NEW FRONTIERS IN POST-TRADE EFFICIENCY

AN INDUSTRY IN TRANSFORMATION

BNP PARIBAS

The bank
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world

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FOREWORD

We live in a world of constant change, and the rate of change continues to grow exponentially.

Even if increasing efficiency is an accepted aim across our industry, there is no global plan for its advancement. Efficiency initiatives focus on different areas and are rolled out at different speeds across the world's markets.

Our securities services business is global. We are committed to keeping our clients informed of changes across the markets we service and to help them understand how these changes will impact their business. In this paper, produced in association with Firebrand Research, we highlight the key changes in across asset servicing, market infrastructure and digitalisation. We explore how they are being executed in the world's local markets and their implications.

Although markets are increasingly complex, we aim to simplify post-trade for our clients. Our goal is to provide access to the key platforms and services that allow our clients to keep pace with market changes and requirements, such as new centralised services that provide important post-trade efficiency gains.

Our focus is on the areas that can bring immediate value to clients:

- One point of global access to liquidity management
- Best-of-breed fintech capabilities
- Regulatory-compliant and secure digital asset services
- Easy and consistent access to platforms, built collaboratively by the post-trade community, to solve market issues

We execute global themes locally. This whitepaper highlights some of those important initiatives as we continue to cross new frontiers in post-trade efficiency.

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EXECUTIVE SUMMARY

The search for efficiency in post-trade is a never-ending story. As one of the world's leading custodian banks, we analyse what is happening and where the industry is going. Our post-trade experts, along with Firebrand Research, have created this paper to tell the post-trade efficiency tale.

The synopsis of this story consists of:

GLOBAL THEMES NEED LOCAL EXECUTION:

Although there are common post-trade efficiency themes across the globe, such as the modernisation of market infrastructures' legacy technology platforms, much of the transformation is market-specific. Even at the regional level there are nuances to how regulators, market infrastructures and market participants are implementing change. The benefits of a range of approaches are increased competitive choice, greater innovation and a wider pool of lessons for the industry to learn about post-trade efficiency. The challenge, however, is that this variety entails increased complexity.

NEXT GENERATION TECHNOLOGIES ARE EASIER TO INTRODUCE IN GREENFIELD AREAS:

A key lesson from the range of distributed ledger technology (DLT) implementations and projects across the globe is that replacement projects are much harder to tackle than brand new builds. New platform builds are certainly challenging, but the amount of effort and continued investment required to support a legacy replacement is much higher. The requirement to significantly change existing operational processes and market practices complicates the process overall.

THE ROLE OF THE CUSTODIAN IS CHANGING:

Global custodians sit in a unique position for their clients as they are able to act as a single repository of information about a firm's activities in each market. Digitally enabled custodians have built out their data architecture to support clients by providing them with a single, real-time view into their inventory and positions across multiple markets. Their role in the asset servicing space is also changing. Whereas previously the role encompassed two main pillars—ensuring asset safety and efficient settlement—it has now expanded to enable stewardship and the facilitation of effective communication between issuers and final investors.

POST-TRADE EFFICIENCY IS NOT LIMITED TO AUTOMATION:

Efficiencies can be achieved in many areas outside of automating manual processes. Everything from how firms manage their capital and liquidity at the global level through to how they communicate with their clients and counterparts is in scope for change.

COLLABORATION IS KEY:

With growing regulatory requirements and market complexity, industry stakeholders are being pushed to find common solutions. For these solutions to be successful and accepted by the community at large, an external element is necessary to guarantee trust, neutrality and quality. Platforms have appeared as a result, offering client and partner value, and a path forward for the industry.

MUCH HAS BEEN ACHIEVED, BUT THERE IS ROOM FOR IMPROVEMENT:

The industry's post-trade efficiency journey has only just begun and there are many areas that could benefit from change. The asset servicing realm must decrease its use of paper-based processes in areas such as tax and corporate actions. Settlement efficiency needs to improve, especially as more markets move toward a shorter settlement cycle and digital assets and traditional assets come closer together.

This paper begins with a section highlighting the key themes and commonalities across the globe within the post-trade realm. Each following section of this paper highlights the various market and regional developments in Europe, Asia Pacific and the Americas, including key takeaways from each region.

01

AN EVER-CHANGING MARKET

If the last decade was characterised by industry and regulatory efforts to rebuild trust in the system following the financial crisis of 2008, the 2020s thus far seem to be all about taking stock of the current state of the market, the enterprise and focusing on improving efficiency overall. The implementation of post-crisis financial regulations across the globe has dominated the budgets and mindshare of the industry for ten years. This has caused regulatory change management to become a market practice within its own right. It is no surprise that now the dust has somewhat settled on many of these regimes, firms have begun to focus on other things. The focus is now on examining more efficient ways of working, better addressing client needs and reviewing progress toward automation.

1.1. A SPOTLIGHT ON INEFFICIENCY

To this end, there has never been more industry and regulatory attention on post-trade market practices. The pandemic threw a spotlight on numerous market inefficiencies that have long been bemoaned by operations executives such as the use of faxes within various middle and back-office processes, and requirements for wet ink signatures in the client onboarding process. Digitalising these processes has become a priority to reduce operational cost and risk, but the efficiency focus is much broader than just operational items. Capital, liquidity and business model efficiency are also in the frame for review.

At the same time, technology has evolved significantly over the last decade and firms are keen to adopt next generation tools and technology solutions where they make sense from an efficiency perspective. However, rather than relying on the point solutions and quick fixes of the past, firms need to fully assess their processes from a holistic perspective if they hope to benefit from technologies such as distributed ledgers (DLT) or artificial intelligence (AI). There is a lot of industry discussion and media coverage of DLT and central bank digital currencies (CBDCs), for example, but it is still early days from an industry-wide or even enterprise-wide deployment point of view. Important lessons are still being learned and while individual technologies are important, it is the bigger picture of how these all fit together that will be transformative for the industry as a whole.

Of course, regulatory changes have not completely disappeared off the agenda, especially in the United States, but regulators around the globe are also taking stock of the effectiveness of their post-crisis regimes. Much like the industry, regulators are keen to review the efficiency of regulatory reporting regimes from a transparency standpoint and tie together any loose ends from a market practice perspective. The increased prevalence of digital assets within the institutional realm also necessitates appropriate regulation. Moreover, regulatory agencies are beginning to deploy next generation technologies for their own devices such as data analysis and investigation.

1.2. A CHANGING ROLE FOR CUSTODIANS

The world of custody has adapted well to support the era of regulatory transparency and is continuing to adapt to take into account new asset types, increased digitalisation and new market practices as the era of efficiency unfolds. The role of a custodian is also changing because of the increased focus on governance as part of the continued rise of environmental, social and governance (ESG) investment. Whereas previously the role encompassed two main pillars—ensuring asset safety and efficient settlement—it has now expanded to enable stewardship and the facilitation of effective communication between issuers and final investors. Transparency and trust have gone beyond just the regulatory reporting realm and into the full asset servicing lifecycle.

Custodians have also begun to focus much more on the data assets that they oversee and the concept of a data custodian has come to the fore. Global custodians sit in a unique position for their clients, as they are able to act as a single repository of information about a firm's activities in each market. Digitally enabled custodians have built out their data architecture to support clients by providing them with a single, real-time view into their inventory and positions across multiple markets. These custodians have also invested in their connectivity via application programming interfaces (APIs) to new, best-of-breed fintech firms and services to enable seamless, permissioned data sharing with these third party providers. The client issue of maintaining multiple interfaces to these services is therefore removed.

GRAHAM RAY
Global Head of Sales and Relationship Management, Financial Intermediaries

> "We are trying to simplify life for our clients in terms of post-trade processes and support. It is less about point-to-point functions and more about joining platforms that connect multiple participants and services."

Increasing the efficiency of the industry is a key ongoing focus within the custodian landscape as part of this rapidly expanding role. This includes adapting to changes such as market structure improvements and focusing on the digitalisation of manual and inefficient processes where possible. It also encompasses developing new services in partnership and collaboration with the expanding community of fintech firms. To succeed in today's markets, custodians need to offer a greater level of seamlessly integrated support to their clients and shield them from the burden of change that is coming their way. All of this is reliant on a custodian that has the right people, in the right roles being supported by the right technology for the tasks at hand. Depth of local and global expertise and a digital-first mentality are essential.

02

THE GLOBAL EFFICIENCY TRENDS

Efficiency improvements can be achieved in many ways. Recent years have highlighted the desire of the industry to address some of the inefficiencies that are underlying key post-trade processes and market practices. Operational efficiency improvements can range from industrialising and automating processes that were previously manual through to a complete review and overhaul of the post-trade lifecycle. The initial industry focus was on industrialisation, with the establishment of centres of excellence in offshore and nearshore locations across the globe several decades ago. This necessarily involved the standardisation of various roles and functions across the middle and back office to enable these centres to operate at scale.

