

Evolution or overhaul?

How banks are adapting to TARGET2-Securities in Europe

A nighttime photograph of a city skyline, likely New York City, with numerous skyscrapers and their illuminated windows. The foreground is dominated by long, streaking light trails from vehicles, creating diagonal bands of color (red, orange, yellow, green, blue) across the frame. A large, solid orange chevron shape is positioned in the bottom right corner.

High performance. Delivered.

Executive summary

TARGET2-Securities (T2S) was launched by the Governing Council of the European Central Bank (ECB) in 2006, and is one of the most transformational initiatives affecting market infrastructure that has taken place in the last few decades. On May 8, 2012, the first nine Central Securities Depositories (CSDs) signed the Framework Agreement with the Eurosystem.¹ Today, 21 countries and 23 CSDs are part of the T2S area.²

European financial market infrastructures have evolved in different ways due to varying national regulations, gradually creating a fragmented post-trade landscape in Europe. As part of an overall effort by the Eurozone countries and market-led initiatives aimed at removing the barriers to an efficient European financial market infrastructure (the "Giovannini barriers"), the T2S initiative was launched to address this post-trade fragmentation, with the objective of providing a single pan-European platform for securities settlement in central bank money.

By bringing down cross-border settlement barriers between member states, T2S is also contributing to broader objectives in the context of the Capital Markets Union, which aims to establish a genuine single capital market in Europe—without barriers across borders—as well as to address investment inefficiencies in Europe and improve market effectiveness and competition.

The second T2S migration wave took place on March 28, 2016, and with the last three remaining waves ahead, T2S is now a reality. With T2S now in the rollout phase, a large-scale survey of international banks was conducted to take stock of financial services firms' current expectations and their responses to the implementation of T2S. The survey and its timing mid-way through the rollout were designed to act as a pulse check on the market feeling towards the T2S platform. The survey examined, among other topics, firms' specific T2S strategies, their confidence in their T2S readiness and that of their partners, their plans to connect to T2S, and which areas of their organizations are most affected by T2S.

Key survey findings include:

- **90 percent of banks declare themselves operationally ready for T2S.** Respondents are confident in their overall T2S operational readiness. The vast majority of banks have a T2S operational readiness strategy in place.
- **A plurality of access models are in discussion and implementation for T2S; however, there is an emerging trend towards approaches based on single or few points of access at the infrastructure level for both cash and securities.** A majority of institutions (60 percent) are in the process of adopting multiple access channels, reflecting a desire by participants to "hedge their bets" about which operating model becomes standard for accessing T2S. However, we observe the emergence of a trend towards direct access at the infrastructure level: 90 percent of banks surveyed are opting for direct CSD access as a component of their strategy, with 40 percent expressing strategic interest, particularly in investor CSD-based approaches, which allow banks to access multiple T2S markets via a single CSD of their choice. On the cash side, 75 percent of respondents said they will settle in central bank money using one or multiple Dedicated Cash Accounts (DCAs) opened in their own name at a T2S central bank, again indicating a shift toward self-operated infrastructure level access.

- **Asset servicing is a key strategic component of respondents' T2S strategies.** Despite the decoupling of asset servicing from settlement as a result of the implementation of T2S, survey respondents continue to consider asset servicing as a key element of their T2S strategies. The importance of asset servicing was rated on average as eight on a scale of one to 10, clearly indicating the focus on asset servicing that respondents maintain in a T2S context. There are multiple models for respondents to conduct asset servicing, ranging from self-production to using an external agent or a CSD. Those choosing external service providers currently favor the use of local agents; however, the recent emergence of cross-border CSD asset servicing offerings, providing the same level of quality as those of specialized asset servicing agents, indicates that there is a high likelihood for re-evaluation on this point at a later stage.

The benefits of T2S highlighted by survey respondents include liquidity management (the area most positively affected by T2S), followed by settlement processing, collateral management and network rationalization. To manage the cash side, most banks will consolidate their liquidity in a single central bank DCA in their own name. A far smaller number of respondents plan on leveraging payment bank services (DCA of third-party cash services provider).

Transforming the European post-trade landscape

T2S was launched by the Governing Council of the ECB in 2006 and aims to create a unified cross-country settlement landscape throughout Europe. Once T2S implementation is completed, securities and cash settlement in central bank money will be executed in all participating countries on the T2S platform, which is fully owned and operated by the Eurosystem.

