

# An introduction to fintech: **Key sectors and trends**

October 2016



**Introduction** *(by Jessica Bennett)*

While the term “fintech” has been around for years, it’s worth taking a fresh look at the industry in the face of rapidly advancing technology and a multitude of new players. The financial technology industry encompasses technology-enabled firms offering financial services, as well as entities providing technology services directly to financial institutions. Fintech companies employ technology to support financial transactions among businesses and consumers. Technological advances, changing demand for financial products and competition in financial services are all driving a new wave of fintech startups and investments that have drawn attention to the industry in recent years.

Startup companies are creating products and services to penetrate new areas of the financial system and to change the competitive landscape. These new forces are motivating traditional financial firms to invest in technology and to pay attention to changing trends among their customers. All new and incumbent players will be impacted by the changes we see happening in the marketplace today. But understanding the space and focusing on key developments amid all the hype can be a challenge.

This primer outlines key segments of the fintech industry and institutions operating in the space, highlighting sub-sectors that are experiencing the most rapid change. S&P Global Market Intelligence includes the following sectors within the financial technology industry.



In this primer, we will highlight four fintech areas — digital lending, payments, blockchain and digital wealth management — that are of particular interest due to their rapid pace of growth, technological disruption, and regulatory and other risks. While some of these areas represent fintech sectors themselves, blockchain is a technology that carries the potential for innovation across multiple segments of the financial landscape.

## DIGITAL LENDING *(by Scott Kessler)*

### Industry description

Digital lending refers to technology-driven nonbank lending. Access to expansive data, sophisticated algorithms and considerable computing power enabled new companies to compete with traditional banks by providing appealing new offerings to would-be borrowers.

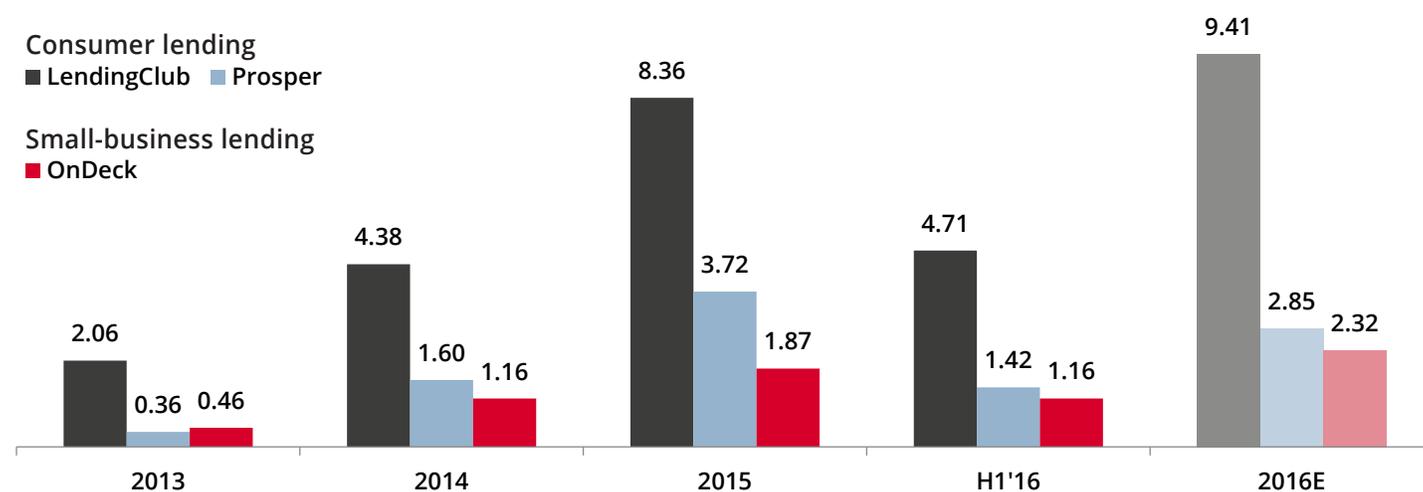
Company participants typically have digital platforms to facilitate funding. Borrowers include consumers and small businesses, with individuals and institutional investors providing capital. Offerings range from consumer and student loans to small-business loans, equipment-financing loans and lines of credit. Mortgages and auto loans are other emerging areas. Digital lending companies match borrowers and lenders, thereby benefiting from loan relationships and processing transactions.

Digital lending (excluding mortgages) is a total addressable market of \$1 trillion in the U.S., and loan origination volumes could reach \$90 billion by 2020 from about \$25 billion in 2015, according to a January 2016 report by Autonomous Research that the U.S. Treasury Department cited in its own May 2016 report. Autonomous Research, a provider of research on financial companies, also indicated that digital lending could account for more than 10% of the U.S. lending market by 2020.

The Financial Stability Oversight Council indicated in June 2016 that digital lenders generated significant U.S. growth in 2015, with estimates suggesting \$18 billion to \$36 billion in loans originated during the year and a cumulative \$40 billion to \$50 billion in loans originated to date.

Companies leverage technology to attract platform participants and facilitate and consummate loans, with an emphasis on communications and processes that are easier to understand and ultimately more efficient.

