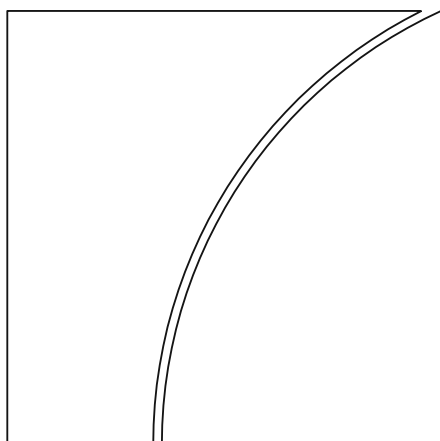


Committee on Payments and Market Infrastructures



Enhancing cross-border payments: building blocks of a global roadmap

Stage 2 report to the G20 – technical background report

July 2020



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Executive summary

The G20 has made enhancing cross-border payments a priority during the 2020 Saudi Arabian Presidency. Faster, cheaper, more transparent and more inclusive cross-border payment services would deliver widespread benefits for citizens and economies worldwide, supporting economic growth, international trade, global development and financial inclusion.

This report, produced by the Cross-border Payments Task Force (“Task Force”) of the Committee on Payments and Market Infrastructures (CPMI), represents the output of Stage 2 of the three-stage process to develop a global roadmap for enhancing cross-border payments. It identifies 19 “building blocks” where further joint public and private sector work could enhance cross-border payments, supporting a global approach to addressing the seven underlying frictions identified in Stage 1. The Task Force has also outlined a set of considerations around these building blocks that support the work that the Financial Stability Board (FSB) will lead in Stage 3 to develop the roadmap.

The Task Force covered both retail (including remittances) and wholesale payments. It undertook a qualitative analysis for each building block, exploring: (i) its expected impact on the seven frictions; (ii) its interdependencies with other building blocks; (iii) the complexity and potential time frame of its delivery; and (iv) the potential risks that advancing a building block could create for the smooth functioning of payment systems, monetary stability and financial stability.

The 19 building blocks are arranged into five focus areas, four of which (focus areas A to D) seek to enhance the existing payments ecosystem, while focus area E is more exploratory and covers emerging payment infrastructures and arrangements. Work on some of the building blocks is already under way in various jurisdictions, while with others it would take more time to assess and implement them.

Each of the 19 building blocks focuses on a specific area where carefully planned and implemented changes would help to mitigate one or more of the seven frictions. While each of the first 16 building blocks individually has the ability to bring notable benefits to cross-border payments, due to their interdependencies the most significant enhancements are likely to arise if over time they are all advanced and implemented in a coordinated manner. The interdependencies, which will be assessed further to inform the Stage 3 roadmap and beyond, are a key reason why material progress in addressing the challenges in cross-border payments can only be achieved through a wide-ranging and coordinated plan of action engaging all stakeholders and addressing all major frictions. Further analysis and industry input will be needed to determine the most effective ways to advance and implement the 19 building blocks, taking into account potential pros and cons, expected benefits and costs, and particular domestic and regional priorities and differences, such as levels of economic and infrastructure development.

For some building blocks early incremental benefits seem feasible, while others will only realise material benefits in the longer term. The proposals in the report have been designed to build upon existing initiatives in cross-border payments where possible. The importance of developing comprehensive delivery milestones and associated monitoring is suggested, as a means to coordinate progress and sustain buy-in in delivering an ambitious programme to enhance cross-border payments.

1. Introduction

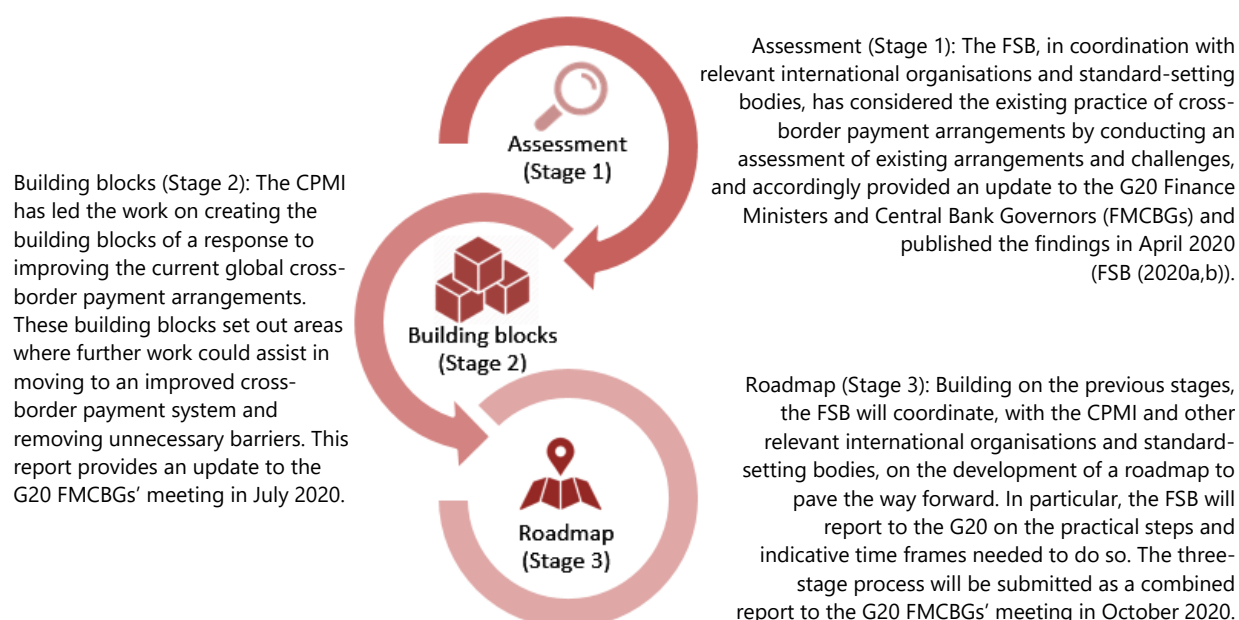
1. Over the past few decades, the increased international mobility of goods and services, capital and people has contributed to the growing economic importance of cross-border payments. Factors that have been intensifying over recent years, and that have supported the growth in cross-border payments, include manufacturers expanding their supply chains across borders; cross-border asset management and global investment flows; international trade and e-commerce; and migrants sending money via international remittances.¹ While the economic ramifications of the Covid-19 pandemic are undoubtedly also affecting the payments landscape, it is important to maintain momentum to identify and take forward structural improvements in cross-border payment arrangements for the post-pandemic global economy.

2. The G20 has made enhancing cross-border payments a priority during the 2020 Saudi Arabian Presidency. Faster, cheaper, more transparent and more inclusive cross-border payment services would have widespread benefits for citizens and economies worldwide, supporting economic growth, international trade, global development and financial inclusion. The G20 Finance Ministers and Central Bank Governors (FMCBGs) asked the Financial Stability Board (FSB) to liaise with the Committee on Payments and Market Infrastructures (CPMI) and other relevant standard-setting bodies and international organisations to develop a roadmap to pave the way forward to enhance cross-border payments in three stages (Figure 1).

3. Cross-border payments are by definition more complex than purely domestic ones. They involve more, and in some cases numerous, players, time zones, jurisdictions and regulations. Tackling the long-standing frictions within them has been on the agenda for many years, as it is a multidimensional problem requiring strong collaboration. The fact that it is a G20 priority has provided important global momentum.

The three stages of developing the roadmap

Figure 1



Source: CPMI.

¹ A remittance is a cross-border person-to-person payment of relatively low value. In practice, such transfers are typically recurrent payments by migrant workers (who send money to their families in their home country every month) (CPSS (2007)).

4. For the purposes of this report, cross-border payments are broadly defined as fund transfers for which the sender and the recipient are located in different jurisdictions, and cover wholesale and retail payments with remittances included in the latter category. Cross-border payments may or may not involve currency conversion (FSB (2020b)).² A number of payment instruments³ can be used by payers and payees to initiate and receive cross-border payments. These payment instruments can vary across payment service providers (PSPs) and use cases depending on the capabilities and needs of the end users. When it comes to cross-border payments, the CPMI⁴ recognised as early as 2000 that growing international integration had increased the demand for cross-border retail payments and hence the need for end users to have access to cross-border payment services that are as efficient and safe as comparable domestic services (CPSS (2000)). In 2007, the CPMI and the World Bank issued the *General principles for international remittances*, aiming to increase safety and efficiency for the specific cross-border payment use case of international remittances (CPSS-World Bank (2007)). The general principles were subsequently endorsed by the G7 and G20, which marked the start of substantial efforts aimed at reducing international remittance costs. The CPMI has continued to focus on the challenges associated with cross-border payments by producing a report covering cross-border retail payments (CPMI (2018)) and reports on correspondent banking (CPMI (2016, 2019)).

5. Cross-border payments are typically perceived to lag domestic ones in terms of cost, speed, access and transparency. In considering these challenges, it should be recognised that there are many types of cross-border payments, each with different user experiences (as with domestic payments). The challenges vary widely by payment type and counterparty as well as by payment corridor.⁵ In addition, the challenges affect a number of different stakeholders on the demand side (end users such as individuals, businesses, not-for-profit organisations and government agencies) and the supply side (bank and non-bank PSPs, payment system operators and technical service providers), but they do not affect them all in the same way. For payment service users that are large multinationals or financial institutions, delays and the uncertainty about timing of cross-border payments have a more negative effect on business and finance than the transaction fees. For smaller businesses and individuals, access to regulated cross-border payment services and fees are a primary concern – these challenges are especially high for end users in emerging market and developing economies (EMDEs) (including in small island and fragile states). More generally, the bargaining power of the end user or intermediary is an important factor (FSB (2020b), CPMI (2018)).

6. The challenges associated with cross-border payments arise from a series of frictions in existing processes.⁶ These frictions, as identified in the Stage 1 assessment report (FSB (2020b)), include fragmented and truncated data formats, complex processing of compliance checks, limited operating

² Payments across national borders within a monetary union typically encounter fewer of the challenges and frictions discussed within this report; nevertheless, a number of the challenges discussed in the report may exist also for those payments.

³ Payment instruments used for cross-border payments include payment cards, electronic fund transfers and electronic money as well as cash or cryptoassets.

⁴ Under its former title of the Committee on Payment and Settlement Systems (CPSS).

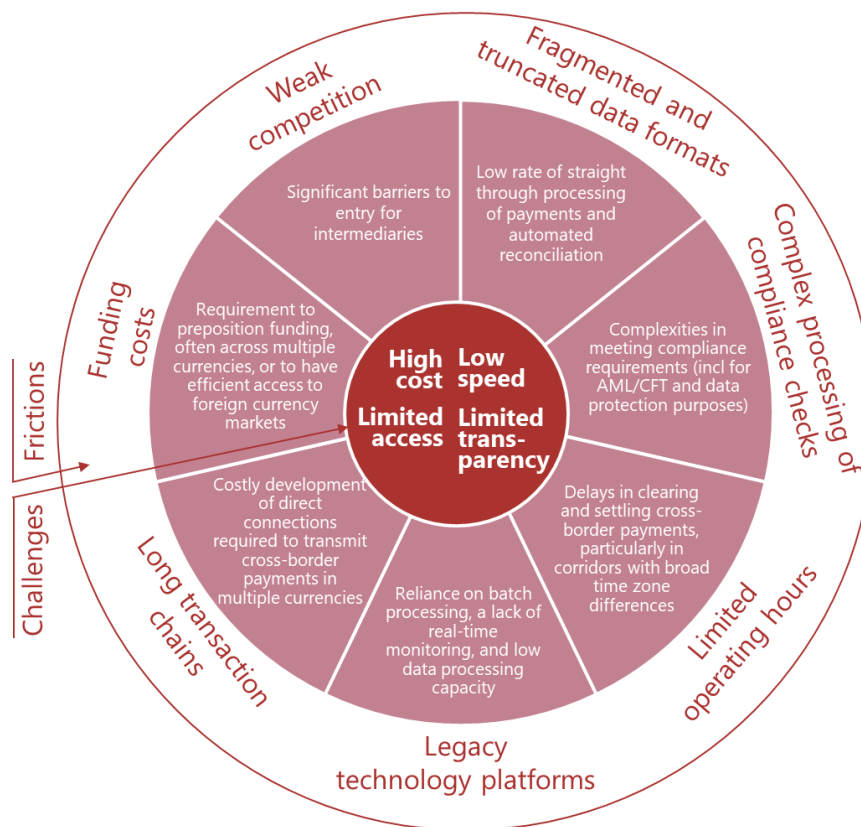
⁵ A payment corridor is the combination of a specific sending country and a specific receiving country or a specific sending currency and a specific receiving currency.

⁶ A friction is a factor that adds to costs or lowers access, speed or transparency (ie increases the challenges for a cross-border payment). This report focuses, in particular, on those frictions that add to the relative challenges of a cross-border payment compared with a domestic payment. Identifying these fundamental frictions is crucial for analysing the potential effectiveness of remedies to address challenges in cross-border payments.

hours, legacy technology platforms, long transaction chains, high funding costs and weak competition. If cross-border payments are to be enhanced, these frictions need to be addressed from both a demand and a supply side perspective (Figure 2).⁷ To support the global economy, holistic change in cross-border payments, retail and wholesale, is required involving both public and private sector stakeholders.

Challenges and frictions in cross-border payments

Figure 2



Source: CPMI based on FSB (2020b).

7. While there have been improvements in certain segments of the cross-border payments market (eg when it comes to speed and transparency in correspondent banking;⁸ see Box A), other developments (eg the reduction of correspondent banking relationships, also referred to as “de-risking”)⁹ are making it more difficult to address these frictions. The emergence of non-interoperable, proprietary solutions (eg for e-commerce or large technology platforms) leads to further fragmentation of the cross-border

⁷ As set out in the FSB Stage 1 report, the majority of cross-border transactions are undertaken via the correspondent banking model or the single platform model. Although interlinking and peer-to-peer models exist, they play a comparatively small role in the cross-border market today.

⁸ Correspondent banking is an essential component of the global payment system, especially for crossborder transactions. Through correspondent banking relationships, banks can access financial services in different jurisdictions and provide cross-border payment services to their customers. In addition, most payment solutions that do not necessarily involve a bank account at customer level (eg remittances) rely on correspondent banking for the actual transfer of funds (CPMI (2016)).

⁹ See the box “A particular challenge for access: ‘de-risking’” in FSB (2020b).

payments market. As a result, the typical cross-border payment experience is still often inferior to a domestic one.

8. In December 2019, the CPMI established a Task Force (see Annex 2 for details of membership and contributors to this report) dedicated to working on cross-border payments ("Task Force") and contributed, via members of that Task Force, to the Stage 1 assessment report. The Task Force validated the list of frictions through industry outreach.¹⁰ Market participants confirmed the challenges and frictions identified and endorsed the assessment that the same types of frictions impact cross-border wholesale and retail payments, although the extent of that impact may vary. Therefore tackling these frictions can enhance cross-border payments for all end users globally. The Task Force has summarised the main findings from this technical background report in a high-level policy note (CPMI (2020)).

9. This Stage 2 report identifies a set of building blocks where further joint public and private sector work could assist in moving to an improved cross-border payment experience, supporting a global approach to addressing these underlying frictions. The Task Force sought to follow a holistic approach and covered both retail and wholesale payments. It identified the 19 building blocks in this report, having undertaken qualitative analysis that examined the expected impact of each building block on the seven frictions; its interdependencies with other building blocks; the complexity and potential time frame of its delivery; and the potential risks that advancing a building block could create for the smooth functioning of payment systems, monetary stability and financial stability. This analysis is intended to support the development of the Stage 3 roadmap.

10. The 19 building blocks are arranged into five focus areas, four of which (focus areas A to D) seek to enhance the existing cross-border payments ecosystem, while focus area E is more exploratory and covers emerging payment infrastructures and arrangements (Figure 3). Each of the building blocks addresses a specific topic where carefully advancing and implementing changes would help to mitigate one or more of the seven cross-border payment frictions. For each building block, further analysis is needed to support effective delivery of this change.

11. The first 16 of the 19 building blocks are focused on enhancements within the current environment, where such enhancements could not only address the frictions but also have the flexibility to adapt to the changing payments landscape; a further three building blocks are more exploratory at this stage. While each of the first 16 building blocks has the ability to bring notable benefits to cross-border payments, due to their interdependencies the most significant enhancements are likely to arise if over time they are all advanced and implemented in a coordinated manner. Further analysis and industry input will be needed to determine in more detail the most effective ways to advance the building blocks, taking into account potential pros and cons, expected benefits and costs, and particular regional differences. Building consensus among stakeholders, including those who will ultimately advance changes in their respective jurisdictions, will be important going forward. Work on some of the building blocks is already under way in various jurisdictions, while with others it will take more time to assess and implement them.

12. For the work on this Stage 2 technical background report, the Task Force has liaised with a variety of groups,¹¹ standard-setting bodies,¹² and international organisations.¹³ At the beginning of the Stage 2

¹⁰ The Task Force reached out to almost 40 market participants and other stakeholders to obtain their views on issues in cross-border payments and possible actions/solutions to improve cross-border payments. About half of the respondents were banks or banking associations, and the non-bank sector and infrastructure providers each represented about a quarter of the respondents.

¹¹ Eg the CPMI Working Groups on Digital Innovations and Real-time Gross Settlement, the CPMI-World Bank Task Force on Payment Aspects of Financial Inclusion, the FSB Correspondent Banking Coordination Group and the FSB Regulatory Issues of Stablecoins Working Group.

¹² Basel Committee on Banking Supervision (BCBS), Financial Action Task Force (FATF) and Financial Stability Board (FSB).

¹³ Bank for International Settlements, International Monetary Fund and World Bank Group.

process, the Task Force consulted a number of relevant market participants. Furthermore, the work in this report has been informed by findings from public authorities, international organisations and industry forums as well as additional insights from data provided by SWIFT (Box A). As the building blocks are taken forward on the roadmap, further analysis and industry input will be necessary to determine potential pros and cons as well as expected benefits and costs. In that process, for some building blocks authorities may wish to look further into the implications beyond cross-border payments, such as monetary policy and financial stability. Providing for widespread engagement early in the implementation of the roadmap is critical to building consensus among stakeholders, including those who will ultimately advance changes in their respective jurisdiction. The roadmap will need to be designed with sufficient flexibility to make it compatible with the different priorities and levels of development of jurisdictions worldwide.

