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Banking reimagined  
How disruptive forces will  
radically transform the industry  
in the decade ahead

Deloitte Center  
*for* Financial Services



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# Foreword



**Dear colleagues,**

Our annual outlooks have historically focused on the top priorities for banking and capital markets executives in the coming year. We typically analyzed the trends impacting near-term prospects for business growth, innovation, and risk management. We also examined the implications of various developments for businesses such as payments and securities trading. In most of these analyses, regulatory issues loomed large, and they materially impacted the outcomes we predicted in the marketplace.

We are happy to tell you that these reports were received very favorably by our clients, and we are proud of the success we have had over the last few years.

But it is time for a change. We strongly felt that we needed to help our clients make sense of the multitude of disruptive forces at play. As you well know, many areas within banking and capital markets are experiencing serious existential threats. As the industry is being transformed, there is tremendous uncertainty around what the future of banking and capital markets will look like over the next decade.<sup>1</sup>

Beyond the rhetoric surrounding the topic of disruption in banking though, some very fundamental questions face the industry today: How will past innovations (such as marketplace lending or blockchain), and the breakthroughs likely to come in the future, transform banking? What will the industry's competitive structure look like over the next decade—will the incumbents be stronger/larger, or weaker/smaller? And perhaps most importantly, what can banks do now to prepare for these future scenarios?

The main premise is, of course, that banking is going to look a lot different in 10 years time. Many traditional players now face the choice of either being disintermediated or proactively disrupting their own business models to thrive in the future.

To help understand the effect of disruptions, we took it upon ourselves to reimagine the future of banking and capital markets in the next five to 10 years. In this special report, we examine how various disruptive trends we are seeing today in areas such as artificial intelligence and machine learning, blockchain technology, collaborative ecosystems, cryptocurrencies, demographics, and customer experience are coming together to influence the future of banking.

This report is based on the first-hand experience and insights of many of Deloitte's leading practitioners, supplemented by research, analysis, and some bold predictions from the Deloitte Center for Financial Services. We hope you find it insightful and thought-provoking as you contemplate your company's strategic priorities for the coming years. Please share your feedback or questions with us. We would value the opportunity to discuss our findings directly with you and your team.

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## Thriving in a disrupted world

Disruption in banking is a topic du jour. Not surprising perhaps, if one considers the prevailing belief among Silicon Valley start-ups and the banking industry cognoscenti alike—that “fintech” firms are about to disrupt banking for the better.<sup>2</sup>

Whether one subscribes to this viewpoint or not, no one can deny that many aspects of banking and capital markets are being attacked by new competitors, whose chief weapon is an ardent belief in the power of technology to upend conventional wisdom and transform banking. The scale of this assault on industry incumbents from different vantage points is quite staggering. There are literally thousands of start-ups all over the world focused on perceived vulnerabilities of traditional institutions.<sup>3</sup>

Yet change does not come easily in banking. Rarely is it initiated unless driven by market forces or regulatory expectations. Even when proactive change is imagined, decades-old practices and the vast technology infrastructure that together power these institutions prove to be huge barriers.

This dynamic is both a blessing and a curse. The inefficiencies of current systems and practices associated with this infrastructure, and the focus on customer value, are what attract potential disruptors. But at the same time, having to build the necessary

elements of this infrastructure from scratch is a deterrence to new disruptive players with big ambitions. Running a vast and complex banking business takes enormous resources, as well as credibility among customers, counterparties, and regulators.

Banks and capital markets firms to their credit are not sitting idly by, but are actively engaged in this new ecosystem of disruption, while still grappling with the challenges presented by evolving regulations in a post-crisis environment.

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*The question is not whether the disruptions that we are witnessing today will transform banking and capital markets, but, rather, how will they do so? Where will the new entrants have the most success? What technological disruptions will take root and transform the way business is done? What areas will remain under the dominance of incumbents? How will incumbent organizations have to adapt to thrive in the new ecosystem?*

