



# 2020 banking and capital markets outlook

Fortifying the core for the next wave of disruption

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# Risk

## Leveraging technology to elevate risk management

**R**EGULATORY DIVERGENCE, GEOPOLITICAL instability, and the possibility of a downturn have created a host of impending risks, requiring financial institutions to rethink traditional approaches to risk management.<sup>48</sup> Additionally, nonfinancial risks remain top of mind for regulators and banks alike, and many have begun to sharpen their focus on this emerging subset of risks. While banks have made notable strides in assessing and mitigating risk across the enterprise in recent years, the next decade will likely test their ability to continue to modernize the risk function.

Bank leaders can start by contemplating what might be an optimal risk management model.<sup>49</sup> They should first reevaluate their lines of defense to determine where duplicative efforts likely exist between the first line (where risk is owned and managed) and second (where risk is overseen).<sup>50</sup> Eliminating these siloed and redundant risk management practices could allow them to overcome cost and process inefficiencies and

enable the first line to take on more ownership of risk.

Banks should then consider how best to leverage the power of new technologies, which has yet to be fully realized. Technology has played a significant role in risk management for a long time. But thanks to recent advances, it can now help banks reshape their risk management program in more meaningful ways. Very few banks, however, report that they have applied emerging technologies to the risk management function,<sup>51</sup> which could be a missed opportunity. Technology can increase efficiency by automating manual processes, assist in identifying emerging threats, and provide insights into risks and their causal factors.<sup>52</sup> Robotic process automation (RPA), for instance, can be used to reduce human error by flagging exceptions in large data sets. And machine learning, coupled with natural language processing, could convert unstructured data such as emails into structured data that can then be analyzed to predict where risks might occur.<sup>53</sup>



At the same time, banks should be mindful of the additional risks these new technologies might create. Third-party relationships with external technology vendors, suppliers, or service providers could expose banks to information misuse and theft (insider risk), system failures, and business disruptions (operational risk), or regulatory noncompliance. On the other hand, biases, automation errors, and rogue programs could result in algorithmic risk.<sup>54</sup>

Additionally, deploying these technologies to manage risk will require banks to access and use high-quality, timely data. Without robust data, technology implementation will likely not be as

effective. For some time, financial institutions have had difficulty providing quality data from source through system. This is due to a historic proliferation of disparate legacy systems, which has limited their ability to capture, measure, and report data.<sup>55</sup> By enhancing their data architecture, banks could create new data tools and models that could readily sense and combat emerging risks. Having better data, for instance, could help banks boost their monitoring and surveillance tools to detect and predict instances of employee misconduct (conduct risk).<sup>56</sup> New tools could also help eliminate silos and empower the business line to make better risk decisions, allowing them to go from hindsight to foresight.

# Talent

## Focusing on the human side of transformation

LAST YEAR, WE encouraged banks to prepare for the future of work, as automation, robotics, and cognitive technologies continue to redefine how work is done. The impact of these technologies, though, is only one part of a major shift that's happening across industries. To figure out how this shift might impact talent, and—most important—what to do about it, bank leaders will need to understand not just changes to the nature of work (the what and the how) but also the workforce (the who) and the workplace (the where)—all of which are greatly interrelated.<sup>57</sup>

When it comes to the future of work, many banks have started to explore automating manual, routine tasks by scaling technology from siloed use cases to larger processes across the enterprise. However, the human side of this transformation has received little attention, and leaders seem to be viewing the capacity freed up from automating these tasks as productivity gains at best. To take full advantage of technology, however, firms should also focus on redefining and redesigning jobs to empower the higher-order work (requiring intuitive, creative, interpretive, and problem-solving skills) that humans can best handle.<sup>58</sup>

The new “super jobs”<sup>59</sup> that result from this redesign could then require a change to the workforce, especially to attract individuals who can connect the dots between technology and business. Firms have two options: talent acquisition or reskilling. While banks already have a strong appetite for talent acquisition, the closely regulated nature of the financial services industry has limited their ability to use alternative talent models (gig or

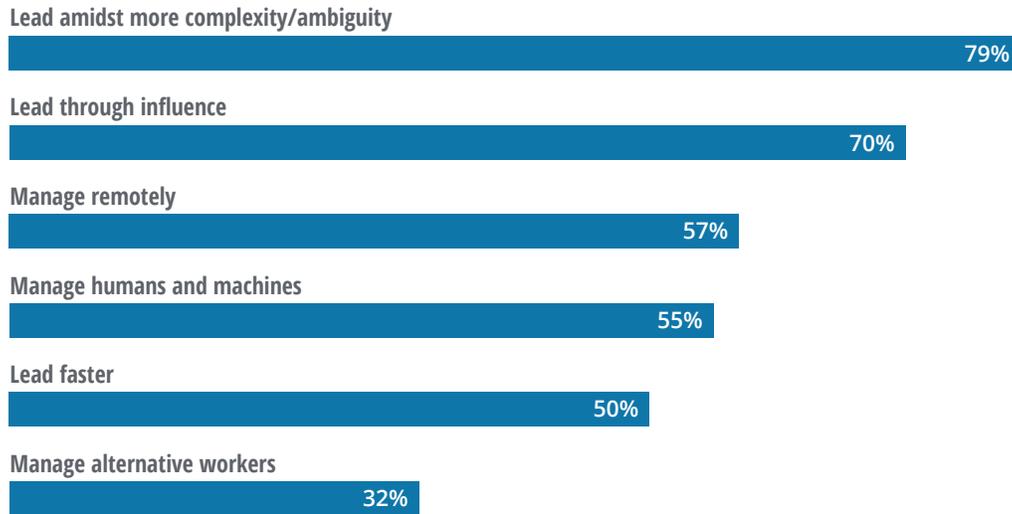
crowdsourced talent) at scale. The current low unemployment rates and tight labor markets further complicate the picture. As a growth imperative, banks should therefore consider reskilling (and in some cases, upskilling) their internal talent pool.

But who would lead this augmented workforce? More than 80 percent of financial institutions surveyed believe their organization is not effective or only somewhat effective in developing leaders that can keep up with work's rapid pace of change.<sup>60</sup> Many highlighted the importance of skills that balance traditional expectations and new competencies.<sup>61</sup> Thus, the profile of tomorrow's banking leaders will likely need to evolve to include some essential core attributes, such as: the aptitude for balancing business knowledge with tech fluency; managing complexity; strong interpersonal skills; the ability to facilitate change with an inspiring, forward-looking vision; and the ability to empower a diverse and inclusive workforce across co-located and virtual environments (figure 6).<sup>62</sup> By taking a fresh look at the context under which future leaders will thrive, banks can begin to cultivate those leaders today.

Lastly, since culture and configuration of the workplace have been linked to innovation<sup>63</sup> and business results,<sup>64</sup> banks have an opportunity to reimagine it to inspire talent. To enhance the human experience, banks should modernize their workplaces with more open and collaborative structures. They should also explore ways to foster connections for their virtual workers.

FIGURE 6

### Core attributes of 21<sup>st</sup>-century leaders in the global banking and capital markets industry



Source: 2019 Deloitte Human Capital Trends survey of executives. Data indicates the proportion of 706 respondents from global banking and capital markets who believe these are the unique requirements for 21<sup>st</sup>-century leaders.

# Retail banking

## Platforms are the future

### How is retail banking changing?

After a period of modest expansion in 2018, the outlook on retail banks' margins and profits dampened in 2019 due to a reversal in the interest rate cycle in the United States and even lower/more negative rates in Europe and Japan.

Despite the pressure from macro forces, US retail banking market indicators are positive: Average NIM as of Q2 2019 reached 3.39 percent;<sup>65</sup> deposits grew at 5 percent year over year; mortgage originations were up;<sup>66</sup> consumer debt reached a record level of US\$4 trillion (primarily driven, however, by a sharp and worrying rise in student loans);<sup>67</sup> and the efficiency ratio and asset quality remained generally good.<sup>68</sup> But the number of banks and branches continued to shrink. Despite the competition from fintechs, US bank consumers' trust in and satisfaction with their banks as custodians of their money and financial data remained generally high.

In Europe, the persistent reality of negative rates—expected to last for several more years<sup>69</sup>—has pushed down NIMs, with lending margins in Germany, for instance, declining since late 2009.<sup>70</sup> The ECB's September rate decrease has only intensified the pressure. Lending volume, however, has seen steady growth.

Banks in many parts of Asia, on the other hand, have increased their margins, with NIMs reaching 2 percent. China, in particular, has continued to see strong consumer lending growth. However, in

Japan, despite near-zero/negative rates, loan growth has been tepid, and margins have been suppressed.

Regardless of business fundamentals, banking consumers around the world want the same thing: superior and consistent customer experience in branches, online, or via a mobile app.<sup>71</sup> But delivering on this expectation is still challenging for many banks, despite their recent digitization efforts.

Digital channels are increasingly driving growth in deposits and consumer lending,<sup>72</sup> as evidenced by Goldman Sachs' Marcus retail banking arm or N26, a German mobile bank. Unsurprisingly, digital lending is also where nonbanks are stealing share from incumbents. In the US mortgage and personal loan markets, nonbank players have captured a large market share already. For instance, Quicken Loans is now the largest mortgage originator in the United States.<sup>73</sup>

Meanwhile, fintechs in Asia are becoming dominant players in retail banking. In Europe, fintechs are also making strides. Some of these fintechs are aiming to expand globally.<sup>74</sup> However, the business models of the new digital banks may be challenged in a low interest rate environment because of lack of scale and high rates for deposits.

And open banking, the sharing of customer data between banks and other external parties upon a customer's request, has taken root. While still in the early stages of its evolution, it is most evident

in Australia, the United Kingdom, and other countries in the European Union. Australia has even applied an expansive set of rules on consumer data rights and data-sharing to other industries as well.<sup>75</sup> To date, there are no signs of new open banking regulations being developed in the United States, but banks are starting to craft their own guidelines voluntarily.

