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Regulating Stablecoin Issuers: Safeguarding the Financial Stability of Digital Currencies

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Abstract:

In recent years, stablecoins become a hot topic in the debates among policymakers and experts in financial regulation. A stablecoin can be defined as a virtual currency that aims to maintain a stable value relative to a specified asset, most often the United States dollar. In essence, stablecoins are an attempt by private companies to bring fiat currencies into the crypto space. Their primary purpose is to provide an option without volatility within the cryptocurrency market, where price swings are common, and the stability aspect distinctly sets stablecoins apart from other virtual currencies. This stability is crucial for enabling practical, everyday uses of digital currencies, such as payments, remittances, collateral, and as a safe haven for traders and investors during periods of high volatility in the broader crypto markets.

Despite their goal to stay pegged to the value of the asset they link themselves to, stablecoins have not always managed maintain a stable value. Some have outright collapsed. Thus, their reliability has raised concerns. The European Union's Regulation on Markets in Crypto-assets (MiCAR) aims to generate stability in the sector by introducing a wide variety of requirements to issuers of stablecoins. These include strict capital and liquidity requirements, comparable to traditional financial

financial system by ensuring that they are subjected to appropriate oversight and regulatory standards.

While protecting customers and investors and safeguarding financial stability, MiCAR sets a high bar for stablecoin issuers. It is possible that these strict requirements could potentially restrict the entry of new, innovative players in the crypto market. This might lead to a market dominated by large, established financial entities, potentially stifling innovation in the field of stablecoins. However, MiCAR can also increase the credibility of the crypto market among investors, consumers, and businesses by establishing basic guarantees on the transparency, reliability and accountability of service providers.

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Viime vuosina stablecoinit ovat nousseet keskusteluun poliitikkojen ja rahoitusalan asiantuntijoiden keskuudessa. Stablecoin voidaan määritellä virtuaalivaluutaksi, jonka tavoitteena on säilyttää vakaa arvo suhteessa tiettyyn varallisuuserään nähden. Tyypillisimmin stablecoinit ovat linkitetty Yhdysvaltain dollariin. Pohjimmiltaan stablecoinit ovat yksityisten yritysten yritysten tuoda fiat-valuutat kryptovaluuttamaailmaan. Niiden ensisijaisena tarkoituksena on tarjota vakaa vaihtoehto kryptovaluuttamarkkinoilla, joilla hinnanvaihtelut ovat yleisiä. Vakaus erottaakin stablecoinit selkeästi muista virtuaalivaluutoista. Vakaus mahdollistaa stablecoinien hyödyntämisen kryptoympäristössä esimerkiksi maksuvälinenä, vakuutena sekä turvasatamana kryptomarkkinoiden voimakkaan heilahtelun aikana.

Tavoitteestaan huolimatta stablecoinit eivät ole aina onnistuneet säilyttämään vakaata arvoa. Jotkut stablecoinit ovat romahtaneet kokonaan, joten niiden luotettavuus on herättänyt huolta. Euroopan unionin asetus kryptovaramarkkinoista (Regulation on Markets in Crypto-assets, MiCAR) pyrkii muodostamaan vakautta markkinaan asettamalla vaatimuksia stablecoinien liikkeeseenlaskijoille. Uuteen sääntelyyn kuuluvat muun muassa tiukat vaatimukset vakavaraisuudelle ja

maksuvalmiudelle, ja ne muistuttavat perinteistä finanssisääntelyä. Sääntelyn avulla Euroopan unioni pyrkii integroimaan stablecoinin osaksi Euroopan unionin rahoitusmarkkinoita ja varmistamaan, että ne ovat asianmukaisen valvonnan ja sääntelynormien alaisia.

Lainsäädännön vaatimukset asettavat korkean riman stablecoinien liikkeeseenlaskijoille, ja on mahdollista, että sääntely voi rajoittaa uusien ja innovatiivisten toimijoiden pääsyä kryptovaramarkkinoille. Tämä saattaa johtaa asetelmaan, jossa markkinoita hallitsevat vakiintuneet rahoituslaitokset. Sääntely saattaa samalla vaikeuttaa innovaatioita stablecoinien alalla. Toisaalta asetus kryptovaramarkkinoista voi myös lisätä kryptomarkkinoiden uskottavuutta sijoittajien, kuluttajien ja yritysten keskuudessa, sillä se asettaa vähimmäisvaatimukset palveluntarjoajien läpinäkyvyydelle, luotettavuudelle ja vastuullisuudelle.

