Deloitte.
University Press

Patterns of disruption

Impact on wholesale banking

About the Center for the Edge

The Deloitte Center for the Edge conducts original research and develops substantive points of view for new corporate growth. The center, anchored in Silicon Valley with teams in Europe and Australia, helps senior executives make sense of and profit from emerging opportunities on the edge of business and technology. Center leaders believe that what is created on the edge of the competitive landscape—in terms of technology, geography, demographics, markets—inevitably strikes at the very heart of a business. The Center's mission is to identify and explore emerging opportunities related to big shifts that are not yet on the senior management agenda, but ought to be. While Center leaders are focused on long-term trends and opportunities, they are equally focused on implications for near-term action, the day-to-day environment of executives.

About the Center for Financial Services

The Deloitte Center for Financial Services, which supports the firm's US Financial Services practice, provides insight and research to assist senior-level decision makers within banks, capital markets firms, investment managers, insurance carriers, and real estate organizations.

The Center is staffed by a group of professionals with a wide array of in-depth industry experiences as well as cutting-edge research and analytical skills. Through our research, roundtables, and other forms of engagement, we seek to be a trusted source for relevant, timely, and reliable insights. Read recent publications and learn more about the center on Deloitte.com.

For weekly actionable insights on key issues for the financial services industry, check out the Deloitte Center for Financial Services' Quick Look Blog.

CONTENTS

Introduction

Anticipating the future

We live in increasingly uncertain times, where even the most successful and well-entrenched leaders in a market or industry can become vulnerable to attack by new entrants. We see this phenomenon in the banking industry as well—think of all the attention bestowed on financial technology firms recently, for example.[1] Hundreds of fintech firms around the world are challenging incumbents in a number of businesses, including payments, lending, and securities trading.

In response, leaders tend to fall into one of two camps: complacent or overwhelmed. Either approach leaves the leaders even more vulnerable. In this kind of environment, leaders need to pull themselves out of the short-term time horizons that consume their attention and focus on the long-term forces that are reshaping the business landscape so that they can better anticipate, and then act upon, the changes that are ahead.

This article will explore some of these longer-term forces, with particular attention to the patterns of disruption that are most likely to challenge leaders in wholesale banking.[2] Our hope is to help executives in these companies to focus their attention on some of the changes that have the greatest potential to undermine their current positions. We hope that, by anticipating these changes executives will be able to avoid both complacency and a sense of helplessness. The best way to prepare for the future is to anticipate it.

The Big Shift

Deloitte's Center for the Edge has pursued research on what we call the Big Shift—a set of fundamental macroeconomic trends that are reshaping the global business landscape and unleashing flows of information, people, and capital.[3] Two primary forces are driving the Big Shift: exponential development of digital technology infrastructures and a long-term public policy shift globally in the direction of economic liberalization.[4] (While wholesale banking executives would likely not characterize the current policy environment as one of liberalization, the broader global business environment has witnessed significant liberalization since World War II.)

These two forces come together and reinforce each other in powerful ways, generating unprecedented opportunities for value creation and mounting performance pressure on all of us, as individuals and as institutions. The pressure comes in many forms: intense competition as barriers to entry fall, com-

pression of product life cycles as the pace of innovation accelerates, and greater frequency of "black swans"—disruptive events that may start small but quickly develop into something larger.

Companies are facing increasing difficulty in responding to this mounting performance pressure because they tend to pursue traditional, linear approaches to an increasingly exponential world. For instance, companies typically tend to underestimate the time it takes for new disruptions to take hold. In this context, the Center for the Edge has explored some higher-level universal disruptions that all companies will need to address as they make the transition that the Big Shift requires.

While these universal disruptions take many forms, the one most relevant to the discussion here is the move from push to pull. Companies have traditionally organized around push-based approaches to resource mobilization: Someone in the organization develops a demand forecast, and then all the relevant people and resources are "pushed" into the right place at the right time to meet that demand. The banking industry is rife with such strategies; the impetus for pushing can be the urge to do another deal or meet sales targets, but irrespective of the underlying motivation, push strategies are quite common, whether it is selling interest rate derivatives or pitching new treasury management solutions.

These push-based approaches are remarkably efficient in stable environments. However, when the environment becomes more uncertain, forecasts are less reliable, and push-based approaches become highly ineffective. As a result, companies will increasingly shift to pull-based approaches that rely on scalable *pull platforms* to draw out the right people and resources wherever they are needed and whenever they are needed. These pull platforms scale well beyond any individual enterprise and help companies to tap into a much broader array of deeply specialized resources in global ecosystems. We are beginning to see the emergence of these pull platforms in wholesale banking as well. (We will discuss this phenomenon in more detail in sections below.)

Defining disruption

Disruption is a term that is widely and loosely used, leading to disruption fatigue, not to mention skepticism, among growing numbers of executives. Before we go any further, let's define what we mean by disruption. We tend to favor a comparatively rigorous definition.

First, we focus on outcomes. Disruption requires the displacement of most incumbent leaders. It's not just something surprising, new, or innovative—it must challenge incumbent leaders so deeply that most of them will be likely to topple from their leadership positions as a result of the disruption.

Second, we define the disruptive approach in business terms rather than focusing narrowly on new technology. From a business perspective, what is the value that is being delivered that is so disruptive for incumbent leaders? Technology is often a significant enabler of disruption, but unless it is coupled with a powerful business value proposition, it is unlikely to have a disruptive impact.

Third, we seek to determine why it is so challenging to respond to the disruptive business approach. In our work, we have identified three potential obstacles for incumbent leaders that can make disruption so damaging. Responding may require incumbents to:

- Significantly cannibalize their current revenue/profit streams
- Write off major assets on their balance sheets
- Challenge key assumptions about what is required for business success

Patterns of disruption

As already mentioned, the Big Shift is catalyzing a series of disruptions that will likely hit incumbent leaders across all geographies and all major industries, including banking. On the other side, we are all familiar with stories of one-off disruptions that challenged incumbent leaders in one specific market—for example, the advent of mini-mills in the steel industry. Regulatory initiatives can often have a significant disruptive impact, but these tend again to be one-off disruptions affecting the specific industry targeted by regulation.

Patterns of disruptions focus on a different form of disruption. These are disruptions that will hit more than one market or industry but not all markets or industries. These become particularly interesting if we can identify the conditions of markets that would make them vulnerable to a specific pattern of disruption. This would help executives to focus on the patterns that are most likely to be relevant to them. Even better: What if we could identify catalysts that would help executives to assess the potential timing of a pattern of disruption in their specific market? How imminent is it?