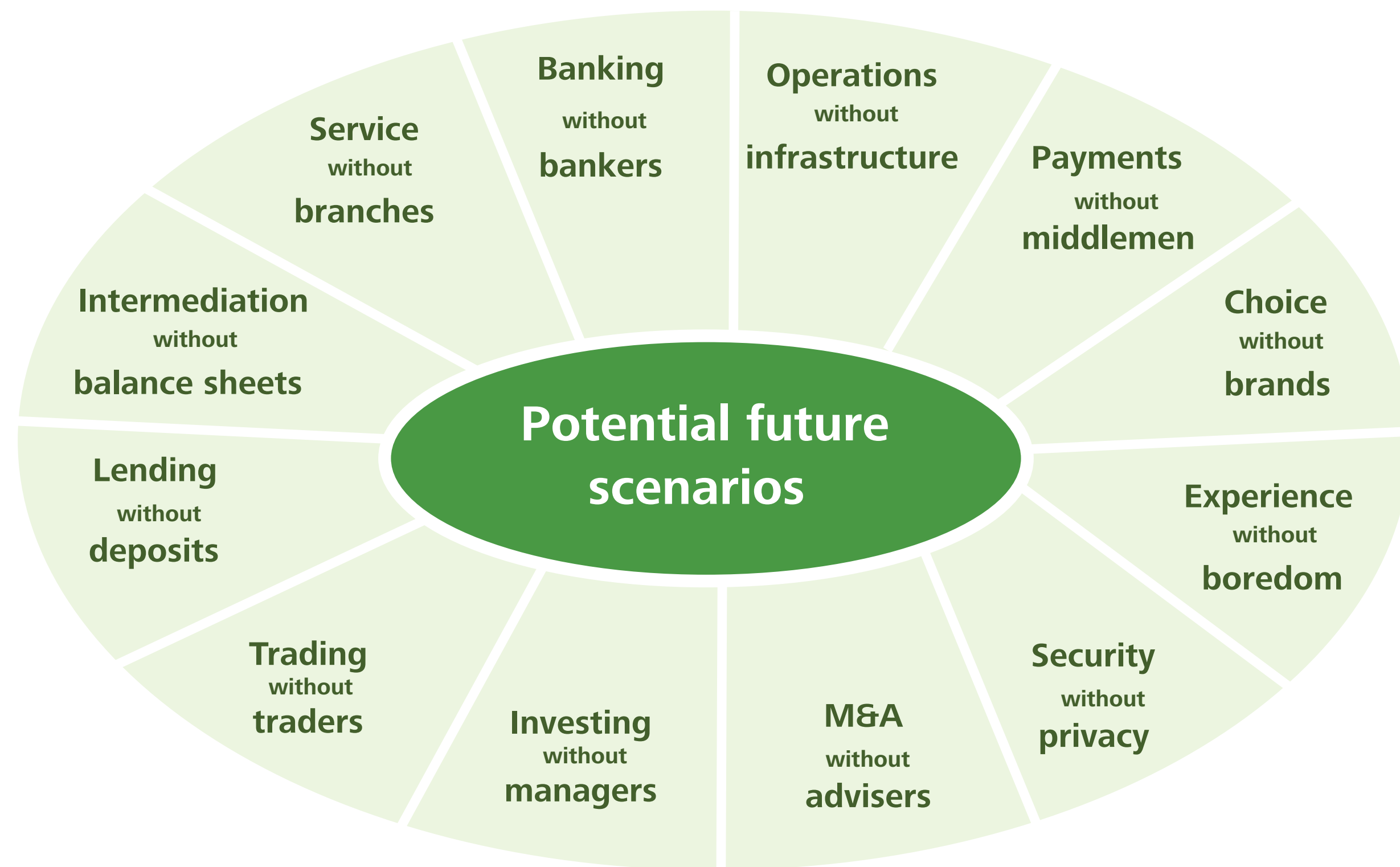
Of course no one can really predict with absolute certainty how various forces will come together to transform the industry. But based on what we know today, we can postulate some future scenarios. And this is precisely what we attempt to do in this report: Challenge banks to reimagine what their industry will look like in five to 10 years.

So what do we see in the next decade? We envision an industry with a vastly different competitive landscape: New entrants with digital prowess will gain prominence, while many incumbent firms will be forced to alter their strategies to compete. As a result, there will be greater industry fragmentation and blurring of industry boundaries, with financial services increasingly offered by an emerging breed of nonbanks.

There will be greater efficiencies across the board as a result of greater automation. Customer experience overall will improve with each passing year, but traditional firms face the prospect of losing control as these digital experiences become the norm. We also see greater competition between incumbent firms and the fintech disruptors. Institutions that develop expertise in collaborating with their extended network of suppliers, partners, external talent, and regulators will have more control over their destiny.

To help predict how various disruptions will transform the banking industry, we engaged in a thought exercise to reimagine a future that eschews conventional wisdom about how the world operates today (Figure 1). Some of the scenarios in this graphic wheel are only distant possibilities, while others foreshadow a likely future that could be less than a decade away.

**Figure 1: A thought exercise: Reimagining the future of banking**



This exercise inspired us to delve into five specific scenarios that we believe are worthy of immediate attention. These scenarios are discussed in depth throughout the remainder of this report. We believe these future states will create new industry structures, a new set of competitive dynamics, and above all, new paradigms.

- Scenario 1:** A new organizational paradigm: Agile, collaborative, and exposed
- Scenario 2:** Future of brands: Need for digital savvy and a sharper focus on customer experience
- Scenario 3:** The new world of payments: Blockchain, direct, and seamless
- Scenario 4:** Frictionless trading: Machine dominance and the search for relevance
- Scenario 5:** Evolution of marketplace lending: Survival of the fittest

No matter how various disruptive forces come together to transform banking, we believe that the changes will be a net positive for the stronger incumbents. While there will be a number of challenges from multiple directions, we believe adaptive and agile organizations will thrive. Our belief is that this metamorphosis will create a more dynamic, healthier, and more competitive banking industry in the decade ahead.



## A new organizational paradigm: Agile, collaborative, and exposed

Many banks and capital markets firms, particularly the large, complex institutions, have been simplifying their business and operating models over the last few years, both for economic reasons and to reduce organizational complexity.<sup>4</sup> There is an increasing realization that they do not or cannot excel at every activity, and that it may be easier and cheaper to outsource noncore activities.

This rationalization has taken various forms: Businesses have been sold, geographic footprints shrunk, and capital and resources reallocated in a more efficient manner. This journey is not yet complete for a number of institutions, particularly in Europe.<sup>5</sup>

Outsourcing, especially in information technology (IT), is not a new trend in banking and capital markets.<sup>6</sup> For decades many institutions benefitted from selective outsourcing of “run-the-bank” activities to third parties. And the outsourcing phenomenon has not been restricted to talent alone (software development or customer support, for example) but has also included infrastructure (IT systems and data warehouses).