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1 Introduction

Cryptocurrencies and other applications of distributed-ledger technology (DLT) in money and finance have received widespread attention in the past 15 years among mainstream media, academics as well as policymakers. Cryptocurrencies have become a major global phenomenon and interest in them has proved durable, even if investor sentiment has ebbed and flowed between asset booms and busts, and hacks of major crypto platforms. As it has become apparent that cryptocurrencies and decentralized finance are an enduring trend, regulators have taken note. Lessons learned from the global financial crisis of 2007–2008 are present in the regulation of not only the traditional banking system, but also increasingly in the world of blockchain finance. This growing recognition has underscored the necessity for robust regulatory frameworks that can ensure financial stability, consumer protection, and transparency in this rapidly evolving sector.

While most of the media intrigue in privately created virtual currencies has focused on Bitcoin and increasingly Ethereum and fluctuations in their value, a class of virtual currencies has become a hot topic of policymakers' and experts' debates recently: stablecoins. A stablecoin can be defined as a virtual currency that aims to maintain a stable value relative to a specified asset, or a pool or basket of assets—most often the United States dollar, but other currency, such as the euro, and commodities, like gold and oil are used as well, along with other virtual currencies and algorithmic mechanisms. Their primary purpose is to provide an option without volatility within the cryptocurrency market, where price swings are common, and the stability aspect distinctly sets stablecoins apart from the aforementioned Bitcoin and Ethereum. This stability is crucial for enabling practical, everyday uses of digital currencies, such as payments, remittances, collateral, and as a safe haven for traders and investors during periods of high volatility in the broader crypto markets. The largest stablecoins are currently issued by private companies, such as Binance, Tether Group or Circle, representing a significant evolution in private money creation outside of the traditional banking system.¹

A major reason for the increase in regulatory interest in stablecoins was the announcement of the Libra project (later known as Diem) in 2019 by a group of companies headed by the social network Facebook. The project aimed at creating a global alternative to traditional payment systems and its own currency backed by national currencies or a basket of currencies. The announcement of Libra/Diem triggered worries about large-scale private money creation among policymakers, with France and Germany agreeing to 'block' the new

¹ Financial Stability Board 2020.

virtual currency and French finance minister Bruno Le Maire citing concerns about sovereignty and persistent financial risks behind the decision.² Parties such as G7³ and the European Central Bank⁴ (ECB) published papers mainly on the topic of regulating Libra/Diem in a matter of months after the announcement. While the Libra/Diem project was ultimately abandoned in January 2022⁵, the prospect of a global social network using its own currency to facilitate payments for retailers offering products on its platforms provided a glimpse of a future of a global virtual currency environment.

In essence, stablecoins are an attempt by private companies to combine the best features of both traditional fiat currencies and cryptocurrencies. They offer the instant processing and security or privacy of payments of cryptocurrencies, along with the volatility-free stable valuations of fiat currencies. This dual benefit makes them a critical component of the cryptocurrency ecosystem, particularly in decentralized finance (DeFi) applications where they facilitate trades, loans, and yield-generating activities without the usual risks associated with high volatility. This financial model raises critical regulatory considerations due to its potential to offer stability in the volatile crypto market while also posing challenges to monetary policy and financial oversight. However, their reliability as privately issued money has raised concerns. Stablecoins can also be distinguished by their degree of centralization. Some are issued by a single entity with centralized governance, such as the USDC, issued by Circle, and USDT, issued by Tether. By contrast, others, such as Dai and the now-defunct TerraUSD, have been issued and administered using smart contracts under decentralized governance structures.

Indeed, the cryptocurrency landscape has experienced significant turbulence, marked by high-profile collapses, which have increased calls for regulatory scrutiny. The dramatic implosions of the algorithmic stablecoin TerraUSD⁶ and the crypto exchange FTX⁷ have brought up the vulnerabilities within the digital asset markets and the urgent need for robust regulatory frameworks. Even those stablecoins that have been considered the most stable, USDT and USDC, have also broken their peg from the U.S. dollar, which has caused panics within their holders.⁸ Events in traditional finance, like turmoil in crypto-leaning banks Silvergate, Signature, and Silicon Valley Bank, have caused ripple-effects in stablecoins.⁹

² Reuters 2019.

