverse mortgage, and the senior may be evicted quickly with none of the procedures or protections that apply in a foreclosure proceeding. Sale/leaseback arrangements have been common features of foreclosure rescue scams that resulted in people losing their homes.[33]
- **No protection of mortgage laws**. These products do not appear to follow TILA or other mortgage laws, including APR disclosures, ability to repay requirements, and protections in the event of a foreclosure.

- **Draining of home equity.** Home equity is the only retirement or other savings that many people have. Products that make it fast and easy to drain home equity or to sell a home and cash out may jeopardize consumers' long term financial stability.

11. Loan Servicing, Debt Collection, and Debt Settlement

What's happening? Companies such as Scratch use electronic platforms, automated communications channels, and data analytics to attempt to improve loan servicing. Debt collectors such as TrueAccord and debt collection software vendors such as Collectly and Prodigal use similar techniques to reach consumers. Companies such as LendStreet operate an online marketplace-lending platform to offer debt relief and refinancing services financed through investors.

The promise:

- **A servicing experience focused on the borrower.** Companies that focus on improving the borrower experience may help people stay on track with tools and options when they experience financial trouble.
- **Specialized servicing for student loans.** Fintechs hope to improve servicing with approaches built to take into account unique student loan issues, which have different rules for different types of loans and complicated ramifications for different repayment options.
- **Improved communications channels.** Consumers who are struggling may not respond well to phone calls or mail. For those who choose other methods of communications, text messages, alerts, mobile apps, and easy methods to ask questions and get answers may make it easier and less stressful to communicate with a servicer or debt collector.
- **More personalized and affordable repayment options.** Using personal data, analytics, and automated but personalized communications, companies claim they can offer due date flexibility, improve loan modifications, and design better repayment plans.

Concerns:

- **Same old problems #1.** Appropriate loan servicing in individual cases has proven very difficult even with human beings and even with predictable situations, such as successors in interest when a mortgage holder passes away. Will standardized computer algorithms do any better with the myriad of real life complexities?
- **Same old problems #2.** Debt collectors can harass or make deceptive claims about repayment plans through texts, mobile apps, and other electronic communications just as they do over the phone. TrueAccord has faced at least 28 lawsuits and numerous CFPB complaints.[34]
- **Same old problems #3.** Even fintech debt relief/debt refinancing services require consumers to default on their debts before negotiating, damaging their credit scores with no guarantee of significantly reduced debt.
- **Disparate impacts.** Will data analytics result in communities of color being offered worse loss mitigation options or targeted for more aggressive collection tactics?[35] Will streamlined approaches result in outcomes that disproportionately hurt homeowners of color?
- **Lack of consent to electronic communications**? Consumers who consent to a creditor's electronic statements have not agreed to electronic messages from debt collectors. It is not clear if the CAN-SPAM Act applies to debt collectors; people could be inundated with messages from which they

Even fintech debt relief/debt refinancing services require consumers to default on their debts before negotiating, damaging their credit scores with no guarantee of significantly reduced debt.

might not be able to unsubscribe. Email may not be private, especially at work. Consumers who have never heard of a debt collector may think an email or text is spam and delete it, or communications sent electronically might be lost in email overload or missed in the junk folder.

- **Robo-harassment.** The Telephone Consumer Protection Act protects people from robocalls and robotexts to cell phones without consent,[36] but many companies bury consent in fine print and make it difficult to revoke consent.

DEPOSITS, PAYMENTS, AND FINANCIAL MANAGEMENT

12. Personal Financial Management and Overdraft Protection

What's happening? Services such as Even, Brigit, Dave, Digit, and Shift offer mobile apps linked to deposit accounts and provide budgeting, savings, payment and other tools. Upturn promises to alert consumers about credit reporting errors and to fix those errors.

The promise:

- **Better money management.** Alerts, analyses of spending and upcoming transactions, and budgeting tools promise to help people to anticipate payments, prevent shortfalls, pay bills on time, and better live within their means.
- **Tools to improve savings.** Automated micro-savings tools, motivational goals, and reminders to save when consumers have extra funds are aimed at helping even lower income consumers save.
- **Avoidance of overdraft fees.** In addition to the benefits of better money management, some apps offer advances to cover anticipated overdrafts.

Concerns:

- **Lead generating and product pitches?** Will these apps collect data that can be used to sell leads or target consumers for products that are not necessarily better for them?
- **Opaque or bait-and-switch pricing?** Services that appear free may not be, at least not indefinitely. Costs can be hard to determine before signing up, and fees can be added after consumers are hooked. "No interest" overdraft advances may be paid for through other fees, such as expedite fees, monthly fees, or not truly voluntary "tips" or "donations."
- **Borrowing may be more common than saving.** Apps may promote savings but whether the promise is realized is unclear.
- **Avoidance of credit laws.** By avoiding explicit finance charges or installment payments, some credit features may be designed to avoid APR disclosures and other credit laws.
- **Overdrafts can still happen.** Any app that can make electronic transactions, whether to transfer funds to savings or repay an overdraft advance, may trigger overdraft or NSF fees.