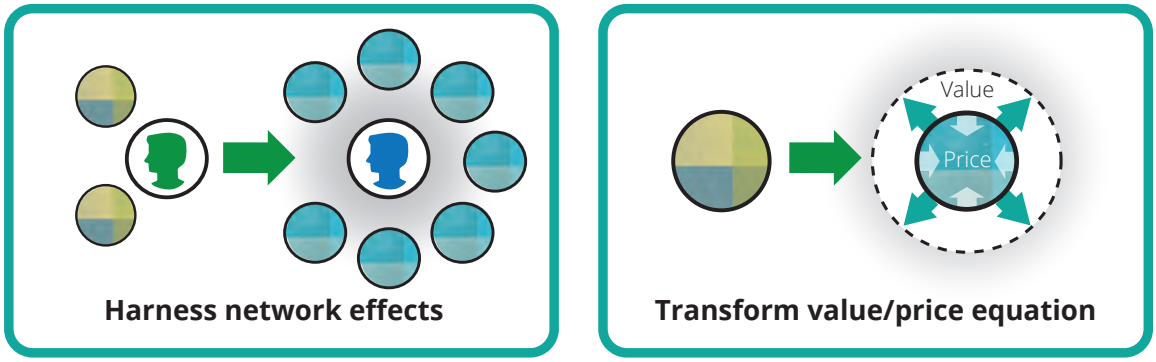
The research conducted by the Center for the Edge identified nine patterns of disruption that met stated criteria for disruption (see figure 1).[5] One interesting observation was that these nine patterns of disruption broadly fell into two buckets. The first group of patterns drove disruption by transforming the value/price equation through a radical redefinition of product, pricing, and processes. The second group was disruptive because the patterns of disruption unleashed network effects; they did this by creating and deploying platforms in which value creation accelerates as the number of participants grows. It turns out that the patterns in the first group were powerful in disrupting incumbent leaders, but the new entrants themselves proved to be vulnerable to later waves of disruption. In contrast, the second group of patterns seemed to be more enduring. Once the new entrants unseated incumbent leaders, it proved to be more difficult (but certainly not impossible) to disrupt the new entrants.

For this article, we'll focus on the patterns of disruption that harness network effects and that appear most relevant to banking. We believe that these patterns are appropriate to consider within the part of the banking industry that provides products and services to corporations—especially large global companies.

Unique characteristics of wholesale banking

As the reader may be aware, there is no universal definition of wholesale banking; indeed, many large global banking institutions are rewriting the definition as they continue to adjust to the new market realities since the financial crisis. *Wholesale banking* is often used interchangeably with *corporate banking* or *institutional banking*, but depending on the organization, it typically includes corporate lending, payments, treasury and cash management solutions, trade finance, prime brokerage, custody services, securities lending, and credit, equity, commodities, and foreign exchange trading.

Figure 1. Nine patterns of disruption



Expand marketplace reach
Connecting fragmented buyers and sellers—whenever, wherever

Unlock adjacent assets
Cultivating opportunities on the edge

Turn products into platforms
Providing a foundation for others to build upon

Connect peers
Fostering direct, peer-to-peer connections

Distribute product development
Mobilizing many to create one

Unbundle products and services
Giving you just what you want, nothing more

Shorten the value chain
Transforming fewer inputs into greater value outputs

Align price with use
Reducing upfront barriers to use

Converge products
Making 1 + 1 > 2

Source: Deloitte Center for the Edge.

Deloitte University Press | dupress.deloitte.com

Irrespective of what activities are deemed to be part of wholesale banking, there are some common characteristics among these businesses. Generally speaking, wholesale banking is a highly customized business, with bespoke products and services that are designed for the unique needs of individual clients. As such, success is highly dependent on strong client relationships and an in-depth familiarity with the complex needs of each individual client. Scale is less of a necessity due to the relatively low-volume and high-value nature of transactions. Also, some of the businesses, such as trade finance, tend to be more fragmented, with many competitors.

Wholesale banking also is an area in which the pace of innovation has been painfully slow, at least until now. Historically, incumbents have dominated with little threat from smaller start-ups due to the dynamics described above, and the competitive balance has been relatively stable, except in the most recent period since the financial crisis. And to be fair, innovation in banking has also received less attention than it deserves due to the focus on regulatory compliance.

Contrast this with retail banking, where the focus is more on driving standardization of products, processes, and pricing across mass markets. And despite the broad characteristics of wholesale banking described above, it is equally true that some wholesale businesses also embody these characteristics and thus are potentially vulnerable to disruptions aimed at greater transparency, connecting clients together, and displacement of more standardized and less value-added process elements.

It should also be noted that, unlike in retail banking, where customer demand is a primary driver of disruption, changes in wholesale banking are more often tied to either market infrastructure or regu-

lation. Examples of the former include the emergence of central counterparty clearing and central securities depository consolidation. And regulatory trends, of course, include new capital, liquidity, and coverage rules under Basel III and myriad other regulatory initiatives in various jurisdictions.

But the most notable characteristic of wholesale banking businesses is that inefficiencies abound in almost every stage of the life cycle, and tradition has historically trumped innovation. This scenario makes it ripe for disruption, even though past experience might suggest complacency is not terribly problematic.

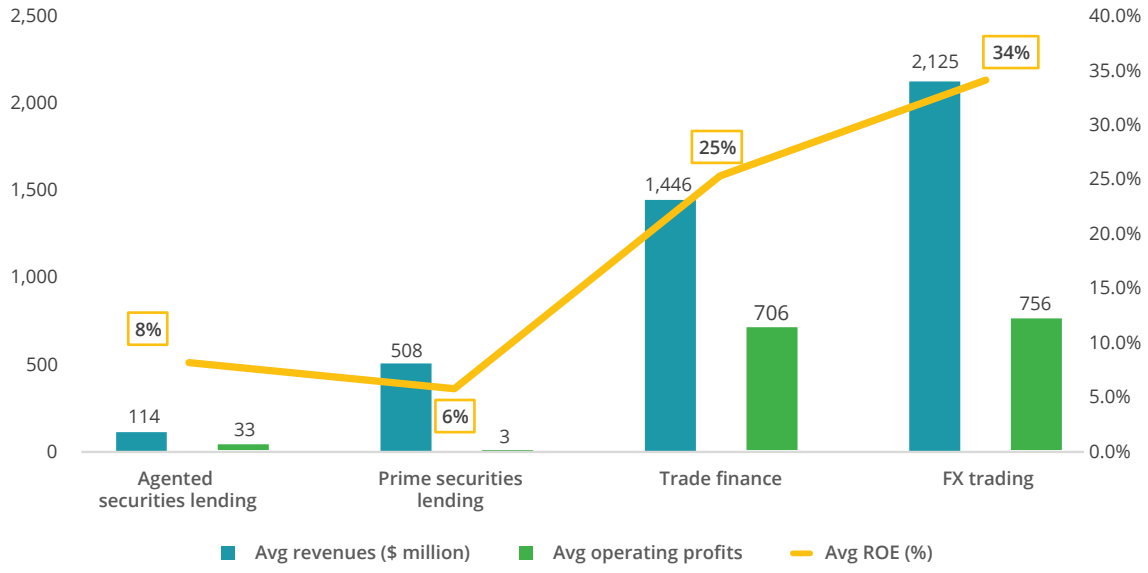
Three illustrative areas within wholesale banking