³ G7 Working Group on Stablecoins 2019.

⁴ Zetsche, Buckley, and Arner 2019.

⁵ BBC 2022.

⁶ New York Times 2022.

⁷ Bloomberg 2022.

⁸ CoinTelegraph 2023.

⁹ CNBC 2023.

These events have not only shaken investor confidence but have also ignited a broader discourse on the stability and reliability of crypto-financial systems.

These crises serve as a stark reminder of the crypto ecosystem's nascent and volatile nature, and they highlight the pressing need for an evolved regulatory approach that can keep pace with the innovation while safeguarding the system's integrity and user interests. The upcoming sections will explore these incidents further, exploring their impacts on the global financial landscape and the subsequent regulatory responses aimed at preventing similar occurrences in the future.

Regulatory approaches towards stablecoins must navigate the delicate balance between fostering innovation and ensuring rigorous oversight to protect the financial system and its participants. Various frameworks, as highlighted in the knowledge base, discuss how stablecoin issuers can be regulated under existing financial institutions, benefiting from safety nets like deposit insurance and lender-of-last-resort facilities. This traditional banking approach offers a foundation for trust and stability in stablecoin operations. Moreover, the transparency requirements, such as regular audits and clear disclosure of reserve compositions, play a crucial role in maintaining user trust and financial integrity. The European Union's Regulation on Markets in Crypto-assets (MiCAR)¹⁰ exemplifies a proactive regulatory stance, aiming to establish a harmonized legal framework across Europe that emphasizes investor protection and systemic stability. This regulation posits a nuanced view that while promoting financial innovation, the adherence to stringent compliance standards must not be compromised, especially concerning liquidity risks and the rights of token holders.

These introductory considerations set the stage for a deeper exploration of how regulation can evolve to address the unique risks posed by stablecoins and ensure their safe integration into the global financial system. The following sections will further explore the background and creation of stablecoins, regulatory measures to address private money creation and financial stability, and the approaches to stablecoin regulation.

1.1 Research questions

This thesis aims to critically analyze the regulatory framework established by the Regulation on Markets in Crypto-assets, specifically focusing on the mechanisms and requirements pertaining to stablecoins. The study seeks to understand how MiCAR addresses the

¹⁰ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937

challenges posed by asset-referenced tokens and e-money tokens in maintaining financial stability. Key areas of focus will include the capital and liquidity requirements set for stablecoin issuers and the intended effects of these regulations on the broader financial ecosystem.

The thesis will explore whether the regulatory provisions under MiCAR sufficiently mitigate the risks in financial stability associated with the use and operation of stablecoins and will evaluate the effectiveness of these measures in preventing the kinds of shocks previously observed in the cryptocurrency markets. On the other hand, the study also questions whether the requirements set for stablecoin issuers are potentially too strict and possibly protective of the current actors in the issuance of private money. The theme of innovation, a key provision in the MiCA regulation and the EU Digital Finance Package, will also be addressed—is the regulation fostering innovation while ensuring financial safety and compliance? Through this examination, the study aims to provide insights into the balance between regulatory oversight and technological advancement in the dynamic field of digital finance.

In sum, my key research questions are:

- How does the Regulation on Markets in Crypto-assets mitigate the risks in financial stability associated with stablecoins?
- Is the regulation fostering innovation while ensuring financial safety and compliance?

The Regulation on Markets in Crypto-assets establishes a regime for the regulation and supervision of crypto-asset issuance and crypto-asset service provision in the European Union (EU). Within the scope of MiCAR are the activities of offering to the public or seeking admission to trading of asset-referenced tokens (ARTs) and electronic money tokens (EMTs) and issuing such tokens. Stablecoins can be classified as either ARTs and EMTs, depending on assets they are pegged to. MiCAR came into force on 29 June 2023, and the provisions relating to ARTs and EMTs will be applicable from 30 June 2024.

