



FINANCIAL
STABILITY
BOARD



IMF-FSB Synthesis Paper: Policies for Crypto-Assets

IMF-FSB 综合文件：加密资产政 策



7 September 2023
2023 年 9 月 7 日

**Approved For
Circulation By**
Tobias Adrian (IMF) and
The FSB Plenary
批准发行
托比亚斯-阿德里安（国
际货币基金组织）和金融
稳定委员会全体会议

Prepared by Staff of the IMF and FSB Secretariat: Arif Ismail and Yaiza Cabedo (MCM) and Peter Goodrich, Jun Wang and Michael Hatchett(FSB); in collaboration with Ruud De Mooij and Gerardo Una (FAD); Nadine Schwarz, Ke Chen and Marianne Bechara (LEG); Tommaso Mancini-Griffoli, Fabiana Melo, Nobuyasu Sugimoto, and Parma Bains(MCM); Soledad Martinez Peria, Itai Agur, and German Villegas Bauer(RES); Martin Cihak (SPR) and Padma Sandhya Hurree Gobin (STA). We are grateful for very helpful input from the FATF, IOSCO and the World Bank. Overall guidance was provided by Dong He (MCM), John Schindler and Rupert Thorne (FSB).

由国际货币基金组织和金融稳定委员会秘书处的工作人员编写：Arif Ismail和Yaiza Cabedo（MCM）以及 Peter Goodrich、Jun Wang 和 Michael Hatchett（FSB）；与 Ruud De Mooij 和 Gerardo Una（FAD）合作；Nadine Schwarz、Ke Chen 和 Marianne Bechara（专家组）；Tommaso Mancini-Griffoli、Fabiana Melo、Nobuyasu Sugimoto 和 Parma Bains（MCM）；Soledad Martinez Peria、Itai Agur 和 German Villegas Bauer（RES）；Martin Cihak（SPR）和 Padma Sandhya Hurree Gobin（STA）。我们感谢反洗钱金融行动特别工作组、国际证监会组织和世界银行提供的非常有益的意见。总体的指导来自：何东（MCM）、John Schindler和Rupert Thorne（FSB）。

目录

目录

Executive summary 执行摘要	5
1. Introduction 引言	8
2. Implications of crypto-assets 加密资产的影响	11
2.1. Macroeconomic stability 宏观经济稳定	11
2.2. Financial stability implications and regulatory issues 对金融稳定的影响和监管问题	18
2.3. Other risks 其他风险	22
3. Comprehensive policy and regulatory response 全面的政策和监管对策	26
3.2. Financial stability regulation 金融稳定监管	31
3.3. Other policies and regulation 其他政策和法规	34
4. Policy implementation roadmap 政策实施路线图	37
4.1. Implementation of policy frameworks by IO and SSB members IO 和 SSB 成员 实施政策框架	41
4.2. Outreach beyond G20 members 20国集团以外的外联活动	44
4.3. Global coordination, cooperation and information sharing	45
全球协调、合作与信息共享	45
4.4. Addressing data gaps 填补数据空白	46
Annex 1: Recent publications from international organisations and standard-setting bodies ..	48
附件1：国际组织和标准制定机构的最新出版物	48
Annex 2: FSB high-level recommendations 附件2：金融稳定委员会高层建议	51
Annex 3: Detailed shared FSB-SSB workplan 附件 3：详细的 FSB-SSB 共享工作计划	56
Glossary 术语表	61
References 参考文献	65

Executive summary 执行摘要

The International Monetary Fund (IMF) and the Financial Stability Board (FSB) have advanced policy and regulatory recommendations to identify and respond to macroeconomic and financial stability risks associated with crypto-assets. The IMF has outlined key elements of an appropriate policy response including macroeconomic, legal and financial integrity considerations and implications for monetary and fiscal policies. In parallel, the FSB and standard-setting bodies (SSBs) have published regulatory and supervisory recommendations and standards to address financial stability, financial integrity, market integrity, investor protection, prudential and other risks derived from crypto-assets.

国际货币基金组织（IMF）和金融稳定委员会（FSB）提出了政策和监管建议，以识别和应对与加密资产相关的宏观经济和金融稳定风险。国际货币基金组织概述了合适的应对政策的关键要素，包括宏观经济、法律和金融完整性方面的考虑以及对货币和财政政策的影响。与此同时，金融稳定委员会和标准制定机构（SSBs）发布了监管和监督建议及标准，以应对加密资产带来的金融稳定、金融诚信、市场诚信、投资者保护、审慎及其他风险。

At the request of the Indian G20 Presidency, the IMF and the FSB have developed this paper to synthesise the IMF's and the FSB's (alongside SSBs') policy recommendations and standards. The collective recommendations provide comprehensive guidance to help authorities address the macroeconomic and financial stability risks posed by crypto-asset activities and markets, including those associated with stablecoins and those conducted through so-called decentralised finance (DeFi). This paper describes how the policy and regulatory frameworks developed by the IMF and the FSB (alongside SSBs) fit together and interact with each other, but it does not establish new policies, recommendations or expectations for relevant member authorities.

应 20 国集团轮值主席国印度的要求，为了综合国际货币基金组织和金融稳定理事会（以及 SSB）的政策建议和标准，国际货币基金组织和金融稳定理事会编制了本文件。这些集体建议提供了全面的指导，帮助当局应对加密资产活动和市场带来的宏观经济和金融稳定风险，包括与稳定币相关的风险和通过所谓的去中心化金融（DeFi）进行的风险。本文件介绍了国际货币基金组织和金融稳定委员会（以及 SSB）制定的政策和监管框架如何相互配合和相互作用，但并没有为相关成员机构制定新的政策、建议或期望。

Crypto-assets have implications for macroeconomic and financial stability that are mutually interactive and reinforcing. Widespread adoption of crypto-assets could undermine the effectiveness of monetary policy, circumvent capital flow management measures, exacerbate fiscal risks, divert resources available for financing the real economy, and threaten global financial stability. These risks could reinforce each other, as financial instability can make maintaining price stability more difficult and vice versa; cause destabilising financial flows; and strain fiscal resources.

加密资产对宏观经济和金融稳定造成了影响，它们之间是相互作用、相互加强的。广泛采用加密资产可能会破坏货币政策的有效性，规避资本流动管理措施，加剧财政风险，转移可用于实体经济融资的资源，并威胁全球金融稳定。这些风险可能会相互加强，因为金融不稳定会使维持价格稳定变得更加困难，反之亦然；从而造成不稳定的资金流动；并使财政资源紧张。

A comprehensive policy and regulatory response for crypto-assets is necessary to address the risks of crypto-assets to macroeconomic and financial stability. To address macroeconomic risks, jurisdictions should safeguard monetary sovereignty and strengthen monetary policy frameworks, guard against excessive capital flow volatility and adopt unambiguous tax treatment of crypto-assets. Comprehensive regulatory and supervisory oversight of crypto-assets can help to address financial stability and financial integrity risks while supporting macroeconomic policies.

为了应对加密资产对宏观经济和金融稳定造成的风险，我们有必要出台全面的政策和监管措施。为应对宏观经济风险，各辖区应维护货币主权，加强货币政策框架，防范资本流动过度波动，并对加

加密货币采取明确的税收待遇。对加密货币的全面监管和监督有助于应对金融稳定和金融诚信风险，同时支持宏观经济政策。

Comprehensive regulatory and supervisory oversight of crypto-assets should be a baseline to address macroeconomic and financial stability risks. Regulation and supervision of licensed or registered crypto-asset issuers and service providers can support the functioning of capital flow measures, fiscal and tax policies, and financial integrity requirements. For example, licensed, regulated and supervised crypto-asset service providers and appropriate reporting requirements can reduce data gaps, which are particularly important for capital flow measures that rely on monitoring of cross-border transactions and capital flows.

对加密货币的全面监管和监督应成为应对宏观经济和金融稳定风险的基线。对持牌或注册的加密货币资产发行商和服务提供商进行监管和监督，可以支持资本流动措施、财政和税收政策以及金融诚信要求的运作。例如，通过许可、监管和监督加密货币服务提供商以及要求适当的报告是有利于减少数据缺口的，这对于依赖监测跨境交易和资本流动的资本流动措施尤为重要。

The FSB (along with SSBs) has developed a global framework of recommendations and standards. This framework helps guide authorities' policy actions to address risks to financial stability, financial integrity, market integrity, investor protection, prudential and other risks associated with crypto-assets. These recommendations and standards apply the principle of "same activity, same risk, same regulation", establish a minimum baseline that jurisdictions should meet, and aim to address the set of issues common across the majority of jurisdictions.

金融稳定委员会（与 SSBs 一起）制定了全球建议和标准框架。该框架有助于指导当局的政策行动，以应对与加密货币相关的金融稳定、金融诚信、市场诚信、投资者保护、审慎及其他风险。这些建议和标准适用“相同活动、相同风险、相同监管”的原则，确立了各辖区应达到的最低基线，旨在解决大多数辖区的共同问题。

To address risks to financial integrity and mitigate criminal and terrorist misuse of the crypto-assets sector, jurisdictions should implement the Financial Action Task Force (FATF) anti-money laundering and counter-terrorist financing (AML/CFT) standards that apply to virtual assets (VAs) and virtual asset service providers (VASPs). Jurisdictions should identify and assess the money laundering and terrorist financing (ML/TF) risks associated with VAs and take appropriate steps to manage and mitigate those risks. Jurisdictions and VASPs should also refer to the FATF Guidance for a Risk-Based Approach to VAs to understand and effectively implement their anti-money laundering and counter-terrorist financing obligations. In February 2023, the FATF adopted a Roadmap to accelerate global implementation of AML/CFT controls and supervision in the crypto-asset sector, which will publicly identify the steps taken to implement the standard in jurisdictions with materially important crypto-asset activity in the first half of 2024.

为应对金融健全性风险并减少利用加密货币的犯罪和恐怖主义行为，各辖区应执行由金融行动特别工作组（FATF）颁布的适用于虚拟资产和虚拟资产服务提供商的反洗钱和反恐怖主义融资（AML/CFT）标准。各辖区应识别和评估与虚拟资产相关的洗钱和恐怖主义融资（ML/TF）风险，并采取适当措施管理和降低这些风险。辖区和虚拟资产服务提供商还应参考金融行动特别工作组发布的有关虚拟资产的风险为本的指南，以了解并有效履行其反洗钱和打击恐怖主义融资的义务。2023 年 2 月，反洗钱金融行动特别工作组通过了一份指南，以加快在全球范围内对加密货币行业实施反洗钱/打击资助恐怖主义的控制和监督，2024 年上半年，该指南将在有重大加密货币活动的辖区内公开确定实施标准的步骤。

Some jurisdictions, in particular emerging markets and developing economies (EMDEs), may want to take additional targeted measures that go beyond the global regulatory baseline to address specific risks. These jurisdictions may want to adapt these targeted measures to their country-specific circumstances, especially if they face elevated macrofinancial risks from crypto-assets. Jurisdictional characteristics that may determine vulnerabilities to macrofinancial risks of crypto-assets include: (i) size of the economy and financial system, (ii) regulatory priorities, (iii) institutional quality and capacity, and (iv) level of financial integration into the global

economy. The implementation of these measures may vary across countries based on their unique circumstances and capacity constraints.

一些辖区，特别是新兴市场和发展中经济体（**EMDEs**），可能希望在全球监管基线之外采取更多有针对性的措施，以应对特定风险。这些辖区可能希望根据本国的具体情况调整这些有针对性的措施，尤其是在面临加密资产带来的宏观金融风险升高的情况下。可能决定易受加密资产宏观金融风险影响的辖区特征包括(1) 经济和金融体系的规模，(2) 监管重点，(3) 机构质量和能力，以及 (4) 金融融入全球经济的程度。根据各国的独特国情和能力限制，这些措施的实施可能会有所不同。

The IMF and the FSB, together with other international organisations (IOs) and SSBs, have set out a roadmap to ensure effective, flexible, and coordinated implementation of the comprehensive policy response for crypto-assets. The roadmap includes currently planned and ongoing work related to the implementation of policy frameworks, which taken together seek to: build institutional capacity beyond G20 jurisdictions; enhance global coordination, cooperation, and information sharing; and address data gaps necessary to understand the rapidly changing crypto-asset ecosystem.

国际货币基金组织（**IMF**）和金融稳定委员会（**FSB**）与其他国际组织（**IOs**）和 **SSBs** 一起制定了一个路线图，以确保有效、灵活和协调地实施针对加密资产的综合政策措施。该路线图包括目前计划开展和正在开展的与实施政策框架有关的工作，这些工作合在一起旨在：建设 20 国集团管辖范围以外的机构能力；加强全球协调、合作和信息共享；以及解决了解快速变化的加密资产生态系统所需的数据缺口。

1. Introduction 导言

Crypto-assets have been in existence for more than a decade and have displayed significant volatility. Emerging in January 2009, shortly after the Global Financial Crisis, the value of crypto-assets has fluctuated dramatically with many episodes of sharp appreciation and subsequent steep price reversions. For example, in 2021, the total market value of crypto-assets grew 3.5 fold, and in the crypto-asset market turmoil that started in May 2022, the total market value shrank from a peak of \$2.6 trillion to below \$1 trillion (Graph 1)

加密资产已经存在了十多年，并显示出巨大的波动性。2009 年 1 月，全球金融危机爆发后不久，加密资产的价值就出现了剧烈波动，多次出现大幅升值，随后价格又急剧回落。例如，在 2021 年，加密资产的总市值增长了 3.5 倍，而在 2022 年 5 月开始的加密资产市场动荡中，加密资产的总市值则从 2.6 万亿美元的峰值缩水到 1 万亿美元以下（图 1）。

Alongside their volatility, crypto-asset activities have also grown in complexity. Crypto-asset issuers and service providers are conducting a wide range of functions and activities, which increases crypto-asset markets' interconnectedness. Notably, so-called stablecoins, which purport to maintain a stable value, can be key points of interconnectedness between different crypto-asset activities. The crypto-asset market turmoil in May 2022, however, highlighted the vulnerability of stablecoins to deviation from their pegs, which can lead to declines in their market capitalisation and, given their extensive use in crypto-asset markets, to wider strain in the crypto-asset markets (Graph 2)

除了波动性，加密资产活动的复杂性也在增加。加密资产发行商和服务提供商正在开展广泛的功能和活动，这增加了加密资产市场的相互关联性。值得注意的是，所谓的“稳定币”声称可以保持稳定的价值，可以成为不同加密资产活动之间相互联系的关键点。然而，2022 年 5 月的加密资产市场动荡凸显了稳定币偏离挂钩的脆弱性，这可能导致稳定币市值下降，而且由于稳定币在加密资产市场的广泛使用，还可能导致加密资产市场更广泛的紧张（图 2）。

So far, direct connections between crypto-assets and systemically important financial institutions, core financial markets, and market infrastructures have been limited. Crypto-asset markets represent only a small portion of global financial assets. The impact of price volatility has been generally contained within crypto-asset markets, though recently in the US, the decline in crypto-asset prices and activity led to one bank that offered services to cryptoasset clients to close and may have contributed to the failure of another bank. Moreover, cryptoassets are currently not widely used in critical financial services (including payments) on which the real economy depends. The rate of crypto-asset adoption is generally higher in EMDEs relative to advanced economies (AEs) (Chainalysis 2022). So far, only two jurisdictions have granted legal tender status to crypto-assets, and one of them rescinded that status due to significant concerns about the implications for macroeconomic and financial stability.¹

迄今为止，加密资产与具有系统重要性的金融机构、核心金融市场和市场基础设施之间的直接联系还很有限。加密资产市场只占全球金融资产的一小部分。尽管最近在美国，加密资产价格和活动的下降导致一家为加密资产客户提供服务的银行关闭，并可能导致另一家银行倒闭，但价格波动对加密资产市场的影响总体上是可控的。此外，加密资产目前尚未广泛用于实体经济所依赖的关键金融服务（包括支付）。与发达经济体（AEs）相比，加密资产在新兴市场经济国家的采用率普遍较高（Chainalysis 2022）。迄今为止，只有两个辖区给予加密资产法定货币地位，其中一个辖区因担心对宏观经济和金融稳定的影响而取消了这一地位。¹

The emergence of clear risks necessitates appropriate policy responses. While crypto-assets

¹ El Salvador and Central African Republic, although the latter is currently in the process of amending the law to repeal the legal tender status for crypto-assets. Marshall Islands issued a law to grant the crypto-asset SOV legal tender status, however, SOV was never issued (and the law did not cover other crypto-assets).

萨尔瓦多和中非共和国，尽管后者目前正在修订法律，以废除加密资产的法定货币地位。马绍尔群岛颁布了一项法律，赋予加密资产 SOV 法定货币地位，但 SOV 从未发行（而且该法律不包括其他加密资产）。

are not yet a significant part of the global financial system, they have the potential to emerge as a source of systemic risk in specific jurisdictions if they gain traction for payments or retail investments. Moreover, if connectivity between crypto-assets and traditional finance were to grow further, spillovers from crypto-asset markets into the broader financial system could increase, potentially representing a systemic risk. Policymakers are taking action to protect consumers and investors, promote financial stability and integrity, and safeguard the financial system in the event of widespread adoption of crypto-assets.² In support, the FSB and the standard setting bodies such as the Basel Committee for Banking Supervision (BCBS), the Bank for International Settlements' Committee on Payments and Market Infrastructures (CPMI), the International Organization of Securities Commissions (IOSCO), and the FATF have taken the lead in championing and coordinating the global regulatory framework for crypto-assets. The IMF has also recently published a framework to guide its members that sets out nine core elements of effective policies for crypto-assets (IMF 2023a)

明显风险的出现需要适当的政策加以应对。虽然加密资产尚未成为全球金融体系的重要组成部分，但如果它们在支付或零售投资方面获得青睐，就有可能在特定管辖区成为系统性风险的来源。此外，如果加密资产与传统金融之间的联系进一步加强，加密资产市场对更广泛金融体系的溢出效应可能会增加，从而可能构成系统性风险。政策制定者正在采取行动，以保护消费者和投资者，促进金融稳定和诚信，并在加密资产被广泛采用的情况下保护金融体系。²作为支持，金融稳定委员会以及巴塞尔银行监管委员会（BCBS）、国际清算银行支付与市场基础设施委员会（CPMI）、国际证券委员会组织（IOSCO）和反洗钱金融行动特别工作组（FATF）等标准制定机构已率先倡导并协调加密资产的全球监管框架。国际货币基金组织最近还发布了一个指导其成员的框架，其中列出了加密资产有效政策的九个核心要素（IMF 2023a）。

²Examples of widespread adoption could be an extensive use of crypto-assets as means of payments or as investment instruments by retail investors

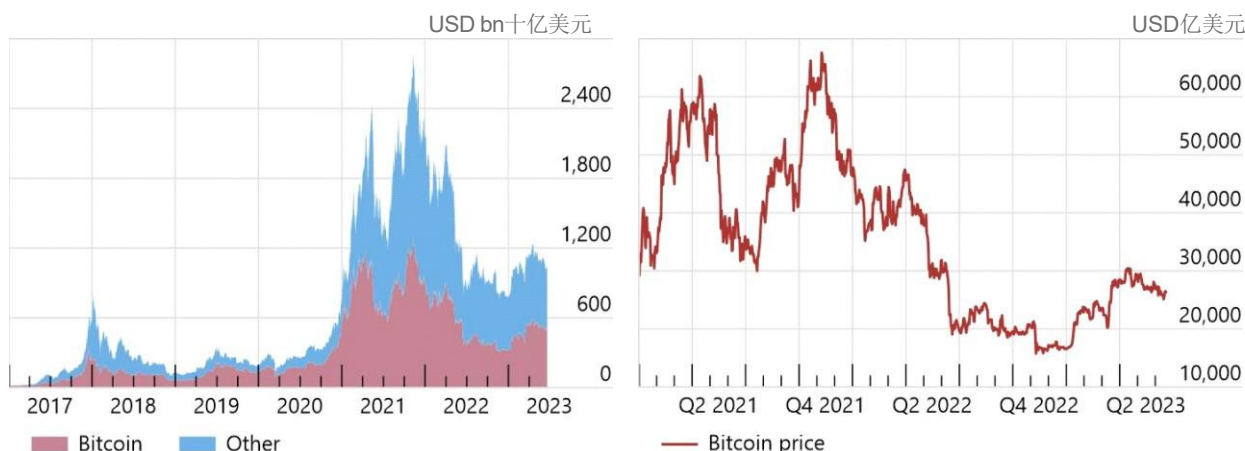
广泛采用的例子：零售投资者广泛使用加密资产作为支付手段或投资工具

Stablecoin market cap and market shares 加密资产市值和价格驱动因素

Graph1 图表 1

Crypto-asset market capitalization 加密资产市值

Price of bitcoin 比特币价格



Sources 资料来源: Coin Dance、CoinGecko; FSB calculations

Stablecoin market cap and market shares 稳定币市值和市场份额

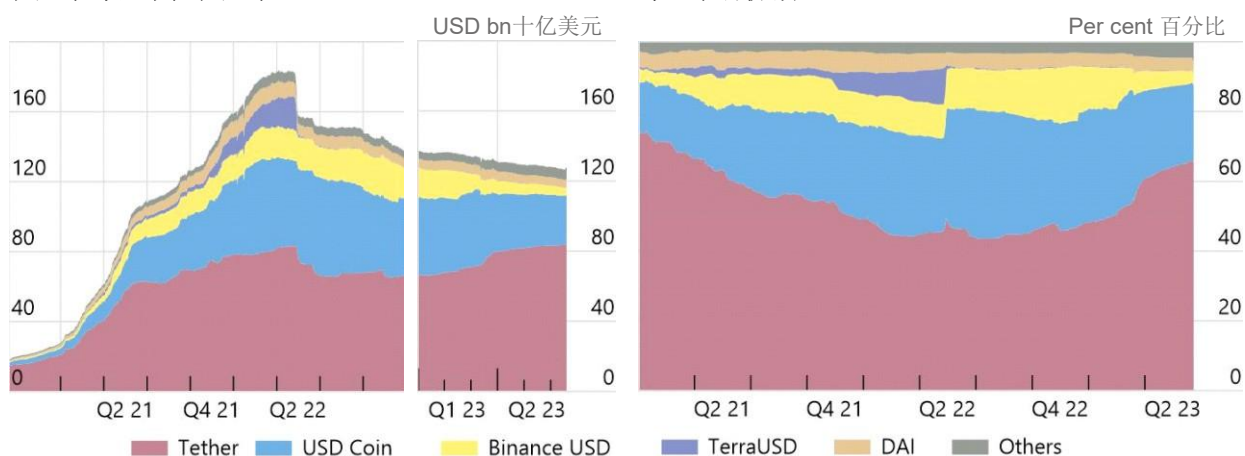
Graph 图表 2

Daily market capitalization of stablecoins

Daily market share of stablecoins

稳定币每日市值稳定币

每日市场份额



Sources 资料来源: CoinGecko; FSB calculations.

This paper's key objective is to synthesise the work of the IMF and the FSB. It integrates the fundamental policy elements and recommendations from the IMF and the FSB to support a comprehensive and coordinated framework for analysing the implications of crypto-assets and for suggesting policy responses that can be further developed by the SSBs in accordance with their respective mandate. It covers all crypto-asset activities, including those conducted through DeFi protocols, and addresses the unique risks of stablecoins. This paper consolidates the key recommendations proposed by the IMF and the FSB to help authorities in identifying, assessing, and mitigating macro-economic and financial stability risks of crypto-assets. This paper does not establish new policies, recommendations, or expectations for relevant member authorities. Central bank digital currencies (CBDCs) are not within the scope of this report.

本文的主要目标是综合国际货币基金组织和金融稳定委员会的工作。它整合了国际货币基金组织（IMF）和金融稳定委员会（FSB）的基本政策要素和建议，以支持一个全面、协调的框架，用于分析加密资产的影响，并提出政策应对建议，这些建议可由 SSB 根据各自的任务进一步制定。该框架涵盖所有加密资产活动，包括通过 DeFi 协议开展的活动，并涉及稳定币的独特风险。本文件整合了国际货币基金组织和金融稳定理事会提出的主要建议，以帮助当局识别、评估和减轻加密资产的宏观经济和金融稳定风险。本文件并未为相关成员机构制定新的政策、建议或期望。央行数字货币（CBDCs）不在本报告范围内。

The remainder of the paper is organised as follows. It begins with a discussion of key risks to macroeconomic stability, financial stability, and other areas (such as legal, financial integrity and market integrity related risks). It then presents policy responses to these risks in the areas of: (i) macro-financial policies; (ii) financial stability regulation; and (iii) other policies and regulation. Finally, the paper concludes with an implementation roadmap.

A detailed summary of the publications recently delivered by the IMF, FSB, Bank for International Settlements (BIS), and SSBs is provided in Annex 1

本文的其余部分安排如下。首先讨论宏观经济稳定、金融稳定和其他领域（如法律、金融诚信和市场诚信相关风险）的主要风险。然后介绍了在以下领域应对这些风险的政策措施，其中包括(1) 宏观金融政策；(2) 金融稳定监管；(3) 其他政策和监管。最后，本文提出了一个实施路线图。

国际货币基金组织（IMF）、金融稳定委员会（FSB）、国际清算银行（BIS）和 SSB 最近发布的出版物的详细摘要见附件 1。

2. Implications of crypto-assets 加密资产的影响

This section outlines the risks and purported benefits presented by crypto-assets, the implications of which differ by jurisdictional circumstances. Crypto-assets pose risks to macroeconomic and financial stability, as well as risks involving financial integrity, consumer and investor protection, and market integrity. In some instances, these risks are exacerbated by non-compliance with existing laws. Like other financial activities, these risks can interact with and reinforce each other.

