COMMON PRINCIPLES for the Development of Interoperable Wholesale Central Bank Digital Currencies In the Asia-Pacific Region





# FOREWORD

Payment and settlement systems play a critical role in enabling cross-border trade, investment, and foreign exchange transactions, which are important for achieving the APEC vision of free and open trade and investment and an open, dynamic, resilient, and peaceful Asia-Pacific community. The region's economies are currently exploring ways to create more effective and efficient arrangements leveraging new technologies. In recent years, wholesale Central Bank Digital Currencies (wCBDCs) have attracted much attention as a way to reduce the costs and increase the speed of cross-border payment and settlement. Today many Asia-Pacific economies are conducting research, exploration, and testing of wCBDCs.

While wCBDCs hold the promise of greater efficiency, uncoordinated development and adoption across the region carries the risk of fragmentation, which would increase barriers to cross-border business transactions among Asia-Pacific economies, in contravention of the APEC vision. In this context, the APEC Business Advisory Council (ABAC)<sup>1</sup> submitted to the APEC Finance Ministers in 2022 a White Paper<sup>2</sup> compiled by the Asia-Pacific Financial Forum (APFF) Financial Market Infrastructure Network (FMIN)<sup>3</sup> as an annex to its annual report. The paper called on the Ministers to "encourage relevant stakeholders to collaborate in drafting common principles to guide member economies intending to develop CBDCs."

Receiving support from the Finance Ministers, as reflected in the Chair's Statement<sup>4</sup> calling on relevant stakeholders to collaborate in implementing ABAC's recommendations, ABAC endeavored to develop the Common Principles in 2023. In support of ABAC's effort, the APFF FMIN convened various experts from financial industry associations and firms, multilateral institutions and government and regulatory agencies to develop a set of principles that could assist APEC member economies in developing wCBDCs in a coordinated way that avoids fragmentation and enhances regional integration.

The Common Principles proposed in this document are primarily concerned with domestic and crossborder *wholesale* CBDC arrangements for faster, efficient, transparent, and accessible financial system flows. They are aligned with an analogous set of principles for *retail* CBDC (rCBDC) arrangements put forward by the G7<sup>5</sup> and those of other authoritative bodies such as the G20 and G7 central banks

<sup>4</sup> <u>https://www.apec.org/meeting-papers/sectoral-ministerial-meetings/general/chair-s-statement-of-the-29th-apec-finance-ministers-meeting</u>

<sup>&</sup>lt;sup>1</sup> The APEC Business Advisory Council (ABAC) was created by the APEC Economic Leaders in 1995 to provide the business perspective on specific policy areas for APEC Leaders, Ministers and Senior Officials [http://www2.abaconline.org//page-content/2521/content].

<sup>&</sup>lt;sup>2</sup> Laying the Foundations of Interoperable Wholesale Central Bank Digital Currencies in the Asia-Pacific Region [http://www2.abaconline.org/assets/2022/Reference\_Documents/Reference%2009%20CBDC%20White%20Paper.pdf].

<sup>&</sup>lt;sup>3</sup> The Asia Pacific Financial Forum (APFF) is a policy initiative created by APEC Finance Ministers in 2013 and entrusted to ABAC that provides a platform for public-private collaboration to help member economies implement the various deliverables under the APEC Finance Ministers' Process. Its-Financial Market Infrastructure Network (FMIN) plays a crucial role as a "third-party" contributor to the development of financial market infrastructure, including CBDCs.

<sup>&</sup>lt;sup>5</sup> See G7: <u>Public Policy Principles for Retail Central Bank Digital Currencies (CBDCs)</u>. 2021; <u>G7 Finance Ministers and Central Bank</u> <u>Governors' Statement on Digital Payments | U.S. Department of the Treasury</u> Oct. 2020

together with the BIS.<sup>6</sup> In proposing these Common Principles, ABAC is not in any way recommending the adoption of wCBDCs as the most suitable arrangement for member economies. However, they are addressed to those member economies that are exploring wCBDCs for possible adoption, for the purpose of assisting them in designing interoperable wCBDCs.

