UK Finance response to CPMI consultative report: Extending and aligning payment system operating hours for crossborder payments

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UK Finance is the collective voice for the banking and finance industry.

Representing more than 300 firms across the industry, we act to enhance competitiveness, support customers and facilitate innovation.

1. Can the extension of real-time gross settlement (RTGS) systems' operating hours materially contribute to achieving the cross-border payments targets endorsed by the G20, especially in terms of speed? Please explain.

Whilst at a simple level an extension of RTGS operating hours across jurisdictions could help to address current points of friction and potentially increase the speed of cross-border payments, we believe careful consideration should be given to the possible need for trade-offs between the G20 Roadmap's cost and speed goals when it comes to the question of extending RTGS systems' operating hours. The operational complexity and technical infrastructure associated with expanding RTGS opening hours and alluded to in Section 5 of the consultative report, should not be underestimated and would likely result in increased operating costs for those financial institutions operating connections to the RTGS. Whilst it can be expected that for the operator of RTGS systems a major part of the cost will be incurred for the initial transition to the desired end state, the major part of the incremental cost for the financial institutions is expected to be on-going cost related to operations, risk management and staffing. The implications of these increased costs for the endusers should be considered carefully in contrast to the increased speed and risk-reduction offered by the expanded RTGS operations. There will also likely be new obligations generated in relation to liquidity management, human resources, and fraud risks that must be taken into account. That said, ultimately an overall movement of the global payment ecosystem to a 24/7 operating capability is key to creating a payments infrastructure that is fit for purpose to meet changing client expectations and business models, although this may be achieved through other solutions rather than extending RTGS to operate 24/7.

The extension of RTGS systems' operating hours could help achieve the speed target endorsed by the G20 but it is not the only intervention that would help realise this. For example, the global adoption of ISO 20022 (Building Block 14 in the G20's cross-border payments Roadmap) as well as the benefits from the SWIFT gpi initiative will also contribute to achieving faster cross-border payments as it will mean greater straight-through processing with less need for manual intervention. Similarly, a harmonisation of AML/CFT rules (Building Block 5) will also decrease frictions and enhance the speed of cross-border payments. In other words, the FSB's goals can be achieved through the combination and collective effect of the building blocks, even if each building block in isolation does not necessarily address each goal in equal measure. That said, standardisation of operating rules, liquidity requirements, data frameworks, etc. (all other building blocks) could help to reduce the costs for FMI members in a 24/7 environment (which should be the ultimate aim but not necessarily the immediate/short-term goal).

RTGS operating hours should also be considered in the overall payments and settlement infrastructure in the same monetary area, and not in isolation. This applies equally to incoming crossborder payments. There are a lot of dependencies to which the extension of operating hours of RTGS systems can contribute substantially. This includes, and is not limited to, the number of participating countries; number of connected participants; operating hours of banks/FIs for sending and receiving payments; supported currencies in an end-to-end view; willingness to extend working and business hours by banks/FIs to processing transactions. It should also be considered that any process is only as fast as its slowest member. Unless all schemes across the world move at the same pace, delays are still likely to occur, and payments could be held up which in turn makes it difficult to meet the G20's speed targets.

Furthermore, before the extension of RTGS operating hours is supported by the CPMI, a full evaluation of whether RTGS systems can fully meet the expectations of faster cross-border payments should be undertaken. Extending RTGS operating hours does not automatically lead to a modern payment service like already existing instant payment schemes and solutions of other suppliers provide. This has been seen for example in Europe where the SEPA Instant Credit Transfer (SCT Inst) Scheme has seen a relatively slow uptake by PSPs across the continent. It may therefore be beneficial to explore in more depth why these systems are not being used, or used more often, in a cross-border setting. It would perhaps be more useful therefore to understand what could be improved to make these systems work better for cross-border payments. The whole payments infrastructure should be leveraged over relying purely on an extension to RTGS operating hours.

In general, we believe that in the context of the G20 Roadmap, the market segment of retail payments is defined too broadly and should be further sub-divided to be more meaningful for the assessment of the impact of individual building blocks on the overall targets. Payment use cases and demands around speed for cross-border payments significantly differ between consumers, retailers, and large corporates. At the same time, extending RTGS operating hours will arguably only benefit a subset of cross-border payments. The ambition and efforts required for achieving certain end states needs to be well balanced with the complexity and resources required to transform the overall cross-border payment landscape.