## What will retail banking look like in the next decade?

By decade's end, fewer retail banks might exist, although the degree of shrinkage could vary by region/country and will likely depend on the current level of banking capacity, competition, and market demand. As a result, the nature and degree of competition will likely change; the surviving fintechs should become mainstream players and traditional incumbents will recalibrate their strategies. Nevertheless, scale and efficiencies will be dominant factors. Also, in the next few years, banks could partner with others in the ecosystem to become de facto platforms, offering countless services that will extend beyond banking. Banks should still be best positioned to own the customer relationship, which would enable them to rethink their value proposition and serve client needs holistically, supported by data and analytics. Product innovations are expected to focus on clients' financial well-being and closely connect lending, payments, and wealth management services. And, of course, maintaining superior customer experience and seamless connectivity to an ecosystem of other apps/application program interfaces (APIs) could be the norm. Offering advice should be a differentiating factor for banks as it becomes contextual and realtime. Banks should rethink and innovate pricing models accordingly. In an open data environment, privacy concerns will also be a factor.

## What can we expect in 2020?

The increasing pressure from a low-yield environment and the potential for an economic slowdown could negatively impact earnings, especially for smaller, less diversified, and consumer lending-focused banks. Banks should continue to increase their fee-based income, as well as focus on cost management, but should not lose focus on their digitization efforts and regulatory obligations.

To enable insights-driven offerings to clients, attain a leaner cost structure, and ultimately unlock future success, core modernization is key. Banks should digitize and transform across the entire value chain for all products. For instance, while almost every bank in the United States offers a digital mortgage application, only 7 percent manage end-to-end digital loan disbursement.<sup>76</sup> This is material since traditional lenders have operating expenses that are three times those of digital lending players for their services.<sup>77</sup>

Smaller banks, in particular, tied to a single core vendor in most cases, could find achieving their digital ambitions out of reach, so prioritizing modernization efforts could be key for them as well. To drive revenue growth, retail banks should focus on loan and payments products over deposit accounts. And, improving the customer experience for all products should be an overarching goal of core modernization.

Open banking should take hold in 2020 in many regions. Open banking can amplify and accelerate banks' digital transformation efforts and the emergence of new business models. While the potential upside is vast, the stakes are high. In the United States, given the lack of a regulatory mandate, there are still some uncertainties about the scale and pace of adoption of open banking. As such, banks should be selective in how they implement open banking practices.

# Payments

## Remaining relevant as further disruption looms

### How is the payments business changing?

Payments remains one of the most dynamic and exciting businesses in banking. The breakneck pace of change and the unprecedented scale of innovation are inspiring and testing established orthodoxies.

The proliferation of digital payment options and innovative platforms are encroaching on traditional payment providers' turf, forcing many to reassess their business models. Their foremost challenge is to remain relevant and quickly adapt to the new competitive environment. While fintechs are driving much of the disruption, incumbents are not far behind. Take, for instance, the perennial problem of delayed settlement in business-to-consumer payments. Some card incumbents are bringing solutions to shorten the settlement cycle to near real-time payments.

Overall, though, a good deal of the innovation in payments is happening in emerging markets, where mobile adoption and low-cost quick response (QR) technology are making digital payments the norm. eMarketer estimated that about 45 percent of the Chinese population used mobile payments in 2018, compared with 23 percent in the United States and 15 percent in the United Kingdom.<sup>78</sup>

Concurrently, more countries—developed and emerging, alike—are prioritizing payments modernization through faster payments. More than 50 countries have either implemented or plan to implement faster payments solutions,<sup>79</sup> many

sponsored by regulators. The Fed's announcement to enter the faster payments space as an operator of FedNow is a noteworthy development.<sup>80</sup> While use cases of faster payments span the spectrum, business-to-business (B2B) payments—where there are still rampant inefficiencies, such as paper-based invoicing, check payments, and tedious reconciliation processes—often holds the most promise.

Meanwhile, the payments industry is seeing more consolidation, due to rising competition and the race to scale. Payments incumbents are pursuing M&A to gain complementary capabilities and expand into new markets.<sup>81</sup> In 2019, we saw several notable M&A deals, such as Fiserv-First Data and FIS-Worldpay, in the US\$1.6 trillion global payments processing business,<sup>82</sup> attesting to the global growth ambitions of these players.<sup>83</sup>

### What will payments look like in the next decade?

Payments will be invisible, seamless, and real-time but will likely be about more than just transactions. A whole slew of new value-added services, such as identity protection, real-time cash management, and new purchasing insights that customers and merchants alike would value, should be the norm. Increasingly, differentiation and premium pricing will be driven by “payments+” services. Digital currencies will likely become the norm, most likely with regulators' support. New platforms would necessitate new payment mechanisms—all digital, of course. Meanwhile, abundant customer data should enrich personalized experiences while

increasing payment providers' responsibilities in the areas of privacy and security. The net result is an industry that may become more competitive, with interoperability still a challenge in the near term.

## What can we expect in 2020?

Redesigning customer experience by removing friction, enhancing value through rewards and access to other financial products, and bolstering security are expected to remain top priorities for payment providers.

While large payment providers could continue to offer an enhanced integrated experience, we are also likely to see an acceleration in unbundling the payments value proposition. This will comprise payment, credit, rewards, and security components but should also include the flexibility to interact with different experience providers.

Providers should increasingly focus on addressing the right pain points and reorienting product design to be experience-focused. This is important, as nearly four in 10 US consumers have experienced some friction with their credit card payments in the last year, with fraud being the most common complaint (figure 7).

Traditional providers should aim to enhance their relevance with customers by increasingly providing them with real-time, contextual, and personalized services. However, adopting this customer-centric model will be easier said than done, given the siloed nature of data, narrow performance incentives, and product-based organizational structure at many firms. Getting a better handle on

customer data is typically the first step in this transition.

Also, there will be growth in invisible payments, such as the “just walk out” technology featured in Amazon Go stores.<sup>84</sup> This is yet another example of how incumbents are being displaced and are losing control.

Payment providers will also be forced to expand alternative revenue streams. Strategic moves such as Mastercard's acquisition of Transfast (cross-border payments) may signify how the revenue mix could evolve in the future.<sup>85</sup>

In 2020, further exploration of regulator-sponsored digital currency systems, such as those in China, and deliberation on appropriate cryptocurrency regulation<sup>86</sup> may go hand-in-hand. For privately sponsored digital currencies, payments providers should proactively work with regulators and ecosystem partners.

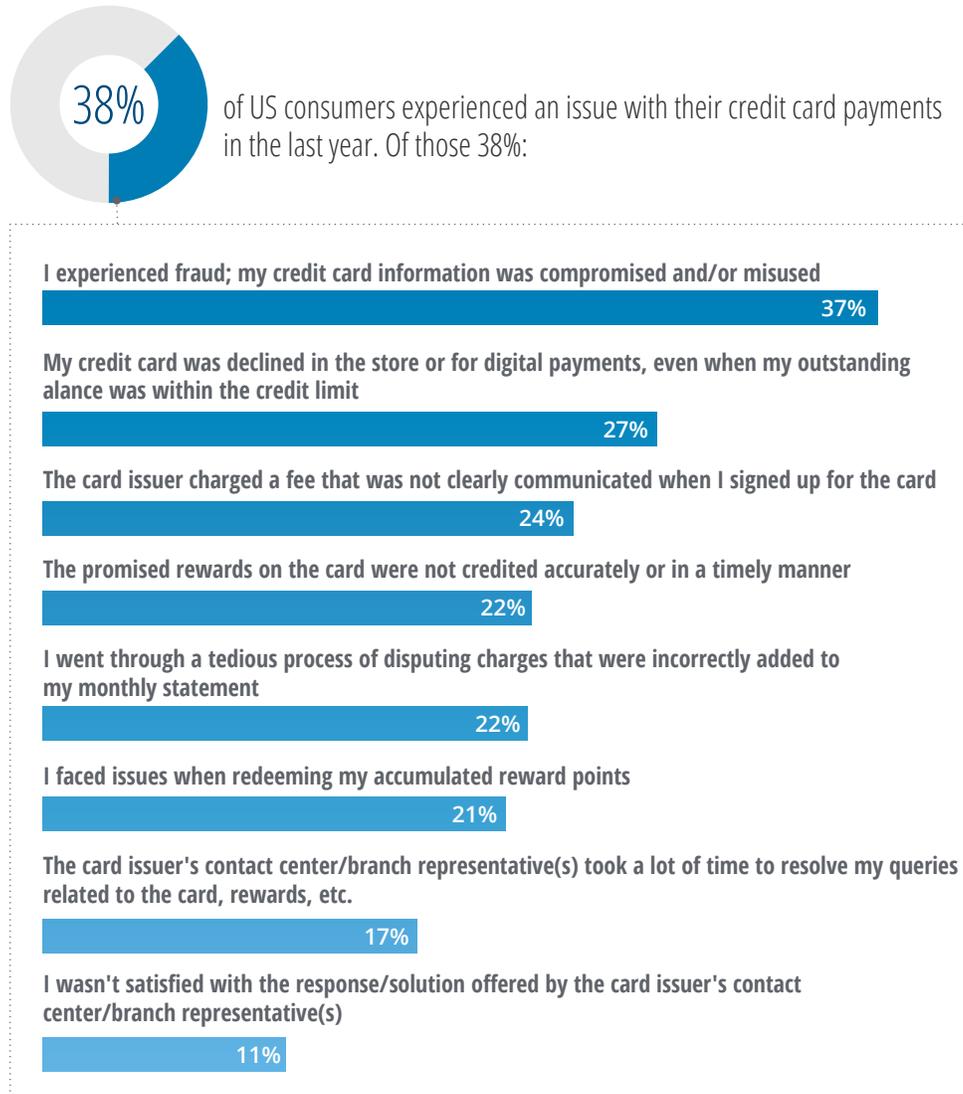
Progress on developing faster payments is expected to continue at a different pace globally. In North America, payments providers should be mindful of actions by the Fed and Payments Canada to determine potential strategies and learn from initial adoption.

With any of the above strategies, partnerships, both traditional and nontraditional, will be critical to drive value from acquisitions and take advantage of broader market trends.

In the end, no matter what type of innovation payment firms engage in, they should aim to develop products in smaller, bolder cycles. This can put them on solid ground to fail fast, learn faster, reduce time-to-market, and revive their relevance.

FIGURE 7

## Issues experienced with credit card payments in the United States



Source: Payments survey among US consumers, 2019, Deloitte Center for Financial Services.

# Wealth management

## The new core of the banking relationship

### How is wealth management changing?

Banks are betting on their wealth management divisions to bring stability amid a looming downturn.<sup>87</sup> However, increasing competition and commoditization are placing pressure on fees and margins, forcing greater price transparency. The elimination of a US tax deduction for investment management costs is further raising clients' sensitivity to fees.