Given the broad scope of MiCAR and the expansive crypto-asset industry, certain limitations are necessary to maintain the focus and brevity of this thesis. This study is primarily concerned with Titles II and III of MiCAR, along with critical technical standards issued by the European Banking Authority (EBA) as mandated by MiCAR. The titles III and IV concern asset-referenced tokens and e-money tokens, respectively, which as mentioned, form the regulatory scope of various categories of stablecoins. Other key regulations concerning financial stability are also examined, most notably the Capital Requirements Regulation, which, concerning banks, is a natural counterpart of the financial stability provisions in the

MiCA regulation. This study covers the EU's regulatory approach from the perspective of maintaining financial stability in the stablecoin sector. For example, provisions concerning investor and consumer protection are not the focus of this thesis. Provisions concerning the fit and proper requirements of management bodies of these issuers, or resolution mechanisms, while both important, will not be a focus either.

While the research is concentrated on the EU, it is also important to briefly explore regulatory approaches from non-EU countries to provide a more comprehensive understanding of the topic. However, due to the scope of this study, it is not feasible to thoroughly review the cryptocurrency legislation in force across all EU Member States. Moreover, this thesis does not cover tax, cybersecurity, or data protection issues related to crypto-assets, as these topics are beyond its scope.

1.2 Methodological considerations

1.2.1 Legal doctrine

The methodological foundation for studying the regulation concerning stablecoins is anchored in legal doctrine. Other complementary research paradigms, which I will introduce later, are also utilized in order to provide an in-depth analysis of the content and goals of the MiCA regulation. Aarnio describes legal doctrine's role as clarifying the norms present within the legal system and their practical implications. This discipline forms a cohesive system that scrutinizes legal sources, including statutes, case law, and preparatory materials.¹¹ Legal doctrine is primarily employed to understand specific legal scenarios or how various legal principles are applied in judicial decisions. It serves as a crucial tool not just for lawyers and legal practitioners, but also in academic research.¹² However, it often faces criticism for the sparse justification of its methodologies within scholarly work. Typically, jurisprudence has been used instrumentally, serving as a means for lawyers to substantiate their arguments or for judges to justify their rulings.¹³

In his analysis of the aims and methodological choices of legal doctrine, Smits has argued that the discipline is characterized by three distinctive features. Firstly, the legal system is not just an object of academic interest but also provides the structural framework for legal research. This implies that legal research generates insights within the legal system using its own terms and relying exclusively on its internal sources. Hence, legal doctrine views the

¹¹ Aarnio 2011, pp. 97–118.

¹² Aarnio 1989, pp. 285–286.

¹³ Minkinen 2003, pp. 458–460.

law as a somewhat closed system, where changes, whether in legislative bodies or judicial institutions, can only be made through mechanisms allowed by the law itself. Secondly, legal doctrine approaches the legal system methodologically, aiming to systematize laws and other legal sources while evaluating their connections and relationships between each other. This approach is not limited to simply describing what each regulation stipulates but extends to forming a coherent understanding of the legal order. Thirdly, Smits identifies a specific focus of legal doctrine on examining the present or current legal order, remaining responsive to changes introduced by new legislations or significant judicial decisions. This distinctiveness separates legal doctrine from legal history, which, although a valuable field itself, operates independently by focusing on historical legal systems. In his reflections, Smits has called for better methodological understanding and transparency in the choices made in the research of legal scholars. The document reflects this by highlighting the need for a more methodologically robust legal scholarly approach that systematically addresses the doctrinal analysis, acknowledging the complexity of legal realities and the importance of methodological choices in doctrinal research.¹⁴

According to Jan Smits, legal doctrine encompasses three distinctive features. First, the legal system is not merely the subject of interest in legal scholarship but also the framework for research. In other words, legal research produces knowledge from within the legal system using its own concepts and solely utilizing its own sources. Thus, legal doctrine approaches law as a so-called closed system, where changes, even in parliament or through judicial institutions, occur only by means permitted by the legislation itself. Second, legal doctrine engages with the legal system explicitly as a system, systematizing laws and other legal sources and evaluating their interrelations, rather than merely describing what each regulation means within any given law. The goal of legal doctrine is to form an understanding of what the legal order is like. Thirdly, Smits highlights legal doctrine's effort to specifically examine the current or contemporary legal order. At the same time, legal doctrine responds to changes brought about by new laws or significant judgments. This feature distinguishes it from legal history, which is a valuable but separate field of science.