We would also draw parallels here with the FX settlement risk post the collapse of Bankhaus Herstatt AG in 1974. The failure of Herstatt was a major factor in the creation of RTGS systems and it led to the world's central banks establishing a centralised clearing facility for foreign exchange – the Continuous Linked Settlement (CLS) Bank. This was achieved through detailed analysis being undertaken by the CPSS (the forerunner of the CPMI) of around 80 banks' FX settlement positions that in turn led to a paper published by the CPSS in 1996.[1] As a result of this activity, the CPSS catalysed the market into finding a successful private sector solution to regulatory concerns; the creation of CLS. We would therefore urge the CPMI and international community to take learnings from this previous exercise into its work exploring the merits of extending RTGS operating hours.

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2. What additional actions would be needed by the public sector and/or private sector entities, beyond those described in the G20 Roadmap (see Annex 3 of the current report), to

[1] https://www.bis.org/cpmi/publ/d17.htm

facilitate the extension of RTGS operating hours and realise the benefits that could result from extended RTGS operating hours?

UK Finance does not support an approach that advocates for a blanket extension of RTGS operating hours as we do not believe this would serve the best interests of the market. There should be optionality and flexibility to these arrangements, i.e., the ability for firms to "opt-in" or "opt-out" to take advantage of 24/7 functionality or to choose to operate for only part of the day. This should allow the exercise of market forces. Those firms who want to provide this capability to clients can do so, while others with less need or business incentive are not forced immediately to make significant investment in 24/7 operations. Having the option (i.e., the toolkit to do business) can support innovation and competition which ultimately is good for consumers and businesses in the long run. It would be helpful if the CPMI could continue to track and publish information on RTGS and instant/fast payment system developments on a global basis. As an additional step, it would also be useful if RTGS providers conducted impact assessments with their members to understand the impacts/benefits to help provide useful input into the CPMI's work.

If the potential to extend the operating hours of RTGS is to be explored by the CPMI in more detail, we would draw out several key areas for additional actions. Firstly, we believe there would need be to be a clear definition and application of global processing rules and standards, which would need to be applied by all actors in the payment chain, and secondly, a harmonised global legal payment framework including fraud, risk, and liability management would need to be applied.

We would point to the work of BATF, especially their 2021 paper *Enabling Faster Payments Across Borders, 2021*[2], that makes clear the important role for central banks in supporting improved crossborder payments through enhanced liquidity, contextualising this with other issues that need to be resolved. As BATF highlight, financial institutions are accustomed to processing cross-border payments in batches at designated times during a five-day work week. The cross-border faster payments ecosystem, however, is likely to expand to 24/7/365. Faster payments involve continuous processing, including over weekends and holidays. Such operation will require that the treasury group of a participant proactively monitor funds availability, manage risk, and control exposure. Constant monitoring and new liquidity pressures will necessitate the introduction of new policies and procedures. All faster payment systems are, and likely will continue to be, designed consistently with the local environment. Yet, a participant's liquidity management strategy should be configurable enough so as not to hinder expansion of faster payments use. In addition, the method by which liquidity is pledged and transferred will always be uniquely tailored to the regulations of the jurisdiction and risk appetite of the bank participants. BATF recommends that central banks provide funding support or intraday lending to help participants meet market disruptions and liquidity shortfalls stemming from new ways of managing cash positions. Some examples include adopting a seven-day accounting regime, offering enhanced reporting capabilities for participants, and providing 24/7/365 intra-day credit. We support these being explored further.

We would also expect any increase in operating hours to be complimented by enhanced technical support requirements to cover the extended period of operation (by the RTGS provider as well as member institutions). It may also be expected to require additional operational support for the same reason. For example, with the current TARGET2 window, most agent banks specify a cut-off to clients no later than 15:30 GMT. An extension of this window could see Euros instructed later in the day, with the settlement window closing closer to the CHAPS GBP window, increasing the operational burden.