13. Section 2 explains the five focus areas for enhancing cross-border payments and the building blocks they consist of. Section 3 sets out some considerations on how to use the analysis in this report to inform the roadmap for improving cross-border payments, and Section 4 discusses potential areas to explore in developing and implementing a roadmap. Annex 1 details the individual building blocks.

Box A

The speed of cross-border payments – findings based on SWIFT gpi data

Analysing data from SWIFT global payments innovation (gpi) provides useful insights into issues that affect the speed of cross-border payments.^① SWIFT gpi is a set of business rules and digital tools newly developed around four core principles: (i) settling a payment within the same business day; (ii) monitoring payment status in real time; (iii) providing transparency of fees all along the payment chain; and (iv) passing on unaltered remittance information to identify the underlying reason for the payment.^②

The following analysis is based on data from the fourth quarter of 2019 only, including those end-to-end gpi payments^③ that cross jurisdictional borders and involve more than one financial group. These payments cover 42% of all cross-border payments on SWIFT by volume and 46% by value. By definition, the data exclude all payments that are not on SWIFT – primarily lower-value payments and remittances.^④ In view of this limitation, the following results on transaction speed cannot be generalised beyond gpi.

Overall results show that the speed of cross-border payments on SWIFT gpi is high: 35% of payments are processed within 30 minutes, 23% between 30 minutes and four hours, 33% between four and 24 hours, and only 9% take more than one day.^⑤ Speed does not correlate with the transaction amount of a payment, which indicates that similar front- and back-end processes are in place for payments on gpi regardless of their amount. Similarly, speed does not correlate with the number of intermediaries involved in a payment. This reflects that most payments with a high number of intermediaries usually pass through major currencies such as USD and EUR using mature intermediary banks that have highly automated processes precisely so that they can adhere to the gpi service level agreement.

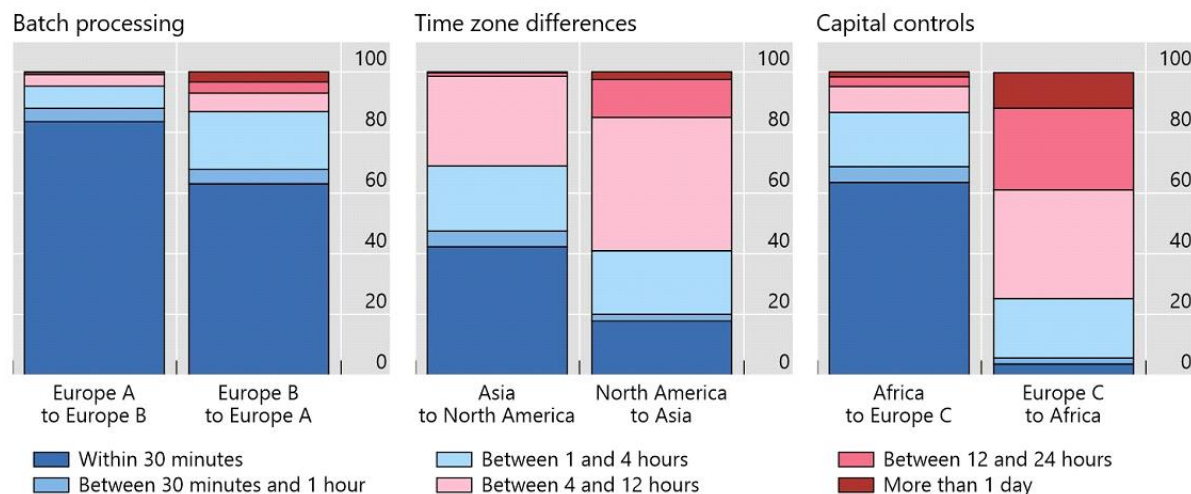
Graph A1 illustrates how specific issues affect transaction speed. By no means do these issues apply only to the few cross-border payment corridors shown. Rather, the challenge of low speed exists in every corridor where circumstances give rise to one or more of these issues. SWIFT gpi payments from European country A to B are generally very fast, with 84% and 99% processed within, respectively, 30 minutes and 12 hours (Graph A1, left-hand panel). Through the mirrored corridor from country B to A, although a large majority of payments remain fast, 7% have a processing time exceeding 12 hours. Even though both countries have mature financial systems, a larger share of banks in country A than in B operate on legacy technology platforms, probably using batch processing. This can cause delays, as incoming payments must wait for the next batch before being credited to the beneficiary, and applies mainly to payments submitted outside regular business hours.

Time zone differences can also cause long processing times, particularly when a payment “travels against the sun”: the frictions arising from the limited operating hours of payment systems in both countries cause incoming payments to stall if they reach the beneficiary country during off-hours, and the delay is prolonged for payments sent from west to east as they typically stall overnight. For example, this is apparent for payments from a North American to an Asian country, which are substantially slower than payments in the opposite direction (Graph A1, centre panel).

The impact on transaction processing time from three issues

As a percentage of total payment volumes

Graph A1



Each continent name refers to a specific country on that continent. Europe A, B and C are three different European nations of which A and C are in the euro area.

Source: SWIFT gpi Observer.

Even with modern and efficient domestic payment systems in place, elements beyond technology and payments policy may introduce frictions. Capital controls, requests for documentation, balance of payments reporting and other compliance processes can cause significant payment delays. One example is the corridor from European country C to the African country, neither of which is burdened by legacy systems, nor is there a time zone difference between them. Yet processing times exceed 12 hours for 39% of transactions, which can be attributed largely to compliance delays in the African country. The mirror corridor is faster in part because compliance on outgoing payments from the African country is carried out before payments are initiated and recorded by SWIFT gpi Observer.

① Following the approval of a new business intelligence partnership, SWIFT has cooperated with the CPMI to explore fundamental questions about the speed of cross-border payments based on transaction data available from SWIFT gpi Observer. ② See also <https://www.swift.com/resource/swift-gpi-towards-frictionless-cross-border-payments>. ③ gpi payments for which the credit to the account of the beneficiary has been confirmed (status: ACCC). ④ SWIFT gpi is assumed to cover a larger share of the higher-value market segments, and the more mature financial sectors in advanced economies tend to have a higher gpi adoption rate than in EMDEs. ⑤ Source: SWIFT gpi Observer.

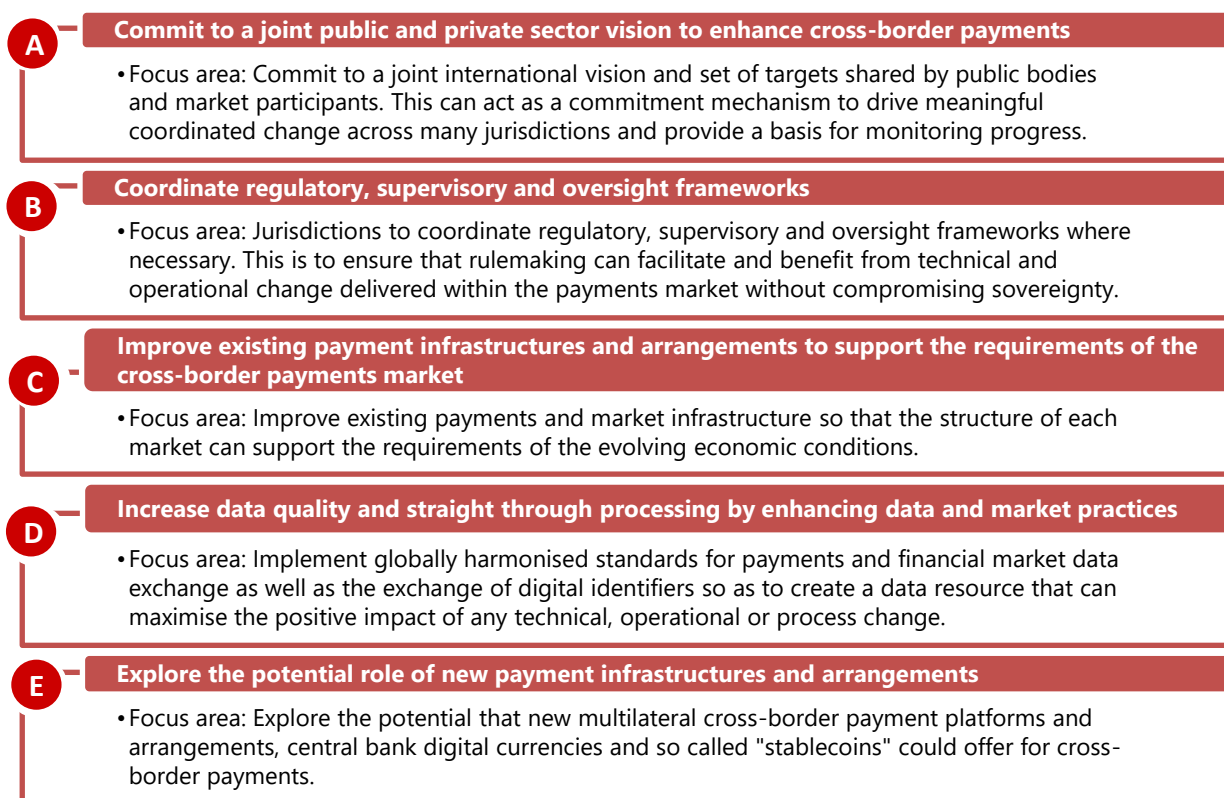
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2. The five focus areas for overcoming challenges in cross-border payments

14. This section provides a high-level description of the focus areas which will help to address the cross-border payment frictions identified in the Stage 1 assessment report. To reduce the frictions and overcome the cross-border payment challenges, the international community must be committed and forward-looking in their approach to a remedy. Their scope needs to be holistic. This could entail, for example, engagement in legislative, regulatory, technical or operational aspects of payments. This report sets out five focus areas aimed at facilitating these changes and delivering considerable enhancements to cross-border payments (Figure 3). There are significant interdependencies between the five focus areas. Each focus area comprises several discrete building blocks.

Five focus areas for enhancing cross-border payments

Figure 3



Source: CPML.

15. Each building block can be advanced independently or in combination with other building blocks. For example, setting a common vision and aligning with international rules and standards across borders in international policymaking and domestic legislation can help influence the impact of the operational enhancements set out in focus areas B to D. These interdependencies are explored in more detail in Section 3.

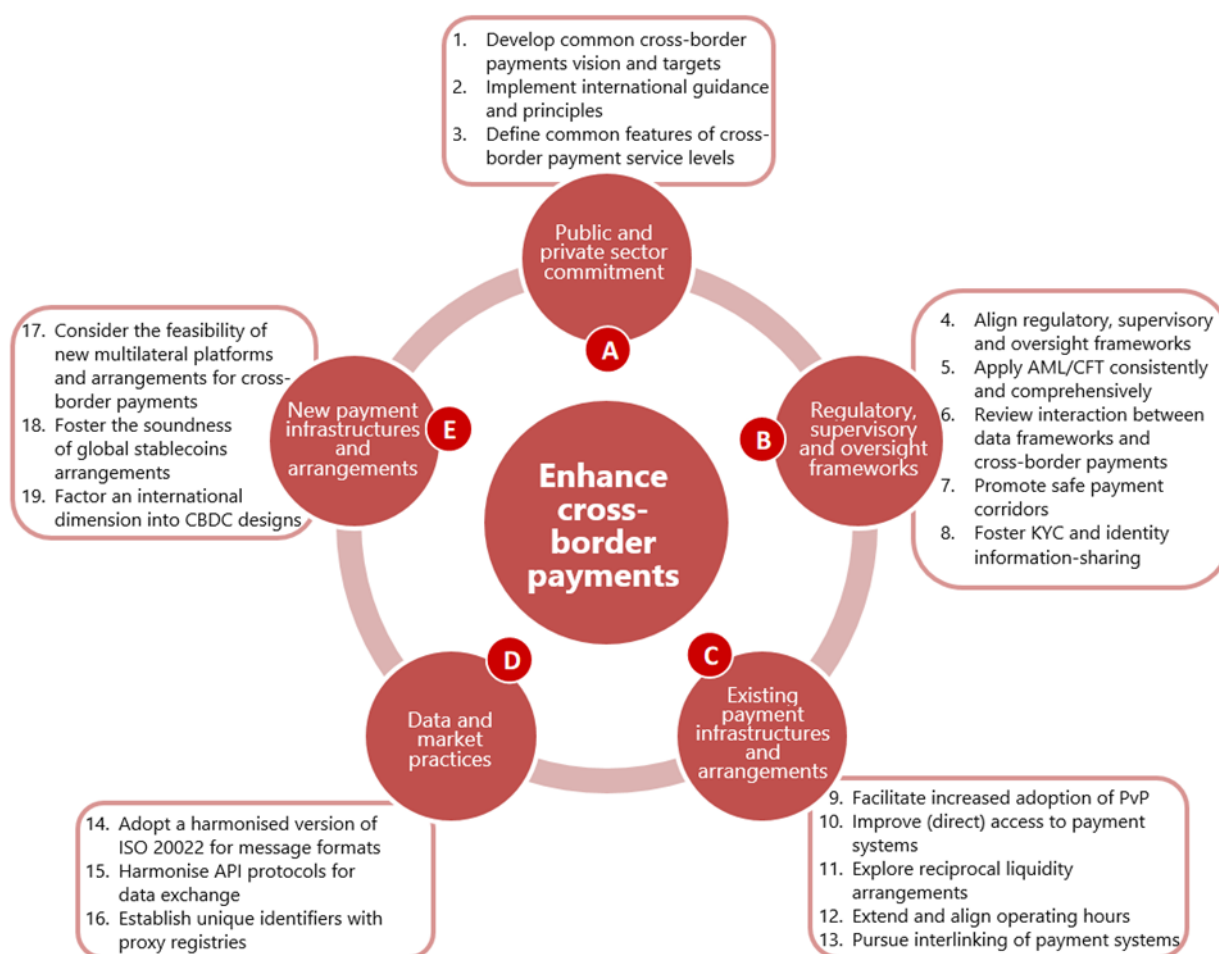
16. Within each focus area, a number of individual building blocks to form part of the roadmap have been identified. While some building blocks require additional analysis to determine whether they should be advanced and implemented on a global level or whether they are only relevant for certain jurisdictions, others would build on work that is already in place. When considering implementation of any building block, further engagement will be needed to ensure that all relevant contributors are mobilised and

suitable timelines for delivery are agreed. Turning those building blocks for which there is consensus to take coordinated international action into a detailed work plan will require input and analysis across public and private sectors.

17. Although some building blocks are expected to lead to improvements in the short term, others may entail many years of effort before being able to deliver benefits (as discussed in more detail in Section 3.4). For example, in focus area D, one building block relates to the increased adoption of ISO 20022, which is already being deployed in many jurisdictions and has broad international support. By contrast, another building block in the same focus area includes efforts to adopt a structured digital unique identifier for individuals with decentralised proxy registries, which is an area where there has been little international analysis, let alone consensus, for moving forward.

18. Finally, focus area E is more exploratory and covers the potential that new multilateral payment platforms and arrangements, central bank digital currencies (CBDCs) and so-called global “stablecoins” could offer for cross-border payments. These building blocks require further analysis, as these developments are often in an early stage or even unproven. They contain the potential for broad alleviation of frictions, while often not being constrained by legacy technologies or processes. However, there are currently no examples, even domestically, of successful, fully implemented CBDCs or stablecoins.

19. The building blocks of focus areas A to D are likely to provide more tangible and quicker results. They are important enhancements in their own right but would also be necessary to enable the future potential of building blocks in focus area E. For example, harmonising compliance regulations could be beneficial for future cross-border use of global stablecoins, possible new multilateral cross-border payment platforms and arrangements, and existing cross-border infrastructures. It is worth noting that the issuance of CBDCs or the offering of stablecoins is not only driven by cross-border payment considerations; other motivations on the part of providers must also be factored into the analysis. It will be important to analyse, monitor and, where needed, foster the cross-border dimension of these initiatives. Figure 4 provides an overview of the five focus areas and associated building blocks.



Source: CPML.

2.1 Focus area A: Commit to a joint public and private sector vision to enhance cross-border payments

20. Much of the complexity in addressing frictions in cross-border payments arises from the cross-jurisdictional nature of these transactions. A common vision can encourage a wide range of policymakers and market participants to work towards a common goal. This focus area is targeted in particular towards frictions where complex political, regulatory and (to a lesser extent) operational issues are prevalent. It is supportive of the other four focus areas, as it is designed to create an environment to enable success in tackling the full set of challenges in cross-border payments.

21. This focus area contains three building blocks:

- 1) *Developing a common cross-border vision and targets.* The goal of this building block is to agree on and publish concrete global targets for enhancements to cross-border payments – for example, on cost, speed, access and transparency of all global cross-border payment types. Such measures are important for catalysing effort and increasing transparency and accountability. This practice has been common for national payment system reviews for decades and for a number

of regional integration initiatives. It will be essential to expand the range of international targets for cross-border payments to encompass all four challenges identified for wholesale and retail payments alike. The targets set out in this building block will help focus effort on the other building blocks described in this report.

- 2) *Implementing international guidance and principles.* In particular, international guidance and principles can lead the implementation of effective and efficient payment and information and communication technology (ICT) infrastructures (particularly those regarding identification and data-sharing). Furthermore, they can support the establishment of legal and regulatory frameworks to foster innovation, competition and financial inclusion.¹⁴ This can address safety and efficiency in cross-border payments. This building block entails cataloguing relevant guidance and principles, promoting assessments and reviews, and providing a hub for the relevant implementation monitoring efforts of this guidance and standards as they relate to cross-border payments.
- 3) *Defining common features of cross-border payment service levels.* Agreed service levels help establish a commonly binding framework for all participants on aspects such as data standards, message formats, fee arrangements, processing timelines, error and exception handling, and dispute resolution. Service levels can be defined in a multilateral agreement, often referred to as a scheme, that allows customers of otherwise unrelated counterparties to transact with each other and establish consistency and certainty for all stakeholders. Scheme rules in general include membership criteria, arrangements for settlement, and risk management and compliance processes. The use of agreed frameworks with a built-in enforcement mechanism based on both automated rules and institutional and contractual arrangements can harmonise payment processing by different entities in a transaction chain.