In the broader ecosystem, the increasing adoption of cloud services by financial services firms and the growing popularity of industry utilities (the Know Your Customer registry, for one)

have made it more attractive for financial institutions to rely on third parties. Also, cost considerations and the need for more specialized expertise are compelling firms to adopt new “workforce-on-demand” models and greater use of hourly, contingent, and contract workers.<sup>7</sup>

We are seeing the growth of infrastructure as a service, and some banks have even started exposing internal software applications to external developers as a way to encourage development of useful new apps.<sup>8</sup> At the same time, there are also certain activities that are being brought in-house, such as talent acquisition and application development. The reasons for in-sourcing include a desire to control core processes and greater ownership of intellectual property.

This extended ecosystem (where most of the talent is “not really your talent,” and where most of the infrastructure is “not really your infrastructure,”) while offering some obvious benefits, such as reduced costs and complexity, raises some new concerns.<sup>10</sup>

What new operating models are most effective in managing a complex ecosystem of extended partnerships?

No matter the underlying motivations, we expect the concept of extended partnerships, where there is an increasing reliance on a network of partners, service providers, and industry utilities, to become more common across the industry over the next decade.<sup>9</sup>

Agile operating models will become more important in managing constant change and dealing with impermanence. Management complexity will increase, requiring a new breed of leadership that is more attuned to an extended ecosystem and nimble in its approach.

Banks are also likely to find different ways to engage with infrastructure providers. In many instances, the large institutions will want their own proprietary infrastructure—a “private cloud,” for example—for more control, while others may opt for public systems.

While finding reliable infrastructure partners has always been an important goal in the past, identifying the “right providers” in the future will become even more so. As a result, we expect banks to adopt different strategies in meeting their needs: Some may go to high-end service partners instead of low-cost options, while others will choose to rely on more “ex-force” (outside talent) to manage many of their operations.

Banks will also need to develop alternate contracting and partnering models with different players. For instance, working with a technology firm is fundamentally different than what banks do today with traditional outsourced service providers.

However, firms that have decided to invest in their in-house infrastructure and talent will look to maximize their value by sharing and monetizing these resources with others in the ecosystem, akin to the many examples we see today in the sharing economy.

In almost all cases, managing this growing network of business partners and outside talent will also raise new risks, particularly operational risks. Vendor risk management will need to be elevated. And one can expect cybersecurity to become more of a concern as networks become more complex and interconnected. Reputational risk will also need to be

reassessed to proactively manage spillover effects from others’ negative performance in the ecosystem. While none of these are new risks, the fact that institutions will likely have to deal with a broader network of providers and partners implies that managing both direct and indirect risks will be more important in the future.<sup>11</sup>

In this new organizational paradigm, maintaining an organizational identity and creating a cohesive culture and employee loyalty when most of the talent is not in-house will be an entirely new challenge. In our view, a more global “ex-force” (external talent) will necessitate greater cultural sensitivity and the willingness to be more flexible with work protocols.

**Our prediction:**  
 Cost pressures and the drive toward simplification will create a new organizational paradigm. Reliance on third parties for noncore infrastructure and talent will be a common phenomenon. Banks will become increasingly connected via a complex network or web of vendors and third parties. This extended ecosystem, while offering many benefits, will also pose new operational risks.

**Specific recommendations:**

- To prepare for the scenario where there is greater reliance on third parties for infrastructure and talent, leadership in these institutions should think continually and creatively about the possibilities of the extended ecosystem, and strategically steer the organization toward this future.
- Senior executives and the board of directors should be asking detailed questions about the sourcing and management of infrastructure and talent throughout the organization. Managers across the firm should be encouraged to rethink resource planning for both core and noncore activities.
- New management skills will be needed in the new ecosystem. Managers who are open, more collaborative, and willing to reallocate and reassign resources between internal and external parties in a more dynamic way will likely be more effective.
- Banks will probably need a new kind of expertise, which can be nurtured internally or outsourced. Working with prospective talent pools, such as business schools, to emphasize this ecosystem orientation and building strong relationships with external parties should pay dividends.
- Finally, to promote loyalty among both employees and the ex-force, creative approaches to developing partnership or service-level agreements, along with talent and incentive models, may be necessary. Firms will also need to reevaluate training in this new open and collaborative ecosystem.



## Future of brands: Need for digital savvy and a sharper focus on customer experience

Brands in the banking industry seem to be facing an existential crisis. It wasn't long ago that banking brands were on par with most other industries in terms of consumer trust and brand value.<sup>12</sup> The financial crisis changed that. Many banking brands have yet to recover from the reputational damage experienced during the crisis.<sup>13</sup> Banks, even years post-crisis, remain one of the least trusted institutions.<sup>14</sup> When compared to other industries, banks have experienced the least growth in brand value over the last 10 years.<sup>15</sup> This is all the more disturbing given the importance and relevance of the banking industry to the economy and society.

Among banks themselves, some have lost their luster due largely to negative perceptions from the crisis, while other new names have risen. Wells Fargo, for example, did not even make the top-100 list of global brands in 2006, but is now consistently ranked as the most valuable banking brand by several sources.<sup>16</sup>

According to Millward Brown's BrandZ scores, even though there were 22 banking brands in the Top 100 Most Valuable Global Brands 2015, their combined brand value (\$546 billion) is less than that of the top four technology brands (including

Apple, Google, and IBM). Increasingly, the brands that are able to elicit strong, positive emotions among consumers are the icons of technology, becoming the standard bearers of brand equity in the new digital world.