"No interest" overdraft advances may be paid for through other fees, such as expedite fees, monthly fees, or not truly voluntary "tips" or "donations."

13. Mobile Deposit Accounts and "Neo-Banks"

What's happening? Companies such as Varo, Chime, Moven, and Green Dot's GoBank offer deposit accounts designed for mobile use. These "neo-banks," as they have been called,[37] have essentially no branches. Other than GoBank, which has a bank charter, most of these accounts are offered by nonbank companies in partnership with an issuing bank such as Bancorp or CBW Bank and are essentially a form of prepaid account. (Varo has conditional approval to become a national bank but has not yet been approved for deposit insurance.) Some traditional banks also have accounts designed for electronic or mobile use, but they may have more fees.

The Promise:

- **Few to no overdraft fees; few other fees.** The Varo, Chime, Moven, and GoBank accounts have no overdraft or NSF fees and few other fees; Varo promises no fees whatsoever and Chime charges only for out-of-network ATMs. Bank mobile accounts, such as Capital One 360, do have overdraft fees under certain circumstances as well as some fees for other services.[38]
- **Easy mobile financial management tools.** Accounts designed for mobile access often come with robust in-app budgeting and security tools, including alerts for income and spending and savings tools.
- **Access for underserved consumers.** With no overdraft fees, minimum balance requirements, or monthly fees, and no checks that can result in overdrafts, these accounts may be available to those who have found checking accounts problematic or who have negative account histories with account screening agencies, such as ChexSystems.[39]

Concerns:

- **Weak or no community reinvestment duties.** The Community Reinvestment Act (CRA) only applies to banks and credit unions, not to nonbank companies. The CRA does apply to the underlying bank, but the CRA's service obligations presently focus only on the geographic footprint around the bank's physical branches, not its entire online service community.
- **Access to humans and customer service.** Mobile accounts lower expenses by not having physical branches and having little live telephone customer service, which can weaken the connection to communities and make it difficult to obtain help understanding a product or addressing problems. Companies attempt to compensate through other communications channels and automated responses, but that may not always suffice.
- **Preemption of state consumer protection laws.** Banks generally do not need to comply with state interest rate and fee limits, along with some other consumer protection laws. Some of the companies offering mobile deposit accounts through bank partnerships also offer loans and other products. It remains to be seen if these bank partnerships will allow companies to make high-cost loans or other problematic products that would otherwise be limited by state law.
- **Fast account opening, fast identity theft.** It much easier for a criminal to open an account online under a stolen identity than it is to do so in person at a bank. Fraudsters can even quickly open multiple accounts by using stolen identity data combined with bots.[40] Fake deposit accounts can be used to receive funds illegally transferred from bank and other accounts that were hacked.
- **Consumers with limited data plans or uneven internet access.** Although smartphone penetration is high even in low-income communities, some consumers may have prepaid or limited data plans or may face occasional disconnection of their mobile service. This could be problematic if the mobile device is the primary way of accessing the account.

Mobile accounts lower expenses by not having physical branches and having little live telephone customer service, which can weaken the connection to communities and make it difficult to obtain help understanding a product or addressing problems.

- **No paper statements.** Many fintech products require consumers to opt in to electronic communications and to forgo paper statements and other paper communications. But an email notice that a statement is available on a website is not always a sufficient substitute, and consumers may not see fees or unauthorized charges.[41] Consumers may also miss important communications that come only by email, where they can be overlooked or inadvertently sent to a spam or junk folder. Plus, just because consumers have email addresses does not mean that they have regular internet access, and if they close or move their accounts, they may lose access to their financial records.

14. Faster Electronic Payments and P2P Services

What's happening? Services such as Venmo and Square Cash enable people to make person-to-person and person-to-business electronic payments that appear to be real-time, with near-immediate cash availability. Those systems are actually work-arounds built on older payment rails. The Clearing House, owned by the largest banks, is building a new Real-Time Payments system, which may eventually replace the current electronic payment systems. The Federal Reserve Board is also considering its own real-time payment system.

The promise:

- **Ubiquitous electronic payments.** It is becoming easier and faster for anyone to pay anyone electronically.
- **Just-in-time bill payments.** Faster payments could help people pay bills at the last minute and receive wages, loans, and help from family members faster, potentially avoiding late and overdraft fees.
- **Accurate account balances.** When payments come out of the consumer's account immediately, it is easier to know what the balance is without having to anticipate pending payments, which could also reduce inadvertent overdraft or NSF fees.