### Originations of major digital lenders (\$B)

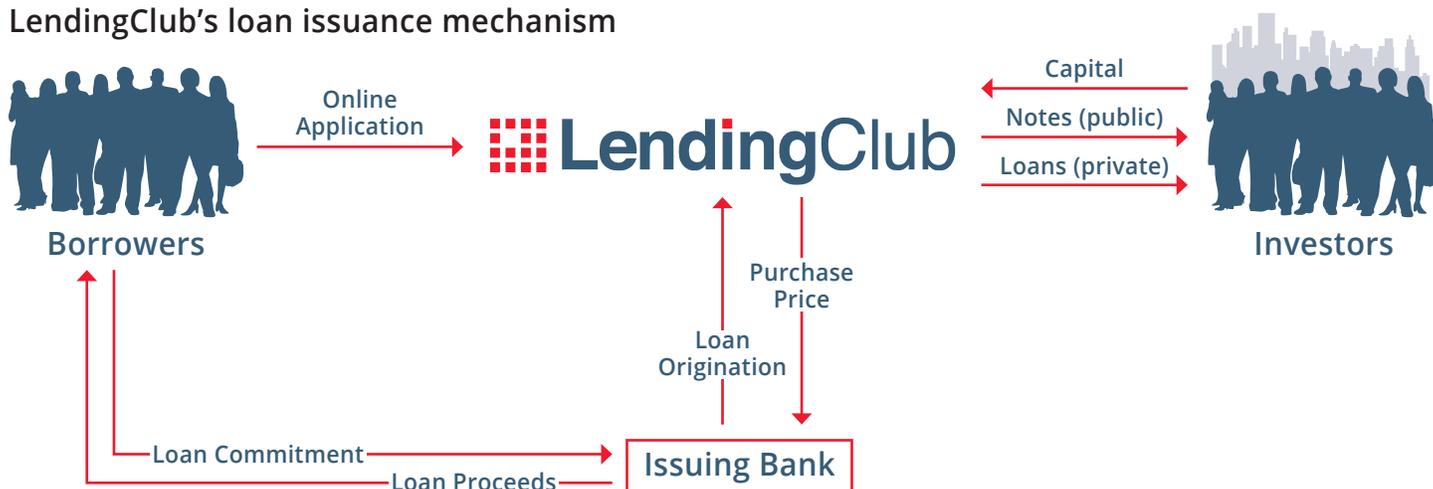


Borrowers submit credit applications online for loans from digital lenders, which leverage considerable data and information sources to determine credit risks. Funding decisions usually take days, not weeks or months. Loans can vary greatly in terms of size and maturity.

Digital lenders have two primary business models. Direct lenders that originate loans to hold in their portfolios are referred to as balance sheet lenders. Platform or marketplace lenders partner with depository institutions to originate loans, which are purchased by the platform lender or by a platform investor. Marketplace lenders generally retain less credit risk than balance sheet lenders.

There are three major publicly traded companies in the digital lending segment. LendingClub is a marketplace lender focused on consumer loans, and On Deck Capital is a balance sheet lender focused on small businesses. Payments company Square Inc. lends to its merchant clients through Square Capital, which recently expanded to non-customers. Privately held Prosper Marketplace and Kabbage are peers of LendingClub and On Deck, respectively.

### LendingClub's loan issuance mechanism



### Competitive environment

Banks invest hundreds of billions of dollars annually in technology. They have digitized parts of the processes for marketing, selling and servicing loans; however, Bain & Co. estimated in December 2015 that banks can only process about 7% of loans digitally.

We believe institutions have focused more on other technology priorities, including mobile, analytics and security, enabling newer competitors, such as digital lenders, to take market share.

Consumer finance, mortgages and lending to small and medium-sized enterprises are banking businesses that could each lose 10% to 40% of revenues by 2025, according to McKinsey & Co.

Since their inception, LendingClub and On Deck originated \$21 billion and \$5 billion in loans, respectively, through June 2016. Despite some issues, they delivered year-to-date growth of 30% to 40%.

Banks have taken notice, and there have been a number of partnerships involving digital lenders. Perhaps most notably, in December 2015, On Deck announced that its small-business lending platform and proprietary credit score would be used by JPMorgan Chase & Co. In April 2015, LendingClub and Citigroup announced a partnership citing their goal of providing affordable credit to underserved borrowers and communities.

Nonetheless, a crowded digital lending segment coupled with heightened default risks, frayed investor confidence and calls for more government oversight have caused companies, especially those more focused on consumer lending, to rein in expenses. Some have been spending more conservatively on customer acquisition, and some have cut headcount. This period of retrenchment and consolidation began in 2016 with companies and offerings being discontinued.

In particular, LendingClub has been working through corporate governance issues and executive departures. Earlier this year, LendingClub founder and CEO Renaud Laplanche, perhaps digital lending's most prominent spokesperson, resigned after he allegedly contravened the company's corporate governance, contributing to additional segment scrutiny.

### **Risks**

Marketplace lending started to lose its reputation as the most compelling category across all of fintech in 2016. Although robust growth was unlikely to continue unabated, Laplanche's resignation shook investor confidence in digital lenders and the broader fintech area.

Company-specific and category-wide developments have weighed on digital lending. Investors have proceeded more cautiously after consolidations, limiting capital, growth and profitability. Many of these issues have been more centered on digital lending to consumers, especially given their less appealing credit profiles compared to small businesses.

Increasing scrutiny of challenges in digital lending has resulted in more calls for oversight. Regulation has arguably become one of the most significant risks for the category.

The Financial Stability Oversight Council has pointed to untested underwriting models and has highlighted that issues embedded in new products and practices could be difficult to foresee. It indicated that regulators should be vigilant in monitoring digital lenders, even if their offerings may not constitute a current risk to financial stability.

More regulation for digital lenders could notably restrain growth and add to expenses, as surveillance and compliance efforts would potentially detract from the user experience and competitive advantages.

Economic circumstances that would be considered generally negative for lenders, such as slower economic growth and higher unemployment, could prove to be relative positives for digital lenders, prompting users to try new options in search of better experiences and financial outcomes.

**Recent events and outlook**

Digital lending had a banner year in 2015 as newly public LendingClub and On Deck and other companies experienced significant growth.

In 2016, positive momentum continued, and then paused or stopped, depending on one's perspective. LendingClub's CEO resigned in May, and its CFO departed in August.

In June, LendingClub decided to cut headcount by up to 12%. This followed a major restructuring by Prosper in May that contributed to second-quarter restructuring charges of \$14 million. Other more consumer-oriented digital lenders reportedly took similar actions.