[2] https://www.baft.org/wp-content/uploads/2021/03/enabling-faster-payments-across-borders.pdf

Ideally, central banks should primarily bear the costs of extending FMI operating hours in the short term so that FMI participants can have the option (not a requirement) of availing of such features. More generally, costs should be considered over the long term and should not focus on just the startup/implementation costs. This is key especially if the true cost of central banks not being able to operate traditional fiat payment services 24/7 hours means that other means of payments such as unregulated stablecoins which already operate 24/7 begin to dominate. There may be other costs associated with payments moving to the unregulated sector because of operational shortcomings in the regulated sector.

3. What benefits for cross-border payments other than speed do you perceive would accrue from an extension of RTGS operating hours? What additional domestic benefits for a jurisdiction do you perceive?

Round-the-clock availability of RTGS could deliver increased flexibility in the interbank context and for urgent high-value payments, whether domestic or cross-border. On the other hand, the options which offer 24/7 cross-border payments for consumers are not always comprehensive in terms of scale, reach, and nature of flows supported, and deferred settlement can make them sub-optimal from liquidity and credit risk perspectives. Additionally, although consumers can benefit from 24/7 access through instant payment systems such as FedNow in the U.S., Australia's New Payments Platform, and Europe's Target Instant Payment Settlement (TIPS), institutional and public sector clients whose activities require processing and immediate finality of large-value payments necessitate near 24/7 operating hours as well.

That being said, these instant payment systems have seen large levels of success. Europe's TIPS for example has enabled PSPs to offer fund transfers to their customers in real time and around the clock, 365 days a year and there are promising discussions happening in Europe around opening instant schemes to one leg out transactions. As such, we believe there is a strong case for exploring how we can better utilise existing or developing 24/7 payment systems for cross-border payments. This does however raise an important question around existing instant scheme limits. For example, in the UK, the FPS limit is increasing to £1 million, which arguably mitigates the need to extend RTGS longer operating hours, whilst the SCT Inst limit currently remains at just €100,000. It is our view therefore that further alignment across market infrastructures is needed.

There are also a number of potential additional benefits that we could point to, although a more thorough analysis of these benefits would need to be carried out before they were fully supported:

- Potential reduction of cost associated with correspondent banking relationships in the main currencies. There could be also a potential improvement in agent bank cut-off times. However, some of our members have noted that they would not expect APAC currencies such as JPY and HKD to become 'same-day' currencies.

- The possibility to improve the funding mechanism for domestic and/or regional instant payment systems' and payment solutions' respective ancillary systems. For example, enabling the introduction of additional settlement cycles in ancillary payment systems (such as ACH and Cards), could also serve as the bedrock for FX, Debt, and Equities markets to operate with expanded hours.

- Removal of the need for intra-day credit. Where a ring-fenced bank provides a payment account to a non-ring-fenced bank or its activities, the ring-fenced bank sometimes has to offer intra-day credit to the Relevant Financial Institution where it is waiting for funds from overseas. This can be a drain on risk weighted assets for the ring-fenced bank, which cannot offer overnight credit to the FI. Longer RTGS hours could remove some/all of the need for this intra-day credit and potentially reduce risk weighted assets.

- A smoother technological development in the future (e.g., easier implementation of instant payments).

- It could also provide a foundation for enhanced innovation across the economy, as FinTech's, other payment systems, and broader market participants leverage the foundation of an 'always on' RTGS to settle safely and efficiently.

- Potential facilitation of monetary policy operations over a longer period and the mitigation of potential systemic risks where settlement of large amounts in central bank money within a strict timeframe is essential.

We are keen to state however that these potential benefits would need to be balanced against the cost of moving to 24/7 operating hours on RTGS systems which would mean potentially more expensive payments, including more expensive funding costs for participant banks, leaving it questionable as to whether businesses would really want to pay more for faster cross-border payments. UK Finance would therefore want to see a thorough cost-benefit analysis before specific benefits of moving to 24/7 RTGS operating hours were promoted.

4. How well do the three identified end states capture key scenarios that individual central banks/RTGS system operators should consider as they assess current RTGS operating hours and plan for the future? What additional end states or refinements to the end states would you suggest?

The end states and their order described in the consultative report capture the expected evolution of the global payment ecosystem as the infrastructures progress with connectivity and interoperability. That said, in our view it should not be a matter of choosing one end state over the other but pursuing these different stages in a staggered approach.