As Smits emphasizes, the analysis of provisions remains a core focus of doctrinal legal scholarship because legal doctrine serves not only as the subject of research but also as its structural framework. For instance, evaluations of the economic or social impacts of laws cannot be conducted without a foundational legal analysis. Thus, legal doctrine is essential, both initiating and concluding the study of the legal system.¹⁵ However, relying solely on legal doctrine is insufficient for comprehensive understanding of regulation. To offer a more

¹⁴ Smits (2015), pp. 209–219.

¹⁵ Smits (2015), pp. 221–228.

robust analysis of efforts to achieve financial stability and to examine the mechanisms and effectiveness of financial regulations in maintaining stability, it is crucial to integrate other analytical frameworks and methodologies.

1.2.2 Addressing market failures

Evaluating regulation requires specifying the collective goals of financial stability that the state has set, and identifying the circumstances in which those goals are unlikely to be met by the regulated market. Regulators need to assess whether the existing market mechanisms are sufficient to achieve these goals or if there are gaps that require intervention. For stablecoins, this could mean implementing measures to ensure transparency in transactions, solvency of issuing bodies, and robustness against market manipulations. It might also involve considering how stablecoins interact with traditional financial systems and digital economies, potentially crafting bespoke regulatory frameworks that reflect the unique characteristics and risks of stablecoins. Regulating stablecoins demands a nuanced understanding of both the technology and the economic functions they serve. It requires a balanced regulatory approach that not only supports innovation and growth within the digital currency space but also aligns with broader financial regulatory principles to protect the public and maintain market integrity.

Anthony Ogus has defined “regulation” as a sustained and focused control exercised by a public agency over activities that are valued by a community. In his work, Ogus has analyzed the relationship between economic activities and the legal forms which maintain them, and he sees regulation as fundamentally a politico-economic concept that aims to address the tension between a market system and a collectivist system. In a market-driven system, the primary role of law is to facilitate an environment where individuals can pursue personal economic interests under a codified set of rules that ensure fair play and equal access. Such a system, according to Ogus, rewards economic liberty and the efficient allocation of resources through market mechanisms.¹⁶

In a market system, law has primarily a facilitative function, to create a set of formalized arrangements under which individuals can seek their own welfare. Conversely, in a collectivist system, individuals are compelled by a superior authority (the state) to behave in particular ways with the threat of sanctions if they do not comply. Thus, regulations are imposed to direct individual behaviors towards broader societal goals. In Ogus’ view, the essence of effective regulation lies in its ability to harmonize these opposing forces.

¹⁶ Ogus 1994, pp. 1–4.

Regulation should not only promote the efficient operation of the market but also safeguard against market failures that could lead to inequities or systemic risks.¹⁷

Market failure essentially means the failure of markets to achieve the economically efficient outcomes with which they are generally associated. In the case of the crypto sector, market failures can include issues like lack of transparency, price instability, systemic risks or risks to financial stability due to the interconnectedness with traditional financial markets. As we will see, failures like these have posed a case for taking corrective actions around the world. However, the costs of addressing the failure might outweigh the benefits, and both might be difficult to quantify, especially if the benefit is a public good such as financial stability.

A major policy question in the financial sphere concerns information deficits between the sellers and the buyers. This concern particularly presents itself in unregulated markets where it's debatable whether the market alone provides sufficient information for consumers to make informed decisions to maximize their utility. As Ogus argues, information about the market qualifies as a public good because once published, it cannot be easily contained and its value does not diminish with consumption. This feature complicates the control and distribution of market information, often necessitating regulatory intervention to ensure that information is both sufficient and accessible for all market participants. Publicly available market information supports transparency and reduces information asymmetry, which are critical for the efficient functioning of markets.¹⁸

This issue is directly related to stablecoins, as holders of stablecoins should be able to trust that their assets are validly backed and paid back in cash as requested. Currently, their trust primarily rests on the information provided by the issuers regarding the backing of these stablecoins. However, there exists an economic incentive for issuers to potentially distort or omit details about their reserves. This scenario is similar to the market dilemma described by George Akerlof in his paper *The Market for "Lemons"*, which discusses the inefficiencies that arise in markets plagued by asymmetric information. In such markets, akin to the example of the used car market Akerlof describes, the lack of transparent information can lead to market inefficiencies where quality goods are undervalued, and consumers withdraw, fearing the acquisition of inferior products, or "lemons".¹⁹

This dynamic can similarly influence the stablecoin market, deterring potential users and decreasing market efficiency due to fears of inadequate backing and the potential financial instability resulting from it. The sellers may be motivated to supply both false and misleading

¹⁷ Ogus 1994, pp. 4–5.