本节概述了加密资产带来的风险和所谓的益处，其影响因管辖环境而异。加密资产给宏观经济和金融稳定带来风险，也给金融诚信、消费者和投资者保护以及市场诚信带来风险。在某些情况下，不遵守现行法律会加剧这些风险。与其他金融活动一样，这些风险也会相互作用、相互加强。

Crypto-assets are purported to bring a wide range of benefits, including cheaper and faster cross-border payments, increased financial inclusion and greater portfolio diversification. Greater operational resilience, and increased transparency and traceability of transactions, are also often presented as potential benefits.³ Most crypto-assets are issued on permissionless blockchains, which act as an open-source settlement layer that allows for programmable and interoperable financial architecture to be built on top of it.

加密资产据称能带来广泛的好处，包括更便宜、更快捷的跨境支付，提高金融包容性和投资组合多样化。更强的业务弹性、更高的透明度和交易可追溯性也常常被视为潜在的好处。³ 大多数加密资产都是在未经许可的区块链上发行的，区块链作为一个开源结算层，允许在其上建立可编程和可互操作的金融架构。

However, a consideration of these purported benefits suggests that many have not yet materialised (IMF 2023a). Authorities need to comprehensively assess the costs and benefits associated with crypto-assets to inform policy decisions. As such, the main purpose of this section is to highlight the risks that have become apparent and warrant policy responses at the international level.

然而，对这些所谓好处的考虑表明，许多好处尚未实现（IMF 2023a）。当局需要全面评估与加密资产相关的成本和收益，为政策决策提供依据。因此，本节的主要目的是强调已经显现出来的风险，并在国际层面做出政策回应。

2.1. Macroeconomic stability 宏观经济稳定

2.1.1. Monetary policy 货币政策

³ However, crypto-asset transactions often occur off-chain, hindering traceability and transparency.

然而，加密资产交易往往发生在链外，妨碍了可追溯性和透明度

The widespread adoption of crypto-assets could threaten the effectiveness of monetary policy. The transmission of monetary policy would weaken if firms and households prefer to save and invest in crypto-assets that are not pegged to the domestic fiat currency or to use them as payment instruments or medium of account (IMF 2020).⁴ The risk of currency substitution (“cryptoization”) is particularly pertinent for countries with unstable currencies and weak monetary frameworks.^{5, 6} Cryptoization is more likely to be associated with the adoption of stablecoins denominated in foreign currencies which, relative to other crypto-assets, purport to offer a less volatile alternative to the domestic currency.⁷

广泛采用加密资产可能会威胁货币政策的有效性。如果企业和家庭倾向于储蓄和投资于不与国内法定货币挂钩的加密资产，或将其作为支付工具或账户媒介，货币政策的传导性就会减弱（IMF 2020）。⁴ 货币替代（“加密化”）的风险对于货币不稳定和货币框架薄弱的国家尤为重要。^{5, 6} 加密货币化更有可能与采用以外币计价的稳定币有关，相对于其他加密资产，稳定币旨在提供一种波动性较小的本国货币替代品。⁷

Crypto-assets could have significant implications for monetary stability, especially if they are granted official currency or legal tender status. Monetary policy effectiveness would be compromised since central banks lack the ability to adjust interest rates on a foreign currency. When a country adopts a foreign currency, it typically imports the credibility of the foreign jurisdiction’s monetary policy, aiming to align its economy and interest rates with the foreign business cycle. However, widespread adoption of crypto-assets precludes both possibilities. Further, granting such status would require creditors to accept the crypto-asset as payment for monetary obligations, including taxes, similar to the currency issued by the central bank. If both an official currency and a crypto-asset are used for pricing goods and services, domestic prices could become highly unstable due to the corresponding volatility of the crypto-asset.⁸ Even if all domestic prices were quoted in a specific crypto-asset, the prices of imported goods and services would still experience significant fluctuations based on market valuations of the crypto-asset.

加密资产可能会对货币稳定性产生重大影响，特别是如果加密资产被授予官方货币或法定货币地位。由于中央银行缺乏调整外币利率的能力，货币政策的有效性将大打折扣。当一个国家采用一种外国货币时，它通常会引进外国货币政策的可信度，旨在使其经济和利率与外国商业周期保持一致。然而，加密资产的广泛采用排除了这两种可能性。此外，给予这种地位将要求债权人接受加密资产作为货币债务（包括税收）的支付方式，类似于中央银行发行的货币。如果同时使用官方货币和加密资产为商品和服务定价，国内价格可能会因加密资产的相应波动而变得极不稳定。⁸ 即使所有国内价格都以特定加密资产报价，进口商品和服务的价格仍会根据加密资产的市场估值出现大幅波动。

⁴ Monetary transmission refers to the extent to which policy-induced changes in monetary instruments (e.g., the nominal money stock or the short-term nominal interest rate) can affect macroeconomic variables.

货币传导是指政策引起的货币工具（如名义货币存量或短期名义利率）变化对宏观经济变量的影响程度。

⁵ “Cryptoization” refers to both currency and asset substitution.

“加密”既指货币替代，也指资产替代。

⁶ The FSB has work underway to assess the impact of stablecoins on EMDEs with a focus on regulatory and supervisory cooperation.

金融稳定委员会正在评估稳定币对新兴市场经济国家的影响，重点是监管和监督合作。

⁷ Additional factors to contemplate within the context of extensive crypto-asset adoption, or cryptoization, encompass the possibilities of bank disintermediation. This could potentially influence the banking system’s capacity to attract fiat currency deposits, generate credit, and may consequently undermine financial stability. Furthermore, there’s the potential for a reduction in seigniorage revenue.

在广泛采用加密资产或加密化的背景下，需要考虑的其他因素包括银行脱媒的可能性。这可能会影响银行系统吸引法定货币存款、产生信贷的能力，并可能因此破坏金融稳定。此外，还有可能减少。

⁸ See Kubo (2017) for discussions on the broader considerations around multiple currency regimes, including the complex tradeoffs faced by agents and the added challenges for the operational conduct of monetary policy.

参见 Kubo (2017)，其中讨论了围绕多重货币制度的更广泛的考虑因素，包括代理人面临的复杂权衡以及对货币政策操作的额外挑战。

2.1.2. Fiscal policy 财政政策

The spread of crypto-assets can increase fiscal risks. New fiscal risks can arise from the financial sector's exposure to the crypto-asset ecosystem, the lack of clarity of tax regimes, and the cross-border nature of crypto-assets.⁹ In turn, crypto-assets can affect tax revenue collection and compliance, even when not adopted as legal tender. Decentralised peer-to-peer (P2P) activities increase the reliance on voluntary compliance and self-reporting. Even if supervised institutions are required to report crypto-related activities to tax authorities they may not comply with existing regulations, and in other jurisdictions, some institutions may fall outside of the scope of such regulations. The implementation of the OECD's Crypto-asset Reporting Framework across jurisdictions will support tax authorities' efforts to collect revenues (OECD 2022a).

加密资产的扩散会增加财政风险。新的财政风险可能来自金融部门对加密资产生态系统的风险敞口、税收制度不明确以及加密资产的跨境性质。⁹反过来，加密资产即使不被当作法定货币，也会影响税收和合规性。分散的点对点（P2P）活动增加了对自愿合规和自我报告的依赖。即使受监管机构被要求向税务机关报告加密货币相关活动，它们也可能不遵守现有法规，而在其他辖区，一些类似机构可能不在此类法规的管辖范围内。在各辖区实施经合组织的加密资产报告框架将支持税务机关的征税工作（经合组织 2022a）。

If crypto-assets are granted legal tender status or official currency status, government revenues could be exposed to exchange-rate risk. Such risks would be significant if taxes are quoted in advance in a crypto-asset while expenditures remained mostly in other local currency.¹⁰ Moreover, contingent liabilities arise if convertibility of the crypto-asset to fiat currency is guaranteed by the government or if the financial sector becomes exposed. In addition, granting a crypto-asset legal tender or official currency status could negatively affect the government's social policy objectives, as high volatility in the price of such crypto-asset could affect poor households more. Public finances, too, could be at risk if tax proceeds and/or spending were denominated in a volatile crypto-asset. Likewise, bond issuance denominated in crypto-assets could put a country's debt dynamics at risk.

如果加密资产获得法定货币地位或官方货币地位，政府收入可能面临汇率风险。如果税收预先以加密资产报价，而支出大部分仍以其他当地货币支付，汇率风险就会很大。¹⁰此外，如果加密资产与法定货币之间的可兑换性由政府担保，或者如果金融部门面临风险，亦会产生或有负债。另外，赋予加密资产法定货币或官方货币地位可能会对政府的社会政策目标产生负面影响，因为此类加密资产价格的大幅波动可能会对贫困家庭造成更大影响。如果税收总和或支出以不稳定的加密资产计价，公共财政也可能面临风险。同样，以加密资产计价的债券发行也会给国家的债务动态带来风险。

Crypto-asset adoption can increase risks to public finances even without changing legal tender or official currency laws. Pseudonymous crypto-assets can undermine tax revenue collection and compliance since withholding taxes and third-party information could be challenging to collect. Finally, differences in cross-border tax treatment of crypto-assets may open loopholes for tax avoidance

即使不改变法定货币或官方货币法，采用加密资产也会增加公共财政风险。匿名加密资产可能会破

⁹ Fiscal risks are factors that may cause fiscal outcomes to deviate from expectations or forecasts. These factors comprise potential shocks to government revenues, expenditures, assets, or liabilities, which are not reflected in the government's fiscal forecasts or reports (IMF 2019a). An example of fiscal risks that may be heightened from a potential increase in the financial sector's exposure to the crypto-asset ecosystem include the explicit or implicit guarantees for too-big-to-fail financial institutions.

财政风险是指可能导致财政结果偏离预期或预测的因素。这些因素包括对政府收入、支出、资产或负债的潜在冲击，而这些冲击并未反映在政府的财政预测或报告中（IMF 2019a）。金融部门对加密资产生态系统的风险敞口的潜在增加可能会加剧财政风险，其中一个例子是为“大到不能倒”的金融机构提供显性或隐性担保。

¹⁰ The adoption of a crypto-asset as a legal tender could also have a relevant impact on public financial management, including the functioning of the treasury single account (TSA), government cash practices and fiscal reporting.

采用加密资产作为法定货币还可能对公共财政管理产生相关影响，包括国库单一账户（TSA）的运作、政府现金做法和财政报告。

坏税收征管和合规性，因为预扣税和第三方信息可能很难收集。最后，加密资产跨境税收待遇的差异可能会为避税打开漏洞。

2.1.3. *Capital flows and capital flow management measures(CFMs)* 资本流动和资本流动管理措施

The adoption of crypto-assets could erode the effectiveness of CFMs if they are used in cross border transactions. Crypto-asset trading volumes are robustly higher in countries with tighter capital controls (Furceri and others forthcoming). CFM laws and regulations may need time to be modified to adequately address crypto-assets.¹¹ In the case of pseudonymous crypto-assets, enforcement may be difficult. Further, in some jurisdictions, certain crypto-asset activities may not involve any readily identifiable intermediaries or service providers that can be held responsible to comply with CFMs (He and others 2022)

如果在跨境交易中采用加密资产，可能会削弱CFMs的有效性。在资本管制较严的国家，加密资产交易明显较高（Furceri 等人即将出版）。为充分处理加密资产问题，可能需要时间修改 CFM 法律法规。¹¹就匿名加密资产而言，执法可能会很困难。此外，在某些辖区，某些加密资产活动可能不涉及任何易于识别的中间商或服务提供商，这些机构可以被用来督促用户遵守CFMs。（他和其他人2022 年）。

Crypto-assets could drive higher gross foreign capital positions and more volatile capital flows. If crypto-assets were to achieve lower cross-border transaction costs than other types of assets, they may reduce frictions for investors to allocate capital across borders. Gross capital flows could increase as a result, as could capital flow volatility, given the large price volatility of crypto-assets and the potential for herding behaviour by investors across borders.¹² Rapid capital flight (or reversals) could materialise if foreign currency-denominated stablecoins became easier and cheaper to hold in large quantities relative to foreign currency bank accounts. Moreover, larger gross foreign asset positions may lead to higher leverage and greater valuation effects, increasing balance of payments vulnerabilities (Obstfeld 2012). Possible asymmetries in the evolution of gross foreign asset positions could be driven by the different regulatory treatment of crypto-assets.¹³

加密资产可能推动更高的外国资本总头寸和更不稳定的资本流动。如果加密资产的跨境交易成本低于其他类型的资产，就可能减少投资者跨境配置资本的摩擦。由于加密资产的价格波动较大，投资者有可能出现跨界羊群行为，资本流动总额可能因此增加，资本流动的波动性也可能增加。¹²如果以外币计价的稳定币相对于外币银行账户更容易和更便宜地大量持有，就可能出现快速的资本外逃（或逆转）。此外，更大的外国资产总头寸可能导致更高的杠杆率和更大的估值效应，增加国际收支的脆弱性（Obstfeld，2012 年）。外国资产总头寸演变过程中可能存在的不对称可能是由加密资产的不同监管待遇所驱动的。¹³

Widespread use of crypto-assets may lead to increased capital outflows, reducing domestic savings, or diverting foreign capital that could have been invested domestically. The potential for crypto-assets to erode the effectiveness of CFMs could facilitate capital outflows and create potential incentives to invest in the crypto-asset ecosystem. Forecasting the pattern of net capital flows related to crypto-assets requires additional analysis and improved data.

¹¹ Crypto- asset markets are likely to respond quickly to such measures, with announcements of regulatory tightening leading to significant declines in crypto-asset trading volumes (Copestake and others 2023).

加密资产市场可能会对这些措施迅速做出反应，监管收紧的公告会导致加密资产交易量大幅下降（Copestake 等，2023 年）。

¹² Stablecoin issuers and their custodians can move from one jurisdiction to another at a very low cost, potentially being an additional source of capital flows and volatility.

稳定币发行者及其托管人可以以极低的成本从一个司法管辖区转移到另一个司法管辖区，从而有可能成为资本流动和波动的额外来源。

¹³ Current statistics on gross foreign asset positions may not reflect the risk of increasing balance of payment vulnerabilities as a result of larger gross foreign asset positions, as in most countries crypto-assets are not recorded in the balance of payments.

目前关于外国资产总头寸的统计数据可能无法反映外国资产总头寸增加导致国际收支脆弱性增加的风险，因为在大多数国家，国际收支不记录加密资产。

加密资产的广泛使用可能导致资本外流增加，减少国内储蓄，或转移本可投资于国内的外国资本。加密资产有可能削弱CFMs的有效性，这可能会促进资本外流，并产生投资加密资产生态系统的潜在动机。预测与加密资产有关的净资本流动模式需要更多的分析和更好的数据。

With larger and more volatile capital flows and potentially less effective CFMs, countries may find it harder to manage their financial conditions and choose their exchange rate regime. The presence of crypto-assets does not fundamentally affect the overall view on CFMs: they are useful in certain circumstances but should not substitute for warranted macroeconomic adjustment (IMF 2022a). However, significant adoption of crypto-assets can result in a faster and stronger transmission of global financial conditions, complicating policy trade-offs.¹⁴ This mainly follows from the potential of crypto-asset adoption to impair the effectiveness of CFMs even in cases when CFMs are useful. Countries managing their exchange rates could, without full capacity to balance exchange-rate stability, monetary policy independence, and tighter financial supervision and regulation, be pushed towards accepting excessive capital flow volatility.

随着资本流动规模的扩大和波动性的增加，以及CFMs的有效性可能降低，各国可能会发现更难管理其金融状况和选择其汇率制度。加密资产的存在不会从根本上影响对CFMs的总体看法：它们在某些情况下是有用的，但不应取代有正当理由的宏观经济调整（IMF 2022a）。然而，大量采用加密资产可能导致全球金融状况更快、更强的传播，使政策权衡变得复杂。¹⁴这主要是因为即使在CFMs有用的情况下，采用加密资产也可能损害CFMs的有效性。管理汇率的国家在没有充分能力平衡汇率稳定、货币政策独立性以及更严格的金融监管的情况下，可能会被推向接受过度的资本流动波动。

In addition, emerging markets and developing economies (EMDEs) may face amplified macro-financial risks from crypto-assets.¹⁵ Box 1 explains why.

此外，新兴市场和发展中经济体（EMDEs）可能面临加密资产放大的宏观金融风险。¹⁵方框 1 解释了原因。

Box 1: The case of crypto-assets and EMDEs: incentives and macro-financial risks

方框 1：加密资产和新兴市场经济国家的案例：激励措施和宏观金融风险

The macro-financial risks presented by crypto-assets are likely to be larger for EMDEs because the incentives to use crypto-assets in EMDEs are stronger for several reasons.

出于几个原因，新兴市场经济国家使用加密资产的动机更强，故加密资产带来的宏观金融风险在新兴市场经济国家的可能性更大。

First, EMDEs have, on average, weaker monetary frameworks, higher inflation rates, and more unstable currencies. This reduces the ability of EMDEs' currencies to perform the main roles of money - store of value, medium of exchange, and unit of account - incentivising currency substitution, potentially towards crypto-assets.

首先，平均而言，新兴市场经济国家的货币框架较弱，通货膨胀率较高，货币更不稳定。这就削弱了新兴市场经济国家的货币发挥主要作用的能力——价值储存、交换媒介和记账单位——从而刺激货币替代，潜在地转向加密资产。

¹⁴ Crypto-asset prices are already correlated with the global financial cycle and are more responsive to changes in financial conditions than equities (Adrian, Iyer, and Qureshi 2022; Iyer 2022; Che and others 2023)

加密资产的价格已经与全球金融周期相关，对金融条件变化的反应比股票更灵敏（Adrian、Iyer 和 Qureshi，2022 年；Iyer，2022 年；Che 等，2023 年）。

¹⁵ Low-income countries (LICs) might also require tailored recommendations. Factors such as low public financial literacy, limited monetary and financial developments, higher dependence on remittances, and concerns over the credibility of the domestic currency may incentivise unsophisticated consumers to turn to crypto-assets as savings vehicles. For example, given LICs' vulnerability to crypto price shocks, it may be prudent to consider voicing the need for bolder consumer protection measures.

低收入国家（LIC）可能也需要有针对性的建议。诸如公众金融知识水平低、有限的货币和金融的发展、对汇款的更大依赖以及对本国货币可信度的担忧，可能会促使不成熟的消费者转向加密资产作为储蓄工具。例如，鉴于低收入国家易受加密货币价格冲击的影响，考虑采取更大胆的消费者保护措施可能是明智之举。

Second, the share of the population that is unbanked is larger in most EMDEs. Also, given that financial development is generally lower among EMDEs, the lack of a diverse set of investment options might increase the incentives for crypto-asset use, even among those that are banked.

其次，在大多数新兴市场经济国家，没有银行账户的人口比例较大。此外，鉴于新兴市场经济国家的金融发展水平普遍较低，缺乏多样化的投资选择，它们可能会增加使用加密资产的动机，即使在那些有银行账户的人口较多的国家也是如此。

Third, financial education is generally lower in EMDEs and so is individuals' understanding of the potential risks of crypto-assets.

第三，新兴市场经济国家的金融教育水平普遍较低，因此个人对加密资产潜在风险的了解也较少。

Fourth, cross-border transaction costs are typically larger for EMDEs. This means that crypto-assets have the potential to lower cross-border transaction costs for these countries, potentially leading to relatively larger gross balance of payment flows, and to higher valuation volatility.

第四，新兴市场经济国家的跨境交易成本通常较大。这意味着加密资产有可能降低这些国家的跨境交易成本，从而有可能导致相对较大的国际收支总流量和较高的估值波动。

Fifth, relative to AEs, emerging markets typically have in place a larger number of CFMs, which creates added incentives for crypto-asset adoption to achieve circumvention.

第五，相对于新兴经济体，新兴市场通常有更多的 CFMs，这为采用加密资产实现规避创造了更多的激励因素。

Beyond the factors that might explain higher use of crypto-assets and hence higher associated risks, EMDEs may face greater challenges in mitigating risks. Limited capacity and cross-border coordination issues contributes to these challenges. In many cases, resources are required to develop oversight frameworks, establish authorisation and licensing regimes, and foster cooperation. Jurisdictions with limited resources may struggle to expand authorities' scope for oversight and enforcement, leading to inconsistent implementation of standards. In several EMDEs, the regulators lack a clear legal basis for regulating crypto-assets, which moreover complicates gathering information and promoting change.

除了加密资产使用率较高从而导致相关风险较高的因素外，新兴市场经济体在降低风险方面可能面临更大的挑战。能力有限和跨境协调问题加剧了这些挑战。在许多情况下，制定监督框架、建立授权和许可制度以及促进合作都需要资源。资源有限的管辖区可能难以扩大当局的监督和执法范围，导致标准执行不一致。在一些新兴市场经济国家，监管机构缺乏监管加密资产的明确法律依据，这使得收集信息和促进变革变得更加复杂。

Furthermore, many EMDEs have less developed tax frameworks, and tax authorities may have lower capacity to enforce compliance. This makes it particularly challenging to prevent tax avoidance through use of crypto-assets. Cross-border coordination challenges further compound the difficulties faced by EMDEs, given the global nature of operations, foreign ownership, and opaque governance arrangements of many crypto-asset intermediaries.

此外，许多新兴市场经济国家的税收框架不够发达，税务机关的执法能力可能较低。这使得防止利用加密资产避税尤其具有挑战性。鉴于许多加密资产中介机构的业务具有全球性质、外国所有权和不透明的治理安排，跨境协调方面的挑战进一步加剧了新兴市场经济国家所面临的困难。

The particularly strong risks faced by EMDEs related to the use of crypto-assets underscore the importance of implementing the sound economic policies and frameworks discussed in section 3. Due to a lower initial level of state and institutional capacity, as well as potentially more limited fiscal space, EMDEs may benefit from capacity development and policy advice provided by international institutions, including the IMF and the World Bank. Such capacity development could help with, e.g., the strengthening of monetary frameworks and tax compliance, improving domestic financial infrastructures as well as counteracting the erosion of CFMs through adjusted CFM laws and improved data collection. International institutions can also help to provide fora for improved

collaboration on cross-border information sharing.

新兴市场经济国家在使用加密资产方面面临着特别大的风险，这凸显了实施第 3 节中讨论的健全经济政策和框架的重要性。由于最初的国家能力和机构能力水平较低，财政空间可能更加有限，新兴市场经济国家可能会受益于国际机构提供的能力发展和政策建议，包括国际货币基金组织和世界银行。这种能力发展可有助于加强货币框架和遵守税法，改善国内金融基础设施，以及通过调整 CFM 法律和改进数据收集来抵消 CFMs 的侵蚀。国际机构也可以为加强跨境信息共享合作提供论坛。

2.1.4. *Global financial safety net (GFSN)* 全球金融安全网

If a rapid and widespread adoption of crypto-assets materialised, it could require changes to central banks' reserve holdings, as well as to the GFSN, with potential instability along the transition. The IMF is mandated to oversee the functioning and stability of the International Monetary System (IMS), which has four elements: 1) the global payment system, 2) the Global Financial Safety Net, 3) policies around capital flow measures, and 4) exchange-rate regimes (IMF 2022a; 2023c). The GFSN refers to a set of mechanisms, resources, and arrangements established at the international level to provide financial assistance and stability to countries facing financial crises or systemic risks. It consists of various components, including international financial institutions (such as the International Monetary Fund), regional financial arrangements, bilateral swap lines, and other forms of liquidity support. The aim of the GFSN is to promote financial stability, maintain market confidence, and help countries overcome financial challenges by providing them with access to financial resources and policy advice.

如果加密资产的快速和广泛采用成为现实，那么中央银行的储备持有量以及全球金融服务网就需要改变，并且在过渡过程中可能会出现不稳定。国际货币基金组织（IMF）的任务是监督国际货币体系（IMS）的运作和稳定，该体系有四个要素：1) 全球支付体系；2) 全球金融安全网；3) 围绕资本流动措施的政策；4) 汇率制度（IMF 2022a; 2023c）。全球金融安全网是指在国际层面建立的一套机制、资源和安排，旨在为面临金融危机或系统性风险的国家提供金融援助和稳定。它由多个部分组成，包括国际金融机构（如国际货币基金组织）、区域金融安排、双边互换额度以及其他形式的流动性支持。全球金融服务网的目标是促进金融稳定，维护市场信心，并通过向各国提供金融资源和政策建议，从而帮助它们克服金融挑战。

2.1.5. *Payment system fragmentation* 支付系统碎片化

Widespread use of stablecoins risks increasing fragmentation of global payments. Proponents of stablecoins argue they can potentially lower costs and improve access to and transparency of payments. They also argue that stablecoins may increase the cross-border flow of payments on permissionless blockchains which individually act as common settlement layers.¹⁶ However, permissionless networks are not easily compatible with one another. In many instances, users are required to utilise a crypto-asset trading platform to facilitate the transfer of value across networks. This introduces additional costs and induces reliance on intermediaries. Also, users may use bridges, which may increase operational risks. Another approach is the use of closed-loop networks or permissioned ledgers, which can result in fragmented liquidity.¹⁷

稳定币的广泛使用有可能加剧全球支付的碎片化。稳定币的支持者认为，稳定币有可能降低成本，提高支付的便利性和透明度。他们还认为，稳定币可以增加无权限区块链上的跨境支付流动，这些区块链可以单独充当共同结算层。¹⁶然而，无权限网络之间不易兼容。在许多情况下，用户需要利用加密资产交易平台来促进跨网络的价值转移。这带来了额外的成本，并诱发了对中介的依赖。此外，用户可能会使用桥接器，这可能会增加运营风险。另一种方法是使用闭环网络或许可分类账，

¹⁶ These purported benefits follow from the use of underlying technologies (such as DLT and smart contracts) and many of the benefits are yet to be realised. See also BIS 2023.

