How COVID-19 will accelerate the investment bank transformation

Key factors shaping the new normal

Building a better working world

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Executive summary

The COVID-19 crisis is an unprecedented global pandemic event, which has had dramatic impact on daily lives and the broader economy. In the global markets, the pandemic has brought significant dislocation with volatility and spikes in trading volumes, creating challenges in the primary, secondary, funding and derivatives markets.

As the impacts of COVID-19 continue to unfold and the crisis progresses, lessons can be learned from the events of 9/11, the global financial crisis of 2008–09 and several recent natural disasters. However, there is no precedent for the international nature and widespread effect on the global economy and the financial sector, specifically. The functioning of the investment banking (IB) divisions of financial institutions has also been significantly disrupted with the displacement of staff to a work-from-home environment, driving significant operating, cultural and business challenges.

The economic environment has severely impacted clients of the IBs. Corporate clients have faced significant revenue and cost challenges, requiring access to credit lines to maximize cash on hand, and reduced capital expenditure. Institutional investors also have been affected by large surges in redemptions and falling asset values. National governments have introduced fiscal and monetary stimulus to offset the downturn in economic activity and to stabilize market confidence. In the US, this has led to financial institutions preparing to manage their business in a low and potentially negative interest rate environment, which had been prevalent in other economies prior to the pandemic.

Market volatility, volume spikes and demand for services alone would be challenging for IBs to navigate. The introduction of remote work has complicated the environment further. Most firms have the vast majority of IB staff working from home, including, notably, substantial portions of their sales and trading front-office workforce. With what has been essentially an overnight and a prolonged shift to work from home (WFH), IBs have faced challenges in provisioning equipment at scale, supervising remote staff, enabling collaboration and establishing business as usual (BAU) in this extraordinary environment.

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It should be acknowledged that IBs and the broader market infrastructure (including financial market utilities and third-party infrastructure providers) have demonstrated an impressive level of resiliency to date through the pandemic. The markets, overall, remain liquid, albeit volatile with significant value fluctuations, and operational processes have experienced a significant increase in volumes during this unprecedented time. However, the pandemic has exposed certain vulnerabilities and opportunities, which need to be addressed to enable greater resiliency, sustainability and efficiency for the IB.

With outlooks suggesting a prolonged impact to the markets and to daily life, the IB processes, client proposition, technology and business mix across the front-to-back value chain may look very different as we come through the pandemic and emerge into what will be a new normal. Key factors that will shape this new normal include:

1. Preparing a return to work strategy: develop and communicate a clear return to work strategy covering triggers, timelines and precautions to limit community spread in the workplace. The plan should identify immediate actions required to maintain the sustainability of remote working.

2. The need for a proactive postmortem assessment: proactive qualitative and quantitative review and assessment of performance through the crisis to identify vulnerabilities in business performance, resiliency and control.

3. Digital enablement of the workforce: reviewing the location strategy of the business and deployment of new ways of working through digital enablement to facilitate sustainable and controlled remote working.

4. Accelerated reshaping of business strategy: accelerate the execution of client, product and regional strategy, with a likely increase in business acquisition or exit expected. The IB value proposition will increasingly shift to focus on data and digital-driven client solutions.

5. Data enabled risk management: enhance financial and nonfinancial risk management with a focus on data enablement and real-time monitoring of risk and exposure leveraging artificial intelligence (AI) to augment supervision and surveillance capabilities.

6. Operations digital transformation: scale operational functions through technology and innovation, digital workflows and addressing underlying root causes of inefficiency, considering the end-to-end client management, process and data journey.

7. Enhanced elasticity of IT infrastructure: implement flexible and secure technology infrastructure that enables the digital and data strategy of the enterprise.

The leaders of IBs must strengthen their organizations’ capabilities and resiliency by learning from the challenges highlighted during the pandemic and by focusing on the underlying root causes. Many of the challenges are not new but have been further exposed through the pandemic. This provides organizations with an opportunity to reset and reprioritize their legacy transformation agenda, refocusing and accelerating the digital transformation strategies that many firms have in play already today, with added benefits of delivering cost efficiency and enhanced client experience.