On the 1st end state, we believe that extending the operating hours of individual RTGS infrastructures on working days has the potential to improve the speed of cross-border payments. Additionally, it can be achieved independently by the individual national operators i.e., without the need for global alignment. It would likely create a globally aligned timeframe during the day that would allow the majority of countries to utilise RTGS systems that would provide banks and clients with a higher degree of both predictability and speed regarding E2E payment execution. It allows the global financial industry and the public authorities to gradually adjust regulatory, technical, and operational environments to make best use of this initial global settlement window.

We believe that the 2nd and 3rd end states may be better suited to those jurisdictions which have already achieved end state 1. As the recent BIS-CPMI report *developments in retail fast payments and implications for RTGS systems*[3] mentions, fast payment systems are already settling gross in real time, so this in itself is likely to drive the move towards end state 3 and 24/7 operations.

As we highlight throughout this response, and as mentioned in the CPMI's consultative report, the technical issues (systems, hardware, and software), infrastructure issues (cut-off times and liquidity) risk (AML and fraud) and HR issues (more trained staff required) of reaching the 2nd and 3rd end state are complex and would require a very high level of global coordination. Time must be taken to ensure each of these considerations is analysed and fully understood and brought into any future plans for RTGS extension.

[3] https://www.bis.org/cpmi/publ/d201.pdf

5. **Which end state, out of the three identified or another one you may want to consider, do you believe strikes the best balance between improving cross-border payments and managing the associated challenges?**

UK Finance views end state 1 in the short term as the most appropriate to striking the balance between improving cross-border payments and managing the associated risks, particularly when the true demand for 24/7 RTGS systems is not yet fully known.

6. **If the RTGS system in your jurisdiction has not yet reached the end state signalled in the previous question, what time horizon (number of years from now) would you envision for reaching it?**

The Bank of England is developing near 24/7 technological capability, through its RTGS renewal service, which will create technical capability to support 22 operating hours per day, 5 days a week plus short windows of operation available at the weekend for the net settlement of the retail systems. The design of the new service will not rule out a potential future extension to 24 operating hours per day, 7 days a week, if there is industry demand for such an extension. This will help to tackle the mismatch of operating hours and increase the overlap of operating schedules to make payments quicker and cheaper, providing a useful example of what can be achieved. We wouldn't envision the end state being reached for the RTGS system in the UK before 2025, as the replacement programme is expected to run into 2025.

We would urge the Bank of England to allow for its RTGS renewal to settle before commencing any work to extend existing operating hours, appreciating this already features in the Bank of England's 'Transition State 4' (TS4) wish list and will be consulted on in Spring 2022. It is likely that other jurisdictions exploring RTGS renewal will have similar asks from industry as well.

7. **As a result of end state 3, which involves 24/7 RTGS operating hours, do you anticipate demand for 24/7 operations of RTGS systems in the future? If so, what do you expect to be the main drivers and over what time horizon do you expect this to happen?**

Whilst the G20's proposed targets for business, retail, and remittance payments could increase the demand for 24/7 operations of RTGS systems, we would question by how much and by whom these capabilities would be utilised as well as whether this could be achieved or managed in a costeffective way. As set out in our response to Question 4, we do not believe that pursuing the result of end state 3 reflects the current needs of the market and that during the assessment for future steps, central banks/RTGS systems must also bear in mind the costs/benefit balance when deciding the level of investment and the chosen path. Currently it is not clear whether the cost/benefit of operating an extended RTGS will be viable for some Direct Participants and this will require further investigation.

A differentiation must be made between the benefits felt by banks and the benefits felt by their clients. For banks, benefit is typically measured by lower costs or increased revenues, and in the short term, an extension of RTGS operating hours is likely to increase the costs substantially for banks. There is also a lack of data to evidence that 24/7 availability would drive any commensurate increase in client volumes or payment volumes, so it is likely that providers will look to pass on costs to the end client. It is doubtful that clients would be prepared to pay extra for the increased availability.

Due to the lack of robust illustration and analysis of where 24/7 availability ranks in terms of clients' payment concerns it is very difficult to weigh up whether the demand is currently there. We believe more data should be gathered on what proportion of clients would materially benefit, and who would be unaffected by any proposed changes. The client feedback that banks collect usually relates to fees, transparency, process, delays, AML, filtering, and cut-offs, and 24/7 availability of RTGS systems has not been highlighted as a major issue.