WE have chosen to focus on three businesses within wholesale banking to illustrate how certain patterns of disruption may possibly emerge in the future: *trade finance*, *securities lending*, and *foreign exchange (FX) trading*. We selected these three based on the following criteria:

- Each of these businesses is quite large, accounting for meaningful size in revenues and profits. For example, total revenues in these three businesses for the seven leading global banks in 2015 was about $27 billion, and the operating profit was nearly $10 billion (see figure 2).
- These businesses exhibit certain key vulnerabilities that make them ripe for disruption. We will discuss these vulnerabilities in more detail below.

Before we do that, a summary of the current market dynamics, the state of innovation, and the potential for disruption within each business is presented below.

Figure 2. Financial performance of trade finance, securities lending, and FX trading businesses



Source: Tricumen and Deloitte analysis.

Trade finance

Trade finance has evolved over centuries to become an essential catalyst for trade across borders[6] to the point at which, today, it contributes to a significant proportion of global trade.[7] There is no broadly accepted way to gauge the actual size of bank-intermediated trade financing; most sizing estimates are based on surveys, which may not always be reliable. With that said, the Bank for International Settlements put the annual value of this market at anywhere from $6.5 to 8 trillion as of 2014; estimates of total share range from 20 to 45 percent of global trade.[8] Whatever the number, without banks' intermediation through funding for working capital and mitigation of payment risk, international trade would not be what it is today.

Of course, there are other nonbank sources of funding for international trade, with open account trade financing (between exporters and importers) becoming an increasingly prominent option.

In terms of the attractiveness of this business to potential new entrants, trade finance typically has low default risk for both short- and medium-term finance instruments, as per the International Chamber of Commerce's latest Trade Register.[9] It should be said, however, that in addition to credit risk, banks that provide trade financing must also manage operational, legal, compliance, liquidity, and reputational risks.

The trade finance business has been forced to change due to risk and compliance issues especially as they relate to Know Your Customer mandates. Customer and counterparty risks are prominent in this business, and assessment of these risks is not straightforward. Risk models within banks are slow to assimilate new information related to these risks.

In recent years, banks have looked to expand beyond trade finance into other forms of supply chain financing, including the funding and collection of receivables. These additional services have the potential to expand revenues and profitability.[10]

Securities lending

Securities lending is vital to the orderly functioning of capital markets—it enhances liquidity, efficiency, and price discovery in the equity and bond markets.[11] It is also similar to repurchase agreements in that both are secured financing transactions involving securities of one kind or another. Indeed, there is significant interplay between the two.

The securities lending market today, as defined by the value of securities on loan, is roughly $2 trillion,[12] though, similar to trade finance, the true size of the business is not definitively known.[13] Overall volumes are down significantly since the global financial crisis. This is due to several factors, of which perhaps the two most important are regulatory actions that limited short-selling activity and increased capital allocation requirements.

Most securities lending is conducted through the largest banks' custodian businesses, though recently some securities owners have sought to utilize other parties through which to lend their securities. This has led to a bifurcated market, in which agency intermediaries (again, typically custodian banks) combine custodial and lending services, while principal intermediaries (often prime brokers and securities dealers) take on more of the credit risk associated with securities borrowers.[14]

As mentioned previously, regulatory initiatives flowing from the Dodd-Frank Act and recommendations from the Financial Stability Board have affected the structure and profitability of the securities lending business. Increased capital allocations and liquidity requirements have caused incumbents to reevaluate the desirability of offering securities lending services, opening the door to new entrants to offer a more transparent solution. This is being accompanied by the increased interest in central counterparties, which provide a central platform for aggregating lending transactions.

While securities lending is a relatively efficient means of financing securities portfolios by enabling market-makers and investors to take on short positions, it can also be said that the business is primarily characterized by fragmented, bilateral

transactions rather than a true transparent, centralized, and competitive marketplace. The bilateral characteristic also means that the securities lending industry has not lent itself to much in the way of automation or standardization. In many ways, securities lending can be considered one of the most inefficient and arcane offerings within the wholesale banking portfolio.

Foreign exchange trading

The FX market is the largest and most liquid market in the world, with US dollar trades making up the majority of transactions. The market's size and accompanying deep liquidity is advantageous to traders by allowing them to enter and exit the market instantaneously. That said, FX trading is largely confined to currencies of the world's 10 largest economies.

According to the Bank for International Settlements, global FX trading in April 2016 dropped to a daily average of $5.1 trillion from $5.4 trillion three years previous. Also, in 2016, the spot market, which now accounts for a third of the total FX market turnover, declined for the first time since 2001, by about 15 percent.[15] The foreign exchange market is largely composed of institutional investors, corporations, governments, banks, and currency speculators.

Unlike the stock and futures markets, which are housed in central physical exchanges, the FX market is a decentralized, over-the-counter market, largely housed electronically. We say "largely" because while more standardized, round-lot transactions are already highly electronic and fully transparent, much of the profit in this business is still over-the-counter in nature, involving either odd-lot or large round-lot trades, where there are fewer clients and where it is harder to find counterparties.

As in other areas in banking, the economics of the FX trading business have also undergone significant change due to new regulations, opening the doors for nonbank liquidity providers to capture greater market share. According to a Greenwich Associates study, institutional investors that use nonbank liquidity providers direct 20 percent of their trading volume through these platforms.[16] Another notable trend is the steady migration from single-dealer, proprietary systems to multidealer platforms, with nearly half the largest users of electronic trading using these platforms.[17]

Patterns of disruption in wholesale banking

IN the next section, we elaborate on patterns of disruption based on our original research on the topic and explore how different patterns of disruption might unfold in wholesale banking. Specifically, we see the following three patterns of disruption as the most relevant to the three businesses we highlight in this article (trade finance, securities lending, and FX trading):

- Expand market reach
- Turn products into product platforms
- Connect peers

Expand market reach

This pattern of disruption typically involves the deployment of platforms to help connect fragmented buyers and sellers, wherever they are and whenever they need to connect.[18] We're all familiar with some of the early examples of this pattern of disruption. Amazon initially entered the book retailing business and created an online platform offering a much broader selection than even the largest brick-and-mortar retailers could muster on their shelves. One prominent incumbent, Borders, folded under the pressure, and booksellers in general are feeling growing competitive pressure. A similar story unfolded when Netflix entered the video rental business and Blockbuster filed for bankruptcy.