这些所谓的好处来自底层技术（如 DLT 和智能合约）的使用，其中许多好处尚未实现。另见 BIS 2023。

¹⁷ A bridge is a technique used to transfer crypto-assets between blockchains by, typically, creating a synthetic representation of a blockchain-specific crypto-asset on a different blockchain

桥接器是一种用于在区块链之间转移加密资产的技术，通常是在不同的区块链上创建区块链特定加密资产的合成表示。

2.2. Financial stability implications and regulatory issues 对金融稳定的影响和监管问题

Crypto-asset markets and the ecosystem are changing rapidly, and could, if they were to grow and become more interconnected with the traditional financial system, reach a point where they represent a threat to global financial stability. The crypto-asset market turmoil that started in May 2022 highlighted the complex interconnections in the crypto-asset ecosystem, along with some examples of spill-overs to traditional markets. The failure of a market player can quickly transmit shocks to other parts of crypto-asset markets. If interconnections between crypto-asset activities and the traditional financial system were to increase, the spill-over effects may impact important parts of traditional finance.

加密资产市场和生态系统正在迅速变化，如果它们发展壮大并与传统金融体系更加紧密地联系在一起，可能会对全球金融稳定构成威胁。2022年5月开始的加密资产市场动荡凸显了加密资产生态系统中复杂的相互联系，以及一些波及传统市场的例子。一个市场参与者的失败会迅速将冲击传递到加密资产市场的其他部分。如果加密资产活动与传统金融体系之间的相互联系增加，溢出效应可能会影响到传统金融的重要部分。

The crypto-asset ecosystem exhibits vulnerabilities similar to those found in the traditional financial system. The vulnerabilities in crypto-asset markets – related to leverage, liquidity and maturity mismatch, operational and technological fragilities, and interconnectedness – are similar to those in traditional finance. Recent events have further highlighted that many of the vulnerabilities in crypto-asset markets are exacerbated, because functions in crypto-asset markets are being carried out without appropriate governance structures, in non-compliance with existing rules, and/or outside the regulatory perimeter.

加密资产生态系统表现出与传统金融体系类似的脆弱性。加密资产市场的脆弱性--与杠杆、流动性和期限错配、操作和技术脆弱性以及相互关联性有关--与传统金融的脆弱性相似。最近发生的事件进一步突出表明，加密资产市场的许多脆弱性加剧了，因为加密资产市场的职能是在没有适当治理结构、不遵守现有规则和/或在监管范围之外的情况下履行的。

The IMF and the FSB have identified the following potential financial stability transmission channels:

国际货币基金组织和金融稳定委员会确定了以下潜在的金融稳定传导渠道：

■ **Financial sector exposures to crypto-assets:** Volatility and risk contagion may be transmitted to the wider financial system through direct or indirect exposures of financial institutions to crypto-assets. For example, when crypto-asset investors suffer large losses, they may be forced to sell traditional financial assets to manage their liquidity positions.

金融部门对加密资产的风险敞口：波动和风险传染可能会通过金融机构对加密资产的直接或间接风险敞口传递到更广泛的金融体系。例如，当加密资产投资者遭受巨额损失时，他们可能被迫出售传统金融资产以管理其流动性头寸。

■ **Wealth effects:** If the breadth of crypto-asset investors were to increase, adverse asset value fluctuations could have correspondingly larger knock-on effects on the wider financial system and economy. For example, faced with large losses, retail investors in crypto-assets could curtail spending or reduce their investments in other assets.

财富效应：如果加密资产投资者的范围扩大，不利的资产价值波动可能会对更广泛的金融体系和经济产生相应的更大冲击效应。例如，面对巨额损失，加密资产的散户投资者可能会缩减开支或减少对其他资产的投资。

■ **Confidence effects:** Widespread holdings of crypto-assets by retail investors with limited knowledge of how the market functions could result in adverse confidence effects if there were to be market disruptions. This could be made worse should crypto-asset issuers and service

providers fail to comply with applicable investor-protection requirements and recovery and resolution frameworks.

信心影响：散户投资者普遍持有加密资产，但对市场如何运作了解有限，如果市场出现混乱，可能会对信心产生不利影响。如果加密资产发行商和服务提供商未能遵守适当的投资者保护要求以及恢复和解决框架，情况可能会更糟。

■ **Use in payments and settlements.** If crypto-assets are adopted widely as a payment instrument (including as a settlement asset), their interaction with the financial system and the broader economy could contribute to faster and more material shock transmission in the event of market stress. Furthermore, permissionless blockchains present some characteristics that could pose financial stability risks, notably related to settlement finality and governance.¹⁸ This channel could be particularly pronounced in some EMDEs where crypto-assets have become a prevalent payment instrument.

用于支付和结算。如果加密资产被广泛采用为支付工具（包括作为结算资产），它们与金融系统和更广泛的经济之间的互动可能会在市场压力下促成更快、更大的冲击传播。此外，无许可区块链的一些特性可能会带来金融稳定风险，特别是与最终结算和管理有关的风险。¹⁸ 在一些加密资产已成为普遍支付工具的新兴市场经济国家，这一渠道可能尤为明显。

The purported stability of stablecoins could enhance interconnectivity between crypto-asset markets, traditional financial institutions, and retail market participants. Stablecoins may facilitate a wide range of transactions in the crypto-asset ecosystem. They have the potential to quickly scale and could pose specific risks to financial stability if they were to enter the mainstream of the financial system in multiple jurisdictions or if they are broadly adopted as payment instruments.

稳定币所谓的稳定性可以加强加密资产市场、传统金融机构和零售市场参与者之间的互联互通。稳定币可以促进加密资产生态系统中的各种交易。稳定币有迅速扩大规模的可能，并且如果稳定币进入多个辖区金融系统的主流，或被广泛采用为支付工具，则可能对金融稳定构成特定风险。

Stablecoins are also vulnerable to distinct risks due to their intended stability and the mechanisms stablecoin issuers claim they use to maintain stable values. These features may lead to risks unique to stablecoins and distinguish them from other crypto-assets. They are notably vulnerable to sudden loss of confidence, similar to bank runs. In particular an issuer's failure to back up its promise of a stable value and timely redemption could cause stablecoin users to lose confidence, leading to a run on the stablecoin. Traditional financial risks – market, liquidity and credit risks – may be more acute and complex in a stablecoin arrangement depending on, among other things, the choice and management of the stablecoin reserve assets. Fragilities in the governance, design, and reserve management of the stablecoin arrangement's infrastructure, among other factors, could lead the stablecoin to de-peg. Operational incidents that occur in key parts of a stablecoin arrangements may result in the failure of the stablecoin to maintain a stable value (Bains and others 2022). Stablecoins are also exposed to adverse confidence effects, such as when a financial institution that acts as reseller/market-maker of the stablecoin arrangement is in financial distress. The different activities, such as the management of reserves, within a stablecoin arrangement may considerably increase linkages to the existing financial system and create run risk.

由于稳定币预期的稳定性和其发行者用来维持稳定价值的机制，稳定币因此也容易受到独特风险的影响。这些特点可能会导致稳定币特有的风险，并使其有别于其他加密资产。与银行挤兑类似，稳定币很容易突然丧失信心。特别是，如果发行者不能兑现其稳定价值和及时赎回的承诺，稳定币用

¹⁸ In particular, clearly defining and implementing the point at which settlement is final may be challenging for certain types of blockchains that feature probabilistic settlement, thereby creating settlement risk. In addition, due to the decentralised nature of these networks, governance arrangements may be opaque or inadequate, with no clear allocation of responsibility and accountability. In light of these challenges, permissionless blockchains may therefore pose significant risks to financial stability if operating at scale, in the absence of effective mitigants.

特别是，对于某些以概率结算为特征的区块链类型，明确定义和实施最终结算点可能具有挑战性，从而产生结算风险。此外，由于这些网络的去中心化性质，治理安排可能不透明或不充分，没有明确的责任和问责分配。因此，鉴于这些挑战，在缺乏有效缓解措施的情况下，无许可区块链如果大规模运行，可能会对金融稳定构成重大风险。

户就会失去信心，从而导致稳定币挤兑。传统的金融风险--市场风险、流动性风险和信用风险--在稳定币安排中可能更加严重和复杂，这主要取决于稳定币储备资产的选择和管理。除其他因素外，稳定币安排基础设施的治理、设计和储备管理的脆弱性可能导致稳定币脱离挂钩。稳定币安排关键部分发生的操作事故可能导致稳定币无法保持稳定价值（Bains 等，2022 年）。稳定币还会受到不利的信心影响，如作为稳定币安排的转售商/市场制造商的金融机构陷入财务困境。稳定币安排中的不同活动，如储备金管理，可能会大大增加与现有金融体系的联系，造成运行风险。

Global Stablecoins (GSCs) may transmit volatility more abruptly than other crypto-assets and may cause significant risk to financial stability. A GSC is a stablecoin distinguished by its potential reach and adoption across multiple jurisdictions. Macroeconomic risks associated with GSCs may be higher than for other stablecoins. These risks may arise particularly if, over time, households and businesses in some economies come to hold substantial portions of their wealth in GSCs, rather than in local currencies. In addition, uncertainty about, or large fluctuations in, the value of instruments being used as settlement assets in systemic payment or securities settlement systems could give rise to risks to financial stability associated with the operational or financial failure of the payment or settlement system itself.

与其他加密资产相比，全球稳定币（GSC）可能会更突然地传递波动性，并可能对金融稳定造成重大风险。全球稳定币也是一种稳定币，不过其独特之处在于可能在多个司法管辖区覆盖和采用。与 GSC 相关的宏观经济风险可能高于其他稳定币。特别是如果随着时间的推移，一些经济体的家庭和企业开始用 GSC 而不是当地货币持有大量财富，就可能产生这些风险。此外，在系统性支付或证券结算系统中被用作结算资产的工具价值的不确定性或大幅波动，可能会引起与支付或结算系统本身的运行或财务故障相关的金融稳定风险。

DeFi is a segment of the crypto-asset ecosystem. While the processes used to provide services may differ from those of the traditional financial system, DeFi does not differ substantially from the traditional financial system in the functions it performs. In attempting to replicate some of the functions of the traditional financial system, DeFi inherits and may amplify vulnerabilities, including operational fragilities, liquidity and maturity mismatches, leverage and interconnectedness. Claims of decentralisation often do not hold up to scrutiny. Presently, DeFi may exhibit unclear, opaque, untested or easy-to-manipulate governance frameworks that may expose users to risks. FSB (2023a) presents a comprehensive assessment of certain vulnerabilities associated with DeFi.

DeFi 是加密资产生态系统的一个环节。虽然用于提供服务的流程可能与传统金融系统不同，但 DeFi 在履行的功能方面与传统金融系统并无本质区别。在试图复制传统金融体系的某些功能时，DeFi 继承并可能扩大脆弱性，包括操作脆弱性、流动性和期限错配、杠杆作用和相互关联性。去中心化的说法往往经不起推敲。目前，DeFi 可能表现出治理框架不明确、不透明、未经测试或易于操纵，从而使用户面临风险。FSB (2023a) 对与 DeFi 相关的某些脆弱性进行了全面评估。

The rapid evolution and international nature of crypto-asset markets also raises the potential for regulatory gaps, fragmentation and arbitrage. Box 2 summarises a list of key regulatory and supervisory issues and challenges that should be considered in developing a regulatory framework.

加密资产市场的快速发展和国际性也带来了监管空白、分散和套利的可能性。方框 2 概述了在制定监管框架时应考虑的主要监管和监督问题与挑战。

Box 2: Regulatory and supervisory issues and challenges

方框 2：监管和监督问题与挑战

Regulatory powers and coverage 监管权力和覆盖范围

Crypto-assets can pose challenges to legal, regulatory, and enforcement frameworks. In some jurisdictions, crypto-asset activities are conducted in non-compliance with applicable domestic regulations and may lead to enforcement and supervisory challenges for authorities. In some other jurisdictions, crypto-assets may fall outside of the existing regulatory perimeter, leading to

regulatory gaps.

加密资产可能对法律、监管和执法框架构成挑战。在一些辖区，加密资产活动的开展不符合可适用的国内法规，可能会给当局带来执法和监管方面的挑战。在其他一些辖区，加密资产可能不在现有监管范围内，从而导致监管空白。

Governance 管理

Many organisers of crypto-asset activities structure themselves in ways that result in opaque governance in an attempt to evade regulation and accountability. As a result of these efforts, regulators may face challenges in identifying the entity responsible for the actual governance. Such challenges can be more pronounced within the DeFi ecosystem. Some stablecoin arrangements also purport to apply a decentralised governance structure that potentially gives rise to challenges in identifying the entity that exercises actual control over the governance.

许多加密资产活动的组织者以不透明的治理方式组织自己的活动，试图逃避监管和问责。由于这些行为，监管机构在确定负责实际治理的实体方面可能面临挑战。在 DeFi 生态系统中，这种挑战可能更加明显。一些稳定币安排也声称采用去中心化的治理结构，这可能会给确定实际控制治理的实体带来挑战。

Cross-border cooperation 跨境合作

Crypto-assets are regulated differently across jurisdictions. Crypto-asset issuers and service providers could migrate to places where regulation is lighter, and existing regulatory cooperation arrangements may not effectively capture all aspects of a specific crypto-asset activity. This may amplify contagion when a crypto-asset service provider is in distress or failure.

各辖区对加密资产的监管不同。加密资产发行商和服务提供商可能会迁移到监管较松的地方，现有的监管合作安排可能无法有效涵盖特定加密资产活动的所有方面。当加密资产服务提供商陷入困境或失败时，这种情况可能会扩散。

Data management and disclosure 数据管理和披露

Data gaps are a key concern in the regulation, supervision and oversight of crypto-assets. Some entities do not disclose or report reliable data in compliance with existing requirements. Many crypto-asset service providers extensively conduct activities “off-chain”, meaning that a large part of the relevant data is neither publicly available on blockchains nor properly disclosed. On-chain data is typically pseudonymous and may be difficult to interpret. In some cases, regulated traditional financial entities lack specific reporting requirements concerning their participation in crypto-asset activities.

数据缺口是加密资产监管、监督和监察中的一个主要问题。一些实体没有按照现有要求披露或报告可靠数据。许多加密资产服务提供商广泛开展“链外”活动，这意味着大部分相关数据既没有在区块链上公开，也没有适当披露。链上数据通常是假名数据，可能难以解读。在某些情况下，受监管的传统金融实体会出现其参与加密资产活动的报告要求的缺位。

Combination of multiple functions within a single service provider 组合多种功能的单一服务提供商

Crypto-asset service providers often combine a wide range of functions, including trading platform, custody, brokerage, lending, deposit gathering, market-making, settlement and clearing, issuance, distribution, and promotion. The combination of some functions poses additional risks originating from mutual reinforcement and interaction of individual risks. It may also give rise to conflicts of interest. In certain jurisdictions, some combinations of functions are not permitted or are subject to special regulatory regimes. Without appropriate controls, such as when entities are in non-compliance with existing requirements or there is a lack of comprehensive regulation or legal segregation of certain functions, crypto-asset service providers that combine certain functions could become key central points for amplifying and transmitting risks. The combination of various activities could support the growth of such providers, and if they became sufficiently large, could represent a single-point of failure with implications from a systemic risk perspective.

加密资产服务提供商往往集多种功能于一身，包括交易平台、托管、经纪、借贷、存款收集、做市、结算和清算、发行、分销和推广。某些功能的组合会带来额外的风险，这些风险来自单个风险的相互促进和相互作用。它还可能引起利益冲突。在某些司法管辖区，某些职能的组合是不允许的，或

受特殊监管制度的制约。如果没有适当的控制措施，例如一些实体不遵守现有要求或缺乏全面监管或某些职能的法律隔离，结合某些职能的加密资产服务提供商可能成为放大和传递风险的关键中心点。各种活动的结合可支持这类提供商的增长，如果它们的规模足够大，就可能成为单点故障，从系统风险的角度看会产生影响。

Regulatory and supervisory challenges for EMDEs 新兴市场经济国家在监管和监督方面的挑战 EMDEs could face particular regulatory and supervisory challenges when implementing their policy frameworks with respect to crypto-assets. EMDEs often face capacity constraints that lead to limitations in ensuring adequate regulatory resources in response to their needs, including regular monitoring, policy formulation, proportionate supervision and enforcement, and sufficient coordination across borders.

新兴市场经济国家在实施有关加密资产的政策框架时可能面临特殊的监管和监督挑战。新兴市场经济国家往往面临能力制约，导致在确保提供充足的监管资源从而满足其需求方面受到限制，包括定期监测、政策制定、适度监督和执法以及充分的跨境协调。

Some EMDEs may act as “hosts” to crypto-asset service providers and stablecoin arrangements, and residents in EMDEs may also rely on exchange and custody functions from cross-border crypto-asset service providers. This dynamic could put greater pressure on effective cross-border regulatory and supervisory coordination and cooperation arrangements. For example, capital controls are imposed on the traditional banking and payments sector through local licensing or subsidiarisation requirements (e.g., onshore banks or payments providers). However, if not adequately regulated and supervised among cross-border stakeholders, crypto-asset service providers and stablecoin arrangements could more easily evade these local regulatory requirements while offering their services to EMDEs from offshore or virtual locations, requiring greater consideration of effective cross-border cooperation and coordination arrangements.

一些新兴市场经济国家可能成为加密资产服务提供商和稳定币安排的“东道主”，新兴市场经济国家的居民也可能依赖跨境加密资产服务提供商的交换和托管功能。这种相互作用的行为方式可能会对有效的跨境监管和监督协调与合作安排造成更大压力。例如，通过当地许可或子公司化要求（如在岸银行或支付提供商）对传统银行和支付部门实施资本控制。然而，如果跨境利益相关者之间没有适当的监管和监督，加密资产服务提供商和稳定币安排可以更容易地规避这些地方监管要求，同时从离岸或虚拟地点向新兴市场经济国家提供服务，这就需要更多地考虑有效的跨境合作与协调安排。EMDEs could also face challenges to obtaining adequate information to monitor financial stability risks from crypto-asset service providers and stablecoins operating or used by residents in their jurisdiction.

新兴市场经济国家还可能面临挑战：难以获得足够的信息来监测金融稳定风险，这些金融稳定风险来自于其管辖范围内被居民使用的加密资产服务提供商和稳定币的运营和使用。

The FSB is exploring how to address the cross-border risks specific to EMDEs posed by GSCs. 金融稳定委员会正在探讨如何应对全球供应链对新兴市场经济体造成的跨境风险。

2.3. Other risks 其他风险

2.3.1. Legal risks 合法风险

If crypto-assets are granted official currency or legal tender status, they could raise significant macro-critical legal issues. ¹⁹Legal tender status is often given to means of payment that are widely accessible like physical currency. However, internet access and technology needed to transfer crypto-assets remains scarce in many countries, raising practical challenges over the accessibility of crypto-assets. Moreover, the official monetary unit must be sufficiently

¹⁹ Macro-critical legal issues refer to legal challenges and concerns that have a significant impact on macroeconomic stability and the functioning of an economy as a whole.

宏观关键法律问题是指对宏观经济稳定和整个经济运行有重大影响的法律挑战和关切。

stable in value to facilitate its use for medium- to long-term monetary obligations.²⁰ And changes to a country's legal tender status and monetary unit typically require complex and widespread changes to monetary law to avoid creating a disjointed legal system.

如果加密资产获得官方货币或法定货币地位，可能会引发重大的宏观关键法律问题。¹⁹法定货币地位通常会赋予加密资产像实物货币一样可广泛获取的支付手段。然而，在许多国家，互联网接入和转移加密资产所需的技术仍然匮乏，这给加密资产的可获取性带来了实际挑战。此外，官方货币单位的价值必须足够稳定，以方便用于中长期货币债务。²⁰而改变一个国家的法定货币地位和货币单位通常需要对货币法进行复杂而广泛的修改，以避免形成一个脱节的法律体系。

The varying legal treatment of crypto-assets across jurisdictions may lead to potential legal risks. Uncertainties in some jurisdictions in the application of private laws (e.g., insolvency law) and financial laws could result in the parties to a crypto-asset arrangement facing risks unforeseen at the time of the transaction.²¹ Efforts by crypto-asset service providers and issuers to seek to take advantage of these uncertainties may amplify the risks. Regulatory authorities may face legal challenges in their enforcement actions. Finally, legal risks, including conflict-of-law challenges, are heightened in cross-border transactions due to differences in the legal treatment of crypto-assets across countries.

各辖区对加密资产的法律处理方式不同，可能会导致潜在的法律风险。一些司法管辖区在适用私法（如破产法）和金融法方面的不确定性可能导致加密资产安排的各方在交易时面临无法预见的风险。²¹加密资产服务提供商和发行商试图利用这些不确定性的努力可能会扩大风险。监管机构在执法行动中可能面临法律挑战。最后，法律风险，包括法律冲突，也可能会增加风险。在跨境交易中，由于各国对加密资产的法律待遇不同，法律挑战也就更大。

2.3.2. *Financial integrity* 财务诚信

Due to their claimed pseudonymous nature, speed, global reach, and evidence of weak implementation of relevant AML/CFT requirements, crypto-assets can be attractive to criminals, raising financial integrity risks. Crypto-assets can be misused to commit a range of crimes (e.g., ransomware, fraud, tax evasion, money-laundering, financing the proliferation of weapons of mass destruction, and terrorist financing) (FATF 2023). Although most distributed ledger technology (DLT) networks transactions purport to be public and therefore visible, linking an address or wallet to an individual can be challenging and resource-intensive. The speed of transactions and borderless nature provide opportunities for criminals to quickly exchange between different crypto-assets and transfer funds across borders. In addition, crypto-asset providers can market their activities globally and choose to operate from jurisdictions with weak (or non-existent) AML/CFT frameworks.

由于加密资产所宣称的匿名性质、速度、全球性以及有效落实相关反洗钱/打击资助恐怖主义要求的颓势性，加密资产可能对犯罪分子具有吸引力，从而提高金融诚信风险。加密资产可被滥用于一系列犯罪（如勒索软件、欺诈、逃税、洗钱、资助大规模杀伤性武器扩散和资助恐怖主义）（FATF 2023）。虽然大多数分布式账本技术（DLT）网络交易都声称是公开的，因此也是可见的，但将地址或钱包与个人联系起来可能具有挑战性且需要大量资源。交易的速度和无国界性为犯罪分子提供了在不同加密资产之间快速交换和跨境转移资金的机会。此外，加密资产提供商可以在全球范围内推销其活动，并选择在反洗钱/打击资助恐怖主义框架薄弱（或不存在）的司法管辖区开展业务。

²⁰ This raises several critical macro issues. For stablecoins, what would be the effect on the discharge of monetary debt when the stablecoin is delivered in payment and its market value is "below par"? And what happens with debt discharge if the stablecoin subsequently ceases to exist? For other crypto-assets, how can monetary obligations be expressed in a monetary unit with high volatility?

这就提出了几个关键的宏观问题。对于稳定币来说，当货币市场发生变化时，货币债务的清偿会受到什么影响？如果稳定币被作为付款手段交付，而其市场价值“低于面值”？如果稳定币随后不复存在，债务如何清偿？对于其他加密资产，如何用波动性大的货币单位来表示货币义务？

²¹ These risks are even more evident in fragile states with high levels of corruption and weak rule of law, where institutions often lack the capacity to properly enforce and protect contractual and property rights.

在腐败严重、法治薄弱的脆弱国家，这些风险更加明显，这些国家的机构往往缺乏适当执行和保护合同和财产权的能力。

The borderless nature of crypto-assets also heightens financial integrity risks. Crypto-assets can be easily accessed and used to make cross-border payments. They commonly rely on complex infrastructures, often spread across several jurisdictions, to effect payments. This segmentation of services can make AML/CFT supervision and enforcement challenging, because many components of the crypto-asset system, such as “exchanges” and trading platforms, are created or located in jurisdictions that have not implemented AML/CFT regulations for crypto-assets in line with the FATF Standards.²²

加密资产的无国界性也加剧了金融诚信风险。加密资产很容易被获取和用于跨境支付。它们通常依赖复杂的基础设施来实现支付，这些基础设施往往分布在多个辖区。由于加密资产系统的许多组成部分，如“交易所”和交易平台，都是在尚未根据反洗钱金融行动特别工作组的标准，对加密资产实施反洗钱/打击资助恐怖主义行为的条例的辖区内建立或位于这些辖区内，因此这种服务的分割会使反洗钱/打击资助恐怖主义行为的监督和执法工作具有挑战性。²²

Some elements in the crypto-asset ecosystem can make traceability more challenging. Anonymising services, commonly referred to as “mixers” and “tumblers”, and anonymity-enhanced crypto-assets can make it more difficult to trace and attribute transactions using public blockchain data.

加密资产生态系统中的一些元素会使可追溯性更具挑战性。通常被称为“混合器”和“翻滚器”的匿名服务以及匿名性增强型加密资产会使使用公共区块链数据对交易进行追踪和归属变得更加困难。

Risks posed by DeFi and peer-to-peer (P2P) transactions, which refers to transactions in which no intermediaries are involved, could increase if such channels are mass-adopted and more commonly used for payments. In the case of DeFi, some jurisdictions report challenges in identifying specific natural or legal persons responsible for VASP obligations in DeFi arrangements, which can complicate effective supervision and enforcement of covered DeFi arrangements. With regards to P2P transactions, the lack of intermediaries means that the traditional approach to AML/CFT regulation, in which AML/CFT requirements are imposed on a private sector entity and compliance is monitored by supervisors, cannot be applied.

DeFi 和点对点（P2P）交易指的是没有中间商参与的交易，如果这种渠道被大量采用并更普遍地用于支付，其带来的风险可能会增加。就 DeFi 而言，一些辖区报告称，在确定 DeFi 安排中负责增值服务义务的具体自然人或法人方面存在着挑战，这可能使对涵盖的 DeFi 安排的有效监督和执法复杂化。关于 P2P 交易，缺乏中介机构意味着无法采用传统的反洗钱/打击资助恐怖主义的监管方法，即对私营部门实体实施反洗钱/打击资助恐怖主义的要求，并由监管机构监测遵守情况。

Criminals will continue to target perceived weaknesses in AML/CFT frameworks, especially as further new illicit financing typologies continue to emerge. Without the implementation of regulation and enforcement in line with the FATF Standards (notably through effective regulation of VASPs or enforcement of a prohibition on all or certain VA activities), criminals will continue to exploit gaps created by inconsistent or weak AML/CFT frameworks and crypto-assets could become an even greater threat to the integrity of the global financial system. To limit these opportunities, crypto-asset service providers should be licensed or registered and comply with all applicable requirements. Even when the standards are effectively implemented, regulators will need to actively monitor market developments and emerging vulnerabilities, as well as assess illicit finance risks.