### What will be the role of brands in the banking industry in five to 10 years?

As we posited earlier, the banking industry will be significantly transformed in the next five to 10 years. Digitization, automation, and disintermediation will be the main drivers, and together with other disruptive forces, could alter how banking products are delivered and experienced.

In a world where digital experiences often dominate, how can banks convey their distinctiveness and influence customer behavior?

We believe brand experience will become increasingly fragmented and idiosyncratic, with customers in greater control of how and when they want to engage with banks. As consumers witness more on-demand services in other industries, they will expect the same in banking as well. In this environment, conveying a consistent brand experience

will become more challenging. Marketers will be forced to be more creative in the design of service experiences. While banks may have less control over how customers experience the brand, they will, however, have access to more detailed and real-time information at an individual customer level. These new data will vastly expand the ability to tailor offerings and experiences.

Yet this explosion in data is a double-edged sword for banks, as it will also demand that banks increase the transparency of their marketing actions. Customers will demand a higher level of pricing transparency, making comparison shopping easier, and forcing banks to articulate their value more effectively. Millennials, in particular, will continue to be far less influenced by banking brands.<sup>17</sup> As a result, banks may have to expand and evolve their brand promise to meet these changing values. Likewise, future talent will also be less influenced by institutions' historic brand power, and instead more by their social mission and values. To meet these expectations, banks may need to spend more on the socially responsible initiatives that their customers and employees care about, elevating corporate social responsibility throughout their organizations.



Banks that are able to anticipate the emerging needs of the post-Millennials (“Generation Z”) as they come of age will have an upper hand. Now is the time to think through what customer experience model will work best for them, as the oldest members of this generation are just about to enter college or become full-time workers.

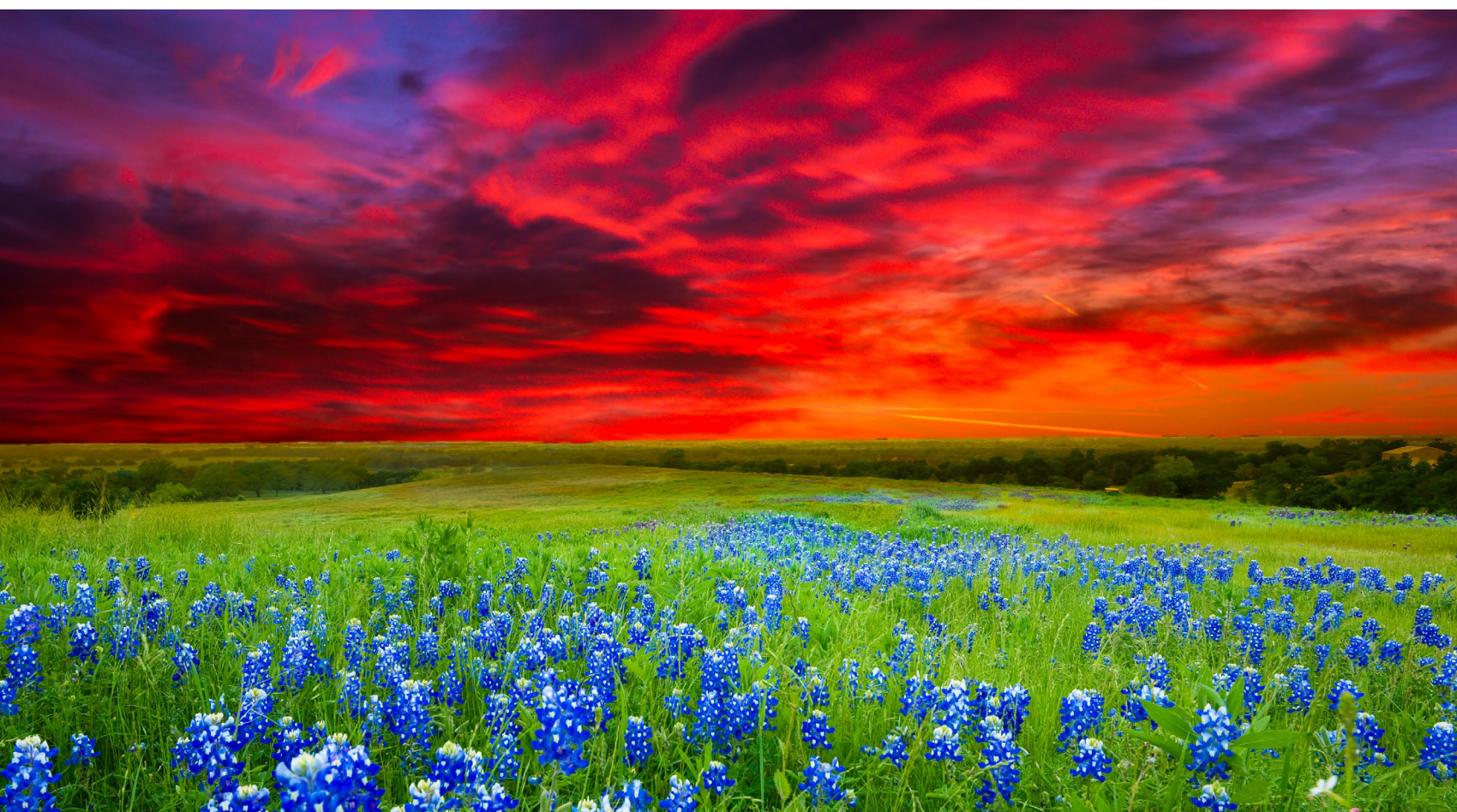
And as consumer sympathy for social missions becomes more pronounced, banks will need to selectively participate in these

conversations as well, through social media or other channels. As we have already witnessed, any slip-ups will be amplified through social media, and banks will need to be resilient in how they protect their brand from attacks on multiple fronts.