There are a number of client preferences that would slow demand for 24/7 operationality:

- Clients may not want to have extended settlement hours as they want their cash in their domestic window
- Smaller houses may not have the global coverage to take on extended hours, extra days or 24/7 operationality
- 24/7 operation may cause closing balance issues and would need to redefine how central bank accounts are used
- Operationally intensive with today's global SWIFT model

Customers' requirements in relation to the speed of cross-border payments can vary significantly depending on the use case. For example, currently not all payments need to be instant, and the development of the Faster Payments Service (FPS) is likely to cover most future cases where instantaneity is required. Furthermore, not all cross-border payments necessitate the involvement of an RTGS in order to achieve real-time or near real-time finality. For smaller denomination transactions, for example those under £100,000, opportunities exist to establish cross-border linkages between domestic real-time payments system which already operate on a 24/7 basis. For Eurozone commercial clients, ISO 20022, and same day SEPA or SEPA Instant can achieve speedier transactions.

We would be wary of considering that an RTGS functioning in a 24/7/365 mode is an absolute prerequisite for a successful instant payment arrangement. The CPMI could assess the various possible clearing and settlement models that can support in a sound way the 24/7/365 clearing of instant payments.

8. Would your organisation make use of and/or benefit from extended RTGS operating hours?

The use of extended RTGS operating hours for UK Finance members varies across jurisdictions and it is likely the benefits would only be felt in a small number of instances, for example regarding Euro transactions.

9. How useful do you view the global settlement window as a concept for considering the aggregate implications of extensions to RTGS operating hours in individual jurisdictions? What alternatives or refinements, if any, would you propose in order to consider the aggregate implications of extensions to RTGS operating hours in individual jurisdictions?

A global settlement window merits further research and it may have a secondary effect of driving cross-border payments to that window. Therefore, it makes sense when an interlinking of RTGS system in main currencies is supported, however in its current state we do not believe the global settlement window is suitable for anything other than major currencies.

To build on this, CLS already exists and works as a next day Payment versus Payment system for the major currencies, and is successful because the relevant central banks keep their RTGS systems open to create a common settlement window, as explained in the CPMI's consultative report. We would therefore suggest looking at how CLS might add more windows for different overlapping currency pairs, including same-day settlement.

For the non-CLS currencies, a robust business case would likely be needed to justify an extension of hours on current working days as well as current non-working days, especially as the demand for instant settling of exotic currencies is still unknown. For the short term, we believe therefore that effort should be focused on building capabilities that will be utilised in sufficient scale to justify the all-in costs.

Furthermore, from a liquidity perspective, extended RTGS hours will facilitate extended settlement hours for funding correspondent liquidity. We highlight an example of this in the UK below:

Should a spot transaction be required to fund a correspondent account to enable local payment, extended RTGS hours will allow the completion of the sterling leg and thus be able to provide value to the correspondent account e.g., sell £ buy CAD, the £ may need to be paid away. Longer opening hours will permit greater intraday liquidity. For markets where the sun is behind the UK, this is apposite. Where markets are ahead of GMT, especially large Asian markets, timing creates a real challenge as markets currently close by late morning UK time. A key issue is therefore to create the overlap with Asia. UK staying open till midnight would facilitate cover for early next day transactions in Asia rather than end of day, or market closed. Likewise, if the Bank of England is able to coordinate with Asian markets to open their trading window, earlier for Europe, that would also help. The optimum overlap to maximise liquidity funding with markets trailing and leading a UK working day would therefore need to be worked out.

10. To what extent have the operational and risk considerations related to an extension of RTGS operating hours been adequately identified? What additional considerations would you consider relevant?

We believe more work needs to be undertaken to examine how better fast/instant payment systems can be utilised to help meet the targets set out in the G20's Roadmap. This would be an arguably more useful exercise than jumping straight to extending RTGS operating hours.