<sup>&</sup>lt;sup>6</sup> BIS, "Group of seven" Central Banks: Central bank digital currencies: foundational principles and core features. June 2020

# PRINCIPLES FOR THE DEVELOPMENT OF INTEROPERABLE WHOLESALE CENTRAL BANK DIGITAL CURRENCIES IN THE ASIA-PACIFIC REGION

# THE PRINCIPLES

# **FOUNDATIONAL PRINCIPLES**

### **Policy Considerations**

### **Principle 1**

#### **Designing for Cross-Border Interoperability**

Recognizing the importance of cross-border interoperability and alignment of systems from the outset is critical to ensuring that a wCBDC is designed and developed to interoperate with an equivalent system in another economy.

#### Principle 2 Recognizing Diversity

Acknowledging that different jurisdictions may have different motivations and expectations of benefits from participating in cross-border wCBDC arrangements is important for achieving successful interoperability among multiple wCBDCs.

#### **Principle 3**

#### **Balancing Conflicting Policy Goals**

Managing trade-offs between conflicting policy goals that arise in the process of making policy and design choices to implement a wCBDC requires clear articulation of goals and prioritization of those that are fundamental to trust and confidence in the wCBDC system.

#### **Principle 4**

#### Seamless Linkage with Domestic Arrangements

Seamless linkage between cross-border wCBDC arrangements with retail CBDC (rCBDC) arrangements and existing wholesale Real-Time Gross Settlement systems operated by central banks and the financial industry is needed for ensuring a coherent and efficient payment infrastructure.

# **Ecosystem Approach**

#### **Principle 5**

#### **Continuous Coordination and Public-Private Dialogue**

The successful development of a wCBDC requires continuous coordination of efforts among key stakeholders, including central banks, policy makers, multilateral organizations, non-governmental organizations, and private sector stakeholders.

#### **Principle 6**

#### Developing a Robust wCBDC Ecosystem

All relevant stakeholders need to collaborate in mapping out the broader business model and develop a robust wCBDC ecosystem.

### Principle 7

#### **Coexistence with Other Payment Methods**

Alternative technologies, infrastructures, governance structures and private initiatives that are able to facilitate cross-border wholesale payment and settlement services should be allowed to coexist alongside wCBDCs.

# **DESIGN PRINCIPLES**

# **General Organization**

### Principle 8

#### **Terminological Clarity**

Interoperability requires a framework that provides clarity on terminology for CBDCs and other digital assets including stablecoins and crypto assets, among others.<sup>7</sup>

#### **Principle 9**

#### Legal and Governance Frameworks

Access to and issuance, distribution, and transfer of a wCBDC require a legal basis and appropriate regulatory and oversight frameworks for their implementation.

# **Financial Stability and Monetary Policy**

#### **Principle 10**

#### Do No Harm

Government and multilateral policy approaches to cross-border wCBDC arrangements need to ensure that no harm is done to financial stability and each participating jurisdiction's control over economic and monetary policy.

#### **Principle 11**

#### Monitoring and Review of Unintended Consequences

Cross-border wCBDC arrangements need to be reviewed on a regular basis to address unintended consequences.

# **Privacy, Security and System Integrity**

#### **Principle 12**

#### Alignment with International Obligations

All wCBDC arrangements need to be aligned with participating jurisdictions' respective voluntary commitments to implement robust data privacy protection and security standards and to ensure compliance with relevant international obligations, including those related to Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT).

<sup>&</sup>lt;sup>7</sup> See also the BIS Glossary accompanying the BIS Quarterly Review, March 2020 [https://www.bis.org/publ/qtrpdf/r\_qt2003c.pdf].

