

June 2018

Opening the bank for a new era of growth

Open banking is happening, and it just might be the most optimal path to digitization



Open banking is happening, and it might be the most optimal path to digitization. Despite some skeptical views on a more open approach, many financial services firms already provide access to internal core systems and share consumer data with third parties. In further embracing this strategy, organizations can potentially accelerate efforts to revitalize growth in banking.

Financial services companies face a new set of factors as they contemplate how to generate sustainable growth. Consumer preferences are shifting to digital and highly personalized services, and nontraditional competition, such as the technology industry, continue to offer more basic banking products. Digital-savvy consumers also measure their banking experience against a diverse set of technology, startup, and internet companies—meaning customers have a low tolerance for inconvenience and expect highly intuitive services. These factors could change the way established financial services companies develop and distribute their products.

So how should financial institutions evaluate their next steps, and what is the best approach to move forward? In this report, we explore open banking—an approach of sharing internal bank data and processes to external parties via digital channels—which can help reinvigorate growth in the banking.

Some financial companies, for example, now offer a public API (application programming interface) marketplace where third party developers can access and integrate authorized customer data into their applications. This allows more customer choice while leveraging the cost and innovation benefits of communal development. Another global bank recently announced a free personal financial management tool in exchange for third-party financial data. By aggregating data from separate sources, the bank expects to increase consumer engagement and be in a better position to proactively offer personalized products.

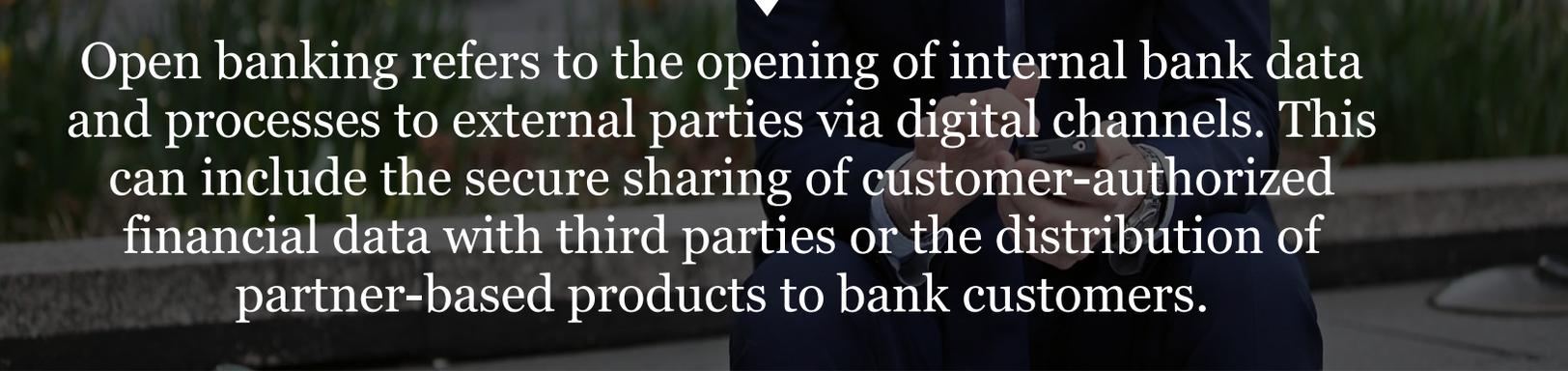
Common to these examples is integrated access to data, products, and services. This “open” approach can enhance returns through lower cost digital product and market expansion, or enable a bank to extend its core systems directly to customers and partners. Whether this is a selective curation of third-party partners or a more transformational approach involving a public API marketplace, open banking can provide a controlled, secure strategy to innovate and help refine the consumer engagement model in a digital native world.

What is the path forward? Fortunately, there is a phased approach that financial organizations can consider. To start, open APIs can be used to modernize by facilitating integration between legacy bank systems and new services. Second, an open banking approach can enable banks a new distribution approach to access new demographics or provide new third party services. And third, by enabling third parties direct connection, banks can assemble various produces for customer and flexible customer choice.

The business case for open banking

By making data and systems available to third parties, financial institutions can expand their addressable market, achieve product diversity, and commercialize core systems.