What would make a market vulnerable to the expand market reach pattern of disruption? Typically, the markets that are most vulnerable to this pattern have large numbers of underserved customers and a broad range of hard-to-find and differentiated products that might address the needs of those underserved customers. As we have seen, all three of the wholesale banking businesses we discuss in this article are today wholly or in part bilateral and nontransparent in nature and, thus, have "products" with both of these characteristics.

Not all vulnerable markets will be hit at the same time. To determine likely timing, it is helpful to look for the presence of certain catalysts that make it easier for this pattern of disruption to play out. In the case of the *expand market reach* pattern of disruption, one of the key catalysts to look for is the availability of digital infrastructure with rich connectivity that can be accessed by underserved customers. Because the FX trading business is already largely electronic in nature, a disruptor that can capitalize on this existing infrastructure to create a more open and transparent market for large or odd-lot trades could spur disruption in this business. Another potential area is in trade finance, where disruptors can use Internet of Things (IoT) infrastructure to track the physical flow of goods to connect with systems that already exist for tracking financial flows. An even more imaginative solution is the blending of IoT technologies with blockchain infrastructure.[19] By leveraging different digital infrastructures—such as blockchain, the cloud, and the IoT—new players may be able to expand market reach.[20]

Another catalyst is current and potential vendors' enhanced access to sophisticated and affordable means of production, creating the potential for a rapidly expanding array of products or services in the marketplace. If customers are beginning to express an increasing desire for highly personalized,

Figure 3. Characteristics, vulnerabilities, and relevant patterns of disruption

Business	Key characteristics/vulnerabilities
Trade finance	• Model has changed because of risk and compliance issues • Profit comes from client knowledge sufficient to assess and price counterparty risk • This information is opaque and incumbents slow to assimilate new information for counterparty risk analysis
Securities lending	• Opaque, bilateral business • Need to move to more democratized, electronic, and peer-to-peer • Incumbents looking to move out "noncore" activities to utility providers (e.g., counterparty credit or coporate actions)
Foreign exchange	• Slowly moving to more electronic platforms • Odd-lot, or large round-lot trades have a lot of friction and thus profit • Buyers want transparency and best execution • Incumbents can partner or buy third parties to use or kill new capabilities

Relevant patterns of disruption
Expand marketplace reach Connecting fragmented buyers and sellers—wherever, whenever
Turn products into platforms Providing a foundation for others to build on
Connect peers Fostering direct, peer-to-peer connections

Source: Deloitte

tailored products or services, that could be another catalyst for this pattern of disruption. Finally, regulatory policy could be another catalyst if it reduces barriers to entry for vendors or barriers to access for potential customers. It's no secret that regulatory initiatives across the three wholesale businesses discussed here, and others, such as derivatives trading, have opened opportunities for nonbanks to enter these markets and serve existing customers. To a large extent, new regulations as a catalyst already exist for this pattern of disruption, thus making the timing of this disruption pattern imminent.

Why is the *expand market reach* pattern of disruption so difficult for leading incumbents to address successfully? It can significantly cannibalize current streams of revenue and profit if platforms make it far less expensive for more specialized vendors to access the underserved customers. The digital platforms that increasingly drive this pattern of disruption can also significantly reduce the value of incumbents' major fixed assets—think about the extensive investment of traditional brick-and-mortar retailers in large retail outlets that might diminish in value in the face of online retailers. Finally, this pattern of disruption can also challenge some of the core assumptions of leading incumbents regarding what customers want and what is required to be successful as a vendor. Many traditional retailers were initially very skeptical about customers' willingness to buy books or rent/buy videos from online platforms. Look what happened.

As performance pressure mounts on corporations and other institutions, they will become more demanding in terms of tailoring to their specific needs and pricing. FX buyers are looking for greater pricing transparency and the opportunity to identify a venue or venues for best execution on FX trades. Essentially, they are increasingly demanding to take control of these kinds of highly customized placements through a more open, shared platform. One example of this disruption pattern: the new FX multidealer platforms, such as TraderTools' Unique Liquidity Network, which offers liquidity from multiple providers and better price transparency, thus decreasing the information asymmetry for the small players, who hitherto were mainly dependent on their dealers for such information.[21]

On the supply side, there are growing opportunities for smaller niche providers of financial services to design and deliver tailored offerings. Market plat-

> Market platforms will help to more effectively connect smaller providers of tailored financial products with the specific segments of customers that would value these tailored products.

forms will help to more effectively connect smaller providers of tailored financial products with the specific segments of customers that would value these tailored products. A powerful cycle will likely emerge as these market platforms gain critical mass, drawing more specialized financial service providers into the market because of their increased ability to connect with relevant customers. This, in turn, will likely increase institutional customer expectations regarding customization and pricing.

Turn products into product platforms

This pattern of disruption involves shifting away from stand-alone, self-contained products or services. In this case, the disruptors define and deliver a foundation of core functionality upon which third parties can build to tailor products and services to meet the needs of smaller segments of customers or individual customers.[22]

As an early example of this pattern of disruption, one only has to go back to the early days of the personal computer industry. It's hard to remember now, but at the outset in this industry, early vendors offered personal computers that were self-contained, proprietary technology stacks: You bought everything you needed—hardware, operating system, and all application software—from a single vendor. Then something interesting happened: De facto standards emerged around both the operating system and the microprocessor that made them attractive product platforms, inviting a growing array of hardware and software vendors to develop more specialized and diverse hardware and software products that could be configured into personal computers tailored to the buyer's individual needs. The PC pioneers that held onto their proprietary integrated products fell by the wayside as the industry took off.

A similar pattern is playing out in the mobile phone business, as Android has emerged as a de facto operating system, inviting any mobile phone manufacturer to use its operating system. As part of the bargain, the device manufacturers could offer to their customers a rapidly expanding assortment of highly specialized applications developed on this operating system.