Key factors shaping the new normal

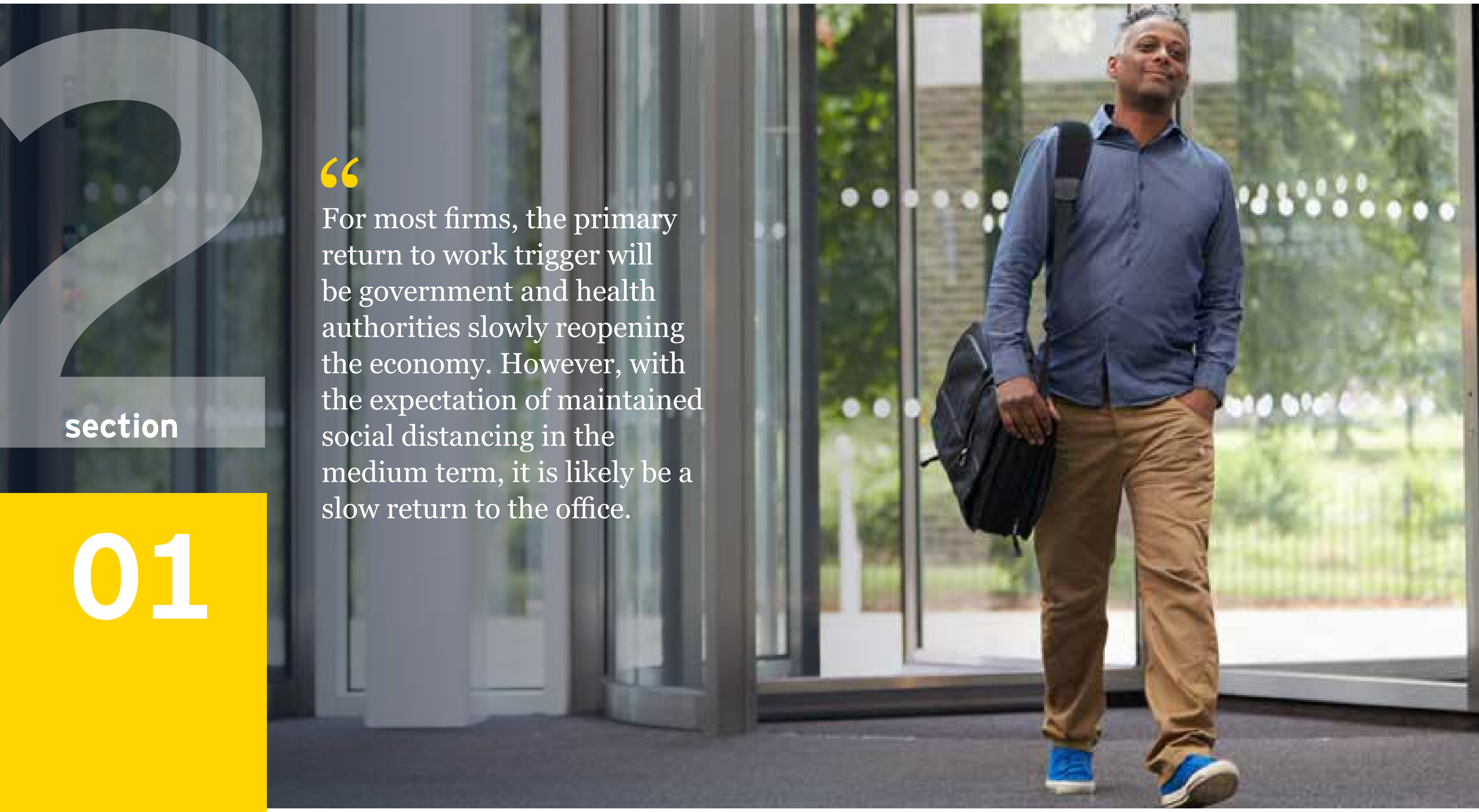
01 Preparing a return to work strategy

Prior to addressing the strategic needs of the IB arising from the pandemic, the transition from response to recovery and the return strategy are key considerations. Return questions are focused on timeline, triggers and precautions to limit the risk of a second wave pandemic.

Firms should develop a multistage and staggered return strategy with clearly identifiable milestones and triggers. These plans need to include substantial employee communication and broad stakeholder awareness.