Technology has always played a part in efficiency improvement but its role as an enabler was initially quite limited. As the industrialisation phase slowed, the industry focus turned from reducing the cost of manual effort to the basic automation of certain processes, including the deployment of robotic process automation (RPA) for tasks such as data entry. More recently, firms have been exploring next generation technologies such as DLT and AI to understand where they might play a role in improving efficiency in various functions.

For a long time, the industry's operational efficiency mantra has been one of cost-cutting and rationalisation rather than revenue growth and process restructuring. However, if true industry-wide digital transformation is to be achieved, addressing small gaps via automation is not enough. Much like the overhaul of processes that is entailed in a major market structure change such as the introduction of clearing to OTC markets or the shortening of the settlement cycle, firms need to approach the inefficiencies that they hope to tackle holistically. The focus of these efforts should also not be on cost-cutting alone. They should instead include the ability of firms to gain competitive edge over their peers, to address sustainability issues, to generate new revenue streams, to improve operational resilience and to better service clients, among other things.

The drivers for efficiency are manifold and there are some key areas across the post-trade realm in which the industry is moving in a similar direction globally.

2.1. ASSET SERVICING

The asset servicing realm is likely one of the most paper-based and inefficient from a cross-border perspective due to the complex regulatory and legal structures in place across the globe. The pandemic highlighted the manually-intensive nature of a lot of the work in areas such as proxy voting and tax processing as firms struggled to support general meetings and filing tax forms in a remote working setup. Firms faced significant delays to the processing of tax reclaims for relief at source, for example, because of the requirement to file paper forms with wet ink signatures.

One of the direct impacts of the pandemic was that many regulators were compelled to change the requirements, albeit temporarily in some cases, to allow for virtual and electronic processes to replace the manual processes in certain areas. To this end, regulators altered national rules to permit virtual general meetings and voting due to pandemic restrictions on social gatherings. This has opened the door to the modernisation of the proxy voting process in many markets by enabling e-voting.

However, the pandemic has not been the only recent driver for change within asset servicing globally. The rise in popularity of ESG investing has thrown a spotlight on governance. Shareholder engagement and the transparency of issuer-to-shareholder communications have been prioritised by numerous regulators across the globe as part of their respective ESG agendas. This focus has highlighted the need for greater communications standardisation and process efficiency, which will likely also impact the wider corporate actions realm in future.

Tax processing remains one of the least digital areas of capital markets globally. There have been a handful of national initiatives to digitalise the process but overall global progress toward addressing these inefficiencies has been slow. It is an area that should be prioritised in future and the example of markets such as Finland, where progress has been made, should be observed and followed by other jurisdictions. Regulators and tax authorities must be at the forefront of these changes as many are dependent on the alteration of national requirements to enable digital submission of tax forms and electronic signatures.

2.2. MARKET INFRASTRUCTURE

One of the most significant global market structure trends post-2008 was the move of many OTC assets onto central clearing counterparties (CCPs) as regulators sought to improve the resilience of the derivatives markets, in particular. Furthermore, the regulatory preference for central clearing has expanded well beyond derivatives into other asset classes over recent years and into areas such as repo. Central clearing necessitates that firms adopt a much more proactive approach to managing risk, collateral and liquidity on an intraday basis.

Margining requirements mean that firms must have a good handle on their available collateral inventory across their various operations. Not only is clearing an efficiency gain for the market overall, it also compels firms to operate in a more efficient manner either internally or via their clearing agents. On the latter point, the burden of connecting to various CCPs across the globe and supporting different margin methodologies and connectivity requirements over time has compelled many firms to work with clearing services providers. Ongoing regulatory changes in this area have been fairly constant post-2008 across major markets and third parties therefore can shield clients from the burdens of systems updates and related IT support.

CAMILLE PAPILLARD
Head of Financial Intermediaries and Corporates EMEA

> “We are focused on improving liquidity management efficiency for our clients. We have been investing in real-time monitoring across multiple activities and risk computation capabilities. This will allow our clients to identify intraday or overnight funding needs, while improving their capital ratios.”

At the market infrastructure provider level, many of the exchange, CCP and central securities depository (CSD) operators are undergoing their own modernisation programmes. Much like the internal architectures of many of the market participants they serve, these providers are faced with legacy technology issues that necessitate gradual replacement projects. Obviously, this cannot be done in a rip and replace manner as these infrastructures must continue to service their respective markets as they modernise their technology. The approach and challenges faced by these infrastructures are somewhat unique to each market, but the end result of these programmes is the introduction of many more efficiencies at the market level.

Market infrastructures and service providers across the securities services sector have also renewed their focus on cybersecurity and operational resilience over the last couple of years. The increasing sophistication and professionalisation of the cyber-criminal community has raised the bar for the industry in terms of proactive and reactive cyber-threat mitigation. Regulators are also keenly aware of the need for firms to address any weak spots and system vulnerabilities and have drafted regulations to encourage best practice adoption. Improving the efficiency of these offensive and defensive cybersecurity strategies and tools is therefore a common work in progress across the globe.

2.3. INDUSTRY DIGITALISATION

The pandemic certainly helped to fuel the industry adoption of communications tools across the globe as teams adapted to remote or hybrid working. Moreover, the popularity of previously primarily front-office deployed tools, such as Symphony, to facilitate greater collaboration within post-trade functions continues to grow. The efficiency of the communications process has therefore improved and these tools enable the secure sharing of information in a regulatory compliant manner. This is an important consideration when taking into account both the increased prevalence of hybrid working setups and operational resilience concerns related to cybersecurity.

NEW FINTECH ENTRANTS

Post-trade has also benefitted from the entrance of new, innovative, centralised services over the last five years to mutualise the costs of non-differentiating functions. Services such as AccessFintech and Proxymity are targeted at allowing firms to benefit from a centralised access point for information to support various functions such as proxy voting or post-trade processing. Rather than relying on a purely sequential flow of information between counterparties, these platforms distribute information at the same time to all participants. They contribute to improving the overall efficiency of various processes across the industry and allow firms to reduce the time spent chasing or waiting for information to be passed down a chain of intermediaries.

One of the challenges posed by the entrance of a significant number of new fintech providers is that building and maintaining connectivity and support for their various offerings can be time-consuming and costly. This is why custodians have stepped in to offer a single point of access to the wider ecosystem of fintech platforms and solutions. The 'appification' of financial services is likely to continue to develop further in future as technology and services providers build out more offerings based on the variety of data sets that reside across the post-trade landscape.

> "We are working with best-of-breed fintech firms that answer the specific needs of our clients such as Symphony, AccessFintech and Proxymity."

ALAN CAMERON
Head of Financial Intermediaries and Corporates Client Line Advisory

IMPROVING THE CLIENT EXPERIENCE

Improving the client experience is a core tenet of most firms' digital transformation programmes across the globe, but many have focused on the initial phases of onboarding rather than supporting the full lifecycle of a client. The full lifecycle includes how firms support their clients' day-to-day activities, how they provide access to relevant data when necessary, and how quickly they can offer access to new services such as digital asset support when requested.

A fundamental requirement for firms hoping to improve the lives of their clients is understanding their needs from a more holistic and global perspective. Rather than focusing on off-the-shelf solutions, a digitally-enabled custodian is able to examine a client's operational and business requirements and tailor specific services to those needs. For example, even if a client doesn't have a specific need for full foreign exchange support, they may benefit from settlement support and connectivity to Continous Linked Settlement (CLS).

The groundwork for offering these services is extensive and entails the establishment of a centralised data store of client information across locations. It also necessitates connectivity to a broad range of external services and centralised fintech platforms such as the new entrants in the post-trade space. Clients can then turn these services on or off as required. The client journey therefore becomes much more seamless and unified globally, as they are able to benefit from a platform for access to the wider community of service providers without the cost and complexity of point-to-point connectivity support.

MATTEO DADDA
Global Head of Banking Services Operations

> “By discussing pain points with both the buy-side and the sell-side, we are better able to understand the full picture of the industry’s necessary efficiency improvements. We can ensure that all of them find their post-trade journeys simplified.”

On the subject of connectivity, an efficiency “work in progress” is the standardisation of APIs. Though APIs are far from new, there has been an explosion in the adoption of API platforms to improve connectivity between various internal and external systems within the bank and broker community. APIs can also be successfully deployed to enable greater self-service for clients to access data assets residing within their service providers’ technology stacks. However, the lack of global API standards means greater complexity for clients and counterparties as they have to build to different API requirements. There is much more industry recognition that global standards in this space would be significantly beneficial to improving industry efficiency overall.

THE RATIONALISATION OF LEGACY TECHNOLOGY

Another work in progress, this time for the sell-side is the rationalisation of legacy platforms. Firebrand Research indicates that sell-side firms have an average of 9.1 post-trade processing solutions per firm, not taking into account point solutions targeted at particular functions such as corporate actions. That is a high number of systems to maintain year-in-year-out. Legacy systems have suffered from upgrades and anything that is not core maintenance has been put on the back burner for the last decade or so due to IT teams being over-burdened with regulatory-compliance implementation projects.