# **Cross-Border Transactions**

#### Principle 13

#### **Foreign Exchange Transactions**

WCBDCs should be designed to promote greater efficiency in conducting cross-border foreign exchange transactions.

#### Principle 14 Cross-Border Investment

System requirements for wCBDCs should be designed to facilitate cross-border investment.

# Promoting Efficient, Inclusive, Innovative and Sustainable Growth

#### **Principle 15**

#### **Fair Competition**

A wCBDC arrangement should not unduly restrict competition in financial services, which could arise from a lack of a level playing field and lack of access to or lack of interoperability with existing and emerging systems and arrangements.

#### **Principle 16**

#### **Enabling Innovation and Inclusion**

Access to wCBDC arrangements should be made as open as possible for end-users to facilitate innovative and inclusive growth.

# Principle 17

#### **Contribution to Wider Public Policy Goals**

The integration of wCBDC arrangements into and consistency with high-level domestic and regional development frameworks should be considered to support the achievement of wider public policy goals, including the promotion of free and open trade and investment and an open, dynamic, resilient, and peaceful Asia-Pacific community, as well as the UN Sustainable Development Goals.

# PREAMBLE

Wholesale cross border payment and settlement activities face well-documented risks and frictions.<sup>8</sup> In the wholesale interbank and central bank systems, these obstacles may introduce unique settlement and liquidity risks that could pose threats to financial stability. In part, this is a result of a lack of a globally consistent scheme backed by consistent legislation and regulation together with a centralized settlement infrastructure.

Central bank money plays critical and linked roles in domestic economies and cross-border arrangements.<sup>9</sup> CBDCs are novel representations of central bank money and may be used in both retail and wholesale systems. The focus of these principles is on the cross-border wholesale (interbank) payment and settlement systems. These arrangements, however, may be affected by both domestic and retail variants of CBDCs.

Overcoming cross-border payment barriers is a focus of international and multilateral efforts, including the G20 roadmap<sup>10</sup> to improve cross-border payments arrangements. A main thrust of these improvements is the harmonization and interoperability of different existing and emerging systems together with highlighting transparency over existing differences. A primary consideration is to preserve and enable the diversity that exists within the Asia-Pacific region to ensure that new CBDC systems are allowed to develop, and that more developed CBDC markets are not negatively impacted.

Interoperability<sup>11</sup> requires alignment along several dimensions, including:

- Technical: infrastructure, interfaces, data standards,
- Regulatory: laws, rulebooks, by-laws,
- Security and Trust: token/issuer authentication trust framework, public key infrastructure ("PKI"),
- Risk Control: financial stability, liquidity/settlement risk, public safety, privacy,
- Local versus Cross-Border: competing objectives for (1) local and (2) cross-border needs requiring different policy formulations.

The Bank for International Settlements and its Innovation Hubs, in conjunction with central banks and monetary authorities (including those in APEC jurisdictions), have driven technical research on models for financial system interoperability. They propose three approaches to facilitate inter-system interoperability:

- Compatibility: common standards, alignment of technical infrastructures, rulebooks and interfaces;
- Interlinking: shared technical interfaces or common clearing mechanisms, corridors, and atomic cross-platform transactions to reduce risk and facilitate FX;
- Integration: a common platform, using a common governance and technical system.

The following Common Principles aim to guide member economies exploring wCBDCs to direct policy responses toward enabling the interoperability of emerging wCBDCs for cross border payment and

<sup>&</sup>lt;sup>8</sup> see e.g. CPMI/FSB: Enhancing cross-border payments: building blocks of a global roadmap. July 2020

<sup>&</sup>lt;sup>9</sup> see e.g. <u>The role of central bank money in payment systems - August 2003</u>

<sup>&</sup>lt;sup>10</sup> G20 Roadmap for Enhancing Cross-border Payments: Consolidated progress report for 2022 - Financial Stability Board. Oct 2022

<sup>&</sup>lt;sup>11</sup> The working definition of cross-border financial system interoperability that has been adopted under the Common Principles is the ability to transport, screen, process and record the data carried in a financial message in a frictionless manner that enables the settlement of assets across independent systems in a straight-through-processing (STP) manner.

settlement and enabling local jurisdictional goals for greater economic inclusion and development. They are divided into two main sections: Foundational Principles and Design Principles.