2.1.1 Impact on frictions

22. Focus area A addresses, in particular, the frictions around compliance checks, weak competition, legacy technologies and data formats. These frictions are partially attributable to competing (domestic) priorities and a lack of (international) coordination that hinder achievement of an efficient outcome – a situation that will be addressed by creating a common understanding globally about the main targets of cross-border payments and implementing principles and guidance on how to achieve these targets. As the public sector sets a high-level vision, it can alleviate some of the business risks for the private sector seeking to resolve legacy technology and infrastructure challenges. Guidance on expectations for those providing cross-border payment services can support investment in modernisation by reducing strategic risks, without undermining the private sector's ability to offer differentiated products.

2.1.2 Difficulties

23. A key challenge with this focus area is the coordination of a large group of public actors in the process of agreeing on a common vision supplemented by targets and ongoing progress monitoring. Engagement must be broad and include collaboration with the private sector in order to lend credibility to any common vision. Technical capacity and readiness for change are key to implementing international guidance and principles and working on cross-border schemes.

¹⁴ Among the international guidance and principles to consider are the *General principles for international remittances* (CPSS-World Bank (2007)), the *PFMI* (CPSS-IOSCO (2012)), the *Payment aspects of financial inclusion guidance* (CPMI-World Bank (2016, 2020)) and the *FATF Recommendations* (FATF (2019)).

2.1.3 Relationship with other focus areas

24. The primary value from this focus area is securing common understanding and commitment to change from both the public and private sector internationally. The implementation of international guidance and principles will promote a level playing field across jurisdictions. Thus, this focus area impacts all other focus areas and magnifies the beneficial outcomes achievable through them.

2.2 Focus area B: Coordinate regulatory, supervisory and oversight frameworks

25. The building blocks in this focus area are intended to mitigate key challenges arising from the multijurisdictional nature of cross-border payments, by advancing consistent international rules and standards without compromising individual jurisdictional discretion or lowering standards. Much of the focus on removing frictions in cross-border payments has typically been on technology and operations. However, it is important to note that divergent legal and regulatory frameworks across jurisdictions can mute any benefits that may be derived from such initiatives. Diverging supervisory or oversight requirements might also have a cushioning effect on potential benefits. Similarly, identifying the gaps in these frameworks is important – for example, the supervision of non-bank remittance firms. In advancing consistent, relevant international rules and standards and ensuring their local transposition, the building blocks in this focus area can target frictions around complex compliance requirements and weak competition.

26. This focus area contains five building blocks:

- 4) *Aligning regulatory, supervisory and oversight frameworks for cross-border payment providers and multicurrency payment infrastructures.* The fact that cross-border payments typically encompass multiple countries makes it difficult for individual jurisdictions on their own to adequately monitor the adoption and materiality of risks of such cross-border arrangements. This may create a case for supervising and/or overseeing cross-border PSPs and multicurrency payment infrastructures in a coordinated manner among supervisors. Building on the principle of “same business, same risk, same rules”, this approach can improve clarity and consistency for market participants through convergence of jurisdictional approaches (G7 (2019)). As an outcome of this building block, new cooperative arrangements may be established, eg based on experience from Responsibility E for financial market infrastructures (FMIs)¹⁵ and cross-border payment considerations in existing cooperative supervision/oversight arrangements. This building block can help support the automation of manual processes related to compliance with regulations pertaining to cross-border payments and thereby increase the efficiency and speed of cross-border payments.
- 5) *Applying anti-money laundering/combating the financing of terrorism (AML/CFT) rules consistently and comprehensively.* Despite a range of existing cooperation mechanisms that have assisted in implementing international standards and mitigating the risks from regulatory gaps and arbitrage, some weaknesses have been identified in international cooperation among specialist

¹⁵ In April 2012, the CPMI and IOSCO published the Principles for Financial Market Infrastructures (PFMI) (CPSS-IOSCO (2012)). The PFMI include five responsibilities for central banks, market regulators and other relevant authorities for FMIs, and provide guidance for consistent and effective regulation, supervision and oversight of FMIs. Responsibilities A to D generally describe the ways in which individual authorities can effectively carry out their respective regulation, supervision and oversight of FMIs. Responsibility E describes how authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs (CPMI-IOSCO (2019)).

AML/CFT supervisors. Effective AML/CFT frameworks and consistent implementation of those regimes are important for protecting the financial system from abuse, and preventing illicit financing and actors from having materially adverse effects on individuals and economies. While the codification of AML/CFT rules is often similar across jurisdictions, differences can be observed in their respective implementation and supervision. Applying AML/CFT frameworks consistently and comprehensively across jurisdictions while continuing to pursue a risk-based approach will reduce uncertainty all along the transaction chain.¹⁶

- 6) *Reviewing the interaction between data frameworks and cross-border payments.* Data frameworks, ranging from data protection to data privacy and data localisation requirements, interact and sometimes conflict with information needs in the cross-border payment context.¹⁷ In some cases, there is real or perceived tension between regulatory requirements, including banking regulation and AML/CFT rules, on the one hand, and restrictions on cross-border data flows and data storage, on the other. These include rules related to data protection, privacy and confidentiality that may restrict or prohibit such information-sharing. Limited cooperation among financial regulatory and supervisory bodies on these issues, as well as with data protection and privacy agencies, can exacerbate these possible tensions. Sharing of information across borders is required for cross-border supervision and oversight as well as more effective risk management within those cross-border PSPs that may be incorporated in multiple jurisdictions.
- 7) *Promoting safe payment corridors.* The concept of so-called “safe payment corridors” has been promoted in recent years as a measure to avoid the issue that certain corridors, or entire receiving countries, are cut off from cross-border payment flows. Safe corridors could be used to reduce compliance costs and the uncertainty associated with remittances in certain country or currency corridors. Rigorous and effective risk assessments can help determine lower risk corridors and types of cross-border payments, and consequently reduce the burden associated with compliance checks and facilitate market entry.
- 8) *Fostering know-your-customer (KYC) and identity information-sharing.* In several jurisdictions, financial institutions have established, or are considering establishing, shared facilities for customer identification in the context of domestic or cross-border payments. These initiatives are likely to be implemented at a regional rather than a global level and to require changes to legal and regulatory frameworks. The implementation of this building block could be of particular interest to those groups of countries where: (i) remittance flows between the participating countries are economically important; (ii) there is some compatibility in national data protection and privacy laws; and (iii) KYC/AML risks are similar. Such initiatives can help overcome the difficulties arising from identity and verification systems that are often not interoperable within or across jurisdictions.

2.2.1 Impact on frictions

27. Each building block within this focus area has an impact on reducing the complexity of undertaking compliance processes. Difficulties in promoting greater competition in payments often derive from high barriers to entry, which often have their roots in an insufficient degree of regulatory

¹⁶ The degree of harmonisation achievable depends on the underlying differences between national legal and administrative systems (eg between common law and civil law systems) and the need to mitigate country-specific risks.

¹⁷ Data frameworks clarify the rights and obligations of key stakeholders. Data protection focuses on protecting data from malicious attacks and the exploitation of stolen data for profit. While security is necessary for protecting data, it is not sufficient for addressing privacy. Data privacy equates with appropriate use and governance of personal data, eg putting policies and processes in place to ensure that consumers’ personal information is being collected, shared and used in appropriate ways. Data localisation requirements can include bans on transferring data abroad or the obligations to store data in servers physically located in the country (Molinuevo and Gaillard (2018), World Bank (2018), CPMI-World Bank (2020)).

harmonisation that limits the scalability of investments in payments capability. Greater alignment in supervision and oversight, cross-jurisdictional data frameworks, KYC data-sharing and corridor-specific risk assessments can all serve to reduce these barriers.

2.2.2 Difficulties

28. The main difficulties in this focus area could arise from the underlying legal frameworks. The main challenge lies in coordinating and securing support for alignment with international rules and standards and cooperative supervision and oversight arrangements. Furthermore, protecting personal data and privacy may also pose a challenge in many countries, and timetables for amending associated laws are often slow. For many jurisdictions there will be differences in approach reflecting domestic policy priorities. It will be necessary to ensure that domestic interests are appropriately addressed to ensure the sustainability of international coordination of regulation, supervision and oversight.

2.2.3 Relationship with other focus areas

29. If all the building blocks contained in focus areas C to E were completed, yet the legislative and regulatory restrictions remained unchanged and the supervisors and overseers do not cooperate, the positive impact of these focus areas would be reduced. That being so, focus area B can be an important magnifier of efforts to reduce frictions in cross-border payments. In addition, making technical and operational changes to infrastructures or data standards at the same time as legislative or regulatory amendments are being planned can mutually improve the outcomes of both types of initiative.

2.3 Focus area C: Improve existing payment infrastructures and arrangements

30. Cross-border payments depend in part on existing domestic and international payment infrastructures. Technical differences and restrictions rooted in the design of these systems contribute to multiple frictions in terms of operating hours, long transaction chains, high funding costs and weak competition. Frictions in cross-border payments can be mitigated by upgrading existing payment infrastructures at a jurisdictional level. Changes at the domestic level could include enhancing access to payment systems, aligning operational time windows and reducing settlement risk. The five building blocks of this focus area recognise that some operational changes (eg widening access) require supporting regulatory and legislative action.

31. This focus area contains five building blocks:

- 9) *Facilitating increased adoption of payment versus payment (PvP).* Cross-border payments involving the exchange of two currencies can introduce substantial risk to the payment chain if one of the FX parties makes payment prior to receiving the counterpayment from its counterparty. In such a case, the first party is at risk for the entire settlement amount. This risk is largely mitigated where the parties are able to settle and choose to settle via a PvP mechanism such as CLS Bank International (CLS), PvP links under Hong Kong's USD CHAT and RMB CHAT or other PvP arrangements, or if multiple RTGS systems extended their operating hours to 24/7. At present, however, the majority of FX settlement is conducted on a non-PvP basis: in 2019, about 60% of FX trades (after bilateral netting) were not settled with PvP protection using CLS or a similar settlement system, which represents an estimated USD 8.9 trillion worth of FX payments at risk on any given day (Bech and Holden (2019)). Expanding the availability of PvP to a wider range of transactions and actors therefore has the potential to remove risks, and thereby ultimately lower costs.
- 10) *Improving (direct) access to payment systems by banks, non-banks and payment infrastructures.* There can be different arrangements to improve access of payment infrastructures to settlement in central bank money while maintaining the safety and soundness of the overall payment system.

These include broadening the range of eligible candidates for settlement accounts by changing access policies, technical standards and legal, supervisory or oversight regimes. Allowing new cross-border PSPs and payment infrastructures to participate in domestic payment systems with settlement in central bank money can lower market entry barriers for those providers.

- 11) *Exploring reciprocal liquidity arrangements across central banks (liquidity bridges).* Central banks can have reciprocal arrangements whereby direct participants in large-value payment systems (LVPSs) in different jurisdictions can post cash in one LVPS and use it as collateral to generate central bank money liquidity in another LVPS. The liquidity is unwound at the end of the day at the same exchange rate at which it was created. If central banks would offer reciprocal liquidity bridges in multiple LVPSs, participants could hold their collateral in one jurisdiction and use it to generate liquidity in others. The central banks of Denmark, Sweden and Norway have had in place since 2003 the Scandinavian Cash Pool, where liquidity raised at the central bank of one country can be pledged for intraday loans from the central bank of another (Danmarks Nationalbank (2003)).
- 12) *Extending and aligning operating hours of key payment systems to allow overlapping.* A significant friction in cross-border payments is the lack of overlapping operating hours between infrastructures, which can cause payments to be delayed or limit the times within which payments can be initiated. Genuine 24/7 operation of real-time gross settlement (RTGS) systems is not feasible for many jurisdictions in the near future because it typically requires significant technical changes to both payment infrastructures and participants' platforms. However, advances in technology have enabled payment systems to perform more reliably with less downtime for end-of-day or end-of-period system maintenance/update, thereby making it possible for operators to consider significantly extending payment systems' operating hours as a first step towards a truly 24/7 cross-border payments mechanism. Fast (retail) payment systems (FPSs) are increasingly open 24/7 and have been (or are being) developed in many jurisdictions.¹⁸ Currently, 56 jurisdictions have FPSs, and this number is projected to rise to 64 in the near future (CPMI-World Bank (2020)).
- 13) *Pursuing the interlinking of payment systems for cross-border payments.* Links¹⁹ between the automated clearing houses (ACHs), RTGS systems or FPSs of different countries could decrease the dependency on traditional correspondent banking provided by the private sector. This would allow PSPs participating in the payment infrastructure of country A to send payments to PSPs participating in country B's payment infrastructure. In view of the effort involved in establishing and operating links between payment infrastructures, they are more likely to be established between countries with considerable economic activity and/or migration flows. The level of complexity supporting this arrangement can range from simple agreements to full technical integration and harmonisation. Furthermore, some interlinking models that rely on a central settlement infrastructure could eliminate the need for bilateral links and improve payment flows for channels with low to medium economic activity.

¹⁸ An FPS is a system in which the transmission of the payment message and the availability of the final funds to the payee occur in real time or near real time on as near to a 24/7 basis as possible. While closed-loop systems can also be near real-time and available 24/7, FPSs are payment infrastructure that facilitates payments between account holders at multiple PSPs rather than just between the customers of the same PSP.

¹⁹ The interlinking between the national payment infrastructures of different countries can be established by the private or public sector payment systems of those countries. It enables PSPs participating in the payment infrastructure of one country to send/receive payments to/from PSPs participating in another country's infrastructure (with the benefit for PSPs that they do not need to participate in different systems) (FSB (2020b)).

2.3.1 Impact on frictions

32. Increasing adoption of PvP and improving (direct) access to payment infrastructures as well as interlinking payment systems can reduce multiple frictions. In particular, interlinking payment systems and improving (direct) access can reduce the length of transaction chains and increase competition among different types of PSPs. While broader access can limit reliance on legacy platforms, adopting PvP impacts difficulties arising from compressed operating hours. Both PvP and interlinking can help reduce high funding costs, especially for cross-border payments which have two legs. Both of these building blocks represent important changes to the market structure, hence the broad impact across frictions.

33. By contrast, the building blocks for liquidity bridges and operating hours could have a substantial impact on a narrow range of frictions. For frictions relating to both funding cost and operating hours, these building blocks are the only ones in this report that have a high direct impact on these issues. Thus, they can be regarded as key components of any comprehensive roadmap to address the seven frictions identified in the Stage 1 report.

2.3.2 Difficulties

34. Although this focus area relates to enhancements of existing infrastructure, from a technical perspective not all building blocks are simple improvements to pre-existing systems. Implementing PvP, interlinking payment systems and expanding operating hours could require significant resources, possibly even a renewal of existing systems, and raises critical questions (eg inter-central bank liabilities/claims). Interlinking is complex and requires a high level of political will to implement.

35. By contrast, widening access or implementing liquidity bridges constitutes less demanding operational change that does not require a complete rebuilding of existing systems but may need a high level of coordination and legislative or other changes that may not be achieved easily or quickly. Nonetheless, it is important that when action is taken to improve any of these building blocks, it is consistent across borders and between systems as far as possible. Finally, an extension of the operating hours of key payment systems might require substantial operational changes and increased staffing requirements, not only for payment system operators but also for participants, due to monitoring requirements, especially in the case of RTGS systems.

36. Many operational changes require supporting legislative or regulatory change. In particular, the conditions for access to payment systems may be dependent on suitable supervisory oversight or legal authorisation.

2.3.3 Relationship with other focus areas

37. As noted, focus area C is substantially enabled by the building blocks contained in focus areas A and B. Focus area C focuses on the technical and operational changes that can enhance infrastructure. However, there is heavy reliance on the legislative and regulatory approach within a given jurisdiction. For example, a payment system operator may be willing and able to broaden access to a wider range of PSPs and FMIs, but if a suitable regulatory or oversight regime does not exist to help mitigate key risks, then the impact of that change is minimised or could in the worst case be counterproductive.

38. Furthermore, focus area C can be a significant enabler of the future technological and operational changes contained in focus area E. In this respect, incremental improvements based on focus area C could represent a potential path forward towards implementing new infrastructure to support cross-border payments in the future (as discussed in focus area E).

2.4 Focus area D: Increase data quality and straight through processing by enhancing data and market practices

39. The building blocks in this focus area are intended to maximise the positive impact of the technical, operational and regulatory process changes being advanced in focus areas A to C. Poor data quality and limited standardisation of data exchange make cross-border payments more complex to process, thus affecting their speed, price and transparency. Promoting the adoption of common message formats, including the conversion and mapping from legacy formats and the use of the Legal Entity Identifiers (LEIs),²⁰ has the potential to improve compliance processes and address data handling issues within legacy technology platforms. Agreed protocols for data exchange directly mitigate the friction around fragmented and truncated data.