In relation to the risk and operational considerations of an extension, we believe there are a number of areas where more work should be undertaken especially in relation to the 2nd and 3rd end state. Opening the RTGS system on weekends has different consequences:

- FX deals must be possible on weekends, public holidays and/ or 24/7
- Currently systems operate on a value date basis, participants would need to factor in how systems would process over a weekend and bank holidays meaning that the whole value date concept would need to be revisited.
- Generally participant systems mirror client operating hours, it is questionable as to what clients would do with funds received outside of these 'normal' operating hours.
- Money Market Operations must be possible on weekends, public holidays and/ or 24/7
- Labor law, occupational health and safety laws and payment law must be adapted
- Enhanced fraud prevention as payments will become faster
- Changes to systems and resource will be very expensive, and these costs have to be picked up somewhere. It is not clear that extending the availability of RTGS systems will lead to an increase in payment volumes, so most providers will look to pass on costs to the end client
- It could lead to unsighted deposits in stress leaving institutions (although possibly dependent on STP) unless some monitoring or control system was in place.

Another area is the existence of foreign exchange controls and governmental restrictions for certain national currencies. Extending opening hours for RTGS systems may increase the expectations for a faster payment whereas the processes and measures connected to national currency restrictions contradict with this target as well as the target of access. That said, it may also be beneficial to define the scope of the currencies that should be covered by each end state and thereby focus on those most relevant in the context of cross-border payments.

There are also questions around whether pre-funding would be required to enable payments to be made or whether funding accounts on a 24/7 basis would be possible. If pre-funding was required, it isn't clear how much would be needed and would create a credit risk. This credit risk also arises if funds are received out-of-hours if the money can't be moved. Furthermore, some territories e.g. Thailand imposes restrictions on funding, for instance how far ahead this can take place and lock down accounts for national stability.

From a liquidity perspective there is a lot to work through. Currently participants have to wait for funds to flow in before drawing down from central banks to fund systems such as CLS. There is a risk that participants would need to hold more capital while today they run in the most cash efficient manner.

Additionally, questions remain over the interplay between the extension of RTGS operating hours and capital markets. Some of our members question whether an RTGS system running 24/7 would also require capital markets to be open 24/7. It is also unclear how banks involved would manage their balance sheets if payments can be made and received at any time in the day. If more money is needed in the settlement account through borrowing (in the market) there would then have to be a deep and liquid market for banks to tap into. They could also wait and see if money was sent, in which case the G20's ambitions could be missed if participants wait for others to move first. There is also the option to tap a central bank via a repo, but this would also require the relevant Central Securities Depository to be open 24/7 as well.

There are also questions around whether the concept of intraday liquidity (IDL) is still valid if RTGS systems are always on. Today, the majority of central banks provide IDL to banks for free provided that they can post suitable collateral to cover the borrowing. Pre-QE this meant that if the yield on government bonds was higher than Bank Rate or equivalent, government bonds could be held for the yield, but be turned into interest free IDL to cover payment activity and the IDL repo would be unwound before the close of business. In a QE environment the yield on government bonds has decreased significantly and we would assume in the future QE will be completely or largely withdrawn. However, IDL does require there to be an end of day.

If there is no end to the payments day, there is another potential problem in that "overnight" repos with the central bank increase the money supply and are inflationary. In a non-QE environment and with an end of day, the risk of spill-overs (where banks were not able to unwind their IDL repos) could be dealt with by operational facilities provided by the central bank at a penal rate. In a 24/7 environment there is potential for this to result in the central bank creating a structural drain of liquidity which it would replenish via short term open market operations. Broadly speaking, the effect would be to push up the cost of funding for banks (as banks would end up borrowing more on their balance sheet than they would have done before). And as it would be on the balance sheet, they would also consume more RWAs and inter alia, increase their leverage.

24/7 RTGS operation also calls into question how a central bank would transmit its monetary policy intentions to the short end of the cash markets. Remunerated reserve averaging (where banks target a specified amount of average reserves during an MPC maintenance period) allows the central bank to dictate Bank Rate to the market, off the back of which other assets reprice influencing the rate of inflation. If 24/7 RTGS operation means that the ability to target reserves accurately is impaired, participants may choose not to participate, or only to participate at a low level (because missing the targets means receiving penalty rates). In either case it skewers the ability of the central bank to manage inflation.

Consideration also needs to be given to the different participant requirements especially between larger Direct Participants and smaller correspondent banks and the level of service they need to service their own client base. For some firms that use matched funds, this may be useful as it could give them more flexibility.

There is also a competition element to consider as those participants who operate extended hours could arguably gain a competitive advantage over others.