Goldman Sachs Group is readying a competing offering to launch later this year, the CFO indicated in July.

However, digital lenders more focused on small businesses have continued to make progress. In April, JPMorgan started offering online loans powered by On Deck's platform and technology. In August, Square Capital started offering loans to small businesses beyond its payments ecosystem.

We expect significant growth from digital lenders. More appealing experiences and outcomes for borrowers and lenders should lead to further market share gains.

We also see the potential for more partnerships and even M&A involving digital lenders and banks. Digital lenders have differentiated technology and the ability to innovate. Banks have recognized brands, considerable capital and ample customer bases.

## PAYMENTS *(by Kelly Panno)*

### Industry description

The U.S. payments industry is a nebulous system of banks, financial technology firms, social media companies and retailers. Between evolving technologies and social norms, this system is seeing a significant shift in how payments are initiated and processed.

The proliferation of smartphones and the emergence of mobile payments and blockchain technology have unlocked innovation across the system, and in three areas in particular: Person-to-person payments, in-store retail payments, and credit and debit card transaction processing and settlement.

Person-to-person (P2P) payments refer to the transfer of funds from one personal account to another, using either the Automated Clearing House system or debit/credit cards. Providers of this service include banks and technology firms such as PayPal and Facebook. ACH transfers cost less to process than credit card and debit card transactions as they bypass assessment fees charged by card networks.

In-store payments are enabled by smartphone apps that use near-field communication (NFC), quick reference (QR) codes or barcodes to initiate payment, in place of a physical credit/debit card or gift card. The most popular apps in this space include Apple Pay and apps from retailers such as Starbucks.

### Innovators in the payments ecosystem

#### Mobile payments

##### In-store mobile payment apps

Apple Pay    Samsung Pay  
Android Pay    Merchant-branded apps (Starbucks, CVS Pay, etc.)

##### P2P payment services

PayPal and Venmo    Facebook Messenger  
Square Cash    ClearXchange  
Popmoney

#### B2B

##### Electronic invoicing

Bottomline Technologies    Tradeshift    Tipalti  
Viewpost    Taulia    AribaPay

##### Global B2B payments

Payoneer    Western Union  
PayPal

#### Payment processing

##### Acquirers & processors

Bank of America Merchant Services    First Data    Square  
Fiserv    Vantiv    Dwolla  
Chase Paymentech

##### Gateways

PayPal  
WePay  
Stripe

##### Card networks

Visa    American Express  
Mastercard    Discover

#### Global remittance platforms

PayPal    MoneyGram    XE  
Western Union    Transferwise    TransferGo

In the U.S., the processing and settlement of credit and debit card transactions rely on a complex web of firms that includes payment acquirers/processors, independent sales organizations (ISOs), card networks and issuing banks. This ecosystem is largely responsible for processing all transactions made with a debit or credit card, both in person and online.

Financial technology has also touched the business-to-business (B2B) environment, where tech firms have emerged to help companies automate account payable processes and remove frictions between buyers and suppliers. Particularly active fintech verticals within the B2B space are electronic invoicing and cross-border payments.

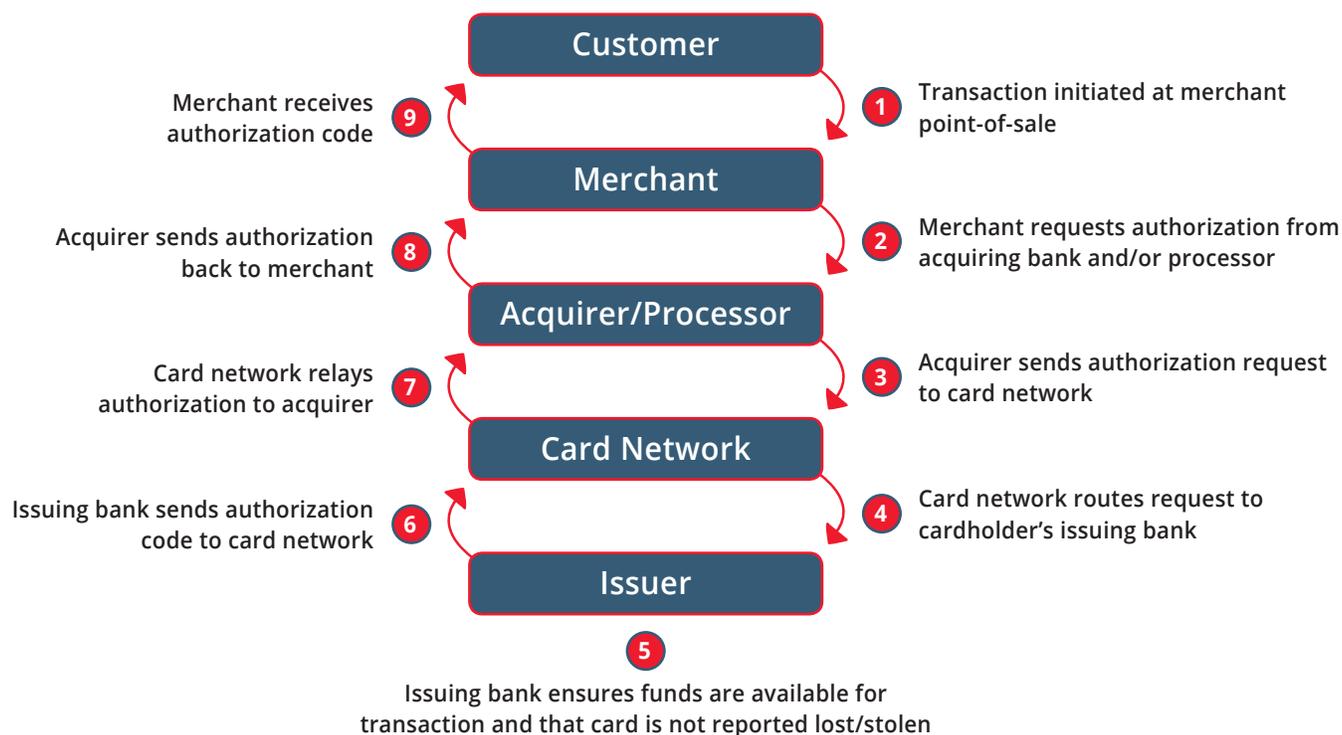
### **Competitive environment**

Industry incumbents and traditional payment modalities have remained fairly durable new entrants and technologies. Consumer adoption of in-store payment apps has been measured, while the legacy ecosystem of payment processing and settlement is protected by high barriers to entry.

