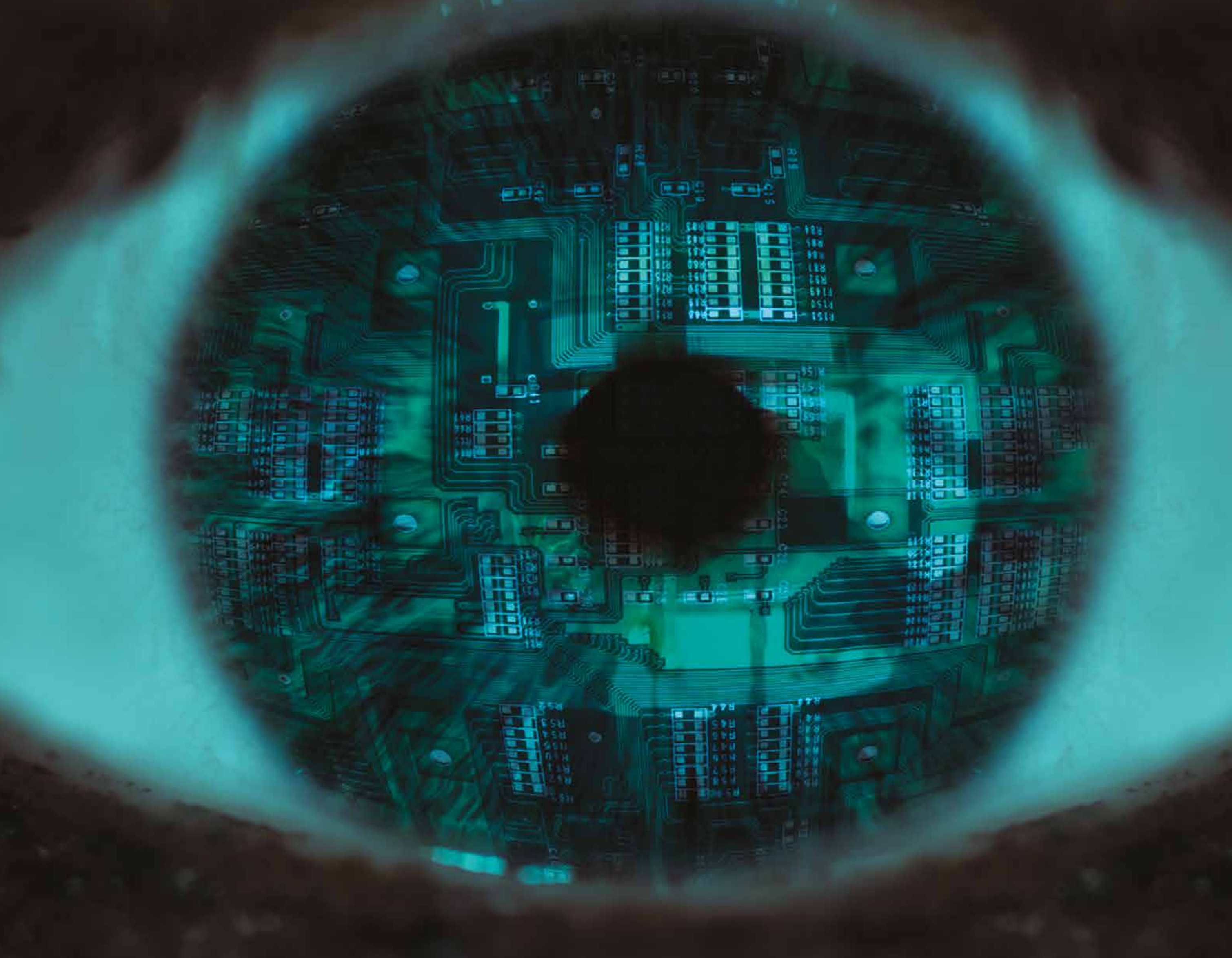


Custody in 2025

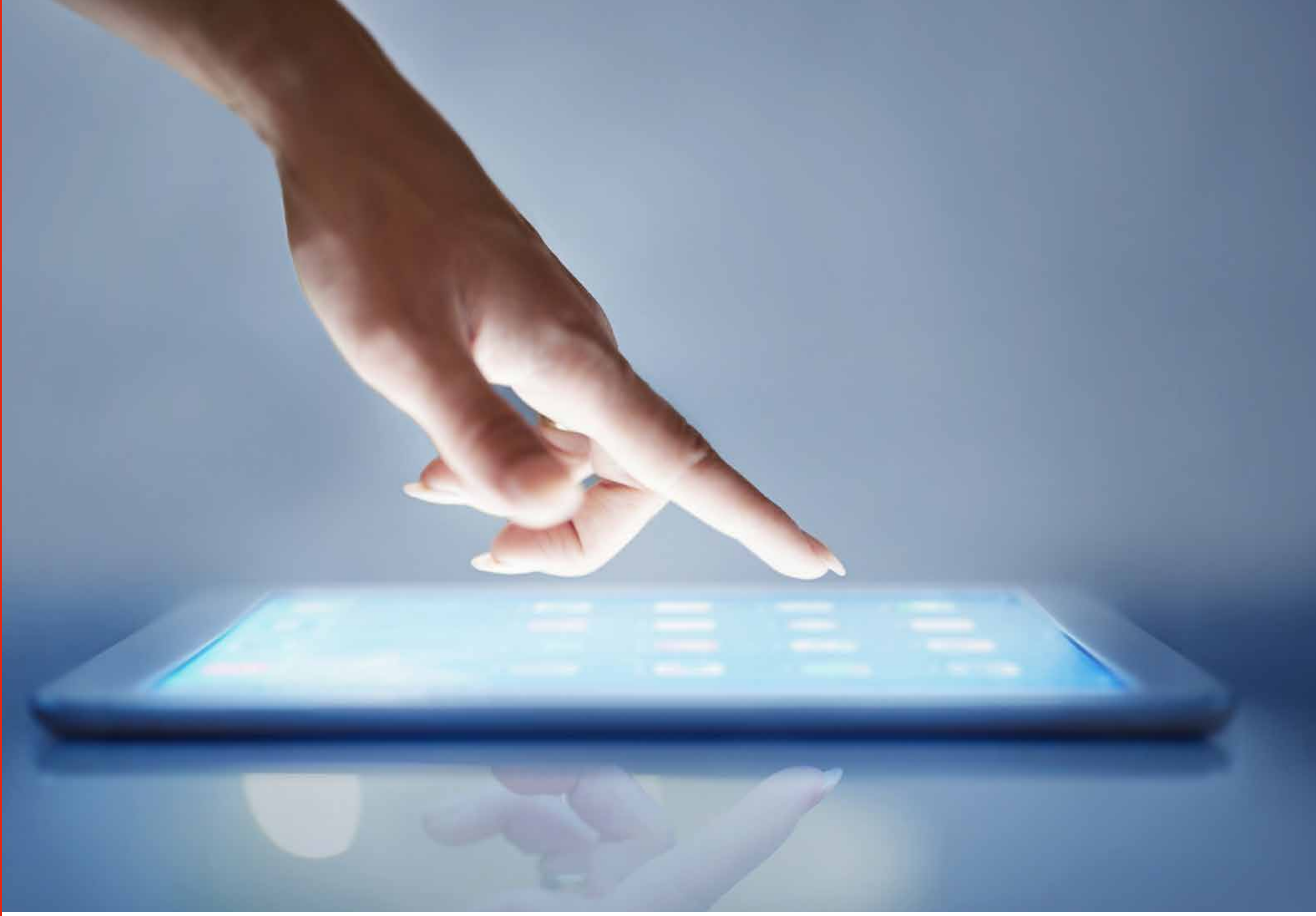
Game Changers

Future Trends in Securities Services

Ten developments that will shape the future of custody.
A vision of how the custody industry will develop in response to regulatory and technological changes, market infrastructure developments and enhanced risk awareness.

HSBC

John van Verre April 2017



Custody in 2025

A vision of how the custody industry will develop in response to regulatory and technological changes, market infrastructure developments and enhanced risk awareness.

Introduction

It is often said that custody has changed little since the turn of the Millennium. Custody is widely viewed as a commoditized service with limited scope for innovation.

We take a different perspective. Custody has seen significant change in recent years, and we expect this to accelerate in future. This paper looks forward to 2025 and beyond, and sets out some of our predictions for far-reaching developments in the industry.

We recognise that some of these developments may not come to pass and the future may look completely different, but this paper sets out a possible vision of the future, based on what we know in 2017.

A Historical Perspective...