40. This focus area contains three building blocks.

- 14) *Adopting a harmonised ISO 20022 version for message formats (including rules for conversion/mapping).* Promoting the adoption of common message formats, such as a harmonised version of ISO 20022, can play an important role in payment system interlinking and, more generally, addressing data quality and quantity restrictions in cross-border payments.²¹ A common message format can lead to additional efficiency gains by avoiding workarounds and translation from one implementation to another, thus reducing the implementation costs for new PSPs and enhancing the ability to achieve fully automated straight through processing functionalities (CPMI (2018)).
- 15) *Harmonising API protocols for data exchange.* Harmonised application programming interfaces (APIs)²² can enhance data exchange throughout the cross-border payment process. If a common API protocol is accepted and implemented across jurisdictions, this can facilitate integration across countries and transparency of cross-border payments.
- 16) *Establishing unique identifiers with proxy registries.* Global structures to generate digital unique identifiers (UIs) for individuals and legal entities, and decentralised proxy registries linking them with the account information (in a standard format) of both the payer and the payee, would reduce processing errors and the need for complex conversion and translation of payment data. The Global LEI System (GLEIS) is one example of a UI which enables third-party stakeholders to accurately connect their own unique identifiers to the LEI, providing interoperability across parallel identity platforms, which could be leveraged as a global UI. Providing a globally standardised approach supporting national schemes (eg Singapore's PayNow system uses an individual's national digital ID and a company's legal identifier as proxy for payments) for identification could expand beyond payments to end users and the wider economy if mass

²¹ ISO 20022 is the international standard for financial service messaging, developed by Technical Committee 68 of the International Organization for Standardization (ISO). The standard aims to facilitate financial communication all along the process chain between end users, financial institutions and financial market infrastructures. Cross-border considerations were an initial motivation for ISO 20022, but it has been increasingly adopted for domestic financial messaging, which may facilitate opportunities to interlink domestic payment infrastructures from different jurisdictions. Over time, the proliferation of ISO 20022 implementations could support linkages between national or regional fast payment platforms, thus facilitating cross-border transactions between different jurisdictions (CPMI (2018)).

²² APIs prescribe the way software programmes communicate and interface with each other (FSB (2019a)). APIs can be kept private or made publicly available (open or public APIs) to allow developers to integrate certain functionalities into their applications. They can be proprietary, with service providers designing different API interfaces and protocols, or standardised across service providers. APIs are increasingly used for financial services in general and payments specifically. Following legal and regulatory changes in several jurisdictions, the number of APIs that have been registered for the purpose of financial services and payments has increased sharply since 2016 (Santoro et al (2019)).

adoption were achieved throughout society. This would need to be balanced with due consideration of potential drawbacks and delivered in a way that would avoid reinforcing existing inequities.

2.4.1 Impact on frictions

41. Of the focus areas listed here, focus area D has the greatest impact on the fragmentation of data standards in cross-border payments. The efforts in this focus area go deeper than just identifying standards and looking to implement them. It incorporates crucial mapping and translation tools that support widespread interoperability between systems. The ability to uniquely identify legal entities, individuals and payment accounts is an important component of any compliance process. The increased use of identifiers could relieve the burden of this friction. Commitment to a global system of identifiers is central to this effort. This approach can increase the impact that wider standardising efforts have, such as harmonised ISO 20022, APIs, and LEIs, by creating additional layers of standardisation within a broader framework.

2.4.2 Difficulties

42. Within focus area D, there are disparities in the time it would take to implement crucial activities. In particular, harmonisation of ISO 20022 and/or API protocols, and the use of LEIs, are already in train, but require greater global coordination and broader use to fully realise benefits, whereas creating new structured digital unique identifiers is likely to have a longer implementation time, especially for natural persons. Once implemented, structured digital unique identifiers can amplify the impact of ISO 20022 and other standardising measures.

43. Much work is already under way on implementing common message formats and data exchange protocols internationally, with a lot of focus on ISO 20022 for payments and increasingly APIs. Meanwhile, over 1.6 million LEIs have been issued. The GLEIS also has a relationship with SWIFT to map the Business Identifier Code (BIC, ISO 9362) assigned to an organisation against its LEI. While progress on these building blocks does not remove the obstacles related to implementation and the scale of the coordination effort, it may reduce the potential time it takes to realise benefits. In contrast, a globally unified solution for linking the identity of a company or an individual to their payment accounts in a standardised way is many steps further behind. Global identifiers for individuals are currently a very distant goal. Widespread coordination and investment are required to fulfil such an ambition. Taking into account the divergent jurisdictional frameworks and sentiments is a precondition for success.

2.4.3 Relationship with other focus areas

44. Implementing new messaging standards and identifiers impacts a huge number of market participants and requires broad and sustained commitment. Consequently, focus area D is supported by the vision and commitment detailed through focus area A. Wide adoption of APIs for cross-border payments depends on coordination of relevant regulatory frameworks and data protection requirements, so focus area D depends on focus area B. The more payment infrastructures and market participants, existing or new, adopt or support (eg via mapping) common formats, such as the LEI, the higher the impact on cross-border payments is likely to be. In addition to implementing the standards used at present, being able to adapt to future changes will be important. Thus, focus area D is relevant for focus areas C and E and the future evolution of the infrastructures that those two focus areas relate to.

2.5 Focus area E: Explore the potential role of new payment infrastructures and arrangements

45. Cross-border payments are facilitated through a variety of legacy technologies and processes, which cannot be easily changed. The correspondent banking model has been the backbone for a large portion of cross-border payments and is likely to maintain its importance in the future, but that traditional model requires improvements in order to contribute to the enhancement of cross-border payments. Recent advances in technology have created the potential for new payment infrastructures and arrangements that could also process cross-border payments and mitigate those frictions currently arising from the limited harmonisation of existing infrastructure and processes. New multilateral payment platforms can offer alternatives to process cross-border payments, and have the potential to make more efficient settlement, in particular for low-value payments. There are also new types of initiatives under consideration, including central bank-issued digital currencies and privately issued stablecoins. So far, these have not been implemented broadly; some are still in their design phase and others remain theoretical. Hence their potential to enhance cross-border payments cannot yet be fully assessed.

46. To be successful, purpose-built new cross-border infrastructures will require significant progress on focus areas A to D, as many of the building blocks of those focus areas address barriers that affect both existing and potential future infrastructures. Some of the changes in focus areas A to D might, on their own, achieve a good deal of the additional benefit without necessarily implementing new infrastructures. In addition, new technologies in some cases are not mature enough to be implemented at present. Focus area E encompasses the most ambitious changes, some of which are still at a theoretical stage and each of which would require further consideration, and the most work and time to implement. Successful design and application of these solutions for domestic and/or regional payments and their compliance with the legal, regulatory, supervisory and oversight frameworks of their respective jurisdictions are required before their real potential for cross-border payments can be evaluated. This does not rule out certain jurisdictions making progress but, in view of their global potential, it is important that progress in this field be closely monitored and international coordinating action be taken when needed.

47. This focus area has three building blocks.

17) *Considering the feasibility of new multilateral platforms and arrangements for cross-border payments.* Currently, cross-border payments rely mostly on correspondent banking (wholesale payments) and closed-loop systems (retail payments such as remittances). While correspondent banking relationships have been declining for some time, proprietary closed-loop systems have grown considerably (CPMI (2018)). In addition to improving the limited availability and viability of current interlinked payment infrastructures (building block 13) and ongoing efforts to improve cross-border payment processes, it is worth exploring the opportunities and challenges that new multilateral payment platforms could potentially offer to improve cross-border payments. Combined with agreed service levels (building block 3) and unique identifiers with proxy registries (building block 16), a multilateral platform could shorten transaction chains, increase interoperability and provide increased choice for certain payment corridors by lowering market entry barriers. In view of the multijurisdictional and cross-currency dimension, any new multilateral platform and arrangement for cross-border payments would need further exploration. In particular, this exploration could consider the use case for low-value payments and remittances.

- 18) *Fostering the soundness of global stablecoin arrangements for cross-border payments.* Global stablecoin arrangements²³ are not yet in place, and so this is a forward-looking building block to consider the cross-border implications if they were to be accepted. It is a more speculative building block and is not seeking to pre-empt the development of global stablecoins more generally. To begin operations, global stablecoin arrangements need to be based on design choices that adequately manage risks (such as legal and operational),²⁴ have appropriate governance, and comply with applicable regulation, supervision and oversight requirements as well as support relevant public interests. Depending on the outcome of the current discussion at G7 and FSB level, global stablecoin arrangements based on new technologies could be expected to meet the same operational reliability and resilience requirements as those of existing payment systems and market infrastructures. Use of proprietary standards could give rise to fragmentation across global stablecoin (closed) ecosystems and/or might adversely affect interoperability with existing payment infrastructures and arrangements.
- 19) *Factoring an international dimension into CBDC design.* Cross-border payments using CBDC could come about either through the availability of domestic CBDC to users from other currency areas or through domestically issued CBDCs, used in conjunction with the CBDC arrangement on the side of the receiving jurisdiction. Rather than involving the creation of a new public sector global currency (ie a new and separate store of value), the focus of this building block is squarely on addressing the cross-border potential should central banks decide to design CBDCs for their respective jurisdictions. The focus is on access frameworks and/or interlinkage options to facilitate efficient cross-border and cross-currency payments based on CBDC.²⁵ This building block is aimed at providing prospective domestic CBDC implementations with the necessary guidance on interoperability and interfacing with international infrastructures to enable cross-border transactions.

2.5.1 Impact on frictions

48. Proposals for new multilateral payment infrastructures and arrangements have the potential to remove certain frictions affecting the current cross-border payments market. These developments might lower entry barriers and foster efficiency, without compromising on compliance. Compared with traditional payment systems, CBDCs and stablecoin arrangements may have expanded operating hours and broader access. Hence they could help shorten transaction chains. Shortening the transaction chain is also a likely outcome of interlinking and/or multilateral payment platforms. At the time of publication of this report, there is no domestic implementation of CBDC or concrete roll-out date of global stablecoin arrangements that can prove the benefits of such digital payment solutions for cross-border payments in live operations. Accordingly, much of this potential impact remains speculative.

²³ Stablecoins have many of the features of cryptoassets but seek to stabilise the price of the “coin” by linking its value to that of a pool of assets. Recently, a number of stablecoin initiatives have emerged, some of which are sponsored by large technology or financial firms. With their existing large customer base, which additionally may be cross-border, these new stablecoins have the potential to scale rapidly to achieve a global or other substantial footprint. These are referred to as “global stablecoins” (G7 (2019)).

²⁴ The October 2019 report of the G7 Working Group on Global Stablecoins and the FSB consultative report that was published in April 2020 detail several risks and issues to be addressed with a focus on cross-border payments (G7 (2019), FSB (2020c)).

²⁵ CBDC arrangements involving a basket of multiple sovereign currencies serving as reference asset fall outside the scope of this building block.

2.5.2 Difficulties

49. Over recent decades, core domestic payment infrastructures have been implemented: RTGS systems are used across the globe for wholesale payments, the card payment infrastructure (be it for domestic or for international card schemes) has been upgraded in many countries, and FPSs are becoming increasingly available for retail payments.²⁶ Implementing payment infrastructures utilising entirely new technologies is challenging from a technical standpoint, and the establishment of multi-country and/or multicurrency payment infrastructures comes with challenges too. To be successful, broad support would be necessary for implementing new multilateral cross-border payment platforms and arrangements. Having buy-in from a range of public and private sector actors is important to ensure widespread adoption of CBDC, stablecoins and/or new multilateral cross-border payment platforms and arrangements. Necessarily, such ambition is expensive. Identifying technological, operational, legal and regulatory solutions for new arrangements is resource-intensive and requires coordination from multiple jurisdictional and supranational public authorities and industry representatives.

2.5.3 Relationship with other focus areas

50. The ability of emerging and embryonic payment infrastructures and arrangements to alleviate the frictions in cross-border payments could benefit from adopting design features that take other building blocks into account. The work undertaken in focus areas C and D supports the successful implementation of focus area E. New payment infrastructures and arrangements often must interface with existing infrastructures. And thus the lack of harmonisation in existing infrastructures remains a significant barrier to overcome in order to enable maximum benefit realisation from new infrastructures.

51. Consistent regulatory, supervisory and oversight approaches could be beneficial in that they have the potential to reduce the cost and complexity of operation and compliance. Further, the need for clear regulatory alignment on the treatment of any new payment arrangement or financial market infrastructure is paramount. Thus, focus area B is an important part of the process of delivering building blocks in focus area E. Focus area E, however, may raise new legal questions that are, by their nature, not covered in focus area B.

²⁶ In 1990 there were fewer than 10 RTGS systems, whereas now there are over 176 (Bech et al (2017)). Currently, 56 jurisdictions have FPSs, and this number is projected to rise to 64 in the near future (CPMI-World Bank (2020)).

3. Considerations for operationalising the building blocks

52. Advancing improvements to cross-border payments is a complex exercise. This section describes at a high level how building blocks vary along different dimensions: their impact on the frictions; the difficulties and risk in advancing and implementing them; the required involvement of the private and public sector; and the time it takes to realise benefits. These are important considerations for the roadmap. More detailed assessments will be needed to advance each building block and to enter the initial phases of implementation.

53. All the building blocks discussed in this report are aimed at addressing the frictions, and they add value in different ways. Some have a strong direct impact on the frictions, others have more of an indirect impact as enablers. Some building blocks provide for early benefit realisation; with others, it will take years for benefits to materialise. The difficulties in determining which building blocks to advance in what order and their implementation should not be underestimated. Some building blocks require significant involvement of the private sector and/or additional international coordination, and the costs, technical complexity and associated risks differ between building blocks. Finally, the capacity of the stakeholders involved and the state of development of the financial systems in implementing countries are of relevance when determining which building blocks to advance and their implementation. It is important to acknowledge that EMDEs might face specific challenges in this regard.

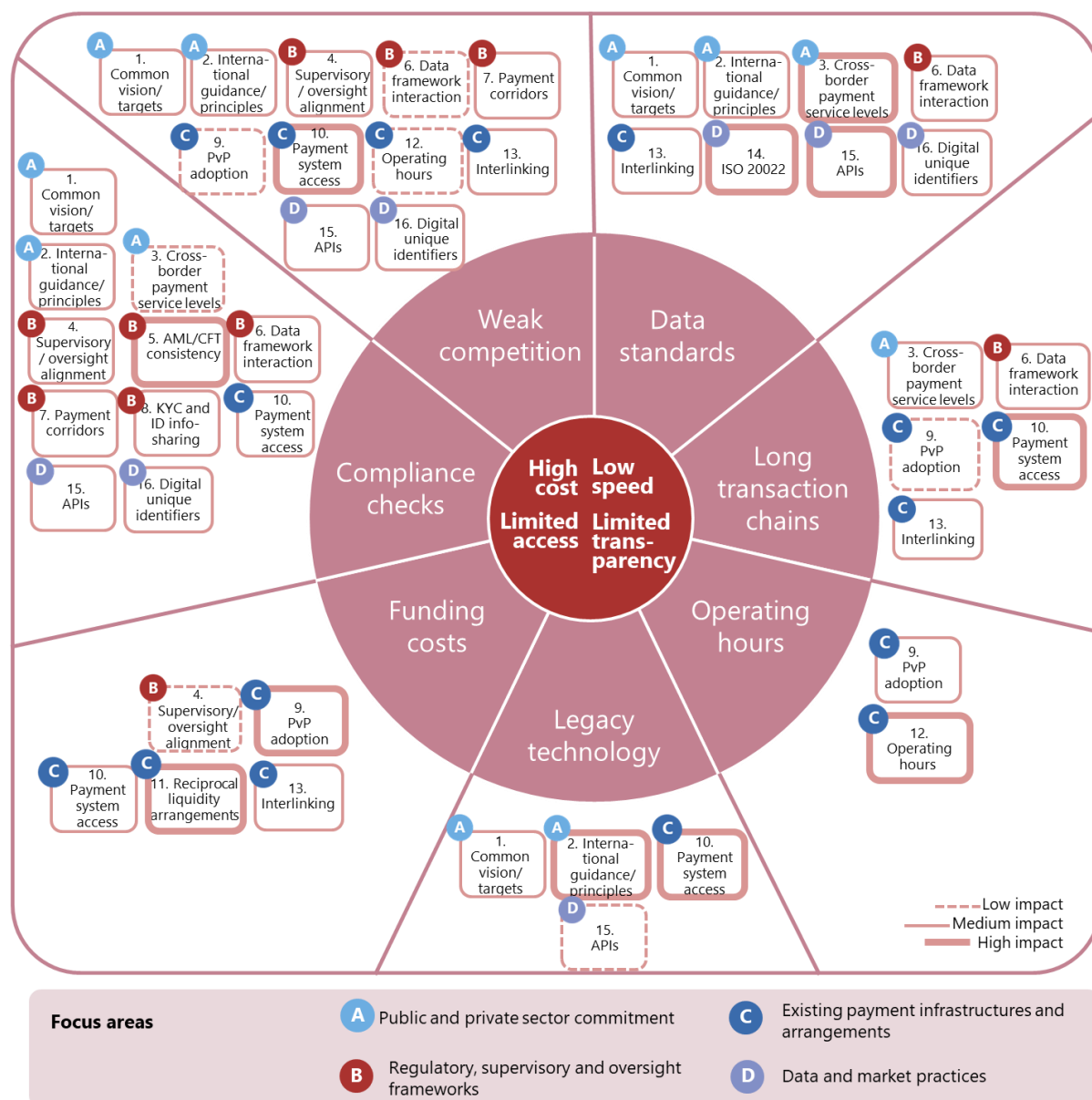
54. Because of the close interaction across various dimensions, this report does not seek to provide a simple ranking of building blocks in terms of impact but includes illustrative considerations for taking them forward. The combined effect of building blocks in focus areas A to D is expected to have a material impact on reducing the frictions, exceeding the sum of the individual impacts. Focus area E has the potential, over time and under the right conditions, to deliver notable change.

3.1 Expected impact of the building blocks on the frictions

55. The building blocks laid out in this report are the ingredients that can address the challenges identified in the Stage 1 assessment report by helping reduce or remove the underlying frictions. Each of the 19 building blocks aims to mitigate one or more of the seven frictions identified. Figure 6 illustrates the potential impact of each building block using a simple three-point scale (low, medium, high).

56. The two frictions with the fewest building blocks targeting them are (i) operating hours and (ii) legacy technology. However, the former friction is addressed directly by the building block on the extension/alignment of operating hours, and it is expected that the combined effect of many building blocks will incentivise improvements in technological capability. Building blocks 17–19 in focus area E are not depicted in the figure: as outlined above, some are still theoretical or in their design phase. While potentially significant, their impacts can be assessed only at a later stage in the process.