Similarly, we see the emergence of such new platforms for FX trading. For example, Ripple has launched a market-making solution called Ripple Stream that facilitates FX trading on its Ripple Consensus Ledger platform.[23] Other third-party providers could potentially develop new solutions on this platform, without having to develop the underlying core functionality themselves.

What would make a market vulnerable to this pattern of disruption? If the market today consists of tightly integrated and standardized products and the customers have very diverse use needs, this might increase vulnerability to new vendors who offer product platforms that could lead to a proliferation of much more specialized products and services.

Interestingly, the services that banks offer to corporate customers have traditionally followed this model, where products and services are offered and priced in a way that recognizes the overall value of the relationship. In this way, some products or services may be underpriced relative to the value offered, but the bank is willing to "horse trade" at that level of granularity to increase the relationship or as a give-back to sell a more profitable service alongside. More recently, the new capital, liquidity, and funding requirements discussed throughout this article are changing that dynamic. These rules are in essence forcing banks to reinforce the siloed nature of products and services, as each product needs to stand on its own from a capital allocation and liquidity perspective.

What could accelerate the arrival of this pattern of disruption in vulnerable markets? Catalysts to look for include some of the same drivers described in the previous pattern of disruption. Digital infrastructures with rich connectivity can help product platform vendors make their product platforms more accessible to highly specialized vendors building off these platforms. If customers are expressing increasing desire for personalized, tailored products to meet their diverse use needs, this could be an early warning sign that new entrants could build markets rapidly for their product platforms addressing these diverse use needs. Also, the aggregation platforms discussed in the previous pattern of disruption could also become an important catalyst given their ability to connect specialized vendors with the specific customers having needs for those specialized products.

This pattern of disruption is challenging to leading incumbents for the same reasons identified in the previous pattern. Product platforms can significantly reduce the cost of producing a product or service because all participants can share some core functionality that they no longer have to develop themselves. Those who remain wedded to their tightly integrated proprietary products or services could find that they have a significant cost disadvantage and experience cannibalization of revenue and margins as they struggle to remain competitive. Similarly, their investment in dedicated production facilities for their integrated products might have to be written down as product platforms gain ground. Equally important, product platform entrants often challenge core assumptions of the existing industry leaders, who firmly believe that their success is due to the tight integration they have achieved in their products or services. It may be hard to believe that customers will be willing to forgo the convenience and security of a tightly integrated product or service and be willing to mix and match among diverse vendors.

Those who remain wedded to their tightly integrated proprietary products or services could find that they have a significant cost disadvantage and experience cannibalization of revenue and margins as they struggle to remain competitive.

In the case of wholesale banking, some institutions may create "core" financial service product offers (for example, loans, trade financing, and funds management) and invite more specialized providers to tailor these core offers to meet niche market needs. The potential development of this pattern of disruption could lead to a significant proliferation of smaller, more specialized financial service providers that leverage larger institutions' scale product and service platforms. For example, several large global banks offer their online trade finance platform functionality on a white-label basis to smaller institutions that have neither the customer scale nor the resources to build these tools themselves, but have enough customers that need the service. While this is not a disruptive threat in the way we define it, it is clearly a new revenue source for the global banks who offer these white-label services. But the existence of such platforms bodes well for new entrants who could create a similar infrastructure available to current or new customers. There is an interesting synergy between this pattern of disruption and the *expand market reach* pattern above, since the more fragmented providers created by this pattern of disruption would be more likely to succeed if they had access to market platforms that could connect them to their more narrowly defined customer segments.

Connect peers

The *connect peers* pattern of disruption is more speculative, given that it has yet to play out in any significant market or industry, but our analy-

sis suggests that it has the potential to disrupt a broad range of wholesale banking markets. This pattern of disruption moves away from the hub-and-spoke platforms that characterize the *expand market reach* disruptors described earlier. Instead, the disruptors in *connect peers* focus on deploying distributed platforms that enable participants to connect directly with each other without the need for an intermediary. We have seen that in trade finance with the emergence of open account trading, which completely bypasses the traditional bank intermediation with letters of credit. In securities lending, regulatory drivers and the emergence of central counterparties suggest a future in which securities lending is much more akin to equities trading or other true electronic markets. Indeed, some have speculated that the future of many wholesale banking businesses, including trade finance and securities lending, may lie with a more peer-to-peer framework, possibly enabled by the development of distributed ledger/blockchain-based technologies.[24]

P2P systems already exist in the retail sector, where investors and borrowers are connected through these platforms. Another example of a *connect peers* solution in the trade finance area is a company called Trade Finance Market, which offers exporters a nonbank alternative financing mechanism. Investors pick what trade they want to finance based on their preferences, while exporters are able to receive funding quickly and possibly at lower cost.[25] There are similar P2P solutions in the FX marketplace as well, such as TransferWise and CurrencyFair, serving retail customers.[26] But other providers, such as Kantox, are offering P2P currency exchange services to small and medium enterprises.[27]

Most of the analyses of this pattern of disruption have tended to focus on the benefits of greater speed and lower cost in the transactions themselves. While this may drive early adoption, a potentially even greater benefit over time is increasing access to data about transactions by all participants. In wholesale payments, it has been said, the information about the payment can be as valuable as the payment itself.

This creates an opportunity to develop much richer learning feedback loops for participants so that they can evolve their transaction activity in ways that create more value over time. Indeed, there is a lack of pricing transparency in many wholesale businesses, including trade finance, that *connect peers* disruption could address. And the increased level of data access that comes with moving to more open markets, whether in securities lending or other areas, is the transparency that such central aggregators provide for increased regulatory oversight.

A key early driver of this pattern of disruption could be blockchain technology, as cited above. That technology provides the foundation for a distributed, transparent, trusted ledger as a replacement for batch-based settlement processes organized around a centralized ledger. It's not enough for the distributed ledger to be cheaper to build and operate than the existing central ledger—it must be cheaper than the incremental cost of improving the existing ledger and/or offer far more benefits.

It turns out that *connect peers* may in many cases disrupt the disruptors—specifically, disrupting those that lead the *expand market reach* disruptions. *Expand market reach* disruptions are typically driven by hub-and-spoke platforms on which the owner of the platform serves as a hub, requiring all other participants to go through it to execute their transactions and often imposing significant constraints on the kinds of transactions that will be allowed. These hub-and-spoke platforms can be very effective in connecting growing numbers of diverse participants, but the hubs over time can develop significant constraints that add significant expense and time to transactions. Hub owners can often become greedy, charging higher fees for transactions. Perhaps even more importantly, the data aggregated by the hub usually remains invisible to participants, blocking significant opportunities to improve performance by examining patterns of transactions. For all these reasons, the hub-and-spoke platforms can become vulnerable to *connect peers* platforms that have the potential to offer faster and cheaper transactions as well as more visibility into aggregate data that could drive learning and performance improvement.