It is reasonable to be skeptical if not outright dismissive when evaluating a strategy that involves openly sharing valuable assets. It's hard to imagine an organization sharing confidential sales activity or personal individual transaction data—and harder yet to imagine exposing this data to potential competitors. Nevertheless, this is the premise of open banking, which has financial services companies considering whether and how to share consumer data with commercial parties and distribute third-party products with bank customers.



Open banking refers to the opening of internal bank data and processes to external parties via digital channels. This can include the secure sharing of customer-authorized financial data with third parties or the distribution of partner-based products to bank customers.

Open banking has gained recent attention due to regulatory directives in the UK and the EU, which mandate that banks share customer data,^{1 2} and in the US, where nonbinding guidance essentially challenges the industry to take the lead.³ Other jurisdictions such as Australia have also passed open banking measures. As the industry interprets and adjusts to the regulatory direction, several banks and technology companies are taking the next steps. Some have formed one-off data sharing arrangements, and some have gone further in embracing an open model, but others have been more critical with their concerns.

Given the early stage of the open banking concept and the related skepticism, it's helpful to understand both sides of the debate. Many technology companies claim that access to bank-housed financial account data will benefit the consumer through new services and an increase in choice. For example, new highly personalized financial services can be created from the aggregation of various data sets such as deposit history, mortgage payments, or spending habits. On the other hand, although financial services incumbents largely recognize the consumer benefit of open banking, there are valid security and privacy concerns about the responsibilities that come with it.

The first phase of the UK's Open Banking mandate went into effect in January 2018

In the US, the CFPB issued guidance in October 2017

Competitive concerns also exist, as aggregated data can be used by nontraditional competitors to offer basic bank products such as payments or loans. As such, the industry is at an impasse, which has given rise to workarounds including “screen scraping” and one-off data sharing arrangements, which have downsides in security risks and scale limitations, respectively.

A less discussed aspect of open banking is the business case for why incumbent financial institutions should potentially embrace an open strategy. If open banking truly benefits the consumer but this very same benefit could be reaped by a third party, banks may struggle to articulate and gain support for the strategy. It can be argued that this view may be shortsighted and does not consider the changing factors of consumer engagement or opportunity to revitalize growth in a digital setting.

Open models, especially in a digital environment, have proven to stimulate innovation and have been a contributing factor for overall industry growth by lowering the barriers for new entrants. They can be leveraged to lower the cost of product development due to communal contribution, or to refine a partnership process by reducing complexity and redundant builds. When considering the business case, financial institutions can consider establishing their open banking approach around three fundamental components: monetization, engagement, and cost reduction.

Key trends influencing open banking

- Fundamental change in customer acquisition and habits
- Emerging global regulation
- New means of product and data distribution
- Platforms are becoming a core value chain component
- New non-traditional competition

Open banking: monetization, consumer engagement, and cost reduction

Banks will ultimately consider an open model due to the economic benefit.

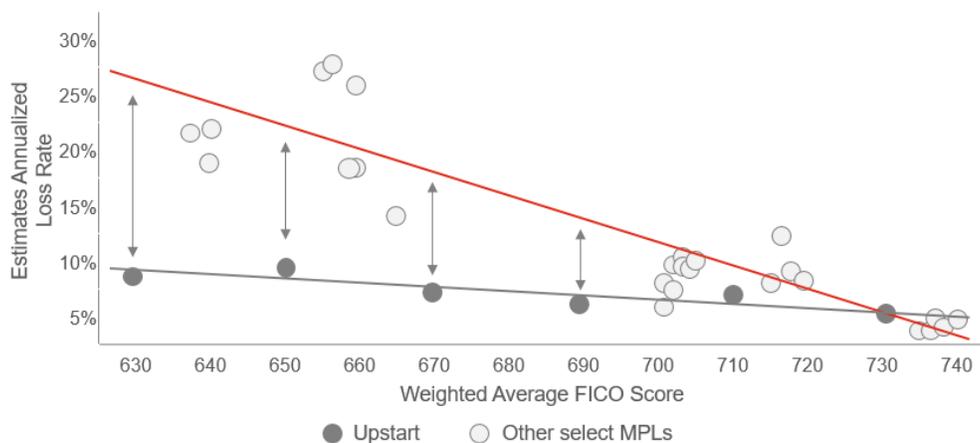
The economic benefit of an open model may be realized through addressable market expansion, product diversity, and commercializing core systems. Both market and product expansion are particularly relevant when delivering financial services in a digital manner due to the lower marginal costs of digital channels.