Until now, the settlement landscape across Europe has been very diverse, with varying settlement systems and sometimes inefficient local market procedures in most countries. This diversity resulted in an opaque European settlement landscape, characterized by high risk, in which participants had to follow different processes in each market, deal with different settlement windows and use many intermediaries for cross-border settlement. As a result, cross-border transactions ended up being as much as 10 times more expensive than domestic transactions.³

This lack of market harmonization and standardization, the resulting fragmented post-trade landscape, and the high level of settlement intermediation required were recognized as major obstacles to an efficient market infrastructure. These obstacles formed the basis for the 15 barriers to an efficient market infrastructure identified by the Giovannini group in 2001 and 2003. The implementation of T2S addresses six of these barriers:

- National differences in information technology and interfaces

- National clearing and settlement restrictions that require the use of multiple systems⁴
- Differences in national rules relating to corporate actions, beneficial ownership and custody
- Absence of intra-day settlement finality
- Practical impediments to remote access to national clearing and settlement systems
- National differences in operating hours/settlement deadlines

After the implementation of T2S, settlement will be conducted through the T2S platform, thus harmonizing procedures, enhancing transparency, improving settlement efficiency and reducing related settlement cost.

T2S is now in the process of being implemented in a series of waves. Following the delay announced by Euroclear, Waves 3 and 4 have been shifted, and a final wave has been added. This new migration timeline was approved by the Governing Council of the ECB in March 2016.

Survey results

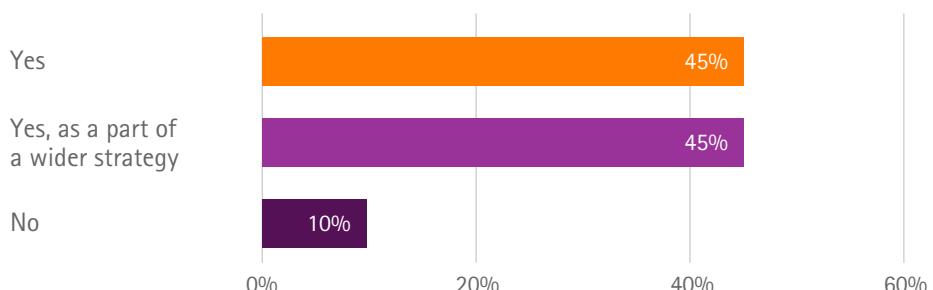
Banks have thoroughly analyzed T2S and believe they have operationally prepared for its impact. A large majority (90 percent) of respondents have a T2S readiness strategy in place (as seen in Figure 1) and began working on its implementation in 2014 or earlier.

They did this to align T2S changes with other internal projects and objectives, ensure early mobilization of resources and manage stakeholder and client expectations. Readiness strategies adopted by respondents range from "wait and see" approaches to global strategies. On the other hand, participants who do not have a readiness strategy for T2S (10 percent of respondents) justify their approach by saying that they have not identified specific risks during their impact assessments and are flexible enough to manage new regulations.

A majority of banks are adopting a "wait and see" approach, dealing first with the mandatory changes implied by T2S

A majority of banks are taking a "wait and see" approach toward T2S. They will seek to conform to mandatory changes implied by the platform shift only—at least in a first stage—rather than addressing T2S as part of any greater strategic change. These banks have only limited resources dedicated to the initiative, focus only on mandatory adaptations and are largely reliant upon their service providers. Alternatively, some banks are still in the process of assessing what the T2S opportunity means to their organizations from a business strategy perspective.

Figure 1: T2S readiness strategy



Source: Accenture Research

Connecting to T2S: A cost-based strategic decision

While banks understand the potential cost-savings opportunities that T2S provides to their organizations, they are also aware of the high implementation costs involved in adapting to the T2S environment. We anticipate that most institutions (especially the smaller ones) will try to minimize the impact of T2S on existing systems and processes.

From an implementation approach perspective, a majority of participants (65 percent) are, for instance, not planning a connectivity rationalization and/or optimization to take place alongside or before their T2S implementation, indicating instead a preference to push these activities and related costs to a later stage. Among those who are planning to use T2S as a catalyst to rationalize their connectivity, only 10 percent of survey participants will do so before connecting to T2S, while the remaining participants (25 percent) will

handle this rationalization/optimization effort at the same time as connecting to T2S (that is, as part of the implementation effort and to leverage resource synergies).

