

Financial Technology Trends in the Underbanked Market

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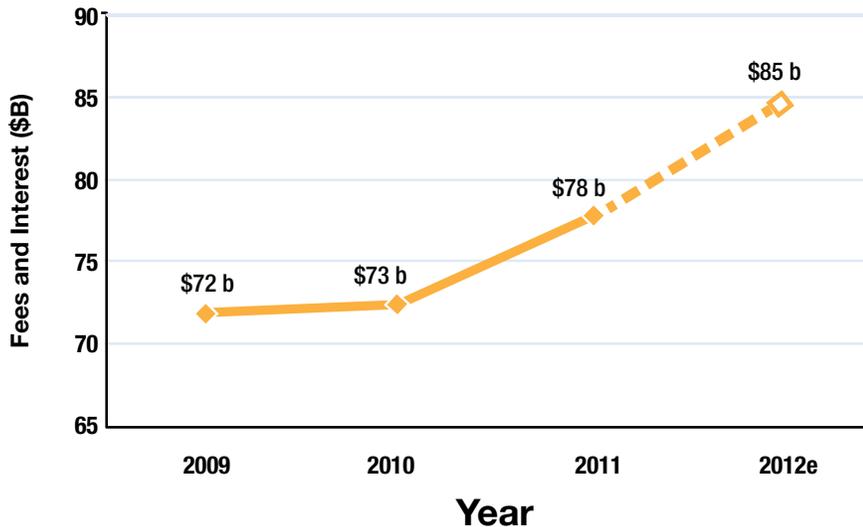
Introduction

The emerging industry of technology startups providing financial services, known as FinTech, has typically targeted a relatively affluent customer base. Yet beneath the surface, a groundswell of hundreds of FinTech companies are developing innovations to serve a consumer segment in even greater need of new ways to access and manage their money.

Financially underserved consumers – those who are financially challenged due to a lack of access to traditional financial services, low or absent credit scores, or simply low incomes – represent over a quarter of American households and \$78 billion in annual spending on financial services.^{1,2} Emerging companies are recognizing the profit opportunity to apply financial technology innovations towards the development of products that better serve this market of more than 68 million U.S. consumers.³

The market for products used by underserved consumers grew by 7% in 2011 alone, but many of the credit, payment, deposit, and other financial services in this marketplace fail to integrate available technology, leaving tremendous opportunity for disruption through digitization of offerings and democratization of consumer access.⁴ Paper-based transactions, inaccessible data, high acquisition costs, and risk models unsuited to identifying attractive borrowers have historically passed high costs on to underserved consumers and kept entrepreneurs at bay.

Underbanked Market Revenue Growth



Source: 2011 Underbanked Market Sizing Study, CFSI/Core Innovation Capital, November 2012

However, the same technologies that are driving the growth of startups from Silicon Valley to Atlanta are reinventing the marketplace of financial services for underserved consumers. Emerging companies are capitalizing on increasingly robust and inexpensive computing power, ubiquitous consumer Internet and mobile

access, and growing demand for comprehensive digital networks. These companies are improving access to effective, high-quality products for underserved consumers while developing technology with broad applications beyond the underbanked market.

This report examines four key trends in emerging financial technologies impacting the underbanked marketplace today and highlights a selection of noteworthy companies capitalizing on these trends to improve consumer financial health and their own bottom line. The trends include:

- **Harnessing Social Networks:** The power of the crowd – online communities easily linked and self-sorted for mass communication and organization – can influence personal financial management, enable opportunities for peer-to-peer lending, and improve the quality and depth of data used to identify credit risk.
- **Solving the Cash In/Out Problem:** Digital payment networks can smoothly transition funds to cash and back again through secure loading, single-click purchasing, and other real-time touch points for the many consumers who continue to prefer cash in an increasingly electronic financial world.
- **Leveraging Big Data for Better Risk Management:** Advanced analytic tools for credit evaluation, account monitoring, and risk management are unlocking access to new sources of available capital and a wider field of qualified borrowers with greater accuracy.
- **Scaling Up by Going B2B2C:** Startup companies are exploiting B2B distribution channels to rapidly reach their target underserved consumer base through white label products and innovative partnerships between new and established industry players.

Methodology

As the leading nonprofit expert and the leading venture capital fund focused on the underbanked market, the Center for Financial Services Innovation (CFSI) and Core Innovation Capital (Core), respectively, are in a unique position to identify and observe the key financial technology trends driving market growth and innovation today. Following a thorough analysis of over two hundred FinTech companies, drawn primarily from Core's investment pipeline, the trends in this report were identified based on their applicability to a range of financial products across multiple sectors and their positive implications for profitability and near-term scalability.

While the trends and companies outlined in this paper have already attracted significant investment capital, the underbanked market for FinTech products is still at a relatively early stage in its development. Questions regarding profitability, revenue models, customer retention, growth rates, exit opportunities, and intensity of capital investment needed to succeed have yet to be fully resolved. Furthermore, the underbanked market encompasses a heterogeneous collection of financial products drawing from several sectors including credit, payments, deposits, alternative data, and personal financial management tools, each with its own characteristics, challenges, and angles for successful entry. This report is an invitation to examine the nuances of an emerging industry that is still a work in progress, populated by new ideas and open to changing dynamics.