Furthermore, additional staffing requirements need to be factored in. Extending operating hours will likely increase the need for additional staffing in support of longer operating hours or multiple considerations from the perspective of account balance and liquidity management. Staffing requirements may also be impacted due to expanded product offerings, client base, or geographic footprint. There may also be more of a need to monitor incoming payments and impact on balance sheet despite being a "receive only" participant.

11. What would you identify as the top five considerations related to an extension of RTGS operating hours in your preferred scenario (Q5)?

We believe that important considerations to be made related to the 1st end-state are:

- Analysis of different demands within the market segment Retail i.e., individuals, businesses and the public sector have different roles in the payment value chain and therefore different expectations and priorities.

- AML considerations.

- The impact on unit costs and internal processes of banks (i.e., extension of working hours for AML, Back Office, and IT support teams). Risk considerations (increase of the time during which fraudulent payments can be initiated) and financial risk consideration (sufficient liquidity needs to be provided). Adding to this consideration: opening RTGS systems for longer may contradict with potential liquidity management solutions being discussed in the context of instant settlement and tokenised payments which suggest that RTGS collateral in one location might be used to settle in another jurisdiction e.g., EUR used to settle USD. If system operating hours overlap, then this may reduce the ability to use one currency as collateral to settle another because it is encumbered during that longer payment window. In essence, whilst financial institutions aim to reduce liquidity buffers to a minimum to reduce cost, overlapping operating hours will work against this ambition and keeps cost up. This is likely to be a complex situation with less predictable payments (more volatility) but spread out over a longer period (lower throughput) and exactly how these opposing forces affect buffers and payment cycles would need to be further assessed.

- Implementation costs consideration (the effective volume of transaction that will benefit of the implementations need to be considered).

- Reach needs to be considered. Today many of our members will have one or more correspondents to settle a currency. If costs prohibit some Direct Participants being 24/7, this could lead to more concentration risk on the larger DP's that do offer this extended operating window/service.

12. To what extent do the relevant considerations differ substantially depending on the end state being considered?

The considerations for the 2nd and 3rd end state differ extensively from those in the 1st end state. We believe that the 2nd and 3rd end state cannot be meaningfully achieved in the current, or near future, RTGS environment. To reach them, the focus should be moved to the instant/faster payments systems.

13. For the top five considerations that you identified in Q11, what mitigation measures could be taken to address them?

Each of the top five considerations will need to be studied and analysed in depth.

14. In your view, to what extent will the above measures require coordinated action by industry participants and/or support/guidance from authorities, such as central banks, standard-setting bodies and supervisors (as opposed to actions by individual stakeholders)?

As set out in our response to Question 2, we believe it would be necessary to define global payment processing rules and standards applied by all actors in the payment chain as well as establishing a harmonised legal payment framework including liability and risk management questions.

Strong collaboration and sustained commitment are necessary to tackle an issue spanning multiple players, time zones, jurisdictions, and regulations. This will require work internationally as well as domestically as seen, for example, in recent years for the process around LIBOR transition.

UK Finance would also expect significant engagement from the Bank of England, and potentially some input from regulatory bodies, should the UK RTGS settlement window be extended.

15. If you are a stakeholder of an RTGS system that has extended its operating hours in the recent past, what were the key lessons learnt?

The UK's RTGS extension in 2016 allowed additional time in the day for settlement of GBP wholesale payments, as well as for internal payments between Treasury and Retail. The impact to daily Treasury operations was fairly minimal, with most transactions still completed by the time of the previous settlement hours. The extension did not impact the CREST settlement window for gilts.

The largest RTGS system in Europe is TARGET 2 hasn't extended its operating hours except for certain ancillary system settlements in the recent past. After the migration of TARGET 2 and TARGET 2 securities in November 2022, the operating hours will start at 2:30 a.m. and the business day for payments will end at 17:00/18:00.

From an EUR perspective TARGET2 and EBA EURO1, two main EUR clearing systems for HighValue payments, are going to extend their clearing opening hours for commercial and interbank payments with the migration to ISO20022 in November 2022 to a much earlier opening time. As this is on-going, these are some preliminary lessons learned:

Even if the majority of payments are processed STP, extended opening hours have an impact on many "side-processes" which may not be automated or available outside of existing internal business hours. Banks need to carefully review and consider the impact, e.g., for exception handling like cancellations or compliance related activities like handling of filtering hits.