The traditional approach to post-trade platforms was either build a system from scratch or to heavily-customise and build on top of a vendor-provided platform. These systems often have mainframe computing at their core and have gradually become more and more embedded into the firm’s technology stack, as new technology solutions have piled on top to meet new market or compliance requirements. Unfortunately, these largely batch-based systems are unable to cope with the demands of the markets several decades later. They have been particularly tested by the increasing volatility and volumes in traditional markets such as equities and bonds, and the diversity of asset classes that must now be supported to meet client demands.

There has also been a lot of discussion in the market over the last 12 months about the increasing importance of real-time support for operations, particularly as key regions plan to shorten settlement cycles further. Unfortunately, Firebrand Research indicates that 43% of firms do not support real-time processing and 5% don’t even support intraday processing, relying on batch overnight systems. System modernisation is certainly an area for continued future efficiency improvement focus.

Many firms are therefore keen to sunset the ageing technologies in their middle and back offices and deploy cloud-enabled platforms to scale up and down as required by market conditions and client growth. However, given the variety of operational models and technology architectures in place across the industry, there is no one-size-fits-all approach. Moreover, the ‘lift-and-shift’ of legacy platforms into a cloud environment will not deliver the necessary changes to effect digital transformation. This will necessitate either a full internal rebuild using cloud-native technology or working with a third party provider.

KEY TAKEAWAYS

- **The multiple facets to efficiency:** Digitalising manual processes has become a priority to reduce operational cost and risk, but the efficiency focus of the market is much broader than just operational items. Capital, liquidity and business model efficiency are also in the frame for review.
- **Asset servicing modernisation:** The pandemic highlighted the manually-intensive nature of a lot of the work in asset servicing areas such as proxy voting and tax processing as firms struggled to support general meetings and filing tax forms in a remote working setup. Regulators altered national rules to permit virtual general meetings and voting due to pandemic restrictions on social gatherings, which has opened the door to the modernisation of the process.
- **Market infrastructure modernisation:** At the market infrastructure provider level, many of the exchange, CCP and CSD operators are undergoing their own modernisation and efficiency improvement programmes, including deploying next generation technologies.
- **New centralised platforms and services:** Post-trade has benefitted from the entrance of new, innovative, centralised services over the last five years to mutualise the costs of non-differentiating functions. Rather than relying on a purely sequential flow of information between counterparties, these platforms distribute information at the same time to all participants.

03

A FOCUS ON EUROPE

European regulators have been particularly active in the years following the global financial crisis and many of the requirements have impacted the region's market infrastructures and post-trade market practices. Nearly every aspect of post-trade has been in scope for regulatory change at the EU level. From CCP recovery and resolution through to settlement penalties and CSD market practices, everything has been under review in light of the global financial crisis. As a welcome side-effect, many of these developments have improved the efficiency of and transparency within the market infrastructure space. However, the burden of compliance has held back numerous firms from investing more widely in their internal systems.

Thankfully, the regulators have turned a corner over the last couple of years when it comes to their view of the markets and their priorities for the future. The focus is now less on increasing reporting requirements and much more on encouraging the growth of the European capital markets as part of the Capital Markets Union (CMU) action plan. The CMU places the investor at the centre of the plan to encourage greater retail participation and more investment into EU financial markets. To this end, it includes a wholesale review of existing frameworks to ensure the regulatory burden on financial institutions is minimised and areas such as regulatory reporting are in line with global standards. One of the areas of significant focus for the European Securities and Markets Authority (ESMA) and the European Commission (EC) is the asset servicing space as part of the push to improve transparency for investors.

It should be noted, however, that the impact of Brexit and the current trend at the EU-level for third country infrastructure restrictions could also reduce efficiency in the short-to-medium term. Regional and national market protectionism could increase regulatory divergence and the result would be a negative impact on harmonised market practices and standards. For example, there is industry concern about the impact of processes such as CCP equivalence and recertification on capital and liquidity management. It is therefore increasingly important for local market participants and their infrastructures to work together to manage any changes in equivalence requirements and regularly communicate with the regulatory community about the approval process.

3.1. ASSET SERVICING

An important piece of regulation to improve the digitalisation of European tax processes is in the early stages of drafting as the European Commission published a consultation on the topic in early 2022. The claiming of withholding tax relief in cross-border portfolio investments has long been a pain point within Europe and the pandemic highlighted the problem further still. The European Commission is looking to introduce reforms to enable digital alternatives for the paper-based processes required to claim relief at source and enable the automatic exchange of information.

The regulation could remove legislative hurdles in numerous countries to allow the use of electronic documents such as certificates of residency, the submission of data via digital forms and use of electronic signatures. Though some countries in Europe have made significant progress toward digitalisation already, others still require paper forms and wet ink signatures. The most advanced countries such as Finland could therefore provide an example to the rest of the region with its Treaty Relief and Compliance Enhancement (TRACE) procedure, which it introduced in January 2021. To this end, the adoption of TRACE is already being considered by markets such as Belgium.

HAROUN BOUCHETA
Head of Public Affairs

> "We play a role in working with regulators and the industry to shape future changes. We have expertise and proximity with regulators and market infrastructures in local markets, which allows us to keep contact with these entities and drive the way the market is evolving."

SRD II AND A FOCUS ON ELECTRONIC PROCESSING

The EU's revised Shareholder Rights Directive (SRD II) has been another key piece of regulation for the asset servicing space in Europe since it came into force on 3 September 2020. SRD II is targeted at improving transparency between issuers and their shareholders and at encouraging investors to engage more frequently in shareholder voting activities. It reflects the increased regulatory focus on corporate governance and fostering shareholder capitalism in the region over the last five years.

Though SRD II is certainly a step in the right direction for improving the transparency of the proxy voting space, there is room for improvement in a practical sense when it comes to efficiency. The implementation of the directive remains relatively inconsistent across the region. The crux of the problem lies with the nature of SRD II as a directive rather than a regulation, which means it could have been implemented in the various EU member states and interpreted differently by national competent authorities across the EU. This divergence reflects the fact that the definition of "shareholder" varies from country to country within the region, which makes the fundamental application of the directive challenging from the start. In practice, this means that the identification of the person that is entitled to receive and exercise shareholder rights depends on the corporate law in each different EU member state.

In terms of positive improvements, connectivity between all intermediaries had to be established directly with issuers in a secure context to enable the transmission of requested information such as shareholder identity. This required investment by some of the subcustodians in connectivity to and support for new communication channels. All intermediaries in the chain also had to support some form of electronic processing to ensure that information is passed up and down the chain quickly and efficiently to meet the requirements to handle requests within a 24-hour timeframe.

However, not all market participants have yet made the necessary changes and investments required to be compliant with SRD II. Successful implementation at the EU level is dependent on enforcement at the national level. To resolve this matter, various domestic associations and regulatory authorities have been discussing measures such as changing the cost model for compliance to be shared between custodians and issuers for areas such as standards adoption for notifications. European authorities will also likely address lagging transposition with national competent authorities over the next 24 months.

Given the popularity of governance as a topic due to ESG investment strategies and investor appetite, the market can expect that the volume of voting at general meetings to increase year on year. Moreover, if the EU's Capital Markets Union (CMU) plan goals are realised, retail participation will increase and this will increase the number of shareholders voting at these meetings. This, in turn, will require firms to further automate processes to support the required notifications and confirmations as mandated under SRD II and its successor, once ESMA has finished its review in 2023.

The regulation has also sparked innovation in the market from the fintech sector with incumbent providers adding new services and the entrant of a brand new player, Proxymity. The move from sequentially-based communications to a more distributed model has necessitated the creation of platforms to support diverse information dissemination to all relevant parties in the asset servicing chain. This distribution of information to multiple parties at the same time is significantly more efficient than point-to-point information sharing, as well as reducing risk and latency of information.

MARIANGELA FUMAGALLI
Head of Asset Servicing Product and Custody Regulatory Solutions

> “Managing change is an ever-increasing dynamic across the world at the market infrastructure level or in services like proxy and class actions. The real challenge is that there are so many possibilities out there that you could focus on in terms of technology, operational models or business structures. We have to focus on the short and medium term changes that will deliver long term benefit to our clients.”

CORPORATE ACTIONS EFFICIENCY AND T2S

Corporate actions have been tangentially impacted by SRD II, but there has been a lack of direct regulation in this space to compel meaningful changes. When Alberto Giovannini and his EC-sanctioned working group first brought the industry's attention to the 15 barriers to effective clearing and settlement back in 2001, he brought to light the challenges related to nonstandard issuer communication practices. The ensuing years have witnessed frequent discussions about the pains inherent in the corporate event communication process, though little direct regulatory action has been taken to remove Giovannini barrier three. However, this may change with the recent regulatory focus on ESG standards and shareholder transparency.