The Foundational Principles aim to provide broad and foundational guidance on:

- the decision process for evaluating the need for a wCBDC vis-à-vis other available solutions;
- clarity on goals and needs that a wCBDC can address; and
- considerations affecting options for a wCBDC development framework.

The Design Principles focus specifically on matters related to the establishment and implementation of any wCBDC regime.

# THE COMMON PRINCIPLES

### I. FOUNDATIONAL PRINCIPLES

#### **Policy Considerations**

#### **Principle 1**

#### **Designing for Cross-Border Interoperability**

Recognizing the importance of cross-border interoperability and alignment of systems from the outset is critical to ensuring that a wCBDC is designed and developed to interoperate with an equivalent system in another economy.

The framework for development of a wCBDC needs to include, in addition to technical features, mechanisms to:

- ensure that the policy and economic implications of system design and operation are well understood, explained and appropriately anticipated;
- promote mutual recognition of legal arrangements with other jurisdictions;
- define precisely and share across jurisdictions the economic value contained in data; and
- enable the sharing of methodologies for the authentication of issuers and users.

#### Principle 2

#### **Recognizing Diversity**

Acknowledging that different jurisdictions may have different motivations and expectations of benefits from participating in cross-border wCBDC arrangements is important for achieving successful interoperability among multiple wCBDCs.

A successful framework for the development of interoperable wCBDCs is one that can accommodate and promote a diversity of motivations and expectations among different jurisdictions, which may include:

- opportunities to improve social and economic conditions both regionally and domestically, such as expanding financial inclusion; facilitating personal remittances; promoting digital transformation; and enhancing access of micro-, small, and medium enterprises to global capital, supply chains and foreign exchange trades through international payment services; and
- mechanisms to better control systemic risks, including liquidity provisioning, atomic transactions, inter-system time-locked contracts and common rule books and policies, among others.

#### Principle 3 Balancing Conflicting Policy Goals

Managing trade-offs between conflicting policy goals that arise in the process of making policy and design choices to implement a wCBDC requires clear articulation of goals and prioritization of those that are fundamental to trust and confidence in the wCBDC system.

The implementation of wCBDCs requires making policy and design choices that involve trade-offs between conflicting goals. Examples are trade-offs between a more robust trust framework (necessity of verifying authenticity of data in circulation and issuer of the data if not running on the same platform) vis-à-vis greater technical and governance interoperability, and between stronger cybersecurity protection vis-à-vis more efficient system performance. Understanding design choices, articulating, and prioritizing policy goals, employing the right evaluation tools, identifying solutions around system architecture, technology, and policy interventions, and engaging all relevant stakeholders, as proposed by the G7 in their principles for a retail CBDC, provide valuable guidance.<sup>12</sup>

#### Principle 4

#### Seamless Linkage with Domestic Arrangements

Seamless linkage between cross-border wCBDC arrangements with retail CBDC (rCBDC) arrangements and existing wholesale Real-Time Gross Settlement systems operated by central banks and the financial industry is needed for ensuring a coherent and efficient payment infrastructure.

While there may be different considerations involved in the development of wCBDCs vis-à-vis rCBDCs, it is important to work toward seamless interfaces to ensure that a wCBDC is connected with the domestic payment system. This will require coordination in the design of wCBDCs and rCBDCs to facilitate innovation and enhance their benefits for the public.

# **Ecosystem Approach**

#### **Principle 5**

**Continuous Coordination and Public-Private Dialogue** 

The successful development of a wCBDC requires continuous coordination of efforts among key stakeholders, including central banks, policy makers, multilateral organizations, non-governmental organizations, and private sector stakeholders.