On the other hand, a few banks are actively looking into how they can harness T2S as an opportunity to change their infrastructure setup in Europe

Banks understand that the new settlement landscape can provide them with a number of potential benefits and opportunities. Some respondents have specific T2S strategies, and have conducted strategic assessments to identify what T2S actually means to their organizations. They have done so by separating mandatory adaptations from strategic considerations to identify how their organizations can benefit from T2S, how their operating models are affected and whether changes in their business models are required.

As shown in Figure 2 below, liquidity management, settlement efficiency and collateral management are seen as the top three areas most positively affected by T2S, according to survey participants. Network rationalization (taking into account current networks of providers, relationships with local CSDs and current presence in T2S countries) is also seen as a key strategic consideration.

T2S has, to a certain extent, served as a business and technology operating model accelerator for banks, particularly in certain geographies where market reforms have been significant.

Among the different types of market players, investment banks and other organizations with significant cross-market trade flow may be the biggest beneficiaries of liquidity and collateral savings made available with T2S. They will also see reduced back-office costs resulting from harmonized settlement processes.

The financial crisis has resulted in widespread restructuring for these institutions, driven by cost reduction, business optimization, competition and regulation. Initially, investment banks focused on immediate cost reduction and simplification programs. However,

as rule-making has been prolific in recent years, and since this persistent wave of regulation shows no sign of abating, banks can no longer rely on traditional ways of working and are being forced to make hard choices regarding their business and operating models.

In this context, T2S offers great opportunities for these banks to reduce their costs by rationalizing their settlement and asset servicing networks, pooling their collateral and optimizing their collateral usage, and reducing their credit and liquidity consumption.

Figure 2: Respondents see T2S as a source of benefits and opportunities for the market



Source: Accenture Research

What about banks' partners?

All survey respondents said that their internal organizations are fully aware of the operational implications of T2S and are extremely confident in their level of overall readiness (90 percent level of confidence).

A similar level of confidence is displayed by these organizations regarding the level of readiness of their securities services partners such as CSDs, custodians and asset servicing providers.

There is less confidence in the level of readiness of payment banks (cash services providers in T2S) with a 60 percent level of confidence. With T2S, payment banks will need to be able to provide international services, at least for the T2S Euro area, to fulfill the demand for specialized cash services in central bank money. This new global role implies that payment banks will have to

include services such as liquidity pooling management—covering several clients in different CSDs—as well as multi-currency facilities once additional currencies become eligible in T2S.

From a pricing perspective, respondents expect a slight decrease in overall prices charged by their service partners. As shown in Figure 3 below, according to the survey conducted, prices charged for settlement are expected to decrease quite significantly, while prices charged for asset servicing and connectivity are expected to rise.

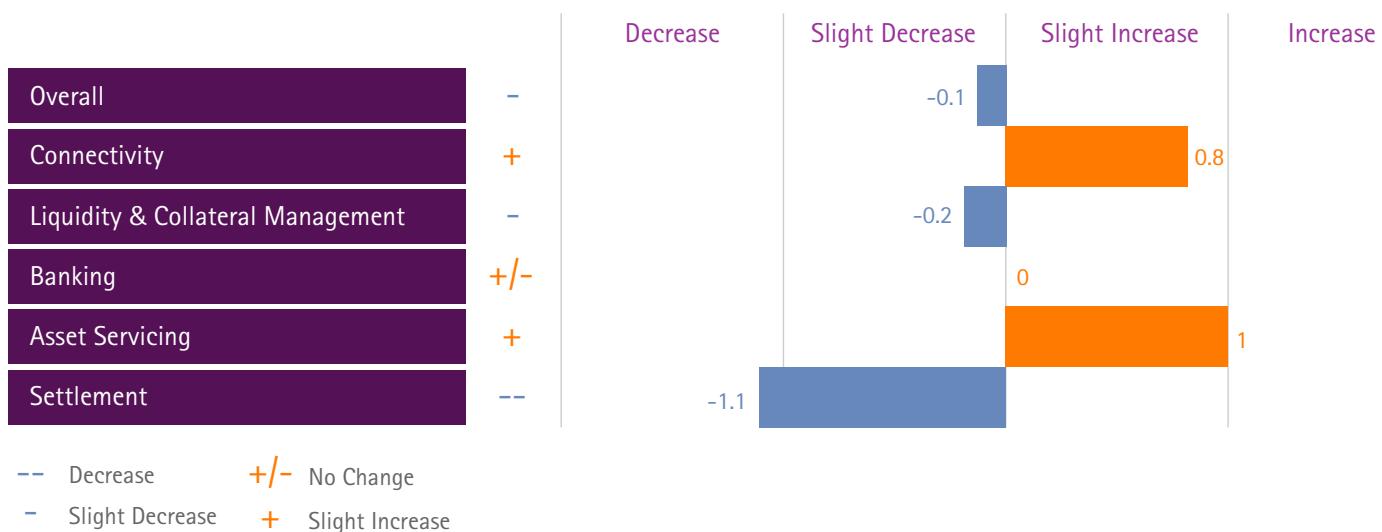
The level of readiness and confidence displayed by respondents indicates that they are well prepared for T2S from both a strategic and operational perspective, including their relationships with service partners. A timely implementation can therefore be expected, with a high level of transparency as to impacts and costs.