On the regulatory front, wealth managers are grappling with the rising cost of compliance and increasing focus on KYC/AML and data protection.<sup>88</sup> But more importantly, the implementation of the SEC's new rules on fiduciary standards is set to increase the compliance requirements and drive additional changes to the business models and platforms of wealth firms operating in the United States.<sup>89</sup>

As expected, robo-advice has become table stakes. Virtually every large wealth firm has a digital advice platform. Independent robo players, however, are revisiting their business models, constrained by high client acquisition and servicing costs and low revenue yield. In response, some firms are offering cash management products and/or pivoting to a hybrid human-machine servicing model.<sup>90</sup>

On the client side, changing demographics are prompting a strategic shift for some in product innovation, service experience, and adviser training. More firms are targeting millennials, in particular, due to the size of the market, evolving

wealth needs, and the impending wealth transfer. Thus, some firms are launching new products, including "impact investing,"<sup>91</sup> innovative pricing models (for example, subscription-based pricing by Charles Schwab),<sup>92</sup> and new asset classes (for example, music royalties by Royalty Exchange).<sup>93</sup>

In the mass affluent market, competition is heating up. Through its recent acquisition of United Capital, Goldman Sachs' is targeting the large pool of corporate employees,<sup>94</sup> an underleveraged channel so far. And the ultra-wealthy are fueling the rise of family offices globally, simultaneously increasing investments into alternative asset classes, enabled by (private) feeder funds solutions of the likes of Artinvest or iCapital Network.<sup>95</sup>

Meanwhile, the competitive differentiation among offshore wealth centers has been shifting from regulation and tax factors to, more recently, provider capability and digital maturity, where countries such as the United States, United Kingdom, and Switzerland typically have an advantage. However, Asian centers are catching up fast, driven by advances in their digital infrastructure, such as mobile network coverage or internet bandwidth, and rising wealth in the region.<sup>96</sup>

### What can we expect in the next decade?

Wealth management could become the core of the banking-customer relationship. However, in the decade ahead, the business might face its most pressing challenges, as asset prices may come

under pressure amid slowing global economic growth. It is unlikely, though, that machines will replace human advisers, especially in serving the ultra/high net worth individual (UHNWI/HNWI) segments. Ability to provide real-time, tailored advice will become a key differentiator, along with the readiness to offer new products and asset classes, including digital assets. The industry could see unbundling of the value chain, with players focusing on what they do best, while other parts are outsourced. Wealthtechs, increasingly partnering with incumbents, could also be an important part of this ecosystem.

## What can we expect in 2020?

To prepare for the decade ahead, wealth managers are focusing on client experience, adviser experience and productivity, operational efficiency, and regulations.

In the United States, Reg BI and the Form CRS Relationship Summary (“Form CRS”) will likely impact wealth firms’ business models, operational processes, technology infrastructure, and compliance programs.<sup>97</sup> Firms should embed clients’ “best interest” in their governance, disclosure, process, and training procedures, even as individual states (for example, Massachusetts and New Jersey) potentially develop their own fiduciary standards. A push toward less risky investment advisory models is expected in 2020.

Next, improving client experience will likely be paramount as clients expect seamless, real-time advice. To achieve this, firms should prioritize front-office digitization and modernization. In a similar vein, upgrading and digitizing KYC and client onboarding processes, as well as AML transaction monitoring is critical. However, this transition to a digital operating model may also engender new risks and necessitates a rethinking of the risk management framework.

Enhancing adviser productivity and experience will also be key to cope with margin pressure, meet compliance demands, and provide superior client service. Some firms, for instance, are using machine learning to free up advisers’ time on routine tasks, such as providing operational alerts and client updates.<sup>98</sup>

To attract and retain clients, online trading of stocks and exchange-traded funds in the United States will increasingly be offered for no fee. This should benefit large-scale players that can make up for this loss in income through other predictable sources, such as sweep accounts.

Lastly, wealth managers should follow the money to attain long-term growth. Greater expertise in alternative investments, including private equity, real estate, and digital assets, such as tokens and cryptocurrencies, will be important as UHNWI/HNWIs seek to diversify their portfolios. Moreover, with rapid increases in private wealth, Asian markets cannot be ignored as a potential client base.

# Investment banking

More pain before any gain

## How is investment banking changing?

Postcrisis structural shifts continue to impede investment banks from achieving stable returns. In 2019, combined revenues at the top banks were at their lowest since 2006. It seems 2018's relatively stable performance may have been an aberration.<sup>99</sup>

Anemic economic growth and near-zero/negative interest rates have exacerbated European banks' inability to steer in a positive direction. Meanwhile, US banks continue to get stronger, generating 62 percent of global investment banking fees in 2018, up from 53 percent in 2011.<sup>100</sup> US banks' share of fees could grow as some major European banks reduce their investment banking aspirations and refocus on "traditional" home-market core activities.<sup>101</sup> How Asian banks will fare could hinge on whether and how regulators implement regulations, such as the treatment of internal risk models, which had proven challenging for many US banks in the past.

Recognizing the challenges ahead, some investment banks have restructured their sales and trading businesses and accelerated cost-cutting efforts.<sup>102</sup> Of course, underwriting has not been immune to broader macro trends,<sup>103</sup> with many banks decreasing their capital allocation and shifting emphasis to the advisory business. But this is also leading to increased competition and new market entrants, causing further fragmentation.

Furthermore, increasing platform sophistication among buy-side and corporate clients is threatening money-making opportunities. In the United States, the five large asset managers have set up their own platforms to directly connect with company executives.<sup>104</sup> Similarly, some corporate clients are beginning to undertake capital market activities, such as M&A and initial public offerings (IPOs) (for example, direct listing by Slack),<sup>105</sup> without banks as the intermediaries. Hedge funds and private equity firms have also begun to dabble in core investment banking activities.

## What will investment banking look like in the next decade?

While the core intermediation function will remain the same—matching supply and demand for capital—significant changes can be expected in the services investment banks provide and their delivery. Large corporates and buy-side firms could become more self-sufficient in standard capital market activities, but they will likely rely on bank expertise for more complex, global needs. The industry will likely be bifurcated, with a few large, global investment banks—mostly in the United States—and another group focused on local markets and specialized segments. As industry convergence accelerates in the broader economy, the need for cross-industry knowledge could become more important. Meanwhile, technologies such as AI and blockchain could become central to the operation of capital markets businesses and for tailored client insights.

## What can we expect in 2020?

2020 will likely be another year of rationalization in the investment banking industry. Large US banks, despite the economic challenges ahead, have a head start in readjusting to a new world. Most European banks, on the other hand, will be forced to rethink their global ambitions and pick the businesses they want to succeed in, though they must be careful not to discard core functions to remain competitive in the future. Asian banks are expected to continue to build their capabilities to serve local markets.

The sales and trading business will likely undergo the most notable transformation. Driven by a democratization of markets, technology, and demand for mass customization, the business is expected to split into “flow monsters,” which focus on execution services, and “client capturers,” which specialize in front-office functions.<sup>106</sup> Mid-level players without scale will likely be squeezed.

In sales and trading, posttrade simplification is becoming an urgent priority, with the bigger players now willing to make investments to simplify and innovate around this infrastructure. Client intelligence and self-service are also major themes, not only as levers for simplification, but also increasingly to enhance the client experience.

Banks should not lose sight of the need to address core modernization and develop new client solutions, while improving their cost structure. Risk functions have seen some modernization, and a few banks have begun reshaping their business processes and other middle-office functions, with some taking bold initiatives. Resulting cost savings free up resources for front-office related

investments, but it raises the question of whether competencies of support functions may weaken as such efforts are rolled out.

Cost mutualization is back in the air, but with a “Fintech 2.0” flavor. This new brand of markets/securities-focused fintech is eager to collaborate with banks. AccessFintech, which specializes in collaboration, transparency, and control to the financial services industry, is an example.

Talent will become more important for banks as the blend of capabilities in complex finance, coding, and soft skills necessary to drive deals forward will likely be in short supply.<sup>107</sup> Banks should revisit their talent model, accordingly. The investment banker of tomorrow will likely be augmented by technology solutions and will be a banker epitomizing “less doing, but more thinking.”<sup>108</sup>

On the regulation side, CRD5 and CRR2 will increase banks’ capital and mandate large non-European banks to create holding companies in the European Union.<sup>109</sup> This might slow US banks’ advance. Further impact could come from the Fundamental Review of the Trading Book (FRTB), expected to go live starting January 2022, which addresses the risk-weighted assets of banks’ trading books.<sup>110</sup> Additionally, the planned relaxation of the Volcker rule in the United States could lessen the compliance burden for banks and improve liquidity management for banks’ international operations.<sup>111</sup> Lastly, with the ongoing Brexit uncertainty, banks’ European regional setups have been altered for good. The ECB’s curtailing of “back-to-back” booking models, which would otherwise enable banks to manage capital and risks from the United Kingdom, has cemented the expanded EU presence of banks.<sup>112</sup>

# Transaction banking

## Need for bold change

### How is transaction banking changing?

Transaction banking, a mix of businesses ranging from cash management to securities servicing, remains the primary revenue growth engine in banks' portfolio. Steady, predictable returns, an attractive cost structure, and sticky customers typically make this business highly attractive.

For instance, revenues from cash management, a rate-sensitive business, and trade finance grew 10 percent to US\$19 billion in 2018 for four of the largest global banks.<sup>113</sup> Similarly, global securities services revenues grew in high single digits year over year in 2018, with custody services contributing most to this increase.<sup>114</sup> Meanwhile, the lackluster performance of the US\$3.2 trillion hedge fund industry was a reality check for many prime brokers, prompting them to reassess their exposure and tighten due diligence.<sup>115</sup>

Overall, European banks have lagged their US counterparts, due to record-low interest rates and sluggish domestic economic growth.<sup>116</sup> They have also struggled to match the capital utilization of American banks in the US market.

Transaction banks have had to contend with some notable changes to regulatory and industry standards, including the second Payment Services Directive (PSD2), ISO20022, SWIFT gpi, and LIBOR transition. These initiatives involve significant technology upgrades and tremendous capital and change effort. For the most part, the industry has dealt well with these changes. But on the programs not mandated by regulations,

progress has been slow even though clients, business partners, and regulators expect change to happen quickly, unlike in the past.