While CBDC design and implementation fundamentally fall under the mandate of central banks and monetary authorities, the success of cross-border wCBDC arrangements will depend to a large extent on the concerted and coordinated efforts of various stakeholders in the public and private/business sectors. The development of wCBDCs will also need to be coordinated with other related initiatives, such as in particular those being implemented under the G20 roadmap for facilitating cross-border payments.<sup>13</sup>

A framework for involving the relevant private/business sector and non-governmental bodies in policy and technical formulation should provide a means for them to:

<sup>&</sup>lt;sup>12</sup> G7 Public Policy Principles for Retail Central Bank Digital Currencies (CBDCs), 2021. Annex A [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1025235/G7\_Public\_Policy\_Principles\_for

Retail CBDC FINAL.pdf].

<sup>&</sup>lt;sup>13</sup> Financial Stability Board (FSB), G20 Roadmap for Enhancing Cross-border Payments: Priority actions for achieving the G20 targets [https://www.fsb.org/wp-content/uploads/P230223.pdf].

- provide inputs to the development of wCBDC arrangements in line with the principles listed herein;
- identify unintended consequences
- identify roles and participation in the ecosystem and value chain supporting the operation of crossborder wCBDC arrangements;
- identify gaps in system design and implementation in relation to APEC's goals around interoperability and economic growth; and
- play an advisory and advocacy role on an ongoing basis to allow flexible and adaptable participation in the arrangements.

#### **Principle 6**

#### Developing a Robust wCBDC Ecosystem

# All relevant stakeholders need to collaborate in mapping out the broader business model and develop a robust wCBDC ecosystem.

In addition to addressing design, operational and governance issues, relevant stakeholders should also collaborate in integrating among others the following into wCBDC arrangements:

- potential use cases and value propositions that could be achieved under a wCBDC arrangement;
- the business functions<sup>14</sup> that may be required to support and make use of such an arrangement;
- the economic arrangement that incentivizes private entities to partner in support of responsible provision of these functions; and
- a comprehensive cost-benefit analysis supporting sustainable viability of a wCBDC arrangement from a fiscal and economic perspective.

#### **Principle 7**

#### **Coexistence with Other Payment Methods**

# Alternative technologies, infrastructures, governance structures and private initiatives that are able to facilitate cross-border wholesale payment and settlement services should be allowed to coexist alongside wCBDCs.

Subject to supervision of central banks and monetary authorities, existing payment methods should be permitted to coexist with wCBDCs to provide greater diversity for payment users, ensure competition, facilitate innovation, and allow wCBDC arrangements to grow in line with the needs of end-users.

#### **II. DESIGN PRINCIPLES**

#### **General Organization**

#### Principle 8

**Terminological Clarity** 

Interoperability requires a framework that provides clarity on terminology for CBDCs and other digital assets including stablecoins and crypto assets, among others.<sup>15</sup>

<sup>&</sup>lt;sup>14</sup> Recent work suggests a functional model as well as appropriate data constructs in alignment with ISO 20022 and other internationally developed standards. See Bank of Japan, Standardization in Information Technology Related to Digital Currencies, June 2021 [https://www.boj.or.jp/en/research/brp/psr/psrb210609.htm]. See also Bank for International Settlements, Central bank digital currencies: system design and interoperability, September 2021 [https://www.bis.org/publ/othp42\_system\_design.pdf].

<sup>&</sup>lt;sup>15</sup> See also the BIS Glossary accompanying the BIS Quarterly Review, March 2020 [https://www.bis.org/publ/qtrpdf/r\_qt2003c.pdf].

Terminology in the rapidly evolving payment system space remains fragmented across jurisdictions with varying legal frameworks, monetary policies, and market infrastructure. This calls for bringing together the wider community to agree on common terms across varying viewpoints and taxonomies.