To refresh the reader's mind, let's go back to the beginning of the Millennium. A typical Request for Proposal (RFP) for a $10b custody mandate would have been around 20 pages long, with the majority of questions focused on very basic services like safekeeping, settlements, corporate actions and tax services. To a large extent, the ability to execute these basic capabilities was the leading criteria for awarding a mandate.

Today, these basics are seen as hygiene factors. It is taken for granted that a service provider has such capabilities. In that sense, there is some truth in the view that custody has become commoditized.

At the same time however, new factors have gained much greater importance. Clients now place significant focus on ancillary services. These include pure banking activities like foreign exchange and cash management, analytical services like performance measurement and investment compliance monitoring, and fund-related services like middle office and fund administration.

...and a Vision for the Future

We believe that custody will continue to evolve. The industry's focus will shift away from traditional functions and current value-added activities towards new areas including client service, knowledge provision, data management, liquidity management and risk management.

These changes will reshape the whole investment value chain. They will also have a significant impact on individual custodians' technology, client management and business models.

Considering the drivers for change, we would not be surprised to see the following developments by 2025:

1. Custody responsibilities will be segregated into processing and servicing. Processing will be commoditized and low margin. It will not be limited to custodians and could be handled by specialist providers or industry utilities.

2. Operational process in the end-to-end investment chain will have changed. Instead of every party maintaining their own static data, it will be held in a central repository. This could even go beyond static data.

3. The arguably artificial split between global and direct custody will no longer exist. Custody will be provided on the basis of 'one book of records'.

4. Query handling will be largely automated, using digital tools like Application Programming Interfaces (APIs) and robotics. Clients will have direct access to teams on the ground for local support beyond automated query handling.

5. Custodians will act as the consolidated data source for all asset classes, and even for crypto currencies, digital keys and digital identities.

6. Custodians will be data consolidators, taking information feeds from different sources. This information will go beyond traditional transaction and holding data requirements.

7. Digital integration will give clients live access to their data at any time, in a manner which allows for integration with their internal core processes.

8. Custodians will play a key role in protecting clients from cyber threats. Asset safety will no longer just be about safekeeping. It will also include data protection against cyber crime.

9. Custodians will be knowledge providers to their clients, leveraging local insight and their connections with market infrastructures, industry organisations and regulators. Data will be a chargeable asset in its own right.

10. Pricing will be based on activities and services provided, including charging for data, and will be closely aligned with the associated risks and liabilities.

Of course, it is unlikely that all of the above changes will have occurred by 2025, which is now less than 10 years away. After all, TARGET2-Securities (T2S) has taken over a decade to fully implement. A better title for this paper might be 'Custody in 2025 and beyond'.

Even so, that does not mean that the industry will not experience highly innovative and far-reaching changes over the coming years. In the following sections we explore a few of these potential developments in greater detail.

The Role of the Custodian

We think custodians will increasingly become service providers rather than processors. The future of custody will involve gathering information from different sources, aggregating it, and integrating it with a client's internal core processes. Custodians will not need to process instructions to create value for clients.

This is no different to initiatives in other industries, where the service provider does not produce or own the underlying processes itself. Airbnb and Uber are good examples.

Currently, there is much debate about custodians being disintermediated by technology, with new entrants acting as disruptors. We are already seeing new initiatives from non-traditional providers entering the post trade arena. There is also a widespread expectation that established technology providers will enter this space.

There are various different aspects to this. One is that traditional processing has become commoditized - there is no competitive advantage in processing a settlement or corporate action. These activities could be performed by specialist providers, technology firms or utilities owned by the industry. If they can perform these activities more efficiently than custodians, it makes perfect sense for other providers to take them over. This is no different from what is already an accepted model for other activities in the value chain, such as proxy voting and class actions. Ultimately it will result in the same outcomes: Lower unit cost, greater standardization and reduced operational risk.

Another important development will be the evolution of fund distribution. Retail clients will increasingly invest online, like buying an e-book. Robo-advice will help clients to select investments that fit their risk appetite. For custodians this will be just another source of information, received via APIs.

What will not change is the need for a custodian. Safekeeping of assets is a regulated activity and it seems unlikely that any technology firm or specialised provider will voluntarily become a fully-fledged custody bank. The cost, capital and complexity to develop, implement and maintain an infrastructure to meet client asset protection rules and carry the associated liability are also significant barriers to entry for non-bank entities. New entrants would also struggle to provide the required intraday liquidity, market knowledge and globally consistent client experience provided by custodian banks.