Addressable market expansion:

Take the example of a company that uses alternative data when making lending decisions. By incorporating such information as education, employment history, or personal interests, borrowers who may have been denied credit may now be able to obtain a loan through a more thorough credit assessment. Considering that 77% of the 67 million adults in the US who are underbanked have a checking or savings account,⁴ it's clear that opportunities exist. As seen in **Figure 1**, the use of outside alternative data is proving to expand the addressable market, and this can be done in a risk-controlled manner as seen in the strong loan performance.

Figure 1: Nontraditional sources of information can expand the addressable market

Upstart loans by FICO tier relative to other lenders



- **TAM expansion:** By evaluating consumer loan applications with traditional factors and nontraditional data, loan approvals increased by 186%
- **Risk-adjusted:** Market expansion was enabled by significantly lower loss rates due to the use of data from third-party partners
- **Pricing efficiency:** Borrowers pay an average 12% rate for a fixed-term loan, relative to an average 22% on their credit cards

Source: Upstart

As financial organizations consider an open architecture based on APIs, a bilateral approach is a starting point where a bank will share data with a third-party in return for something such as a credit decision or to ease a specific customer pain point. Over time, financial organizations may then pursue a public framework inclusive of a developer portal or sandbox where third-party developers can connect to bank APIs. Banks may also pursue arrangements with partners for use of their data (e.g., account transactions, payment histories, brokerage statements, or pay stub information) for goals such as market expansion.

More mature examples of open banking include API marketplace or platform models which can realize market expansion by accessing out of footprint geographies or by assembling and distributing various third party products. In both instances, the bank can expand its reach through lower cost digital distribution channels.

Addressable market expansion opportunities exist



77% of the 67 million underbanked in the US have a primary bank account

+186%

Increase in loan approvals due to use of external data

1.6 million

Net new customers acquired in six months for a partner API-based mobile bank

Product diversification:

Digital channels offer a new economic paradigm for product expansion. This is due to the additional scale that can be achieved through a partner model where select banks could transition from product “manufacturers” to product “distributors”.

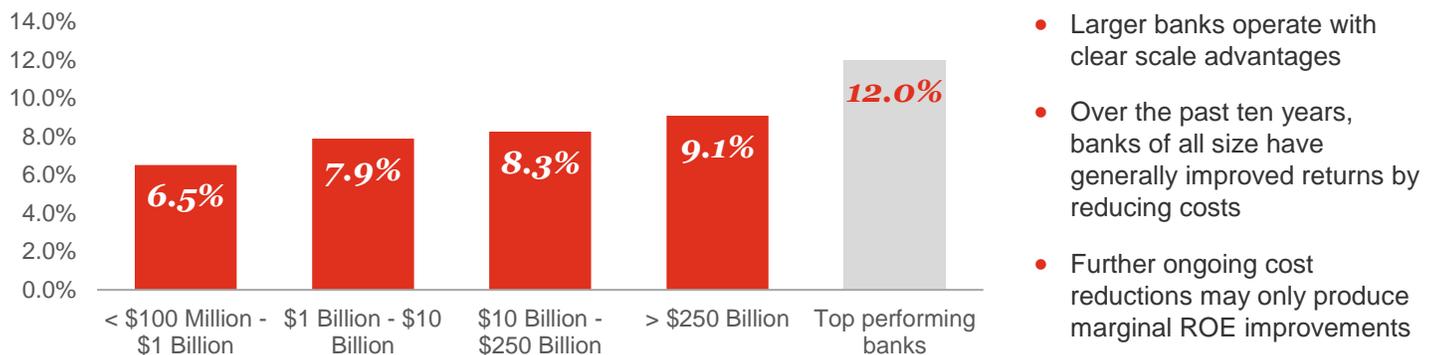
Digitization now plays a distinct role in how banks differentiate

Considering that many banks have been challenged to accelerate growth and returns have been a challenge to produce, any part of a digital strategy should include an improvement in the cost-income ratio. As seen in **Figure 2**, banks typically benefit from economies of scale. However, even beyond the largest firms, better performing banks tend to demonstrate clear value propositions through differentiation. Some specialize in a particular market subset while others are entrenched in their community with deep customer

relationships. Digitization now plays a distinct role in how banks differentiate not just due to efficiencies but also through improved customer experience that can translate into lifetime value.