犯罪分子将继续瞄准反洗钱/打击资助恐怖主义框架中被认为存在的薄弱环节，特别是在新的非法融资类型不断出现的情况下。如果不按照反洗钱金融行动任务组的标准实施监管和执法（特别是通过有效监管增值服务提供商或禁止所有或某些增值服务活动），犯罪分子将继续利用反洗钱/打击资助恐怖主义框架不一致或薄弱所造成的漏洞，加密资产可能会对全球金融体系的完整性构成更大的威胁。为限制这些机会，加密资产服务提供商应获得许可或注册，并遵守所有合理要求。即使有关标准得到了有效实施，监管机构也需要积极监控市场发展和新出现的漏洞，并评估非法金融风险。

²² Importantly, many components of the crypto-asset system, such as trading platforms, are located in jurisdictions that do not apply AML/CFT controls.

重要的是，加密资产系统的许多组成部分，如交易平台，都位于不适用反洗钱/打击资助恐怖主义管制措施的司法管辖区。

Financial integrity is also relevant to financial stability. In traditional financial sectors, money laundering, terrorist financing, and various other forms of financial abuse may undermine domestic or balance of payments stability. While such impacts have not been studied specifically in relation to crypto-assets, the same underlying factors are relevant (IMF 2019b): Specifically, the actual or perceived failure of a crypto-asset trading platform to deal effectively with ML or TF can impact its relationships and access to other platforms across both the crypto-asset and traditional finance space. Systemic misuse of a jurisdiction's financial system for ML and TF may also be an indicator of underlying problems such as weak financial sector supervision, which can also negatively affect financial stability.

金融诚信也关系到金融稳定。在传统金融部门，洗钱、恐怖主义融资和其他各种形式的金融滥用可能会破坏国内或国际收支的稳定。虽然尚未对加密资产的此类影响进行专门研究，但相同的基本因素是相关的（国际货币基金组织，2019b）：具体而言，如果加密资产交易平台实际或被认为未能有效应对 ML 或 TF，就会影响其与加密资产和传统金融领域其他平台的关系和接触。一个辖区的金融系统被系统性地滥用于 ML 和 TF 也可能表明存在潜在问题，如金融部门监管薄弱，这也会对金融稳定产生负面影响。

2.3.3. *Market integrity* 市场诚信

Non-compliance with or lack of regulation for crypto-asset activities can impair market integrity and the interests of market participants. Common market integrity concerns include insider trading, fraud, wash trading, and market manipulation, conflicts of interest arising from vertical integration of activities and functions comingling of client funds, lack of client asset protection in custody or any activities involving the safeguarding of clients, and lack of fair access, suitability, and distribution to retail customer.²³

不遵守或缺乏对加密资产活动的监管会损害市场诚信和市场参与者的利益。常见的市场诚信问题包括：内幕交易、欺诈、洗盘交易和市场操纵；纵向整合活动和客户资金混合功能导致的利益冲突；在托管或任何涉及客户安全的活动中缺乏对客户资产的保护；以及缺乏对零售客户的公平准入、适当性和分销。²³

Examples of fraud and manipulation are prevalent within crypto-asset markets. On distributed ledgers, users generally can set the fees for their own transactions to rank higher in the settlement queue and obtain financial gains. Validators' ability to arbitrarily include, exclude, or re-order transactions within the blocks they produce (so called maximal extractable value - MEV) can lead to profits for them and losses to parties involved in the crypto-asset transfers. Certain forms of MEV are the result of practices that if adopted with regard to financial securities would be illegal in certain jurisdictions.²⁴ Large validators could congest the blockchain with artificial trades (Bains 2022), raising the fees that other users pay them (Aramonte, Huang, and Schrimpf 2021). Moreover, the illiquidity of certain exchanges or crypto-assets may facilitate price manipulations. Some participants may seek to trigger liquidations by other parties and create opportunities to purchase liquidated collateral at a discounted price or short the collateral asset (Werner and

²³ FTX is a major crypto-asset trading platform, and as noted in public reports engaged in allegedly fraudulent activities, including with respect to their customers' assets. FTX collapsed in November 2022 and filed for bankruptcy and insolvency in the United States and in the Bahamas. The FTX collapse had contagion effects throughout crypto-asset markets. Though spillovers to wider financial markets was limited, the losses suffered by investors exposed to FTX and the broader crypto-asset ecosystem were significant, and FTX's collapse served as warning that other crypto trading firms may be vulnerable to runs which could implicate many other parts of the crypto universe.

FTX 是一个主要的加密资产交易平台，正如公开报道所指出的，该平台涉嫌从事欺诈活动，包括涉及其客户资产的欺诈活动。FTX 于 2022 年 11 月倒闭，并在美国和巴哈马申请破产和无力偿债。FTX 的倒闭对整个加密资产市场产生了蔓延效应。虽然对更广泛的金融市场的溢出效应有限，但受 FTX 和更广泛的加密资产生态系统影响的投资者所遭受的损失是巨大的，FTX 的倒闭发出了警告，其他加密货币交易公司可能容易受到挤兑的影响，这可能会牵连到加密货币领域的许多其他部分。

²⁴ MEV arises from 'front' and 'back-running' as well from sandwich trades, all schemes which are illegal under market abuse regulation. Estimations indicate that since 2020, total MEV has amounted to USD 635 million on just the Ethereum network. MEV increases exponentially with the augmentation of transaction number/volume.550-650 (Auer and others 2022)

MEV来自"前台"和"后台"以及夹心交易，根据市场滥用法规，所有这些行为都是非法的。据估计，自2020年以来，仅在以太坊网络上，MEV总额就已达到6.35亿美元。随着交易次数/交易量的增加，MEV也呈指数增长。550-650（Auer等人，2022年）。

others 2021).²⁵

在加密资产市场上，欺诈和操纵的例子比比皆是。在分布式账本上，用户通常可以为自己的交易设置费用，使其在结算队列中排名靠前，从而获得经济收益。验证者可以在其生成的区块中任意包含、排除或重新排列交易（即所谓的最大可提取价值--MEV），这可能导致验证者获利，而参与加密资产转移的各方蒙受损失。某些形式的最大可提取价值是某些司法管辖区对金融证券采取非法做法的结果。24大型验证者可能会通过人为交易造成区块链拥堵（Bains, 2022 年），从而提高其他用户向其支付的费用（Aramonte、Huang 和 Schrimpf, 2021 年）。此外，某些交易所或加密资产的流动性不足可能会助长价格操纵。一些参与者可能会试图触发其他方的清算，并创造机会以折扣价购买清算抵押品或做空抵押资产（Werner 等, 2021 年）。²⁵

Crypto-asset networks can give rise to competition issues. The nature of network effects and economies of scale in crypto-asset markets increase the likelihood of concentration risks and potential abuses of market power.

加密资产网络可能引发竞争问题。加密资产市场的网络效应和规模经济性质增加了集中风险和潜在滥用市场支配力的可能性。

2.3.4. *Environmental risks* 环境风险

Two design elements of the supporting distributed ledger network have key implications for the energy consumption of crypto-assets. The first element is the consensus mechanism used for network agreement. Energy needs range from vastly high in proof-of-work (PoW) algorithms like Bitcoin to significantly lower in non-PoW mechanisms. Crypto-assets based on PoW consensus mechanisms are highly energy intensive and generate large amounts of electronic waste (De Vries and Stoll 2021).²⁶ The second element is the level of control over the underlying architecture, such as the number and location of nodes, participant roles, and code updates. Permissioned networks offer stronger controls on parameters influencing energy consumption compared to permissionless systems.

支持分布式账本网络的两个设计要素对加密资产的能耗具有关键影响。第一个要素是用于网络协议的共识机制。从比特币等工作证明（PoW）算法的高能耗需求到非 PoW 机制的低能耗需求，不一而足。基于 PoW 共识机制的加密资产需要大量能源，会产生大量电子垃圾（De Vries 和 Stoll, 2021 年）。²⁶第二个要素是对底层架构的控制程度，如节点数量和位置、参与者角色和代码更新。与无许可系统相比，有许可网络可对影响能耗的参数进行更有力的控制。

3. Comprehensive policy and regulatory response 全面的政策和监管对策

This section presents the responses to the risks identified in the previous section. It is important to note that this paper does not introduce new policies, recommendations, or expectations for member authorities. Instead, it draws upon the existing policy recommendations and guidelines from the IMF, FSB, IOs and SSBs. Macro-financial policies, financial regulation, and additional policy and regulatory considerations to address legal risks, financial integrity, market integrity, and investor protection are all essential elements of an effective policy framework for crypto-assets. The section concludes with additional policy considerations for targeted measures that may be

²⁵ Other examples include matching orders, that is, the buying and selling of the same asset to increase trading volume and interest in the asset. DeFi allows for other forms of attacks, including attacks exploiting smart contract vulnerabilities and attacks executed within a single transaction (Werner and others 2021)

其他例子包括匹配订单，即买入和卖出同一资产，以增加交易量和交易兴趣。在资产中。DeFi 允许其他形式的攻击，包括利用智能合约漏洞的攻击和在单笔交易中执行的攻击（Werner 等, 2021 年）。

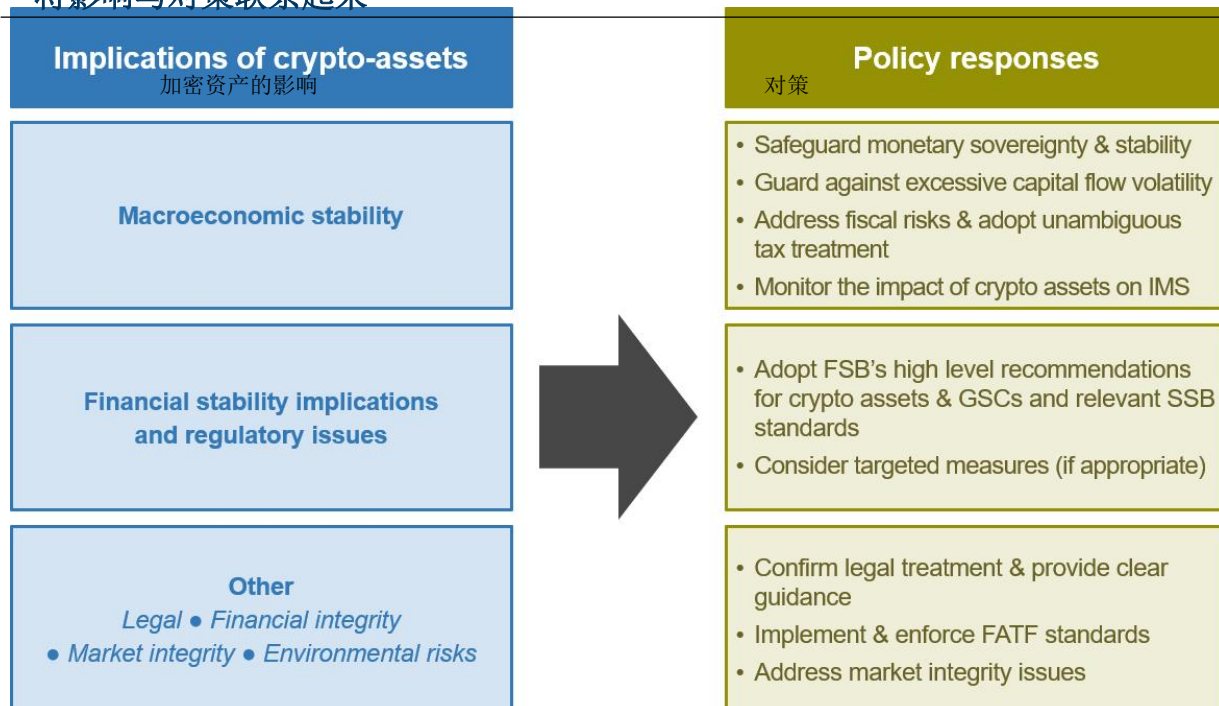
²⁶ Other consensus mechanisms can be more energy efficient than PoW, and if properly designed, digital currencies may be more energy efficient than existing payment systems (Agur and others 2023).

其他共识机制可能比 PoW 更节能，如果设计得当，数字货币可能比现有支付系统更节能（Agar 等, 2023 年）。

appropriate under specific conditions for jurisdictions with heightened macroeconomic risks, such as some emerging markets and developing economies.

本节介绍了对上一节中确定的风险的应对措施。需要注意的是，本文件并未提出新的政策、建议或对成员国当局的期望。相反，它借鉴了国际货币基金组织（IMF）、金融稳定委员会（FSB）、国际组织和 SSBs 的现有政策建议和指导方针。宏观金融政策、金融监管以及应对法律风险、金融诚信、市场诚信和投资者保护的其他政策和监管考虑因素，都是加密资产有效政策框架的基本要素。本节最后介绍了在特定条件下可能适合宏观经济风险较高的管辖区（如一些新兴市场和发展中经济体）的有针对性措施的其他政策考虑因素。

将影响与对策联系起来



资料来源国际货币基金组织/金融稳定理事会作者

3.1. Macro-economic stability policies 宏观经济稳定政策

3.1.1. Safeguard monetary sovereignty and stability 维护货币主权和稳定

Developing effective frameworks and policies is the best way to limit substitution into crypto-assets. Robust macroeconomic policies and credible institutional frameworks are fundamental to protect monetary sovereignty. Weak monetary policy frameworks, combined with fiscal deficits and pressures for central bank financing, undermine monetary credibility and instigate currency substitution (Adrian and others 2021; IMF 2020).

制定有效的框架和政策是限制代用加密资产的最佳途径。稳健的宏观经济政策和可信的制度框架是保护货币主权的根本。货币政策框架薄弱，再加上财政赤字和央行融资压力，会破坏货币可信度，助长货币替代（Adrian 等，2021 年；IMF，2020 年）。

An effective monetary-policy framework (MPF) safeguards monetary sovereignty through transparency, coherence and consistency. It encompasses policy design, implementation, communication and legal foundations for central bank independence. A transparent, coherent and consistent MPF enhances understanding, market expectations and policy effectiveness (IMF 2015; IMF 2021; Unsal, Papageorgiou, and Garbers 2022).

有效的货币政策框架（MPF）通过透明度、连贯性和一致性保障货币主权。它包括政策设计、执行、沟通和中央银行独立性的法律基础。透明、连贯和一致的 MPF 可增进理解、市场预期和政策有效性（国际货币基金组织，2015 年；国际货币基金组织，2021 年；Unsal、Papageorgiou 和 Garbers，2022 年）。

Avoiding large deficits and high debt levels is important to protect monetary sovereignty,

especially when monetary policy frameworks are weak. Pressure on central banks to finance deficits instead of tightening policy can lead to inflationary consequences and increase pressures toward currency substitution, which, in turn, could encourage the use of crypto-assets as means of payment.

避免巨额赤字和高债务水平对于保护货币主权非常重要，尤其是在货币政策框架薄弱的情况下。中央银行为赤字融资而不是收紧政策的压力会导致通货膨胀后果，并增加货币替代的压力，这反过来又会鼓励使用加密资产作为支付手段。

To protect monetary stability, crypto-assets should not be granted official currency or legal tender status. Official means of payment should be limited to public currencies issued by the state. Crypto-assets pose fundamental risks and should not be considered as “currency”, as 18 they do not fulfil the three basic conditions thereof (unit of account, means of exchange and store of value). ²⁷Due to the risks and concerns about destabilising impacts on the international monetary system (IMS), central banks should also avoid holding crypto-assets in their official reserve assets.

为保护货币稳定，加密资产不应被授予官方货币或法定货币地位。官方支付手段应仅限于国家发行的公共货币。加密资产具有基本风险，不应被视为“货币”，因为它们不符合其中的三个基本条件（记账单位、交换手段和价值储存）。²⁷由于存在对国际货币体系（IMS）产生不稳定影响的风险和担忧，中央银行也应避免在其官方储备资产中持有加密资产。

Governments should minimise fiscal and operational risks in cases of official crypto-asset use. Official payment use should be limited, to avoid exposing government revenues to variations in crypto-asset prices. Convertibility guarantees should be avoided to prevent the Treasury from accruing contingent liabilities, and risks to fiscal management operations should be managed with safeguards and controls.²⁸

在官方使用加密资产的情况下，政府应尽量减少财政和业务风险。应限制官方支付的使用，以避免政府收入受到加密资产价格变动的影响。应避免提供可兑换性担保，以防止国库产生或有负债，并应通过保障和控制措施管理财政管理业务的风险。²⁸

3.1.2. *Guard against excessive capital flow volatility* 防止资本流动过度波动

Policy makers should take steps to counter the potential erosion of CFMs caused by the adoption of crypto-assets. Possible policy steps include clarifying the legal status of cryptoassets, if necessary, and ensuring that CFM laws cover them and are effectively enforced. Addressing data gaps and leveraging technology can help authorities monitor risks and implement CFMs more effectively.²⁹

政策制定者应采取措施，应对采用加密资产可能对实物商品市场造成的侵蚀。可能采取的政策步骤包括：必要时澄清加密资产的法律地位，确保金融资产管理法涵盖加密资产并得到有效执行。解决数据缺口和利用技术可以帮助当局更有效地监测风险和实施 CFM。²⁹

If CFMs become less effective, as a result of crypto-asset adoption, jurisdictions may need

²⁷ Almost all monetary laws recognise that the issuance of officially recognised means of payment is a task of the State, and therefore only recognise “high quality” public means of payment as “currency” (Bossu and others 2020). Considering the key risks they pose, crypto-asset assets and stablecoins should not be recognised as “currency”.

几乎所有货币法都承认，发行官方认可的支付手段是国家的任务，因此只承认“高质量”的公共支付手段为“货币”（Bossu 等，2020 年）。考虑到其带来的主要风险，加密资产和稳定币不应被视为“货币”。

²⁸ Including fiscal operations related to budget execution, treasury management, fiscal reporting, internal/external audits, and rent seeking. For more detail see IMF (2023a).

包括与预算执行、金库管理、财政报告、内部/外部审计和寻租有关的财政业务。详见国际货币基金组织（2023a）。

²⁹ Data is essential to better understand adoption and use patterns, as well as implications, and to prioritise and design policies. Also, data should be collected across countries, and in a consistent manner, to evaluate for instance spillover effects, policy leakage, and currency substitution (IMF 2023b).

数据对于更好地了解采用和使用模式及其影响，以及确定政策的优先次序和设计政策至关重要。此外，应以一致的方式收集各国的数据，以评估溢出效应、政策泄漏和货币替代等问题（国际货币基金组织，2023b）。

to consider greater exchange-rate flexibility, balancing the three competing objectives of monetary autonomy, exchange rate stability and financial openness. Managing increased risks of capital outflows may involve adjusting international reserves, considering the benefits they provide as a buffer against balance of payments crises. In such cases, macroeconomic policy adjustments, like tighter monetary, macroprudential or fiscal policies, may be necessary.

如果由于采用加密资产而导致CFMs的有效性降低，各管辖区可能需要考虑提高汇率灵活性，平衡货币自主性、汇率稳定性和金融开放性这三个相互竞争的目标。考虑到国际储备作为国际收支危机缓冲的好处，管理资本外流增加的风险可能涉及调整国际储备。在这种情况下，可能有必要进行宏观经济政策调整，如收紧货币、宏观审慎或财政政策。

3.1.3. Address fiscal risks and adopt unambiguous tax treatment 应对财政风险并采取明确的税务处理方法

Fiscal risks arising from widespread adoption of crypto-assets including those resulting from granting legal-tender or official currency status should be identified, analysed, and disclosed. The government's exposure to fiscal risks related to crypto-assets should be assessed, quantified (to the extent possible), and monitored in a timely manner. The widespread use of crypto-assets in a weakly regulated environment can increase the government's exposure to explicit and implicit fiscal risks from the financial sector. Identifying and monitoring risks associated with crypto-assets can enhance the government's ability to mitigate and address them, promoting fiscal credibility and sustainable public finances. These risks to the public finance should be included in the government's fiscal risk statement to promote fiscal transparency (IMF 2019a).

应识别、分析和披露因广泛采用加密资产而产生的财政风险，包括因赋予法定货币或官方货币地位而产生的财政风险。应及时评估、量化（尽可能）并监控政府面临的与加密资产相关的财政风险。在监管薄弱的环境下，加密资产的广泛使用可能会增加政府面临来自金融部门的显性和隐性财政风险。识别和监控与加密资产相关的风险可以提高政府缓解和应对风险的能力，从而提高财政信誉和可持续公共财政。这些公共财政风险应纳入政府的财政风险声明，以促进财政透明度（国际货币基金组织，2019a）。

Tax policies should ensure the unambiguous tax treatment of crypto-assets, and tax administrations should strengthen compliance efforts. Legal provisions should clearly reflect policy decisions on the tax treatment of crypto-assets, including income/wealth and value-added taxes, as discussed in detail in Baer and others (2023). Tax administrations should leverage third-party information, especially when intermediaries such as crypto-asset trading platforms, broker-dealers, and other intermediaries are involved, to enhance tax compliance.³⁰

税收政策应确保对加密资产进行明确的税务处理，税务管理部门应加强合规工作。法律规定应明确反映有关加密资产税务处理的政策决定，包括所得税/财富税和增值税，Baer 等人（2023 年）对此进行了详细讨论。税务部门应利用第三方信息，尤其是在涉及加密资产交易平台、经纪商和其他中介机构时，以加强税务合规。³⁰

Collaboration on cross-border information sharing and financial regulation is crucial for effective tax compliance. The adoption of frameworks like the Crypto-asset Reporting Framework (CARF) proposed by the OECD (2022b) can be beneficial. Improving institutional capacity, investing in specialised data infrastructure and analytics and prioritising training for tax administration staff are essential to support risk analysis and tax audits related to crypto-asset operations.

跨境信息共享和金融监管方面的合作对于有效的税务合规至关重要。采用经合组织（2022b）提出的加密资产报告框架（CARF）等框架可能是有益的。提高机构能力、投资于专业数据基础设施和分析以及优先培训税务管理人员，对于支持与加密资产业务相关的风险分析和税务审计至关重要。

³⁰ Crypto-asset transactions when parties operate off-chain, peer to peer or through unhosted or cold wallets, may be more difficult to bring into the tax system.

当各方在链外、点对点或通过非托管或冷钱包进行加密资产交易时，可能更难将其纳入税收体系。

3.1.4. *Monitor the impact of crypto-assets on the International Monetary System (IMS)* 监测加密资产对国际货币体系的影响

The IMS may face new challenges, such as increased fragmentation, large and volatile capital flows, and new risks to financial stability and integrity. Crypto-assets could amplify existing vulnerabilities and pose new risks to global financial stability and the IMS on multiple fronts (IMF 2023c).

国际监测系统可能面临新的挑战，如更加分散、大量和不稳定的资本流动，以及金融稳定和完整性面临的新风险。加密资产可能会扩大现有的脆弱性，并在多个方面对全球金融稳定和 IMS 构成新的风险（国际货币基金组织，2023c）。

The IMF's primary role, as spelled out in its Articles of Agreement, is to ensure the stability and efficiency of the IMS. The Fund actively engages with member countries, including through multilateral and bilateral surveillance, capacity development, and lending. In the context of crypto-assets, an important part of the Fund's efforts involves assessing the macrofinancial and spillover risks.

正如其《协定条款》所规定的那样，国际货币基金组织的主要作用是确保国际监测系统的稳定和效率。基金组织通过多边和双边监督、能力发展和贷款等方式与成员国积极合作。在加密资产方面，基金组织的一项重要工作是评估宏观金融风险和外溢风险。

Ongoing analysis, review of rules and monitoring are imperative.³¹ The areas that need close and ongoing monitoring include: (i) crypto-assets' impacts on gross and net cross-border capital flows; (ii) changes in financial intermediation, currency substitution, and international currency use; (iii) effects on exchange-rate and capital-account regimes, as well as capital flow management measures; (iv) financial integrity risks; and (v) demand for and supply of Global Financial Safety Net resources. Close monitoring will help inform appropriate regulation and cross-border cooperation among policymakers and international standard-setting bodies and institutions.

当务之急是对规则进行持续分析、审查和监测。³¹需要密切和持续监测的领域包括(1) 加密资产对跨境资本流动总额和净额的影响；(2) 金融中介、货币替代和国际货币使用的变化；(3) 对汇率和资本账户制度以及资本流动管理措施的影响；(4) 金融诚信风险；(5) 全球金融安全网资源的需求和供应。密切监测将有助于为政策制定者和国际标准制定机构之间的适当监管和跨境合作提供信息。

3.2. Financial stability regulation 金融稳定监管

3.2.1. *The FSB's global framework for crypto-asset activities* 金融稳定委员会的加密资产活动全球框架

The FSB recommendations, as set out in Annex 2, provide a global framework for the effective regulation, supervision and oversight of crypto-asset activities and markets and global stablecoin arrangements. The framework is based on the principle of 'same activity, same risk, same regulation' and provides a strong basis for ensuring that crypto-asset activities and stablecoins are subject to consistent and comprehensive regulation, commensurate to the risks they pose.

金融稳定委员会的建议（见附件 2）为有效监管、监督和监察加密资产活动和市场以及全球稳定币安排提供了一个全球框架。该框架基于“相同活动、相同风险、相同监管”的原则，为确保加密资产活动和稳定币受到与其所带来的风险相称的一致和全面监管提供了坚实的基础。

³¹ Rules include those rules contained in the IMF's Institutional View on Liberalization of Capital Flows that may need to be amended depending on the impacts on the IMS.