The *connect peers* pattern of disruption is likely to be most relevant to markets that are currently driven by centralized intermediaries, especially if these intermediaries frustrate participants with high fees, significant delays in settlement, or perceived high risk associated with the transactions. While it may

not be true that these frustrations exist in securities lending, the structure of the business, where a small number of custodial banks and principal lenders sit between securities owners and borrowers, fits this pattern. Also, the more fragmented the market is in terms of participants that must use these centralized intermediaries, the more vulnerable it might be to this pattern of disruption.

As we discussed with the other two patterns of disruption, the spread of more and more cost-effective digital infrastructures providing rich connectivity is likely to be a significant catalyst for the *connect peers* pattern as well. These infrastructures make it easier for new entrants to develop and deploy P2P platforms that can execute and record transactions far more cost-effectively, quickly, and reliably than centralized intermediaries. More and more powerful digital infrastructures also increase the opportunity to aggregate data about highly distributed transactions and apply sophisticated analytical software to identify and understand patterns emerging from these transactions. By creating rich feedback loops to participants, these P2P networks could offer much more opportunity for participants to learn faster and improve their performance more rapidly as they begin not only to see patterns from existing transactions but also to anticipate likely trends over time.

Hub-and-spoke platforms can be very effective in connecting growing numbers of diverse participants, but the hubs over time can develop significant constraints that add significant expense and time to transactions.

Another catalyst to look for would be the erosion of trust in the existing centralized intermediaries. If the participants in these platforms do not trust the centralized intermediary, they are likely to be much more willing to try a new P2P platform with different trust mechanisms built into the platform. In securities lending, clients are increasingly looking for their bank providers to raise the level of automation and harness network effects to make the ecosystem more democratized and peer-like in nature.

If participants are facing increasing pressure in their own lives and businesses, this could be another catalyst, making them more willing to migrate to a platform that could help them to execute and record transactions at much lower cost, much faster, and with greater reliability.

This pattern of disruption can be challenging to leading incumbents for the same three reasons highlighted in the patterns above. To the extent that P2P platforms can significantly reduce the cost associated with executing and recording transactions while at the same time increasing performance on dimensions such as speed and reliability, centralized intermediaries would be faced with the prospect of having to cannibalize existing revenue and profit streams. Similarly, these new P2P platforms may force leading incumbents to write off extensive investments in earlier generations of hub-and-spoke platform technology. Perhaps the biggest hurdle would be for leading incumbents to acknowledge that many of the services they provided in the hub of their networks can be better performed when participants connect directly with each other. Some incumbent banks are looking to automation as well, especially in areas that are considered noncore to the business and potentially more able to be standardized, such as Know Your Customer, corporate actions, or counterparty credit data.

As with the two previous patterns of disruption, the *connect peers* pattern would be driven in part by institutional customers that are under increasing pressure to deliver more value to their customers and to do it faster and cheaper. The learning potential of P2P networks has often been underestimated, but in a more rapidly changing world, this may ultimately be the key driver of their adoption as participants seek to gain greater insight on how to create more value for their trading partners/customers.

Conclusion

Responding to the risk of disruption in wholesale banking

IN this article, we have illustrated how different patterns of disruption are likely to manifest in trade finance, securities lending, and FX trading (see figure 4).

The patterns of disruption analysis can help executives focus on where their companies might be most vulnerable to certain types of disruption. As indicated earlier, anticipating the future is the first step to preparing for the analysis. But what could incumbent leaders do to address the risk of specific patterns of disruption once they have them on their radar screen?

The first piece of advice is to move quickly and aggressively. The patterns reviewed above are driven by network effects, and once a critical mass of participants has been mobilized, it becomes increasingly difficult to challenge early players and unseat them. These are not situations in which it is possible to be a fast follower—once critical mass has been achieved by others, it is generally "game over." So incumbent leaders must find ways to create a sense of urgency within their leadership groups.

Figure 4. Likely patterns of disruption in select areas of wholesale banking

Business	Relevant pattern of disruption
Trade finance	• Expand market reach • Turn products into product platforms • Connect peers
Securities lending	• Connect peers
Foreign exchange trading	• Expand market reach • Connect peers

Deloitte University Press | dupress.deloitte.com

The second suggestion is to focus on parts of the marketplace that are likely to concentrate and consolidate, so that large incumbent leaders can target arenas that will not only support existing scale but offer the potential for significant growth. This is clearly happening in wholesale banking, as over the past eight years, banks have been focusing on businesses and geographies where they think they can win, and divesting the rest. This is becoming increasingly important since, as we have seen in the discussion above, one of the trends in the Big Shift is the increasing potential for fragmentation in products and services as more powerful customers demand more tailored offerings and as the means of production become more widely accessible to potential providers.

While products and services businesses may fragment, there are parts of the economy that will likely continue to concentrate and consolidate. Specifically, we would highlight three potential arenas to target: infrastructure services, platform businesses, and trusted-adviser businesses.

Infrastructure services involve scale-intensive, high-volume, routine processing activities—for example, operating data centers or call centers. In the wholesale banking business, global custody services could be an example of infrastructure services. The key is that powerful economies of scale drive the

economics of these businesses, precluding smaller players from being viable over time.

Platform businesses focus on connecting larger and larger numbers of participants. The value to participants increases as more join, and there are powerful network effects that make it difficult for smaller players to remain viable over time. While there may be some economies of scale in effect for platform businesses in terms of lower cost of operations, the real driver of success for platform businesses involves the ability to deliver more value to each participant as the number of participants grows. These kinds of businesses can take many different forms, including simple aggregation of transactions or product features (for example, the platforms that are the basis for the three patterns of disruptions discussed above). They might also involve platforms to help people connect and build relationships with each other (social platforms such as Facebook or LinkedIn), and over time, platforms that help participants learn faster and improve their performance more rapidly (learning platforms).[28] We highlighted the potential of P2P platforms to accelerate learning of participants, but all kinds of aggregation and social platforms have the potential to evolve into learning platforms if they focus on aggregating data about activities of participants and providing rich feedback loops to those participants to help them learn faster.