Featured Companies

The selection of companies featured in this report illustrates the broad range of startups and innovations in various stages of development that target underserved consumers, either exclusively or as part of a broader market strategy. Many companies are capitalizing on several of the trends and FinTech industry factors outlined below by building out existing products or developing new frameworks to connect people, process data, and enhance consumer choice through technological innovation.

For brief profiles of the companies mentioned in this report - including sector and trend alignment, business stage, location, and website information - please refer to the appendix.

Please note that all companies and financial products included in this report are solely intended to demonstrate financial technology trends and innovations impacting the underbanked marketplace. Characterizations of companies mentioned are solely the opinion of CFSI and Core and may describe only some aspects of their business models, product offerings, and activities. Their inclusion does not constitute specific market predictions, investment recommendations, product endorsement, or commentary on the appropriateness, safety, or quality of these products for consumers by the authors or sponsors of this report.

Key Underbanked FinTech Industry Factors

Each trend is analyzed in light of five key industry factors, highlighted below, that will shape the growth and profit potential of FinTech companies targeting the underbanked market. Icons designating the relevance of these industry factors to the identified trends are deployed throughout this report.



Macro Ecosystem

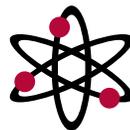
FinTech companies that capitalize on broad economic trends impacting the underserved population will improve their market potential. Key aspects of the macro landscape in this space include the increasing migration of finance to digital formats backed by muscular computing power, the slow and uneven decline of cash usage in the American economy, and the impact of the financial crisis on credit scores, interest rates, and the availability of credit. Shifts in the financial needs of underserved consumer segments – such as recent immigrants, recipients of Social Security and other government benefits, and baby boomers with insufficient retirement savings – are also stimulating product innovation. These macro forces will influence the fortunes of new FinTech entrants that exemplify the trends toward social media and big data usage to extend credit and other services to underserved consumers or the trend toward developing solutions that address consumer need to use cash and electronic funds in tandem.



Regulatory Environment

The advent of the Consumer Financial Protection Bureau (CFPB) and the results of other legislation, rulemaking, and guidance impacting financial services markets have induced greater regulatory com-

plexity and uncertainty at the federal level. These developments create potential barriers to entry that are particularly relevant for companies innovating in lending and personal data use practices. Entrepreneurs exploring social network and big data solutions for the underbanked market, in particular, will enjoy a comparative advantage if they can structure products to successfully navigate the regulatory landscape, tolerate the risks associated with still-pending regulations, and stay ahead of the regulatory curve by designing high-quality products with a consumer-focused orientation.



Industry Dynamics

FinTech startups developing new transaction networks or alternative approaches to credit may prove able to disrupt dominant incumbents in the underbanked market, particularly where the institutional infrastructure of entrenched players hampers their own ability to innovate. Some startups are also finding that the best prospects for surmounting barriers to entry and scaling up quickly at low cost involve partnering with, rather than challenging, leading players in their respective field.

Look for these icons where trends exhibit key FinTech industry factors throughout this report.



Supply Chain Position

The financial services industry features a complex supply chain involving banks, payments networks, clearing systems, processors, distribution partners, and end consumers, among other players. The ability of FinTech companies targeting the underbanked market to exploit a particular position in the supply chain for maximum value creation, especially with respect to electronic transaction networks that incorporate cash usage and when B2B2C strategies are involved, can be critical to driving consumer access to high-quality products and profits for investors.



Consumer Behavior

Successful products in the underbanked market not only fulfill current financial needs but also closely track underserved consumers' evolving tastes, habits, demographics, and social relationships. Financial technology companies that attract significant business will be those that capitalize on the increasingly digital lifestyles of underserved U.S. consumers with weak attachment to traditional financial institutions but strong affinities to social networks, as well as those who continue to prefer cash for daily transactions but also require electronic payment options.

Financial Technology Trends in the Underbanked Market

TREND #1: Harnessing Social Networks

The advent of social media is changing the way an increasing number of consumers approach their finances. Banks and financial service companies are quickly recognizing the potential to tap into the existing networks and habits of the two out of three adult Internet users who already use social media.⁵ Financial products integrated with social media can be tailored to consumer behavior, addressing unique needs and usage patterns by offering the potential for a responsive, customizable user experience that traditional providers have struggled to offer.

The underserved are increasingly present online and on mobile devices, outnumbering the mass market in use of smartphone technology 52% to 38%.⁶ Social media in particular is disproportionately popular among demographic groups who are likely to be underserved, including young adult consumers (83%), low income consumers (72%), and minority consumers (68% and 72%, respectively, for black and Hispanic users), compared to the national average for social media usage of 67%.⁷ Many are tackling savings and financial planning goals amid job instability or impending retirement, while others are struggling to gain access to credit after seeing scores decline during the recent recession. Online accounts, payment portals, and web-based credit applications can connect individuals who share financial commonalities or symbiotic goals, predict consumer behavior for creditors, match borrowers with lenders, aid accountability, and convert personal networks into financial assets for both providers and consumers.

Several emerging social media innovations, such as the use of online activity to influence lending decisions, remain under scrutiny as federal regulators weigh aspects of information privacy, fair lending laws, and Fair Credit Reporting Act (FCRA) compliance. Innovators and investors operating in this area will build the greatest amount of trust with their consumers and regulators when they employ best practices to protect consumer information, prevent discriminatory lending practices, and minimize risk from changes driven by impending regulations. Promisingly, the concepts inherent in one area of social networks, peer-to-peer (P2P) lending, are becoming increasingly recognized and standardized in rulemaking. A higher degree of certainty has allowed established online P2P lenders, such as Prosper and Lending Club, to adjust their business models accordingly and gain traction with retooled offerings that reflect updated SEC compliance.