For most firms, the primary return to work trigger will be government and health authorities slowly reopening the economy. However, with the expectation of maintaining social distancing in the medium term, it is likely be a slow return to the office. When assessing the scheduling of the return, the IB should consider:

1. Function criticality, risk and remote resiliency across the front, middle and back office, including remote working productivity and performance considerations
2. Sustainability of heightened control and supervision framework in the remote environment
3. Population density in the offices and on trading floors, and the ability to appropriately distance staff, including clear guidance on in-person meetings, travel and foot traffic flow through the office
4. Personal comfort levels of employees and their respective vulnerability to infection
5. Provision of health screening and other preventive health measures (i.e., personal protective equipment, sanitary supplies and strategic cleaning cycles)
6. Opportunities to enhance the connectivity and experience for the remaining remote workforce to ensure sustainability and resiliency of such an operating model
7. Updating the client management strategy to include an increased focus on remote and digital events and entertainment, as well as relevant entertainment policy updates



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8. Availability of critical infrastructure (transportation, food, health care, etc.) and pre-COVID-19 support systems, such as schools and childcare that are critical for maximizing employee utility

Timelines for adoption of the return strategy vary, although there is common consensus that the majority of the IB workforce will be working remotely for a prolonged period, with critical function employees being the first to slowly return. With such fluid events, firms should ensure they have a return strategy playbook, review both plans and timelines, and proactively communicate to employees regarding triggers, as well as what to expect when they do return.

The longer-term expectation is to see impacts to location strategy and floor design to provide more space to people who are in the office and greater BAU dispersion of employees to multiple locations, including WFH. As an example, firms may reconsider whether locating the large majority of their front office employees in single office buildings in the heart of major metropolitan cities (New York City, London, Hong Kong, etc.) is appropriate.

Key factors shaping the new normal

02 The need for a proactive postmortem assessment

Firms should proactively review and assess where they had vulnerabilities in their business as a result of the pandemic. This review should ultimately lead to an action plan to remediate key issues.

While this review and associated action plan are critical from a business and operational planning perspective, firms should also expect requests by regulatory supervisors and internal control functions to provide a detailed review of the events, decisions made, and impacts on the operational performance and control environment of the business. This will be a key part of the annual and ongoing supervisory examination program. Firms should establish a cross-functional group to coordinate a postmortem review to catalog and assess the following, ensuring appropriate challenge and review from second-line control functions:

1. Document decisions made and actions taken across workforce, operations, business, supervision, risk management and facilities that diverge from BAU, and existing resiliency plans; identify lessons learned and update business continuity plans accordingly

2. Review technology infrastructure performance elasticity, including, but not limited to, virtual network capacity and stability, flexibility of processing capacity and application performance

3. Review enterprise vendor management policies and third-party service providers' response and resiliency performance; assess updates to service, control and risk management standards, viability of relationships and any needs to diversify vendors and geographies

4. Catalog and conduct risk assessment of control and policy breaches that occurred, documenting rationale for deviations to support audit traceability and regulatory review, including deep dives into critical functions

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5. Perform a look back on controls, supervision and surveillance capabilities and risk assess their performance and suitability going forward, with specific focus on front office controls

6. Identify geographical and jurisdictional differences in terms of degree of impact to inform broader remediation and scenario planning exercises

7. Engage clients to identify frictions and challenges that they experienced across the relationship and identify opportunities for enhancement and competitive advantage

8. Review impacts to current regulatory and strategic initiatives, including deliverable timelines and risks, to identify where to request relief and/or prioritize investments in a coordinated manner

9. Build a prioritized remediation road map for updates to enterprise infrastructure, policies, procedures and controls from lessons learned; reprioritize change the bank budgets as appropriate

Firms should use this analysis to also develop a detailed view on lessons learned. This analysis should consider multiple scenarios to stress test the identified opportunities and weaknesses to build a more robust remediation plan. Business continuity plans and resiliency protocols will need to be updated to reflect such learnings and evolve to the "new normal" operating environment, including second order resiliency risk arising from prolonged working from home, and which surveillance standards need to be enhanced to maintain the appropriate control environment.

Key factors shaping the new normal

03 Digital enablement of the workforce

The IB workforce across all functions is traditionally office based, particularly as it relates to front office sales and trading. The COVID-19 crisis has triggered a significant displacement of the workforce requiring the vast majority of personnel across the industry to work remotely.

Albeit with initial challenges, the infrastructure is now broadly in place and employees are set up for remote working. While still too early to broadly assess, it has been a more seamless experience to date than many expected.

Some of the key challenges that firms had to overcome include the provision of technology hardware to enable remote working (particularly for sales and trading staff), the need to record client conversations, and the ability to appropriately supervise and engage the workforce in a remote environment.