规则包括国际货币基金组织《关于资本流动自由化的机构观点》中所载的规则，这些规则可能需要根据对国际监测系统的影响进行修订。

The FSB framework consists of two distinct sets of recommendations. The recommendations for crypto-assets and markets apply to any type of crypto-asset activity, including stablecoins and those conducted through DeFi. However, those stablecoins that could be widely used as a means of payment and/or store of value across multiple jurisdictions – GSCs – could pose particular risks to financial stability. Therefore, separate and complementary recommendations for crypto-asset activities that meet the definition of a GSC have been published to reflect their particular risks and heightened regulatory and supervisory requirements.

金融稳定委员会框架包括两套不同的建议。关于加密资产和市场的建议适用于任何类型的加密资产活动，包括稳定币和通过 DeFi 进行的活动。然而，那些可在多个司法管辖区广泛用作支付手段和/或价值储存的稳定币--全球供应链--可能会对金融稳定构成特殊风险。因此，针对符合全球供应链定义的加密资产活动发布了单独的补充建议，以反映其特殊风险和更高的监管和监督要求。

The FSB recommendations are high-level. They allow for sufficient flexibility for jurisdictional authorities to implement them, by applying relevant current regulations or developing new domestic regulatory frameworks, and to adapt to a rapidly evolving environment. This approach also leaves adequate room for SSBs to develop additional guidance that address sectoral issues within their respective mandates.

金融稳定委员会的建议是高层次的。这些建议为管辖当局留出了足够的灵活性，使其可以通过适用相关的现行法规或制定新的国内监管框架来实施这些建议，并适应迅速变化的环境。这种方法也为 SSB 留出了足够的空间，使其能够在各自的职责范围内制定额外的指导意见，以解决部门性问题。

3.2.2. *The FSB's high-level recommendations for crypto-assets* 金融稳定委员会关于加密资产的高级建议

Relevant authorities should have appropriate regulatory powers and should apply comprehensive and effective regulation, supervision, and oversight requirements. Authorities should have and utilise the necessary or appropriate powers, tools and adequate resources to regulate, supervise, and oversee crypto-asset activities and markets and to enforce relevant laws and regulations effectively. These should be applied proportionate to the risks posed and consistent with international standards and with authorities' respective mandates.

相关当局应拥有适当的监管权力，并应适用全面有效的监管、监督和监督要求。当局应拥有并利用必要或适当的权力、工具和充足的资源，以监管、监督和监察加密资产活动和市场，并有效执行相关法律法规。这些权力和工具的适用应与所造成的风险相称，并符合国际标准和当局各自的任务规定。

To foster efficient and effective communication, information sharing, and consultation, authorities should cooperate and coordinate with each other, both domestically and internationally. Cooperation and coordination should support different authorities in fulfilling their respective mandates and should encourage consistency of regulatory and supervisory outcomes. 为促进高效和有效的沟通、信息共享和协商，主管机构应在国内和国际上相互合作与协调。不同机构在履行各自的职责时应秉持合作与协调的态度，并应鼓励监管和监督结果的一致性。

Crypto-asset issuers and service providers should have in place comprehensive governance frameworks. This includes having clear and direct lines of responsibility and accountability for all functions and activities being conducted.

加密资产发行商和服务提供商应建立全面的治理框架。这包括对正在开展的所有职能和活动建立明确和直接的责任制和问责制。

Effective risk management frameworks should be in place that comprehensively address all material risks associated with the functions and activities that are being performed. This should include addressing such risks that stem from operational resilience, cyber security safeguards and AML/CFT measures, as well as having “fit and proper” requirements.

应建立有效的风险管理框架，全面应对与正在履行的职能和活动相关的所有重大风险。这应包括应对源自业务复原力、网络安全保障和反洗钱/打击资助恐怖主义措施的风险，以及 "适当" 要求。

Robust data frameworks are needed to ensure proper regulation, supervision and oversight. Data frameworks should include systems and processes for the collecting, storing, safeguarding and timely and accurate reporting of data. Authorities should have access to the data as appropriate.

需要强有力的数据框架来确保适当的监管、监督和监察。数据框架应包括收集、储存、保护和及时准确报告数据的系统和程序。当局应能酌情获取数据。

Users and relevant stakeholders should be provided with comprehensive, clear and transparent information about crypto-asset markets and services. This information should cover governance frameworks, operations, risk profiles and financial conditions.

应向用户和相关利益攸关方提供有关加密资产市场和服务的全面、清晰和透明的信息。这些信息应涵盖治理框架、运营、风险概况和财务状况。

Authorities should identify and monitor the relevant interconnections, both within the crypto-asset ecosystem and between the crypto-asset ecosystem and the wider financial system – and address financial stability risks.

当局应识别和监控加密资产生态系统内部以及加密资产生态系统与更广泛的金融体系之间的相关相互联系，并应对金融稳定风险。

Crypto-asset service providers that combine multiple functions and activities when permissible, should be subject to appropriate regulation, supervision and oversight. This should comprehensively address the risks associated with individual functions and the risks arising from the combination of functions, including conflicts of interest and separation of certain functions. In some jurisdictions, such combinations are not permitted, and in such instances, authorities should apply robust measures such as legal disaggregation and separation of certain functions.

在允许的情况下，结合多种职能和活动的加密资产服务提供商应接受适当的监管、监督和监察。这应全面解决与单项功能相关的风险和功能组合产生的风险，包括利益冲突和某些功能的分离。在某些司法管辖区，不允许这种组合，在这种情况下，当局应采取强有力的措施，如法律分解和分离某些职能。

3.2.3. *The FSB's high-level recommendations for GSCs* 金融稳定委员会对全球供应链的高层次建议

The FSB high-level recommendations take a broad approach to global stablecoins. International standards designed for specific sectors focus on distinct functions within the remit of the relevant standard setting bodies. Where international sectoral standards apply to a GSC for a particular economic function, those standards will address risks specific to the economic function and, as such, authorities should implement those international standards.

金融稳定委员会的高级别建议对全球稳定币采取了广泛的方法。为特定部门设计的国际标准侧重于相关标准制定机构职权范围内的不同功能。当国际部门标准适用于具有特定经济功能的全球供应链时，这些标准将处理该经济功能特有的风险，因此，有关当局应执行这些国际标准。

The FSB GSC recommendations are complementary to those for other crypto-assets, while reflecting the particular risks and heightened regulatory and supervisory requirements of GSCs. The relevant authorities should utilise the appropriate regulatory powers to provide comprehensive oversight of GSC activities and functions. The recommendations promote cross-border cooperation and information sharing, robust data frameworks, and effective risk management frameworks for GSC arrangements. The recommendations include additional requirements to address GSCs' particular risks.

金融稳定委员会的全球供应链建议是对其他加密资产建议的补充，同时反映了全球供应链的特殊风

险和更高的监管要求。有关当局应利用适当的监管权力，对全球供应链的活动和功能进行全面监督。建议促进全球供应链安排的跨境合作和信息共享、健全的数据框架和有效的风险管理框架。这些建议包括应对全球供应链特殊风险的额外要求。

GSC arrangements should have appropriate recovery and resolution plans. Authorities should require that GSC arrangements have in place appropriate planning to support a recovery, resolution, or orderly wind down under the applicable legal (or insolvency) frameworks.

全球供应链安排应制定适当的恢复和解决计划。当局应要求全球供应链安排制定适当的计划，以支持在适用的法律（或破产）框架下进行恢复、解决或有序清盘。

GSC issuers and, where applicable, other participants in the GSC arrangements should provide all users and relevant stakeholders with comprehensive and transparent information to understand the functioning of the GSC arrangement. This information should include the governance framework, any conflicts of interest and their management, redemption rights, stabilisation mechanism, operations, risk management framework and financial condition.

全球供应链发行人以及（如适用）全球供应链安排的其他参与者应向所有用户和相关利益方提供全面、透明的信息，以了解全球供应链安排的运作情况。GSC发行人以及（在适用的情况下）GSC安排的其他参与者应向所有用户和相关利益相关者提供全面、透明的信息，以便其了解GSC安排的运作。这些信息应包括治理框架、任何利益冲突及其管理、赎回权、稳定机制、运营、风险管理框架和财务状况。

GSC arrangements should be subject to robust redemption rights, stabilisation, and prudential requirements to maintain a stable value at all times and to mitigate the risk of runs. Authorities should require that GSC arrangements provide a robust legal claim to all users against the issuer and/or underlying reserve assets and guarantee timely redemption. For GSCs referenced to a single fiat currency, redemption should be at par into that fiat currency.

全球供应链安排应遵守严格的赎回权、稳定化和审慎要求，以在任何时候都保持稳定的价值，并降低挤兑风险。当局应要求全球供应链安排向所有用户提供针对发行人和/或基础储备资产的稳健的法律索赔权，并保证及时赎回。对于以单一法定货币为基准的全球供应链，赎回应按面值兑换成该法定货币。

3.3. Other policies and regulation 其他政策和法规

3.3.1. Legal considerations 法律方面的考虑

In some jurisdictions, it may be important to clarify the application of existing laws or assess the need for new ones. Where such legal certainty does not yet exist, jurisdictions should consider taking three actions that are not mutually exclusive and may involve law reforms, to be developed with private sector involvement and in line with international organisations' guidance:³²

在某些司法管辖区，澄清现行法律的适用或评估制定新法律的必要性可能很重要。在尚不存在这种法律确定性的情况下，司法管辖区应考虑采取三项行动，这三项行动并不相互排斥，可能涉及法律改革，将由私营部门参与制定，并符合国际组织的指导意见：32

■ **Modernise private law through targeted legislative reforms, where necessary** (Garrido and others 2022). In some jurisdictions, private law may need to be modernised to clarify the classification of crypto-assets and the rules governing their transactions. To the extent there are gaps in the existing framework, legislative reforms could focus on areas where friction between private law and new technologies exists, as seen, for example, in Switzerland, Liechtenstein and Germany, to avoid delays and inconsistencies with the broader legal framework (Allen and others

³² One example of international cooperation is the Digital Assets and Private Law Principles of the International Institute for the Unification of Private Law (UNIDROIT).

国际统一私法协会（UNIDROIT）的数字资产和私法原则就是国际合作的一个例子。

2020).³³

■必要时通过有针对性的立法改革使私法现代化（Garrido 等，2022 年）。在一些司法管辖区，私法可能需要现代化，以明确加密资产的分类及其交易规则。在现有框架存在空白的情况下，立法改革可侧重于私法与新技术之间存在摩擦的领域，例如在瑞士、列支敦士登和德国，以避免延误和与更广泛的法律框架不一致（Allen 等，2020 年）。³³

■ **Clarify the financial law application and treatment of crypto-assets, where necessary.** This can be achieved through various approaches (Blandin and others 2019). Existing legal and regulatory frameworks can be enforced when crypto-asset activities fall within established legal categories (e.g., the application of securities laws to crypto-assets). To the extent there are gaps and the existing framework does not already apply, jurisdictions can amend existing laws to explicitly cover specific activities related to crypto-assets (e.g., Japan) or to issue bespoke laws on crypto-assets (e.g., the EU's Markets in Crypto-Assets regulation) or on financial technologies ("fintech"), of which crypto-asset activities are a subset (e.g., Mexico).³⁴

■必要时，明确金融法的适用和对加密资产的处理。这可以通过各种方法来实现（布兰登等人，2019 年）。当加密资产活动属于既定的法律范畴时，可以执行现有的法律和监管框架（例如，证券法对加密资产的适用）。如果存在差距且现有框架尚未适用，司法管辖区可以修订现有法律，明确涵盖与加密资产有关的特定活动（如日本），或发布关于加密资产的定制法律（如欧盟的《加密资产市场法规》）或关于金融科技（“金融科技”）的法律，加密资产活动是其中的一个子集（如墨西哥）。³⁴

■ **Mitigate problems associated with under-assessing or under-collecting tax on transactions involving crypto-assets.** This requires a transparent and predictable tax law framework, coupled with international cooperation. While tax laws generally apply to crypto-assets based on their legal characterisation, adjustments may be needed to provide clarity and certainty and to achieve a country's specific policy objectives. Tax administrations should complement existing frameworks with timely and comprehensive guidance to taxpayers to promote transparency and predictability of treatment. Additionally, countries should clarify payment and reporting obligations, including by crypto-asset service providers.

■缓解因低估或漏收加密资产交易税而引发的问题。这需要透明且可预测的税法框架，以及国际合作。虽然税法通常根据加密资产的法定特征对其征税，但可能需要进行调整，以提供清晰性和确定性，并实现国家特定的政策目标。税务管理部门应通过及时、全面的纳税指导来补充现有框架，以促进处理方式的透明度和可预测性。此外，各国应明确付款和报告义务，包括加密资产服务提供商的义务。

3.3.2. *Financial integrity regulation* 金融诚信监管

Jurisdictions should implement the FATF Standards in the virtual-asset sector to protect their financial systems and the global economy from threats of money laundering, and the financing of terrorism and of proliferation of weapons of mass destruction. Consistent with the FATF Standards on virtual assets service providers adopted in 2019, jurisdictions should assess the risks of money laundering and terrorist financing associated with virtual asset activity and take appropriate steps to mitigate those risks; license or register virtual asset service providers; and supervise the sector in the same way they supervise other financial institutions. At the same time, virtual-asset service providers should be required to implement risk mitigation measures, including customer due diligence, record keeping and reporting of suspicious transactions and implementation of targeted financial sanctions. They should be required to apply the “travel rule” for payment transparency and obtain, hold and securely transmit originator and

³³ Targeted legal amendments are often more desirable than a complete overhaul of the private law system. However, it is important for jurisdictions undergoing a major overhaul to also consider the inclusion of provisions for crypto-assets.

有针对性的法律修订往往比彻底改革私法制度更可取。不过，正在进行重大改革的司法管辖区也必须考虑纳入有关加密资产的规定。

³⁴ Some countries have banned crypto-assets, see The Law Library of Congress (2021).

一些国家已经禁止加密资产，见国会法律图书馆（2021 年）。

beneficiary information when making transfers. The FATF adopted revised guidance for a risk-based approach to virtual assets in 2021, which helps jurisdictions and VASPs understand their AML/CFT obligations, and effectively implement the FATF's Standards (FATF 2021).

各辖区应在虚拟资产领域执行金融行动特别工作组标准，以保护其金融系统和全球经济免受洗钱、资助恐怖主义和大规模毁灭性武器扩散的威胁。根据 2019 年通过的 FATF 关于虚拟资产服务提供商的标准，各辖区应评估与虚拟资产活动相关的洗钱和资助恐怖主义风险，并采取适当措施降低这些风险；向虚拟资产服务提供商发放许可证或进行注册；并以监督其他金融机构的相同方式对该部门进行监督。同时，应要求虚拟资产服务提供商实施风险缓解措施，包括客户尽职调查、保存记录和报告可疑交易，以及实施有针对性的金融制裁。应要求虚拟资产服务提供商适用支付透明度的“旅行规则”，并在转账时获取、持有和安全传输发端人和受益人信息。反洗钱金融行动特别工作组于 2021 年通过了基于风险的虚拟资产方法修订指南，帮助辖区和虚拟增值服务提供商了解其反洗钱/打击资助恐怖主义的义务，并有效执行反洗钱金融行动特别工作组的标准（FATF 2021）。

The borderless nature of the crypto-assets ecosystem limits the effectiveness of individual national regulation. Given that specific VASPs may be subject to the AML/CFT framework of multiple jurisdictions, cooperation and sharing of information among jurisdictions is critical for improving understanding of ML/TF risks related to crypto-assets at the global and jurisdiction levels. The inconsistent implementation of the FATF Standards also creates opportunities for regulatory arbitrage. Collective action and broad implementation of AML/CFT frameworks in line with the FATF Standards are therefore essential in order to mitigate the illicit finance risks in the crypto-asset sector. Recognising the urgent need to address these geographic gaps, the FATF adopted a roadmap in February 2023 to accelerate global implementation of AML/CFT controls and supervision in the crypto-asset sector.

加密资产生态系统的无国界性限制了单个国家监管的有效性。鉴于特定的增值服务提供商可能受制于多个司法管辖区的反洗钱/打击资助恐怖主义框架，司法管辖区之间的合作和信息共享对于在全球和司法管辖区层面提高对与加密资产有关的洗钱/资助恐怖主义风险的认识至关重要。FATF 标准的执行不一致也为监管套利创造了机会。因此，集体行动和广泛实施符合 FATF 标准的反洗钱/打击资助恐怖主义行为框架对于降低加密资产领域的非法金融风险至关重要。由于认识到迫切需要解决这些地域差距，FATF 于 2023 年 2 月通过了一份路线图，以加快全球在加密资产领域实施反洗钱/打击资助恐怖主义的控制和监督。

Financial integrity is one of the key objectives of an effective policy framework (IMF 2023a). Jurisdictions should consistently implement the FATF Standards as well as pursue effective international cooperation. The IMF should continue its efforts to advise members on crypto-related financial integrity issues in its surveillance, lending, and assessment work, and to support its members to implement effective AML/CFT frameworks through its capacity building activities.

金融诚信是有效政策框架的关键目标之一（IMF 2023a）。各辖区应始终如一地执行 FATF 标准，并开展有效的国际合作。国际货币基金组织应继续努力，在其监督、贷款和评估工作中就与加密货币相关的金融诚信问题向成员提供建议，并通过能力建设活动支持其成员实施有效的反洗钱/打击资助恐怖主义框架。

3.3.3. *Market integrity regulation* 市场诚信监管

Jurisdictions should implement and apply the IOSCO Principles and Standards to economically equivalent crypto-assets and activities to address the sizeable and proximate market integrity and investor protection risks in the sector, covering conflicts of interest, client asset protection, market manipulation, operational risk, retail access suitability, and cross-border issues, among others (IOSCO 2023).

各司法管辖区应将国际证监会组织的《原则和标准》实施并应用于经济上等价的加密资产和活动，以应对该行业中相当大的近似市场诚信和投资者保护风险，包括利益冲突、客户资产保护、市场操纵、操作风险、零售准入适宜性和跨境问题等（国际证监会组织，2023 年）。

3.3.4. *Additional targeted measures* 其他有针对性的措施

In addition to implementing the IMF, FSB, FATF, and SSB policy recommendations and standards, some authorities might consider implementing targeted or time-bound broad restrictions to manage the risks from crypto-assets. Blanket bans that make all crypto-asset activities (e.g., trading and mining) illegal can be costly and technically demanding to enforce. They also tend to increase the incentives for circumvention due to the inherent borderless nature of crypto-assets, resulting in potentially heightened financial integrity risks, and can also create inefficiencies. Bans in one jurisdiction could also lead to activity migrating to other jurisdictions, creating spillover risks. A decision to ban is not an “easy option” and should be informed by an assessment of money laundering and terrorist financing (ML/TF) risks and other considerations, such as large capital outflows and other public policy aims.

除了执行国际货币基金组织、金融稳定委员会、反洗钱金融行动特别工作组和 **SSB** 的政策建议和标准外，一些当局可能会考虑实施有针对性或有时限的广泛限制，以管理来自加密资产的风险。将所有加密资产活动（如交易和挖掘）都定为非法的一揽子禁令可能成本高昂，执行起来技术要求高。由于加密资产固有的无国界性质，这些禁令还往往会增加规避的动机，导致潜在的金融诚信风险增加，并可能造成效率低下。一个辖区的禁令还可能导致活动转移到其他辖区，造成外溢风险。禁止的决定不是一个“简单的选择”，应参考对洗钱和恐怖主义融资（ML/TF）风险的评估以及其他考虑因素，如大量资本外流和其他公共政策目标。

In some situations, targeted restrictions could be justified to manage specific risks for resource-constrained authorities or to support regulatory frameworks. For instance, where countries experience large capital outflows, significant currency substitution, an unacceptable level of ML/TF risk, and/or risks to consumers and markets, targeted restrictions might be useful. These restrictions might be targeted to certain products (e.g., privacy tokens), activities (e.g., payments in Ukraine, financial promotions in Singapore, Spain, U.K.), or entities (e.g., banks in Nigeria). Targeted restrictions might be warranted in the short run while countries increase internal capacity (including knowledge and awareness) in anticipation of regulation.

在某些情况下，有针对性的限制措施可以为资源有限的当局管理特定风险或支持监管框架提供正当理由。例如，在一些国家出现大量资本外流、货币替代严重、洗钱/资助恐怖主义风险达到不可接受的程度，以及/或消费者和市场面临风险的情况下，有针对性的限制措施可能是有用的。这些限制可能针对某些产品（如隐私代币）、活动（如乌克兰的支付，新加坡、西班牙、英国的金融促销）或实体（如尼日利亚的银行）。在各国提高内部能力（包括知识和意识）以应对监管的同时，短期内可能需要采取有针对性的限制措施。

Even when jurisdictions contemplate a temporary imposition of restrictions, such restrictions should be considered as part of a larger policy response. Restrictions should not substitute for robust macroeconomic policies, credible institutional frameworks, and comprehensive regulation and oversight, which are the first line of defence against the macroeconomic and financial risks posed by crypto-assets.

即使各辖区考虑临时实施限制，也应将此类限制视为更广泛政策应对措施的一部分。限制措施不应取代稳健的宏观经济政策、可信的制度框架以及全面的监管和监督，这些是防范加密资产带来的宏观经济和金融风险的第一道防线。

4. Policy implementation roadmap 政策实施路线图

The growing use and integration of crypto-assets in the global financial system has necessitated a coordinated set of international standards that form a comprehensive policy toolkit, as well as the effective implementation of these standards. The IMF and the FSB, together with the SSBs, have delivered a set of policy approaches to crypto-asset activities. These approaches seek to ensure that the steps taken by jurisdictions are comprehensive, internationally consistent, and complementary. The approaches also aim at promoting and monitoring the effective implementation of these standards.

随着加密资产在全球金融体系中的使用和整合日益增多，有必要制定一套协调一致的国际标准，以形成一个全面的政策工具包，并有效实施这些标准。国际货币基金组织（IMF）和金融稳定委员会（FSB）与 SSB 一起，针对加密资产活动提出了一套政策方法。这些方法旨在确保各辖区所采取的措施是全面的、国际一致的和互补的。这些方法还旨在促进和监测这些标准的有效实施。

The IMF and the FSB, together with other international organisations (IOs) and SSBs, have developed a roadmap to ensure effective, flexible, and coordinated implementation of the comprehensive policy framework for crypto-assets. ³⁵The IMF and FSB will coordinate and work with all relevant IOs and SSBs to implement the roadmap. The road map includes (i) implementation of policy frameworks; (ii) outreach beyond G20 jurisdictions; (iii) global coordination, cooperation, and information sharing; and (iv) addressing data gaps.

国际货币基金组织（IMF）和金融稳定委员会（FSB）与其他国际组织（IOs）和 SSB 一起制定了一个路线图，以确保有效、灵活和协调地实施加密资产综合政策框架。³⁵国际货币基金组织和金融稳定委员会将与所有相关的国际组织和 SSB 协调合作，共同实施路线图。路线图包括：(i) 政策框架的实施；(ii) 20 国集团管辖范围以外的外联工作；(iii) 全球协调、合作和信息共享；(iv) 解决数据缺口问题。

³⁵ The roadmap described in this section reflects the key elements included in the Indian G20 Presidency note, "Presidency note as an input for a roadmap on Establishing a Global Framework for Crypto assets,"

本节描述的路线图反映了印度 G20 主席国说明 "主席国说明作为建立加密资产全球框架路线图的投入 "中包含的关键要素。

Progress should be reported to the Finance Ministers and Central Bank Governors (FMCBG) meetings along with FATF on AML/CFT.

应向财政部长和中央银行行长（FMCBG）会议以及反洗钱/打击资助恐怖主义金融行动特别工作组报告进展情况。

表 1：政策实施路线图

行动	负责的组织	时间表
政策框架的实施		
<ul style="list-style-type: none"> 金融稳定委员会关于 DeFi 和多功能加密资产中介机构的政策工作 <p>FSB policy work on DeFi and multifunction crypto-asset intermediaries</p>	FSB	<ul style="list-style-type: none"> 见附件 3 <p>See Annex 3</p>
<ul style="list-style-type: none"> SSB 继续审查其标准如何适用于加密资产和稳定币安排 <p>SSBs continue to examine how their standards apply to crypto-assets and stablecoin arrangements</p>	特别小组，见附件 3 SSBs see Annex 3	<ul style="list-style-type: none"> 见附件 3 <p>See Annex 3</p>
<ul style="list-style-type: none"> 监测加密资产和稳定币安排带来的风险 <p>Monitoring of risks posed by cryptoassets and stablecoin arrangements</p>	国际货币基金组织、金融稳定委员会、社会保障机构 IMF, FSB, SSBs	<ul style="list-style-type: none"> 进行中，见附件 3 <p>Ongoing, See Annex 3</p>
<ul style="list-style-type: none"> 实施反洗钱金融行动特别工作组的虚拟资产标准 	金融行动特别工作组	<ul style="list-style-type: none"> 见虚拟资产：关于实施 FATF 虚拟资产和虚拟资产服务提供商标准的有针对性的最新情况 (FATF 2023)
<ul style="list-style-type: none"> 国际货币基金组织酌情将加密资产政策纳入第四条评估和金融稳定评估计划³⁶ 	国际货币基金组织	<ul style="list-style-type: none"> 8-12 个月
<ul style="list-style-type: none"> 国际货币基金组织和世界银行纳入关于加密资产综合框架的建议，作为技术援助和能力建设的一部分 	国际货币基金组织、世界银行	<ul style="list-style-type: none"> 8-12 个月
20 国集团管辖范围以外的外联活动		

³⁶ For FSAPs in EMDEs the exploration of the inclusion of crypto assets will be done jointly with the World Bank 对于新兴市场经济国家的金融服务行动计划，将与世界银行共同探讨加密资产的纳入问题。

<ul style="list-style-type: none"> • 国际货币基金组织和金融稳定委员会与更广泛的管辖区合作 	国际货币基金组织和金融稳定委员会	<ul style="list-style-type: none"> • 持续进行
<ul style="list-style-type: none"> • 国际货币基金组织（IMF）将通过其区域培训中心制定一项推广计划 	国际货币基金组织	<ul style="list-style-type: none"> • 8-12 个月
<ul style="list-style-type: none"> • 反洗钱金融行动特别工作组为执行滞后的国家提供支持、指导和培训，公开确定在有重大加密资产活动的辖区内为执行该标准而采取的步骤。 	金融行动特别工作组	<ul style="list-style-type: none"> • 见虚拟资产：见《虚拟资产：金融行动特别工作组虚拟资产标准实施情况的定向更新》和《虚拟资产：金融行动特别工作组虚拟资产标准实施情况的定向更新》。

全球协调、合作与信息共享

• 金融稳定委员会继续充当加密资产活动和全球稳定币安排的信息共享和监管协调中心	FSB 与所有 IO 和 SSB 一起	• 持续进行
• 新兴市场经济国家全球供应链的跨境监管协调	FSB	• 见附件 3
• 金融市场基础设施原则 (PFMI) 规定的当局对稳定币安排的责任	CPMI-IOSCO	• 见附件 3

填补数据空白

• 国际货币基金组织在其他国际组织和 SSB 的支持下，制定一个共同框架，以弥补数据差距，并收集有关加密资产的 "测试数据"。	国际货币基金组织	• 到 2025 年底
---	----------	-------------

4.1. Implementation of policy frameworks by IO and SSB members
IO 和 SSB 成员实施政策框架

Following the G20 endorsement of the FSB’s high-level recommendation in July 2023, the FSB will promote implementation of the recommendations. The FSB will, by end-2025, conduct a review of the status of the implementation of the two sets of high-level recommendations at the jurisdictional level. As the FSB recommendations are deliberately highlevel and principles-based, the FSB will also consider whether additional guidance or recommendations are necessary, taking into account relevant international sectoral standards and guidance that have been or can be developed by SSBs. Currently, the FSB is conducting follow-up policy work on regulatory implications of DeFi, multifunction crypto-asset intermediaries, and cross-border coordination and cooperation specific to EMDEs, to assess if additional guidance or recommendations are necessary. The FSB will also continue to assess the implications of crypto-assets for financial stability, including through ongoing monitoring, analysis of emerging themes or material incidents, and deep dives on particular issues.