#### **Principle 9**

#### Legal and Governance Frameworks

Access to and issuance, distribution, and transfer of a wCBDC require a legal basis and appropriate regulatory and oversight frameworks for their implementation.

Legal, regulatory and oversight frameworks, including those governing accountability of all participants, are essential to ensuring trust, resilience, and security of wCBDCs. Interoperability of wCBDCs requires the development of a framework for dispute resolution and clarity on which jurisdiction's law should apply in different types of disputes.

#### **Financial Stability and Monetary Policy**

# Principle 10

#### Do No Harm

Government and multilateral policy approaches to cross-border wCBDC arrangements need to ensure that no harm is done to financial stability and each participating jurisdiction's control over economic and monetary policy.

For cross-border wCBDC arrangements to be sustainable, they should not:

- unduly impede each participating jurisdiction's control over its currency, monetary policy, multilateral trade arrangements and fiscal policy;
- impede the competitive landscape for financial intermediation within jurisdictions; and
- undermine the critical role that banks currently play as intermediaries and in their role in private credit creation.

#### **Principle 11**

#### Monitoring and Review of Unintended Consequences

# Cross-border wCBDC arrangements need to be reviewed on a regular basis to address unintended consequences.

Cross-border wCBDC arrangements may have unintended impact on a variety of areas, including:

- international spillovers affecting individual jurisdictions' other international arrangements and relationships;
- ability of market participants to secure liquidity (with faster settlement in a multi-currency environment);
- efficiency and efficacy of governments' fiscal policies;
- the critical role of banks as intermediaries in private credit creation;
- central bank balance sheets (e.g., expansion resulting from transfer of liabilities through wCBDCs) and potential for currency substitution; and
- budgetary impact related to initial and ongoing costs of operation and oversight of wCBDC arrangements.

Effective efforts to address unintended consequences require dialogue among relevant stakeholders, including the private sector (cf. Principle 5).

#### **Privacy, Security and System Integrity**

### Principle 12

#### **Alignment with International Obligations**

All wCBDC arrangements need to be aligned with participating jurisdictions' respective voluntary commitments to implement robust data privacy protection and security standards and to ensure compliance with relevant international obligations, including those related to Anti-Money Laundering (AML) and Combating the Financing of Terrorism (CFT).

Effective and efficient application of high standards is critical for reducing risks and ensuring the benefits of utilizing wCBDC arrangements. Where wCBDC arrangements convey identifying corporate or personal data, appropriate privacy and data protection measures should be implemented and enforced while remaining compliant to public safety measures around AML and CFT, tax evasion and other public threats.

#### **Cross-Border Transactions**

#### Principle 13

#### **Foreign Exchange Transactions**

# WCBDCs should be designed to promote greater efficiency in conducting cross-border foreign exchange transactions.

The design of wCBDCs should be aligned with global best practices in promoting efficient foreign exchange markets. An example is the set of standards on ethics, governance, execution, information sharing, risk management and compliance and confirmation, and settlement processes contained in the FX Global Code.<sup>16</sup> The Code is a useful supplement to domestic laws and regulations that can provide guidance for the development of robust, fair, liquid, open and transparent markets and resilient supporting infrastructure that enable transactions at competitive prices and promote confidence among market participants.

#### **Principle 14**

#### **Cross-Border Investment**

#### System requirements for wCBDCs should be designed to facilitate cross-border investment.

While the benefits of wCBDCs for cross-border payment represent the most immediate opportunity, benefits can also be gained from integrating various capital market-related features. Examples to be considered are the issuance and settlement of government and private sector bonds and access for securities companies and other non-deposit taking financial institutions to mitigate settlement risk that is provided by existing RTGS systems operated by central banks.

#### Promoting Efficient, Inclusive, Innovative and Sustainable Growth

#### Principle 15

#### **Fair Competition**

A wCBDC arrangement should not unduly restrict competition in financial services, which could arise from a lack of a level playing field and lack of access to or lack of interoperability with existing and emerging systems and arrangements.