Figure 2: Economies of scale in banking are clear

Return on equity by asset size (2010-2017)



Source: FDIC Quarterly Banking Profile

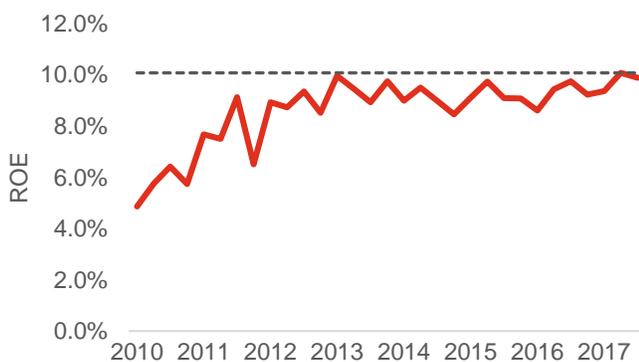
Intuitive digital-based products offer highly customer-centric experiences. Some banks, in fact, are seeing increased levels of revenue from the uptake of digital solutions (see **Case study: Improved returns with API-based product expansion** on page 8). This can be attributed partly to an increased level of engagement from an improved experience and partly to growth in wallet share from product expansion.

Take, for example, a mid-size bank seen in **Figure 3**. This bank could expand from a singular or small product set to offer additional, possibly partner-based products to expand and enhance returns. In essence, a small or medium-size bank can aim to mimic the coverage and breadth of a national bank through the digital assembly of various products.

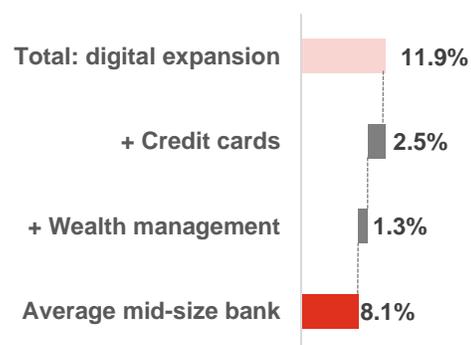
An API-based architecture can improve integration with third parties, potentially making it easier for a bank to support a portfolio of product options—even those provided by partners. As seen in **Figure 3**, when assuming modest penetration (10%) of new product uptake by existing customers, the mid-size bank with a return on equity (ROE) of 8.1% could look to generate incremental returns closer to 12% through digital-based product diversification.

Figure 3: Digital-based product expansion could diversify returns

Returns have improved from lows largely due to cost reductions, but have peaked at 10%



Digital-based product expansion is an option to generate incremental return



Note: Illustrative example. ROE derived from all FDIC insured institutions.
Source: PwC, S&P Global Market Intelligence, FDIC Quarterly Banking Profile

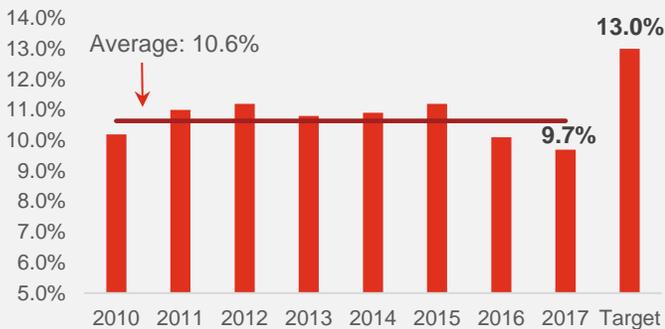
An open banking framework could allow consumers to connect their individual financial (and other) needs through the financial institution. Banks can leverage their inherent trust and soundness to be a “data custodian” where the consumer could then securely share specific information for pre-approvals or share general identity information to open or access other services. Insight to this behavior allows the primary bank to offer more personalized assistance and approach the consumer in a more encompassing manner. Ultimately, this could hold the promise to drive enhanced returns given the economic shift to lifetime value rather than one-off transactional services.

Case study: Improved returns with API-based product expansion

An international financial services company with over four million customers began to increase its partner collaboration several years ago through a set of public APIs. Upon full launch of its API platform in 2017, the company had more than 150 APIs. This included 50-plus third-party companies that introduced solutions developed through the API platform with functionality that included real-time payments, fund transfers, and an out-of-region mobile banking solution.