The most aggressive disruption is happening in P2P payments, where entities such as PayPal and its Venmo subsidiary, Square Cash, and others are enabling payment functions once exclusive to cash and checks, access to which is controlled by banks. Banks are responding to this competition by fortifying their own P2P payment capabilities with services such as clearXchange, a mobile payment consortium consisting of Bank of America, JPMorgan Chase & Co., Wells Fargo & Co., U.S. Bancorp, Capital One Financial, PNC Financial Services Group, Citigroup and BB&T. The consortium provides customers of its member banks real-time P2P payment transfers. Real-time service has gone live across a majority of clearXchange members, with the rest slated to follow in the fourth quarter of 2016. The fourth quarter will also herald enhanced marketing behind clearXchange, which is being rebranded as Zelle and formally poised as a banking industry response to disrupters like Venmo.

With respect to in-store payment apps, some services pose a greater disruptive threat than others. Apple Pay and Android Pay, for instance, provide a platform with which to tokenize digital payments, thereby allowing users to bypass their physical wallets in favor of their smartphones. But customers continue to use the same credit cards, albeit digital versions, and transactions are still verified, processed and settled in a process nearly identical to purchases made with a physical card.

### How a card payment is processed



Starbucks, on the other hand, allows customers to load their digital wallets via PayPal credentials tied to checking accounts. Customers that reload their Starbucks wallets using the ACH rails of their PayPal account save Starbucks considerably on interchange fees tied to debit and credit cards. PayPal's ability to tap into the ACH payment network gives it an advantage over apps like Apple Pay and Android Pay.

Chase Pay, whose launch has been postponed until late 2016 or early 2017, also intends to offer a more disruptive in-store mobile payment model. Unlike Apple Pay, which earns a small percentage fee from merchants on each transaction, Chase Pay will operate a closed-loop system offering merchants a network with no processing fees or merchant fraud liability.

Square Inc., which went public in November 2015, has slipped into the payment processing market through the backdoor, offering merchants simple-to-use EMV- and NFC-compatible point-of-sale terminals. Square began by selling card-reading dongles for smartphones in 2011 and has transitioned to contactless chip card readers. The company offers commercial retail payments solutions, with add-on services for human resources, accounting and business analytics. Its product stack also includes a small and medium enterprise lending business, Square Capital, which extended over \$400 million in loans to sellers on the Square platform in 2015.

**Risks**

Regardless of payment medium, the central risk is the same: theft. Thieves have exploited security vulnerabilities in the credit card processing system for years. According to a 2015 survey of over 900 cyber security professionals conducted by IT governance association ISACA, just 23% of experts believe mobile payments keep personal information safe.

Advances in tokenization, host-card emulation and biometric authentication have improved the security posture of mobile payments, but weak points remain. Personal data is at risk if devices are lost and vulnerable during credit card enrollment into mobile wallets like Apple Pay.

This has led to growth in two-factor authentication, which requires a wallet user to have at least two of three types of security credentials to access a particular account or application. These credentials include information the user knows, like a pin or password; physical items possessed by the user, like a payment card or smartphone; and biometric information unique to the user, like fingerprint or retina recognition.

**Recent events and outlook**

The adoption and value proposition of P2P payments are on the rise, as competition leads to faster transactions and more convenient payment methods embedded into mobile apps and messaging services.

In-store payments are mired in a discovery process among merchants, consumers and banks. There is a lot of experimentation in the market with little consensus as to whether wallet providers like Apple Pay or merchant-branded apps like Starbucks have an innately superior model.

The modern U.S. payment processing system is effective, though not demonstrably efficient. Some industry experts believe that blockchain technology, or distributed ledgers, can improve upon and potentially subsume this legacy system. The case for adopting distributed ledger technologies largely centers on achieving greater efficiency in payment clearing and settlement. Proponents claim distributed ledgers would be able to verify, process and clear transactions with less friction and greater security relative to the status quo. Distributed ledgers won't replace legacy payment architectures anytime soon, but experimentation is well underway.