There are several broader considerations impacting the ability to sustainably work from home. While we do not advocate a full work from home setup as a standard across the IB, given the broadly positive experience to date there is a potential opportunity for greater flexibility for remote working.

1. Enable a virtual and digital workforce. Firms should review the tools offered to their teams to facilitate a more flexible and remote workforce. Traders will need to be digitally enabled with virtual turrets, collaboration tools and more flexible connectivity to systems, potentially creating mobile application solutions for core platforms. Front to back processes will need to be increasingly embedded into digital workflow tools to facilitate monitoring and virtual handoffs. Firms should also review second order business continuity plans such as a localized power or Wi-Fi outages impacting remote workers.

2. Supervision considerations. Firms need to risk assess which functions they are willing to allow to be facilitated remotely, any risks this may create, and how remote workers and processes can be effectively supervised. This is especially important for high frequency, low latency and high volatility products section

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and platforms. Supervision broadly will need to become more data driven and AI enabled and less reliant on physical proximity; this will also strengthen the IB's broader control environment.

3. Cultural considerations. Firms will need to ensure they provide opportunities for the flexible workforce to foster a team environment and ensure the firm's culture of high performance and collaboration is maintained and fostered. Engagement with the workforce throughout will also be critical to build trust and ensure its voice is heard in adjusting to the new normal.

There will be additional benefits for firms that can demonstrate the ability to adapt to a more flexible operating model and sustain effective operations with a more remote workforce. Added flexibility potentially opens the career path to previously unavailable high-quality labor, a potential reduction in occupancy needs in high-cost campus locations, and added resiliency to the firm from a more flexible and dispersed workforce. Firms should consider how they can build an advantage from providing more flexible work arrangements in a controlled manner.

Key factors shaping the new normal

04 Accelerated reshaping of business strategy

Prior to the COVID-19 crisis, many IBs were focused on strategically reviewing and reshaping their businesses. Firms with excess balance sheet and capital reviewed their growth strategy, with some looking at acquisitions while others focused on organic expansion.

In contrast, other IBs looked to rightsize by exiting less profitable clients, regions and products, as well as divesting entire business lines.

The pandemic has impacted revenues and demand for businesses across the IB, with shifts across products, geographies and asset classes. As firms adjust to the new normal, a more proactive approach to M&A and business exit is expected to reshape their business mix and reallocate capital to strategic opportunities.

Some businesses previously earmarked for rightsizing or exit could see outsized revenue opportunities; others may be subject to regulatory action, impacting their long-term viability. Some IBs will look to industrial partnerships across front, middle and back office to enable scale and improve margins as they reshape their business. When making these key decisions, metrics should consider required investments to upgrade the infrastructure for efficiency, resilience and scale to ensure sustainable profitability.

Firms should refresh their strategic business plans, define their strategic positioning and size accordingly. Over the longer term, there is the potential for a smaller set of global universal banks, with an increase in regionally and product focused firms, a trend that may be accelerated by the crisis.

Data enabled salesforce and client strategy

The crisis has transformed client coverage, service and connectivity overnight. Firms with a data driven approach to client coverage that can provide deep, personalized insights to clients are well placed to maintain

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and grow relationships and have had the least disruption to their client relationships. Firms can also use such data to dynamically allocate resources to meet clients' needs for credit and liquidity across businesses, strengthening their relationships.

Digital and data enablement. Sales teams historically are product focused and institutionalizing their understanding of clients across products can create significant value. The data driven approach enables sales and coverage teams to stay relevant to clients in a remote environment. The data also enhances management's ability to measure sales performance; track interactions; and better understand, drive and forecast performance. To achieve this, firms should upgrade their data, analytics and client relationship management (CRM) capabilities to analyze client commentary, financials, transaction data, pricing requests, market data and operational service insights.

Client coverage and prioritization. Appointing a cross-asset-class account executive can assist in the prioritization of resource allocation and brings the power of the firm to the client. Data should be leveraged to identify gaps in coverage, segment underperformance, cross-selling opportunities and pricing assessment. Firms adopting a client-centric, solution-oriented sales approach will succeed.

Virtual events and digital content. This can enable client interactions from business, cultural and social perspectives. It is important that firms look at how to meet these needs from clients at a time of isolation for most. Longer term, this may become a more cost-effective and environmentally sustainable approach, although firms should personalize the approach so as not to overwhelm clients with content.