Trusted-adviser businesses take the trusted-adviser business model that today exists for only the affluent (for example financial adviser) or the largest companies and leverage digital technology to make this a much broader offering that benefits from economies of scope (the more you know about an individual or institution, the more helpful you can be, and the more individuals and institutions you know, the more helpful you can be to each individual or institution). A key challenge and opportunity for the trusted adviser is the willingness to move beyond one's own product or service offerings—would you be willing to recommend to your client your competitor's product or service if in fact that would be best suited to the client's needs? Trust is likely to be much deeper if you are truly representing the needs of your clients and connecting them to the most relevant and valuable services, regardless of who provides them. Successful trusted advisers will need to cultivate a very broad and diverse ecosystem of providers that can more effectively address the needs of specific individuals or institutions.

In wholesale banking, the trusted-adviser model has long been at the core of the value proposition.

In the United States, the recent rule on the US Department of Labor's fiduciary standard for retirement investment advice is a good example of how the trusted-adviser model is being altered by regulations, where the clients' interest is expected to take precedence over any profits that investment advisers may receive by offering the advice, and conflict of interest is to be avoided.[29]

In wholesale banking, the trusted-adviser model has long been at the core of the value proposition. Relationship bankers and their knowledge of their clients have been a key component of banks' ability to customize solutions and pricing across a wide range of products and services. With regulatory changes, however, come impacts to the profitability of some products, as well as an increased cost to support them. As a result, there are often too many relationship bankers per account, many of whom are really not needed given the relative simplicity and low profitability of the products they support.

There's also the question of whether trusted advisers will ever really be trusted if they are only recommending their own products and services, even if someone else's products or services may be more relevant and valuable to an individual client's needs. Existing trusted advisers may ultimately be displaced by a new generation of trusted advisers that have no products or services of their own to sell and who are truly representing the clients' interests, connecting them with whatever products and services are most useful to their specific context. Given the spread of ever more powerful digital technology infrastructures that make data aggregation and analytics much more economically feasible, this kind of trusted-adviser role could also become economical-

ly feasible for a much broader range of clients, creating significant growth opportunities.

With this in mind, incumbent leaders need to determine whether they would be better served by targeting the platform opportunities embedded in each of the three patterns of disruption described above or by targeting other scale and scope opportunities that would provide them a safe haven as the disruption plays out in certain parts of their business.

In either case, incumbent leaders would be well advised to pursue a *scaling edges* response to disruption, rather than trying to transform their core business. One of the reasons that the core business is so vulnerable to disruption is that it has a powerful immune system and antibodies that are focused on crushing any effort to drive significant change. The *scaling edges* approach recognizes the robustness of this immune system and, as a result, focuses on identifying an "edge" to the current business that today has modest revenue and profitability but, because of the exponential forces playing out in the Big Shift, has the potential to scale to such a degree that it could actually become the new core of the business, generating the vast bulk of the company's revenue and profitability.

One example of a company that has successfully scaled edges several times and become one of the world's most highly valued companies is Apple, which started in the PC business but then focused on scaling an edge in the digital music player business, then the mobile phone business, and then the tablet computer business. Each time, Apple was able to scale a promising edge to build an entirely new business, leveraging its core expertise in product design.

Rather than trying to push the edge back into the core as a catalyst for change once it gains steam, this approach focuses on continuing to scale the edge at an accelerating rate and, over time, pulling more people and resources from the core out to the edge. The *scaling edges* approach can be designed in such a way that it can minimize the risk that the immune system and antibodies of the core will be mobilized.

As the edge becomes the core, the incumbent leader is transformed in ways that help it to overcome the challenge of disruption. There's a paradox here: If an incumbent leader can successfully address disruption, was it a disruption? While it would not fit the tight definition of disruption that we suggested earlier, we might be inclined to create this exception—if the prospect of disruption made the incumbent leader completely reinvent itself from the ground up, then perhaps it is still a disruption. We suspect that most incumbent leaders will not anticipate or act upon the disruption in such a radical way and that the disruption will still displace most of the incumbent leaders. For those few who are able to respond in an appropriate manner, they will discover that they have tapped into much more powerful and effective ways to create value in an increasingly challenging world.

ENDNOTES

1. World Economic Forum, "The future of financial services: How disruptive innovations are reshaping the way financial services are structured, provisioned and consumed," June 2015, http://www3.weforum.org/docs/WEF_The_future__of_financial_services.pdf.
2. In this article, we use the term *wholesale banking* to refer to such activities as corporate lending, payments, treasury and cash management solutions, trade finance, prime brokerage, custody services, securities lending, and credit, equity, commodities, and foreign exchange trading.
3. We developed the Shift Index to help executives understand and take advantage of the long-term forces of change shaping the US economy. For more information, please see http://www.deloitte.com/us/shiftindex.
4. John Hagel III, John Seely Brown, and Lang Davison, "The Big Shift: Measuring the forces of change," *Harvard Business Review*, July/August 2009, https://hbr.org/2009/07/the-big-shift-measuring-the-forces-of-change.
5. John Hagel III, John Seely Brown, Maggie Wooll, and Andrew de Maar, *Patterns of disruption: Anticipating disruptive strategies in a world of unicorns, black swans, and exponentials*, Deloitte University Press, November 12, 2015, http://dupress.com/articles/anticipating-disruptive-strategy-of-market-entrants/.
6. Clara Brandi and Birgit Schmitz, "Trade flows in developing countries: What is the role of trade finance," German Development Center, December 2015, http://www.die-gdi.de/uploads/media/DP_13.2015.pdf.
7. Bank for International Settlements, Committee on the Global Financial System, "Trade finance: Developments and issues," January 2014, http://www.bis.org/publ/cgfs50.pdf; according to the Study Group commissioned by the Committee on the Global Financial System, about half the banks' exposure to trade finance is in emerging Asian countries.
8. Bank for International Settlements, Committee on the Global Financial System, "Trade finance."
9. International Chamber of Commerce, "2015 ICC Trade Register Report," http://www.iccwbo.org/Data/Documents/Banking/General-PDFs/ICC-Trade-Register-Report-2015/.
10. Bank for International Settlements, Committee on the Global Financial System, "Trade finance: developments and Issues," January 2014, http://www.bis.org/publ/cgfs50.pdf.
11. Viktoria Baklanova, Adam Copeland, and Rebecca McCaughrin, Reference guide to U.S. repo and securities lending markets, Federal Reserve Bank of New York Staff Reports, December 2015, http://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr740.pdf.
12. Financial Stability Oversight Council, "Annual report 2016," http://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/FSOC%202016%20Annual%20Report.pdf.
13. Ibid.
14. Baklanova, Copeland, and McCaughrin, Reference guide to U.S. repo and securities lending markets.
15. Bank for International Settlements, "Triennial Central Bank Survey of foreign exchange and OTC derivatives markets in 2016," September 2016.
16. Kevin McPartland, "Diversifying liquidity: Attaining best execution in FX trading," Greenwich Associates, May 12, 2016, http://www.greenwich.com/fixed-income-fx-cmds/diversifying-liquidity-attaining-best-execution-fx-trading.