Timeline

The first two T2S migration waves have now taken place, and, with three waves remaining, a concentration of migration activities is expected to take place in Wave 3 (September 2016) and Wave 4 (February 2017). These peaks of activities during those periods can be explained by the migration of the largest share of settlement volume to the T2S platform during these waves, in particular via the migration of the French and German markets.

This observed focus on the German and French markets has implications for banks' overall T2S readiness strategies. These markets are currently not only the markets where respondents are the most active, but also the markets where respondents would like to increase their activities: 27 percent of survey participants selected Germany as the main country where they would like to expand their business, followed by France at 16 percent.

Figure 3: Overall, respondents expect a slight decrease in prices as a result of T2S



Source: Accenture Research

Multiple models are in discussion and implementation for T2S access

Accessing T2S via the right partner can help banks realize savings and obtain potential substantial business benefits.

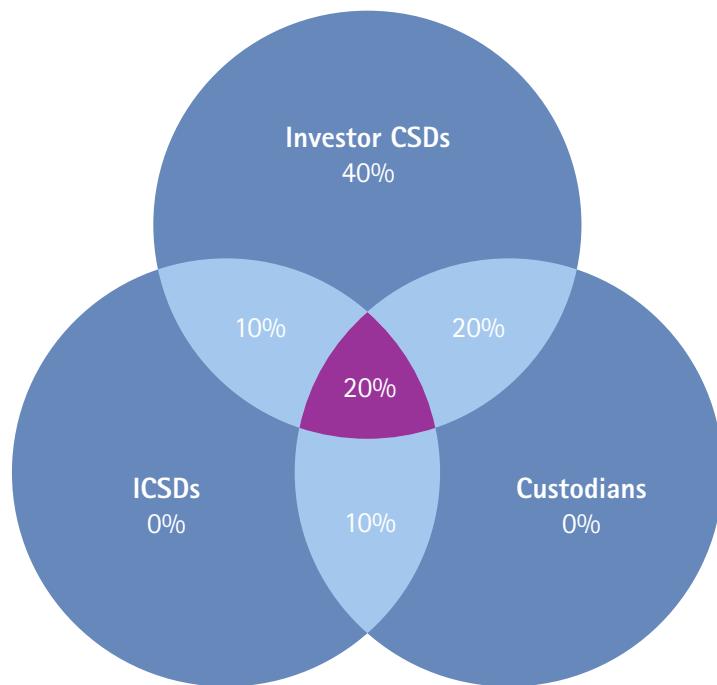
Banks have several options to connect to T2S; for example, they can:

- Access each CSD individually in T2S (issuer CSD model)
- Connect to T2S via one or two CSDs (investor CSD model)
- Use an ICSD or a custodian to gain indirect access to the T2S platform

Hybrid models involving a combination of these choices are also possible; for example, banks could choose to connect to T2S directly via CSDs for markets where they are most active, while using sub-custodians in other markets. The reasons underlying the use of a CSD, an ICSD or a custodian go beyond T2S and can include cost and service advantages, client focus, market presence and local expertise. While we believe that the traditional roles of CSDs, global custodians and local agents will not be ended by T2S, we expect increased competition in the value-added services that relate to the settlement and custody of securities (for example, for asset servicing) between those market participants.