2023 年 7 月 20 国集团批准金融稳定委员会的高级别建议后，金融稳定委员会将推动建议的实施。到 2025 年底，金融稳定委员会将对两套高级别建议在辖区层面的实施情况进行审查。由于金融稳定委员会的建议是特意提出的高层次和基于原则的建议，金融稳定委员会还将考虑是否需要额外的指导意见或建议，同时考虑到相关的国际部门标准和已经或可以由 SSB 制定的指导意见。目前，金融稳定委员会正在就 DeFi 的监管影响、多功能加密资产中介机构以及欧洲、中东和非洲经济体特有的跨境协调与合作开展后续政策工作，以评估是否需要额外的指导或建议。金融稳定委员会还将继续评估加密资产对金融稳定的影响，包括通过持续监测、分析新出现的主题或重大事件以及深入研究特定问题。

The IMF will continue its ongoing effort of assessing the macroeconomic implications and risks of crypto-assets also considering the specific case of EMDEs. This will allow the IMF’s work to inform, where necessary, the ongoing work of the FSB and SSBs. As part of this process,

an impact analysis on the potential implications for the international monetary system will be developed over time.

国际货币基金组织将继续努力评估加密资产的宏观经济影响和风险，同时考虑到新兴市场经济体的具体情况。这将使国际货币基金组织的工作在必要时为金融稳定委员会和 SSB 正在进行的工作提供信息。作为这一进程的一部分，将逐步对国际货币体系的潜在影响进行影响分析。

The FSB and the SSBs have developed a shared workplan for 2023 and beyond (see Annex 3), through which they will continue to coordinate work, under their respective mandates, to promote the development of a comprehensive and coherent global regulatory framework commensurate with the risks crypto-asset markets and activities may pose to jurisdictions worldwide, including through the provision of more granular guidance by SSBs, monitoring and public reporting.

金融稳定理事会和各国监管机构制定了**2023年及以后的共同工作计划**（见附件3），通过该计划，它们将继续根据各自的授权协调工作，以促进制定一个全面、连贯的全球监管框架，该框架应与加密资产市场和活动可能对全球司法管辖区构成的风险相称，包括通过各国监管机构提供更详细的指导、监测和公开报告。

The SSBs will, within their respective mandates, continue to examine how their standards apply to crypto-assets and stablecoin arrangements. They will make revisions, as needed, to their sectoral international standards and guidance or provide detailed guidance building on existing standards and principles in light of the FSB recommendations. The more granular guidance from SSBs will further articulate regulatory expectations at the global level, contributing to consistent outcomes under respective mandates while mitigating the risk of regulatory arbitrage. The FSB and SSBs have developed a shared workplan on crypto-assets (see Annex 3), setting out in a single place the various interrelated international workstreams on crypto-assets being taken forward by the FSB and the SSBs. The FSB will continue to serve as the coordinating body, working with the SSBs regarding strategic direction to ongoing work on crypto-asset activities, and the shared workplan supports the FSB in this coordinating role. Annex 3 provides a summary of ongoing and planned initiatives to develop standards of SSBs.

SSB 将在各自的授权范围内继续审查其标准如何适用于加密资产和稳定币安排。它们将根据金融稳定委员会的建议，对其部门国际标准和指南进行必要的修订，或在现有标准和原则的基础上提供详细的指南。来自 SSB 的更细化的指导将进一步阐明全球层面的监管预期，有助于根据各自的授权取得一致的结果，同时降低监管套利的风险。金融稳定委员会和 SSB 制定了关于加密资产**的共同工作计划**（见附件3），在一个地方列出了金融稳定委员会和 SSB 正在推进的关于加密资产的各种相互关联的国际工作流程。金融稳定委员会将继续发挥协调机构的作用，与各监管机构合作，为正在开展的加密资产活动提供战略指导，共享工作计划将支持金融稳定委员会发挥这一协调作用。附件3概述了为制定 SSB 标准而正在采取和计划采取的举措。

The IOSCO Board agreed to the establishment of a Board-level Fintech Taskforce (FTF) at its meeting in March 2022 to develop, oversee, deliver and implement IOSCO's regulatory agenda with respect to fintech and crypto-assets. In May 2023, IOSCO published a consultation report for Crypto and Digital Assets with the aim of finalising IOSCO's policy recommendations to address market integrity and investor protection issues in crypto-asset markets in early-Q4 2023. The FTF DeFi workstream is considering issues in relation to DeFi and will publish a consultation report with proposed recommendations in Q3 2023.

国际证监会组织理事会在**2022年3月**的会议上同意成立一个理事会级别的金融科技工作组（**FTF**），负责制定、监督、交付和实施国际证监会组织有关金融科技和加密资产的监管议程。

2023年5月，国际证监会组织发布了一份关于加密货币和数字资产的咨询报告，旨在2023年第四季度初最终确定国际证监会组织的政策建议，以解决加密资产市场的市场诚信和投资者保护问题。FTF DeFi 工作流正在考虑与 DeFi 有关的问题，并将于2023年第三季度发布一份包含拟议建议的咨询报告。

The CPMI and IOSCO are analysing issues for multicurrency or asset-linked stablecoins that may arise from their particular features, focusing on any issues that may require additional clarifications or additions to the CPMI-IOSCO guidance on the Application of the Principles for Financial Market Infrastructures (PFMI) to stablecoin arrangements, published in July 2022 (CPMI-IOSCO, 2022).^{37, 38}

CPMI 和 IOSCO 正在分析多币种或资产挂钩型稳定币因其特殊性可能产生的问题，重点关注任何可能需要对 CPMI-IOSCO 于 2022 年 7 月发布的《金融市场基础设施原则 (PFMI) 对稳定币安排的应用》指南进行额外澄清或补充的问题（CPMI-IOSCO，2022 年）。^{37,38}

In December 2022, The Group of Central Bank Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision, endorsed a global prudential standard for banks' exposures to crypto-assets, for implementation by January 2025. Furthermore, the GHOS tasked the BCBS with continuing to assess bank-related developments in crypto-asset markets, including the role of banks as stablecoin issuers, custodians of crypto-assets and broader potential channels of interconnections.

2022 年 12 月，巴塞尔银行监管委员会的监督机构--中央银行行长和监管负责人小组（GHOS）批准了一项针对银行对加密资产风险敞口的全球审慎标准，该标准将于 2025 年 1 月实施。此外，GHOS 还责成巴塞尔银行监管委员会继续评估加密资产市场中与银行相关的发展，包括银行作为稳定币发行者、加密资产托管者的作用以及更广泛的潜在互联渠道。

The FATF will, in line with its mandate, promote and monitor global implementation of the FATF Standards for the Crypto-Asset Sector. In February 2023 the FATF adopted a Roadmap to accelerate implementation of the Standards, in light of the slow and uneven progress related to crypto-assets globally (FATF 2023). This will include identification of jurisdictions with materially significant crypto-asset activity; provision of additional support through its guidance and training; and monitoring of the actions taken and the state of implementation. In order to facilitate this roadmap, jurisdictions with experience of regulating the crypto-sector are encouraged to share their experience, and also to provide technical assistance on a bilateral basis. The FATF expects to publish a table in the first half of 2024 setting out progress and will consider further action as needed. The FATF published a Targeted Update on implementation of the FATF standards on virtual assets in June 2023 and will continue to intensively monitor the implementation of AML/CFT controls in the sector. The FATF (along with the IMF and other assessment bodies) will carry out in-depth reviews that analyse the implementation and effectiveness of measures to combat ML/TF, including those related to crypto-assets. The FATF will also monitor market developments, including activities by sanctioned actors, DeFi, and P2P transactions that may necessitate further FATF work.

FATF 将根据其职责，促进和监督全球范围内 FATF 加密资产部门标准的实施。鉴于全球范围内加密资产相关进展缓慢且不均衡，FATF 于 2023 年 2 月通过了一份路线图，以加快标准的实施（FATF 2023）。这将包括确定开展大量加密资产活动的司法管辖区；通过指导和培训提供额外支持；以及监督所采取的行动和实施情况。为了促进该路线图的实施，鼓励在加密行业监管方面有经验的司法管辖区分享经验，并在双边基础上提供技术援助。FATF 预计将在 2024 年上半年发布一份进度表，并考虑根据需要采取进一步行动。FATF 将在 2023 年 6 月发布关于虚拟资产 FATF 标准实施情况的针

³⁷ The CPMI-IOSCO is examining several types of multicurrency stablecoins arrangements, including those with stablecoins denominated in or pegged to a basket of multiple currencies, those with multiple single-currency stablecoins, and those with reserve assets denominated in multiple currencies.

CPMI-IOSCO 正在研究几种类型的多货币稳定币安排，包括以一篮子多种货币计价或与一篮子多种货币挂钩的稳定币安排、以多种单一货币计价的稳定币安排以及以多种货币计价的储备资产安排。

³⁸The CPMI-IOSCO is examining stablecoin arrangements that are denominated in a single currency and whose reserve assets include non-cash assets.

CPMI-IOSCO 正在审查以单一货币计价、储备资产包括非现金资产的稳定币安排。

对性更新，并将继续密切监控该行业反洗钱/反恐怖主义融资控制措施的实施情况。FATF（与国际货币基金组织和其他评估机构一道）将开展深入审查，分析打击洗钱/恐怖主义融资措施的实施情况和有效性，包括与加密资产相关的措施。FATF还将监测市场发展，包括受制裁行为者的活动、DeFi和P2P交易，这些活动可能需要FATF进一步开展工作。

The IMF will incorporate, where appropriate, the FSB recommendations, SSB standards and guidance, and the elements for a comprehensive framework for crypto-assets in its surveillance program. The IMF will use the elements and recommendations stemming from the IMF and the FSB work on crypto-assets, to incorporate policy steps into its surveillance program, such as Article IV assessments and the Financial Sector Assessment Program (FSAP). When crypto-assets fall within the scope of these programs as a result of their potential systemic impact in a specific jurisdiction, the implementation of corresponding recommendations will be evaluated, with a focus on highlighting any existing implementation gaps.

国际货币基金组织将酌情将金融稳定委员会的建议、SSB的标准和指导以及加密资产综合框架的要素纳入其监督计划。国际货币基金组织将利用国际货币基金组织和金融稳定委员会在加密资产方面的工作所产生的要素和建议，将政策措施纳入其监督计划，如第四条评估和金融部门评估计划(FSAP)。当加密资产因其对特定管辖区的潜在系统性影响而属于这些计划的范围时，将对相应建议的执行情况进行评估，重点是突出任何现有的执行差距。

The IMF will integrate its ongoing policy work on crypto-assets and the FSB recommendations as part of its capacity building-programs. The IMF, subject to the IMF members' demand and available resources, will provide training and technical support to its members, as part of its mandate. This support will aim at promoting and facilitating the implementation of policy recommendations for crypto-assets.

国际货币基金组织将其正在进行的有关加密资产的政策工作和金融稳定委员会的建议作为其能力建设方案的一部分。作为其任务的一部分，国际货币基金组织将根据其成员的需求和可用资源，向其成员提供培训和技术支持。这种支持的目的是促进和便利执行关于加密资产的政策建议。

4.2. Outreach beyond G20 members 20国集团以外的外联活动

FSB members will lead by example in implementing the FSB framework in a full and timely manner in order to encourage jurisdictions beyond the FSB's membership to implement the two sets of high-level recommendations.

金融稳定委员会成员将以身作则，全面及时地实施金融稳定委员会框架，以鼓励金融稳定委员会成员以外的管辖区实施这两套高级别建议。

The IMF, with its near global membership, will continue to encourage the implementation of the high-level recommendations for crypto-assets and the SSB standards and guidance through capacity development activities and the FSAP.

国际货币基金组织的成员几乎遍布全球，它将继续鼓励通过能力发展活动和金融服务监管计划，落实关于加密资产的高级别建议以及SSB标准和指导。

The IMF will prepare an outreach program, including through its regional training centres, to promote awareness and implementation of IMF and FSB work on crypto-assets.

³⁹Leveraging on its extensive membership and network across continents, the IMF will develop a

³⁹ The IMF training centres are located across continents, including: Africa Training Institute (ATI), IMF-Middle East Centre for Economics and Finance (CEF), Joint Vienna Institute (JVI), South Asia Regional Training and Technical Assistance Centre (SARTTAC), The IMF-Middle East Centre for Economics and Finance (CEF), The Joint Regional Training Centre for Latin America (Brazil Training Centre, BTC).

国际货币基金组织的培训中心遍布各大洲，包括非洲培训学院(ATI)、国际货币基金组织-中东经济与金融中心(CEF)、维也纳联合学院(JVI)、南亚地区培训和技术援助中心(SARTTAC)、国际货币基金组织-中东经济与金融中心(CEF)、拉丁美洲联合地区培训中心(巴西培训中心, BTC)。

program to promote the IMF and FSB recommendations for a comprehensive policy framework for crypto-assets

国际货币基金组织将制定一项外联方案，包括通过其区域培训中心，促进对国际货币基金组织和金融稳定委员会有关加密资产工作的认识和实施。³⁹ 国际货币基金组织将利用其遍布各大洲的广泛成员和网络，制定一项计划，宣传国际货币基金组织和金融稳定委员会关于加密资产综合政策框架的建议。

Considering that many crypto-asset activities are taking place or are licensed or registered in non-FSB member jurisdictions, the FSB will, alongside the SSBs and other international organisations, take steps to promote the effective implementation in jurisdictions beyond the FSB's membership. As part of this work, the FSB will:

考虑到许多加密资产活动是在非金融稳定委员会成员辖区内进行或获得许可或注册的，金融稳定委员会将与 SSB 和其他国际组织一起采取措施，促进在金融稳定委员会成员以外的辖区内有效实施。

作为这项工作的一部分，金融稳定委员会将

- engage with a wider set of jurisdictions to encourage implementation of the FSB recommendations and international standards,

与更多的辖区合作，鼓励实施金融稳定委员会的建议和国际标准、

- take stock of regulatory progress and challenges among non-FSB member jurisdictions through the FSB's Regional Consultative Groups, and

通过金融稳定委员会的地区磋商小组，评估非金融稳定委员会成员辖区的监管进展和挑战，以及

- monitor and assess cross-border issues related to stablecoins and other crypto-assets.

监测和评估与稳定币和其他加密资产有关的跨境问题。

The FATF, through its global network, is supporting the implementation of AML/CFT controls for crypto-assets in all jurisdictions, with a particular focus on those with materially significant crypto-asset activity. The FATF roadmap to accelerate implementation of its standards for the crypto-asset sector will identify the jurisdictions in addition to the FATF membership that have materially important crypto-asset activity, in order to target jurisdictions where implementation is lagging with additional support and advice and assist them to promptly establish effective preventive measures and supervision.

反洗钱金融行动特别工作组通过其全球网络，支持在所有辖区实施针对加密资产的反洗钱/打击资助恐怖主义的控制措施，并特别关注那些有重大加密资产活动的辖区。反洗钱金融行动特别工作组加快执行其加密资产部门标准的路线图将确定除反洗钱金融行动特别工作组成员以外的具有重大加密资产活动的管辖区，以便针对执行滞后的管辖区提供更多支持和建议，并协助它们迅速制定有效的预防措施和进行监督。

4.3. Global coordination, cooperation and information sharing

全球协调、合作与信息共享

The FSB will continue to act as a hub for information sharing and regulatory and supervisory coordination for crypto-asset activities and global stablecoin arrangements, including exploring how to address the cross-border risks specific to EMDEs and considering ways to enhance supervisory and regulatory coordination. The FSB will also consider how to address the regulatory issues posed by stablecoin arrangements operating in jurisdictions that lack a robust regulatory and supervisory framework consistent with the FSB recommendations. The FSB and the SSBs' shared workplan (see Annex 3) also reflects the coordinated work under their respective mandates to promote the development and implementation of a consistent cross-sectoral international response to risks (and potential risks) in the crypto-asset markets, including through the provision of more granular guidance by SSBs, monitoring and public reporting.

金融稳定委员会将继续充当加密资产活动和全球稳定币安排的信息共享和监管协调中心，包括探讨

如何应对新兴市场经济体特有的跨境风险，并考虑如何加强监管协调。金融稳定委员会还将考虑如何解决在缺乏符合金融稳定委员会建议的健全监管和监督框架的司法管辖区运营的稳定币安排所带来的监管问题。金融稳定委员会和 SSB 的共同工作计划（见附件 3）也反映了在各自任务下的协调工作，以促进制定和实施针对加密资产市场风险（和潜在风险）的一致的跨部门国际应对措施，包括通过 SSB 提供更详细的指导、监测和公开报告。

The IMF will continue to coordinate with its members to promote the IMF and FSB framework for crypto-assets (including the SSB standards and guidance) and will continue to monitor macrofinancial risks and vulnerabilities in crypto-assets.

国际货币基金组织将继续与其成员协调，推广国际货币基金组织和金融稳定委员会的加密资产框架（包括 SSB 标准和指南），并将继续监测加密资产的宏观金融风险 and 脆弱性。

4.4. Addressing data gaps 填补数据空白

The growing presence of new forms of crypto-assets used as a means of payment poses various potential challenges for data collection and analysis such as cross-border usage and currency substitution. Rapid cryptoization can have an impact on the monetary independence and financial stability of economies. Yet, the data to measure crypto-assets, and their impact are scarce. In view of these concerns, the G20 Finance Ministers and Central Bank Governors in November 2022 welcomed the new Data Gaps Initiative-3 (DGI-3), which amongst others, addresses priority policy needs related to financial innovation.

作为支付手段的新型加密资产日益增多，给数据收集和分析带来了各种潜在挑战，如跨境使用和货币替代。快速的加密化可能会对经济体的货币独立性和金融稳定性产生影响。然而，衡量加密资产及其影响的数据却很少。有鉴于此，20 国集团财政部长和中央银行行长于 2022 年 11 月对新的《第三次数据差距倡议》（DGI-3）表示欢迎。

Recommendation 11 of the DGI-3 on “Digital Money” aims to develop a common framework and collect “test data” on digital money and crypto-assets used as a means of payment enabled by Fintech. ⁴⁰The recommendation, therefore, aims to expand macroeconomic statistics (both monetary and external-sector statistics) to cover crypto-assets including stablecoins, the latter being potentially used as means of payments, to ensure the proper measurement of monetary aggregates and international capital flows, also offering critical inputs for financial stability analysis. The IMF leads the implementation of this recommendation with the BIS, ECB, and FSB. The expected outcome is to have, by Q4 2025, test estimates of flows and stocks of crypto-assets used as means of payments broken down by type, sector, and counterpart country.

DGI-3 关于“数字货币”的建议 11 旨在制定一个共同框架，并收集关于数字货币和加密资产的“测试数据”，这些数字货币和加密资产被金融科技用作支付手段。 ⁴⁰因此，该建议旨在扩大宏观经济统计（货币统计和对外部门统计），以涵盖包括稳定币在内的加密资产，后者有可能被用作支付手段，以确保对货币总量和国际资本流动进行适当计量，同时为金融稳定性分析提供重要投入。国际货币基金组织与国际清算银行、欧洲中央银行和金融稳定委员会共同牵头实施这项建议。预期成果是在 2025 年第四季度之前，对用作支付手段的加密资产的流量和存量进行按类型、部门 and 对应国家分列的测试估计。

This work will draw on methodological guidance being developed in the context of the update of the international statistical standards (ISS) (FITT 2022) while continuously monitoring the evolving landscape of crypto-assets and making necessary adjustments to ensure the relevance and reliability of the macroeconomic framework. Acknowledging the limitations of

⁴⁰ Currently, crypto-assets do not meet the definition of money, and in the context of this “IMF-FSB Synthesis Paper: Policies for Crypto-Assets”, the DGI-3 recommendation only refers to crypto-assets.

目前，加密资产不符合货币的定义，在本“IMF-FSB 综合文件”中，DGI-3 建议仅提及加密资产；在本“国际货币基金组织-金融稳定委员会综合文件：加密资产政策”中，DGI-3 建议仅指加密资产。

traditional data collection, the Task Team will explore alternative sources, particularly partnering with industry players to gather data on crypto-assets as payment methods. These discussions within the G20 could also facilitate collaboration of statistical agencies with regulatory bodies to influence regulations regarding data requirements for crypto-assets.

这项工作将借鉴在更新国际统计标准（ISS）（FITT 2022）的背景下正在制定的方法指导，同时不断监测加密资产的演变情况，并做出必要调整，以确保宏观经济框架的相关性和可靠性。认识到传统数据收集的局限性，工作组将探索替代来源，特别是与行业参与者合作，收集加密资产作为支付方式的数据。20 国集团内部的这些讨论还可促进统计机构与监管机构的合作，以影响有关加密资产数据要求的法规。

Annex 1: Recent publications from international organisations and standard-setting bodies

附件1：国际组织和标准制定机构的最新出版物

In February 2023, the IMF proposed Elements for effective policies for crypto-assets (IMF 2023a). The paper aims to address IMF members' questions on how to respond to the rise of crypto-assets and the associated risks. The paper defines and classifies crypto-assets based on their underlying features and describes their purported benefits and potential risks. The paper presents a policy framework for crypto-assets that aims to achieve key policy objectives such as macroeconomic stability, financial stability, consumer protection, and market and financial integrity. The framework outlines nine key elements that are necessary to ensure that these objectives are met.

2023年2月，国际货币基金组织提出了《加密资产有效政策要素》（IMF 2023a）。该文件旨在解决国际货币基金组织成员关于如何应对加密资产的兴起和相关风险的问题。该文件根据加密资产的基本特征对其进行了定义和分类，并描述了其所谓的好处和潜在风险。本文提出了一个加密资产政策框架，旨在实现宏观经济稳定、金融稳定、消费者保护以及市场和金融诚信等关键政策目标。该框架概述了确保实现这些目标所必需的九个关键要素。

At the same time, IMF delivered a G20 Note on the Macrofinancial Implications of Crypto-assets (IMF 2023b). The paper on the macrofinancial implications of crypto-assets focuses on unbacked crypto-assets, such as bitcoin, and stablecoins, which may have stark implications for macrofinancial stability if widely adopted. It limits the analysis to potential costs and benefits as well as it raises open questions and data needs, with the intention to spur further discussion on policy responses. The paper considers three types of implications, to (1) domestic stability, (2) external stability, and (3) the structure of financial systems. The paper argues that purported benefits of crypto-assets include cheaper and faster cross-border payments, more integrated financial markets, and increased financial inclusion, but these are yet to be realised. The underlying technologies could prove useful, including for the public sector.

与此同时，国际货币基金组织发布了一份关于加密资产的宏观金融影响的20国集团说明（IMF 2023b）。这份关于加密资产的宏观金融影响的文件侧重于无支持的加密资产，如比特币和稳定币，如果被广泛采用，可能会对宏观金融稳定产生严重影响。本文的分析仅限于潜在的成本和收益，同时也提出了一些开放性问题 and 数据需求，旨在促进对政策应对措施为进一步讨论。本文考虑了三类影响：(1) 国内稳定；(2) 外部稳定；(3) 金融体系的结构。本文认为，加密资产的所谓好处包括跨境支付更便宜、更快捷，金融市场更加一体化，以及金融包容性增强，但这些都有待实现。基础技术可能证明是有用的，包括对公共部门有用。

In February 2022, the FSB published its Assessment of Risks to Financial Stability from Crypto-assets (FSB 2022a). This report examines developments and associated vulnerabilities relating to three segments of the crypto-asset markets: unbacked crypto-assets (such as Bitcoin); stablecoins; and DeFi and other platforms on which crypto-assets trade. The report notes that although the extent and nature of the use of crypto-assets varies somewhat across jurisdictions, financial stability risks could rapidly escalate, underscoring the need for timely and pre-emptive evaluation of possible policy responses.