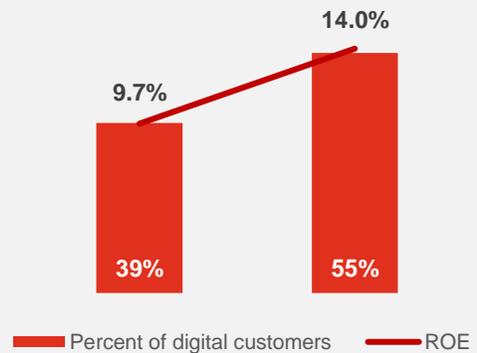
The impetus for the platform was to differentiate through an improved customer experience and to accelerate growth. Overall, the bank found that its retail digital customers have a ROE eight percentage points higher than its traditional customers (27% for digital versus 19% for traditional). With digital customers representing about 40% of total, the bank is in the process of pursuing a greater mix shift—should digital customers increase to 50% to 60%, aggregate ROE could increase to 14% compared to the current 9.7% (FY17).

- Average aggregate ROE has hovered around 10%
- A mix shift toward digital customers is a key factor to increase ROE closer to the 13% target level



ROE by customer segment:

Digital: 27%
Traditional: 19%



Further, bank data shows that its digital customers generate more than twice the revenue as its traditional customers. Matching this higher revenue with a more efficient cost to service these customers has created a higher customer value. This value proposition has been a clear differentiation for the bank



Maximizing consumer engagement in a digital world

Challenges that banks face in a digital setting include vying for consumer attention amid an ever-growing set of digital channels. When the most common mobile banking activity is to check account balances, and the average daily time users spend on their online/mobile bank is 0.9 minutes (PwC), it's clear that consumers transact rather than engage with their financial applications.

As digitization typically lowers switching costs and increases consumer choice, engagement increasingly becomes critical to overall customer retention. For the 94%⁵ of all mobile banking users who check their account balances, do banks fully leverage this specific behavior or is it treated as a teller-like task, with the consumer then exiting the branch or app? Banks have a great opportunity to add relevance to this mundane but predictable consumer behavior. They can leverage partnerships to add a convenient or proactive service such as helping a customer who may typically have a low balance, or assisting others who can save or invest more because they maintain high cash balances.

Banks have begun to seek more partnerships and other various means to better understand their customers in order to deliver personalized services. Open banking brings a standard process to align with these third parties and can accelerate the partnership process in a risk-controlled manner.

A top-10 bank in the US, for example, recently integrated third-party auto financing and leasing technology into its online banking site. With the tool, consumers select a vehicle and dealership, apply for financing, receive a decision in minutes, and then close the loan at the dealership. From the bank's perspective, the partnership accelerates time to revenue and inserts digital end-to-end decision making into the lending process. From the user's perspective, a far simpler buying experience is made possible by the bank.

The partnership squarely addresses the current friction that can exist in the car buying process. The loan application is paperless and occurs early in the process, providing an improved banking experience and empowering the consumer prior to arrival at the dealership. This also translates to relevance for the bank, as the financial transaction is part of the purchase activity rather than an afterthought at closing.

Sharing data may be a transformational approach for some banks, but it should allow them to evolve faster alongside consumer change and to take advantage of trends such as wearables, autonomous vehicles, and voice-controlled interfaces—each of which can contribute to a better experience and stronger consumer engagement.

Risk mitigation and cost reduction

The data sharing that's happening today often occurs through means that can be insecure and unscalable; specifically when user credentials are shared. In instances where workarounds such as screen scraping are used, data may be leaving financial institutions in an uncontrolled manner. Consumers who divulge their bank credentials to a third-party aggregator may a) lose the mandated bank protection of their financial data, b) void the terms and conditions of their account agreement, and c) lose visibility into how their data is used and by whom.

Do banks have an inventory framework to know what data has been shared with which third parties?



Are banks clear on who sent the data, why, and what third parties then do with the data? Further, some nonbank third parties that store consumer financial data may not adequately protect or secure the data in the bank-like manner that consumers expect. This introduces reputational risk for the banking system in the event of misuse. An API gateway providing native access and authorization security, and instrumented for usage and call counts, will provide log results and audit trails for data lineage. This type of framework will enable a bank to regain control and mitigate data privacy and security concerns.

This approach also returns control to the incumbent banks. With a proper API management gateway, requests for data access outside the framework can be shut down and blocked. Even most data aggregators support a public API framework. The current process of screen scraping is typically a mundane approach that can be unreliable because the software scripts that collect data are subject to failure when changes are made to destination sites.