Survey results show **that a majority of respondents are adopting more than one access model for T2S**. Figure 4 shows that 60 percent of survey respondents are adopting models that mix access paths, indicating a high diversity of approaches, and reflecting a desire by participants to "hedge their bets" about which operating model becomes the standard practice once the T2S platform is fully rolled out. Having said this, we believe there is an emerging trend towards a consolidation of access points at the infrastructure level, both on the securities and cash sides. On the securities side, this is visible through the emergence of CSD-based access models,

Figure 4: A plurality of access models are under consideration for T2S



Source: Accenture Research

with some form of CSD access being included in 90 percent of respondents' responses. On the cash side, survey participants display a clear preference for settling in central bank money, using one or multiple DCAs in their own name (75 percent).

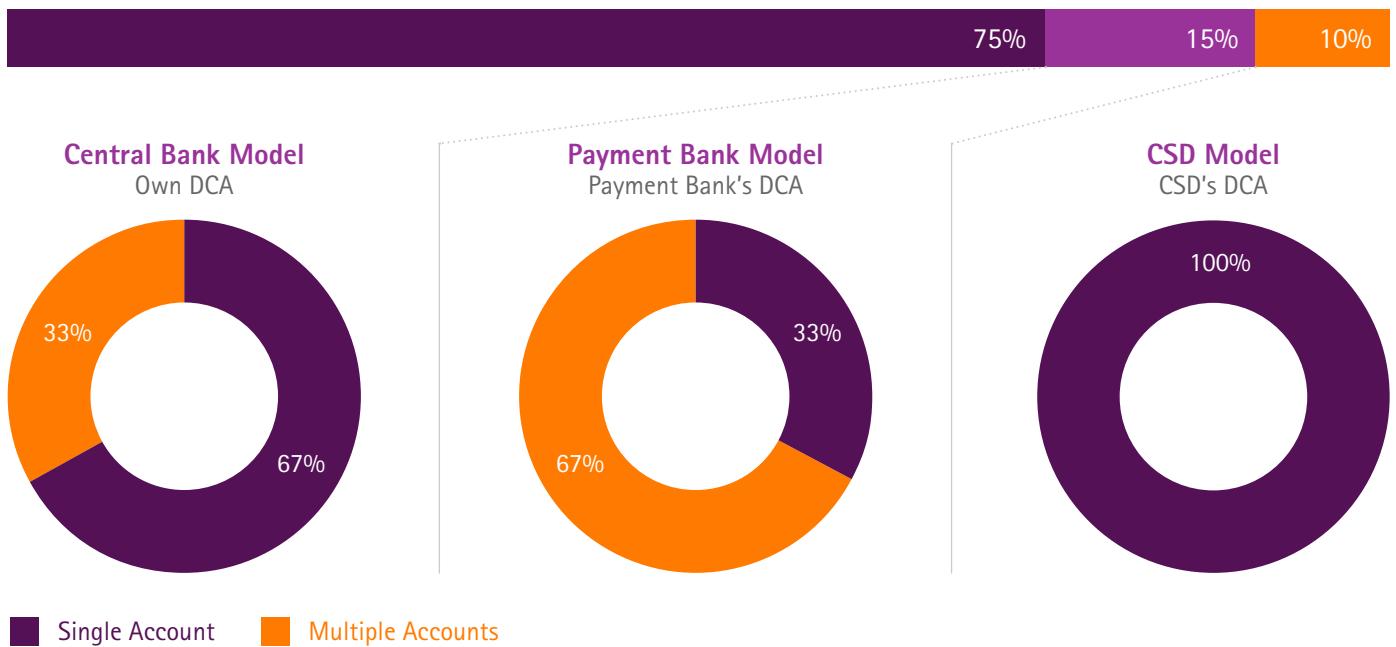
Leveraging T2S to concentrate network infrastructure

Despite the different paths taken by survey participants, we believe that, given the new settlement landscape created by T2S, there is a trend towards consolidated

access to T2S markets via fewer or even through single-service providers. Emerging indicators of this trend can be seen in the fact that 40 percent of respondents are showing a strategic preference for consolidating their access to T2S through one or a few investor CSDs; in other words, they see strategic value in accessing T2S directly at the infrastructure level through a smaller number of institutions.

Not surprisingly, this group of respondents has quoted network management as one of the areas in which T2S brings the most cost-saving opportunities.