As alternative lenders and credit scorers navigate evolving regulations, they are beginning to utilize social networks to expand access to credit for reliable consumers overlooked by traditional credit scoring models. Companies such as **Sociogramics** and **Kabbage** are developing methods to mine the data in social media profiles and online interactions to evaluate creditworthiness during the verification and underwriting process. Others are building on the P2P model by enabling the

crowdsourcing of loan funds to small business borrowers. **SoMoLend** connects small entrepreneurs with individual lenders, municipal governments and local financial institutions to facilitate online community lending within existing networks or by matching loan requests based on regional and business sector affinities.

Recalling the values of savings and personal financial management represented by the old-fashioned piggybank, emerging companies **SmartyPig** and **Piggymojo**, a CFSI grantee⁸, both offer unique packages that leverage mobile tools and online networks to promote savings behavior. Their online dashboard tools, savings pockets, and reward incentives encourage users to share savings goals and progress through social media to garner the benefits of positive reinforcement, social commitments, and even contributions from the people in their networks. In a similar fashion, **Motozuma's** online savings accounts let first-time and low-income car buyers connect through their social networks to gain financial and social support for a down payment while earning matching funds from vehicle merchants.

SOCIAL NETWORKS...

- Tap into consumer technology usage patterns



Adult internet users with social media accounts: 67%

Underbanked consumers who have smartphones: 52%
- Are popular in demographics hardest hit by the Great Recession



Social media use among young consumers (ages 18-29): 83%

Among minority consumers: black 68%; hispanic 72%

Among low income consumers (< \$30,000 annual income): 72%
- Benefit from increasing legal recognition and growing regulatory clarity, while some uncertainty remains in the short term



JOBS Act defines a legal mechanism for crowdfunding to encourage peer-to-peer lending through social media: 2012

CFPB continues to review fair lending practices: 2013
- Innovate financial technology for the underbanked in multiple sectors

Alternative Underwriting • Credit • Savings • Personal Financial Management

See text for full citations.



Social Networks Case Study: Kabbage

Recognizing the important role of small business in the economy, Atlanta-based Kabbage, Inc. provides online retailers with fast access to working capital, in part by utilizing social media history to assess their customers' vendor relationship histories. Kabbage mines the data generated as sellers interact with online merchants, rack up customer satisfaction ratings, and demonstrate cash flow and shipping activity. The company then analyzes this information to create a Kabbage Skore based on its Social Klimbing underwriting formula for businesses generating at least \$1,000 in monthly sales.

Kabbage collects and reviews sales data gathered from Amazon, Ebay, Etsy, and other supported providers for merchants seeking to borrow funds. It then makes underwriting decisions based in part on its ability to verify healthy sales volume, reliable e-payment activity, and positive reviews made by an applicant's business partners and customers on social media sites including Facebook and Twitter. Most recently, Kabbage has teamed up with UPS, adding an additional layer of measurement to the underwriting process that may increase access to capital at lower rates by reviewing users' shipping history on products sold.

Since launching its lending platform in 2009, Kabbage has supplied more than 50,000 advances to small companies that collectively generate over \$800 billion in annual sales. For many of these borrowers, who drive Kabbage's revenue model through spending on loan interest and fees, Kabbage offers capital when traditional lenders would most likely turn them down. Kabbage reports that 60% of the small business owners it lends to have a FICO score below 650 and that its typical customer returns to borrow short-term credit 10 times each year. Total demand for its loans has reached an annualized volume of \$200 million, increasing 1000% in 2012.

The incorporation of social media exemplified by Kabbage holds potential for consumer lending too, as social media usage at the individual level may eventually facilitate greater access to consumer credit. Social media provides a trove of alternative data for lending decisions that is increasingly inexpensive, instantaneous, and up-to-date. Application to individual borrower networks, however, will be more complex due to ongoing regulatory review and the need to build consumer protections into this evolving practice. Safeguarding personal data from identity theft, fraud, or unauthorized resale and other misuse will be vital to developing high-quality credit products that serve consumers well and manage regulatory and reputational risk for innovators and investors in this space.

TREND #2: Solving the Cash In/Out Problem

Despite the growth of electronic accounts and the steady media drumbeat regarding the "end of cash," cash remains a key component of the American wallet, especially for underserved consumers. Swiping plastic or keying in an online transaction may have become standard, but more than a quarter of all US retail transactions are still conducted in cash.⁹ Even the electronic payment service Square, a FinTech darling, includes a receipt printer in its merchant kits to address the high volume of consumers who pay with cash and require a paper record of their transaction.

As consumers increasingly depend on a variety of payment options in this shifting landscape, savvy providers are expanding consumer access to electronic accounts by facilitating near-frictionless conversions to and from cash. Products that easily convert digital money to cash and back are particularly vital for underserved consumers because 47% report that they prefer to pay with cash, receive their income in cash, or otherwise consider paper money their primary mode of transaction.¹⁰ While 30% of consumers have been reducing cash usage

in recent years, 20% have increased their use of cash.¹¹ The instant accessibility and liquidity of cash, its inherent lack of monthly service fees, and its pervasive use for informal transactions also make it attractive to underserved consumers. Yet as many financial service providers move away from the added risks and expenses associated with handling cash, the underserved must increasingly rely on electronic channels for transactions including larger purchases, online purchases, the receipt of salaries and government payments, and the transmission of remittances.