Lastly, as consumer attention span becomes more compressed, communicating and reinforcing brand benefits will become that much harder.

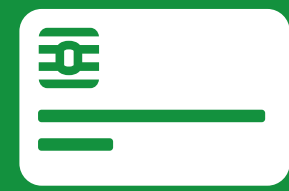
### Specific recommendations:

- Banks should develop a clear, consistent, and sustainable brand strategy that is impervious to temporary shifts in consumer perceptions. This can only happen when brand management becomes a core discipline within banks. Elevating the role of the chief marketing officer and providing the resources necessary to shepherd the brand is a necessity in the transformation to a more dynamic, customer-centric organization.
- The first step in this process is re-establishing trust. Developing relevant insights regarding brand performance by analyzing diverse data sets will become more important.
- To maintain a consistent brand identity in a fragmented experience, banks should do a better job integrating branding across all channels and reinforce the differentiating brand attributes. This task may be easier said than done, but by investing in these programs, banks can derive tremendous value and can maintain control over their brands.
- As partnerships with other firms in the ecosystem become more common, banks should pay careful attention to the potential brand associations flowing from these tie-ups. In this regard, they will need to choose partners whose brand values are consistent with those of the institution.



#### Our prediction:

Building sustainable brand equity in an increasingly digital world will become even more important. Banks have a lot of branding catch-up to do in order to compete with technology brands such as Apple and Google. Brand equity in the industry will also increasingly flow from partnerships with others in the ecosystem. Service differentiation and customer experience will increasingly become the major deciding factors.



## The new world of payments: Blockchained, direct, and seamless

Trusted intermediaries have been fundamentally necessary to facilitating payment transactions in modern times. As transactions became more complex, so did the importance of intermediaries in the payments world. But more recently, blockchain technologies are challenging this basic world order. Concurrently, the growth of mobile payments and the push toward real-time payments are forcing traditional players to reexamine their role in the payment ecosystem. The threat of disintermediation in the payments industry is both real and imminent.

The payments industry has three characteristics that are attractive to potential disrupters. First, it is a massive industry, with \$26 trillion in global transactions and billions of dollars in fees for the payment networks, processors, issuers, and other intermediaries.<sup>18</sup> Second, inefficiencies abound in almost every step of the process—legacy architecture and decades-old protocols create delays, risks, and headaches for all concerned, in both consumer and corporate payments. Third, customers cherish convenience, so any solution enhancing this attribute without much additional cost will be favorably received.

It's a small wonder that the payments world has attracted countless potential disrupters, with so many that the space "is increasingly crowded, even noisy."<sup>19</sup> Innovations have been unleashed across the payments spectrum: Online (such as PayPal), mobile (example, MPesa), contactless (Apple Pay<sup>®</sup>)

mobile payments solution, for one), peer-to-peer (Square, Venmo, etc.), cross-border remittances (such as Ripple Labs), and cryptocurrencies (such as Bitcoin).

But the innovation that is possibly the most disruptive of all is blockchain technology. A distributed ledger concept, conceived originally for Bitcoin but now applied beyond the cryptocurrency world, blockchain has been called "remarkable," "a foundational technology," and "a key technological innovation," much "like the Internet." As many have already pointed out, blockchain applications can potentially transform many aspects of our financial architecture, including payments.<sup>20</sup> In particular, it could bring vast efficiencies by speeding up transactions and diminishing transaction costs—immensely desirable outcomes for everyone involved.<sup>21</sup>

The excitement surrounding blockchain technology today is such that almost every major financial institution is now exploring blockchain, either as part of industry consortia, such as the R3CEV initiative<sup>22</sup> that in late January 2016 had over 40 participating banks, or as an independent initiative, as exemplified by the Santander-Ripple Labs or Goldman Sachs-Circle partnerships.<sup>23</sup>

This desire to exploit blockchain technology is not restricted to retail payments. In fact, there is equal potential in the corporate space as well, considering applications in trade finance, cross-border payments,<sup>24</sup> and payments reconciliation.<sup>25</sup>

Meanwhile, as the allure of distributed ledger technologies continues to mount, the reality on the ground and at a more basic level is quite different. Retailers and banks in the United States continue to struggle with the migration to chip card technology (EMV),<sup>26</sup> adding further proof that the legacy payment infrastructure in the US is a serious impediment to any modernization effort.

### How will innovations in the payments ecosystem transform the competitive landscape in the next five to 10 years?

We can unequivocally say that the payment ecosystem will look vastly different as a result of continuing technological advances in multiple domains. But in all likelihood, blockchain innovations could be the most transformative, and we will likely see a number of real-life applications of blockchain applied to payments, beyond digital currencies, in the next five years.