Being a custodian implies certain regulatory obligations, including liability for loss of assets. Safekeeping new asset types like digital keys and crypto currencies will present new challenges. Defining the responsibilities of a custodian will require a lot of thought and debate between stakeholders, including regulators. Interesting non-technological questions will need to be addressed. Some of the most important could include:

- What does it mean to hold a digital asset?
- If a custodian safekeeps a digital key giving access to a distributed ledger, is it responsible for the information held in that ledger and therefore liable for the corresponding assets?
- Does the existing regulatory framework support the safekeeping of these asset types?
- What is the view of regulators on 'one book of records'?
- What happens if something goes wrong - who is responsible for the content?
- What sort of governance model will enable disputed issues to be resolved?
- If intermediaries like asset managers and insurers have direct access to a distributed ledger, what would this mean for Client Asset Protection?

A Single Book of Records

Developments in distributed ledger technology (DLT) will allow for the creation of 'one version of the truth' about securities master data, holdings, entitlements, standard settlement instructions and other data. This golden source will work across the entire value chain. Brokers, custodians, (I)Central Securities Depositories (CSDs) and clients will all have access to this single book of records. Depending on their role, each participant in the value chain will have access to the relevant information on a real-time basis.

In today's world, the various activities within the end-to-end value chain are structured vertically. Each participant in the value chain maintains its own set of data. The future model will be based on a central repository using one set of records. The following picture illustrates how this will look.

The benefits of a single book of records are obvious. They include shorter settlement cycles; cost reduction; full Straight-Through Processing (STP); the removal of reconciliation processes; and fewer settlement failures. This sounds attractive, but there is an even bigger potential upside. The entire matching process can take place within this closed community, turning settlements into an internal book transfer. This will support a shortening of the settlement cycle to T+1 or even T+0. That in turn would require a change in the funding of foreign currency, if it is needed to buy a security.

If DLT is deployed and a new operating model based on 'one book of records' established, there is no real reason why settlement cycles cannot be shortened. This would also have an important impact on the risk profile and liquidity requirements of the custody business – something we discuss later in this paper.

It is not just custodians who will have to adapt to a new world. Exchanges, CSDs and brokers are among the key players that will need to embrace the changing environment. These entities still largely operate separate platforms for different asset classes, often based on single currencies. Data centralisation could potentially result in some of these functions being absorbed by other parties in the value chain.

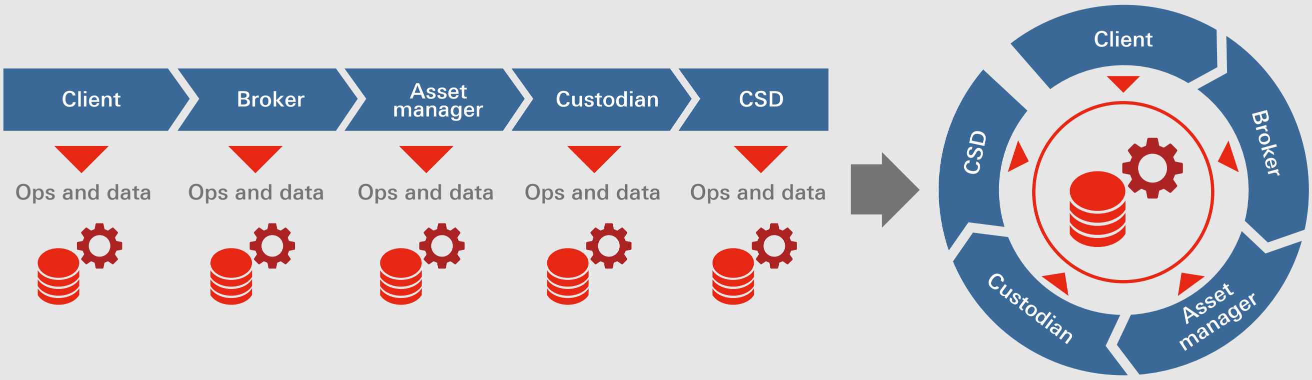
New Client Service Models

We believe the current model for providing client service is outdated and inefficient. In theory, technology supports real time information sharing, allowing quick response times for client queries. The reality is often very different, as illustrated in this example:

A US based client receives a report of previous day activities. The client has a query about a settlement in an Asian market. He contacts his local client service manager, who contacts the local agent in Asia. Given the time difference, this person has already finished work. Someone in client service may still pick up the phone or read the email, but is unlikely to have the knowledge to answer the query immediately. The following day, the Asian agent takes action, but has to involve the service centre where processing took place. It takes the service center a day to find the answer. In other words, the US client may need to wait until Wednesday or Thursday to answer a simple request about an event that took place on Monday.