Hosting virtual meetings, conferences and road shows makes events accessible to a wider investor base and can deepen client relationships. Providing commentary, market insight and speaker series with business and cultural leaders will provide insight and stimulation for clients and broader stakeholders. We have also seen firms hosting virtual happy hours with clients to sustain relationships.

The current environment presents an opportunity to look at how data and analytics can be used to target and automate client interactions and coverage, helping firms provide enhanced service and potentially achieve objectives of enhanced cross-selling and revenue growth.

Acceleration of digital strategy and electronic enablement

Pre-pandemic, market participants had been broadening the adoption of electronic trading, with single dealer, multi-dealer and peer-to-peer trading venues growing in all asset classes and geographies. The crisis has highlighted challenges with high-touch channels, such as voice and e-messaging, in high-volume and high-volatility markets. We expect these frictions to accelerate the adoption and product expansion of electronic trading mechanisms, presenting opportunities and challenges to the IB.

Electronic pricing and risk management. Firms need to enhance their infrastructure to support electronic trading in broader and more complex asset classes (credit, securitized, etc), with a less observable market price, and larger notional where firms limit e-trading size today. To be competitive in pricing and dynamically manage risk exposure, firms need to enhance their data management capabilities and leverage algorithms to price real-time risk. Such capabilities need to be resilient to highly volatile and high-volume markets; several firms' tools struggled with this through the pandemic. However, electronification can commoditize markets with dealer-agnostic execution and lower barriers to provide market liquidity.

Algorithmic trading. Enabling electronic execution opens a broader marketplace for buy-side and institutional investors for algorithmic trading solutions and introduces index and exchange-traded fund products across broader asset classes. This presents opportunities to provide digital toolkits for market access and risk management. Such toolkits can create significant client demand and enable platform businesses to attract greater flow, capturing more market data and creating a virtuous circle for firms with the

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strongest platform and data offering. However, firms need to upgrade their risk management capability to support such exposure, embedding automated circuit breakers and controls.

Digital platform solutions. Solution-oriented cross-asset-class platforms will emerge to serve clients across the transaction life cycle, beyond the traditional market access role of such offerings. To be truly differentiating for clients, an aggressive ecosystem partnership strategy will be required, potentially with firms previously seen as competitors, to offer a best-in-class solution-oriented service. For example, firms can offer portfolio construction, risk analytics, cross-asset margin compression, market data and data-driven insights via a digital platform distribution strategy, enabling stickier and deeper client relationships.

There is a potential for digital platforms to be offered as "white-label" services, under broader industrial partnerships, enabling smaller players to focus on their core capability while still providing their clients with comprehensive market access. A digital-first business model for some IBs is likely to emerge.

As electronification accelerates and digital solutions become the new battleground for IBs, the gap to market leaders will widen. Firms will need to transition to selling solution-oriented platforms over transactions and to a cross-asset-class client-centric service model. Firms also have opportunities from a broader open market to access clients electronically that have not previously been on platform. Investments in digital services and expanding both single dealer and multi-dealer platform connectivity and capability will deliver outsized client flow and stickiness. The focus on data and analytics delivering personalized insight to clients and managing real-time risk and pricing will further separate firms.

Key factors shaping the new normal

05 Data enabled risk management

IBs have long focused on effectively managing financial and nonfinancial risks, with responsibilities, capabilities and controls sitting across both the first and second lines of defense.

The crisis has exposed inefficiencies across risk and control processes, and while some processes have performed well, others have required tactical adjustments to enable more effective risk management and reporting.

As firms settle into the current model of primarily remote working, sustainability and comprehensiveness for managing existing and emerging risks are factors that need to be considered. As various fluid events unfold in the coming months, firms need to be working on go-forward planning and adapting their stressed operating models and capabilities.

Supervision, surveillance and related control environment

For nonfinancial risk management, supervision and surveillance have been at the forefront, given the challenges of monitoring and reporting sales and trading activities in a remote environment through a volatile market across asset classes. Challenges have ranged from how sales and trading staff communicate internally and externally to a lack of surveillance capabilities off the trading floor, as well as resource capacity constraints due to a spike in surveillance alerts triggered by extreme market volatility. Firms have tactically implemented ad hoc solutions to best replicate their BAU processes and maintain their capabilities:

1. Technology needs to be deployed rapidly to surveil WFH sales and trading staff, including trading activity, voice and written communications, and personal account activity, by deploying computer hardware, enhanced network access technology, hardwire phone lines and cell phone recording software, as examples.