Companies that address the simultaneous need for cash and electronic funds can capitalize on the opportunity presented by a consumer segment that otherwise accesses cash primarily at supermarkets, banks, credit unions and check cashers for services that can be offered more cheaply and conveniently through financial technology innovation. The growing consumer market for such products is evident in the \$77 billion that was transacted through general-purpose reloadable (GPR) cards in 2012.¹² In that year, open-loop GPR cards alone attracted more than 10 million consumers who conducted 1.3 billion transactions.^{13, 14} Digital payment networks that allow easy access to cash while also encouraging long-term use of GPR cards for fund storage and transfer are increasingly vital for underserved consumers who prefer cash but are finding themselves drawn into digital payment structures by employers and government benefit offices. GPR prepaid usage volume is expected to grow to \$168 billion by 2015.¹⁵ New rules now require all federal benefits to be distributed electronically to prepaid cards when direct deposit is unavailable, and private employers are also gravitating toward checkless paychecks, having loaded \$31 billion in wages onto payroll cards in 2011.¹⁶

Financial technology is swiftly dismantling cumbersome routines that had previously slowed the flow of transactions and forced underserved consumers to accept inconvenient and badly matched services. **Tio Networks**, a CFSI Catalyst Fund portfolio company, enables cash conversion for the underserved by drawing on mobile technology, self-serve kiosks, and point-of-sale bill payment. **Plastyc**, a Core portfolio company, offers debit cards with broad functionality that allow customers to load cash at any of 50,000 locations, deposit checks remotely, buy mobile phone minutes, or even access prescription drug discounts. **Wipit's** international mobile payment network creates a seamless, one-click format for purchases, payments, cash loading, and mobile remittance.

Several other startups focused on remittances also utilize financial technology features to address the needs of immigrant populations, which often receive wages in cash but want to send funds abroad directly and securely. Electronic transfer services include **iSend**, a former CFSI Catalyst Fund portfolio company, which allows users to digitally pay retailers or billers on the receiving end with cash on the front end; **Nexxo**, which provides stand-alone kiosks to load remittances, pay bills, and convert cash for other uses; and **Boom Financial**, which enables customers to send funds, loaded at thousands of retail partners, by text message or mobile app. These services allow consumers to instantaneously move money to friends and family through mobile wallet features that reduce the time, expense, and insecurity of sending cash or wiring money.

PayNearMe and **ZipZap** provide access to online transactions for cash-preferred shoppers by enabling customers to purchase products online or by phone and then pay

in cash at local convenience stores like 7-Eleven. These startups are entering an arena also courted by incumbents such as PayPal, which recently joined the cash-to-card migration space by partnering with Coinstar and MoneyGram to provide account holders with offline loading venues that make cash resources available for online purchases.

The ability to load funds from a paper check directly into an electronic prepaid account or mobile wallet system is also being solved for underserved consumers without the expense and inconvenience of cashing a check. The infrastructure for remote deposit capture developed by **Chexar** and others enables account holders to instantly access good funds by taking a picture of a check with a mobile phone. This feature is particularly valuable for underserved consumers, who tend to hold low account balances and are otherwise beholden to the timing vagaries of cleared checks to stay current on their bills.

While some companies are developing networks to facilitate the smooth transfer of cash in and out of consumer payments, others are exploring ways to incentivize consumers to change their behaviors altogether with regards to cash. **PayPerks** provides a platform for prepaid customers that encourages point-of-sale purchases using plastic through educational modules and rewards while discouraging ATM withdrawals. The company's push to instill digital payments habits in consumers anticipates a future where paycheck or benefit deposits via check are increasingly obsolete.

CASH IN / OUT...

- **Opens the door to digital finance for underbanked consumers**

Underbanked consumers who are cash-preferred: 47%
- **Addresses the continued use of cash for small and medium purchases**

US retail transactions conducted in cash: 25%
- **Enables consumers to interact with an increasingly digital world, especially as prepaid card growth continues**

Amount loaded on to GPR prepaid (2012): \$77b

Expected amount loaded on to GPR prepaid in 2015: \$168b

Amount loaded on to payroll cards (2011): \$31b
- **Innovates financial technology for the underbanked in multiple sectors**

Payments & Transactions • Personal Financial Management

See text for full citations.



Cash In/Out Case Study: PayNearMe

Purchasing a bus ticket, ordering a book, or making a secure, online utility bill payment can be impractical for consumers without a credit, debit, or prepaid card. PayNearMe unlocks access to web commerce and other remote transactions by bridging the gap between online payments and accessible brick and mortar storefronts. For vendors,

who pay interchange fees that drive PayNearMe's revenue model, the system provides a chance to convert expensive customers who would otherwise pay with cash or checks to a cheaper digital format, plus incorporate new customers previously cut off from digital payment options.

Merchants who contract with PayNearMe accept cash from customers along with credit card payments and other items on their electronic or phone menu. Cash-preferred consumers who choose PayNearMe receive a barcode to be printed or displayed on a smartphone, or use a vendor provided card, which they present with cash at a nearby payment location. The service instantly transfers remote cash payments to billers and provides an electronic record of receipt that documents the payment for both parties.