In addition, there has also been an increased focus/need for service externalization, with customers undertaking some service functions themselves.

Despite the aging platforms that need to be upgraded and new market-clearing capabilities to adjust to, the appetite for bold change in transaction banking seems limited, partly due to the lack of real urgency, and partly due to the notion "if it ain't broke, don't fix it." Stable performance and short-term-oriented leadership have likely hindered innovation.

### What will transaction banking look like in the next decade?

Transaction banks will increasingly become orchestrators of the financial ecosystems for global commerce and asset servicing. As physical flows merge with digital flows, banks should go beyond their core offerings to offer new services, such as hedging against climate risk or insuring digital assets. Banks will also be the trusted resource for advice, through machine-augmented intelligence. While real-time information flows will be pervasive, tools and models that fuse multiple technologies—from machine learning, blockchain, cloud, 5G, and quantum computing—will be increasingly common in transaction banking, as in other businesses. The focus will likely also shift from local to global decision optimization (for example, finding the best liquidity solution to considering broader

factors and decision impacts). Risk and compliance controls should be embedded more seamlessly into operations.<sup>117</sup>

## What can we expect in 2020?

As corporate clients start to adjust their financing needs in response to a potential global slowdown in 2020, transaction banks can add more value to their clients. In this low/negative rate environment, transaction banks should increase their focus on proactively advising their corporate clients on optimizing their working capital and providing advice on mitigating potential financial risks—especially within cash management, treasury services, and trade finance.

Securities servicing firms, on the other hand, are expected to continue to provide data analytics and insights to enable their clients to make informed investment decisions.

Given lower prospects for growth, transaction banks should also double down on their own cost management and get a better understanding of their economic architecture. Investing in cost data and analytics in this regard could pay long-term dividends. Also, with an increased focus on cost management on the client side, treasurers may shop around for better pricing. Many haven't revisited their banking relationships, and as growth slows, banks should create enhanced offerings and incentivize clients/treasurers to make strategic shifts in their banking relations, thus prompting more competition.

Furthermore, with the push for change flowing from regulatory or industry initiatives (LIBOR

transition, PSD2, or SWIFT gpi), transaction banks should “piggyback” their core transformation efforts on such mandates. Failure to modernize the related core legacy systems—whether cash management and treasury or securities reconciliation systems—could be a missed opportunity.

As faster payments become a growing reality and offer richer, structured data and real-time tracking, banks should consider offering new liquidity solutions to clients. Also, the potential of faster payments to depress the “float” that businesses need to hold should be addressed more strategically by developing new fee-based services to offset any potential loss from this decreased float.<sup>118</sup>

On the client side, corporates and buy-side institutions are expecting more from their transaction banks. They want real-time solutions that use data in an intelligent way to optimize working capital or investment performance and create a hassle-free experience.<sup>119</sup> Instead of being forced to “go” to the banks, these clients also want the banks to “come” to them and enable stronger, secure connectivity and information flows through APIs. Open banking, in this context, is quickly becoming a differentiator and a way to lock in clients. An example is DBS Bank's Rapid, an API-driven banking solution that integrates its functionalities directly with corporate clients' IT systems.<sup>120</sup>

Finally, the advent of tokenized securities will push some custodians to design new digital assets custody solutions.<sup>121</sup> Custodians should think long term to safeguard native crypto assets and provide full-service custody solutions.

# Corporate banking

## Enhancing value streams beyond lending

### How is corporate banking changing?

Growth in corporate banking globally has been a mixed bag in 2019. Global deposit growth over the last year has been relatively flat, with a 1.3 percent decline as of mid-year 2019.<sup>122</sup>

US banks report weakening demand across several loan categories, partly citing increased competition between banks and from nonbank lenders, such as private capital firms and fintechs.<sup>123</sup> In the search for growth, some large banks are sharpening their focus on middle-market deals.<sup>124</sup> Additionally, economic uncertainty and risk perceptions have pushed banks to take a heightened look at credit quality and tighten standards. Some banks also report increasing the premiums on riskier loans.

The same uncertainty has pushed many European banks to also tighten credit standards in 2019. Despite this, demand for corporate loans in Europe has remained robust, supported by low interest rates.<sup>125</sup>

In Asia, the ongoing US-China trade conflict has begun to weigh on business lending. Even with recent efforts by Chinese regulators to stimulate lending and offset the impact from declining exports, corporate loans in China have sharply fallen over the year,<sup>126</sup> and corporate bond defaults have soared.<sup>127</sup>

Globally, banks account for approximately 55 percent of the US\$3.2 trillion leveraged loan market,<sup>128</sup> and it continues to be a major concern for regulators and analysts worldwide, given the

increasing risks. But the market is showing early signs of cooling, as some banks begin to shun leveraged loans amid a higher level of scrutiny.

Influenced by what they see in their personal lives as consumers of digitally enabled services in areas such as online retail or ride-hailing services, more corporate customers have begun to expect similar high-quality, tailored, seamless services. Faced with this shift and heightened competition, many corporate banks are prioritizing digital transformation. JPMorgan Chase, for instance, has said it will merge its corporate banking team with its middle-market technology division to better serve clients in that space.<sup>129</sup>

### What will corporate banking look like in the next decade?

Change is on the horizon, and the future landscape for corporate banks will likely be marked by evolving client expectations, business model and workforce shifts, and disruptive technologies.<sup>130</sup> Demand for real-time liquidity and funding is expected to grow. A more open world and access to greater amounts of customer data could lead to more analytics-driven processes,<sup>131</sup> especially within loan underwriting. The new promise of open banking across the industry, meanwhile, could pave the way for platform banking. There could very well be greater competition from insurance companies, private equity firms, traditional asset managers, and fintechs in the corporate lending space. Thus, the corporate bank over the next decade could look very different than the one today,

as it redefines its role in the new financial ecosystem.

## What can we expect in 2020?

In the short term, shifting client demands, increases in the cost to serve, and the threat from new market entrants will likely put pressure on banks to rethink their current strategies, while it continues to strengthen relationships with clients.

To do so, corporate banks should first consider refreshing or enhancing their relationship management capabilities by offering clients a new business proposition via digital products and services. Finding fresh value streams outside loans will likely become an imperative, especially as economic uncertainty weighs on loan demand and as more fintechs (such as Kabbage<sup>132</sup> or StreetShares<sup>133</sup>) enter the lending space with alternative models. Digital products and services—for example, supply chain finance, specialized support, easy integration, or flexible funding options—could lead to new fee income opportunities and help protect against revenue pressure. These new products and services can support the role of relationship managers by allowing them to take on an advisory role beyond lending.

Next, banks should consider digitizing front- and back-office functions to boost operating efficiency and deliver the seamless, digitally enhanced experience that corporate clients increasingly crave. On the front end, account servicing, for instance, has long been a face-to-face business. AI-powered, digitally assisted conversations during servicing could revamp routine communications, enhancing the client relationship and marking another step toward differentiation. On the back end, loan origination and rationalization are ripe for automation.

Of course, digital enablement could be hindered without platform modernization. Legacy technology could continue to hinder corporate banks' ability to rapidly respond to change, so they should prioritize upgrading their infrastructure. They might also consider infrastructure improvements via fintech acquisitions or managed services.

Finally, on the accounting side in the United States, with the approaching replacement of an incurred loss model by a current expected credit loss (CECL) standard,<sup>134</sup> and the wide variation in allowances set by banks, it is yet to be seen what impact, if any, the new standards might have on lending volume, pricing, terms, and underwriting criteria.

# Market infrastructure

## The ongoing search for a new identity

### How is market infrastructure changing?

Global exchange revenues in 2018 reached US\$33.9 billion, driven strongly by derivatives trading.<sup>135</sup> Revenue diversification remains a strategic priority, as reflected in the market data business, which has grown at a compound rate of almost 14 percent over the past five years.

Exchange trading volumes in fixed income securities, futures, and options have also expanded, though mostly for smaller trade sizes. Overall, volatility in equity markets is only slightly lower than 2018,<sup>136</sup> despite the rise in geopolitical risks. However, market liquidity in stocks, bonds, currencies, and derivatives has contracted.

Electronification of bond trading is happening at a steady pace, although it is still only about 20–30 percent of total volume, depending on geography and asset class.<sup>137</sup>

In Europe, the second Markets in Financial Instruments Directive (MiFID II) has forced trading volumes away from dark pools to the over-the-counter market (OTC).<sup>138</sup> In China, the addition of Hong Kong-listed companies with dual-share structures on the mainland exchanges might boost trading.<sup>139</sup>

In the cleared derivatives market, though, diverging global regulations have caused greater fragmentation, contributing to lesser competition and lower liquidity.<sup>140</sup> Taking heed, some regulators such as the US Commodity Futures

Trading Commission (CFTC) are attempting to harmonize international rules.<sup>141</sup>

Meanwhile, speed bumps, which artificially slow markets to remove “latency arbitrage,” are becoming more common in the United States. By 2020, more than a dozen markets in stocks, futures, and currencies—such as the Intercontinental Exchange’s (ICE) attempt in the US gold and silver futures market—will slow trading via speed bumps or similar features, if all of the currently planned launches occur.<sup>142</sup> Removing latency arbitrage should attract more institutional investors but force high-frequency traders to find other venues. How this phenomenon plays out globally remains to be seen.

Lastly, consolidation in the exchange industry is taking on a new shade. The London Stock Exchange Group’s (LSEG’s) bid for Refinitiv,<sup>143</sup> a market data provider, and the Hong Kong Exchanges and Clearing Limited’s (HKEX’s) rescinded deal for the LSEG may foreshadow a new chapter for the industry.<sup>144</sup>

### What will market infrastructure look like in the next decade?

The exchange and clearing industry may reconsolidate and become more concentrated, even though we might see niche players emerging in the near term. Trading in digital assets, whether cryptocurrencies or digital tokens, should become more common. And, of course, intelligent

automation, electronification, and a blockchain system for trading, clearing, and settlement could be pervasive, leading to greater efficiencies and declining margins. This, in turn, will demand scale for profitability. Nontrading services could form a larger share of revenues over time, with the market infrastructure players expanding their business across the value chain and marketing their expertise to the buy-side and sell-side. At the same time, systemic risk should increase, possibly bringing new regulations. However, whether these new rules will be harmonized across the globe or are country- or region-specific is hard to predict.