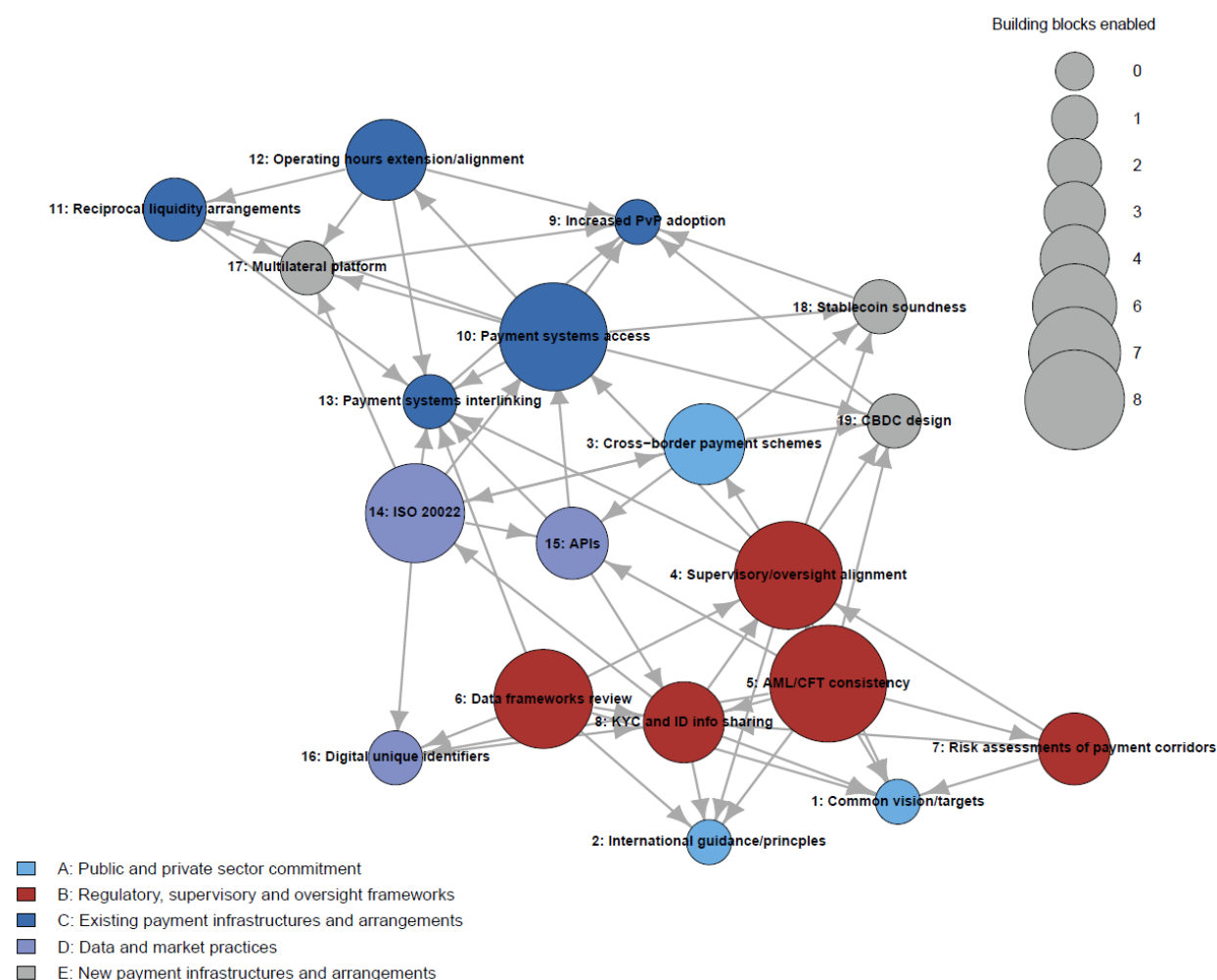
57. Figure 6 also shows that most building blocks help mitigate two or more frictions. However, while some building blocks are more focused, this does not mean that they are less important. This is the case, for instance, for the consistent and comprehensive AML/CFT rules application and KYC and identity information-sharing blocks, which both aim to ease problems associated with compliance checks and the reciprocal liquidity arrangement block, which targets lower funding costs. Similarly, common message formats such as ISO 20022 are crucial to removing the fragmented and truncated data standards friction. AML/CFT rules and reciprocal liquidity arrangements are the building blocks with the highest impact in removing their respective frictions, thus playing a crucial role. Moreover, some building blocks have positive second-round effects, such as increasing market access and competition by levelling the playing field.



Source: CPML.

58. The building blocks in focus areas A to D are more likely to improve cross-border payments in the short to medium term, while focus area E has a longer-term perspective. When it comes to focus area E, it is important to analyse and monitor these initiatives and, where needed, foster their cross-border dimension. However, their level of impact on different frictions will very much depend on their design features and only become clearer over time.

59. In addition to their direct impact on removing frictions, some building blocks can have a substantial indirect impact by enabling other building blocks, or by making them more effective. These interdependencies across building blocks are shown as a network in Figure 7. The building blocks where the arrows originate enable the building blocks where the arrows terminate.



Source: CPML.

60. While Figure 7 suggests that the building blocks in focus area A do not have an important indirect role as an enabler of other building blocks, by setting out the vision and destination of enhancements to cross-border payments they can have an important role in laying the ground for a more effective design and implementation of all other building blocks.

61. Three building blocks in focus areas B to D act as important enablers for other building blocks. AML/CFT consistency, supervisory/oversight/regulatory alignment and payment system access stand out as having a strong indirect impact, enabling or enhancing the impact of six other building blocks. This strong indirect impact makes these three building blocks pivotal to unlocking the potential of others. The other three building blocks in focus area C also have important indirect effects, enabling three or four other building blocks. In focus area D, harmonised ISO 20022 messaging emerges as having a substantial enabling effect on four other building blocks.

3.2 Potential difficulties and risks when addressing the frictions

62. Figure 8 presents an illustrative analysis of the potential difficulties inherent in advancing the different building blocks. Three different elements of the overall degree of difficulty were explored: obstacles (eg resistance from stakeholders, legal obstacles), technical complexity, and the costs of starting to understand the complexities that might need to be addressed.

Rating of the difficulties per building block

Figure 8

Focus area	Building block	Overall difficulty	Obstacles	Costs	Technical complexity
A Public and private sector commitment	1. Common vision/targets	●	• Medium	• Medium	• Medium
	2. International guidance/principles	●	• Medium	• Medium	• Medium
	3. Cross-border payment service level	●●	• High	• Medium	• High
B Regulatory, supervisory and oversight frameworks	4. Supervisory/oversight alignment	●	• Medium	• Medium	• Low
	5. AML/CFT consistency	●	• Medium	• Medium	• Low
	6. Data framework interaction	●●	• High	• Medium	• Low
	7. Payment corridors	●●	• Medium	• Medium	• Medium
	8. KYC and ID info-sharing	●	• Medium	• Medium	• Low
C Existing payment infrastructures and arrangements	9. PvP adoption	●●●	• High	• High	• High
	10. Payment system access	●	• Medium	• Medium	• Medium
	11. Reciprocal liquidity arrangements	●	• Medium	• Low	• Low
	12. Operating hours	●●	• High	• Medium	• Low
	13. Interlinking	●●	• Medium	• Medium	• Medium
D Data and market practices	14. ISO 20022	●	• Medium	• Medium	• Medium
	15. API harmonisation	●	• Medium	• Low	• Low
	16. Digital unique identifiers	●●	• High	• High	• Medium

Overall difficulty: Low ● ● ● ● ● High

Source: CPML.

63. The Task Force also analysed the potential impact of the building blocks on the smooth functioning of payment systems and financial and monetary stability. Analysis suggested that each of the building blocks has the potential to improve the smooth functioning of the payment system by addressing the frictions hindering cross-border payments, and to enhance financial and monetary stability. The analysis in the following paragraphs therefore focuses only on the potential risks.

64. For the building blocks in focus areas A to D, some potential risks to the payment system were identified and would need to be taken into account as part of the implementation. The widening of payment system access may increase liquidity, operational and legal risks, calling for robust oversight to mitigate them. Both reciprocal liquidity arrangements and payment system interlinking tie together

settlement systems across borders, increasing the risk of spillover effects across jurisdictions and participants during times of stress. In the case of extended operating hours, liquidity arrangements in non-traditional hours may not be as complete as during normal market hours when all markets and funding channels are open.

65. The risks to the building blocks in focus area E are assessed separately and not displayed in Figure 8 because they represent much broader changes to the landscape. Each building block has the potential to have a substantial impact on the smooth operation of the payments landscape and both monetary and financial stability, although the specific design of any given implementation can materially affect the nature of that impact.

66. A new multilateral payment platform, if inadequately designed, operated and regulated, can be a source of systemic risk, and disruptions may adversely impact the real economies of participating jurisdictions. If not properly managed, problems in a payment system, especially a systemically important one, can cause or exacerbate financial shocks – such as liquidity dislocation or credit losses – that affect the stability of the financial system more broadly. Interdependencies can also present an important source of systemic risk. Careful design can help alleviate these concerns.

67. Global stablecoins might also have implications for monetary policy and financial stability if used at scale. This will depend on the design of the stablecoin arrangement, particularly the extent to which it is used to store value and how fiat currency funds are invested. Its regulatory treatment is key to mitigating risks to monetary and financial stability. Any asset which could impede the monetary transmission mechanism or reduce monetary sovereignty presents a significant risk. Again, design consideration is crucial. In particular, it is essential to understand the intended use of the global stablecoin as a store of value or as a means of exchange, whether it could potentially introduce a new unit of account, and how the backing asset is composed. If the backing asset is a currency, it can be single or multicurrency. Financial stability risks may arise from the prospects of new types of private money used at scale; and the prospects of disintermediation of the financial system, imported financial risks and the potential to pool risk outside the regulated perimeter are considerable concerns that regulators and operators must address.

68. In a CBDC cross-border scenario, there exists currency substitution risk, a risk of cross-border transmission of monetary policy and an impact on the central bank's balance sheet from foreign demand for the monetary instrument. Regarding financial stability, the risk of cross-border bank runs emerges. And both financial stability and smooth functioning of the payment system could be impacted by disintermediation of the banking system and existing PSPs. Although mitigations exist in many forms, and the precise nature of the implementation can affect this risk assessment, the widespread impact of such innovation requires careful consideration.

69. Across these building blocks, the importance of identifying and resolving gaps in risk mitigation and legislative frameworks cannot be overstated to ensure that such potentially transformative change happens without introducing unacceptable risks or unintended consequences.

3.3 Role of public and private sector stakeholders in advancing improvements

70. Another dimension to consider when advancing improvements is the necessary involvement and engagement of private and public sectors. Given that this is a multidimensional issue, coordination across a number of players will be important. Additionally, bandwidth within international public sector groups could also be a constraint in the current circumstances, especially when the same international groups would help inform a range of building blocks. Domestic organisations may also face constraints in their work plan and ability to coordinate. These are issues that require attention.

71. Setting the vision and targets for improving cross-border payments will be driven by the public sector across many jurisdictions and through international organisations. It will be important that both advanced economies and EMDEs, support the vision and targets. As regards focus area A, the private

sector can provide input into the shape and ambition of achieving shared ownership of targets. As regards focus area B, the private sector has an important role in implementing the requirements set by authorities.

72. The focus areas where private sector contribution is most crucial to successful progress are focus areas C to E: improving existing payment infrastructure and arrangements, data and market practices, and new payment infrastructures and arrangements. Successful change and implementation of technical or operational standards require coordination and cooperation. Harmonising and enhancing existing infrastructure is dependent on the private sector implementing it. Achieving longer-term innovation using new technologies and arrangements necessitates coordinated action from both public and private bodies to ensure suitable risk mitigation and support for innovation.

















73. The Stage 3 roadmap could helpfully set out appropriate roles for public and private sector stakeholders for advancing particular building blocks, including areas where a division of responsibility may be appropriate and areas where they may usefully work together to deliver desired outcomes. The roadmap should emphasise the importance of, and build in time for consultation with, the private sector. The CPMI will continue stakeholder engagement, including via the Task Force. This could, for example, help inform the steps that would be necessary, and potential obstacles to overcome, in advancing and implementing the building blocks.




3.4 Expected time to benefit realisation

74. While it is important to have in mind the long-term vision of enhancing cross-border payments, when deciding on and prioritising the building blocks there are material differences in the time scales over which building blocks can deliver meaningful improvements. Based on the time horizon over which benefits are expected to materialise, the building blocks can be broadly assigned to the following three categories:

- *Short-term:* building blocks that can have some impact on frictions even with partial implementation, or where complete implementation is likely in the near term (less than two years).
- *Medium-term:* building blocks where any benefits from partial or complete implementation are estimated in a few years or after more widespread uptake (two to five years).
- *Long-term:* building blocks where any benefits may accrue only after widespread adoption or when there is substantial lead time to implementation (more than five years).

75. Figure 9 shows illustrative time estimates until benefits begin to be achieved. They are distributed fairly evenly across the three categories (seven building blocks appear as short-term, seven as medium-term and two as long-term). Building blocks within focus area A are expected to have the shortest time to realisation of benefits. Focus areas B to D, requiring some regulatory changes or operational implementation, include a wider range of shorter- and longer-term realisations of benefit, depending on the building block. Within this group, building blocks with shorter times to benefit realisation include AML/CFT alignment, promoting safe payment corridors, payment system access, reciprocal liquidity arrangements, ISO 20022 and harmonised API protocols. The Task Force considered some potential time frames for the different tasks needed to advance improvements, an analysis that may inform the roadmap design. The building blocks listed within focus area E are not displayed in Figure 9 since, at the time of writing, these building blocks are at an early stage of being explored and whether and when they might be adopted is unclear.

Focus area	Building block	Expected time horizon	Focus area	Building block	Expected time horizon
A Public and private sector commitment	1. Common vision/targets		C Existing payment infrastructures and arrangements	9. PvP adoption	
	2. International guidance/principles			10. Payment system access	
	3. Cross-border payment service level			11. Reciprocal liquidity arrangements	
B Regulatory, supervisory and oversight frameworks	4. Supervisory/oversight alignment			12. Operating hours	
	5. AML/CFT consistency			13. Interlinking	
	6. Data framework interaction		D Data and market practices	14. ISO 20022	
	7. Payment corridors			15. API harmonisation	
	8. KYC and ID info-sharing			16. Digital unique identifiers	

Short-term 
 Medium-term 
 Long-term 

Source: CPML.

4. Areas to explore in developing the roadmap

76. This section sets out some considerations for the Stage 3 work, which consists in developing a roadmap to pave the way forward to enhance cross-border payments. These considerations stem from an initial analysis of each of the 19 building blocks as well as their interdependencies and sequencing. The FSB will coordinate, with the CPMI and other relevant international organisations and standard-setting bodies, on the development of the roadmap. This section sets out some considerations for its development.

77. To successfully advance the building blocks, and so deliver notable enhancements to cross-border payments, strong public and private sector engagement will be required at the international and domestic levels. In designing and implementing the roadmap, extensive engagement will be needed to mobilise relevant contributors and agree on feasible milestones for delivery. While the high-level tasks identified in each building block represent the initial views of the Task Force, and have benefited from input from a range of interested parties, considerable work will be required to expand them into detailed plans. For some of these tasks, new governance arrangements may be required in order to coordinate efforts across a diverse set of players. For others (eg those relating to ISO 20022 or foreign exchange risks), work is already under way and the roadmap can help coordinate these activities.

78. The roadmap should frame the path forward and steer global engagement, while allowing sufficient flexibility for jurisdictions around the world with different priorities and whose financial systems are at different levels of development. Each of the building blocks proposed in this report is designed to address the frictions in cross-border payments. Nevertheless, the circumstances, needs, priorities, interests and levels of development in local payment systems vary widely across jurisdictions.

79. The analysis of the Task Force has identified a number of important interdependencies between building blocks that need to be explored further and taken into account when drawing up the roadmap and designing the appropriate sequencing for implementation. These interdependencies are a key reason why material progress in addressing the challenges in cross-border payments can only be achieved through a wide-ranging and coordinated plan of action engaging all stakeholders and addressing all major frictions. Interdependencies manifest themselves in two ways: (i) by influencing the most effective order for carrying out the tasks; and (ii) by making the level of benefits a building block can deliver dependent on the successful implementation of other building blocks.

80. For some building blocks, early incremental benefits seem feasible, while the benefits of other building blocks will be realised in the longer term. The building blocks have where possible been designed to build upon existing initiatives in cross-border payments, and hence contain a number of tasks that are already in train in some countries or international bodies, meaning that early realisation of some benefits can be expected. In particular, where action is building on, or supported by, existing international initiatives or market practices, it should be encouraged in the near term. Operational actions to deliver interoperability require time, and could first be encouraged at a regional level before wider application is sought for them. The scale of the cross-border payments market is such that incremental improvements can have a material economic impact, so that considering the time to expected benefit realisation for each building block could inform the roadmap.

81. As part of the roadmap, it will be important that other expert bodies also undertake outreach in their specialist areas. Domestically, jurisdictions may wish to conduct their own consultation and engagement according to their individual processes and in line with their priorities. The roadmap could frame the way forward at the global level, while allowing sufficient flexibility to be factored in for jurisdictions with different priorities and whose financial systems are at different levels of development.

82. A comprehensive set of delivery milestones involving both the public and the private sector, together with monitoring, is essential to ensure success. Measurement of progress against targets can help coordinate progress and sustain buy-in across the wide-ranging change advocated in this report. The

Stage 1 report noted that comprehensive and comparable data on cross-border payments are not currently available. Leveraging and potentially complementing current initiatives on data collection should be further considered to help monitor the progress achieved during implementation. In that process, the transformative impact of these enhancements can drive meaningful changes for all users of cross-border payments – reducing costs, reducing the time taken for a transaction, and increasing the transparency of, and access to, those services.

83. Key performance indicators (KPIs) consisting of a set of core quantitative indicators, complemented with a number of supporting indicators, could help. These performance or outcome indicators facilitate measurement of progress in achieving a certain final objective (eg speed of a cross-border payment for a specific type of corridor). For some segments of the cross-border payments market, particularly the payments conducted via correspondent banking, SWIFT gpi data may be used to set up and track such KPIs. For certain building blocks of focus areas A to D, the World Bank Group's Global Payment Systems Survey (GPSS), Global Financial Inclusion and Consumer Protection (FICP) Survey and the Remittance Prices Worldwide could be used (Pazarbasioglu et al (2020)).