PayNearMe's growing network of payment locations encompasses more than 8,000 7-Eleven and ACE Cash Express stores nationwide – and will soon incorporate tens of thousands more through a recently inked deal with InComm – where customers can scan their barcode and hand cash over the counter, expanding opportunities for safe and accountable commerce.

Launched in 2009, the company has recently added PayNearMe Express, a new feature that incorporates additional services for smaller merchants, such as landlords, who can now offer the service through PayNearMe's IT infrastructure if they lack their own. The company's transaction volume grew by 325% in 2012.

TREND #3: Leveraging Big Data for Better Risk Management

Big Data – that immense plethora of worldwide digital information that is now easily tracked, stored, and analyzed through increasingly powerful technology – is redefining the study of consumer behavior across the economy and raising critical questions about consumer privacy and security in its wake. The availability of digital consumer information continues to expand. The volume of the digital universe is projected to multiply 50 times between 2010 and 2020 to 40 zettabytes (ZB) of usable data.¹⁷ Mobile data traffic alone is currently estimated to be expanding at a compound annual growth rate of 78% through 2016.¹⁸

For the underbanked financial services market in particular, Big Data's most profound impact lies in unlocking access to credit. It enables innovators to identify and engage with information about underserved consumers who lack conventional financial histories and often find themselves with few options outside the high-priced, low-quality world of payday loans and other subprime credit options. Indeed, the quarter of Americans who have thin or nonexistent credit files are often invisible to traditional lenders and marketers although research shows that 46% of these 70 million consumers are reasonable loan candidates.¹⁹ In the aftermath of the financial crisis, during which 21% of American consumers saw their credit scores fall by 21 points or more, many are seeking to rebuild credit by demonstrating ability to repay through a more widely conceived consumer profile.²⁰

Utilizing digital records and online activity to assess creditworthiness, alternative credit risk scoring enables lenders to bypass the narrow methods and often calcified assumptions of traditional underwriting. Despite new forms of risk scoring on the market, the vast majority of credit decisions still rely on the limited trade lines traditionally used by the leading credit bureaus. As incumbents in the credit scoring space are awakening to the need to incorporate broader risk analysis models, new entrants and small, nimble innovators will continue to play an outsized role in driving competition and providing partnerships to reach underserved consumers. RentBureau, a former CFSI Catalyst Fund portfolio company, which tracks rent payments to identify strong loan candidates among young and underserved adults with paltry credit data, was acquired by Experian in 2010 in an effort to expand its analytical competencies into the underbanked market. Similarly, TransUnion has employed the Thin File Model developed by its partner **L2C, Inc.**, a Core portfolio company, since 2007 to reach borrowers with limited credit histories. Dominant credit scorer FICO recently announced a partnership with relative newcomer **FactorTrust**, a purveyor of modern predictive analytics for alternative credit performance, to expand its capabilities in this area.

Storing and accessing troves of consumer data also carries genuine risk regarding data privacy, security, and fair lending. Innovators and investors leveraging big data will be most successful if they vigilantly avoid potential data breaches, actively monitor shifts in regulation, and consistently ensure that the end consumer and their data are treated fairly. To comply with federal fair lending standards, banks and non-bank financial service entities now under the supervision of the CFPB should take particular care to ensure that models incorporating big data do not skew lending decisions in ways that discriminate or otherwise result in disparate impacts on specific demographic groups.

While the business risks of using big data for risk management should be noted, the recognition of additional ranks of credit-worthy consumers also presents a significant opportunity to reach underserved consumers. Their lack of strong traditional credit scores results in poorly met demand for quality credit, contributing to a \$62 billion domestic market for short-term and very short-term loans that are often characterized by inordinately high interest rates and fees.²¹ CFSI research shows that underserved consumers who turn to alternative small-dollar credit products are much less likely to have a credit card than other consumers and cite an inability to qualify as the most common barrier.²²

Cutting edge data platforms that allow for massive distributed data sets, such as the programming framework Hadoop, are being deployed for financial risk management today. Innovators like **L2C, Inc.** are seizing the opportunity to create alternative underwriting platforms for clients looking to incorporate big data into their lending practices by developing customized data models resourced from a broad array of trade lines, consumer data, and public data, as well as information from the big three credit bureaus. **Sociogramics** and **DemystData** are developing new ways to identify promising borrowers through a broad set of online social media data, making these companies prime examples of multiple financial technology trends.

Their proprietary risk models provide a wealth of information for lenders to assess ability to repay while remaining efficient and cost-effective.

Other innovators are creating new sources of data or finding value in previously overlooked sources to enhance risk scoring accuracy. **ZestFinance** leverages its expertise in machine learning, not only using large and distributed datasets, but applying algorithms that evolve and improve insights over time. For **FairLoan**, payroll data represents a hidden treasure of real-time consumer income and job stability metrics that drive loan risk assessment. **Neo** specializes in offering credit to underserved car buyers based, in part, on previously inaccessible income and transaction data.

Big data is also charting new courses for smart lending beyond personal loans. Companies such as **On Deck** and **Kabbage** use alternative data drawn from online merchants and retail channels to provide access to working capital for small businesses, especially those that operate online.