## What can we expect in 2020?

The search for a new identity by market infrastructure players, stable returns, and higher margins will likely prompt further consolidation worldwide, especially if the economics become more challenging. However, cross-border deals might face greater scrutiny.

The drive for alternative revenue streams will spur product innovation, such as ICE's Credit Risk, and promote acquisitions in market data, technology, and analytics.<sup>145</sup> Also, exchanges could seek to be outsourcing partners to the sell-side, as banks look to trim their cost structures. And by leveraging

their technologies, exchanges can offer a market-in-a-box infrastructure.

But regulators' scrutiny of market data service pricing and clients' increasing resistance to price increases<sup>146</sup> in the United States might limit growth.<sup>147</sup> Similarly, the SEC's assessment of tiered pricing by the large US exchanges could be another contention point.

Of course, exchanges and clearing houses will have to continue to digitize their operations across the value chain, possibly through machine learning or RPA. While more blockchain-based experimentation and solutions could be developed, cloud adoption might not happen quickly due to security concerns and speed.

Operational resilience is expected to remain on the regulators' agenda globally.<sup>148</sup> New regulations are forthcoming, such as the European Recovery and Resolution Regulation for central counterparties, with higher transparency rules being the result.<sup>149</sup> However, the US equivalent of MiFID II seems less likely.<sup>150</sup> But more active assessment and recommendations from regulators for digital asset trading could happen. Finally, the much-awaited go-live implementation of the Consolidated Audit Trail (CAT) reporting in April 2020 should reveal immediate benefits.

# A deeper dive

**F**OR THIS YEAR'S outlook, we've identified seven additional topics for the banking and capital markets industry: US tax reform, cyber risk, M&A, fintechs, LIBOR, privacy, and climate change. Below is our assessment of what will likely happen in 2020 and beyond in these key areas and their effects on the industry.

## US tax reform: Still waiting for clarity

Bank tax departments spent much of the past year evaluating, understanding, and reporting the impacts of the US Tax Cuts and Jobs Act ("US tax reform") that was passed in late 2017. US tax reform lowered the US statutory tax rate and included numerous provisions that impact multinational financial institutions, whether domiciled in the United States or abroad. Over the past year, the financial services industry has actively engaged with the US Treasury Department and the Internal Revenue Service (IRS) to request further clarity on how the new rules would apply to their business models. High on the priority list are provisions for taxation of global intangible low-taxed income (GILTI) and the base erosion and anti-abuse tax (BEAT). But, as final rules have yet to be issued, uncertainty remains.

The responses to US tax reform have varied. Some have attempted to push through the ambiguity (for instance, by repapering cross-border contracts); others are awaiting further clarity, which may lead them to consider recalibrating business models and strategies. The financial services industry is expected to react swiftly once clarity is gained, both from a business standpoint as well as operationally.

Meanwhile, complex, real-time reporting requirements—such as the Automatic Exchange of Information (AEOI) global standard that mandates the flow of information between countries<sup>151</sup>—are placing additional pressure on many banking tax departments. As a result, many have begun to rethink their technology, data, and analytics capabilities to improve their processes and boost efficiency. Some are exploring managed tax and technology services to keep costs low as they struggle to increase their budget so they can perform these activities in-house. Others are experimenting with moving their processes and data to the cloud.

As financial institutions await legislative clarity, they should continue to prioritize their ability to rapidly respond to updates. This might be accomplished by building new, data-ready frameworks and modeling tools. Once some of the uncertainty dissolves, last year's message urging strategic recalibration will continue to hold true. Institutions should also take a closer look at talent and equip their tax departments with the right people to best recalibrate to the latest realities.

## Cyber risk: Fusing intelligence across the enterprise

With some estimates showing that the financial services sector is four times more likely than other industries to be victims of hackers,<sup>152</sup> it's no surprise that many institutions increasingly name cybersecurity as the most important risk type.<sup>153</sup> Cyber threats will likely increase in magnitude, as adversaries become more organized and sophisticated. Financial institutions no longer face

individual, rogue hackers but an ecosystem of highly skilled bad actors and nation-states. Looking ahead, greater use of mobile devices, driven by 5G, and the power of quantum computing might only further intensify cyber threats.

Many banks, however, have begun to recognize that their risk controls are inadequate to address the shifts toward the cloud, APIs, more open architectures, and the reliance on other third parties. What's more, humans continue to be a weak link, as evidenced by recent events involving rogue employees or contractors. And, of course, "technical debt" remains a challenge in making the enterprise more secure.

With all of these factors, bank leaders should rethink traditional cybersecurity measures that may still be in place. Fully leveraging interbank alliances might help strengthen banks' defense against these threats. Banks could also adopt a "security by design" approach, where cybersecurity is strategically integrated into the entire business process and into standard code development (DevSecOps). Moreover, banks should reassess how they deploy their cybersecurity budgets because higher spending does not always yield better outcomes.<sup>154</sup> Some of the most mature programs in the industry attribute their success to improving governance by involving senior leadership in the journey, raising cybersecurity's profile to an enterprisewide responsibility, putting cybersecurity at the center of digital transformation efforts, and aligning cybersecurity efforts with strategy.<sup>155</sup>

Additionally, cyber threats have begun to blur the lines between financial and nonfinancial risks. Though many firms feel they have a handle on more traditional financial risks,<sup>156</sup> financial crime is entering a new age. Fraud and money laundering are now increasingly being conducted in cyberspace. This fusion of risks has been aptly named "CyFi." Regulators are increasingly

scrutinizing banks' operational resilience and have begun to link cyber threats to financial stability as a result.<sup>157</sup> To combat this emerging subset of risks, banks should consider fusing their cyber and financial intelligence frameworks so they can unify capabilities and improve threat visibility across cyber, fraud, and anti-money laundering domains.

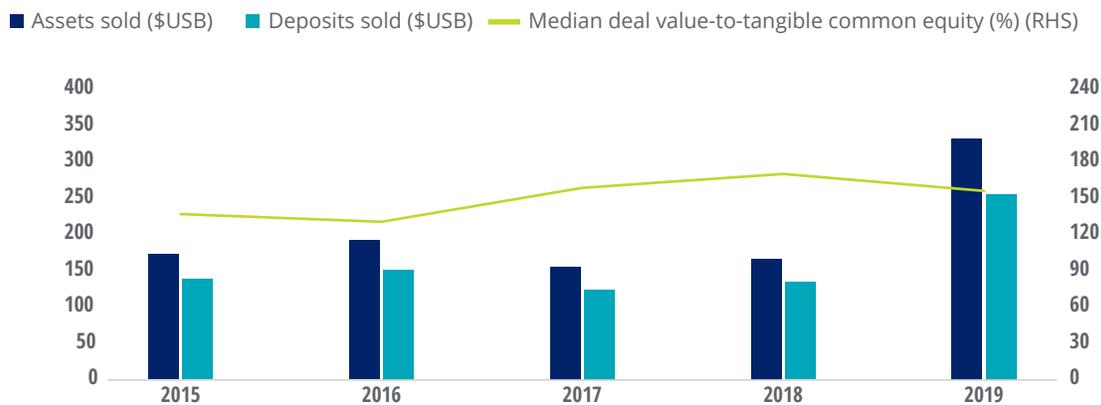
## M&A: A new playbook for the digital economy

The case for consolidation in the banking industry has possibly never been stronger, as the M&A playbook gets rewritten for a digital economy. The need for scale and the desire to bolster digital capabilities, along with having a lower cost structure to enable change, will likely be the primary motivations. US top performers that have benefitted from recent rises in valuation will be ready to scoop up weaker players. Lower economic growth and depressed rates, meanwhile, could prompt strategic reviews, and former buyers may become sellers.

In the United States, total deal value reached US\$16.5 billion as of August 2019, excluding the US\$28.3 billion megamerger between BB&T and SunTrust announced in February.<sup>158</sup> The number of deals year over year is roughly in line with the 259 deals reported in 2018.<sup>159</sup> However, median price-to-tangible book value has declined over the year as expectations from both sellers and buyers have adjusted to reality (figure 8).<sup>160</sup>

The change in the systemically important financial institution (SIFI) threshold (from US\$50 billion to US\$250 billion) has triggered a strategic reassessment. Some banks in the US \$10 billion to US\$50 billion asset range are now rethinking their options. While the physical footprint and the branch network are still important considerations, there is greater focus on technology infrastructure capabilities and sustaining growth in a digital economy. Smaller banks' limited ability to acquire

FIGURE 8

**US bank M&A trends (2015–19)**

Source: S&P Global Market Intelligence.

strong technical talent could be another motivation for selling.

However, finding the right merger partner in a similar peer group often remains a challenge. In fact, we are more likely to see US\$100 billion-sized banks targeting US\$10 billion to US\$50 billion-sized companies.<sup>161</sup> The gradual rise of next-generation leadership in these banks could accelerate deal activity.

Similarly, as interest rates stay at current levels or drop further, asset growth could become more of a priority than deposit growth, especially in segments and markets such as commercial loans.

In Europe, where the banking industry is fragmented and suffering from anemic growth prospects with low to negative interest rates, the need for scale is becoming more pressing than in the United States. However, the appetite to do deals has been suppressed, given that almost every institution is still preoccupied with internal house cleaning.<sup>162</sup> The political realities of cross-border mergers further complicate the picture. And the lack of a single, complete banking union and disparate political mandates could hinder any measurable cross-European M&A activity. This situation may not change for the foreseeable future.

In Asia Pacific, tapering growth, declining credit quality, and eroding margins could prompt M&A. While most deals will likely remain domestic, markets such as Indonesia<sup>163</sup> could attract foreign banks. Lastly, the Indian banking industry is expected to undergo a massive wave of consolidation, as the government plans to merge 27 state-run banks into 12 well-capitalized, future-ready banks.<sup>164</sup>

## Fintechs: Banks' new best friends!

The fintech landscape is evolving rapidly. Global investment in banking startups has quadrupled from 2014 to 2018<sup>165</sup> and could reach US\$39 billion in 2019 if the strong investment flows of the first three quarters of 2019 continue (figure 9). But the number of new startups has declined, which has been the trend for the last four years.