Regulation may be lacking for now, but the introduction of the European Central Bank's (ECB's) Target2-Securities (T2S) settlement platform did compel some ISO 20022 message adoption at the CSD level. The implementation required the messages related to market claims and transformations for the last leg of the corporate actions lifecycle for settlement and cross-CSD transactions to be adapted to specific T2S ISO 20022-based standards.

Another T2S-related piece of work that is impacting corporate actions is the work of the Advisory Group on Market Infrastructures for Securities and Collateral (AMI-SeCo) to define common rules for managing collateral. The Single Collateral Management Rulebook for Europe (SCoRE) initiative includes corporate actions standards that are due to be adopted in waves starting in November 2023. Most of the CSDs and third party administrators in the region have submitted their adaptation plans, though four CSDs have not yet done so and some need to provide additional details to AMI-SeCo.

Regulation and market structure change may not yet have pushed the industry far enough in terms of standardisation, but the pandemic has focused industry attention on digital channels of communication. The combination of all of these factors should hopefully improve matters within the region and beyond for the asset servicing community. For regulations and market structure changes in flight, it is important for leaders within the industry to continue to engage in open dialogue with authorities to ensure the efficiency of the final solution.

3.2. MARKET INFRASTRUCTURE

The ECB's T2S may have only tangentially impacted corporate actions, but it has markedly altered the settlement landscape in Europe. The introduction of a pan-European platform has harmonised the last step of the transaction processing lifecycle in the region. However, there are definite areas for improvement from a pan-European market structure perspective. Although T2S has brought capital and operating efficiencies to the market, it has not encouraged the consolidation of the number of CSDs in the region, nor reduced their fees,

The introduction of the settlement discipline requirements of the Central Securities Depositories Regulation (CSDR) in February 2022 was targeted at improving settlement efficiency in the EU. Regulators are hopeful that the penalty regime will be enough to compel firms to industrialise and standardise their processes, and thus significantly reduce or eradicate operational inefficiency. If not, the European Commission has stated that further action will be taken by regulators in 2025 to introduce mandatory buy-ins, which will be painful, costly to implement in numerous markets and would place the EU in a detrimental competitive situation compared with other jurisdictions.

Industry adoption of partial settlement, which enables a transaction to be settled in a series of two or more deliveries, has been relatively slow thus far. Moreover, auto-partialling only works if both parties have opted into the practice, which allows available inventory to be settled to reduce risk and increase liquidity. Market practices need to be adopted across the whole settlement chain to be truly effective at improving efficiency. The combination of the settlement penalty regime and the partial release functionality offered by T2S could potentially compel greater adoption of auto-partialling and partial settlement across CSDs and intermediaries.

CLEARING AND CONSOLIDATION MOVES

The clearing space in Europe has also undergone a number of changes over the last few years as a result of both the European Market Infrastructure Regulation (EMIR) and Brexit. Many more OTC derivatives are now cleared on a CCP, but the location of these CCPs is now a topic of much regulatory debate. EU-level regulators are keen to move all euro-denominated transactions onto EU-located CCPs by 2025, which could impact the cost and efficiency of clearing in the region. The industry and regulators will, no doubt, continue discussing these concerns over the next 12 months.

CHRISTIAN HOUILLON
Global Head of Custody Products and Solutions

> "Over the past 12 months, the focus has moved to business models and taking complexity out of market changes for clients. There is potential for further integration of markets into a central booking model."

There has been limited merger and acquisition activity from the standpoint of European exchange providers over the last couple of years, though there have been a couple of notable deals. The acquisition of the Bolsas y Mercados Españoles (BME) by Switzerland's SIX Group and the acquisition of Borsa Italiana by Euronext both represent opportunities for increased scale and efficiency across markets. This is also likely to mean improved cross-border activity efficiency in these markets and the provision of new services such as the adoption of the SIX Connexor service for issuers by Iberclear.

3.3. DIGITALISATION

The European Commission has prioritised the oversight of digital assets and were the global frontrunners in introducing the Markets in Crypto-assets (MiCA) regulation in 2020. A provisional agreement has been reached between the European Parliament and the Council on 30 June 2022. A final version of the law should be available soon and the regulation is expected to come into force in 2024.. Certain provisions within MiCA will be of significant impact to the custodian community such as the liability regime, which must take into account the on-chain nature of the assets versus the traditional model of asset safekeeping. In the majority of cases, custodians will not have the capacity to manage the assets directly on the blockchain and legislators must take a balanced approach in addressing this risk.

MiCA will, however, provide more clarity for the market overall on the status and treatment of digital assets. This could spark an increase in the number of these assets across the region and the development of new services that could improve the efficiency of the market in handling these assets in future.

PILOTING DLT, CBDCs AND DIGITAL ASSETS

The EU's DLT Pilot Regime is another important development for the region as it allows market infrastructures, such as CSDs and MTFs, the ability to test new DLT solutions without being submitted to the traditional framework such as CSDR or MiFID II/R. The DLT Pilot Regime, recently published in the Official Journal of the EU, is an important piece for the EU to attract business in this area. At national level, some EU member states and regulators such as the French, German and Swiss ones have already issued regulations aimed at improving their attractiveness and permitting the issuance of digital securities. The UK market is also attempting to make its capital markets more attractive post-Brexit by establishing itself as a hub for cryptoassets and fintech with key announcements made in early 2022.

Given the progress that is being made by countries at the individual level, there is a risk of significant short-term regulatory divergence at the regional level. Moreover, there are also still many gaps when it comes to the institutional usage of digital assets. Not least of these gaps is the need for a stablecoin or central bank digital currency (CBDC) that is accepted for on-chain payment for institutional purposes.

WAYNE HUGHES
Head of Digital Assets

> "We are designing a secure and seamless solution for digital asset custody, providing the asset protection and simplicity our clients require. We are preparing the foundation to move quickly when the time is right, once a clear regulatory framework is in place."

Numerous central banks within the region have begun exploring the adoption of a CBDC and the Banque de France has arguably made the most progress with such a project outside of China. In December 2021, the central bank successfully completed the last stage of its CBDC pilot, which was launched in March 2020. The project involved the issuance of a digital bond on a blockchain and its subscription by several market participants with a settlement in CBDC. It has also worked on a pilot for cross-border transactions in CBDC with Switzerland's SIX Group.

It is logical to expect that the EU region will eventually adopt a single CBDC to reflect the current setup of the Eurozone if the development of a CBDC continues to be a regional priority. However, this will likely mean a centralised coordinating body such as the ECB taking charge of the overall coordination to ensure interoperability and oversight across the various markets.

BOLSTERING OPERATIONAL RESILIENCE AND DIGITAL FINANCE

The Digital Operational Resilience Act (DORA) is another EU-level regulation targeted at improving market participants' operational risk reduction and cybersecurity best practices. It will impose many more reporting requirements on firms related to their oversight of third, fourth and fifth party providers, which may have a negative impact on new vendor onboarding. Though the spirit of DORA to improve the industry's resilience is sound, regulators will need to take a pragmatic approach to know your vendor and service provider requirements to avoid making an already onerous process lengthier and more complex.

These regulations are all part of the EC's broader Digital Finance package, which was announced in 2020 and sets out a five-year plan to support the digital transformation of the financial sector and encourage the development of new financial products in the EU. The concept is that by establishing regulatory frameworks, market participants will be encouraged to adopt and develop new technologies and assets to grow the markets in line with the CMU plan. A likely benefit of this framework will be greater efficiency in the longer term as digital and traditional assets come into better alignment.

KEY TAKEAWAYS

- **A regulatory focus on asset servicing:** The focus of European regulators is on encouraging the growth of the European capital markets as part of the CMU action plan. The CMU places the investor at the centre of the plan to encourage greater retail participation and more foreign investment into EU financial markets. To this end, it includes a focus on the asset servicing space as part of the push to improve transparency for investors. SRD II is one such piece of regulation that will likely be built upon in the coming years.

- **Market infrastructure adaptations continue:** T2S and CSDR have already significantly altered the settlement space in Europe and will likely spur greater settlement efficiency in the next few years.

- **Digital asset regulation incoming:** Now that the DLT Pilot Regime has been published, MiCA will provide even more clarity for the market overall on the status and treatment of digital assets. This could spark an increase in the number of these assets across the region and the development of new services that could improve the efficiency of the market in handling these assets in future.

- **A broader focus on digital in the EU:** DORA and MiCA are both part of the EC's broader Digital Finance package, which was announced in 2020 and sets out a five-year plan to support the digital transformation of the financial sector and encourage the development of new financial products in the EU.

A FOCUS ON ASIA PACIFIC

Technology innovation and change is a consistent theme within the post-trade sector in the Asia Pacific region. Australia and Singapore have arguably led the region and to some extent, the globe, when it comes to fintech adoption and innovation, including from a regulatory standpoint. The Australian Securities and Investments Commission (ASIC) was the first regulator in the region to set up a fintech sandbox in 2016 to allow eligible fintech companies to test certain products or services for up to 12 months without specific licenses. The Monetary Authority of Singapore (MAS) has been a particularly vocal champion of fintech development on the global stage and also established an innovation hub and its own sandbox later in 2016.