<sup>&</sup>lt;sup>16</sup> <u>https://www.globalfxc.org/docs/fx\_global.pdf</u>

WCBDCs should be open to all qualifying financial institutions, irrespective of whether they are local, regional, or international in nature. Each jurisdiction should promote a level playing field such as by adopting standard entrance criteria that would permit any financial institution with a full banking license to participate in the jurisdiction where it operates.

### Principle 16

#### **Enabling Innovation and Inclusion**

# Access to wCBDC arrangements should be made as open as possible for end-users to facilitate innovative and inclusive growth.

Consideration should be given to the potential contribution of wCBDC arrangements to the following:

- the needs of small businesses to ensure that they are not disenfranchised;
- the necessary infrastructure to enable as wide an access as possible leveraging the potential of technology, telecommunications networks, and power grids, among others;
- providing a basis for responsible innovation in cross-border wCBDC arrangements; and
- supporting financial inclusion, more efficient public transfers, social welfare, international development, and other public goods.

# Principle 17

#### **Contribution to Wider Public Policy Goals**

The integration of wCBDC arrangements into and consistency with high-level domestic and regional development frameworks should be considered to support the achievement of wider public policy goals, including the promotion of free and open trade and investment and an open, dynamic, resilient, and peaceful Asia-Pacific community, as well as the UN Sustainable Development Goals.

The APEC Aotearoa Plan of Action sets forth key objectives to the attainment of which wCBDC arrangements can contribute:

- Trade and Investment: Ensuring that the Asia-Pacific remains the world's most dynamic and interconnected regional economy through, among others, collaboration to deliver, a free, open, fair, non-discriminatory, transparent, and predictable trade and investment environment, and promoting the stability and predictability of international trade flows, seamless connectivity, and resilient supply chains.
- Innovation and Digitalization: Empowering people and businesses to participate and grow in an interconnected global economy by fostering, among others, a market-driven environment supported by digital economy and innovation and cooperating to facilitate the flow of data and strengthening consumer and business trust in digital transactions.
- Strong, Balanced, Secure, Sustainable and Inclusive Growth: Ensuring that the Asia-Pacific region is resilient, inclusive, and supportive of global efforts to comprehensively address all environmental challenges, including climate change, extreme weather, and natural disasters.

# CONCLUSION

These Common Principles set out the considered views of experts and practitioners from the public and private sectors and international organizations. They are intended to assist APEC member economies that have decided to explore or are exploring the adoption of wCBDC arrangements, as well as those that are in the process of designing such arrangements, with a view toward promoting future interoperability of systems among Asia-Pacific jurisdictions that can facilitate efficient and seamless cross-border payment and settlement.

There are currently a variety of wCBDC systems under development across the region involving different groups of APEC member economies, as well as research and exploration being undertaken by individual jurisdictions. These parallel initiatives offer multiple opportunities for different approaches and use cases to be tried and tested. However, it is important at this early stage to already consider the various factors that will significantly impact the ability of these wCBDC arrangements to form interoperable linkages that can support the region's drive toward economic integration. It is hoped that the Common Principles can provide a framework for undertaking these considerations.

# Appendix

**Cross-border wholesale settlement using Distributed Ledger Technology ("DLT")**: DLT uses immutable, decentralized records and atomic transactions to allow multilateral participation in settlement. BIS Innovation Hubs and central banks/monetary authorities have explored numerous proofs-of-concept and prototypes to understand better the applicability of DLT in wholesale cross-border payment and settlement arrangements. These projects have demonstrated the technical feasibility of DLT solutions for Payment-versus-Payment (PvP) and Delivery-versus-Payment (DvP). They have also identified governance and other challenges to implementation and operation.<sup>17</sup>

<sup>&</sup>lt;sup>17</sup> see e.g. BIS: <u>Using CBDCs across borders: lessons from practical experiments</u>. June 2022

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