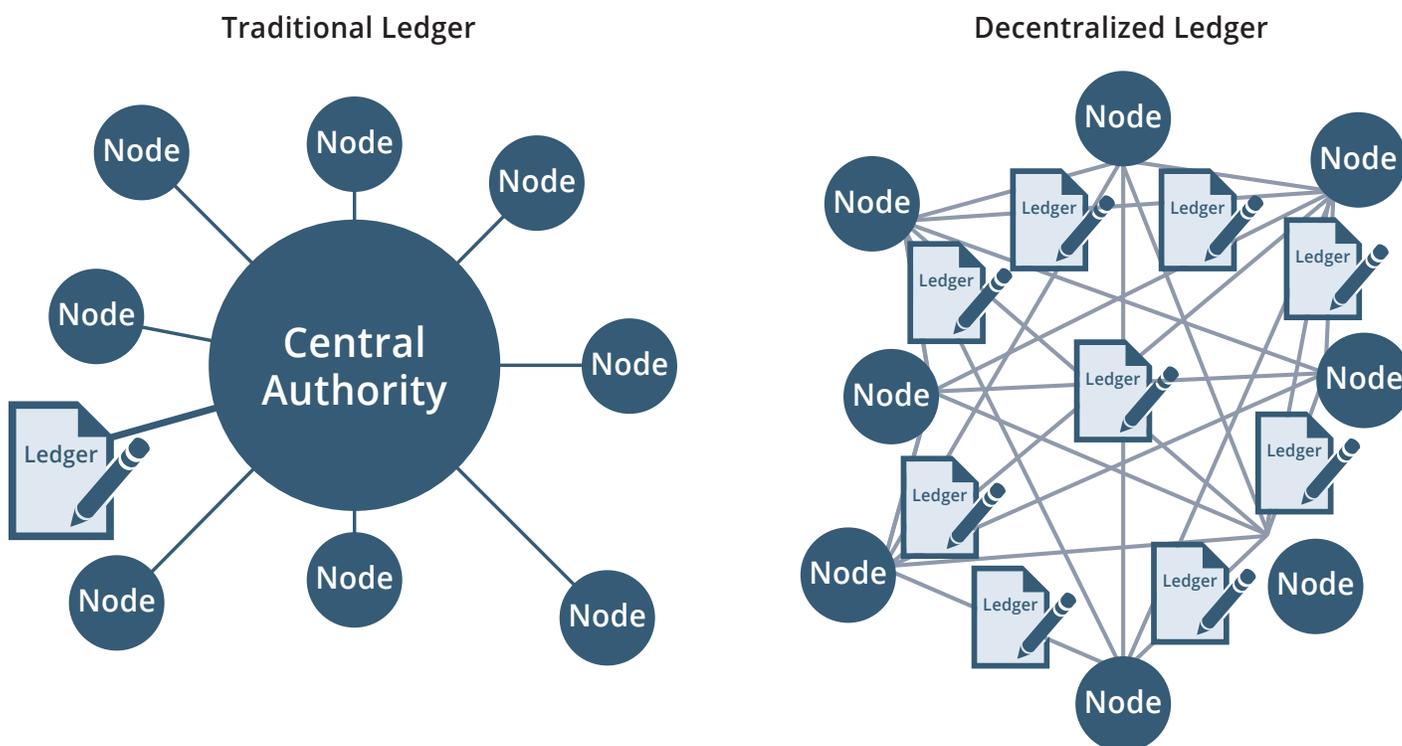
## BLOCKCHAIN *(by David Holt)*

### Industry description

Despite a complex infrastructure, the goal of blockchain technology can be summed up simply as decentralization through a shared ledger of transactions.

The three main components are a peer-to-peer network with randomized groups, or nodes; a database, or digital ledger; and third parties. When a third party submits an entry or payment, to the ledger, the nodes work together seamlessly to either approve or reject transactions. With no central authority, this eliminates the need to trust one party such as a payment processor. Everything is time-stamped and protected by cryptographic signatures, or complex algorithms that provide data integrity. As such, if any party attempted to retroactively adjust transactions, it would be visible to every node in the network, essentially making transactions fully immutable once submitted.

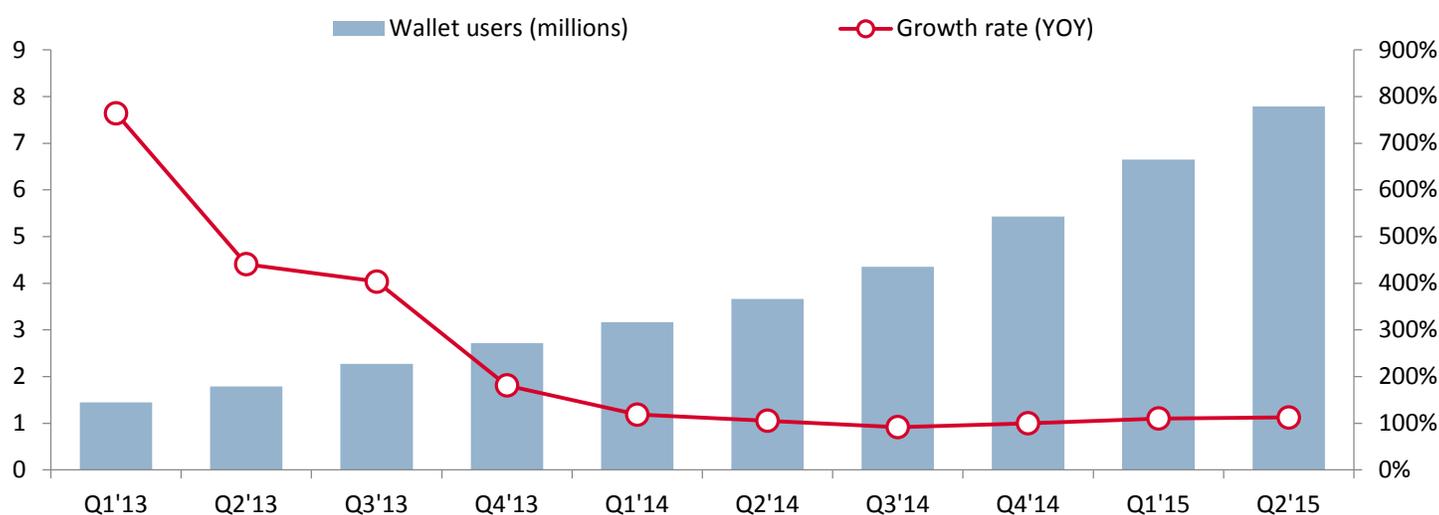
### Removing the central counterparty with decentralized ledger technology



For a real world example, since the late 1930s, if you ever needed transportation for hire, you would either call or flag down a centralized taxi cab service. Today, it's as simple as opening your Uber app on your connected device and dropping your pin to notify taxis of your location from a decentralized pool of drivers for hire. This eliminates the need for an intermediary taxi cab company, while details of the transaction are easily authenticated (price, time, distance), efficient (cutting down wait time for a taxi) and transparent (fully visible to other drivers in the area).