Figure 5: Respondents favor the use of a single Dedicated Cash Account (DCA) in their own name



Source: Accenture Research

The use of a single platform provides banks with the opportunity to rationalize their settlement networks by reducing the number of points required to access domestic markets, thereby simplifying network management and helping reduce costs. Banks can seek to achieve this simplification by:

- Reducing the number of settlement intermediaries required and/or connecting directly to market infrastructure through a small number of investor CSDs to access domestic markets directly at the infrastructure level. An investor CSD will therefore enable a bank to consolidate its T2S eligible holdings in one CSD in T2S, offering a single access point to all T2S markets where it has established links, while providing the same T2S service level in all these markets.
- Reviewing their sub-custody network through the use of a smaller number of local custodians, using the asset servicing offering of one or a few global custodians, or leveraging the asset servicing provided by an (investor) CSD.

Similarly, survey participants have demonstrated a strong interest in making use of a single DCA in their own name for their liquidity management. Figure 5 illustrates that 75 percent of respondents will settle in central bank money using one or multiple

DCAs in their own name (as opposed to leveraging the DCA of a third-party cash services provider, such as a payment bank); of these, 67 percent will centralize their liquidity through one single DCA, citing advantages to this approach in the areas of cash and liquidity management optimization.

These findings correlate with the key benefits offered by the T2S platform, which include:

- Reduction of capital requirements:
 - Direct holding of securities at the CSD infrastructure level and use of central bank money for settlement, with lower risk associated with central bank money versus commercial bank money
 - Low-cost and secure intraday credit from central banks, with auto-collateralization reducing collateral consumption to support settlement credit
- Pooling of collateral:
 - Consolidation of cash and securities holdings overcoming collateral fragmentation, leading to improved transparency and reducing total collateral need and costs
- Settlement netting:
 - Payment and settlement flows netting through the use of a single

DCA, reducing the cost linked to cash dispersion and leading to significantly reduced funding costs

- Balance sheet netting for securities financing transactions in line with FIN 4¹⁵
- Back-office and network simplifications:
 - Network rationalization through single point of access (or a limited number of points of access) to a range of markets
 - Harmonization of market rules for settlement and asset servicing processes, with standardized messages driving IT and operations costs down

Given the advantages of a concentrated access model provided by direct investor CSD access and supported by a single DCA, we think that the main reasons for not opting or changing to a direct CSD access model at this stage are related to cost and change risk, leading to a "wait and see" approach for some participants. Therefore, there is a high potential that there may be re-evaluation of this point at a later stage, reinforcing the trend towards the use of direct market infrastructure access presented through the use of the investor CSD model and own DCA accounts, together providing potential benefits in terms of concentrated network infrastructure.

Asset servicing: A key strategic component of banks' T2S strategies

The outsourcing of CSDs' settlement platforms to T2S will result in the unbundling of settlement and asset servicing flows. Settlement will be handled via T2S, while asset servicing remains with CSDs (with a certain degree of harmonization under T2S through a set of common market standards).

The choice of an asset servicing solution is therefore a cornerstone of banks' strategies for T2S. This is reflected, as seen in Figure 6 below, in the answers given by survey respondents regarding the importance of asset servicing within their T2S strategies. On a scale ranging from zero to 10, the importance of asset servicing as a key strategic consideration is rated with an average score of eight, with almost 50 percent of respondents considering this service area as being of the highest importance within their T2S strategies (giving this service area a score of nine or 10).

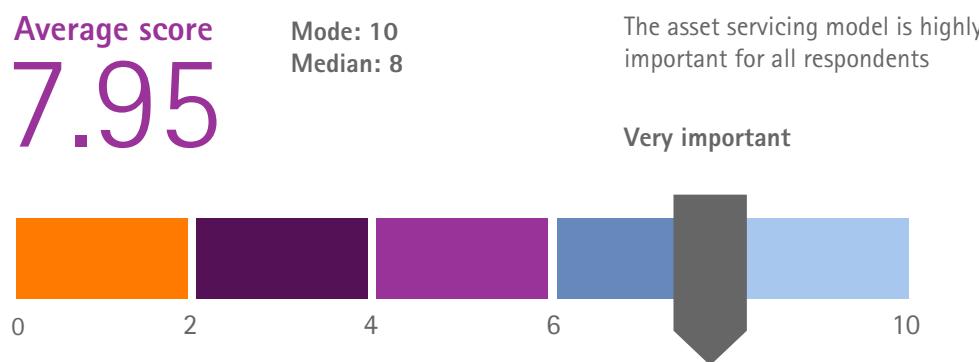
In terms of asset servicing solutions, banks can decide to use their in-house custody capabilities, or leverage the services of an external custody service provider. Banks in the latter category are then faced with two main choices. They can either:

- Leverage the services of asset servicing agents (custodians or local agents), which are the traditional providers of asset servicing in the domestic markets—the "settlement and asset servicing unbundled" choice.
- Leverage the services of a CSD—the "settlement and asset servicing bundled" choice.