Comparing fintech trends across regions, it is clear that Asian fintechs have become the new venture capital darlings, garnering a bigger piece of the funding pie each year. According to Venture Scanner data, Asia's share of funding rose from just 9 percent in 2014 to 30 percent in 2018, even after excluding Ant Financial's US\$14 billion

investment.<sup>166</sup> That said, there appears to be no dearth of funding at a global level. The number of mega deals (US\$100 million or more) in banking reached almost 70 in 2018, from just 26 in 2014<sup>167</sup>—another sign that the fintech landscape is maturing, with late-stage startups attracting a greater share of funding. Startups are choosing to stay private longer for this reason.

Some established fintechs are also tweaking their business models, more so than in the past, by diversifying across geographies and segments. Leveraging its hugely successful payment platform, Stripe, for instance, has forayed into small business lending.<sup>168</sup> Challenger banks from Europe, meanwhile, are seeking new markets after seeing rapid growth in their home region.

Despite the US fintech charter challenges, regulators' attitudes globally have also never been so favorable. While concern still exists about fintechs' growth and their impact on the financial system,<sup>169</sup> regulators are encouraging innovation through sandboxes and new charters or licenses.<sup>170</sup>

No matter what the next phase in fintech brings in terms of investments, business models, or regulations, banks and fintech partnerships will

likely continue, leading to new innovations across the industry.

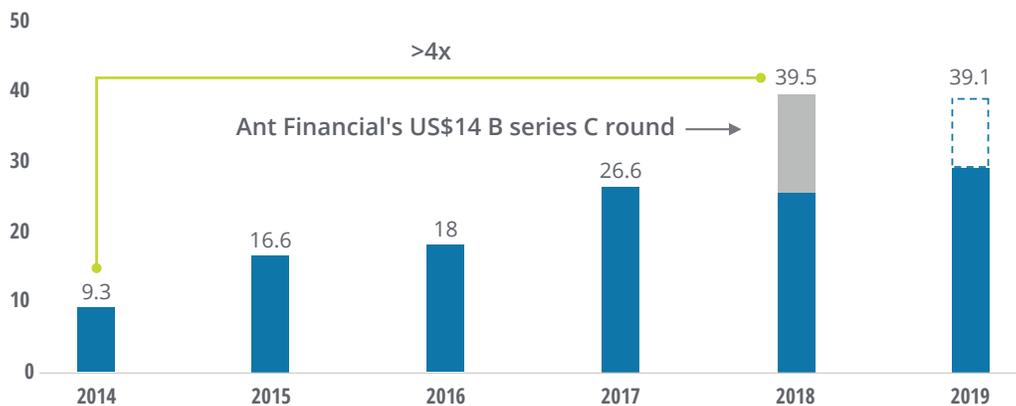
## The transition to LIBOR: Time is running out

The pressure is on, as the 2021 deadline for the global LIBOR transition approaches. After some initial uncertainty, regulators around the world have worked fervently over the past year to find replacement rates and build out working groups that will support the transition program.

In the United States, the Alternative Reference Rates Committee's (ARRC) transition efforts have brought greater clarity. Secured Overnight Funding Rate (SOFR), the proposed rate in the United States, has been increasingly accepted as a viable alternative. For instance, debt issuances as well as trading volumes of exchange-traded futures and swaps tied to SOFR continue to increase. SOFR floating-rate notes have been issued by major entities such as the World Bank,<sup>171</sup> MetLife,<sup>172</sup> and Fannie Mae.<sup>173</sup> Furthermore, SOFR futures volume on the Chicago Mercantile Exchange (CME) crossed US\$1 trillion in 2019.<sup>174</sup>

FIGURE 9

### Global investment in lending, payments, and wealth startups (US\$B)



Source: Venture Scanner, Deloitte Center for Financial Services.

However, recent liquidity challenges in the US repo market have raised some new questions about the stability of SOFR as an alternative. The daily volatility in SOFR reached record levels, but the 90-day average, which will be the basis for most transactions, was negligible.<sup>175</sup>

The ARRC has also held extensive consultations with industry groups, including the International Swaps and Derivatives Association (ISDA), the Structured Finance Association (SFA, formerly SFIG), and Loan Syndications and Trading Association (LSTA). In 2019, it published fallback provisions for floating-rate notes, bilateral loans, securitizations, and syndicated commercial loans.<sup>176</sup> Fallback language for other products is in progress.

The Financial Accounting Standards Board (FASB), meanwhile, has convened a project to address accounting issues that could arise from the transition. It has designated SOFR as an accepted benchmark for hedge accounting.<sup>177</sup>

Other jurisdictions have made progress as well. In the United Kingdom, floating-rate notes totaling over US\$30 billion tied to the Sterling Overnight Index Average (SONIA) have been issued in 2019.<sup>178</sup> In Europe, the Euro Short Term Rate (ESTR) started being published in October 2019.<sup>179</sup> Elsewhere, countries such as Switzerland and Japan have also made progress on identifying a replacement rate.

While much progress has been made over the last year, more work is needed. Initial assessments have been done, for the most part, and banks have a better understanding of their exposure to LIBOR, but many have also begun to recognize changes made to transition away from LIBOR also affect front-to-back processes and supporting systems. Thus, to accelerate implementation, modernizing such processes and systems should be a priority. Additionally, banks should proactively work with

their corporate and buy-side clients to ensure a smooth transition process.

## Privacy in the digital age: The new frontier for banks

Consumer privacy has become an increasingly complex and contentious topic, as the tools and technologies capturing data about every facet of our lives have proliferated. Many consumers now believe they have lost control of information about themselves and are starting to pay closer attention to how information about them is collected.

Such concerns are impacting the banking industry as well, where consumer data has always been a core asset. Banks have long safeguarded consumers' private information and used this data at macro and micro levels to serve clients.

Many current financial privacy policies, however, fail to address the complexities of privacy that have emerged due to the latest technological advances, such as wearables, commercial sensors, and virtual assistants. They often are merely "checking the box" to satisfy the compliance requirements of GDPR in the European Union or industry-specific regulations in the United States.<sup>180</sup> In fact, privacy policies within banking are often so alike, it can be hard to differentiate between companies.

As technology continues to advance and new forms of data emerge, how should banks adapt their privacy practices? The industry will likely need a more robust, forward-looking framework to successfully navigate the evolving privacy landscape. Banks should rethink privacy as a value exchange that mutually benefits consumers and companies without compromising trust, their reputation, or regulatory compliance. (See [Reimagining customer privacy for the digital age](#) for more information.)

## Climate change: A unique opportunity for banks to make an impact

Banks and capital markets firms are increasingly becoming aware of their social responsibility, and many are taking meaningful actions. But one area where more may be needed is climate change.

Climate change is arguably the defining challenge of our times.<sup>181</sup> In addition to the possible adverse impact on the environment, human life, and economies, the staggering cost of dealing with climate change is mounting. For instance, by 2100, rising sea levels could cost the world US\$14 trillion a year,<sup>182</sup> and the US economy could shrink by as much as 10 percent.<sup>183</sup>

Unsurprisingly, for the third consecutive year, world leaders ranked environmental threats as the biggest risk to the world.<sup>184</sup> The banking industry is not immune: A recent Fed report found that the effects of climate change have a “pervasive effect” across all sectors of the US economy, including the banking industry.<sup>185</sup>

As such, central banks around the world, including the Fed, the ECB, and the Bank of England, are examining the implications for monetary policy and are also seeking ways to “bolster banks’ resilience amid economic disruptions caused by extreme weather.”<sup>186</sup> They have also organized the Network for Greening the Financial System

(NGFS) to boost climate risk management.<sup>187</sup> Additionally, the Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD).<sup>188</sup>

Many banks are already committed to improving the environment and combatting climate change. Their actions include reducing their carbon footprint, financing low-carbon businesses, promoting green bonds, and being transparent about their environmental practices. But these initiatives are typically implemented from a corporate social responsibility perspective rather than a risk management agenda.<sup>189</sup>

To manage climate risk effectively, banks might need new, robust frameworks and analytical approaches. Banks should make climate risk management an independent and robust discipline, similar to credit risk or operational risk. In this regard, boards, CEOs, and chief risk officers (CROs) can play a crucial role, providing leadership on climate risk management by placing climate risk high on the agenda and shaping their institutional responses.

Addressing climate risk in a proactive fashion could also help banks meet client needs. Clients will be increasingly looking to their banks for guidance and a better understanding of climate risk’s potential impact on their financial and business profiles.

## Endnotes

1. Catherine Bosley, "Japanification of Europe is here and escape isn't easy, ING says," *Bloomberg*, June 24, 2019.
2. Kat Van Hoof, "Top 1000 world banks 2019," *Banker*, July 1, 2019.
3. ROC defined as pretax profit/tier 1 capital.
4. Van Hoof, "Top 1000 world banks 2019."
5. *Ibid.*
6. *Ibid.*
7. Federal Reserve Bank of New York, "Household debt and credit report," 2019.
8. Office of the Superintendent of Financial Institutions, "Financial data for banks," accessed October 9, 2019.
9. Nichola Saminathe, "Canadian banks brace for tougher times as 'Goldilocks' era winds down," Reuters, August 30, 2019.
10. Van Hoof, "Top 1000 world banks 2019."
11. *Ibid.*
12. *Ibid.*
13. *Ibid.*
14. *Ibid.*
15. "Top 1000 world banks 2018," *Banker*, July 2, 2018.
16. Reserve Bank of Australia, "Financial aggregates," accessed October 9, 2019.
17. Paulina Duran, "Record low rates deliver competitive advantages to Australia's biggest banks: regulator," Reuters, September 12, 2019.
18. Federal Reserve Bank of St. Louis, "10-year treasury constant maturity minus 2-year treasury constant maturity," October 28, 2019.
19. Daniel Bachman and Rumki Majumdar, "United States economic forecast, 3rd Quarter 2019," Deloitte Insights, September 17, 2019.
20. MarketWatch, "Germany 30 year government bond," October 29, 2019.
21. International Monetary Fund, "IMF data mapper: Real GDP growth," accessed October 24, 2019.
22. Irena Gecas-McCarthy et al., "Federal Reserve Board proposes tailoring Prudential Standards for foreign banking organizations," Deloitte, April 16, 2019.
23. Irena Gecas-McCarthy et al., "Federal Reserve Board proposes tailoring Prudential Standards," Deloitte, October 31, 2018.
24. Gecas-McCarthy et al., "Federal Reserve Board proposes tailoring Prudential Standards for foreign banking organizations."
25. K&L Gates, "OCC and FDIC ease 'Volcker Rule' restrictions on proprietary trading: SEC, CFTC, and Federal Reserve expected to follow suit," August 30, 2019.