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2. Higher frequency intraday control checks and additional supervisory reviews must take place, e.g., remote population confirmation, trade review reminders, and risk and P&L and communications reviews.

3. Additional attestations should be performed to account for any new potential conflicts of interests arising in a WFH environment and ensuring WFH staff is aware of expectations.

4. Policies, procedures and business risk registers need to be updated and communicated frequently to reflect the necessary changes with notification to applicable stakeholders.

Firms generally have achieved a high level of resiliency and continuity through the crisis, navigating the initial surge of disruption. Now firms need to pivot their attention to enhancing systemic controls, including:

1. Sustainability of tactical controls. Firms should look to enhance their supervision and control programs to ensure they are able to sustain the heightened supervision standards more systemically for the expected ongoing remote activity; this is likely to include agile technology development.

2. Digital enablement of surveillance and insight capabilities to leverage advanced technologies. It is now clear that leading firms will look to incorporate best practice resiliency into ongoing business in an agile operating model for people process, technology and location strategies. Leading firms will use this opportunity as a catalytic moment to accelerate the incorporation of better data and analytics into their surveillance programs. This will allow new insights into their people, their risks, client and service provider behavior, and the market overall.

Firms may not be able to predict every future event or scenario but can embed deeper learning and continuous insights into ongoing operations to mitigate emerging risks.

Real-time financial risk monitoring and management

Several financial institutions have long-term programs in place to address analytical and data-related shortcomings. The pandemic has magnified the need to accelerate efforts, especially in context of financial risk management.

IBs with fragmented technology and data architecture have struggled to consolidate a global view of intraday and end-of-day risk in this volatile period, undermining management's ability to nimbly manage and monitor risk. The cross-business impact of the current market environment makes the ability to aggregate risk exposures to manage the institution-wide activity at geographic, sector and product specific concentrations critical to operate within firms' risk appetite limits.

Organizations have developed tactical off-cycle analytics to accurately measure intraday exposure metrics where enterprise analytics could not capture the near-real-time picture, as firms balanced speed with accuracy of information used in decision-making. While useful, firms should consider strengthening these tactical fixes into longer-term, strategic solutions.

Enabling real-time counterparty exposure monitoring

Counterparty exposure and concentration monitoring for many firms' counterparties exist across asset classes and lines of business or fall under the same parent counterparty tree. It is critical to have an accurate firmwide picture of counterparty risk and assess the need to quickly adjust their limits based on dynamic market events. Monitoring real-time consumption of limits intraday and identifying concentration of exposures for counterparties is a critical gap in capabilities for many.

While most firms enhanced capabilities for intraday exposure monitoring after the global financial crisis, several remaining vulnerabilities

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have been exposed through the pandemic, and we expect to see firms revisit their strategic capability in this space. More specifically, counterparty watch list and default management protocols need to be refreshed and automated to further enhance monitoring capabilities.

Proactive loan portfolio reviews. Firms have recognized the need to be more proactive in reviewing their current loan portfolios to identify troubled credits, particularly for more vulnerable industries and segments, and begin mitigation activities earlier in the cycle. The challenge has been that many loan review and credit functions are not staffed at levels necessary to undertake these reviews at scale. Firms are exploring alternative and more innovative ways of performing such reviews that may be leveraged into these functions on a go-forward basis.

Accelerated credit approvals. Credit officers are challenged with supporting ad hoc processes for accelerated credit approvals amid incomplete data, drawdown of existing lines and a market environment that has negatively impacted overall counterparty stability, ratings and downgrade triggers in certain industry sectors, particularly hospitality, entertainment and transportation.

Overall, the market volatility has resulted in breaches of existing market concentration and counterparty limits and has put a heightened focus on the need for a more granular and frequent market and counterparty risk monitoring framework, including intraday risk monitoring capabilities.

Key factors shaping the new normal

06 Operations digital transformation

IB operations have demonstrated a high level of resiliency during the COVID-19 pandemic, though not without issues, as significant market volatility and volume spikes have challenged operations groups.

Teams have struggled to clear backlogs, match capacity with demand, effectively interface with clients and provide accurate point-in-time views of operational risk.

The challenges arising from the pandemic are symptoms of underlying issues in processes and technology that firms have not prioritized, due to complexity, business case or perceived potential for success. This is most prevalent in the gap between the scalability of front-office technology and the lack of scale of operational processes.