The heterogeneity of the markets means that each country is digitalising in its own unique way. For example, market infrastructures in Australia, Hong Kong, Malaysia and Singapore have all been experimenting with DLT, but the ASX's Chess replacement project in Australia is very different to the approach taken by the Hong Kong exchange with its Synapse project. China's focus on developing a CBDC is much more advanced than in most other countries across the globe and India has started its gradual move to a T+1 settlement timeframe ahead of the much-discussed move in North America.

GARY O'BRIEN
Global Head of Banks & Brokers
Segment Strategy

> "We want be part of the change, to shape it and to understand it, to continue to support our clients and prospects but also offer new services."

4.1. MARKET INFRASTRUCTURE

There is a lot of notable post-trade market structure change going on across the Asia Pacific region and much of it includes next generation technology. Australia's Chess replacement project is one of the most high-profile implementations of DLT within the global market infrastructure realm. The CSD was facing an obsolescence issue with its existing platform and opted to work with a DLT-specialist provider to replace its core infrastructure. The exchange provider has been working on the project with its partner, Digital Asset, since 2015 and the platform is now expected to go live in April 2023.

The lengthy process highlights the challenge of legacy replacement projects of this magnitude, which involve extensive preparation and testing with multiple market participants, and the addition of relatively new technology in this context. One of the key efficiency benefits for the market is the removal of the requirement for the ASX clearinghouse to send netting messages to clearing members ahead of settlement. However, the removal of this step and other operational changes required both an educational process for local market participants and significant rulebook changes.

ASX has indicated that the go-live date will not be the end of the efficiency improvement journey for the market. The exchange-provider is planning on streamlining areas such as the corporate event announcement process in incremental changes, once the core settlement process has been tackled. Given the DLT-based nature of the new platform, further efficiencies could potentially result from a wider review of existing market processes to remove any other redundant processes post-implementation.

SINGAPORE'S DLT EXPERIMENTATION

The Singapore market has hosted numerous DLT pilot programmes, including an effort similar to the ASX's replacement project, under the banner of Project Ubin. The MAS and the Association of Banks in Singapore launched Project Ubin in 2016 to assess the use of DLT for securities and payments clearing and settlement. The project included a DLT-based delivery versus payment (DVP) pilot by the CSD focused on achieving inter-ledger interoperability for Singapore government securities and cash depository receipts.

The five-year project has now concluded but the MAS has indicated its findings should be used by interested parties as educational guidance on the challenges and potential efficiency benefits of implementing DLT. The information shared on its website should therefore provide market infrastructures, regulators and industry participants with vital information ahead of any DLT implementation, potentially allowing them to avoid certain mistakes and operational hurdles.

GREATER ACCESS TO THE CHINESE MARKETS

The Hong Kong Exchange (HKEx) Synapse project also involves the implementation of a smart contracts-based solution in future. Synapse is a new integrated post-trade platform aimed at connecting foreign investors more efficiently to the China A shares market via the Northbound Stock Connect channel in Hong Kong. The HKEx is working with Digital Asset as its partner to use the latter's DAML smart-contract technology and allowing connectivity via API to facilitate flexibility and integration.

Stock Connect isn't the only access point to China, however. The Chinese government has gradually been relaxing its rules for foreign investment into China over the last couple of decades. Foreign investors can access assets via various routes such as the Qualified Foreign Institutional Investor (QFII) scheme, which was first launched back in 2002, and the China Interbank Bond Market (CIBM) scheme. The CIBM Direct scheme was announced in February 2016 and created a route for international investors to access the Chinese bond market. Investors can trade these bonds directly through banks holding a Type A licence in Mainland China, though only six foreign banks hold such licences (including BNP Paribas).

The Chinese market's T+0 settlement cycle currently poses significant challenges to overseas investors and intermediaries, especially given that market fails are subject to automatic buy-ins. The Synapse project is intended to allow the market to move from a sequential post-trade workflow to a concurrent workflow where all parties in the chain have access to the same trade information at the same time. This means they will all be able to communicate with each other more rapidly to resolve any errors and accelerate the matching and settlement process overall.

One of the greatest challenges faced by these next generation technology implementations is to ensure that efficiency gains aren't accompanied by significant cost increases for market participants. Internal and external costs must be balanced against potential benefits at the outset and agreed upon by market participants, regulators and infrastructures.

Hong Kong's clearing house and CSD infrastructure is resilient and robust from a scalability perspective, but the legacy technology at the heart of the platform is at odds with developments such as Synapse. The desire for real-time information and processing due to support for the Chinese market's T+0 settlement cycle is increasing and there is pressure on the market infrastructure to invest in a new underlying architecture. Synapse will not replace the existing settlement engine, rather it will act as a pre-matching layer on top of the CSD and there is demand for a more all-encompassing review of its technology architecture.

KATHY ONG
Regional Product Manager for Clearing, Settlement and Custody, Asia

“We committed early on to be a core pilot of the Synapse project, building connectivity via API and developing functionality on top, to offer additional value-add and shield our upstream clients from change in their processes.”

However, smaller efficiency gains are on the cards for the Hong Kong CSD as it is introducing two-factor authentication to replace the requirement for physical smart cards by participants as the sole authentication method for access to the platform.

INDIA'S MOVE TO T+1

The Indian market is currently in the process of moving its securities markets from T+2 to a T+1 settlement cycle in a phased manner. The process began in February 2022 and is led by the Securities and Exchange Board of India (SEBI) alongside the three major exchanges in the market, the Bombay Stock Exchange (BSE), Metropolitan Stock Exchange (MSE) and the National Stock Exchange of India (NSEI). The phased implementation is determined by the market capitalisation of the listed stocks. The lowest ranked stocks as determined by the average daily market capitalisation in October 2021 moved to T+1 first and the final phase is expected to be active by January 2023. If stocks are listed on multiple exchanges, the exchange with the highest volume of the stock's capitalisation will be chosen.

The efficiencies of moving to a T+1 settlement cycle have been well-discussed over the last 12 months on the global stage and include the reduction of settlement risk, lower margin requirements and greater available liquidity. The domestic Indian market is fully on board with the move, however, there are concerns from an international investor perspective. There will be less available time for foreign investors and their intermediaries to manage settlement instructions across the relevant counterparties, especially given time zone differences. Furthermore, foreign exchange availability and the increased cost of currency conversions for foreign investors have both been cited by associations such as the Asia Securities Industry and Financial Markets Association (ASIFMA) as ongoing concerns.

LUC RENARD
Head of Securities Services, Southeast Asia

“BNP Paribas has played a pivotal role in managing the change to T+1 in Asia, especially around the FX booking window in the late evening hours. BNP Paribas, with extensive engagement from the Foreign Exchange Dealers' Association of India highlighted potential bottlenecks and suggested solutions to address these concerns.”

NEW REGULATION IN NEW ZEALAND AND OPERATIONAL TWEAKS

New Zealand's national regulator is following the lead of many other regulators across the globe in proposing new regulation to establish a comprehensive framework for the oversight and regulation of financial markets infrastructures. The Financial Market Infrastructures Act 2021 covers everything from ensuring the smooth and efficient operations of these markets to adding in new cyber-risk management standards. The new regulation is expected to be established over an 18-month period and is anticipated to be completed in early 2023.

In the meantime, the NZX is working on its own projects to accommodate various domestic and international requirements. To respond to the increasing number of stocks "shunted" between New Zealand and Australia, the NZX has adapted its settlement procedures to allow additional time for such movements to take place. After a public consultation on the adoption of the change, the afternoon settlement batch has been moved from 3:00pm NZT to 3:30pm NZT. The Reserve Bank of New Zealand has also extended the operating hours of its NZXClear platform from 4:30pm to 5:00pm in support of interfaces with the NZX and share registries.

The country also has two market infrastructure operators, NZClear and NZX, which can mean clearing and settlement costs are much higher for international investors. Most of these investors hold their assets in NZClear and these need to be shunted from one infrastructure to the other to the other, entailing additional costs.

MARK WOOTTON
Regional Head of Local Custody and Clearing, Asia Pacific

> "BNP Paribas is the only international custodian that is a member of NZX and can offer clients the ability to custodize in that CSD as well as NZClear - reducing cost amongst other benefits."

4.2. DIGITALISATION

In addition to the previously-mentioned Project Ubin, Singapore has also acted as a regional champion within the Association of Southeast Asian Nations (ASEAN) for technology experimentation and it is the home for a new DLT-based, global fintech registry for financial institutions. Launched in 2021 by the ASEAN Financial Innovation Network (AFIN), ChekFIN aims to help firms identify and evaluate fintech companies for collaboration and development opportunities. The DLT database contains business references, awards information and investor funding records for an increasing number of fintech firms. The efficiency benefits of a single golden source of information on potential fintech partners are significant, especially given the increasing number of vendor risk assessment criteria that firms must evaluate ahead of signing any partnership agreement.