The credit sector is not the only one drawing on big data to fill gaps in the underbanked market. **Yodlee** gathers information after being granted access by consumers to their bank accounts, then synthesizes it to create aggregate portraits of consumer income and spending behavior. This allows the company to enable robust personal financial management tools and to provide financial institutions with valuable market research data.

In the public sector, government recognition of big data's potential led the U.S. Treasury Department to launch a "smart disclosure" initiative in 2009.²³ The project aims to increase access to consumer-level data collected by companies and government agencies in machine-readable formats, enabling developers to create offerings that promote sound decision-making based on actual consumer behavior. **HelloWallet** utilizes this newly accessible public and private sector data to identify healthy consumer financial management strategies. It then provides employers and their workforces with tools and incentives to guide employee management of salaries, benefits, and retirement accounts to build financial capability and security.

BIG DATA...

- **Utilizes the rapidly expanding universe of available data**



Growth of digital universe during this decade: 50x larger to 40 ZB of data
Compound annual growth rate of mobile data traffic: 78%
- **Disrupts inefficient risk scoring practices by dominant incumbents**



American consumers with no traditional credit file or a thin file: 25%
Poor credit file consumers projected to be a prime or superprime risk: 46%
- **Identifies alternative indicators of risk amid declining credit scores**



American consumers whose credit scores dropped at least 21 points between 2008 and 2011: 21%
- **Faces opportunities and challenges to operation within enhanced identity, security and consumer protection concerns**



The FTC's 2012 report on protecting consumer privacy provides a roadmap with a voluntary framework for data brokers
- **Innovates financial technology for the underbanked in multiple sectors**

Alternative Underwriting • Credit • Personal Financial Management

See text for full citations.

L2C inc  **Big Data Case Study: L2C, Inc.**

Since its founding in 2000, L2C, Inc., a Core portfolio company, has focused on new ways of computing consumer risk. The company synthesizes vast troves of consumer data including utility payments, checking account information, public records, alternative financial service usage, and more to create proprietary data points and predictive repayment models. L2C has created over 200 million alternative credit scores for its clients, filling in the blanks on thin-file borrowers for companies ranging from credit unions to auto lenders to healthcare businesses.

L2C's heterogeneous data sources capture opportunities often missed by loan decisions that rely on the limited trade lines used by traditional credit scoring models. L2C's clients gain insights into their target markets when they purchase its scoring solution, either directly or through L2C's partner TransUnion, then integrate L2C's consumer profiling and predictive behavior models with standard risk measurements, increasing their ability to lend to previously overlooked consumers. L2C reports that its customers gained actionable risk data for nine out of ten consumers who could not be accurately sized up by the big three credit bureaus. L2C's big data modeling – based on Hadoop's data processing framework – also extends beyond credit scoring to include delinquency management, marketing strategies, and fraud detection, all of which can ultimately improve provider efficiency and decrease consumer costs.

TREND #4: Scaling Up by Going B2B2C

For financial startups applying tech-based solutions to the underbanked market, business-to-business partnerships are lowering the time and expense of marketing new products directly to underserved consumers. These consumers can be a hard-to-reach population with entrenched financial behaviors and long-standing relationships with their existing providers, even when those providers present higher costs and lower quality than available alternatives. Joining forces with a high-value brand or offering a white label product from behind the scenes can allow FinTech startups to gain access to broad and established distribution channels, decreasing the cost of acquisition and enhancing scalability.

In complement, leading financial institutions are beginning to identify the potential of underserved customer segments that demand more specific engagement strategies. Some have addressed the need for this new competency by incorporating the products of agile startup companies, which offer a way to differentiate and broaden incumbents' offerings without significant in-house investment.

These synergies make business-to-business partnerships attractive for startups and established players. Prepaid provider **Plastyc**, a Core portfolio company, powers H&R Block's Emerald Card MasterCard platform for tax refund delivery. Plastyc adds value by transforming the tax refund prepaid card from a one-time payment vehicle to a year-round banking solution with mobile and direct deposit capability. Enhanced consumer retention aids H&R Block's bottom line, while providing a white label product for a prepaid card issuer with 3.4 million customers lets Plastyc expand its reach quickly through a known and trusted brand.

ReadyForZero partners with banks who steer at-risk customers to its debt management services, fostering healthier consumer financial behavior and deepening the relationship between consumers and their banks. **BillFloat** offers short-term credit through bill payment channels, providing value for consumers and billers by smoothing cash flows. Through partners like MetroPCS/T-Mobile, which has 43 million users, Comcast, which boasts 19 million subscribers, and GEICO, which has 11 million auto policy holders, BillFloat's credit option is made widely available. **PayNearMe** also works with a network of retailers and billers that offer its cash payment option to underserved consumers making remote purchases. Customers access **iSend's** remittance services at alternative financial product stores such as ACE Cash Express or Pay-O-Matic. For **SaveUp** and **SavvyMoney**, a Core portfolio company, which offer online services to build savings and manage personal debt, cooperation with financial institutions – like SaveUp's partner Bank of the West and SavvyMoney's partner American Airlines Federal Credit Union – provides a wider customer base. Their financial capability services, in turn, provide a support system for bank and credit union consumers to manage basic banking products successfully.

B2B2C...