5. Conclusions

84. This report has identified 19 building blocks, which offer a comprehensive set of measures to enhance cross-border payments. Each building block has been assessed as having the potential to address at least one of the seven frictions identified in the Stage 1 report. The building blocks are grouped into five focus areas. The report has focused on identifying solutions across the spectrum of cross-border payments, spanning wholesale and retail (including remittances).

85. The building blocks in focus areas A to D enhance the various dimensions of the existing payments ecosystem, while those in focus area E are more exploratory in nature. All have the potential to bring meaningful change, but those in focus area E in particular would be dependent, among other things, on first addressing issues covered in the other focus areas.

86. Bringing change across the multidimensional issues of cross-border payments will take time, and require the coordination of a range of public and private sector bodies. The report has therefore highlighted a number of considerations to be taken into account in the next stage of the process when devising a roadmap to enhance cross-border payments. Understanding the interdependencies between different building blocks and the need to develop a clear understanding of the monetary and financial stability risks is key.

87. To make a real difference in cross-border payments and deliver benefits for citizens and economies worldwide, strong public and private coordination and widespread engagement will be required. The report includes an initial assessment of the expected times to benefit realisation, identifying those initiatives that have the potential to impact frictions in the near term, and those where benefits are only achievable over the medium or long term.

88. Given the interdependent nature of the proposed building blocks set out in this report and the need for a globally coordinated approach to advancing the roadmap, it will be important to have a comprehensive set of delivery milestones as well as a mechanism for monitoring of progress. The CPMI is committed to playing a role in advancing and implementing these ambitious steps to enhance cross-border payments.

Annex 1: Description of building blocks

Each of the identified building blocks will help mitigate one or more of the cross-border payment frictions. The building block templates below include a brief description of the building block and its objectives, some potential steps that break down the broad functional topic into a potential set of actions to take forward, and potential obstacles. Each building block would benefit from further analysis of the tasks, timing, coordination and consultation necessary to make it actionable at a jurisdiction level.

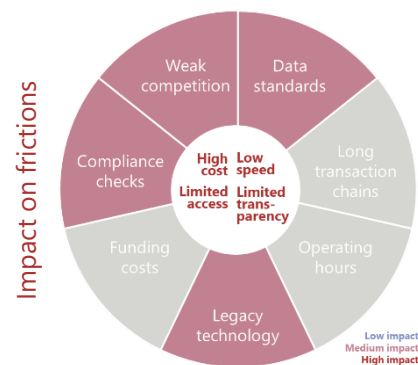
Developing a common cross-border payments vision and targets

1

A common vision, and targets derived from it, are needed to catalyse efforts to enhance cross-border payments. Many successful domestic and regional payment reforms start with setting out a vision and agreeing on time-bound targets. At a global level, the G20 made enhancing cross-border payments a priority during the 2020 Saudi Arabian Presidency, and previously the G20 and the UN agreed on cost targets for international remittances. A shared vision that encompasses all types of cross-border payments, not just remittances, and concrete targets in terms of speed, costs, transparency and inclusiveness are yet to be developed and endorsed.

Objective

The goal is to establish a common vision and publish concrete targets, agreed upon by all relevant parties covering a significant share of the global cross-border payment corridors and all cross-border payment types. An approach that sets targets for all four challenges (cost, speed, access and transparency) as well as for both payment segments (retail and wholesale) is desirable. These targets could be quantitative, eg total cost as a percentage of transaction value as in the case of remittances, or qualitative, eg through comparing the user experience of cross-border payments with domestic ones.



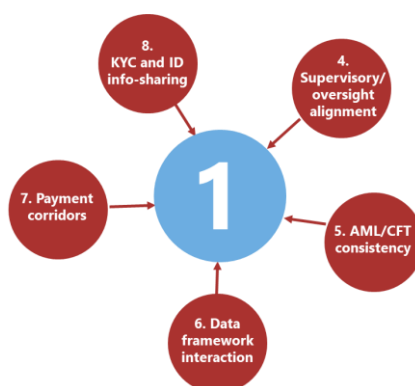
Obstacles

Setting targets requires a high degree of global coordination across many public and private sector entities. This could present obstacles in the form of misaligned priorities or even conflicting opinions on the areas of cross-border payments that need improvement. Reaching an agreement that (i) involves relevant stakeholders, (ii) is comprehensive in its scope and (iii) sets sufficiently ambitious targets is a difficult undertaking. However, agreements in place, even if they are among a smaller subset of relevant actors, could serve as a good starting point for further progress as observed with the G20 and the UN targets on remittances. The progress monitoring in terms of target achievement will be an ongoing effort, which will require careful resource planning.

Possible steps

- Developing consensus among relevant cross-border payments stakeholders (public and private sector).
- Establishing accountability, eg in the form of a joint letter of commitment signed and presented at a joint event.
- Data collection and analysis to monitor progress against the targets.

Interdependencies with other building blocks



Practical examples and additional sources

[UN SDG targets on remittances](#)

[Remittance prices worldwide – World Bank Group](#)

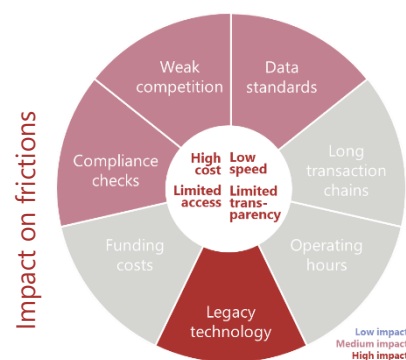
Implementing international guidance and principles

2

The implementation of existing international guidance, principles and recommendations can address certain frictions in the cross-border payments ecosystem. Among the relevant forms of international guidance with a direct or indirect bearing on cross-border payments are the Principles for Financial Market Infrastructures (PFMI), the guidance on payment aspects of financial inclusion (including considerations on fintech) and the Financial Action Task Force Recommendations. In addition, the General principles for international remittances and the Correspondent banking recommendations address specific aspects of cross-border payments.

Objective

The goal is to ensure adoption and effective implementation of guidance, principles and other recommendations relevant to enabling or supporting safety, effectiveness and efficiency in the sphere of cross-border payments. This includes important elements advocating the development of specific information and communication technology infrastructures, particularly those regarding identification and data-sharing, and the legal and regulatory framework. These initiatives aim to support innovation, foster competition and increase financial inclusion in the context of cross-border payments.



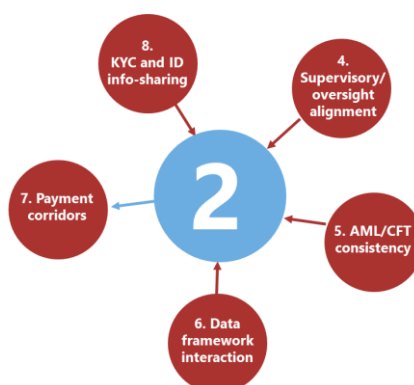
Obstacles

The implementation of the international guidance and principles will be challenging due to the wide variety of areas where safety and efficiency are considered in the cross-border market. For that reason, it requires a substantial effort across jurisdictions by both the public and private sector on a jurisdiction-by-jurisdiction basis. Moreover, in order to positively affect cross-border payments, the implementation of international guidance and principles must be advanced in every jurisdiction to the same standard. Considering that each jurisdiction may place a different priority on each of the critical enablers, the implementation of international guidance and principles may be uneven.

Possible steps

- Stocktake of all international guidance and principles relevant to cross-border payments.
- Progress monitoring of the implementation of international guidance and principles by authorities and stakeholders.
- Consolidation of the existing progress monitoring, focusing on elements of relevance for cross-border payments.

Interdependencies with other building blocks



Practical examples and additional sources

[General principles for international remittances](#)
[PFMI](#)
[Payment aspects of financial inclusion guidance](#)
[FATF Recommendations](#)
[Correspondent banking recommendations](#)

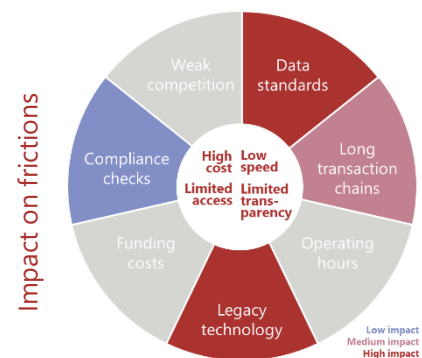
Defining common features of cross-border payment service levels

3

Agreed service levels can cover a set of functions, procedures and arrangements that make it possible to execute a payment order between different entities in the cross-border payment value chain. They are relevant for both wholesale and retail payments. Agreed service levels help establish a common, agreed and binding framework for all participants on aspects such as data standards, message formats and compliance processes. Scheme rules also bring about consistency and certainty for all stakeholders. They enable multiple counterparties to participate in a common system under a multilateral framework, thereby eliminating long transaction chains.

Objective

The goal is to support standardisation and harmonisation of cross-border payment processes among payment service providers that agree on payment service levels. Rather than defining concrete service levels or even developing a common scheme, the objective of this building block is to define those elements covered by such multilateral service level agreements or schemes. For example, enforcement mechanisms based on both automated rules and institutional and contractual arrangements can foster automation and transparency in the processing of cross-border payments.



Obstacles

Coordination challenges, resistance from incumbent schemes, the need to draw on expertise from private sector organisations and instituting a collaborative framework for oversight could be obstacles faced in implementing this building block as well as in its ongoing functioning.

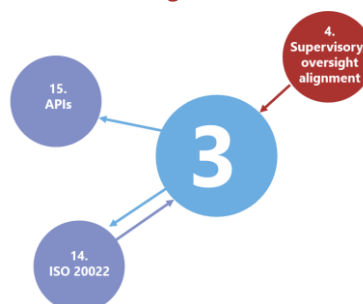
As it is likely that an international working group will need to be constituted, the number of players to coordinate with will be high. Some of the existing schemes may resist the definition of common features. There could also be misalignment of business interests of incumbent scheme operators.

Finally, the views on the most appropriate cooperative oversight approach to take might differ, depending on whether or not authorities have the oversight of payment schemes within their mandate.

Possible steps

- Establishing an industry working group and supporting its functioning.
- Identifying a framework for reviewing schemes/multilateral service level agreements against the common features.
- Monitoring and promoting adoption of the reference common features.

Interdependencies with other building blocks



Practical examples and additional sources

[SWIFT gpi](#)
[Guidelines on International Remittances through Mobile Money](#)
[Wolfsberg Principles](#)

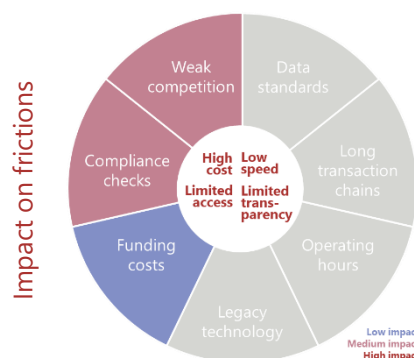
Aligning regulatory, supervisory and oversight frameworks for cross-border payments

4

Some types of risks are common across different jurisdictions – for example, regarding the safety and efficiency of payment systems, money laundering and terrorist financing, consumer/investor protection and data protection. These could be addressed for cross-border payments, at least partially, by existing regulatory, supervisory and oversight frameworks. However, their implementation and enforcement may differ, adding uncertainty, increased costs and legal risks given the cross-jurisdictional nature of cross-border payments.

Objective

First, enhanced convergence of supervisory and oversight frameworks and practices, across jurisdictions and for the different types of providers ("same activities, same risks, same rules"). Second, reinforced consideration of (i) cross-border payments in the current cooperation arrangements between supervisors and overseers of different jurisdictions and (ii) concrete improvements to existing frameworks. This would result in clarity and consistency – for instance, in terms of compliance checks to be conducted by providers concerned – and a level playing field among them.



Obstacles

The main obstacle is likely to be the dissimilarities between existing supervisory and oversight frameworks, and the coordination of parallel supervisory and oversight activities. More broadly, it would require the coordination of a large number of players across both the private and the public sector, with likely resistance. Its achievement would also depend on the successful implementation of a series of other building blocks, in particular those of a regulatory nature.

Possible steps

- Stocktake of existing frameworks applicable to cross-border payment providers and multicurrency payment infrastructures and determining of relevant authorities.
- Reviewing and, if needed, updating and (re-)designing supervisory and oversight frameworks.
- Putting (new) frameworks into practice and monitoring progress.

Interdependencies with other building blocks



Practical examples and additional sources

[CLS Oversight Committee Responsibility E: A compilation of authorities' experience with cooperation](#)

[Payment system oversight and interoperability](#)

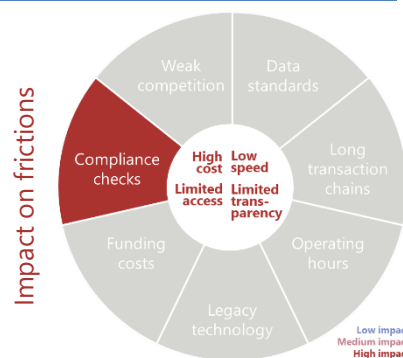
Applying AML/CFT rules consistently and comprehensively

5

Currently, many AML/CFT requirements have been harmonised through the FATF Recommendations and Basel Committee on Banking Supervision principles and guidance. However, there remain some elements which differ between jurisdictions, others which are outside the scope of the FATF standards, and detailed requirements not fully consistent between different standards. Greater consistency in the application of AML/CFT requirements, while taking into consideration underlying differences between national systems and the need to mitigate country-specific risks, can ease the friction arising from the complex processing, ensure greater transparency and certainty regarding AML/CFT requirements, and reduce regulatory arbitrage.

Objective

The goal is to ease the friction arising from the complex processing of compliance checks – by fostering greater consistency of domestic AML/CFT requirements while recognising the need for some variations in line with a risk-based approach, lowering compliance costs and validations points, ensuring greater transparency and certainty regarding AML/CFT requirements, and reducing regulatory arbitrage.



Obstacles

Extensive coordination among many players is required, as representatives from different countries and authorities and private players will need to be involved. Effective cooperation also requires, for instance, establishment of memorandums of understanding and standing institutions such as supervisory colleges, which need significant resources. This process can be slow, and elements of disagreement might prove impossible to resolve. Moreover, some of the FATF standards are technically very complicated, or leave room for different interpretation or application depending on the legal system. This may cause differences in implementation – even if the standards at the global level have been harmonised. For certain jurisdictions, a lack of capacity and the cost of implementing controls effectively can be challenging.

Possible steps

- Greater harmonisation of AML/CFT requirements among countries, in line with FATF standards
- Effective implementation of harmonised AML/CFT requirements at domestic and regional levels
- Enhanced regional and international cooperation in AML/CFT supervisory matters
- Development and implementation of technologically innovative solutions for AML/CFT compliance and compliance monitoring

Interdependencies with other building blocks



Practical examples and additional sources

[FATF Recommendations](#)
[Introduction of guidelines on interaction and cooperation between prudential and AML/CFT supervision](#)
[Sound management of risks related to money laundering and financing of terrorism](#)

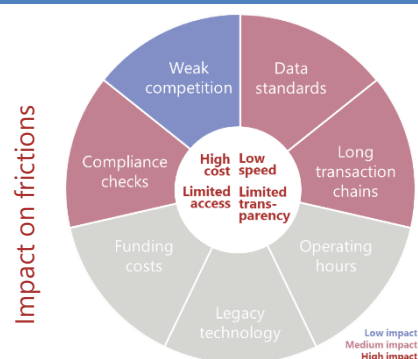
Reviewing the interaction between data frameworks and cross-border payments

6

Data standards and formats vary significantly across jurisdictions, infrastructures and message networks, and data frameworks vary across jurisdictions. As a result, the data carried in most cross-border payment messages are very limited, reducing the level of straight through processing and automated reconciliation. Cross-border supervision and oversight requires the sharing of information with competent authorities in other jurisdictions, and effective risk management requires the sharing of information within a financial group that may span multiple jurisdictions. Policies that impede cross-border data flows may not only make supervision and oversight more difficult but also ultimately impact the safety and efficiency of cross-border payment services.

Objective

Cross-border payment processes can efficiently use personal data in full compliance with privacy rules and regulations. Compliance across jurisdictions, especially with AML/CFT, will be facilitated if the personal data that are required for the related compliance checks can be used across jurisdictions. In addition, it would add to further standardisation and will make it easier for intermediaries to offer services in multiple jurisdictions. This fosters competition and reduces the dependency on local intermediaries.



Obstacles

Data protection is a sensitive topic, and any violation can have a substantial economic impact on stakeholders. Furthermore, aspects such as data localisation have a link to a nation's strategic sovereign considerations. Present regulatory requirements targeted at other objectives (such as data protection and privacy) can affect the efficiency, cost and timeliness of cross-border payments. In some cases, there is real or perceived tension between regulatory requirements, including banking regulation and AML/CFT rules, on the one hand, and restrictions on cross-border data flows, on the other. Limited cooperation among financial authorities and data protection and privacy agencies, domestically and internationally on these possible tensions needs to be overcome.

Possible steps

- Analysis of constraints on cross-border data-sharing imposed by existing national/regional data frameworks
- Adaptation of data-sharing rules of supervisory and oversight standards to facilitate cross-border exchange of data and information-sharing [if needed]
- Adaptation of system/scheme rules and their technical implementation [if needed]

Interdependencies with other building blocks



Practical examples and additional sources

[OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data](#)

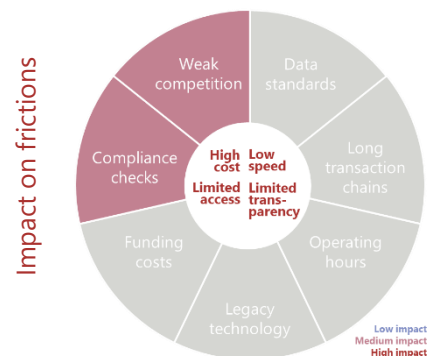
Promoting safe payment corridors

7

The decline in correspondent banking relationships, and the challenges that (small) money transfer operators face in maintaining access to the bank accounts they need for settlement, adversely affect low-volume payment corridors in specific cases. The perceived higher risk of the remittance sector from an AML/CFT perspective, fragmented supervision of remittance service providers across jurisdictions, and the perceived or real compliance issues of certain jurisdictions with international standards, particularly those relating to AML/CFT, contribute to this development. Conducting risk assessments for affected corridors and use cases with mutual recognition of the results has the potential to reduce compliance-related concerns and lower market entry barriers for new payment service providers to operate in these corridors.