Other DLT-based projects led by the MAS in Singapore include the sustainable finance focused Project Greenprint and anti-money laundering (AML) focused effort COSMIC. Project Greenprint was announced in 2020 and is a collection of initiatives that aim to harness technology and data to enable a more transparent, trusted and sustainable finance sector. To this end, the MAS is partnering with industry participants to pilot four common utility platforms that will aggregate new and existing sustainability data and enable the sharing of this data across the market.

The MAS plans to launch COSMIC in the first half of 2023 as a digital platform and accompanying regulatory framework. This will allow market participants to share relevant customer and transaction information to prevent money laundering, proliferation financing and terrorism financing. The platform will be operated by the MAS and require all COSMIC participants to implement robust measures to safeguard against unauthorised use and disclosure of the platform's information.

4.4. ASSET SERVICING

Asset servicing in the Asia Pacific region is particularly challenging due to the complexity of regulation, especially related to tax, in each market. Though there are numerous areas for efficiency improvement, alignment at the regional level is unlikely in the medium term because of the heterogenous nature of the markets. Progress is therefore limited to individual efforts by market infrastructures in each country.

The ASX project will likely result in future efficiency gains for the Australian market in terms of corporate action announcements, allowing information to be disseminated to all parties at the same time. However, these benefits are likely to be realised a little further down the line, once the core functionality of the Chess platform has been implemented.

The HKEx has initiated a project to enable ISO 20022 messaging for corporate actions announcements in the local market to replace the primarily manual process of managing these announcements. The HKEx is building a platform to provide a centralised source of announcements using the ISO 20022 format that can be integrated more seamlessly and efficiently by intermediaries. However, it is relatively early days and the pilot phase is unlikely to result in immediate efficiency gains within the market, though it will be a significant improvement if widely adopted in the long term.

LUC RENARD
Head of Securities Services,
Southeast Asia

> “BNP Paribas Securities Services continues to engage, both on a bilateral basis and via the securities industry group ASIFMA, to encourage changes that reduce the requirements for paper forms.”

There are currently many areas within the Hong Kong asset servicing space that are ripe for digitalisation, including reducing the use of physical cheques for stamp duty payments and the use of electronic instead of physical forms for ETF creation and redemptions. The same can also be said for the mainland Chinese market, where corporate actions processing is particularly manual and reliant on paper-based communications between issuers and intermediaries.

In India, dividend distribution tax is in need of further efficiency improvements because there is no uniform tax rate applied to foreign portfolio investor client categories, which causes reconciliation issues and downstream processing challenges. Efficiency improvements could be achieved via the introduction of a centralised database by domestic CSDs to allow issuers to apply a uniform tax rate.

KEY TAKEAWAYS

- **A regional focus on technology innovation and change:** Australia and Singapore have arguably led the region and to some extent, the globe, when it comes to fintech adoption and innovation, including from a regulatory standpoint.
- **High-profile DLT projects:** Australia's Chess replacement project is one of the most high-profile implementations of DLT within the global market infrastructure realm. The project has highlighted some of the key challenges in transformation programmes of this magnitude involving next generation technology. It contrasts with HKEx's Synapse project, which is seeking to introduce new connectivity to the Chinese market rather than a legacy technology replacement.
- **India's move to T+1:** Though many are focused on the planned move in North America, the Indian market is already in the process of moving its securities markets from T+2 to a T+1 settlement cycle in a phased manner. It will provide the industry with a valuable example of some of the challenges to expect in other markets.
- **Singapore's numerous innovation projects:** The MAS has demonstrated the advantages of an actively involved regulator within the realm of technology innovation. Its various projects have provided both the local and international markets with examples of the challenges and benefits associated with the deployment of new technologies such as DLT in a range of different areas.
- **Much room for improvement in asset servicing:** Future efficiency improvements are warranted in many markets to reduce the number of paper-based and manual processes in areas such as tax processing.

05

A FOCUS ON THE AMERICAS

The North American markets are at a different stage of evolution to many of their Latin American neighbours when it comes to post-trade efficiency. National priorities reflect regulatory developments, market infrastructure set up and available technology and services in the local markets. The United States and Canada have been consumed by discussions about a planned move to T+1 settlement over the last 24 months, whereas those discussions are only just coming to the fore in countries such as Chile and Brazil.

The previous move from a T+3 settlement cycle to a T+2 cycle by the US market in 2017 resulted in a similar move in most major Latin American markets. The same is likely to happen with T+1 as regulators and market infrastructures in Brazil, Colombia and Chile have all begun to engage with the Depository Trust & Clearing Corporation (DTCC) and its international T+1 outreach programme. Each market will, however, face its own unique challenges in shortening the settlement cycle, especially given the liquidity of domestic currencies in these markets.

FLORENT THIRY
Deputy Head of Financial Intermediaries and Corporates, Americas

> “As a clearing and settlement agent, we need to take away the complexity of market infrastructure changes required for developments such as T+1 in the Americas, and provide clients with a simplified and standardised solution across markets that brings them the information they need at the time they need it.”

The US is also undergoing a period of regulatory reform due to the changeover in political regime, as well as a new team and agenda at regulators such as the Securities and Exchange Commission (SEC). The impact of these rule changes on the efficiency of the local market could also be notable in areas such as securities lending and the processing and custody of digital assets.

5.1. MARKET INFRASTRUCTURE

The US and Canadian move to T+1 settlement is one of the most significant projects of national and international impact in the post-trade market infrastructure realm. The DTCC's case for a move to T+1, which it published in February 2021 highlights the potential risk, cost and capital savings of taking 24 hours out of the cycle. The US market infrastructure provider indicates that the move would retain the benefits of settlement netting at its National Securities Clearing Corporation (NSCC), while reducing overall market and counterparty risk exposure. This, in turn, would lower the margin requirements at NSCC for market participants by a 41% reduction in the volatility component.

Given the market volatility experienced throughout the last few years of the pandemic, the potential savings were publicly welcomed by numerous large market participants and industry associations. Once it had established industry interest, the DTCC then went to work with an industry steering committee and a working group to begin to establish a playbook for the changes required for the move. Canada also indicated in late 2021 that it will be making the move to shorten its own settlement cycle in concert with the US.

THE DTCC'S NUMEROUS PROJECTS

The DTCC worked with industry associations to put together a 168-page playbook for the T+2 move in 2017 and will likely draft a similar-sized tome to elaborate on the details for T+1. It has already indicated that it has a good handle on all the required changes that it will have to make to its own systems to move to T+1, including steps it has already completed or begun such as night cycle reengineering and the adoption of an integrated settlement model.

There are numerous regulatory changes that have been proposed by the SEC to accommodate the move to T+1 such as those related to securities lending market practices. One such change is reducing the number of days that a broker-dealer will have to obtain possession of customer securities before being required to close out a customer transaction under Rule 15c3-3, from 12 to 11 days. These changes will require market participant investments but ultimately should result in greater efficiency for a wide-range of post-trade market practices by encouraging automation and related operational risk reduction.

From the industry perspective, a good indicator of how ready the US market as a whole is for the changes is the number of firms that have adopted dedicated vendor technology platforms for the core processing of their securities. Firebrand estimates indicate that the vast majority of brokers and banks (81%) active within the North American markets are either using manual processes or home-grown systems to support their post-trade processes. It is this long tail of small and midsize firms that will need to invest in internal IT projects, change their operating model to partner with outsource service providers, or work with vendors or consultants to update their systems for the upcoming changes.

Moreover, the SEC believes the future is netted settlement at the end of the day on T+0 and its consultation from earlier in 2022 sought to find out whether the industry agrees with its conclusions. The DTCC has indicated support

GRACE TARELHO
Director US Custody Product Manager

> “We have been receiving a lot of questions from our clients based overseas about the move to T+1 and it is going to be a big change for them. We are here to help them by providing easy access to overnight liquidity as the differences of time zones will be a major challenge to manage.”

for such a move but industry associations such as Sifma have cautioned that the move's risks may outweigh the benefits. Wide-scale post-trade changes would be required including the complete re-engineering of securities processing and netting practices. It would also have a significant impact on prime brokerage practices, securities lending, primary offerings, derivatives and corporate actions, especially from a global perspective.

The DTCC isn't solely focusing on T+1 and has established a working group to examine the implementation of partial settlement in light of the moves related to CSDR in Europe. It is also working on several projects related to improving the management, clearing and settlement of digital securities and digital assets. Project Ion has been launched to establish an alternative settlement platform, using DLT to support T+1 and T+0 settlement, while project Lithium will explore the benefits a CBDC could have on real-time delivery versus payment settlement

The Digital Securities Management (DSM) platform project was launched to support the processing of private market securities throughout issuance, distribution and secondary transfer. DTCC indicates that the platform will deliver immediate benefits to traditional market participants looking to reduce operational cost through standards and increased automation, including security identifiers, gross settlement, and electronification of transfer restriction approvals.