While firms must address challenges strategically, there are several near-term solutions that could be rapidly deployed to provide immediate relief and close capability gaps until strategic solutions are available.

- Low-code/no-code technology allows firms to rapidly workflow enable volume-sensitive processes to enhance the monitoring, control and process handoffs.
- Data visualization and optimization tools can be implemented to close gaps in current operational risk and performance management reporting.
- The adoption of industry-wide interoperability solutions can accelerate exception resolutions between firms.

We believe that in response to COVID-19, firms need to accelerate efforts to strategically break the linear relationship between market and processing volumes, moving from processing to managing, and eliminating exceptions. We expect to see a focus on the following four areas as firms begin to address the strategic challenges highlighted by COVID-19.

1. Access to real-time operational data. Few firms have a trusted, real-time repository of operational data (volumes, events, fails, breaks, etc.) to leverage for point-in-time

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risk management, performance analysis and regulatory compliance. This gap has created a challenge responding to the crisis, where regulators and management expect a real-time view of operating risk.

Strategically, this gap limits the ability to accurately assess operational performance across the trade life cycle, understand needed changes to client and desk behavior, and forecast and measure the impacts of process and technology change. Firms should focus on developing an operational data strategy, investing in technology and training their teams in the methods needed to manage data as a strategic asset.

2. Acceleration of moves to common processes, shared services and agile operations. The pandemic has impacted the ability to leverage a global resource pool, creating imbalances of demand and capacity across operations. Product, technology and regional silos are unable to flex as needed to respond to challenges like COVID-19. Previous efforts to develop shared services have often resulted in common management of different processes running on disparate technology in different regions.

Firms can leverage a true shared service strategy to addresses these challenges. This allows firms to address performance variability holistically, leverage best-of-breed technology and process, and support continual load balancing. Agile operating models can further increase organizational flexibility by breaking down barriers between processing, subject matter and change resources.

3. Development of industry operating standards. Processing backlogs have occurred in functions where industry utility tooling is available, but take-up is not universal. The effective use of industry capabilities in areas such as allocations, margin management and trade confirmations can no longer be treated as optional.

Firm-specific self-service tools need to leverage industry communication standards (SWIFT, ISDA CDM, etc.) to allow the buy side to develop common processes and technology tools to manage streetwide interactions. Client access to standardized processing data sets should dramatically reduce the resources aligned to exception management. Traditional utilities and FinTech providers should be pushed to close capability gaps, with a goal of minimizing duplicative processes across organizations. Firms can develop deeper relationships and potentially partnerships to collaborate across the industry ecosystem to maximize the potential for success driving efficiency.

4. Focus on process optimization and digitization. With the three prior areas as a baseline, firms will be much better positioned to determine where investment is needed in process optimization and digitization. Better data will lead to stronger outcomes in digitization efforts and drive the shift from work management to work elimination. Common internal and external operating models allow for solutions to be developed once to satisfy the needs across different products, regulations, geographies and clients.

These challenges are not fundamentally new, and firms have been able to work through the recent capacity and processing challenges. What the COVID-19 response has exposed is the inability for firms to be able to meet these challenges strategically. A paradigm shift will be required to scale processes through technology to meet expectations of clients, business partners and regulators, and will be a priority as firms return to what will become the new normal.

Key factors shaping the new normal

07 Enhanced elasticity of IT infrastructure

IB technology infrastructure has come under strain with significant market volatility and volume impacting performance, reliability and resiliency. The key lessons learned from the COVID-19 crisis include the need for flexible capacity, modernization of applications and scaled remote working.

1. Flexible capacity to provide an elastic supply of processing power at peak times for critical functions to manage the workload and performance. Firms should catalog processes and applications, identify criticality, and understand the critical path and peak times through performance stress modeling, enabling prioritization of processing power to critical functions. Bandwidth and remote access stability should also be reviewed to support more scalability in remote working with multiple virtual private network access options made available.

2. Cloud vs. captive processing power for firms is a factor of relative size and required control. Large firms tend to have excess capacity in their own infrastructure to support load management and can control and switch off noncritical processes at peak usage. In a vendor cloud environment, while there is unlimited processing power and storage, firms are competing for space with other organizations, which limits their ability to throttle and manage their own workloads. Firms should consider their broad data center and cloud strategy in context of their size, processes, functions, geographies and demand management needs.