26. Irena Gecas-McCarthy et al., "Agencies approve final rule to simplify and tailor the Volcker Rule," Deloitte, September 9, 2019.
27. K&L Gates, "OCC and FDIC ease 'Volcker Rule' restrictions on proprietary trading: SEC, CFTC, and Federal Reserve expected to follow suit," August 30, 2019.
28. Andrew Ackerman and Kate Davidson, "Trump Administration aims to privatize Fannie Mae and Freddie Mac," *Wall Street Journal*, September 5, 2019.
29. Karl Ehram, "The impact of SEC's new advice standards on broker-dealers and investment advisers," Deloitte, 2019.
30. Mark Schoeff Jr., "New Jersey fiduciary rule: Pressure leads to public hearing, comment deadline extension," *InvestmentNews*, June 17, 2019.
31. Val Srinivas, Sam Friedman, Tiffany Ramsay, Reimagining privacy for the digital age, Deloitte Insights, May 20, 2019.
32. Yuka Hayashi, "Judge denies federal agency's authority to issue fintech bank charters," *Wall Street Journal*, October 22, 2019.
33. Davis Polk, "Banking and cannabis—Updated briefing on the SAFE Banking Act and STATES Act," April 16, 2019.
34. European Commission, "Adoption of the banking package: Revised rules on capital requirements (CRR II/CRD V) and resolution (BRRD/SRM)," April 16, 2019.
35. Sean Smith and John Kernan, "Update on CRD5/CRR2 latest progress," Deloitte, 2018.
36. Dan Cooper and Nicholas Shepherd, "European Commission issues report on the implementation of the GDPR," *Inside Privacy*, July 25, 2019.
37. John Arvanitis, "Bipartisan AML bill is just the right touch," *American Banker*, August 2, 2019.
38. Tony Raval, "KYC and AML: What all banks need to know," *Forbes*, October 11, 2018.
39. Kevin Nixon, Tony Wood, and Shiro Katsufuji, *Asia-Pacific financial services regulatory outlook 2019*, Deloitte, 2018.
40. Ibid.
41. Gareth Jones, "Banks' slow progress to cloud's promised land," *Financial Times*, July 19, 2019.
42. Kevin Laughridge, Ketan Bhole, and Abhijit Kumar, "Digital transformation hits core banking," Deloitte, July 27, 2019.
43. Gareth Jones, "Why upgrading legacy technology is a priority for the banking industry," *Fraedom*, March 26, 2019.
44. Rochelle Toplensky, "Technology is banks' new battleground," *Wall Street Journal*, September 10, 2019.
45. Nikhil Gokhale and Ankur Gajjaria, *AI leaders in financial services: Common traits of frontrunners in the artificial intelligence race*, Deloitte Insights, August 13, 2019.
46. Matthew Blake, Jesse McWaters, and Rob Galaski, "The next generation of data sharing in financial services: Using privacy enhancing techniques to unlock new value," *World Economic Forum and Deloitte*, September 12, 2019.
47. Behnam Tabrizi et al., "Digital transformation is not about technology," *Harvard Business Review*, March 13, 2019.
48. Edward Hida, *Global risk management survey, 11th edition*, Deloitte Insights, 2019.

49. Monica O'Reilly and Peter Reynolds, "What does an optimal risk management operating model look like?," Deloitte, June 19, 2019.
50. Hida, Global risk management survey, 11th edition.
51. Ibid.
52. Ibid.
53. Ibid.
54. Ibid.
55. O'Reilly and Reynolds, "What does an optimal risk management operating model look like?"
56. Kevin Nixon et al., Managing conduct risk: Assessing drivers, restoring trust, Deloitte, 2017.
57. Jeff Schwartz et al., What is the future of work? Redefining work, workforces, and workplaces, Deloitte Insights, April 1, 2019.
58. Erica Volini et al., Leading the social enterprise: Reinvent with a human focus, 2019 Deloitte Global Human Capital Trends, Deloitte Insights, April 11, 2019.
59. Ibid.
60. Ibid.
61. Ibid.
62. Ibid.
63. University of Minnesota, "Corporate culture is most important factor in driving innovation," ScienceDaily, November 18, 2008.
64. Anthony S. Boyce et al., "Which comes first, organizational culture or performance? A longitudinal study of causal priority with automobile dealerships," *Journal of Organizational Behavior* 36, no. 3 (2015): pp. 339-59.
65. Federal Deposit Insurance Corporation (FDIC), "FDIC-insured institutions report net income of \$62.6 billion in second quarter 2019," September 5, 2019.
66. Ben Eisen, "Boom in refinancing boosts mortgage lending," *Wall Street Journal*, July 29, 2019.
67. Federal Reserve Bank of New York, "Household debt and credit report."
68. S&P Global Ratings, Global banks midyear 2019 outlook, July 11, 2019.
69. Patricia Kowsmann and Margot Patrick, "Plunging yields expose sorry state of European banks," *Wall Street Journal*, June 3, 2019.
70. European Central Bank, "Statistical data warehouse," accessed October 4, 2019.
71. Finextra and HSBC Bank USA, "HSBC Bank USA launches digital lending platform," August 12, 2019.
72. Tatjana Kulkarni, "Citigroup attributes Q1 deposit growth to its digital channels," Bank Innovation, April 15, 2019; Pymnts.com, "Goldman says it has 1.5m Marcus customers," July 18, 2019.
73. Jason Richardson, "2017 HMDA overview: Non-banks dominated home lending," National Community Reinvestment Coalition, May 8, 2018.
74. Pymnts.com, "Banking App N26 eyes US expansion," April 1, 2019.

75. David Strachan and Stephen Ley, "Open banking around the world," Deloitte, 2018; Andy White, "Australia's open banking journey on the right track," Australian Payment Network, accessed October 4, 2019.
76. American Bankers Association, "The state of digital lending," January 8, 2018.
77. Ibid.
78. Rimma Kats, "The mobile payments series: China," eMarketer, November 7, 2018; Rimma Kats, "The mobile payments series: The UK," eMarketer, November 6, 2018; Rimma Kats, "The mobile payments series: US," eMarketer, November 9, 2018.
79. Pymnts.com, "Mastercard: Why Nordic countries could fuel RTP push," July 2, 2019.
80. The Federal Reserve, "Settlement assessment," accessed on August 21, 2019.
81. Pymnts.com, "Fiserv-First Data merger is complete," July 29, 2019.
82. Connor Childs et al., "How Adyen is disrupting payment processing," Medium, January 5, 2019.
83. David Jones, "Worldpay, First Data deals reflect globalization of payments space," Mobile Payments Today, March 19, 2019.
84. Jordan Novet, "Amazon in talks to bring its cashierless Go technology to airports and movie theatres," CNBC, September 30, 2019.
85. Business Wire, "Visa acquires control of Earthport," May 8, 2019; Zach Miller, "Mastercard gears up for cross border payment growth with Transfast acquisition," Tearsheet, August 6, 2019.
86. Osato Avan Nomayo, "EU needs a 'common approach' to crypto regulation says commissioner," Bitcoinist, October 8, 2019.
87. Justin Ho, "Why banks are doubling down on wealth management services," MarketPlace, July 23, 2019.
88. EuroMoney, "Americas private banking debate: Internationalization is the future," May 23, 2019.
89. SIFMA and Deloitte, "A firm's guide to the implementation of Regulation Best Interest and the form CRS relationship summary," September 27, 2019.
90. Alexander Jones, "Why robo-advisors are struggling to break even," International Banker, July 3, 2019; Helen Avery, "Private banking: Wealthtech 2.0 – when human meets robot," *EuroMoney*, February 6, 2019.
91. Owen Walker, "Impact investment universe grows to \$502bn," *Financial Times*, April 1, 2019.
92. Sean Allocca, "Amazon, Netflix and now Schwab: The risks in subscription models," Financial Planning, April 3, 2019.
93. Royalty Exchange, "Home," accessed October 4, 2019.
94. Advisor Hub, "Goldman Expanding Wealth Management to the Masses," April 15, 2019; *Economist*, "Goldman wants to manage the assets of the middling rich," May 25, 2019.
95. Lacey Cobb, "The case for including private equity in portfolios," Family Wealth Report, March 18, 2019.
96. Daniel Kobler et al., The Deloitte International Wealth Management Centre Ranking 2018, Monitor Deloitte, May 15, 2018.
97. SIFMA and Deloitte, "A firm's guide to the implementation of Regulation Best Interest and the form CRS relationship summary."
98. David Trainer, "How AI can help advisors grow and keep assets," Seeking Alpha, April 4, 2018.

99. Stephen Morris and Laura Noonan, "Investment banking revenues plunge to 13-year low," *Financial Times*, September 4, 2019.
100. Liz Hoffman and Telis Demos, "How U.S. banks took over the world," *Wall Street Journal*, September 4, 2019.
101. Saqib Chaudhry and Vanya Damyanova, "Outgunned euro i-banks should concede global dominance to US peers, analysts say," S&P Global Market Intelligence, July 3, 2019.
102. Robert Armstrong, "Investment bank job cuts near 30,000 as outlook sours," *Financial Times*, August 11, 2019.
103. Business Wire, "Global investment banking market review 2014-2019 & forecast to 2022," July 24, 2019.
104. Liz Hoffman and Geoffrey Rogow, "Giant investors are coming after one of Wall Street's cash cows," *Wall Street Journal*, June 26, 2019.
105. Lauren Feiner, "Slack shares surge 48% over reference price in market debut," CNBC, June 20, 2019.
106. Imani Moise, "Citi combines its stock trading and prime brokerage business," Reuters, July 29, 2019.
107. Thomas J. Chemmanur, Mine Ertugrul, and Karthik Krishnan, "Is it the investment bank or the investment banker? A study of the role of investment banker human capital in acquisitions," *Journal of Financial and Quantitative Analysis* (2018).
108. Paul Clarke, "The AI revolution comes to investment banking," fnLondon, January 10, 2019.
109. Shearman & Sterling. "The new EU law on intermediate holding companies for third-country banking groups," March 26, 2019.
110. Eugene Stern, "2022: A market risk odyssey," Bloomberg, June 21, 2019.
111. K&L Gates LLP, "OCC and FDIC ease 'Volcker Rule' restrictions on proprietary trading."
112. Lucy McNulty, "ECB moves to curtail back-to-back booking after Brexit," fnLondon, October 8, 2018.
113. Tricumen dataset. These banks include Bank of America, Citi, Deutsche Bank, and JPMorgan Chase.
114. Vanya Damyanova, "Global securities services banks' revenues hit 6-year high in 2018," S&P Global Market Intelligence, April 12, 2019.
115. Joe Parsons, "Hedge fund performance forces prime brokers to rethink risk," *The Trade*, August 20, 2019.
116. Elisa Martinuzzi, "Wall Street outguns Europe's banks, again," Bloomberg, June 10, 2019.
117. Philip Fellowes et al., "The future of treasury," HSBC, April 9, 2019.
118. Leo Lipis and R. Andrew Gómez, Get more from real time payments, ACI Universal Payments and Lipis Advisors, 2019.
119. Deutsche Bank, *The road to real-time treasury*, April 10, 2019.
120. DigFin Group, "DBS leveraging of APIs yielding profits," March 24, 2019.
121. Ian Allison, "Banking giant State Street is waiting on client demand for crypto custody," Coindesk, December 2, 2018.
122. Tricumen dataset.
123. Federal Reserve, April 2019 senior loan officer survey, April 2019; Reuters, "Loan demand falls among U.S. businesses, households: Fed banking survey," February 4, 2019.
124. Liz Hoffman, "Big banks reach for small deals as merger boom slows," *Wall Street Journal*, April 2, 2019.