Objective

The goal is to lower the frictions associated with the complex processing of compliance checks and weak competition in some use cases or corridors of cross-border payments – by conducting risk assessments for specific corridors/use cases, which would lead to the determination of lower risk corridors, reduce compliance checks and facilitate market entry. Ultimately, this would result in lower due diligence costs, lower incidence of de-risking and faster payments.



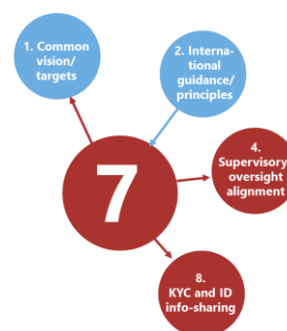
Obstacles

This building block will require extensive coordination between overseers and regulators as well as other intelligence collection agencies. Supranational bodies too might be involved. The nature of the data to be collected might require outside expertise as well as generate resistance from other data providers (eg intelligence agencies for sharing confidential data). Some level of resistance could be expected from payment service providers, as the data collection could introduce further compliance procedures and costs in the short term. Investment in infrastructure for collecting and storing data might be needed. Resistance from public authorities should be expected if data analysis foresees results that are not consistent with authorities' view of the risks.

Possible steps

- Agreement between relevant overseers and regulators at both ends of the corridor about issues to be covered and allocation of tasks
- Implementation of rules by payment system regulators in each country about data to be collected (in some instances, this task will be redundant)
- Collection of data, analysis of data and publishing of results

Interdependencies with other building blocks



Practical examples and additional sources

[Remittance corridors: Australia to Pacific Island Countries](#)

[UK-Somalia Safer Corridor Initiative](#)

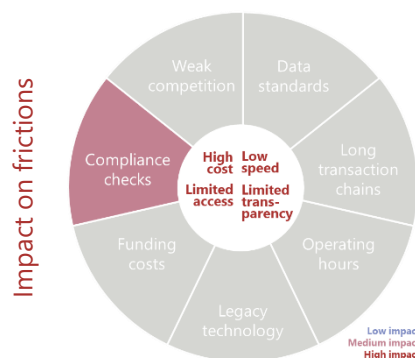
Fostering KYC and identity information-sharing

8

A centralised multilateral utility of KYC-related data on bank customers and, potentially, ultimate beneficiaries could be used to verify information and help address concerns about transparency and AML/CTF compliance by banks and money transfer operators. The use of KYC utilities has a number of advantages, as follows: (i) the accuracy and consistency of the information could improve, as only one set of updated information would be maintained; (ii) the use of a single template might promote the standardisation of the information that banks provide to other institutions as a starting point for KYC obligations; (iii) the use of a central KYC utility may speed up the process of verification; and (iv) costs could be reduced because less documentation would need to be exchanged.

Objective

The goal is that banks and money transfer operators (MTOs) have easy and low-cost access to reliable digital identity information about parties located in other countries. The building block is aimed at reducing the complexity and cost for banks and MTOs in meeting KYC requirements due to a lack of data about the parties involved in the transaction. It is focused at a regional rather than a global level and targeted more at payments by individuals than by businesses and other legal entities. This building block would contribute to reducing transaction costs and the likelihood of de-risking for PSPs; increasing efficiency and competition; and improving the quality of KYC information.



Obstacles

This building block will require extensive coordination among government agencies and financial institutions in a given region and support from multilateral organisations. In some jurisdictions, the political resistance could be considerable insofar as it involves ceding authority to multinational standard setters on KYC arrangements and allowing citizens' personal information to be accessed cross-border. The financial costs of developing national digital ID databases and building shared KYC infrastructure may also be sizeable, and prove a challenge for EMEs to fund, particularly in the current economic environment. There may also be resistance from financial institutions that have already developed reasonably effective methods of meeting their KYC obligations and do not want to move to new KYC infrastructure.

Possible steps

- National authorities to harmonise KYC requirements between countries in key corridors and to allow for greater sharing of personal information, subject to appropriate controls
- National authorities to improve the coverage and quality of their national digital ID databases
- Shared KYC infrastructure for banks and PSPs developed

Interdependencies with other building blocks



Practical examples and additional sources

[Correspondent banking report](#)
[South Pacific KYC utility \(Centralbanking.com\)](#)
[SWIFT KYC registry](#)
[Singapore's MyInfo service](#)
[Nordic KYC Utility](#)

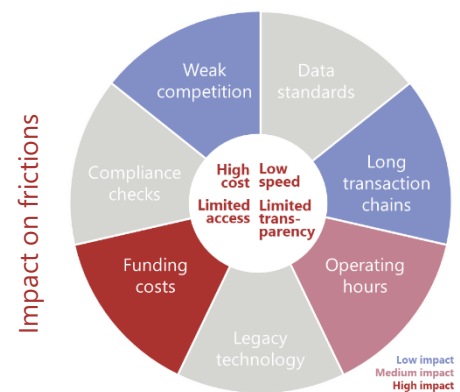
Facilitating increased adoption of PvP

9

Cross-border payments frequently involve the settlement of an FX transaction that requires the payment of one currency and the receipt of another. Absent a PvP settlement mechanism, one party to an FX trade could pay out the currency it sold but not receive the currency it bought, introducing substantial risk to the cross-border payment chain. In such a case, the party risks losing the entire settlement amount in the transaction. Settling via PvP mechanism eliminates this settlement risk. At present, however, most FX transactions are settled on a non-PvP basis and are therefore subject to settlement risk. Increasing adoption of PvP settlement will reduce settlement risk and increase the robustness and resilience of the cross-border payment ecosystem.

Objective

The optimal end state to be achieved with this building block would be for PvP settlement mechanisms to be used for an overwhelming majority of FX trades and for PvP mechanisms to support same day settlement. This building block may require expanded operating hours, as PvP works most efficiently when RTGS operating hours overlap. It will also need to address the failure of financial institutions to internalise the potential long-term costs of conducting settlements on a non-PvP basis; weak competition, as there is only one PvP settlement infrastructure that has to date gained global relevance, and no centralised PvP settlement infrastructure exists for many smaller currencies; and long transaction chains.



Obstacles

Market participants will need to make investments in developing and testing new technologies or setting up new arrangements, especially for currency pairs with a small market share, which will require time, money and potentially buy-in from both the private and public sector. The supervisory/oversight community will need to find the right balance between ensuring that the legacy operations of existing infrastructures are not being put at risk and encouraging or permitting enhancements. Currency expansion of existing PvP settlement mechanisms may be challenging due to the need for a strong legal basis in the currency's jurisdiction, particularly to ensure settlement finality.

Possible steps

- Supporting changes to RTGS systems in terms of operating hours, interlinking with other RTGS systems, and access for PvP FX settlement systems.
- International standard-setting and supervisory/oversight bodies guide financial institutions to recognise and internalise implicit costs of non-PvP FX settlements.
- PvP systems considering expanding access to a broader range of currencies.

Interdependencies with other building blocks



Practical examples and additional sources

[FX Global Code](#)

[CLS](#)

[HKMA's PvP links](#)

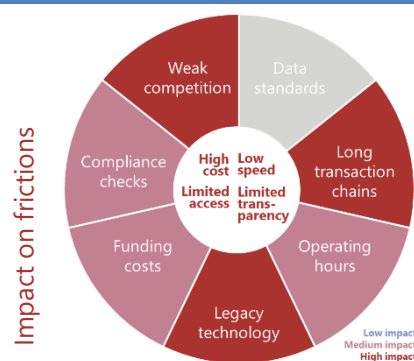
Improving (direct) access to payment systems by banks, non-banks and payment infrastructures

10

There can be different arrangements to improve access of payment infrastructures to central bank money settlement while maintaining the safety and soundness of the overall payment system. These include broadening the range of eligible candidates for settlement accounts by changing access policies, technical standards and legal, supervisory or oversight regimes. Allowing new cross-border PSPs and payment infrastructures to participate in domestic payment systems with settlement in central bank money can lower market entry barriers for those providers. When a PSP is a direct member of a number of domestic systems, cross-border transactions can be quicker and cheaper.

Objective

This building block seeks cost-effective expanded and overlapping direct membership of domestic payment systems across jurisdictions. Lowering barriers to access will make it possible for PSPs and infrastructures to become direct members of multiple payment systems across different jurisdictions. Similar access requirements in different payment systems can encourage PSPs to become global players in payments, serving a large number of jurisdictions. Lower cost and higher speed in cross-border payments with lower credit and liquidity risks would be the targeted outcome.



Obstacles

Expanding access requires reassurance that the risks can be mitigated eg through oversight and supervision. This may require new supervisory and regulatory requirements for non-banks alongside the system operator requirements or even legislative changes. Harmonised targets to make the onboarding process efficient require coordination across jurisdictions. For infrastructures, careful design is needed to enable viable business cases. There may be legal obstacles. In particular, domestic legislation may prevent a central bank from providing an account, or lending/providing credit to non-banks, if credit is needed to facilitate settlement. Effective implementation of this building block requires both operational change and the accompanying legal and regulatory changes. It is possible that payment system operators are willing and able to accept new infrastructures or PSPs, but the legislative or regulatory conditions restrict such activity.

Possible steps

- Map the technical and operational, legal, regulatory and financial requirements.
- Establish an internationally agreed framework consisting of high-level principles and standards for direct access.
- Conduct a gap assessment, at both jurisdictional and payment system operator level, of readiness to provide expanded direct access.

Interdependencies with other building blocks



Practical examples and additional sources

[Access to UK Payment Schemes for Non-Bank Payment Service Providers](#)

[SNB: Admission to the SIC system and sight deposit accounts](#)

HKMA: [access to RTGS for virtual banks](#) and [access to the FPS for some non-bank electronic wallet operators](#)

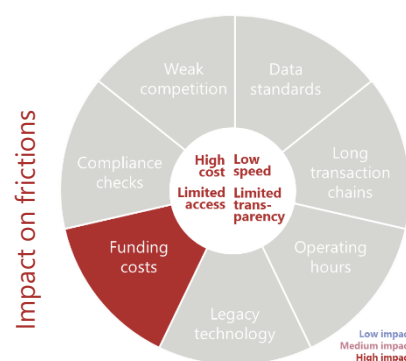
Exploring reciprocal liquidity arrangements across central banks (liquidity bridges)

11

For banks, it is costly to hold liquidity in separate currencies in multiple jurisdictions. The liquidity costs arising from such fragmented holdings contribute to banks not being active in multiple jurisdictions and thus limiting cross-border payments via correspondent banking. Central banks can have reciprocal arrangements whereby direct participants in large-value payment systems (LVPSs) in different jurisdictions can post cash in one LVPS and use it as collateral to generate central bank money liquidity in another LVPS. If central banks offered reciprocal liquidity bridges in multiple LVPSs, participants could hold their collateral in one jurisdiction and use it to generate liquidity in others.

Objective

This building block is aimed at reducing banks' liquidity costs by enabling them to pool their liquidity in one jurisdiction and use it – through use of liquidity bridges – as collateral to obtain liquidity in other jurisdictions. The objective of this building block is that central banks establish liquidity bridges in their respective LVPSs. Such liquidity bridges allow direct participants to post liquidity in their LVPS system with the central bank and use it as collateral to obtain intraday liquidity in another.



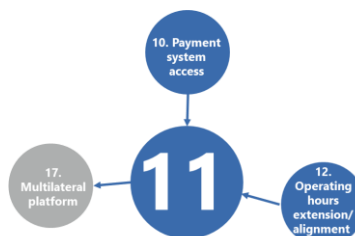
Obstacles

Because creating liquidity bridges is in the competence of central banks, there should be few external obstacles for this building block. The willingness of central banks to create liquidity bridges with other jurisdictions is likely to vary with the implied risks, including high volatility (especially in exchange rates), weak regulatory and supervisory capacity, and limited central bank independence. A system of liquidity bridges could pose risks to financial stability and payment systems if internationally active banks pool their liquidity in one or few jurisdictions. In that event, collateral would be concentrated (in one or few "central" RTGS systems). This concentration would expand the respective central banks' balance sheets, and shocks in that central jurisdiction could spill over to others.

Possible steps

- Analysis to address the obstacles and developing a framework and procedures for liquidity bridges.
- Enabling central banks to obtain accounts in each other's RTGS systems, setting up bridge accounting processes and extending access to foreign participants.
- Encouraging banks to use the liquidity bridges and extend their correspondent banking services.

Interdependencies with other building blocks



Practical examples and additional sources

[SCP – Scandinavian Cash Pool](#)
[– Danmarks Nationalbank](#)

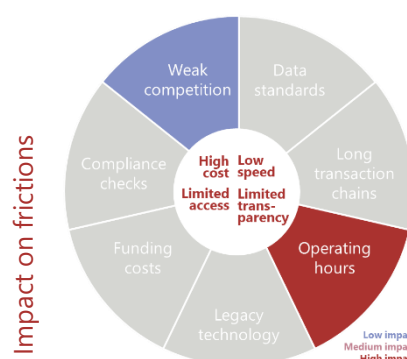
Extending and aligning operating hours of key payment systems to allow overlapping

12

Slow end-to-end processing and potential delays in the interbank settlement process are two of the known challenges in cross-border payments, partly caused by lack of or limited overlap in the operating hours of key payment systems (including RTGS systems) in different jurisdictions and time zones. Advances in technology have enabled payment systems to perform more reliably with less downtime for end-of-day or end-of-period system maintenance/update, thereby making it possible for operators to consider extending payment system operating hours beyond current ones and thus ensuring overlapping of payment system operating hours across time zones.

Objective

This building block attempts to tackle the mismatch of operating hours by extending and aligning those of key payment systems across different time zones. Extending operational time windows across payment systems and increasing overlapping operation schedules will help make payments quicker and more transparent. Additional benefits: (i) market participants' overall liquidity costs for prefunding and insurance cost to deal with settlement risk can be reduced; and (ii) extended RTGS operating hours can expand settlement in central bank money, thus reducing overall settlement risk.



Obstacles

Design, implementation and operating costs are expected to be high, especially if a redesign or significant upgrades of the payment infrastructure are needed for implementing 24/7 system operation.

Increased staffing and monitoring requirements will affect not only operators but participants too.

Other complexities are (i) the need for coordination between infrastructure operators and participants; (ii) the resilience of the monitoring capabilities of participants if the system moves to 24/7 operation; and (iii) the challenges of periodic system changes when moving from daytime five-day operations to much longer hours.

Possible steps

- Changing payment infrastructures and participants' own system infrastructure to accommodate extended operating hours.
- Establishing a revised liquidity framework for extended operating hours.
- Changing a range of industry rules and practices to adapt to the extended operating hours.

Interdependencies with other building blocks



Practical examples and additional sources

[BoE RTGS operating hours review](#)

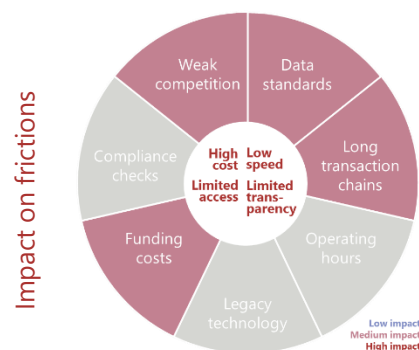
Pursuing interlinking of payment systems for cross-border payments

13

Cross-border payments through the correspondent banking model often involve long transaction chains that lead to fragmented and truncated data standards, high costs of capital and weak competition, all of which negatively affect payment speed, cost and transparency. Interlinking of retail payment systems (including fast payment systems) and wholesale payment systems (such as RTGS systems) allows PSPs to interact directly through the linked infrastructures and reduces their reliance on traditional correspondent banking. Interlinking arrangements can range from simple agreements on cross-participation to full technical integration of systems.

Objective

The goal is to create bilateral or multilateral arrangements across two or more jurisdictions aimed at facilitating payments between them. This can be done by linking existing domestic systems. The desired end state is one in which transaction chains are simpler and shorter, costs and fees are lower, and liquidity is less fragmented because banks and PSPs can participate in fewer payment systems across a lower number of jurisdictions while still being able to reach foreign beneficiaries.



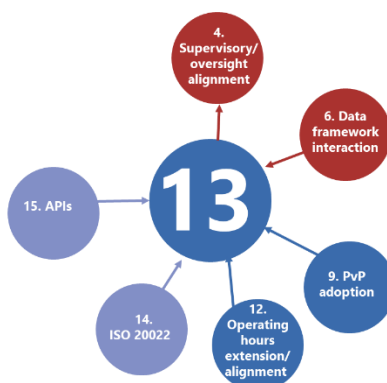
Obstacles

Potential obstacles are mainly related to the coordination of multiple stakeholders, as the linkages span two or more jurisdictions. On a bilateral basis, interlinking could encounter fewer obstacles, and were an arrangement to be implemented for a major payment corridor, it could have a high impact on the cross-border payment challenges. However, adding more systems to such a bilateral link may in the end be costlier than developing a multilateral system to begin with. There is also a risk of difficulties arising in reaching consensus due to divergent policy positions that jurisdictions take relating to their domestic policy objectives. The economic viability of such an undertaking depends largely on the level of economic activity between the jurisdictions to be linked.

Possible steps

- Map the technical and operational requirements.
- Assess and analyse various interlinking models that have been implemented in the various regions.
- Develop guidelines for interlinking arrangements.