Despite being closely linked with digital currencies such as Bitcoin and sharing unwanted media attention with online black market websites like Silk Road, blockchain has a distinct outlook. As Bitcoin was designed to resemble a commodity being extracted from the earth, there are only a limited number of reserves that can be mined. In other words, at some point this ceiling will be breached, and bitcoins will cease to be produced. The blockchain infrastructure is more promising, with diverse potential applications that could reshape how business is conducted across payments, loans and trading. Blockchain could prove to be a disruptive technology in financial services due to that potential and to the enhancement of three important characteristics: authentication, efficiency and transparency.

### Blockchain wallet users growth



### Competitive environment

Some observers consider blockchain one of the most disruptive technologies since the internet. We take a more moderate view but see considerable potential for blockchain applications.

There is a lively competitive environment for blockchain innovation because of the diversity of ideas regarding the contributions the technology could make to businesses. While this could cause fragmentation across both financial and non-financial industries as they seek the best applications for company-specific needs, it also encourages creativity by driving companies to push blockchain boundaries and explore its full potential.

There is a mix of small startups focusing on niche roles within the blockchain and financial institutions looking to radically adjust how they conduct business by rotating to new technology.

According to digital currency data provider Coindesk, startups rose more than fourfold year over year to 59 in the first quarter of 2016, while total venture capital funding nearly doubled to over \$1.1 billion. Blockchain wallet users doubled to nearly 7.8 million in the second quarter of 2016 from 3.7 million in the second quarter of 2015. In March 2016, JPMorgan Chase unveiled a blockchain prototype, codenamed Juno. Other large banks like Barclays, BNY Mellon, Goldman Sachs and UBS have quietly amassed teams for blockchain development.

Another unique element is the dynamics of the competitive environment. As with any technology in its infancy, and despite institutions both small and large remaining fiercely competitive, we think all companies realize that industrywide collaboration and acceptance need to materialize for a drastic movement like implementing blockchain technology to succeed. There is robust support for next-generation financial services technology from industry consortiums like R3, which now has a backing of over 50 banks and financial institutions. R3 recently released its own distributed ledger platform, dubbed Corda.

### Risks

Longer term, we think the main underlying hurdle for further acceptance of blockchain technology remains regulation. Given the sensitivity around trading of financial instruments and cash, global rules and regulations need to be agreed upon for continued adoption.

The Commodity Futures Trading Commission has expressed interest in developing an acceptable framework for futures trading and digital currencies, and at least one startup has applied for official registration with the Securities and Exchange Commission.

The decentralized structure of blockchain and digital currencies continues to attract attention from regulators, given the risk of users dodging taxes, laundering money and distributing illegal goods.

We think it remains premature to establish extensive rules and regulations, which could hamper future innovation and growth potential of new blockchain offerings. Further testing of blockchain's abilities needs to be successfully completed to fully gauge where regulation is needed and the potential opportunity that blockchain can offer. Once it's proven that the blockchain can substantially mute lingering doubts about its ability to cut costs, increase transparency and enhance efficiency, regulators could embrace next-generation digital offerings.

Other risks are integration and up-front costs linked to overhaul of legacy infrastructure. Another point of concern is figuring out how and under what circumstances organizations can operate using a public, as opposed to private, blockchain.

Bitcoin has suffered significant price reductions in the past five years. Highly publicized events such as the recent \$50 million Decentralized Autonomous Organization hack in June 2016 and the 2014 Mt. Gox exchange collapse that resulted in hackers stealing about \$460 million highlight security and privacy concerns. As we embark on uncharted territory with a promising technology, greater fail safes need to be put in place to encourage further acceptance.

**Recent events and outlook**

Blockchain technology has the potential to alter many procedures conducted today in financial services beyond fintech. We think this helps solve major dilemmas that firms have had, including higher costs related to greater reporting transparency and data dissemination, by allowing for long overdue refreshes of legacy back-office systems.

Blockchain could also materially shift nonfinancial digital industries. For example, this could reduce cybersecurity risk by eliminating human intermediaries, change the way we authenticate votes and share sensitive healthcare data across multiple organizations, and even enhance how we operate connected devices on an Internet of Things ecosystem.

Demand remains robust. According to the World Economic Forum, over 80% of banks are expected to initiate blockchain projects by 2017, while more than 24 countries and 90 central banks have already engaged in discussions. What's more, over 2,500 patents have been filed in the past three years.

Despite our optimistic view that blockchain will help craft a platform of next-generation financial services offerings, establishing common ground between reality and hype by tempering near-term expectations remains imperative. We remain at the beginning of a long-term cycle, and significant growing pains are inevitable. Policymakers should not prevent future growth before it starts by implementing large regulatory hurdles, but instead should fully investigate the potential contributions that blockchain can bring to multiple industries.

## DIGITAL WEALTH MANAGEMENT *(by Kate Garber)*

### **Industry description**

Within investment and capital markets technology, one of the most dynamic topics is the disruption of traditional wealth management. Robo-advisers have developed agile, automated technology that is changing assumptions about how money can be managed.

Robo-advisers are retail-focused, automated wealth management services that use algorithms to evaluate risk tolerance and that generally manage assets in low-cost portfolios of exchange-traded funds. Their automatic allocation and rebalancing features let investors manage portfolios at a distance.

Some robo-advisers offer fully automated advice, while others are a hybrid of digital and human services. Certain companies provide advising services directly to consumers, with little human adviser assistance, while others offer options with advice over the phone. Incumbent asset management firms have developed in-house digital offerings or recruited white-label robos to power their automated investing platforms.

Consumer-facing robo-advisers are relatively low cost, have transparent fee structures and offer intuitive user experiences. While traditional wealth management firms focus on wealthier customers, digital advisers may appeal to younger clients and the mass affluent demographic. Some robos are lowering their investment minimums in hopes of attracting younger customers. This trend could broaden access to a wider group of individuals with smaller amounts of assets to invest.