MARKET STRUCTURE MODERNISATION IN COLOMBIA, CHILE AND PERU

The CSDs in Colombia and Chile have been working on the replacement of their legacy systems, both of which are due to be completed by the end of 2022. DCV in Chile is working with Nasdaq as its technology partner to implement an entirely new system and DCV is Colombia is implementing a system that will include ISO 20022 message support. The local market in Colombia has already recently undergone significant post-trade changes due to the move from T+3 settlement to T+2 in 2020.

In the longer term, the exchange providers in Colombia, Chile and Peru are working on a project to integrate their stock exchanges to create a common market with access to all listed securities and local intermediaries in each market. The project was greenlit by the exchanges in January 2022 and is now going through the process of regulatory approval in each country. The first milestone once approvals have been granted will be the standardisation of each platform, which is expected to be completed before the end of 2023. The plan also includes the implementation of a unified clearing and settlement platform.

MARCOS FIGUEIREDO
Head of Financial Intermediaries and Corporates Client Line, Brazil

> “When talking to our clients about projects in Brazil, they are already considering T+1 in discussions. Pre-matching is already live but doesn’t have full use by all market participants as only around 60% to 70% of brokers are pre-matching. It will need to go up to 100% for T+1.”

The Colombian market has already benefitted from market structure improvement with the introduction of an equities CCP in August 2020. The CCP has added numerous instruments and market segments since launch and completed a merger in 2021 with the FX clearing house, which it indicates will reduce costs and improve efficiencies for clearing across both asset types.

FELIPE MALDONADO
Head of Financial Intermediaries and Corporates Client Line, Colombia

> “BNP Paribas offers a centralised hub for access to the Colombian, Chilean and Peruvian markets and we will be introducing a centralised booking model for all three markets via Bogota.”

5.2. ASSET SERVICING

There are numerous asset servicing areas where efficiencies can be introduced across all of the markets, especially when it comes to reducing the usage of paper-based processes and cheques. The pandemic resulted in the adoption of electronic processes to support previously in-person only events such as general meetings and proxy voting in many of these markets. However, the longevity of these market practices now that pandemic restrictions have lifted is being determined by whether or not national regulators are willing to adapt their rules to accommodate digitalised communications.

The DTCC has been working on an ISO 20022 adoption programme for corporate actions messaging for several years and the latest work is focused on meeting specific requirements identified by its working groups. This includes reviewing processes related to post-income reversal standards, mini-tenders and pay-date announcements for non-US dollar events, to name just a few.

Following the damage done to the physical securities certificates that the DTCC holds in its vaults due to Hurricane Sandy in 2012, the CSD kicked off a programme to dematerialise these securities. The pandemic has further highlighted the need for dematerialisation and the automation of the processes related to servicing these assets, which currently require wet signatures, medallion guarantees, physical documentation and cheque processing.

INITIATIVES IN BRAZIL, CHILE, COLOMBIA AND PERU

The Brazilian Market Association has asked the domestic regulator CVM to consider extending its rules around allowing electronic voting from only ordinary meetings to all types of meetings. The pandemic compelled the regulator to allow electronic voting in the country, which has benefitted the local markets by improving transparency and the immediacy of the voting process. The association is currently waiting for feedback from CVM on the proposal to extend these benefits to all meetings.

In Colombia, Chile and Peru, the pandemic compelled national regulators to permit virtual shareholder meetings and voting, both of which have been adopted as local market practices. The Colombian market is also discussing the introduction of a new capital market regulation focused on enabling split voting for non resident investors and for custodians to be able to offer credit facilities to their clients in the local market. The split voting permission will enable greater proxy voting access for foreign investors that wish to use the services of more than one local subcustodian.

The second phase of Brazil's tax reform programme has been delayed by the pandemic and is expected to be impacted by the presidential elections in 2022. However, the reform programme will likely recommence in early 2023 and this will mean the introduction of 20% taxation on corporate actions dividends. This will require more investment by firms to support the tax process and to improve efficiency overall.

5.3. DIGITALISATION

Much of the previously-mentioned work being done by the DTCC could also be placed under the digitalisation banner, however, it is not alone in exploring the potential of new technologies. The Federal Reserve Board released a paper in January 2022 to examine the potential for a US CBDC and is seeking input from the industry on the perceived benefits and risks of such a move.

In the same month, the President's Working Group on Financial Markets and a couple of the US domestic regulators issued a report on regulatory considerations related to stablecoins and a CBDC. These papers will set the foundation for ongoing discussions and potential pilots over the next 12 to 24 months. The most immediate impact of the political focus on cryptocurrencies and stablecoins in the US and other markets has been to accelerate the timeframe for the drafting of domestic regulation of this sector.

The Chilean central bank is also exploring the creation of a CBDC and has established a dedicated working group to present a framework that will include strategic objectives and expected benefits of the move. In Peru, the government is in the process of creating a new regulatory framework for cryptocurrencies, which will include the creation of a public registry for crypto service providers and important anti-money laundering (AML) obligations.

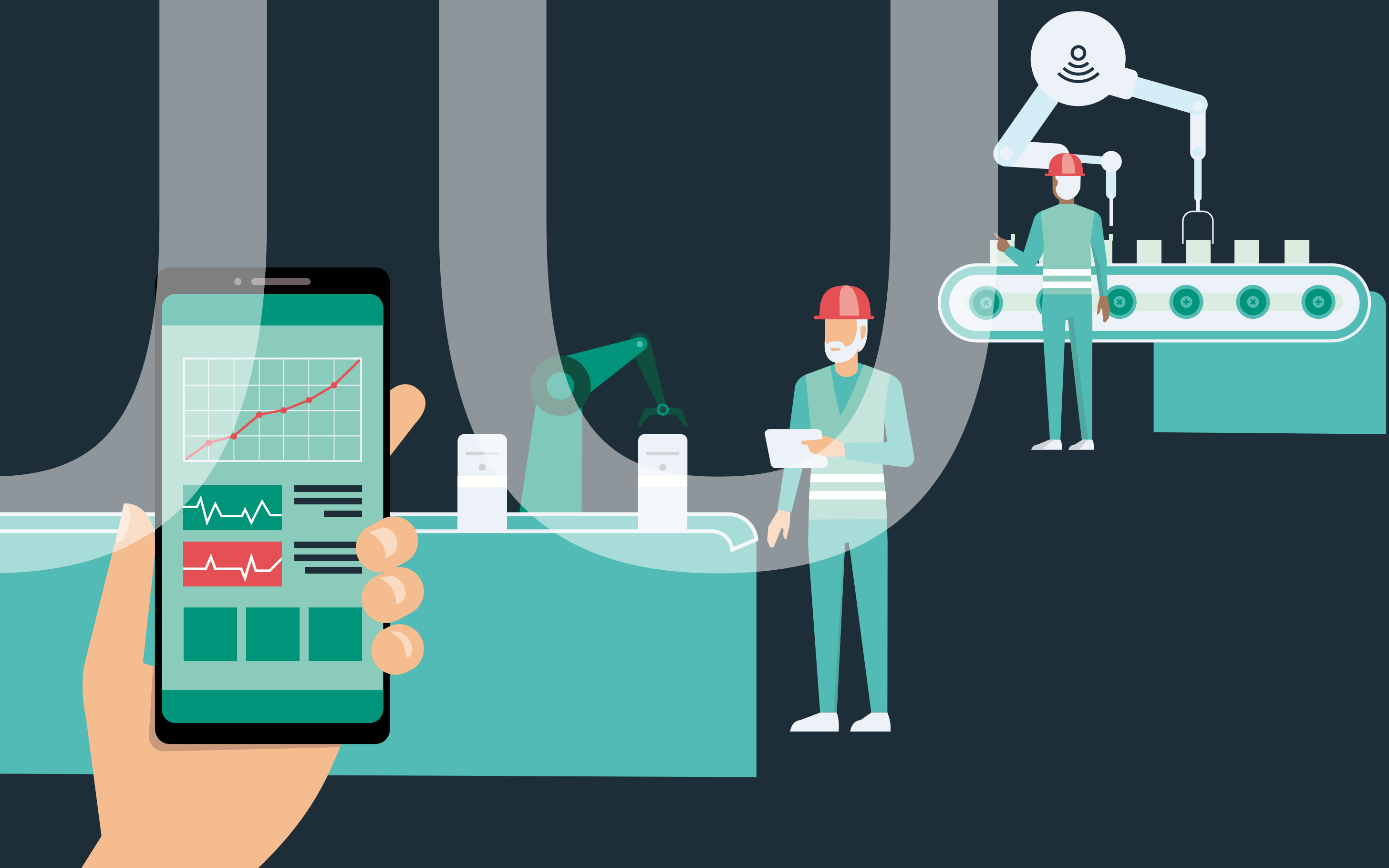
In the Brazilian market, a new project has been launched by the CSD and CCP operator, B3, to establish a centralised hub for know your customer (KYC) documentation. The platform is expected to bring benefits to both domestic and international market participants by improving access to documentation for more rapid onboarding and KYC checking of Brazilian firms.