Private, permissioned chains among a finite set of counterparties and clients could become common, with payment processors and the large banks owning and operating possibly multiple private chains to facilitate a range of payments. An uber-private chain (a blockchain-of-blockchains) much like The Automated Clearing House (ACH) network is a likely scenario, but one perhaps further down the road, given the complexity of establishing such an infrastructure.



We believe that corporate payments may have a head start in adopting blockchain technology, given the limited set of entities involved and the strong payment-transaction relationships corporates already have with banks. We also subscribe to the view that banks will hold on to their traditional dominance in corporate transactions due to their complexity and high-entry barriers. As delays and risks in counterparty transactions diminish, capital relief is going to act as a solid incentive for banks to innovate in the corporate sector.

But the transition to a blockchain-dominant payment system will depend mainly on interoperability—the ability to which blockchains (whether private or otherwise) can interface with each other. In this context, more cross-industry collaboration, and proactive regulatory guidance can help propel innovations forward with industry-wide standards and protocols.

Bitcoin and other digital currencies will likely enter the mainstream, but only with adoption of standards and compliance with global regulatory frameworks. Many of the “coins” that exist today will vanish, for lack of any real demand. We will, however, see the vision of state-sponsored cryptocurrencies becoming a reality in five years.<sup>27</sup>

Perhaps the least surprising development in payments will be the continuing growth of mobile payments and wearables. Internet of Things (IoT)-enabled mobile wallets may finally reach critical proportion before 2020, transforming customer experience further and making many forms of consumer payments seamless, nonintrusive, and hassle-free. But the risk from these innovations is that financial institutions will lose control over the customer experience, as payments become more integrated into digital solutions controlled by technology firms. This will pose a particular challenge from a branding perspective.

As a result of these innovations, there will be more direct-payment flow between any two endpoints without any intermediaries—merchant to issuer, for example—without payment processors in the middle. These direct flows will eliminate delays and risks.

In spite of these developments, incumbent payments firms, both processors and issuers, should remain dominant even though the threat of disintermediation is real. Banks are themselves driving a big part of the payments innovation agenda. The “credit” component of credit cards will most likely continue to remain central to payments, ensuring banks’ and issuers’ roles.

But the net effect of increased digitization and blockchaining of payments is that margins will continue to erode in traditional product sets, much like the spread compression we have seen in other markets that have been digitized, forcing market players to rethink the value-exchange with both merchants and consumers in retail, and businesses and counterparties in the corporate arena. For instance, credit card processors could expand their product suite to include all types of payments, not just cards but also digital currencies, although that may not be easy.



**Our prediction:**

Private, permissioned blockchain-based payment systems will gain significant transaction volume by 2020. Whereas an uber-blockchain industry utility, on the scale of ACH, will likely be a reality closer to 2025. Digital currencies will evolve and be more accepted in the mainstream, as usage increases and they become interoperable with other currencies. Direct payments will become more common, as the need for intermediaries diminishes. Meanwhile, with increasing digitization, fee margins will decline, but incumbents will remain dominant in the ecosystem. And corporate payments may in fact lead the way in blockchain innovation. Finally, advances in IoT and digital payments will ensure a more automated and seamless retail customer experience.

**Specific recommendations:**

- First and foremost, invest strategically in innovation by partnering, hiring, crowdsourcing, and piloting. Ramping up efforts to explore blockchain technology, and innovating rapidly to create new use cases will be a key determinant of success.
- Engaging with different players in the ecosystem to develop new solutions across the payments spectrum will become critical.
- Proactively work with regulators in shaping the standards and protocols around new technologies, particularly regarding interoperability and cybersecurity.
- To counter the loss of control over the customer experience, harness customer data to offer tailored solutions and possibly new incentives to become the preferred, top-of-wallet choice in digital transactions.
- Consider offering tailored payment solutions, bundling core and ancillary services, and enabling multipayment options along with cost management to counter margin pressure.
- Lastly, taking a lead on real-time payments and providing ancillary services, banks can retain and enhance their position as a trusted party in payment transactions.



## Frictionless trading: Machine dominance and the search for relevance

The notion of “trading without traders” has been a market reality for at least a decade now.<sup>28</sup> Electronification of exchanges and algorithmic trading have already diminished the role of the human trader in a number of asset classes, particularly in equities and futures. Yet this accelerated automation has also exposed new risks that have become a focal concern to the industry—“flash crashes” in stocks and treasuries being two examples.<sup>29</sup>

While the number of human traders in the front office has dwindled significantly, most basic back-office functions, such as clearing and settlement, still operate on slow, archaic systems and manual processes, and are in dire need of simplification and automation.<sup>30</sup> Take securities settlement for equities, and corporate and municipal bonds, for example. As the new millennium began, there was an aggressive plan to leapfrog to T+1, but firms found the back-office processing hurdles so challenging that their ambitions had been significantly lowered to achieving T+2 in 2017.<sup>31</sup> The hope here is to “substantially reduce operational and systemic risk across the industry, lower liquidity needs, and limit pro-cyclicality.”<sup>32</sup>

Any effort to modernize and digitize the trading lifecycle has to confront two main challenges: A fragmented technology infrastructure and poor risk governance. Fragmentation of

systems, processes, and risk controls not only breeds inefficiency but also elevates risk. Real-time risk and compliance monitoring across asset classes and trading platforms becomes almost impossible when systems are barely connected to one another. In other words, a number of frictions still remain in the trading lifecycle, along with too many intermediation points from pre-trade to securities settlement.