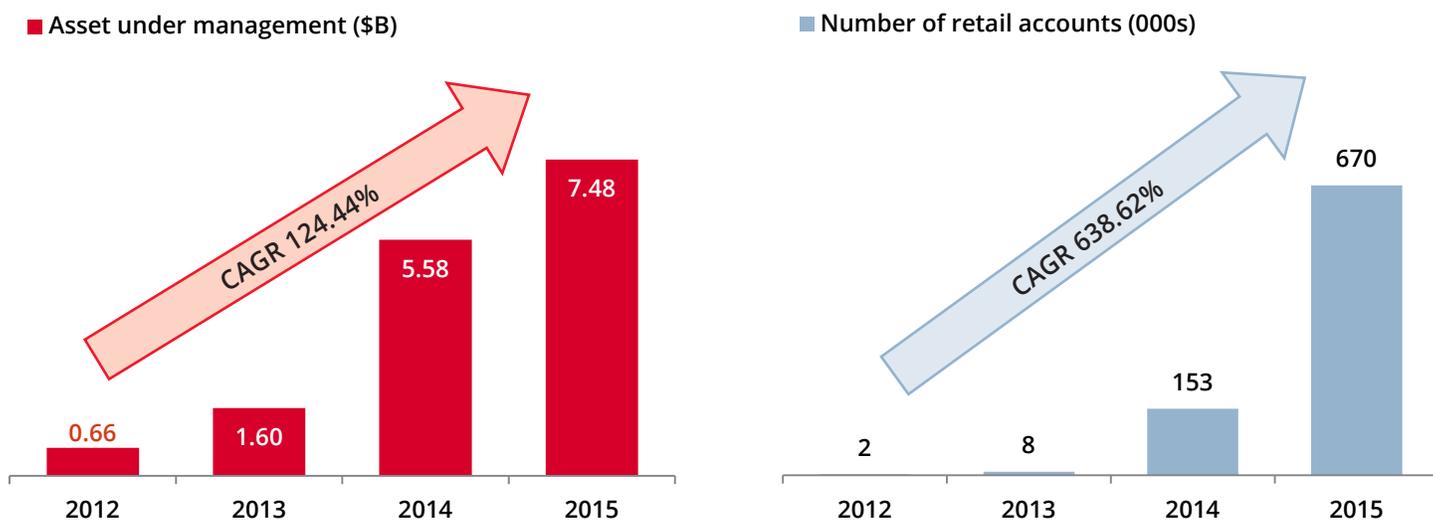
### **Competitive environment**

The popularity of robo-advising technology has increased exponentially within recent months. Many digital wealth management startups emerged in the wake of the financial crisis. Trust in large financial institutions has wavered, and these incumbents are busy managing regulatory demands. In the meantime, startups have stepped in to offer more straightforward and affordable financial advice. Also in the wake of a recession, investors demand cheaper advice during a time when returns are forecast to be low.

The rise of digital wealth management has accompanied an industry shift from active to passive investment management. In recent years, the proportion of assets that are managed passively has risen significantly. The popularity of robos will likely continue this trend of passive investing.

While they have been fairly slow to adopt the technology, established wealth managers are starting to account for a larger portion of the surge in digital wealth management technology. For incumbents, the new technology is both promising and daunting. As in other areas of financial services, there is a need to keep up with consumer expectations for seamless online experiences that have been reshaped by digital-first brands like Amazon and Uber.

## AUM, retail accounts on the rise at robo-advisers



*Includes Acorns Advisers, Aspiration Fund Adviser, AssetBuilder, Betterment, bloom, Hedgeable, Personal Capital Advisers, SigFig Wealth Management, TradeKing Advisers, Wealthfront, WiseBanyan and Xulu.*

To keep up with consumer expectations, established players are partnering with or buying robo-advisers as well as building out their own versions of the technology. Broker/dealers and banks tend to partner with independent robo-advisers, while large asset managers tend to build their own automated investment technology.