- **Expands available product offerings for established providers and increases scale for new entrants at low cost**



Plastyc and H&R Block: Full-feature prepaid card for tax refund load and continued use now available to customer base of: 3.4 million

BillFloat and 2,500 partners: Financing options for consumers at nationwide retailers including: Comcast 19 million users, GEICO 11 million auto policy holders MetroPCS/T-Mobile 43 million users
- **Enables startups to reach customers who have long-standing relationships with their preferred banks and credit unions**



SaveUp and Bank of the West are piloting prize-linked savings. Bank of the West customer base: 1.6 million

SavvyMoney and American Airlines FCU are offering online debt management tools. AAFUC membership: 232,000
- **Adds value by replacing high-cost lead-generation business models**



Typical lead generation cost for small-dollar credit: \$50 to \$150 per lead
- **Is broadly applicable to multiple sectors in the underbanked marketplace**

See text for full citations.



B2B2C Case Study: BillFloat

Most short-term lending is expensive because customer acquisition costs are high even when leads are generated online, costing as much as \$150 per loan.²⁴ Instead of marketing directly to consumers, BillFloat partners with over 2,500 institutions that already attract and cater to underbanked consumers. Its small-dollar loans are designed to solve short-term cash flow needs by providing credit up to \$200 to cover bills and allowing borrowers a 30-day cushion for repayment. BillFloat reaches most of its consumers with zero customer acquisition costs by embedding its loan application in the billing payment options of partner companies, which range from utilities such as Reliant and Duke Energy, to wireless providers including Metro PCS and Sprint, to Cablevision, to insurance companies like GEICO and Allstate. BillFloat’s partners also actively promote its credit option through online ads and insertions into customer payment reminders and text messages to encourage avoidance of late payments or decrease the time of outstanding bills.

As an option for online bill payment, or made available by merchants at points of sale for smartphone financing, BillFloat offers alternatives for consumers striving to stay current on their bills or purchase higher cost items with a monthly payment structure. The company, which launched in 2009, expects to lend \$400 million this year to more than 830,000 registered users. BillFloat uses consumer data from partnered banks, past utility bill history, and other payments activity to assess credit risk. For consumers with near-prime credit scores, it offers the additional option of a standing line of credit up to \$1,000 underwritten by partner banks.

Although BillFloat's interest rates and bill payment fees amount to a higher cost than loans offered by some traditional small-dollar credit products, such as credit cards, they are considerably lower than many alternatives – such as standard payday loans – that customers might otherwise use. BillFloat can afford to offer comparatively lower rates while still making a profit because its model slashes inefficiencies that normally plague small-dollar credit providers.

Given CFSI's research showing that over a third of small-dollar credit borrowers use small-dollar loans to pay off a utility bill, BillFloat's ability to distribute its service directly through bill payment sites adds value for all involved.²⁵ Its services also allow retailers, utilities, and insurance companies to differentiate and broaden their consumer offerings by providing a unique financing option.

Conclusion

Unmet demand for high-quality financial products that address the needs of financially underserved consumers presents a genuine opening for FinTech startups to disrupt an entrenched industry while improving the financial health of millions of Americans. The financial technology trends discussed in this paper – social networks, cash in/out, big data, and B2B2C scaling strategies – are a snapshot of forces currently driving innovation in this fluid market. At the same time, larger, established providers are reevaluating their own strategies and will increasingly act upon the growing awareness of this opportunity, in many cases by investing in, partnering with, or even acquiring the most promising new players.

The potential for FinTech companies to generate healthy profit margins while providing high-quality financial services to underserved consumers stands on the cusp of realization. Savvy entrepreneurs and investors should keep a close eye on this dynamic and emerging marketplace.

Appendix

Featured Companies

COMPANY	LOCATION	SECTOR	FINANCIAL TECHNOLOGY TREND	STAGE	WEBSITE
BillFloat, Inc.	San Francisco, CA	Credit	B2B2C	Early growth	www.billfloat.com
Boom Financial, Inc.	Palo Alto, CA	Payments	Cash In/Out	Early growth	www.useboom.com
Chexar Networks, Inc.	Roswell, GA	Payments	Cash In/Out	Growth	www.chexar.com
DemystData	New York, NY	Alt Data	Big Data	Startup	www.demystdata.com
FactorTrust, Inc.	Roswell, GA	Alt Data	Big Data	Early growth	ws.factortrust.com
FairLoan Financial, Inc.	San Francisco, CA	Credit	Big Data	Startup	www.fairloanfinancial.com
HelloWallet, LLC	Washington, D.C.	PFM*	Big Data	Early growth	www.hellowallet.com
iSend LLC	Middlebury, CT	Payments	Cash In/Out, B2B2C	Early growth	www.isendonline.com
Kabbage, Inc.	Atlanta, GA	Credit	Social Networks, Big Data	Growth	www.kabbage.com
L2C, Inc.	Atlanta, GA	Alt Data	Big Data	Growth	www.l2cinc.com
Motozuma LLC	Chicago, IL	Savings	Social Networks	Startup	www.motozuma.com
Neo Finance, Inc.	Palo Alto, CA	Credit	Big Data	Startup	www.myneoloan.com
Nexxo Financial Corp.	Burlingame, CA	Payments	Cash In/Out	Early growth	www.nexxofinancial.com
On Deck Capital, Inc.	New York, NY	Credit	Big Data	Growth	www.ondeckcapital.com
PayNearMe, Inc.	Sunnyvale, CA	Payments	Cash In/Out, B2B2C	Early growth	www.paynearme.com
PayPerks, Inc.	New York, NY	PFM	Cash In/Out	Startup	www.payperk.com
Piggymojo (SavingsHero, LLC)	Brooklyn, NY	Savings	Social Networks	Startup	www.piggymojo.com
Plastyc, Inc.	New York, NY	Payments	Cash In/Out, B2B2C	Early growth	www.plastyc.com
ReadyForZero, Inc.	San Francisco, CA	PFM	B2B2C	Startup	www.readyforzero.com
SaveUp, Inc.	San Francisco, CA	PFM	B2B2C	Startup	www.saveup.com
SavvyMoney, Inc.	San Francisco, CA	PFM	B2B2C	Startup	www.savvymoney.com
SmartyPig, LLC	Des Moines, IA	Savings	Social Networks	Early growth	www.smartypig.com
Sociogramics, Inc.	Mountain View, CA	Alt Data	Social Networks, Big Data	Startup	www.sociogramics.com
SoMoLend Holdings, LLC	Cincinnati, OH	Credit	Social Networks	Startup	www.somolend.com
Tio Networks Corp.	Vancouver, BC, Can.	Payments	Cash In/Out	Growth	www.tionetworks.com
Wipit, Inc.	Lake Forest, CA	Payments	Cash In/Out	Startup	www.mywipit.com
Yodlee, Inc.	Redwood City, CA	Alt Data, PFM	Big Data	Growth	www.yodlee.com
ZestFinance, Inc.	Los Angeles, CA	Alt Data	Big Data	Early growth	www.zestfinance.com
ZipZap, Inc.	San Francisco, CA	Payments	Cash In/Out	Startup	www.zipzapinc.com