In future, digital workflow tools combined with robotics and self-learning technology (Artificial Intelligence) will be the basis for client service. Approximately 60-70% of client queries are simple information requests. Digital solutions will allow most of these requests to be handled instantly. Clients will be self-serving. For queries that cannot be handled automatically, clients will expect direct access to local staff with ready access to the required information. Workflow tools will be required to maintain a central record of client queries, and all internal teams will need real time data access - regardless of location or platform.

Another key development will be to provide clients with a globally consistent experience. Today, clients investing in different markets are faced with diverse service models. This is largely driven by differences in local market infrastructure, legislation, regulation and practice. With the shift in asset allocation from West to East and towards less mature markets, there is already increasing demand for a global client service model. In future, custodians will be expected to 'normalize' local differences and provide a truly consistent experience.



- Each market participant has their own ops and data
- Data is duplicated and processed by each party
- Limited sharing of operational capacity and data

- A central utility is created for processing and storage of data
- Each party enhances the same data as the transaction passes through the value chain
- No value to be gained from operational processing – value to be gained from services

A globally consistent experience will also help to facilitate digital integration with clients' internal processes.

At the same time, the importance of local presence and language capabilities should not be underestimated. Delivering globally consistent solutions requires detailed knowledge of local markets. Different markets will also deploy different technology solutions. Custodians will need deep knowledge and understanding of local markets in order to mask these differences for their clients.

Developments in Data Management

Custodians will become 'data integrators', not only for information about assets they hold in custody but also for 'non-custodiable' or 'out of network' assets. This concept already exists as a master record keeping function, and will be further developed to include data about physical assets such as art or metals. It will also include the safekeeping of digital keys and possibly digital identities. Physical assets will be 'personalized' using Distributed Ledger Technology (DLT), providing better legal protection for registered owners.

There will be data integration across the whole value chain, including end clients. The current process is highly inefficient, with key stakeholders including brokers, managers, fund administrators, transfer agents, custodians, CSD's, Central Counterparties (CCP's) and exchanges all setting their own standards. That leads to a situation in which every party is working to execute the same client order, but each with their own processes and standards. This is even more surprising given that the data elements required at each stage are largely the same, with all parties working towards the same regulatory principles. It is a dubious achievement that, as an industry, we have managed to create so much inefficiency.

New technology such as DLT, the need to reduce costs, and harmonization initiatives like T2S will all drive a new way of working. All relevant data will be held in a central utility, with each actor in the value chain having access to the data required to perform their role. Clients will also have access to this utility, and will be able to extract data at any time in a manner that is useful to them. Current tools such as portals will be viewed as legacy technology, used only as a contingency solution.

It is interesting to ask whether DLT will also result in end clients (beneficial owners or their appointed managers) having their own record in the ledger, or still using a custodian. Theoretically, the technology makes a direct account feasible. Having said that, many challenges could prove hard to overcome, for example:

- Different CSDs will have their own version of DLT for their own market. It will be difficult for clients to manage dozens of different DLT relationships.
- Regulators will continue to insist on proper asset and client protection. Therefore safekeeping will remain a regulated activity, with clear and strict liability backed by capital.
- Clients will look for integrated data solutions. They will value service providers that can consolidate various data sources and normalize this to provide them with the relevant information and knowledge.
- There will be technical obstacles to processing the transaction volumes required to support the industry in the absence of a regulated central trust.

In reality, the situation is unlikely to change very much from today. Some large clients already open accounts with local CSDs for certain investments. The introduction of DLT will not change this. What may change is what custodians will be safekeeping. Instead of safekeeping a record of holdings and a very small portion of securities in physical form, custodians might safekeep the Digital Keys to a centrally maintained ledger.