3. System modernization is a high-priority item coming out of the pandemic with performance challenges being primarily focused on legacy mainframe applications and code bases that limit the organization's ability to flexibly adjust capacity needs and fix bugs and bottlenecks as demand spikes. Firms should look to assess their legacy platforms and build out an upgrade and replacement strategy for these functions to enable a more dynamic capability. Such upgrades need to be handled in a robust and controlled manner given the critical importance of many of these legacy platforms and applications.

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4. Cybersecurity events have spiked through the pandemic with a remote workforce more vulnerable to attacks; firms should focus on enhancing the monitoring and investigative capabilities across their infrastructure. Firms should also continue to heighten awareness among staff through education and increased testing.

Broader technology considerations include the need to develop and deliver a data strategy that enables greater consistency and timeliness of data availability across the enterprise. Technology solutions should leverage the latest methodologies to maximize flexibility and ease adoption with emerging technology tools and micro-service design embedded in the architectural principles of the organization. With increased remote working expected to become the norm, firms should review their change management methodologies to further enable agile change management and review the development operations toolkits enabling streamlined quality assurance and control over the code development, testing and deployment.

Technology and data capabilities have never been more important to the IB with emerging technologies and techniques transforming the speed and scale at which firms can implement enhancements to infrastructure. By taking an enterprise view of the organization's technology needs and managing data holistically, firms can position themselves to deliver cost, capability and client service transformation, fixing the root cause of current inefficiency and business challenges.

Firms should strategically review the technology plans as part of the proactive postmortem review of lessons learned through the pandemic and reprioritize transformation road maps as appropriate to address the challenges identified and focus on critical issues in a prioritized manner.

A final word

With significant and long-lasting impacts expected for the IB, it is critical that firms learn from the COVID-19 crisis.

Firms have shown an encouraging level of resilience and continuity at a time of high volume, volatility, demand and emotional strain on employees. There are, however, several lessons learned and strategic initiatives that should be accelerated or initiated to further enhance operational efficiency and client experience and remediate vulnerabilities that were exposed.

1. Support prolonged, sustainable remote working on scale, providing greater location flexibility and process efficiency through digital enablement

2. Transform the client value proposition and experience through digital solutions and a data driven personalized approach

3. Enhance digital, data and analytics capability for commercial and risk management benefits

4. Augment supervision and surveillance capabilities with data driven and AI-enabled solutions

5. Integrate front-to-back risk analytics and limit monitoring, connected in real time to trading platforms

6. Promote a flexible and secure technology infrastructure to sustainably support volume and remote working

IBs broadly have demonstrated resiliency and played a key role in sustaining an orderly market, supporting the economy, and ensuring market liquidity and business continuity. However, they should use this as a learning experience to further enhance their capabilities and address the challenges observed to enhance further their own and the market's resilience.

Firms should take two immediate actions. First, firms need to develop a detailed multistage and staggered cross-functional return to work strategy playbook. Second, firms should initiate the execution of a holistic and proactive postmortem review, developing prioritized

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remediation action plans. We expect both to form a central part of audit and horizontal supervisory reviews over the coming months.

From a strategic perspective, it is imperative that firms refine their transformation objectives considering lessons learned to date through the pandemic and also review their broader strategic agenda. We expect the most proactive firms in assessing their vulnerabilities to be best placed to direct strategic investment. IBs with focused digital transformation strategies upgrading their data, technology and front-to-back infrastructure will be far more strongly positioned for growth and profitability in the new normal.

Contacts

Brian Boyle

US Capital Markets Advisory Leader
Ernst & Young LLP
brian.boyle@ey.com

Mark Nichols

US Capital Markets Advisory
Ernst & Young LLP
mark.nichols@ey.com

Kellen Maia de Sa

US Financial Services COVID Response Leader
Ernst & Young LLP
kellen.maiadesa@ey.com

Lisa Choi

US Banking & Capital Markets Resiliency Leader
Ernst & Young LLP
lisa.choi@ey.com

Sumit Malik

US Capital Markets Risk Advisory
Ernst & Young LLP
sumit.malik@ey.com

Pete McEvoy

Banking & Capital Markets Technology and Data Advisory
Ernst & Young LLP
pete.mcevoy@ey.com

Dai Bedford

EY Global Banking & Capital Markets Advisory Leader
Ernst & Young LLP
dbedford@uk.ey.com

Pierre Pourquery

UK Capital Markets Advisory Leader
Ernst & Young LLP
ppourquery@uk.ey.com

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