Given the importance of high-quality asset servicing, it is interesting that there is a diversity of approaches adopted, reflecting divergent views on the best method to obtain quality asset servicing. All options mentioned above are being considered by survey respondents, with a majority currently indicating a preference towards self-production or the use of specialized providers.

At this stage, we do not know the reasons behind these results, but we suspect the picture will vary significantly depending on the T2S market in question, with banks operating differently depending on their local setup in a given market and the availability of quality external providers. Moreover, given the variance that still exists in market practice with regard to asset servicing, it might well be that banks have set their priorities on the implementation of T2S, and will focus on service optimization only in a second stage once further harmonization has occurred in this space as well.

Figure 6: Respondents consider their asset servicing model as a very important strategic consideration with respect to T2S



Source: Accenture Research

Asset servicing as the next frontier for European-wide consolidation

To respond to the commoditization of cross-border settlement resulting from T2S, and to find new revenue streams, larger CSDs are adapting their service offering in T2S by becoming investor CSDs (on the settlement side), providing a consolidated offering for cross-border settlement via the T2S platform. As indicated in the previous section, the advantages of this approach are well recognized by survey participants.

Nevertheless, among those who will use the services of an external provider for asset servicing, 71 percent of respondents said they will make use of an asset servicing agent, while only 29 percent said they have opted for the CSD asset servicing model. This reflects the current perception of respondents who value and trust the local knowledge, expertise and skills of a local agent or local custodian, and will rely on them for asset servicing rather than a CSD. This also shows that the cross-border CSD asset servicing offering is not fully mature yet, and that there is a lack of awareness and understanding of market participants regarding the value of this offering. Other reasons for using an asset servicing agent include the potential risks and costs associated with changing to a CSD asset servicing model.

Given the increased competition in the asset servicing space due to T2S, CSDs will need to focus on promoting their cross-border asset servicing offering. They will have to convince banks that plan to leverage in-house capabilities or to rely on the expertise of local asset servicers that they have very good reasons to consider the CSD offering

for their asset servicing solution. We believe the ability of larger (investor) CSDs to partner with local agents and/or to leverage the infrastructure and network of an ICSD creates the conditions for delivering a credible and robust asset servicing model. Working in partnership with local agents will ensure local expertise and credibility in domestic markets as well as the high quality of service expected by market participants, leading to an asset servicing offering that is as good as those of specialized asset servicing agents.

We have seen developments of this nature via the partnership model that one of the large European CSDs is introducing for asset servicing in T2S. This CSD will connect to the T2S platform, attracting settlement flows, while the custodian bank partners will handle asset servicing at the domestic market level, bringing their local market expertise to the model.

Ultimately, an investor CSD that has developed a cross-border asset servicing offering will be able to provide its clients with a "one-stop-shop" integrated settlement and asset servicing solution in T2S from a single point of access. Considering the main T2S drivers of investment banks, for example, we can predict that these institutions will be in a position to obtain the value-added services traditionally provided by custodian banks (such as asset servicing and collateral management) directly at the infrastructure level. Investor CSDs will therefore need to invest in promoting their cross-border asset servicing offering to raise awareness in the market and convince market participants to select them as their "one-stop shop" to access T2S, fulfilling their settlement and their asset servicing needs, as well as providing other value-added services such as collateral management.

Conclusion

With T2S, the post-trade landscape is facing fundamental transformation. The traditionally distinct lines of services between banks, custodians (global and local) and CSDs are becoming increasingly blurred, with increased competition in the post-trade services space.

Market players will need to enter new terrain up and down the value chain in order to gain competitive advantage. For example, the commoditization of cross-border settlement brought by T2S paves the way for the creation of new services for larger CSDs, such as the development of cross-border asset servicing offerings and the development of other value-added services such as collateral management.