2022年2月，金融稳定委员会发布了《加密资产对金融稳定的风险评估》（FSB 2022a）。该报告审查了与加密资产市场三个部分有关的发展和脆弱性：无支持加密资产（如比特币）；稳定币；DeFi和其他加密资产交易平台。报告指出，尽管各辖区使用加密资产的程度和性质略有不同，但金融稳定风险可能迅速升级，这突出表明有必要对可能的政策应对措施进行及时和先发制人的评估。

Against the backdrop of the May 2022 turmoil in crypto-asset markets, in July 2022 the FSB issued a statement reaffirming that crypto-assets and markets must be subject to effective regulation and oversight commensurate to the risks they pose, both at the domestic and international level (FSB 2022b).

在 2022 年 5 月加密资产市场发生动荡的背景下，金融稳定委员会于 2022 年 7 月发表声明，重申在国内和国际层面，加密资产和市场必须接受与其所带来的风险相称的有效监管和监督（金融稳定委员会 2022b）。

In July 2023, the FSB finalised a comprehensive framework for the international regulation of crypto-asset activities from a financial risk perspective (FSB 2023b). The core components of this framework are recommendations that promote the consistency and comprehensiveness of regulatory, supervisory and oversight approaches to crypto-asset activities and markets and that strengthen international cooperation, coordination and information sharing and revised highlevel recommendations for the regulation, supervision, and oversight of “global stablecoin” arrangements to address associated financial stability risks more effectively.

2023 年 7 月，金融稳定委员会最终确定了从金融风险角度对加密资产活动进行国际监管的综合框架（FSB 2023b）。该框架的核心内容是促进对加密资产活动和市场的监管、监督和监察方法的一致性和全面性，加强国际合作、协调和信息共享的建议，以及对“全球稳定币”安排的监管、监督和监察的高级别修订建议，以更有效地应对相关的金融稳定风险。

In July 2023, the Bank for International Settlements delivered to G20 a report on analytical and conceptual issues and proposed possible risk mitigation strategies related to crypto-assets (BIS 2023).

2023 年 7 月，国际清算银行向 G20 提交了一份关于分析和概念问题的报告，并提出了与加密资产有关的可能的风险缓解战略（BIS 2023）。

In June 2023, the FATF adopted a targeted review of implementation of the FATF's Standards on Virtual assets and Virtual asset service providers, including the Travel Rule, and an update on emerging risks and market developments in this area. The report finds that global implementation of these strengthened measures remains relatively poor. The lack of regulation creates significant loopholes for criminals to exploit. Closing the gaps in global regulation of virtual assets is an urgent priority, to be addressed through the FATF's Roadmap.

2023 年 6 月，FATF 通过了对 FATF 虚拟资产和虚拟资产服务提供商标准（包括旅行规则）执行情况的有针对性审查，以及该领域新出现风险和市场发展的最新情况。报告发现，这些强化措施的全球执行情况仍然相对较差。监管的缺失为犯罪分子提供了可乘之机。填补全球虚拟资产监管方面的空白是当务之急，将通过反洗钱金融行动特别工作组的路线图加以解决。

The international standard-setting bodies have taken forward more granular analytic and policy work by exploring issues unique to each SSB's mandate.

国际标准制定机构通过探讨每个 SSB 职权范围内特有的问题，推进了更加细化的分析和政策工作。

In March 2022, IOSCO published a detailed report setting out how DeFi is quickly evolving to mirror conventional financial markets (IOSCO 2022). The report offers a comprehensive review of the fast-evolving DeFi market, including its products, services and principal participants. It identifies some aspects that are novel, but concludes that most DeFi products, services and activities replicate more traditional financial products, services and activities, but with participants acting outside of, or in non-compliance with applicable regulatory frameworks, creating risks for investors. Following the IOSCO report, in February 2023, the FSB published a report on the financial stability risks of DeFi (FSB 2023a). The report concludes that while the processes to provide services are in many cases novel, DeFi does not differ substantially from traditional finance in the functions it performs or the vulnerabilities to which it is exposed. The extent to which these vulnerabilities can lead to financial stability concerns largely depends on the interlinkages and transmission channels between DeFi, traditional finance and the real economy. To date, these interlinkages are limited. However, if the DeFi ecosystem were to grow significantly, then the

scope for spillovers would increase. The report identifies indicators that can be used to monitor DeFi vulnerabilities and transmission channels.

2022 年 3 月，国际证监会组织（IOSCO）发布了一份详细报告，阐述了 DeFi 如何快速发展以反映传统金融市场（IOSCO 2022）。报告全面回顾了快速发展的 DeFi 市场，包括其产品、服务和主要参与者。报告指出了一些新颖之处，但得出结论认为，大多数 DeFi 产品、服务和活动复制了更传统的金融产品、服务和活动，但参与者的行为超出或不符合适用的监管框架，从而给投资者带来风险。继国际证监会组织的报告之后，金融稳定委员会于 2023 年 2 月发布了一份关于 DeFi 金融稳定风险的报告（FSB 2023a）。报告的结论是，虽然提供服务的流程在许多情况下是新颖的，但 DeFi 在其履行的职能或面临的脆弱性方面与传统金融并无本质区别。这些脆弱性能在多大程度上导致金融稳定问题，主要取决于 DeFi、传统金融和实体经济之间的相互联系和传导渠道。迄今为止，这些相互联系是有限的。然而，如果 DeFi 生态系统大幅增长，那么外溢效应的范围就会扩大。本报告确定了可用于监测 DeFi 脆弱性和传导渠道的指标。

In July 2022, the CPMI-IOSCO published their guidance on the application of the PFMI to systemically important stablecoin arrangements (CPMI-IOSCO 2022).

2022 年 7 月，CPMI-IOSCO 发布了将 PFMI 应用于具有系统重要性的稳定币安排的指南（CPMI-IOSCO 2022）。

In December 2022, the Group of Central Bank Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision, endorsed a finalised prudential standard on banks' crypto-asset exposures. The standard provides a robust and prudent global regulatory framework for internationally active banks' exposures to crypto-assets that promotes responsible innovation while preserving financial stability.

2022 年 12 月，巴塞尔银行监管委员会的监督机构--中央银行行长和监管负责人小组（GHOS）批准了银行加密资产风险的审慎标准定稿。该标准为国际活跃银行的加密资产风险敞口提供了一个稳健而审慎的全球监管框架，在维护金融稳定的同时促进负责任的创新。

In May 2023, IOSCO issued for consultation detailed policy recommendations to jurisdictions across the globe as to how to regulate crypto-assets service providers (IOSCO 2023). The Recommendations in IOSCO's Consultation Report set expectations and guardrails to regulate and supervise crypto-asset markets, which are inherently cross-border in nature.

2023 年 5 月，国际证监会组织就如何监管加密资产服务提供商向全球各司法管辖区发布了详细的政策建议（国际证监会组织 2023 年），以征求意见。国际证监会组织咨询报告中的建议为监管加密资产市场设定了预期和警戒线，因为加密资产市场本身具有跨境性质。

Annex 2: FSB high-level recommendations 附件2：金融稳定委员会高层建议

High-level recommendations for the regulation, supervision, and oversight of crypto-asset activities and markets

关于监管、监督和监察加密资产活动和市场的高级别建议

Recommendation 1: Regulatory powers and tools 建议1：监管权力和工具

Authorities should have and utilise the appropriate powers and tools, and adequate resources to regulate, supervise, and oversee crypto-asset activities and markets, and enforce relevant laws and regulations effectively, as appropriate.

当局应拥有并利用适当的权力和工具以及充足的资源来规范、监管和监督加密资产活动和市场，并酌情有效执行相关法律法规。

Recommendation 2: General regulatory framework 建议2：总体监管框架

Authorities should apply comprehensive and effective regulation, supervision, and oversight to crypto-asset activities and markets – including crypto-asset issuers and service providers – on a functional basis and proportionate to the financial stability risk they pose, or potentially pose, and consistent with authorities' respective mandates in line with the principle "same activity, same risk, same regulation".

各国当局应根据 "同样的活动、同样的风险、同样的监管" 原则，对加密资产活动和市场--包括加密资产发行者和服务提供者--实施全面有效的监管、监督和监察，监管、监督和监察应以功能为基础，并与它们所造成或可能造成的金融稳定风险相称，并与各国当局各自的任务相一致。

Recommendation 3: Cross-border cooperation, coordination, and information sharing 建议3：跨国合作、协调和信息共享

Authorities should cooperate and coordinate with each other, both domestically and internationally, to foster efficient and effective communication, information sharing and consultation in order to support each other as appropriate in fulfilling their respective mandates and to encourage consistency of regulatory and supervisory outcomes.

当局应在国内和国际上相互合作与协调，促进高效和有效的沟通、信息共享和协商，以便在履行各自任务时酌情相互支持，并鼓励监管和监督结果的一致性。

Recommendation 4: Governance 建议4：管理

Authorities, as appropriate, should require that crypto-asset issuers and service providers have in place and disclose a comprehensive governance framework with clear and direct lines of responsibility and accountability for all functions and activities they are conducting. The governance framework should be proportionate to their risk, size, complexity and systemic importance, and to the financial stability risk that may be posed by activity or market in which the crypto-asset issuers and service providers are participating. It should provide for clear and direct lines of responsibility and accountability for the functions and activities they are conducting.

有关当局应酌情要求加密资产发行者和服务提供者建立并披露全面的治理框架，对其正在开展的所有职能和活动规定明确和直接的责任和问责关系。治理框架应与其风险、规模、复杂性和系统重要

性以及加密资产发行者和服务提供者参与的活动或市场可能带来的金融稳定风险相称。该框架应为它们正在履行的职能和开展的活动规定明确而直接的责任和问责制。

Recommendation 5: Risk management 建议5: 风险管理

Authorities, as appropriate, should require crypto-asset service providers to have an effective risk management framework in place that comprehensively addresses all material risks associated with their activities. The framework should be proportionate to the risk, size, complexity, and systemic importance, and to the financial stability risk that may be posed by the activity or market in which they are participating. Authorities should, to the extent necessary to achieve regulatory outcomes comparable to those in traditional finance, require crypto-asset issuers to address the financial stability risk that may be posed by the activity or market in which they are participating.

当局应酌情要求加密资产服务提供商建立有效的风险管理框架，全面应对与其活动有关的所有重大风险。该框架应与风险、规模、复杂性和系统重要性相称，并与它们参与的活动或市场可能造成的金融稳定风险相称。当局应在必要的范围内，要求加密资产发行者应对其参与的活动或市场可能带来的金融稳定风险，以实现与传统金融可比的监管结果。

Recommendation 6: Data collection, recording and reporting

建议6: 数据收集、记录和报告

Authorities, as appropriate, should require that crypto-asset issuers and service providers have in place robust frameworks, including systems and processes, for collecting, storing, safeguarding, and the timely and accurate reporting of data, including relevant policies, procedures and infrastructures needed, in each case proportionate to their risk, size, complexity and systemic importance. Authorities should have access to the data as necessary and appropriate to fulfil their regulatory, supervisory and oversight mandates.

监管机构应酌情要求加密资产发行者和服务提供者建立健全的框架，包括收集、储存、保护和及时准确报告数据的系统和流程，包括所需的相关政策、程序和基础设施，并在每种情况下与其风险、规模、复杂性和系统重要性相称。当局应能在必要和适当的情况下获取数据，以履行其监管、监督和监察任务。

Recommendation 7: Disclosures 建议7: 披露

Authorities should require that crypto-asset issuers and service providers disclose to users and relevant stakeholders comprehensive, clear and transparent information regarding their governance framework, operations, risk profiles and financial conditions, as well as the products they provide and activities they conduct.

当局应要求加密资产发行者和服务提供者向用户和相关利益攸关方披露有关其治理框架、运营、风险概况和财务状况，以及其提供的产品和开展的活动的全面、清晰和透明的信息。

Recommendation 8: Addressing financial stability risks arising from interconnections and interdependencies

建议8: 应对相互联系相互依存所带来的金融稳定风险

Authorities should identify and monitor the relevant interconnections, both within the crypto-asset ecosystem, as well as between the crypto-asset ecosystem and the wider financial system. Authorities should address financial stability risks that arise from these interconnections and interdependencies.

监管机构应识别并监控加密资产生态系统内部以及加密资产生态系统与更广泛的金融体系之间的相关相互联系。监管机构应处理因这些相互联系和相互依存关系而产生的金融稳定风险。

Recommendation 9: Comprehensive regulation of crypto-asset service providers with

multiple functions

建议9：全面监管具有多种功能的加密资产服务提供商

Authorities should ensure that crypto-asset service providers and their affiliates that combine multiple functions and activities, where permissible, are subject to appropriate regulation, supervision and oversight that comprehensively address the risks associated with individual functions and the risks arising from the combination of functions, including but not limited to requirements regarding conflicts of interest and separation of certain functions, activities, or incorporation, as appropriate.

当局应确保在允许的情况下，结合多种职能和活动的加密资产服务提供商及其附属机构受到适当的监管、监督和监察，全面应对与单个职能相关的风险和职能结合产生的风险，包括但不限于关于利益冲突和酌情分离某些职能、活动或成立公司的要求。

High-level recommendations for the regulation, supervision, and oversight of global stablecoin arrangements

关于监管、监督和监察全球稳定币安排的高级别建议

Recommendation 1: Authorities' readiness to regulate and supervise global stablecoin arrangements

建议 1：各国当局做好监管和监督全球稳定币安排的准备

Authorities should have and utilise the appropriate powers and tools, and adequate resources, to comprehensively regulate, supervise, and oversee a GSC arrangement and its associated functions and activities, and enforce relevant laws and regulations effectively.

主管部门应拥有并利用适当的权力和工具以及充足的资源，对全球供应链安排及其相关职能和活动进行全面规范、监管和监督，并有效执行相关法律法规。

Recommendation 2: Comprehensive oversight of GSC activities and functions **建议2：全面监督全球供应链的活动和职能**

Authorities should apply comprehensive and effective regulatory, supervisory and oversight requirements consistent with international standards to GSC arrangements on a functional basis and proportionate to their risks insofar as such requirements are consistent with their respective mandates.

有关当局应在职能基础上对全球供应链安排适用符合国际标准的全面和有效的监管、监督和监察要求，并使之与风险相称，只要这些要求符合各自的任务规定。

Recommendation 3: cross-border cooperation, coordination and information sharing **建议3：跨境合作、协调和信息共享**

Authorities should cooperate and coordinate with each other, both domestically and internationally, to foster efficient and effective communication, information sharing and consultation in order to support each other in fulfilling their respective mandates and to ensure comprehensive regulation, supervision, and oversight of a GSC arrangement across borders and sectors, and to encourage consistency of regulatory and supervisory outcomes.

各主管部门应在国内和国际上相互合作与协调，促进高效率和高成效的沟通、信息共享和协商，以便相互支持，完成各自的任务，确保对全球供应链安排进行跨界和跨部门的全面监管、监督和监察，并鼓励监管和监察结果的一致性。

Recommendation 4: Governance structures and decentralised operations

建议4: 管理结构和非集中化运作

Authorities should require that GSC arrangements have in place and disclose a comprehensive governance framework with clear and direct lines of responsibility and accountability for all functions and activities within the GSC arrangement.

主管部门应要求全球供应链安排建立并披露全面的治理框架，对全球供应链安排内的所有职能和活动明确规定直接的责任和问责关系。

Recommendation 5: Risk management 建议5: 风险管理

Authorities should require that GSC arrangements have effective risk management frameworks in place that comprehensively address all material risks associated with their functions and activities, especially with regard to operational resilience, cyber security safeguards and AML/CFT measures, as well as “fit and proper” requirements, if applicable, and consistent with jurisdictions’ laws and regulations.

当局应要求全球供应链安排建立有效的风险管理框架，全面应对与其职能和活动有关的所有重大风险，特别是在业务复原力、网络安全保障和反洗钱/打击资助恐怖主义措施方面，以及“适当人选”要求（如适用），并符合管辖区的法律法规。

Recommendation 6: Data storage and access to data

建议6: 数据存储和数据访问

Authorities should require that GSC arrangements have in place robust frameworks, including systems and processes for the collecting, storing, safeguarding and timely and accurate reporting of data. Authorities should have access to the data as necessary and appropriate to fulfil their regulatory, supervisory and oversight mandates.

当局应要求全球供应链安排建立健全的框架，包括收集、储存、保护和及时准确报告数据的系统和程序。主管部门应能在必要和适当的情况下获取数据，以履行其监管、监督和监察任务。

Recommendation 7: Recovery and resolution of the GSC 建议7: 恢复和解

解决全球供应链问题

Authorities should require that GSC arrangements have appropriate recovery and resolution plans. 当局应要求全球供应链安排制定适当的恢复和解决计划。

Recommendation 8: Disclosures 建议8: 披露

Authorities should require that GSC issuers and, where applicable, other participants in the GSC arrangements provide all users and relevant stakeholders with comprehensive and transparent information to understand the functioning of the GSC arrangement, including with respect to the governance framework, any conflicts of interest and their management, redemption rights, stabilisation mechanism, operations, risk management framework and financial condition.

监管机构应规定金融证券发行人及（如适用的话）其他参与金融证券安排的机构，须向所有使用者及相关持份者提供全面及具透明度的资料，以了解金融证券安排的运作，包括管治架构、任何利益冲突及其管理、赎回权、稳定机制、运作、风险管理架构及财务状况。

Recommendation 9: Redemption rights, stabilisation, and prudential requirements 建议9: 赎回权、稳定化和审慎要求

Authorities should require that GSC arrangements provide a robust legal claim to all users against the issuer and/or underlying reserve assets and guarantee timely redemption. For GSCs referenced to a single fiat currency, redemption should be at par 10 into fiat. To maintain a stable value at all times and mitigate the risks of runs, authorities should require GSC arrangements to have an effective stabilisation mechanism, clear redemption rights and meet prudential requirements.

当局应要求全球供应链安排向所有用户提供针对发行人和/或基础储备资产的有力的法律索赔，并保证及时赎回。对于以单一法定货币为基准的全球供应链，赎回应按面值兑换成法定货币。为了在任何时候都保持稳定的价值并降低挤兑风险，当局应要求全球供应链安排具有有效的稳定机制、明确的赎回权并符合审慎要求。

Recommendation 10: Conformance with regulatory, supervisory and oversight requirements before commencing operations

建议 10：在开始运营前遵守监管、监督和监察要求

Authorities should require that GSC arrangements meet all applicable regulatory, supervisory and oversight requirements of a particular jurisdiction before commencing any operations in that jurisdiction and adapt to new regulatory requirements as necessary and as appropriate.

有关当局应要求全球供应链安排在特定管辖区开始任何业务之前满足该管辖区所有适用的监管、监督和监察要求，并在必要时酌情适应新的监管要求。

Annex 3: Detailed shared FSB-SSB workplan附件 3: 详细的 FSB-SSB 共享工作计划

倡议 (负责机构)	目标/范围	现状/时间表
加密资产和市场的风险与监管		
金融稳定委员会关于加密资产和市场监管、监督和监察的高级别建议定稿 (FSB)	应对加密资产市场和活动（包括发行商和服务提供商）金融稳定风险的建议。这些建议涉及监管权力、跨境合作、治理、风险管理、数据、披露、系统性风险和多功能中介机构。	2023 年 7 月发布最终高层建议（20 国集团）， 2025 年底前审查各辖区的执行情况。
加密资产和数字资产建议 (国际证监会组织)	<p>将国际证监会组织的原则和标准应用于经济上等价的加密资产和活动，以应对该行业中相当大的近似市场诚信和投资者保护风险，包括利益冲突、客户资产保护、市场操纵、操作风险、零售准入适宜性和跨境问题等。</p> <p>考虑到市场的跨境性质、监管套利的风险以及零售投资者继续面临的重大损害风险，这将与国际证监会组织的《DeFi 建议和指南》（见下文）一起，促进国际证监会组织成员在如何监管和监督加密资产活动方面的更大一致性。</p>	国际证监会组织金融科技工作组（FTF）于 2023 年 5 月发布了关于拟议 CDA 政策建议的咨询，重点关注加密资产服务提供商（CASP）。咨询期结束后，国际证监会组织将审查反馈意见并最终确定政策建议，以应对加密资产市场的投资者保护和市场诚信风险。CDA 政策建议将于 2023 年底定稿。
分散融资的金融稳定风险 (FSB)	评估 DeFi（以及相关的交易、借贷行为、服务和平台、协议和市场参与者）对金融稳定的影响，并得出 SRC 可考虑的政策影响。	2 月出版并向 G20FMCBG 提交报告。

DeFi 对政策的影响 (FSB)	考虑 DeFi 对监管的影响，并评估是否需要开展额外的政策工作。	初步工作正在进行中，预计将于 2024 年底完成。
DeFi 建议（国际证监会组织）	介绍 DeFi 市场的最新情况，并就如何将国际证监会组织的现有原则应用于 DeFi 提出建议，将这些原则与 DeFi 活动和协议的主要方面进行对比，涵盖新出现的问题、风险和考虑因素。	国际证监会组织 FTF 将通过其 DeFi 工作流，在 2023 年第三季度就拟议的 DeFi 政策建议进行磋商。咨询期结束后，国际证监会组织将审查反馈意见并最终确定政策建议，以解决 DeFi 中的投资者保护和市场诚信风险。DeFi 政策建议将于 2023 年底定稿。
关于保险业 DeFi 的探索性工作 (国际保险协会)	探索分散式保险领域的最新发展，分析监管挑战，确定未来工作领域。	继 2021-2022 年期间的初步分析之后，国际保险监督协会金融科技论坛将继续分析与分散式保险业务模式有关的发展情况。 非公开说明将于 2023 年定稿。FSI-IAIS-EIOPA 联合网络研讨会将于 2023 年 10 月举行。
多功能加密资产中介机构 (FSB)	评估多功能加密资产中介机构对金融稳定的影响，借鉴近期此类中介机构失败的经验教训，并得出金融稳定委员会可考虑的政策影响。	工作正在进行中。
多功能加密资产中介机构的政策影响 (FSB)	考虑监管影响，并评估是否需要开展额外的政策工作，因为多功能加密资产中介可能会产生复合风险、利益冲突以及与相关方的不透明交易，而这些在传统金融公司中通常是不允许的。	根据金融稳定委员会分析工作的结果开始工作，并将于 2024 年底完成。
定期监测和评估加密资产市场的脆弱性 (FSB)	跟踪加密资产市场（包括稳定币和 DeFi）的发展，评估其对金融稳定的影响，并对加密资产市场的重大事件进行现场分析。	工作正在进行中。

稳定币的风险和监管

金融稳定委员会关于全球稳定币（GSC）的高级别建议定稿（FSB）	金融稳定委员会关于全球供应链的建议旨在促进各辖区对全球供应链进行一致、有效的监管、监督和监察，以应对全球供应链带来的潜在金融稳定风险。	2023 年 7 月发布最终高层建议（20 国集团），2025 年底前审查各辖区的执行情况。
金融市场基础设施原则 (PFMI) 规定的当局对稳定币安排的责任 (CPMI-IOSCO)	分析相关监管、督导和监督机构在履行其 PFMI 稳定币安排责任时面临的挑战，尤其是责任 E（与其他机构合作）方面的挑战，并确定应对这些挑战的潜在方法。	报告的主要结论将酌情与更广泛的国际监管界分享。
与多种货币和资产挂钩的稳定币相关的风险 (CPMI-IOSCO)	确定 2022 年 7 月 CPMI-IOSCO 关于 PFMI 对 SA 的应用指南中可能需要额外澄清或补充的多币种或资产挂钩稳定币问题，包括可能影响其遵守 PFMI 的此类稳定币安排的显著特征。	预计将于 2023 年下半年公布可能需要进一步澄清的与用作结算资产的多货币稳定币有关的问题。有关资产挂钩稳定币的工作正处于早期阶段。
新兴市场和发展中经济体全球供应链的跨境监管协调 (FSB)	探讨如何应对全球供应链带来的独特跨境金融稳定风险，包括新兴市场经济体特有的风险，并考虑如何加强监督和监管协调。	工程将于 2023 年第三季度末开始，并持续到 2024 年。
银行的稳定币风险敞口和相关活动（巴塞尔公约银行委员会）	参见 "金融部门对加密资产的风险敞口" 一节中的相关巴塞尔委员会活动。特别是：确定有资格享受 "1b 组" 审慎待遇的稳定币的标准、稳定币储备资产的构成以及作为稳定币发行人的银行。	作为巴塞尔委员会 2023-24 年工作计划的一部分，正在进行中。
定期监测稳定币的发展（CPMI 秘书处）	监测稳定币市场的主要趋势，如市值、偏离挂钩和支持资产的构成。	持续收集数据，以支持 CPMI、BIS 和 FSB 的工作。

作为跨境支付计划第 18 个组成部分的 SAs 在跨境支付方面的潜力 (CPMI)	帮助中央银行和监管机构更好地理解，如果设计和监管得当，特别提款权如何有助于实现跨境支付更快、更便宜、更透明和更具包容性的目标。分析跨境使用特别提款权的潜在好处和挑战，以及对中央银行主要职能的潜在影响。	报告预计于 2023 年 9 月出版。
金融部门对加密资产的风险敞口		
银行对加密资产的风险敞口（巴塞尔委员会）	监测巴塞尔银行委员会对银行加密资产风险的审慎处理的实施情况。在 2023 年底之前，审查对无许可区块链的处理，并提供额外的保障措施，以及确定符合 "第 1b 组 "审慎处理条件的稳定币的标准，包括储备资产的适当构成和统计测试的有效性。	作为巴塞尔委员会 2023-24 年工作计划的一部分，正在进行中。
评估加密资产市场中与银行有关的发展和活动 (BCBS)	评估加密资产市场中与银行有关的发展和活动，包括银行作为稳定币发行者、加密资产保管者的作用，以及与加密资产生态系统相互联系的更广泛的潜在渠道，并制定建议，以应对任何未充分把握的风险。	作为巴塞尔委员会 2023-24 年工作计划的一部分，正在进行中。
监测加密资产市场中与保险相关的发展情况 (国际保险协会)	监测加密资产市场的发展对保险业的影响程度。	国际保险业监管委员会金融科技论坛和国际保险业监管委员会宏观审慎监管工作组在 2022 年期间进行了初步监测，得出的结论是，目前保险业使用和接触加密资产的情况非常有限。计划在 2023 年进行进一步监测。 下一次金融科技论坛关于加密资产的圆桌会议计划于 2023 年下半年举行。
分布式账本技术（DLT）和 DeFi 对以下方面的影响	确定与金融中介机构使用数字签名和数据传输技术相关的新风险，以及金融中介机构与 Defi 之间的互动。	预计将于 2023 年下半年与业界和学术界举办一次研讨会。

金融市场基础设施
(CPMI-IOSCO)

其他相关工作领域		
代币化（金融稳定委员会）	评估有关资产代币化的最新进展，包括正在进行或计划进行的项目，以确定潜在的金融稳定性影响，并探讨值得 SCAV、SRC 和其他相关机构进一步审议的政策影响。	工程正在进行中，预计 2024 年完工。
支付的未来--代币化（CPMI）	分析探讨货币和支付代币化的特点，以及代币化金融生态系统给中央银行带来的好处、风险和挑战。	工作处于早期阶段。交付成果待定。
年度 CBDC 和加密资产调查（CPMI）	监测中央银行参与 CBDC 工作的情况，以及它们对其管辖范围内使用稳定币和其他加密资产的看法。	第 6 次调查，80 多家中央银行作了答复。 2023 年 7 月出版。

Glossary 术语表

Algorithmic stablecoin 算法稳定币

A stablecoin that purports to maintain a stable value via protocols that provide for the increase or decrease of the supply of the stablecoin in response to changes in demand.