* Personal Financial Management



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Endnotes

1. "2011 Underbanked Market Sizing Study," CFSI/Core, November, 2012
2. "2011 FDIC National Survey of Unbanked and Underbanked Households," September, 2012
The FDIC defines underbanked consumers as those who conduct some or all of their basic financial transactions outside of the mainstream banking system. For the purposes of this report, we consider a somewhat broader array of consumers including those who face analogous financial barriers through lack of access to prime credit or challenges rooted in low incomes.
3. "2011 FDIC National Survey of Unbanked and Underbanked Households," September, 2012
4. "2011 Underbanked Market Sizing Study," CFSI/Core, November, 2012
5. Pew Research Center, Internet and American Life Project, Social Networking 2/14/13 <http://pewinternet.org/Commentary/2012/March/Pew-Internet-Social-Networking-full-detail.aspx>
6. Federal Reserve Bulletin, September 2012, Vol. 98 No.4 p.10
7. Pew Research Center, Internet and American Life Project, Social Networking 2/14/13 <http://pewinternet.org/Commentary/2012/March/Pew-Internet-Social-Networking-full-detail.aspx>
8. CFSI supports promising nonprofit-led projects, selected through a competitive grant proposal process, which are designed to promote financial capability for underserved consumers by leveraging technology, applying behavioral economics concepts, and closely combining relevant, timely, actionable, and ongoing strategies with access to high-quality financial products and services.
9. "The Less-Cash Society: Forecasting Cash Usage in the United States," Aite Group, 2011
10. "The CFSI Underbanked Consumer Study," 2008
11. "The Less-Cash Society: Forecasting Cash Usage in the United States," Aite Group, 2011
12. Mercator Advisory Group information presented in: Claes Bell, "Prepaid debit cards close gap on checking," Bankrate.com, 4/15/13 <http://www.bankrate.com/finance/banking/prepaid-debit-cards-close-gap-checking.aspx>
13. NetSpend Q4 2011 Investor Presentation, March 2012
14. "2010 Federal Reserve Payments Study," April 2011
15. Mercator Advisory Group information presented in: Claes Bell, "Prepaid debit cards close gap on checking," Bankrate.com, 4/15/13 <http://www.bankrate.com/finance/banking/prepaid-debit-cards-close-gap-checking.aspx>
16. "2011 Underbanked Market Sizing Study," CFSI/Core, November, 2012
17. John Gantz and David Reinsel, "The Digital Universe in 2020: Big Data, Bigger Digital Shadows, and Biggest Growth in the Far East," International Data Corporation (IDC), December 2012
18. "Cisco Visual Networking Index: Forecast and Methodology, 2011–2016," 2012
19. "Building Consumer Credit: A Winning Strategy for Financial Institutions and Consumers," CFSI, June 2012
20. CFSI/Core calculation based on FICO information presented in: Crooks, Ross, Ulzheimer, John, "How Much Has the Recession Impacted Our Credit Scores?" Mintlife, 11/11/11 <http://www.mint.com/blog/trends/how-much-has-the-recession-impacted-our-credit-scores/>
21. "2011 Underbanked Market Sizing Study," CFSI/Core, November, 2012
22. "A Complex Portrait: An Examination of Small-Dollar Credit Consumers," CFSI, August 2012
23. Sophie Raseman and Nick Sinai, "Consumer.Data.Gov is Live!" Treasury Notes, 2/11/13/ <http://www.treasury.gov/connect/blog/Pages/Consumer.Data.Gov-is-Live.aspx>
24. JMP Securities, January 2013 via Banktalk.org <http://banktalk.org/2013/02/05/the-high-cost-of-making-high-cost-payday-loans/>
25. "A Complex Portrait: An Examination of Small-Dollar Credit Consumers," CFSI, August 2012

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