Interdependencies with other building blocks



Practical examples and additional sources

[Guidelines for the successful regional integration of financial infrastructures](#)
[Digital Financial Services \(DFS\) - Interoperability](#)

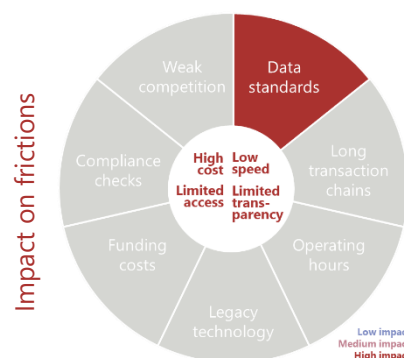
Adopting a harmonised ISO 2022 version for message formats (including rules for conversion/mapping)

14

Promoting the adoption of common message formats, such as a harmonised version of ISO 2022, can play an important role in the interlinking of payment systems and, more generally, addressing data quality and quantity restrictions in cross-border payments. A common message format can lead to additional efficiency gains by avoiding workarounds and translation from one implementation to another, thus reducing the implementation costs for new PSPs and enhancing the ability to achieve fully automated straight through processing functionalities.

Objective

This building block seeks to counter the friction of fragmented and truncated data standards and possibly increase the speed of cross-border payments adopting a harmonised version of ISO 2022 for cross-border payments, including rules for conversion/mapping. ISO 2022 also allows for richer data to be shared via standardised messages. As a result, KYC and AML processes may be automated, reducing complexity and costs. Additionally, for payments markets where ISO 2022 is not used, there should be rules for the conversion of legacy standards to the new standardised message format. Ideally, the implementation will significantly increase the speed and lower the costs.



Obstacles

It may be hard to agree upon a common format for international payments, due mainly to different national implementations of ISO 2022 that are already live or under development or ISO 2022 not being used domestically at all. Countries may push for a standard that is similar to the domestic one. The involvement and support of private and public stakeholders will be required (including operators of legacy systems). Upgrading existing systems and migration to new data formats involves costs. Additionally, differing data frameworks might prevent the inclusion of data satisfying AML/CFT and KYC regulatory requirements.

Possible steps

- Establishment of a global forum to lead the agreement on a harmonised ISO 2022 version (including rules for conversion/mapping)
- Implementation of the harmonised ISO 2022 version by the relevant stakeholders.
- Policy measures to ensure adoption.

Interdependencies with other building blocks



Practical examples and additional sources

[What is ISO 2022 – SWIFT](#)
[ISO 2022 CBPR+ Translation Portal](#)
[SWIFT ISO 2022 Harmonisation Charter](#)
[ISO 2022 adoption](#)

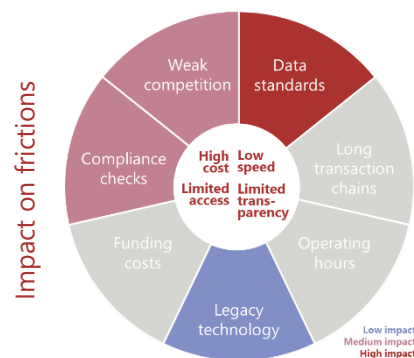
Harmonising API protocols for data exchange

15

Application programming interfaces (APIs) are a means of enabling data exchange between systems. APIs can be implemented to support many different use cases that can support data exchange for cross-border payments. Different standards of API protocols have been implemented across jurisdictions to cater to the technical and regulatory requirements of each jurisdiction. To maximise the potential of APIs, it is essential to develop common standard protocols which can be implemented in payment systems across jurisdictions. Standardised protocols could facilitate cross-border transactions across systems in a more streamlined manner.

Objective

This building block seeks to mitigate the frictions caused by fragmented and truncated data standards and legacy technology platforms. The goal is to develop harmonised API protocols for use cases relating to cross-border payments that would facilitate the integration and interoperability of payment systems; and also to encourage use of API protocols to support greater integration and interoperability between systems. In the desired end state, such protocols would increase cross-border payment speed while reducing transaction costs and easing regulatory compliance. In reducing some of the cost and complexity, there can be indirect benefits for competition in cross-border markets.



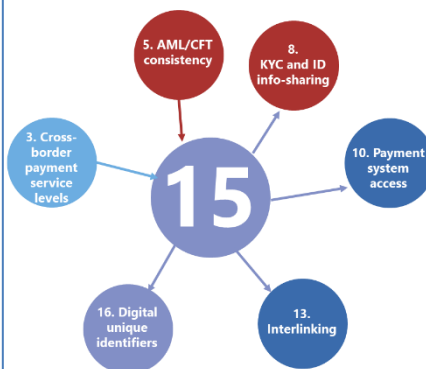
Obstacles

Agreeing on a specific set of use cases and API protocols acceptable to all jurisdictions may entail extensive discussions. Regulators in each jurisdiction will need to coordinate with payment system operators. Further, in some jurisdictions, the mandate to implement policies on API protocols may lie with telecommunications authorities, requiring wider coordination. Further collaboration between the regulator and payment system operators will be necessary to ensure implementation. Following implementation, ongoing coordination will be required to maintain standardised protocols across borders.

Possible steps

- Reviewing existing messaging standards and protocols for information exchange across jurisdictions.
- Establishing harmonised standard API protocols.
- Promoting the standard protocols to ensure adoption by a broad set of jurisdictions.

Interdependencies with other building blocks



Practical examples and additional sources

[API Standardization - Shaping the Financial Services Industry](#)
[SWIFT API white paper](#)
[NPP API framework and sandbox](#)

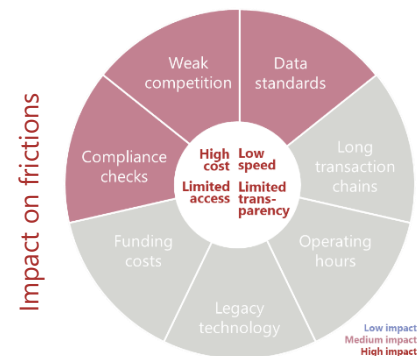
Establishing unique identifiers with proxy registries

16

Global structures to generate digital unique identifiers for individuals and legal entities, and decentralised proxy registries linking them with the account information (in a standard format) of both the payer and the payee, would reduce processing errors and the need for complex conversion and translation of payment data. Providing a globally standardised approach supporting national schemes for identification could expand beyond payments to end users and the wider economy if mass adoption were achieved throughout society. This would need to be balanced with potential drawbacks and delivered in a way to avoid reinforcing existing inequities.

Objective

The goal is that jurisdictions introduce digital unique identifiers and proxy registries, which are ultimately connected globally. The identification of payer/payee will be more efficient, and less costly since straight through processing could be more easily adopted in each link of the transaction chain. This would decrease processing cost and time. The benefits of global digital unique identifiers could also expand beyond payments to end users and the wider economy if mass adoption is achieved.



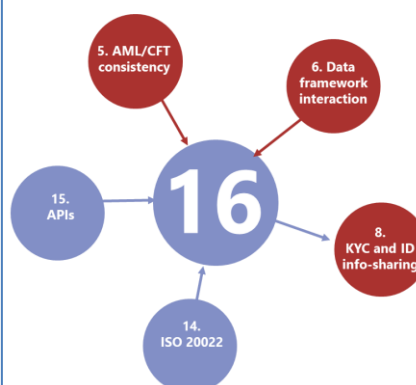
Obstacles

Reluctance to introduce or link national digital unique identifiers in light of various challenges such as implementation cost, legislative changes and coordination of domestic payment service providers. Data frameworks might prevent global sharing of unique identifiers. The proxy registry needs to be easily accessible from other countries; hence harmonised API protocols will be necessary. Financial institutions and payment service providers may resist if costs are perceived to be high. Maintenance of the system, especially to guarantee the quality of information, requires financial resources.

Possible steps

- Reviewing and proposing the technical and operational requirements of structured digital unique identifiers.
- Jurisdictions determining the process and time necessary to adopt digital unique identifiers.
- Globally agreeing on the design, structure and implementation timeline.

Interdependencies with other building blocks



Practical examples and additional sources

[Global Legal Entity Identifier Foundation \(GLEIF\)](#)

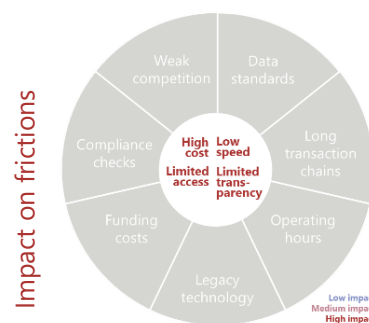
Considering the feasibility of new multilateral platforms and arrangements for cross-border payments

17

New multilateral payment platforms can offer alternatives to existing mechanisms to transmit cross-border payments and have the potential to make processing and settlement more efficient, including for low-value payments. Multilateral payment platforms for cross-border payments are aimed at enabling transactions for participating PSPs and their customers, often between the countries within a region (such as an economic area and/or currency union) and sometimes even globally (international card schemes). They are international or even global by design and can be single-, multi- or cross-currency platforms. In the case of the first two, currency conversion, if any, has to take place outside the platform, whereas in the case of the third the platform performs currency conversion for the supported currencies.

Objective

Unlike closed-loop systems, multilateral payment platforms do not require end users to be a customer of one and the same PSP. With the notable exception of international card schemes, the few multilateral cross-border payment platforms that are operational or being implemented so far are limited to a certain region and usually do not offer cross-currency payments. Furthermore, they are often targeting wholesale payments or high-value retail payment use cases (such as business-to-business payments). The development of new multilateral platforms could address frictions around legacy technologies and processes and long transaction chains if they were able to achieve scale.



The impact on different frictions will very much depend on the design features of multilateral platforms, which at the time of writing of this report are not yet clear.

Obstacles

Need for global coordination to design and implement the project. Furthermore, demand for such a solution has to be assessed thoroughly, in order to ensure demand from payment providers and feasibility of the business case. Decision on public and/or private sector involvement in its operation needs to be made, and initial funding has to be secured. The feasibility of onboarding of PSPs needs to be assessed. Cooperative oversight will need to be established in view of the multijurisdictional relevance of the platform. Details of currency conversion in the absence of PvP for certain currencies could create risk exposures for participants of the platform. The need to fund payments on a separate cross-border platform could fragment the liquidity pools of participants, increasing overall funding costs.

Possible steps

- Analyse the purpose of multilateral cross-border payment platforms.
- Analyse the design and technical and operational options for (a) new multilateral cross-border payment platform(s).
- Study analysing technical and commercial feasibility.

Interdependencies with other building blocks



Practical examples and additional sources

Regional multicurrency platforms (TIPS in the EU, REPSS of the Common Market for Eastern and Southern Africa (COMESA) Arab Regional Payment System (ARPS)/Buna

Regional and global cross-currency platforms (GCC-RTGS, EAPS of the East African Community (EAC))

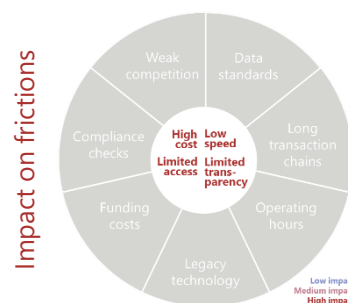
Fostering the soundness of global stablecoin arrangements for cross-border payments

18

Stablecoin arrangements are not yet in place, so this is a forward-looking building block to consider the cross-border implications if they were to be accepted. It is therefore a more speculative building block and is not seeking to pre-empt the development of stablecoins more generally. The design of global stablecoin arrangements requires sound legal underpinning in all relevant jurisdictions, adequate governance and comprehensive risk management encompassing all relevant functions as appropriate, among others. Global stablecoin arrangements based on new technologies would be expected to meet the same operational reliability and resilience requirements as those of existing payment systems and market infrastructures.

Objective

The objective of this building block is to help facilitate the adoption and implementation of risk-mitigating measures for global stablecoins prior to their introduction. Of interest are global stablecoin arrangements that seek to provide customers with the opportunity to transfer funds person-to-person in an efficient way, namely at lower costs and without the current delay while insuring greater access to payment services.



The impact on different frictions will very much depend on the design features of global stablecoins, which at the time of writing of this report are not yet clear.

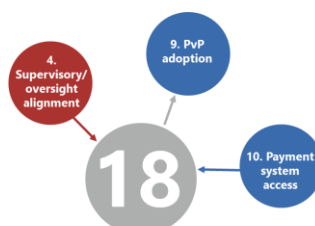
Obstacles

The design and implementation of global stablecoin arrangements is a substantial task that may face several challenges along the way. Setup and operational costs are expected to be high but not quantifiable at this point in time. As global stablecoin arrangements are largely based on new technologies yet to be tested on a large scale, they may face significant operational risk that needs to be appropriately managed and mitigated. Furthermore, appropriate design and the necessary authorisations do not guarantee that the initiative will run smoothly or achieve its objectives, particularly given the need to achieve internationally coordinated regulatory, supervisory and oversight approaches to global stablecoin arrangements.

Possible steps

- Designing and implementing global stablecoin arrangements in line with international standards and domestic regulations and policies
- Implementing internationally coordinated regulatory, supervisory and oversight approaches to global stablecoin arrangements
- Clarification of legal treatment in a cross-jurisdictional context in all relevant jurisdictions

Interdependencies with other building blocks



Practical examples and additional sources

[G7 Investigating the impact of global stablecoins](#)

[FSB consultation on regulatory, supervisory and oversight challenges raised by "global stablecoin" arrangements](#)

[Enality](#)

[JPM Coin](#)

[Libra](#)

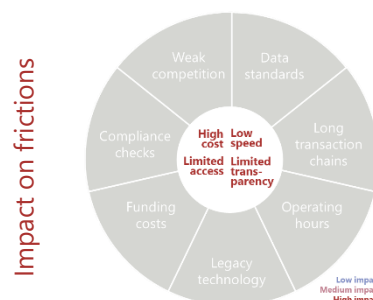
Factor an international dimension into CBDC designs

19

CBDCs can enable cross-border payments either through the availability of domestic CBDC to users from other currency areas or through the domestically issued CBDC, in conjunction with the CBDC arrangement on the side of the receiving jurisdiction. This building block is aimed at providing prospective domestic CBDC implementations with the necessary guidance on interoperability and interfacing with international infrastructures to enable cross-border transactions.

Objective

Rather than involving the creation of a new public sector global currency, the focus of this building block is squarely on addressing the cross-border potential should central banks decide to design CBDCs for their respective jurisdictions. The focus is on access frameworks and/or interlinkage options to facilitate efficient cross-currency payments based on CBDC. Multi-CBDC arrangements, by facilitating the use of domestic CBDCs for cross-border payments, seek to provide customers with the opportunity to transfer funds at the cross-border level in an efficient way.



The impact on different frictions will very much depend on the design features of multi-CBDCs, which at the time of writing of this report are not yet clear.

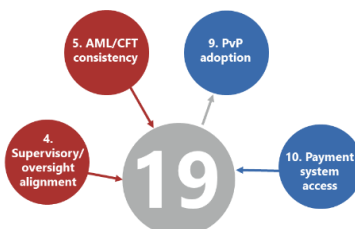
Obstacles

The implementation of multi-CBDC arrangements is a comprehensive and costly task facing several potential obstacles, in both the design and the implementation phase. The resource requirements, in terms of costs and experts, for the development of multi-CBDC arrangements are substantial. If the provision of multi-CBDC arrangements also involves the provision of payment services from the central bank directly to citizens, private sector initiatives could be hampered, meaning likely resistance in the private sector towards implementing multi-CBDC arrangements. There might also be a political pushback against initiating multi-CBDC arrangements given domestic policy considerations and central bank mandates. Also, once multi-CBDC arrangements are implemented, their potentially complex setup could be an obstacle to smooth and efficient operations.

Possible steps

- Analysing the design and technical implementation of multi-CBDC arrangements.
- Implementing an adequate oversight and supervisory framework.
- Implementing legislative changes supporting the employment of multi-CBDC arrangements.

Interdependencies with other building blocks



Practical examples / additional sources

[CPMI Central bank digital currencies](#)
[Taking stock: ongoing retail CBDC projects](#)
[Central bank group to assess potential cases for central bank digital currencies](#)
[Survey on central bank digital currency](#)
[HKMA and Bank of Thailand: Project Inthanon-LionRock](#)

Annex 2: Cross-border Payments Task Force

Chair

Bank of England	Victoria Cleland
-----------------	------------------

Members

Reserve Bank of Australia	Lindsay Boulton
	Michael Davies (alternate)
National Bank of Belgium	Michiel Van Acoleyen
Central Bank of Brazil	Carlos Eduardo de Andrade Brandt Silva
Bank of Canada	Sajjad Jafri
The People's Bank of China	Changchun Mu
	Lyu Yuan (alternate)
European Central Bank	Holger Neuhaus
	Patrick Papsdorf (alternate)
Bank of France	Nicolas Péligry
Deutsche Bundesbank	David Ballaschk
Hong Kong Monetary Authority	Stanley Chan
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Annex 3: Acronyms and abbreviations

ACH	automated clearing house
AML	anti-money laundering
API	application programming interface
BCBS	Basel Committee on Banking Supervision
BIC	Business Identifier Code
BIS	Bank for International Settlements
CBDC	central bank digital currency
CDD	customer due diligence
CFT	countering/combating the financing of terrorism
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
EMDE	emerging market and developing economy
FATF	Financial Action Task Force
FICP	financial inclusion and consumer protection
FMCBGs	Finance Ministers and Central Bank Governors
FMI	financial market infrastructure
FPS	fast payment system
FSB	Financial Stability Board
FX	foreign exchange
G7	Group of Seven
G20	Group of Twenty
GLEIS	Global LEI System
GPSS	Global Payment Systems Survey (World Bank Group)
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
ISO	International Organization for Standardization
KPI	key performance indicator
KYC	know-your-customer
LEI	Legal Entity Identifier
LVPS	large-value payment system
MTO	money transfer operator
PFMI	Principles for Financial Market Infrastructures
PSP	payment service provider
PvP	payment versus payment
RTGS	real-time gross settlement
SDG	Sustainable Development Goal
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TF	terrorist financing
UI	unique identifier
UN	United Nations

Annex 4: References

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