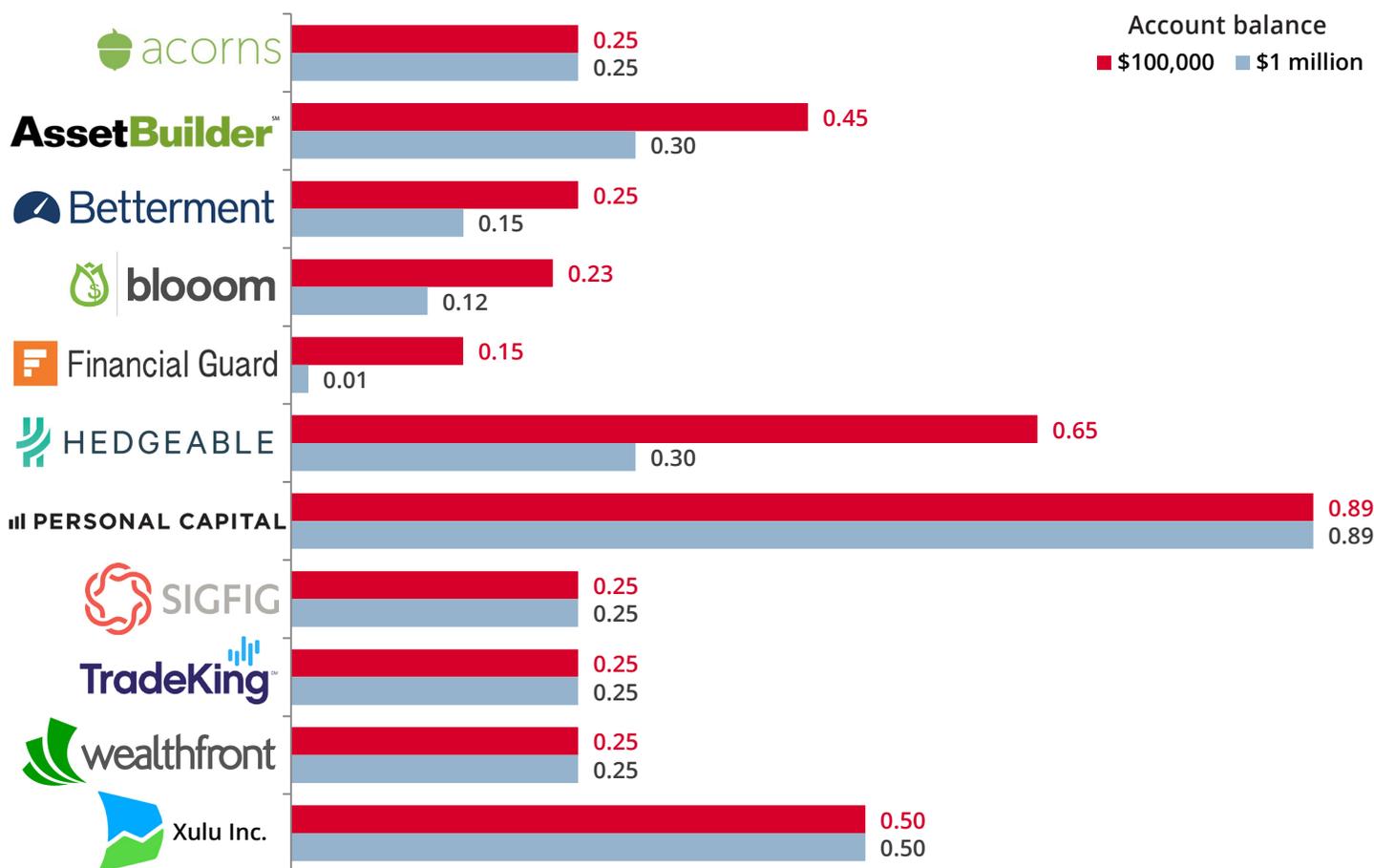
Consolidation is a theme in the space. In the past two years, many incumbents have partnered with robo-advisers, acquired them or launched their own. Notably:

- Northwestern Mutual acquired LearnVest
- BlackRock acquired FutureAdvisor
- Invesco acquired Jemstep
- Vanguard started Personal Advisor Services
- Deutsche Bank launched maxblue
- Charles Schwab started Schwab Intelligent Portfolios
- Fidelity Investments launched Fidelity Go
- E\*Trade launched Adaptive Portfolio

Among banks, Capital One Financial started an automated investment-advice service that blends in-person advice and robo-advice. Wells Fargo announced that it will roll out its own robo-advisory service in 2017. Some robos have also ventured into new areas including 401(k) retirement accounts and 529 college savings plans.

While many of the fintech companies that specialize in robo-advising are likely to be drawn into the business-to-business and white-label strategy, some may establish new wealth management brands on their own. Independent robo-adviser Betterment recently crossed the \$5 billion AUM threshold and aspires to be a standalone, publicly traded robo-adviser.

## Annual management fees by account balance at select robo-advisers (%)



### Risks

One concern about robo-advisers is liquidity. Amid the market turmoil after the U.K.'s Brexit vote, Betterment stopped trading because it believed that the rout disadvantaged its customers. Therefore, clients did not have the choice to buy or sell during a volatile market period because the company decided not to execute trades.

Massachusetts securities regulators as well as some investors and advisers have since flagged liquidity as a potential risk in robo-advisers' portfolios because the algorithms governing investment decisions may not be able to act in a client's best interest during market slides. Critics have also raised concerns about the way Betterment disclosed the trading halt to its clients. If robo-advising services grow more complex and start to be regulated like banks, Deutsche Bank thinks there could be concerns about consumer protection and liability.

Independent robo-advisers like Betterment also face the risk that customers are too expensive to acquire and are wary of lesser-known investment brands. To solve the client acquisition problem, these fintech companies are moving toward a business-to-business model by partnering with incumbent wealth managers. Within these B2B agreements, some independent robo-advisers receive help in raising capital from their partners.

Another challenge for independent robos is the tight margins of the wealth management business. To keep up, these companies need more assets.

According to SNL Financial data, independent robo-advisers had \$7.48 billion in assets under management at the end of 2015, and the compound annual growth rate was 124% for the period from 2012 through 2015. While the AUM of independent robo-advisers is largely a drop in the bucket of assets managed by traditional firms, the broader robo-advising space is expected to grow at a fast clip.

There is also concern that robo-advisers have not weathered a bear market. They have emerged during an economic recovery, and some critics argue that robos are largely untested in challenging market conditions.

### **Recent events and outlook**

One potential tailwind for digital wealth management is the U.S. Labor Department's Conflict of Interest Final Rule. Commonly known as the fiduciary rule, this requires advisers, including those in the life insurance and broker/dealer space, to act in clients' best interests when advising them on retirement accounts. Some may look to robo-advising technology as a way to comply with the new regulation because the platforms typically have flat, transparent fee structures. While it is unclear how robos will be held accountable as fiduciaries, they are likely to benefit from the flow of assets away from traditional human advisers.

The fiduciary rule is expected to impact more than \$14 trillion of assets in retirement accounts. As financial institutions prepare for implementation of the rule, an uptake of robo-advising technology may speed up disruption of the industry. The rule also influences traditional advisers' ability to work with smaller accounts, so robo-advisers may be better suited to serve low-balance clients.

Though fintech companies are a small part of the broader wealth management space, their influence is expected to swell.

There is likely to be a flood of new deals and partnerships ahead, as capital continues to pour into the robo-advising space. Incumbents will continue incorporating automated advice and in-person investment services. By most accounts, the future of investment advice will be a mix of automation and professional, human advice.

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