Concerns:

- **Weak protection against fraud and errors.** Companies offering faster payments today claim that consumers have no protection if money is accidentally sent to the wrong person or in the wrong amount, or if consumers were scammed.[42] It remains to be seen how the Electronic Fund Transfer Act will apply to these situations.
- **Will easier, faster payments mean easier, faster fraud?** Telemarketing scammers today typically rely on consumers' willingness to pay by unusual and inconvenient methods, such as wire transfers or gift cards. More ubiquitous faster payments may make it faster and easier to convince someone to use their smartphone while the scammer is on the phone to set up that payment to the "IRS."[43]
- **Banks may still charge overdraft fees.** Faster payments are typically premised on "good funds" to prevent overdrafts. But some banks are looking for ways to enable faster payments that overdraft and result in big overdraft fees.

> Companies offering faster payments today claim that consumers have no protection if money is accidentally sent to the wrong person or in the wrong amount, or if consumers were scammed.

- **Monopoly service and pricing.** Building a ubiquitous real-time payment system is a complicated undertaking that could be controlled by the largest banks, unless the Federal Reserve pursues its proposal to build its own system to ensure that the needs of consumers and smaller institutions are met.[44]

15. Virtual Currencies, Blockchain, and "Smart Contracts"

What's happening? Virtual currencies (also called digital assets), blockchain and "smart contracts" all rely on the same technology, and often result in intertwined products. The technology behind virtual currencies, known as blockchain or distributed ledger technology, has many financial services industry applications, and can be used in tandem with or separate from digital assets. Ripple uses its virtual currency, XRP, to facilitate international remittances through its XRapid product. JP Morgan Chase announced that it will use its own token, JPM Coin, to move money among its clients. Spring Labs offers a blockchain network to help online lenders share information to verify identification,[45] and Vermont is studying blockchain usage for land titles and other public records.[46] Sweetbridge, which has been admitted to the Arizona fintech sandbox, is using blockchain, a virtual currency, and a so-called "smart contract" (self-executing lines of code that implement aspects of the parties' agreement) to make auto title loans. States have passed or are considering legislation to recognize the validity of smart contracts and of electronic signatures secured through distributed ledger technology such as blockchain.[47]

The promise:

- **Reduced costs and increased speed in international transactions.** Virtual currencies and blockchain can help avoid the costs of converting different currencies and the delays in the older wire transfer system, Swift, that is primarily used for international transfers.[48]
- **More accurate and accessible information.** A blockchain-based network in theory can improve the accuracy of records such as land titles, or can help lenders to share information to detect fraudulent credit applications without replicating information on multiple systems that could be hacked.
- **Enforcing contracts automatically, trustlessly, and impartially.** Proponents argue that smart contract code makes it simple and automatic to hold parties to their promises and to automatically execute obligations.

Concerns:

- **Wide value fluctuations and no fraud or error protection for virtual currencies.** Some blockchain or virtual currency uses, such as JP Morgan's, are more internal than consumer-facing, and do not appear to change consumers' rights and protections. But others hold consumer assets and could result in consequences never anticipated by consumers with unknown rights and remedies.
- **Security.** There have been numerous heists of virtual currencies[49] and of funds secured by smart contract code.[50] The ultimate security of information stored on a blockchain has been questioned.[51]
- **Accuracy.** Blockchain technology offers no guarantees of reliability if bad data is input, and the "immutability" and decentralized nature of the blockchain could make errors harder to correct.
- **FCRA compliance.** The FCRA covers entities that aggregate third-party financial information used in credit and other decisions. Some uses of blockchain could fall in that category.
- **Dumb, one-sided "smart contracts" that are not contracts, could enforce fraud and deception, and could deprive consumers of remedies.** The use of blockchain code to execute contracts is poorly understood, including by legislators rushing to legitimize smart contracts and blockchain signatures.[52] The technology cannot embody the parties' entire agreement and is not so smart.[53] Blockchains execute simple, clear-cut conditions and consequences – as defined by the designer.[54] Smart contract code, which is not negotiated, does not deal well with ambiguity,

> Smart contract code could be especially problematic if it is used to deprive consumers of options and remedies in cases of fraud or deception.

complexity, fairness, or due process required when there are disputes.[55] Smart contract code could be especially problematic if it is used to deprive consumers of options and remedies in cases of fraud or deception, if it operates like the confessions of judgment and other practices outlawed by the Federal Trade Commission,[56] or if it otherwise permits one side to block legitimate defenses and operate above the law.

CONCLUSION

This report covers just some of the many areas and many issues posed by financial technology and the changes in financial products and services. Other areas where fintech is having an impact include investments, roboadvice, and insurance, among others. As in all the issue areas discussed, there are areas of promise and of concern.

The fintech world is exciting and ever-changing. Many new approaches may indeed hold benefits for consumers. But hype may obscure how little has changed. Companies can also be innovative in how they increase their profits, deceive or abuse consumers, or avoid consumer protections. Tech innovators may unwittingly create problems that are not obvious to them or to which they pay insufficient attention.

It is essential for policymakers, regulators, fintech companies and consumers to scrutinize fintech products carefully and to resist calls to weaken consumer protections in the name of encouraging innovation.

The key to fintech is: Understand first. Proceed with caution.

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