KEY TAKEAWAYS

- **The North American focus on T+1:** The United States and Canada have been consumed by discussions about a planned move to T+1 settlement over the last 24 months. There are numerous challenges to be overcome, however, the long term benefit will be settlement efficiency improvements via greater automation.
- **The DTCC's DLT projects:** The DTCC has launched numerous projects to trial the use of DLT in areas such as securities settlement (Project Ion) and the processing of private market securities (DSM).
- **Market structure modernisation in Latin America:** The CSDs in Colombia and Chile have been working on the replacement of their legacy systems, both of which are due to be completed by the end of 2022. In the longer term, the exchange providers in Colombia, Chile and Peru are working on a project to integrate their stock exchanges to create a common market with access to all listed securities and local intermediaries in each market.
- **Slow but steady asset servicing improvements:** The DTCC has been working on corporate actions adoption of ISO 20022 for several years and is also looking at further dematerialisation of the asset servicing space. In Latin America, progress has been made in markets such as Colombia, Chile and Peru to permit virtual shareholder meetings and electronic voting, though more reforms are needed.
- **A focus on digital asset regulation and CBDCs in the US:** The US regulators and politicians have prioritised the regulation of digital assets and have launched an investigation into the adoption of the Digital Dollar.

06

THE DIGITALLY EFFICIENT FUTURE



Technology is a means, not a disruptive force in its own right. Future predictions often tend to focus on the impact of one technology or another, but the real focus should be on the bigger picture of how all of these technologies will fit together. Moreover, technology isn't the only defining factor in future efficiency gains—regulatory change, evolving market practices and industry collaboration all play a significant factor in shaping the industry of the future.

Successfully tackling longstanding industry inefficiencies requires partnership between technology providers, both incumbent and new entrant fintech firms, and market participants of all kinds. The focus should be on combining innovative technology with in-depth market knowledge to solve a real-world problem, but also stepping back and re-evaluating the process in its entirety. If overall efficiency can be improved to a greater extent by re-architecting or restructuring a whole workflow, then that should be the route to follow rather than solely fixing individual problems along the way. For example, rather than creating a bot to replace an individual manual step within a process, examine the whole process to see why the step exists in the first place.

Efficiency improvement has many aspects in terms of assessing various post-trade processes, how individuals work within the space and how various industry services fit together. This means maximising human efficiency alongside understanding and improving an industry-wide view of efficiency. As new models evolve, the industry also needs to evaluate the long term impact on sustainability, which is another determinant for future efficiency.

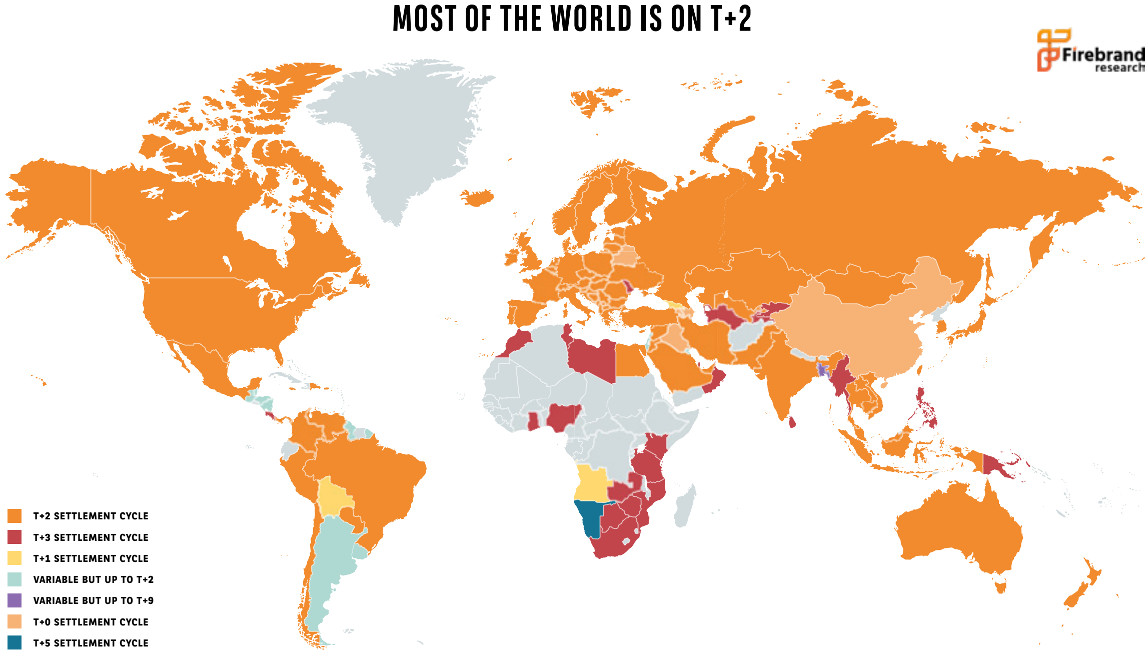
6.1. THE CUSTODIAN OF THE FUTURE

Guaranteeing asset safety in a changing landscape is, and will always be, the primary duty of a custodian. The impact of all change must be reviewed with this goal in mind. But the role of the custodian of the future is changing.

Firstly, the role of the custodian in this environment is to support clients and industry initiatives in improving efficiencies, large and small. For example, the custodian response to regulatory and market structure developments should first be to work with the necessary domestic and regional regulators and providers to shape the change agenda. This requires the local presence, depth of expertise and relationships in place to work closely with these parties in the best interests of clients and the industry as a whole.

Secondly, custodians should shield clients from the cost of these changes. The complexity of market infrastructure connectivity, for example, should not be a headache in terms of constant operational tweaks to meet requirements. The eventual global move to T+1 settlement (and beyond) is one such example. As you can see from the graphic below, the majority of the major markets are currently on T+2 and will likely face some external industry pressure to move to T+1 once the North American markets makes the move.

MOST OF THE WORLD IS ON T+2



Thirdly, the focus should be on enabling clients to connect to centralised booking models and centres of operational excellence that allow them to access the markets quickly and efficiently. Clients should therefore be able to connect to a simplified and standardised solution that spans their desired markets and brings them the information and services they require at the time they require it. This includes services from both the cash and securities side of the business, as well as data from across their relevant businesses and markets.

Fourthly, resilience should also be front and centre for all custodians in ensuring that services are stable and when under attack, clients face minimal service disruption. This requires increased capacity to backup onshore and offshore operations with 24/7 coverage, as well as heavy investment in cybersecurity. Mission-critical functions should have backups that are located on a completely different network than the main functions to allow for recovery and response to outages in extreme scenarios.

BRUNO CAMPENON
Global Head of Financial Intermediaries
and Corporates Client Line

> "We have four digital priorities, covering DLT, data, digital assets and client experience. We are engaging with the right platforms and fintech partners, to deliver value to our clients."

Finally, when adapting to support the digital assets of the future, custodians need to be able to adapt their services and work with expert partners and service providers as necessary. Not everything needs to be built from the ground up and connecting to the right platforms to act as a gateway to support for new products and services is critical. This means investment in the right people, processes and technologies to support switching on these services as and when they are requested by clients.

07

KEY TAKEAWAYS

The rate of change in post-trade will only increase. Efficiency initiatives will continue to focus on different areas and roll out at different speeds across the world's markets. Global trends will need local execution.

We stated at the beginning of this paper that the search for efficiency in post-trade is a never-ending story. The story does not yet have a clear end in sight, but some chapters are increasingly clear:

THE JOURNEY HAS ONLY BEGUN:

Much has been achieved at the market level, but there is a lot of room for efficiency improvement at the regional and global level. Many lessons can be learned and applied across markets, especially when it comes to the introduction of next generation technologies.

THE BIGGER PICTURE IS IMPORTANT:

Efficiency projects often tend to focus on the impact of one technology or another, but the real focus should be on the bigger picture of how all of these technologies will fit together.

CHANGE DRIVES TECHNOLOGY:

Lessons are being learned by many different market participants as they work on a range of projects to implement next generation technologies such as DLT. One of the challenges posed by this rate of change is that a bridge between the old and the new is required and this is where custodians should play a key role.

CUSTODIANS MUST SHIELD CLIENTS FROM THE COMPLEXITY OF CHANGE:

Custodians must shield their clients from the complexity of change and adapt their operations as required by market structure, product innovation and regulatory developments.

PLATFORMS PROVIDE VALUE:

The old world needs to work in harmony with the new, as established players build platforms with fintech entrants. Maintaining trust, creating value and solving common problems should be the goals of all stakeholders.

POST-TRADE EFFICIENCY IS NOT LIMITED TO AUTOMATION:

Efficiencies can be achieved in many areas outside of automating manual processes. Everything from how firms manage their capital and liquidity at the global level through to how they communicate with their clients and counterparts is in scope for change.

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