17. Kevin McPartland, "Eyes on the price: What's next for FX transaction cost analysis: Findings from Greenwich Associates 2015 FX Survey," Thomson Reuters, May 2016, https://blogs.thomsonreuters.com/answerson/fx-best-pricing-execution/.

18. John Hagel III, John Seely Brown, Maggie Wooll, and Andrew de Maar, *Expand market reach: Connecting fragmented buyers and sellers—wherever, whenever*, Deloitte University Press, December 2, 2015, http://dupress.com/articles/disruptive-strategy-market-reach-digital-marketplaces/.

19. James Eyers, "Why trade finance is a good use case for blockchain," *Australian Financial Review*, July 25, 2016, http://www.afr.com/technology/why-trade-finance-is-a-good-use-case-for-blockchain-20160724-gqchw5.

20. Denise Bedell, "How digital disruptors could transform trade finance," Global Finance, October 14, 2015, http://www.gfmag.com/topics/conference-coverage/how-digital-disruptors-could-transform-trade-finance; Karen Kroll, "Tech and the future of trade finance: Blockchain, the cloud and the Internet of Things are luring trade finance away from its reliance on paper," *Global Finance*, July 22, 2016, http://www.gfmag.com/magazine/julyaugust-2016/tech-and-future-trade-finance.

21. TraderTools, "TraderTools announces the launch of its "Unique Liquidity Network," June 27, 2016, http://trader-tools.com/news/2016/tradertools-announces-the-launch-of-its-unique-liquidity-network/.

22. John Hagel III, John Seely Brown, Maggie Wooll, and Andrew de Maar, *Turn products into product platforms: Providing a foundation for others to build upon*, Deloitte University Press, January 2016, http://dupress.com/articles/disruptive-strategy-product-platforms/.

23. Ripple, "Ripple product overview: Ripple Stream," https://ripple.com/files/ripple_stream_product_sheet.pdf, accessed December 5, 2016.

24. Andrew Howieson and Roy Zimmerhansl, "Good, bad or inevitable? The introduction of CCPs in Securities Lending," Zimmerhansl Consulting Services Ltd. and Howieson Consulting, Ltd., 2010.

25. James Sinclair, "New platform allows investors to tap into a $10tn market," *Trade Finance Global*, August 26, 2015, http://www.tradefinanceglobal.com/posts/trade-finance-market-allows-investors-to-tap-in-to-a-10tn-asset-class/.

26. Aliya Ram, "Peer-to-peer forex platforms come of age," *Financial Times*, April 1, 2015, http://www.ft.com/cms/s/0/60aa6e8a-8798-11e4-bc7c-00144feabdc0.html.

27. Paul Golden, "Peer-to-peer FX providers hedge disintermediation threats," *Euromoney*, November 26, 2015, http://www.euromoney.com/Article/3509688/Peer-to-peer-FX-providers-hedge-disintermediation-threats.html.

28. John Hagel III, *The power of platforms*, Deloitte University Press, April 15, 2015, http://dupress.com/articles/platform-strategy-new-level-business-trends/.

29. US Department of Labor, Employee Benefits Security Administration, "Fact sheet: Department of Labor finalizes rule to address conflicts of interest in retirement advice, saving middle class families billions of dollars every year," April 18, 2016, http://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/resource-center/fact-sheets/dol-final-rule-to-address-conflicts-of-interest.

ABOUT THE AUTHORS

JIM ECKENRODE

Jim Eckenrode is the managing director of the Deloitte Center for Financial Services, where he is responsible for defining the marketplace positioning and development of the Center's eminence and key activities. Jim is frequently a keynote speaker at major industry and client conferences. Prior to joining Deloitte, Jim served in several research and consulting leadership roles at TowerGroup.

JOHN HAGEL

John Hagel is co-chairman for Deloitte LLP's Center for the Edge with nearly 30 years of experience as a management consultant, author, speaker, and entrepreneur. He has served as senior vice president of strategy at Atari, Inc., and is the founder of two Silicon Valley startups. Author of "The Power of Pull," "Net Gain," "Net Worth," "Out of the Box" and "The Only Sustainable Edge," John holds a B.A. from Wesleyan University, a B.Phil from Oxford University and a J.D. and MBA from Harvard University.

VAL SRINIVAS

Val Srinivas is the Banking & Securities research leader at the Deloitte Center for Financial Services. In his role, Val works closely with the Center and extended Financial Services team to support and continue the development of our thought leadership initiatives in the industry, coordinating our various research efforts, and helping to differentiate Deloitte more effectively in the marketplace. Val has more than 15 years of experience in research and marketing strategy.

ACKNOWLEDGEMENTS

The authors wish to thank for their insights, support, and contributions: **Sanjay Kannambadi**, **Vipul Pal**, and **Kasif M. Wadiwala** of Deloitte Consulting LP; **Michelle Chodosh** of Deloitte Center for Financial Services, Deloitte Services LP; **Lincy Therattil** of Deloitte Center for Financial Services, Deloitte Services India Pvt. Ltd.; **Andrew de Maar** of Deloitte Center for the Edge, Deloitte Consulting LP; **Maggie Wooll** and **Jodi Gray** of Deloitte Center for the Edge, Deloitte Services LP.

CONTACTS

Industry leadership

Kenny M. Smith
Vice chairman
U.S. Financial Services leader
Deloitte Consulting LLP
+1 415 783 6148
kesmith@deloitte.com

Bob Contri
Principal
Global leader, Financial Services
Deloitte Consulting LLP
+1 617 437 2828
bcontri@deloitte.com

Authors

John Hagel
Co-chairman
Deloitte Center for the Edge
Deloitte Services LP
+ 1 415 932 5578
jhagel@deloitte.com

Jim Eckenrode
Managing director
Deloitte Center for Financial Services
Deloitte Services LP
+1 617 585 4877
jeckenrode@deloitte.com

Val Srinivas, Ph.D.
Research leader, Banking & Securities
Deloitte Center for Financial Services
Deloitte Services LP
+1 212 436 3384
vsrinivas@deloitte.com

Deloitte.
University Press

Follow @DU_Press

Sign up for Deloitte University Press updates at www.dupress.deloitte.com.

About Deloitte University Press
Deloitte University Press publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte University Press is an imprint of Deloitte Development LLC.