Figure 4: Select APIs commonly used within the financial services industry

	Open Financial Exchange (OFX)	Durable Data API (DDA)
Structure	Initially developed by three software companies and widely used within financial services. OFX is now a loose communal consortium	Developed by a working group within the Financial Services Sharing and Information Sharing and Analysis Center (FS-ISAC)
1.0 release	1997	2015
Authentication	OAuth tokenized authentication	OAuth tokenized authentication
Data format	XML	JSON

An API framework can lower the cost to serve customers and be applied as a method for digital transformation. Implementation of modern APIs presents efficiency opportunities from reduced complexity and redundant development work (10% to 15% savings from baseline spend in some instances). Despite efforts to introduce efficiencies, many core banking processes still require significant manual support.

It is important to note that APIs are not new, but the use of “modern” APIs (such as JSON and RESTful APIs as opposed to SOAP and XML) to connect to third-party systems or integrate external data is a novel approach for many banks. Modern APIs are a starting point for financial institutions to create flexible environments for partnerships. This can specifically reduce the cost, time, and complexity for banks to connect third-party solutions with their core systems. Modern APIs can improve the integration timeline with third parties relative to “old” APIs, which typically have material overhead and operational costs as well as an integration path to connect with legacy core systems that can take upwards of 9-12 months.

We see the development of a flexible open environment as a phased approach in which first movers may have a competitive differentiation. Many banks today integrate and share data with packaged SaaS providers; a SaaS-based CRM solution will receive bank customer data to provide users (e.g., call center representatives) an accurate view of the customer. Use of public APIs is now expanding as a means for financial institutions to more easily connect and deploy third-party services such as FinTech partnerships. We note that this is still a bidirectional arrangement and not truly “open.” The next phase will likely be a broader open architecture that provides more consumer choice in financial solutions and encourages third parties to develop new services on top of bank platforms and data.

Open banking: a path to digitization

When evaluating the rationale for open banking, growth opportunities, improved efficiencies, organizational flexibility and competitive positioning are at the top of the list. Open APIs can be used to build or enable partnerships, and financial organizations can distribute third-party products which can refine approaches for consumer engagement in a digital setting. By augmenting some of the best attributes of banks (large installed base, scale, regulatory controls) and nonbanks (rapid pace of innovation, technology talent, modern infrastructure), financial organizations can look to accelerate growth and enhance the customer experience.

A potential next step is for a bank to be a platform with open access to a marketplace of services. This, however, is a big hurdle and is likely a hypothetical for many financial institutions. Instead, banks may start by carefully curating the various third-party services to share data in a bilateral manner to begin to move toward an open model.

Challenges clearly exist. Any decision to share data through public APIs will be a risk-based decision. The inclusion of security (breach, access, authorization) and an audit trail framework to understand what and how much data is shared with each third-party should be established early. Further, economic models may need to be revisited, technology architecture may change, and compliance issues will need to be reassessed. A transformational change? Maybe. But consumer behavior, digitization of financial services, and the competitive landscape are also in the midst of transformational change, which necessitates that the industry evolve.

This is the first of several articles we will be publishing on open banking. Following this introductory piece, we plan to provide detailed views on related areas such as risk and compliance, data security, and API strategy.

For additional information, please contact:

Julien Courbe

Financial Services Advisory Leader
julien.courbe@pwc.com

Mohib Yousufani

Principal
mohib.yousufani@pwc.com

Alison Hoover

Principal
alison.hoover@pwc.com

Scott Evoy

US Financial Services Advisory Digital Leader
scott.evoy@pwc.com

Chris O'Hara

Principal
christopher.ohara@pwc.com

Aaron Schwartz

Director
aaron.m.schwartz@pwc.com

Endnotes

-
- ¹ The Open Banking Implementation Entity by the UK's Competition and Markets Authority, January 13, 2018
² Expectations for the third party access provisions in Payment Services Directive II, FCA, July 2017
³ Consumer Protection Principles: Consumer-Authorized Financial Data Sharing and Aggregation, CFPB, October 18, 2017
⁴ FDIC National Survey of Unbanked and Underbanked Households, FDIC, October 20, 2016
⁵ Consumers and Mobile Financial Services 2016, Board of Governors of the Federal Reserve System, March 2016