While legacy systems and suboptimal processes hobble efforts to streamline the trading lifecycle, advances in a range of technologies, such as artificial intelligence, machine learning, robotics, and blockchain, hold much promise for frictionless trading in the future.

In the following section, we offer our perspective on two technologies that we believe will prove to be transformative in securities trading: machine learning and blockchain.

### **How will machine intelligence transform securities trading in the future? And what will be the role of humans in a machine-dominant world?**

In the last decade or so, machine learning—“a vibrant subfield of computer science that draws on models and methods from statistics, algorithms, computational complexity, artificial

intelligence, control theory, and a variety of other disciplines”<sup>33</sup>—has been successfully applied in trading a range of securities. And, it appears, the performance of machines to make intelligent decisions is only going to accelerate exponentially in the near future.<sup>34</sup> These advances are likely to further automate front-office functions of securities trading.

Smart algorithms that are increasingly better at predicting the behaviors of markets and humans will not only become more common but more powerful. With sufficient investment in the technology infrastructure, these trading machines will be capable of analyzing risk in real time and in a holistic fashion, fully leveraging both institutional knowledge and external data sets. And these capabilities will not be restricted to sell-side firms; buy-side institutions will also develop similar expertise.

This pervasive automation will impact industry competition in meaningful ways. Markets will become more efficient and price discovery easier. There may also be fewer opportunities for competitive differentiation. These outcomes will likely reduce profitability. While some firms will be able to maintain an advantage through their advanced machine-learning algorithms and automated trading systems, for most firms, technological edge alone will not be enough.



In this more technologically democratic environment, a degree of tailored human insights and strategic advice in building algorithms and making investment decisions will become the main competitive differentiators as automation levels the playing field. Hence, firms that invest in specialized, human expertise in these areas should be able to differentiate their offerings in the marketplace. And of course, as has always been the case, balance sheet strength and privileged access to deals will provide an additional edge.

Also, we expect the promise of frictionless trading to be abetted by advances in other exponential technologies, such as cognitive computing.

Of course, not all developments across the trade lifecycle will happen at the same time or in the same way. For instance, there are only a few barriers for real-time trading even now, but clearing will take a few years; while for settlement, T+2 will happen by end of 2017, and T+1 possibly in about 10 years.

### **Blockchain: Moving from hype to reality**

If the typical prognostications about blockchain technology are to be believed, many of the inefficiencies in the trading lifecycle will not persist into the near future. Almost every major Wall Street firm is testing potential use cases across the spectrum—including securities trading, clearing, and settlement. No doubt, distributed ledgers hold vast promise to radically transform many financial transactions, which hitherto required a trusted intermediary.<sup>35</sup>

In our view, while the promise is real, the path to actualizing the potential will not be easy. There is simply too much legacy overhang in making this transition. It will take enormous effort on a collective basis to migrate to a blockchain-based trading and settlement infrastructure.

However, it is encouraging to see the industry initiatives to learn, test, and deploy blockchain technology for a variety of front-office and back-office use cases.<sup>36</sup> In particular, we expect private blockchain experimentation to gather speed (such as the NASDAQ's Linq<sup>37</sup> and Digital Asset Holdings<sup>38</sup>) and streamline back-office processes.

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Distributed ledgers hold vast promise to radically transform many financial transactions.



#### **Our prediction:**

Machines will dominate almost all aspects of the securities trade cycle, and blockchain technology will play a prominent role in this transformation. With increasing automation and faster clearing and settlement cycles, markets will become more efficient, and differentiation hard to find. But the role of human insight and strategic advice will become even more important in serving clients, building algorithms, and investment decision-making. Reaching a T+0 settlement cycle will only happen gradually, and certainly not within the next 10 years.

#### **Specific recommendations:**

- Automation and digitization won't happen at the same time across all stages of the trade lifecycle. Furthermore, some activities are more deserving of these investments than others. As a result, it is important to disaggregate and separate the trading value chain into distinct subcomponents, simplifying and seeking efficiencies where possible through automation, outsourcing, or through industry utilities.
- As machine dominance in trading is an inevitable outcome, investing in machine learning and developing intelligent systems with other partners in the capital markets ecosystem should enable firms to be better prepared for the future.
- Leveraging technology to build scale and proprietary advantages in select areas of core competency will be critical, as will investment in differentiated human expertise.
- Lastly, collaborating with other market participants in the ecosystem to develop more advanced use cases across the trade lifecycle may be a necessary component for future success.



## Evolution of marketplace lending: Survival of the fittest

Disintermediation has been a long-running structural theme in the US banking market for some time. For instance, three decades ago banks provided a significant portion of credit to the corporate sector. But in 2014, bank loans accounted for only about 30 percent of corporate debt.<sup>39</sup> This trend has been a net positive—deep capital markets form a key pillar of the US economy.

But following the financial crisis, a number of factors have combined to dampen bank competitiveness in traditional lending, beginning with the stricter regulation of banks, compared to that of nonbanks. Add to that the years of record-low interest rates, which have negated banks' traditional retail funding advantage. There are now reduced barriers to entry through technology—new players are able to enter without huge upfront investment. And the behavior of banking customers has changed significantly, from Millennials, who are more transaction-oriented and less influenced by traditional brands, to the more tech-savvy consumer base whose expectations for immediate results are at odds with what banks can deliver with their legacy systems.