一种稳定币，旨在通过协议保持稳定的价值，协议规定稳定币的供应量可根据需求的变化而增加或减少。

Blockchain 区块链

A form of distributed ledger in which details of transactions are held in the ledger in the form of blocks of information. A block of new information is appended to the chain of pre-existing blocks via a computerised process by which transactions are validated.

一种分布式分类账，交易详情以信息块的形式保存在分类账中。新信息块通过一个计算机化流程被添加到先前存在的信息块链中，该流程对交易进行验证。

Crypto-asset 加密资产

A digital asset (issued by the private sector) that depends primarily on cryptography and distributed ledger or similar technology.

一种数字资产（由私营部门发行），主要依赖于加密技术和分布式分类账或类似技术。

Crypto-asset ecosystem 加密资产生态系统

The entire ecosystem that encompasses all crypto-asset activities, market and participants.

包括所有加密资产活动、市场和参与者的整个生态系统。

Crypto-asset issuer 加密资产发行人

An entity, person, or other structure that creates new crypto-assets.

创建新加密资产的实体、个人或其他机构。

Crypto-asset market 加密资产市场

Any place or system that provides buyers and sellers the means to trade crypto-assets and the associated instruments, including lending, structured investment products, and derivatives. Crypto-asset markets facilitate the interaction between those who wish to offer and sell and those who wish to invest.

任何为买卖双方提供交易加密资产及相关工具（包括借贷、结构性投资产品和衍生品）的场所或系统。加密资产市场促进了有意提供和出售者与有意投资者之间的互动。

Crypto-asset services 加密资产服务

Services relating to crypto-assets that may include, but are not limited to, distribution, placement, facilitating exchange between crypto-assets or against fiat currencies, custody, provisioning of non-custodial wallets, facilitating crypto-asset trading, borrowing or lending, and acting as a broker-dealer or investment adviser.

与加密资产有关的服务，可能包括但不限于分销、投放、促进加密资产之间或与法定货币之间的兑换、托管、提供非托管钱包、促进加密资产交易、借贷，以及充当经纪商或投资顾问。

Crypto-asset providers 加密资产服务提供商

Individuals and entities that provide crypto-asset services.
提供加密资产服务的个人和实体。

Crypto-asset activities 加密资产活动

Activities serviced by a crypto-asset issuer or crypto-asset service provider.
由加密资产发行机构或加密资产服务提供商提供服务的活动。

Crypto-asset trading platform 加密资产交易平台

Any platform where crypto-assets can be bought and sold, regardless of the platform's legal status.
任何可以买卖加密资产的平台，无论该平台的法律地位如何。

Decentralised Finance (DeFi) 分散式金融（DeFi）

A set of alternative financial markets, products and systems that operate using crypto-assets and 'smart contracts' (software) built using distributed ledger or similar technology.
利用分布式账本或类似技术构建的加密资产和 "智能合约"（软件）运作的另类金融市场、产品和系统。

DeFi protocols DeFi 协议

A specialized autonomous system of rules that creates a program designed to perform financial functions.
一个专门的自主规则系统，创建一个旨在执行财务功能的程序。

Digital asset 数字资产

A digital representation of value or contractual rights which can be used for payment or investment purposes.
价值或合同权利的数字代表，可用于支付或投资目的。

Global stablecoin (GSC) 全球稳定币（GSC）

A stablecoin with an existing or potential reach and use across multiple jurisdictions and which could become systemically important in and across one or many jurisdictions, including as a means of making payments and/or store of value.
一种稳定币，其现有或潜在的影响力和使用范围横跨多个辖区，并可能在一个或多个辖区内成为具有系统重要性的币种，包括作为一种支付手段和/或价值储存手段。

Smart contract 智能合约

Code deployed in a distributed ledger technology environment that is self-executing and can be used to automate the performance of agreement between entities. The execution of a smart contract is triggered when that smart contract is "called" by a transaction on the blockchain. If triggered, the smart contract will be executed through the blockchain's network of computers and will produce a change in the blockchain's "state" (for example, ownership of a crypto-asset will transfer between market participants).⁴¹

⁴¹ There are unresolved questions regarding the legal status and enforceability of smart contracts.

部署在分布式账本技术环境中的代码，可自动执行，并可用于自动履行实体之间的协议。当智能合约被区块链上的交易 "调用" 时，就会触发智能合约的执行。如果触发，智能合约将通过区块链的计算机网络执行，并将改变区块链的 "状态"（例如，加密资产的所有权将在市场参与者之间转移）。

41

Stablecoin 稳定币

A crypto-asset that aims to maintain a stable value relative to a specified asset, or a pool or basket of assets.

一种加密资产，旨在保持相对于特定资产、资产池或一篮子资产的稳定价值。

Stablecoin arrangement 稳定币安排

An arrangement that combines a range of functions (and related activities) that aims to maintain a stable value relative to a specified asset, or a pool or basket of assets. When discussing a stablecoin arrangement, reference is made to:

将一系列功能（和相关活动）结合在一起的安排，旨在保持相对于特定资产或资产池或一篮子资产的稳定价值。在讨论稳定币安排时，可参考以下内容：

■ Activity 活动

Typical activities in a stablecoin arrangement are: (i) establishing rules governing the stablecoin arrangement; (ii) issuing, creating and destroying stablecoins; (iii) managing reserve assets; (iv) providing custody/trust services for reserve assets; (v) operating the infrastructure; (vi) validating transactions; (vii) storing the private keys providing access to stablecoins (e.g., using a wallet); and (viii) exchanging, trading, reselling, and market making of stablecoins.

稳定币安排的典型活动包括(1) 制定管理稳定币安排的规则；(2) 发行、创建和销毁稳定币；(3) 管理储备资产；(4) 为储备资产提供保管/信托服务；(5) 运营基础设施；(6) 验证交易；(7) 储存提供稳定币访问权限的私人密钥（如使用钱包）；(8) 交换、交易、转售和做市稳定币。

■ Function 功能

Functions in a stablecoin arrangement are: (i) governing the arrangement; (ii) issuance, redemption and stabilisation of the value of coins; (iii) transfer of coins; and (iv) interaction with users for storing and exchanging coins.

稳定币安排的功能包括(1) 管理安排；(2) 发行、赎回和稳定币值；(3) 转让币；(4) 与用户互动，储存和交换币。

■ Governance body 管理机构

A body responsible for establishing and monitoring the rules governing the stablecoin arrangement which would cover, among other issues, the types of entities that could be involved in the arrangement, the protocol for validating transactions, and the manner in which the stablecoin is "stabilised".

负责制定和监督稳定币安排规则的机构，除其他问题外，这些规则将包括可参与安排的实体类型、验证交易的协议以及稳定币 "稳定" 的方式。

■ Provider of function/activity 职能、活动提供方

An entity that provides a particular function or activity associated with that function in a stablecoin arrangement.

在稳定币安排中提供特定功能或与该功能相关的活动的实体。

■ User 用户

A person or entity that uses a stablecoin, e.g., for speculative trading, lending, borrowing, or as a means of payment or store of value.

使用稳定币的个人或实体，如用于投机交易、借贷、支付或储值。

■ Validator node 验证器节点

An entity that participates in the consensus mechanism in a distributed ledger or similar network. In the context of distributed ledger technology, a validator node will commit transaction blocks to the ledger once they are validated.

参与分布式账本或类似网络共识机制的实体。在分布式账本技术中，验证器节点会在交易区块通过验证后将其提交到账本中。

Wallet 钱包

An application or device for storing the cryptographic keys providing access to crypto-assets. A hot wallet is connected to the internet and usually takes the form of software for the user, while a cold wallet is a hardware that is not connected to the internet and stores the cryptographic keys.

用于存储加密密钥、提供加密资产访问权限的应用程序或设备。热钱包与互联网连接，通常以软件的形式提供给用户，而冷钱包是一种不与互联网连接的硬件，用于存储加密密钥。

Custodial wallet 监护钱包

A service in which crypto-assets are held by a service provider. A user interacts with the service provider to manage the user's crypto-assets. A custodial wallet is also known as a "hosted wallet".

一种由服务提供商持有加密资产的服务。用户与服务提供商互动，管理用户的加密资产。托管钱包也称为"托管钱包"。

Non-custodial wallet 非监护钱包

Software or hardware that stores cryptographic keys for a user, making the user's crypto-assets accessible only to the user, and allowing the user to interact directly with the blockchain and the blockchain-based finance applications. A non-custodial wallet is also known as an "unhosted wallet".

为用户存储加密密钥的软件或硬件，使用户的加密资产只对用户开放，并允许用户直接与区块链和基于区块链的金融应用进行交互。非托管钱包也被称为"非托管钱包"。

References 参考文献

- Adrian, T., C. J. Erceg, S. T. Gray, and R. Sahay. 2021. "Asset Purchases and Direct Financing: Guiding Principles for Emerging Markets and Developing Economies during COVID-19 and Beyond." Departmental Paper No 2021/023. Washington, DC: International Monetary Fund.
- Adrian, T., C. J. Erceg, S. T. Gray, and R. Sahay. 2021. "资产购买和直接融资：COVID-19 及以后新兴市场和新兴经济体和指导原则。部门文件第 2021/023 号。华盛顿特区：国际货币基金组织。
- Adrian, T., T. Iyer, and M. Qureshi. 2022. "Crypto Prices Move More in Sync With Stocks, Posing New Risks." IMF Blog. Washington, DC: International Monetary Fund.
- Adrian, T., T. Iyer, and M. Qureshi. 2022. "加密货币价格与股票同步变动，带来新风险"。国际货币基金组织博客。华盛顿特区：国际货币基金组织。
- Agur, I., X. Lavayssière, G. Villegas Bauer, J. Deodoro, S. Martinez Peria, D. Sandri, and H. Tourpe. "Lessons from crypto assets for the design of energy efficient digital currencies." *Ecological Economics* 212 (October): 107888.
- Agur, I., X. Lavayssière, G. Villegas Bauer, J. Deodoro, S. Martinez Peria, D. Sandri, and H. Tourpe. "从加密资产中汲取设计节能数字货币的经验教训"。 *Ecological Economics* 212 (October): 107888.
- Allen, J. and others. 2020. "Legal and Regulatory Considerations for Digital Assets." University of Cambridge.
- Allen, J. and others. 2020. "数字资产的法律和监管考虑因素"。剑桥大学。
- Aramonte, S., W. Huang, and A. Schrimpf. 2021. "DeFi Risks and the Decentralisation Illusion." *BIS Quarterly Review* (December): 21-36.
- Aramonte, S., W. Huang, and A. Schrimpf. 2021. "DeFi 风险与权力下放幻觉。国际清算银行季刊（12 月）：21-36。
- Auer, R., J. Frost, and J. M. Vidal Pastor. 2022. "Miners as Intermediaries: Extractable Value and Market Manipulation in Crypto and DeFi." *BIS Bulletin* No 58. Basel: Bank for International Settlements.
- Auer, R., J. Frost, and J. M. Vidal Pastor. 2022. "Miners as Intermediaries: 加密货币和 DeFi 中的可提取价值和操纵市场"。 *BIS Bulletin* No 58. 巴塞尔：巴塞尔：国际清算银行。
- Bains, P. 2022. "Blockchain Consensus Mechanisms: A Primer for Supervisors." *Fintech Note* No 2022/003. Washington, DC: International Monetary Fund.
- Bains, P. 2022. "区块链共识机制：监管者入门"。 *Fintech Note* No 2022/003。华盛顿特区：国际货币基金组织。
- Bains, P., A. Ismail, F. Melo, and N. Sugimoto. 2022. "Regulating the Crypto Ecosystem: The Case of Stablecoins and Arrangements." *Fintech Note* No 2022/008. Washington, DC: International Monetary Fund.
- Bains, P., A. Ismail, F. Melo, and N. Sugimoto. 2022. "监管加密货币生态系统：稳定币和安排的案例"。 *Fintech Note* No 2022/008。华盛顿特区：国际货币基金组织。
- Baer, K., R. de Mooij, S. Hebous, and M. Keen. 2023. "Taxing Cryptocurrencies." Working Paper No 2023/144. Washington, DC: International Monetary Fund.

Baer, K., R. de Mooij, S. Hebous, and M. Keen.2023."对加密货币征税。第 2023/144 号工作文件。华盛顿特区：国际货币基金组织。

BIS (Bank for International Settlements). 2023. "The Crypto Ecosystem: Key Elements and Risks." Report submitted to the G20 Finance Ministers and Central Bank Governors. Basel: Bank for International Settlements.

国际清算银行（BIS）。2023."加密货币生态系统：关键要素与风险"。提交 20 国集团财政部长和中央银行行长的报告。巴塞尔：国际清算银行。

Blandin, A., A. S. Cloots, H. Hussain, M. Rauch, R. Saleuddin, J. G. Allen, B. Zhang, and K. Cloud. 2019. "Global Cryptoasset Regulatory Landscape Study." University of Cambridge and Nomura Research Institute.

Blandin, A., A. S. Cloots, H. Hussain, M. Rauch, R. Saleuddin, J. G. Allen, B. Zhang, and K. Cloud.2019."全球加密资产监管格局研究"。剑桥大学和野村综合研究所。

Boissay, F., G. Cornelli, S. Doerr, and J. Frost. 2022. "Blockchain Scalability and the Fragmentation of Crypto." BIS Bulletin No 56. Basel: Bank for International Settlements.

Boissay, F., G. Cornelli, S. Doerr, and J. Frost.2022."区块链的可扩展性与加密货币的碎片化。BIS Bulletin No 56.巴塞尔：巴塞尔：国际清算银行。

Bossu, W., M. Itatani, C. Margulis, A. D. P. Rossi, H. Weenink, and A. Yoshinaga. 2020. "Legal Aspects of Central Bank Digital Currency: Central Bank and Monetary Law Considerations." Working Paper 2020/254. Washington, DC: International Monetary Fund.

Bossu, W., M. Itatani, C. Margulis, A. D. P. Rossi, H. Weenink, and A. Yoshinaga.2020."中央银行数字货币的法律问题：Central Bank and Monetary Law Considerations." Working Paper 2020/254.Working Paper 2020/254.华盛顿特区：国际货币基金组织。

Chainalysis. 2022. "The 2022 Geography of Cryptocurrency Report."

Chainalysis.2022."2022年加密货币地理报告"。

Che, K., A. Copestake, D. Furceri, and T. Terracciano. 2023. "The Crypto Cycle and US Monetary Policy." Working Paper No 2023/163. Washington, DC: International Monetary Fund.

Che, K., A. Copestake, D. Furceri, and T. Terracciano.2023."加密货币周期与美国货币政策。Working Paper No 2023/163.华盛顿特区：国际货币基金组织。

Copestake, A., D. Furceri, and P. Gonzalez-Dominguez. 2023. "Crypto Market Responses to Digital Asset Policies." Economics Letters 222 (January): 110949.

Copestake, A., D. Furceri, and P. Gonzalez-Dominguez.2023."加密货币市场对数字资产政策的反应"。Economics Letters 222 (January): 110949.

CPMI-IOSCO (Committee on Payments and Market Infrastructures - International Organization of Securities Commissions). 2022. "Application of the Principles for Financial Market Infrastructures to stablecoin arrangements." Basel: Bank for International Settlements.

CPMI-IOSCO（支付与市场基础设施委员会-国际证券委员会组织）。2022."金融市场基础设施原则在稳定币安排中的应用"。巴塞尔：巴塞尔：国际清算银行。

De Vries, A., and C. Stoll. 2021. "Bitcoin's Growing E-waste Problem." Resources, Conservation, and Recycling 175 (December): 105901

De Vries, A., and C. Stoll.2021."比特币日益严重的电子垃圾问题"。资源、保护和回收 175（12月）：105901

FATF (Financial Action Task Force). 2021. "Updated Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers." Paris: Financial Action Task Force.

FATF（金融行动特别工作组）。2021."基于风险的虚拟资产和虚拟资产服务提供商方法最新指南"。巴黎：金融行动特别工作组。

FATF (Financial Action Task Force). 2023. "Targeted Update on Implementation of the FATF Standards on Virtual Assets/VASPs." Paris: Financial Action Task Force.

FATF（金融行动特别工作组）。2023."关于实施 FATF 虚拟资产/VASP 标准的定向更新"。巴黎：金融行动特别工作组。

FITT (Financial and Payments Systems Task Team). 2022. "F.18 The Recording of Crypto Assets in Macroeconomic Statistics." Inter-secretariat Working Group on National Accounts.

FITT（金融与支付系统工作组）。2022."F.18 宏观经济统计中的加密资产记录"。秘书处间国民账户工作组。

FSB (Financial Stability Board). 2022a. "Assessment of Risks to Financial Stability from Crypto-assets." Basel: Financial Stability Board.

FSB（金融稳定委员会）。2022a."加密资产对金融稳定的风险评估"。Basel：金融稳定委员会。

FSB (Financial Stability Board). 2022b. "FSB Statement on International Regulation and Supervision of Crypto-asset Activities." Basel: Financial Stability Board.

FSB（金融稳定委员会）。2022b."金融稳定委员会关于加密资产活动国际监管的声明。Basel：金融稳定委员会。

FSB (Financial Stability Board). 2023a. "The Financial Stability Risks of Decentralised Finance." Report to the G20. Basel: Financial Stability Board.

FSB（金融稳定委员会）。2023a."分散金融的金融稳定风险。提交 20 国集团的报告。巴塞尔：巴塞尔：金融稳定委员会。

FSB (Financial Stability Board). 2023b. "High-level Recommendations for the Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets." Final Report. Basel: Financial Stability Board.

FSB（金融稳定委员会）。2023b."关于加密资产活动和市场的监管、监督和监察的高级别建议"。最终报告。巴塞尔：金融稳定委员会。

Furceri, D., P. Gonzalez-Dominguez, and N. Tawk. "Determinants of Crypto Asset Adoption." Working Paper forthcoming. Washington, DC: International Monetary Fund.

Furceri, D., P. Gonzalez-Dominguez, and N. Tawk."加密资产采用的决定因素"。工作文件即将出版。华盛顿特区：国际货币基金组织。

Garrido, J., Y. Liu, J. Sommer, and J. Viancha. 2022b. "Keeping Pace with Change: Fintech and the Evolution of Commercial Law." Fintech Note 2022/001. Washington, DC: International Monetary Fund.

Garrido, J., Y. Liu, J. Sommer, and J. Viancha.2022b."Keeping Pace with Change: Fintech and the Evolution of Commercial Law." Fintech Note 2022/001.Fintech Note 2022/001.华盛顿特区：国际货币基金组织。

He, D., A. Kokenyne, X. Lavayssière, I. Lukonga, N. Schwarz, N. Sugimoto, and J. Verrier. 2022. "Capital Flow Management Measures in the Digital Age: Challenges of Crypto Assets." Fintech Note 2022/005. Washington, DC: International Monetary Fund.IMF (International Monetary Fund). 2015. "Monetary Policy and Financial Stability." Policy Paper. Washington, DC: International Monetary Fund.

He, D., A. Kokenyne, X. Lavayssière, I. Lukonga, N. Schwarz, N. Sugimoto, and J. Verrier.2022."数字时代的资本流动管理措施：加密资产的挑战"。金融科技说明 2022/005。华盛顿特区：国际货币

基金组织（IMF）。2015."货币政策与金融稳定》。政策文件》。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2019a. "The Fiscal Transparency Code." Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2019a."财政透明度准则》。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2019b. "Review of the Fund's Strategy on Anti-Money Laundering and Combating the Financing of Terrorism." Policy paper. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2019b."基金组织反洗钱和打击资助恐怖主义战略回顾"。政策文件。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2020. "Digital Money Across Borders: Macro-Financial Implications." Policy Paper No 2020/050. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2020."数字货币跨越国界：宏观金融影响》。政策文件 No 2020/050。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2021. "The Rise of Digital Money: A Strategic Plan to Continue Delivering On The IMF's Mandate." Policy Paper No 2021/054. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2021."数字货币的崛起：继续履行国际货币基金组织使命的战略计划》。政策文件第 2021/054 号。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2022a. "Review of The Institutional View on The Liberalization and Management of Capital Flows." Policy Paper No 2022/008. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2022a."关于资本流动自由化和管理的制度观点回顾》。政策文件第 2022/008 号。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2023a. "Elements of effective policies for crypto assets." Policy Paper No 2023/004. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2023a."加密资产有效政策的要素"。政策文件第 2023/004 号。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2023b. "G20 Note on the Macrofinancial Implications of Crypto Assets." Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2023b."G20关于加密资产的宏观金融影响的说明"。华盛顿特区：国际货币基金组织。

IMF (International Monetary Fund). 2023c. "Digital Money and the International Monetary System." Board Paper, forthcoming. Washington, DC: International Monetary Fund.

IMF（国际货币基金组织）。2023c."数字货币与国际货币体系》。Board Paper, forthcoming.华盛顿特区：国际货币基金组织。

Indian G20 Presidency. 2023. "Presidency note as an input for a Roadmap on Establishing a Global Framework for Crypto assets."

印度担任二十国集团轮值主席国。2023."主席国说明，作为建立加密资产全球框架路线图的投入"。

IOSCO (International Organization of Securities Commissions). 2022. "IOSCO Decentralized Finance Report." Public Report. Madrid: IOSCO.

国际证券委员会组织（IOSCO）。2022."国际证监会组织去中心化金融报告"。公开报告。马德里：国际证监会组织。

IOSCO (International Organization of Securities Commissions). 2023. "Policy Recommendations for Crypto and Digital Asset Markets." Consultation Report. Madrid: IOSCO.

国际证券委员会组织（IOSCO）。2023."加密货币和数字资产市场的政策建议"。咨询报告。马德里：国际证监会组织。

Iyer, T. 2022. "Cryptic Connections: Spillovers Between Crypto and Equity Markets." Global Financial Stability Note No 2022/001. Washington, DC: International Monetary Fund.

Iyer, T. 2022."Cryptic Connections：加密货币与股票市场之间的溢出效应"。Global Financial Stability Note No 2022/001.华盛顿特区：国际货币基金组织。

Kubo, K. 2017. "Dollarization and De-dollarization in Transitional Economies of Southeast Asia." Springer International Publishing.

Kubo, K.2017。"东南亚转型经济体的美元化和去美元化。"施普林格国际出版社。

Obstfeld, M. 2012. "Does the Current Account Still Matter?" Richard T. Ely Lecture, American Economic Association Annual Meeting, Chicago, IL, January 6, 2012.

Obstfeld, M. 2012."经常账户仍然重要吗？理查德-T-伊利讲座，美国经济协会年会，伊利诺伊州芝加哥，2012年1月6日。

OECD (Organisation for Economic Co-operation and Development). 2022a. "Crypto asset Reporting Framework and Amendments to the Common Reporting Standard." Paris: OECD.

经济合作与发展组织（OECD）。2022a."加密资产报告框架和共同报告标准修正案"。巴黎：经合组织。

OECD (Organisation for Economic Co-operation and Development). 2022b. "Public Consultation on the Crypto asset Reporting Framework and Amendments to the Common Reporting Standard: Comments by B. Michel and T. Falcao." Paris: OECD.

经济合作与发展组织（OECD）。2022b."关于加密资产报告框架和共同报告标准修正案的公众咨询：B. Michel 和 T. Falcao 的评论"。巴黎：经合组织。

The Law Library of Congress. 2021. "Regulation of Cryptocurrency Around the World." Global Legal Research Directorate, November 2021 Update. LL File No 2021-020594 LRA-D-PUB-002568.

美国国会法律图书馆。2021."世界各地对加密货币的监管。全球法律研究局，2021年11月更新。LL File No 2021-020594 LRA-D-PUB-002568。

Unsal, F. D., C. Papageorgiou, and H. Garbers. 2022. "Monetary Policy Frameworks: An Index and New Evidence." Working Paper No 2022/022. Washington, DC: International Monetary Fund.

Unsal, F. D., C. Papageorgiou, and H. Garbers.2022."Monetary Policy Frameworks：An Index and New Evidence."Working Paper No 2022/022.华盛顿特区：国际货币基金组织。

Werner, S. M., D. Perez, L. Gudgeon, A. Klages-Mundt, D. Harz, and W. J. Knottenbelt. 2021. "SoK: Decentralized Finance (DeFi)

Werner, S. M., D. Perez, L. Gudgeon, A. Klages-Mundt, D. Harz, and W. J. Knottenbelt.2021."SOK：去中心化金融（DeFi）"。