Earlier in the paper (see A Single Book of Records) we referred to the risk profile and liquidity requirements of the securities settlement business. Sub-custodians provide intraday liquidity to support local settlement. Global custodians provide contractual settlement to clients, meaning that client cash is credited or debited on the date determined by the settlement cycle for that market – in most cases, between zero and three days after the trade. Cash settlement occurs regardless of whether the securities trade has actually settled. In providing this service, global custodians accept counterparty credit risk on the client in the event that a securities sale fails to settle. This risk is mitigated by granting the global custodian a lien over the assets, although the enforceability of such liens is increasingly subject to challenge. By shortening settlement cycles, new technology such as DLT could reduce the credit risk that custodians currently assume.

Even so, we still expect custodians to need to provide intraday liquidity in future, regardless of how asset data is managed. A move to real-time settlement (similar to Real-Time Gross Settlements (RTGS for payments) is theoretically possible, but would require a fundamental change to business models in trading and brokerage. This seems unlikely in the foreseeable future. So although the need for intraday liquidity may fall, it will not disappear. This is another reason why custodians will resist disintermediation and will continue to play a valued – if altered – role in the value chain.

Acting as Knowledge Providers

Global shifts in asset allocation will encourage custodians to become knowledge providers. Investing in emerging and frontier markets presents significant challenges for investors. Deep understanding of local and cross-border regulations, law, tax and other relevant matters will be critical to helping clients achieve their strategic objectives. Connections with local regulators and industry bodies will be essential, meaning that having a local presence will become even more important than it is today.

In addition, the integration of various data sources beyond pure transaction and holding information will allow custodians to translate data into highly relevant information for clients. After all, custody banks have extraordinary access to information. They know which markets are efficient, how money is flowing, the value of their clients' holdings and what form they take.

That information is, slowly, becoming a valuable product in itself. This will involve data collection, consolidation, normalization, integration and analysis. In future, custodians will also be able to combine all sorts of other data, for example from social media. That will allow custodians to help asset managers mine correlations and spot investment trends, moving them further up the value chain and involving them more closely in clients' decision making processes.

Smarter Pricing Structures

Interestingly – perhaps strangely - custodians currently charge their clients for what they don't do (safekeeping of assets), and don't charge for what they really do (value-added services such as provision of information and liquidity). Of course, this is an exaggeration as there is still a small cost for the safekeeping of assets, but the point is still valid. This is based on historic practice (and associated high costs), when securities were predominantly held in physical form and needed physical safekeeping. Following the dematerialisation of securities, safekeeping now consists almost entirely of maintaining an electronic record in a ledger. Costs have gone down enormously, and this has been reflected in a steep decline in ad valorem fees. The second main chargeable component is settlements, but the advance of technology means that the cost of these activities has also fallen, and is set to decrease further.

In contrast, custodians charge little or nothing for other services that they already provide – and will provide more of in future. These include covering the risks of asset loss; providing liquidity and credit for contractual settlement; and providing information, including the extended data services described earlier in the paper.

In the future, we expect pricing to be based on a combination of factors. These will include activity based services like settlements, corporate actions and tax services; fixed cost elements like account services; and fees for risk and data provisioning. The risk premium will still be based on underlying value, and the other chargeable services will be based on volumes. The current 'cover all' ad valorem fee model will disappear.

Conclusion

The custody industry is going through a period of transformational change. The drivers include stronger investor protection, the need for more transparency, new technology, and client demands for more and better data and greater risk awareness.

Custody has been ever evolving and changing, but to date these changes have not fundamentally altered the shape of the value chain or custodians' business models. In contrast, the changes we are now starting to see happen are much more fundamental and will change the role custodians play in the overall value chain.

Having said this, custodians will not be disintermediated. They will have a vital role to play for the foreseeable future. The activities a custodian will perform may change, but the need for investor protection, core banking services and risk mitigation will remain the same. Custodians will also develop new capabilities, making themselves more valuable to investors and their advisors.

Whether all the developments set out in this paper will occur is hard to predict. Only time will tell what has really changed from today. Nonetheless, we expect several areas to develop rapidly in the more immediate future, especially in the field of technology. We plan to explore these over the coming months in a new series of research papers covering topics including APIs, Automation & Artificial Intelligence, and Distributed Ledger Technology.

One certainty we have is that the custody industry will look very different in future. In our view, embracing the new environment is the way forward and will provide the best outcomes for all stakeholders - and most importantly, for clients.