125. European Central Bank, The Euro area bank lending survey – second quarter of 2019, accessed October 9, 2019.
126. Judy Hua and Kevin Yao, “China’s July new loans dip more than expected, further policy easing seen,” Reuters, August 12, 2019.
127. Weizhen Tan, “Chinese companies are defaulting on their debts at an ‘unprecedented’ level,” CNBC, March 20, 2019.
128. Bank of England, Financial stability report, Financial Policy Committee, July 2019.
129. Reuters, “JPMorgan merges commercial banking groups for fast-growing start-ups,” March 11, 2019.
130. Deloitte, “The future of commercial banking,” 2019.
131. Ibid.
132. Sarah Hansen, “The future of lending: Fintech 50 2019,” *Forbes*, February 4, 2019.
133. Ryan Lichtenwald, “StreetShares is the latest fintech to launch a lending-as-a-service offering,” Lend Academy, September 19, 2019.
134. Amnon Levy, “Nonbank players are ready for CECL - are banks?,” *American Banker*, August 15, 2019.
135. David Tabaka, “Exchange global share & segment sizing 2019,” Burton Taylor Consulting LLC, 2019.
136. Federal Reserve Bank of St. Louis, “CBOE Volatility Index: VIX,” October 28, 2019.
137. Lee Olesky, “CNBC: Lee Olesky discusses the electrification of the global bond market,” filmed during the 2019 Sandler O’Neill Global Exchange and Brokerage Conference, New York, June 7, 2019.
138. Philip Stafford and Hannah Murphy, “MiFID II starts to weave its influence through markets,” *Financial Times*, September 30, 2019.
139. Zhang Shidong, “Chinese stock exchanges seek public feedback on allowing mainland investors to buy shares in Hong Kong’s dual-class structured companies,” *South China Morning Post*, August 2, 2019.
140. Sean McMahon, “FIA voices concerns about market fragmentation,” SmartBrief, March 13, 2019.
141. FIA, “Special report: CFTC advances two proposals amending oversight of non-U.S. clearinghouses,” July 11, 2019.
142. Alexander Osipovich, “More exchanges add ‘speed bumps,’ defying high-frequency traders,” *Wall Street Journal*, July 29, 2019.
143. Ben Dummett, “London Stock Exchange eyes \$15 billion bet for Blackstone’s Refinitiv,” *Wall Street Journal*, July 27, 2019.
144. Sumeet Chatterjee and Scott Murdoch, “Hong Kong bourse pulls plug on \$39 billion play for London Stock Exchange,” Reuters, October 7, 2019.
145. Larry Tabb, “LSE/Refinitiv: Panning for gold in financial flotsam & jetsam,” TabbForum, August 1, 2019.
146. Philip Stafford, “Europe’s fragmented equity markets need a tape of record,” *Financial Times*, September 12, 2019.
147. Alexander Osipovich, “Exchanges face higher hurdles in boosting data fees,” *Wall Street Journal*, May 21, 2019; John McCrank, “Exclusive: SEC scrutinizes fairness of stock exchange pricing,” Reuters, March 7, 2019.
148. Umar Faruqi, Wenqian Huang, and Előd Takáts, “Clearing risks in OTC derivatives markets: the CCP-bank nexus,” BIS, December 16, 2018.

149. BNP Securities, "Central Counterparty Recovery and Resolution Regulation (CCP) - regulation memo," April 10, 2019.
150. Ivy Schmerken, "U.S. to study effects of MiFID II research unbundling," TabbForum, July 26, 2019.
151. Irish Tax and Customs, "What is Automatic Exchange of Information (AEOI)?," September 25, 2019. Information provided courtesy of the Revenue Commissioners under a Creative Commons Attribution 4.0 International (CC BY 4.0) license.
152. Warwick Ashford, "Financial institutions on high alert for major cyber attack," *Computer Weekly*, February 11, 2016.
153. Hida, *Global risk management survey, 11th edition*.
154. Julie Bernard, Ed Powers, Emily Mossburg, "Just how much are financial institutions spending on cybersecurity? An average of \$2,300 per employee, Deloitte survey finds," Deloitte, May 3, 2019.
155. Ibid.
156. Hida, *Global risk management survey, 11th edition*.
157. Kevin J. Stiroh, "Thoughts on cybersecurity from a supervisory perspective," Federal Reserve Bank of New York, April 12, 2019.
158. S&P Global Market Intelligence analysis.
159. Zuhaib Gull and Syed Fariq Javaid, "Bank M&A 2019 deal tracker: Prosperity/LegacyTexas merger boosts June deal value," S&P Global Market Intelligence, July 16, 2019.
160. Ken McKathy, "What's driving the sudden spike in bank M&A," *American Banker*, July 31, 2019.
161. Brian Cheung, "Bank CEOs quiet on M&A ambitions as expectations for consolidation build," Yahoo Finance, April 26, 2019.
162. Nicholas Comfort and Alexander Weber, "Why that European bank M&A wave faces huge hurdles," Bloomberg, April 23, 2019.
163. Ranina Sanglap and Baby Verma, "Indonesian M&A to still prove attractive for Asian banks in 2019," S&P Global Market Intelligence, January 29, 2019.
164. Livemint.com, "No bank employee will be hurt in consolidation of PSU banks, assures govt," August 30, 2019.
165. Venture Scanner database; Deloitte Center for Financial Services.
166. Ibid.
167. Ibid.
168. Ingrid Lunden, "Stripe launches Stripe Capital to make instant loans to customers on its platform," TechCrunch, September 5, 2019.
169. International Monetary Fund, "Fintech: The experience so far," June 27, 2019.
170. Reuters, "Australia gives banking license to mobile startup firm Xinja," September 9, 2019.
171. World Bank, "World Bank launches market's first SSA Secured Overnight Financing Rate (SOFR) bond," press release, August 14, 2018.
172. Alex Harris, Paul Cohen, and Rizal Tupaz, "MetLife breaks ground with \$1 billion bond based on LIBOR heir," Bloomberg, August 30, 2018.

173. Aleksandrs Rozens, "Fannie Mae pioneers market's first-ever Secured Overnight Financing Rate (SOFR) securities," Fannie Mae, July 26, 2018.
174. CME Group, "Secured Overnight Financing Rate (SOFR) futures," October 14, 2019.
175. Daniel Kruger and Vipal Monga, "Repo-market tumult raises concerns about new benchmark rate," *Wall Street Journal*, September 23, 2019.
176. New York Federal Reserve, "ARRC recommendations regarding more robust fallback language for new originations of LIBOR syndicated loans," April 25, 2019.
177. Financial Accounting Standards Board (FASB), "Accounting standards update no. 2018-16—derivatives and hedging (topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR), Overnight Index Swap (OIS) Rate as a benchmark interest rate for hedge accounting purposes," accessed October 29, 2019.
178. Shanny Basar, "New sterling FRNs transition from LIBOR," MarketsMedia, July 11, 2019.
179. European Central Bank, "Euro short-term rate (€STR)," accessed October 15, 2019.
180. Val Srinivas, Sam Friedman, and Tiffany Ramsay, *Reimagining privacy for the digital age*, Deloitte Insights, May 20, 2019.
181. António Guterres, United Nations Secretary General, remarks at high-level event on climate change, September 26, 2018.
182. Institute of Physics, "Rising sea levels could cost the world \$14 trillion a year by 2100," July 3, 2018.
183. Riccardo Colacito, Bridget Hoffman, and Toan Phan, "Temperature and growth: A panel analysis of the United States," WP 19-9, March 30, 2018.
184. World Economic Forum, *The global risks report 2019*, January 15, 2019.
185. Colacito, Hoffman, and Phan, "Temperature and growth."
186. Michael S. Derby, "Fed readying financial system for climate-change shocks," *Wall Street Journal*, May 7, 2019; Jana Randow and Piotr Skolimowski, "Central banks are thinking greener as climate change hits policy," Bloomberg, April 2, 2019.
187. Banque De France, "Network for greening the financial system," accessed October 29, 2019.
188. Financial Stability Board, "Task force on climate-related financial disclosures," June 2017.
189. Sabine Lautenschläger, "Central bankers, supervisors and climate-related risks," panel remarks by Ms. Sabine Lautenschläger, member of the executive board of the European Central Bank, at the NGFS (Network for Greening the Financial System) conference, Paris, April 17, 2019.

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The center wishes to thank the following Deloitte industry leaders for their insights and contributions to the report:

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The center wishes to thank the following Deloitte client service professionals for their insights and contributions to the report:

**Bonnie Cantor**, managing director, Deloitte Services LP  
**Peter Firth**, managing director, Deloitte Touche Tohmatsu Limited  
**Sylvia Gentzsch**, senior manager, Deloitte Touche Tohmatsu Limited  
**Susan Jackson**, senior manager, Deloitte Services LP  
**Jim Tracy**, senior manager, Deloitte Services LP

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