Banks should be defining a long-term strategy to remain competitive and rethink their business models to effectively take advantage of the potential offered by T2S. It offers great opportunities

for banks to reduce their costs by rationalizing their settlement and asset servicing networks, pooling their collateral and optimizing their collateral usage, as well as reducing their credit and liquidity consumption. Accessing T2S via the right partner will enable banks to realize savings and gain substantial business benefits. It is therefore vital for banks that will connect to T2S to have a plan for how they will operate strategically in a post-T2S environment. Survey results indicate that this has been well understood by respondents, as 90 percent of them have a T2S readiness strategy in place and have been working on its implementation since or before 2014.

The survey shows that there are a variety of strategies in the market for accessing T2S, ranging from hybrid approaches consisting of a combination of connections to CSDs, ICSDs and custodians, to consolidated access via a single provider (usually an investor CSD). This is logical, since a rationalized network at the market infrastructure level means network simplification and back office savings. We predict this trend towards network rationalization will become more and more apparent as the platform stabilizes following the full wave migration.

Methodology

In March and April 2016, Accenture undertook a survey of international banks regarding T2S, focusing on their strategy, readiness, understanding of benefits and opportunities brought by T2S, as well as their T2S access models.

The survey was sent to senior level participants—from banks of all sizes based in Europe—holding the job titles of CFO, Head of Operations, Head of Market Infrastructure and Head of Network Management. The respondents' demographic profiles closely mirror the banking environment of Europe.

The aggregated results coming from 20 international banks were used by Accenture and Clearstream as a basis for this point of view. The analysis of results has been conducted and reviewed by various subject matter experts in order to provide the above findings.

References

¹ Bank of Greece Securities Settlement System – BOGS (Greece), Clearstream Banking AG (Germany), Depozitarul Central S.A. (Romania), Iberclear (Spain), LuxCSD S.A. (Luxembourg), Monte Titoli S.p.A. (Italy), National Bank of Belgium Securities Settlement System – NBB-SSS (Belgium), VP LUX S.á.r.l. (Luxembourg) & VP Securities A/S (Denmark)

² Covering: Eurozone (except Ireland) + Denmark, Hungary, Lithuania, Romania and Switzerland

³ <https://www.ecb.europa.eu/paym/t2s/progress/pdf/sessions/mtg6/1-albert-roell.pdf>

⁴ While T2S helps to reduce such restrictions, it does not remove them, and there continues to be harmonization efforts throughout the EU to address this. Examples of further pushes towards harmonization that have an impact on post-trade from a regulatory perspective include the CSD Regulation and the Capital Markets Union project. There are additionally a wide array of both EU-led and industry led groups working in this area, including for example the EPTF, EPTG, EGMI, CESAME 2 group and so on.

⁵ http://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1175801626916&acceptedDisclaimer=true

Contacts

Diane Nolan
Managing Director,
Accenture Capital Markets
diane.nolan@accenture.com

Julien Marzys
Senior Manager,
Accenture Capital Markets
julien.marzys@accenture.com

Guido Wille
Executive Vice President,
Head of Market Development
guido.wille@clearstream.com

Frank Prasse
Executive Director,
Head of Product Marketing
frank.prasse@clearstream.com

Susanne Zorn
Vice President, Product Marketing
susanne.zorn@clearstream.com

Chris Hollifield
Communications Specialist,
Product Marketing
christopher.hollifield@clearstream.com

About Clearstream

Clearstream is a leading European supplier of post-trading services. The wholly owned subsidiary of Deutsche Börse ensures that cash and securities are promptly and effectively delivered between trading parties. It also manages, safekeeps and administers the securities that it holds on behalf of its customers. Over 300,000 domestic and internationally traded bonds, equities and investment funds are currently deposited with Clearstream.

Clearstream maintains relationships with around 2,500 customers in over 110 countries. Its global network extends across 55 domestic markets. Backed by flexible securities lending and collateral management services, Clearstream offers one of the most comprehensive international securities services available, settling more than 250,000 transactions daily.

About Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 373,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.

This report has been prepared by and is distributed by Accenture and Clearstream. This document is for information purposes. No part of this document may be reproduced in any manner without the written permission of Accenture and Clearstream. While we take precautions to ensure that the source and the information we base our judgments on is reliable, we do not represent that this information is accurate or complete and it should not be relied upon as such. It is provided with the understanding that Accenture and Clearstream are not acting in a fiduciary capacity. Opinions expressed herein are subject to change without notice.