Taking advantage of these developments, marketplace lenders (MPLs) are beginning to pose a challenge to traditional players. Unburdened by legacy systems or regulatory constraints related to holding deposits, these new entrants are exploiting innovative technology to remove frictions in traditional lending processes. There are more than a hundred lending platforms in the United

States alone, with some of more prominent being LendingClub, Prosper, FundingCircle, OnDeck, Avant, Kabbage, SoFi, and Square Capital. A number of venture funds—and even a number of banks—have invested more than a billion dollars of capital into the start-up “lending tech” sector.

But, with an estimated \$15 billion in loan originations in 2015, marketplace lenders are hardly a serious credit market player at the moment.<sup>40</sup> This is a miniscule proportion of the \$3.5 trillion in nonmortgage consumer outstanding debt in the United States.<sup>41</sup> Nevertheless, MPLs are expected to grow at an impressive rate in the coming years.<sup>42</sup> And banks themselves agree that marketplace lending has revolutionized many aspects of lending, including the manner and speed with which borrowers are found, assessed, and funded.

As the old adage goes, “if you can't beat 'em, join 'em.” The irony here is that both camps, banks and marketplace lenders, are taking this advice. Despite many predictions that marketplace lending is going to disrupt banks,<sup>43</sup> both parties are seeking each other out.

There are a number of examples, but some of the most well-known are: Citi's partnership with LendingClub to meet the Community Reinvestment Act requirements,<sup>44</sup> OnDeck's association with Chase for small business loan origination,

and Avant's relationships with Jefferies and JPMorgan for securitization.<sup>46</sup> So, while marketplace lending can be considered a disruptor to the lending model, the disruption does not include disintermediating banks, nor are most banks interested in overhauling legacy systems for lending when there are potential partners in MPLs who have already created nimble technology platforms from scratch.

### How will the growth of marketplace lenders reshape lending markets?

First, it is important to note that this reshaped, disrupted market will include both banks and marketplace lenders. Banks today serve millions of retail customers, and they have 100 percent of small business checking accounts. This vast access to customers of all types and their data are a gold mine to MPLs,<sup>47</sup> who themselves bring new efficiencies to the table, including automated loan approvals. Their platforms also seamlessly originate loans on a national level in a fraction of the time that banks can. This automation of lending activities is attractive to banks because of its cost-effectiveness and enhancements to customer experience.

Thus, in five years the growth of marketplace lenders will reshape the market in a manner that is already foreshadowed along its current lending lifecycle, but banks are being included at every step.



On the funding side, marketplace lending with bank partnerships of various kinds should attract more institutional capital: From pension funds, insurance firms, family offices, banks, sovereign wealth funds, and mutual funds. In terms of origination and underwriting, the scores of marketplace lenders that leaned heavily on subprime or niche markets made possible by low rates may disappear or be absorbed. The surviving marketplace lenders with strong ties to banks will build a new lending infrastructure to serve individuals and businesses, with the latter including such niche products as invoice factoring and merchant cash advances.

Underwriting models will include new types of data and predictive data analysis, combined with bank customer data. Integration with banks could allow marketplace-lending survivors to weather the higher interest rate environment and a harsher credit cycle due to banks' funding stability. On the loan-servicing end, the customer experience will be vastly improved across the board, as banks acquire or partner with marketplace and other ecosystem players.

Driven by institutional demand and the greater transparency at the individual loan level, we are likely to see a robust growth in the MPL securitization market along individual segments, such as small business, personal consumer, student, and medical equipment markets. And it is only natural that as securitization adds liquidity, a credit-default-swap market will arise, further fueling investor demand.

As for regulation, there is already a coalition of marketplace ecosystem players that is drafting a bill of marketplace lending rights, essentially self-regulation. The Consumer Financial Protection Bureau is already overseeing the MPL market, and these players already have to adhere to the current suite of regulations, such as the Bank Secrecy Act/Anti-Money Laundering and the Truth in Lending Act.



**Our prediction:**

The marketplace lending industry will see consolidation, triggered by a normal credit and interest rate environment. The transformed industry landscape that emerges will comprise three variations: First, a few marketplace lenders with scale will survive, acquiring smaller rivals and securing joint ventures with big banks and partnerships with small banks; second, big banks will acquire marketplace lenders and other technology/data ecosystem players, replacing or strengthening many aspects of their banking operations; and third, some MPLs will choose to provide white-label services to banks.

**Specific recommendations:**

- Banks should learn from MPLs to overcome their process inefficiencies in originations and servicing, and improve their underwriting technology in traditional consumer lending and small business lending.
- Partnering with MPLs where appropriate will make sense for many banks, as a number of MPLs will be eager to access banks' charters, customers, balance sheets, or to extract fees from offering technology services to banks.
- In places where banks have a competitive advantage—in mortgages, commercial real estate, corporate debt issuance, and revolving credit facilities—enhancing their current practices to preempt any future competition from MPLs can serve banks well in the long run.
- It behooves banks of all sizes to maintain a rigorous knowledge base about MPLs to ensure that banks are well positioned to engage in the most strategically favorable acquisitions, joint ventures, or service agreements when the market consolidates.
- Banks that have yet to participate in buying MPL loans or securitization transactions should emulate institutional investors that have developed expertise in assessing and performing due diligence of these portfolios.



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