¹⁸ Ogus 1994, pp. 21–22.

¹⁹ Akerlof 1970.

information alongside accurate details if they perceive it will boost their profits. This phenomenon is exacerbated by the potential for artificial product differentiation among competitors. Here, buyers are led to believe that certain commodities possess unique attributes which either do not exist or are negligible in terms of their practical utility. On one hand, they might promote the positive attributes of a product; on the other, they may deliberately omit or obscure its negative qualities. This deceptive practice can mislead consumers into overvaluing certain products based on purported benefits that hold little real-world relevance and thus distort decision-making of buyers in the market, leading to inefficient market outcomes.²⁰

Amidst the boom in crypto marketing, when crypto marketplaces appear everywhere from sports arena naming rights²¹ to large-scale music festivals²² one can easily connect these theories to real life. As a writer named Noah Garfinkel put it in a viral tweet during the Super Bowl commercial break in 2022: “One reason I still have trouble believing crypto currency is money is that there aren’t commercials for money.”²³

1.2.3 Public and private interest theories of regulation

In the analysis by Anthony Ogus, the evaluation of regulation is framed within two distinct theoretical perspectives: the public interest theory and the private interest theory of regulation. The public interest theory proposes that regulation should serve the collective welfare of society, aiming to correct market deficiencies that hinder economic and social welfare. It analyzes how collective goals are actually met and how we can actually know what genuinely motivated the passing of a certain law, or if other factors are at play.²⁴ The private interest theory, on the other hand, suggests that regulation may be exploited by private entities to secure personal gains, often at the expense of the public interest. This theory examines how certain regulatory frameworks, such as those involving financial derivatives in bankruptcy law, can be manipulated to benefit specific private interests rather than the common good.²⁵

Both theories offer insights into the dynamics of economic regulation, particularly in areas prone to monopolistic tendencies. Drawing from economic principles, the overarching objective of regulation is to maximize societal welfare by promoting allocative efficiency. This concept refers to an optimal distribution of resources and services among all participants in

²⁰ Ogus 1994, pp. 38–44.

²¹ Los Angeles Times 2021.

²² Forbes 2022.

²³ Twitter 2022.

²⁴ Ogus 1994, pp. 29–33.

²⁵ Ogus 1994, 75.

the economy, aiming to achieve what is considered the "common good". and where the goal is to promote allocative efficiency—ensuring that resources and services are distributed optimally among all market participants to achieve what is considered the "common good".

In economic terms, efficiency can be assessed through two primary lenses: Pareto efficiency and Kaldor-Hicks efficiency, both of which have significant implications for regulatory economics. Pareto efficiency occurs when no individual's condition can be improved without worsening another's situation. This concept refers to a state where every possible mutual benefit has been realized. However, Pareto efficiency often proves inadequate for assessing the impact of regulatory changes, as typically at least some parties are worse off when reforms and new regulation are made.

The Kaldor-Hicks efficiency criterion offers a more practical approach to evaluating economic actions. It suggests that an action can be considered efficient, if the benefits to those who gain are sufficient to hypothetically compensate those who are disadvantaged, and still retain some of their gains. This criterion does not require actual compensation but considers a policy efficient if the total gains outweigh the losses, regardless of the distribution of these gains and losses. This framework allows for a more pragmatic assessment of regulatory impacts, acknowledging that some level of detriment is inevitable in most policy changes. It supports the idea that as long as the overall benefits to society exceed the costs, the action can be justified, even if some individuals or groups bear a disproportionate share of the costs. This approach is particularly useful in complex regulatory environments where absolute gains for every party are unfeasible but overall societal welfare can still be enhanced.²⁶

In creating a new regulation for crypto-assets, policymakers are tasked with balancing a number of different interests. In addition to financial stability, the focus of this thesis, reasons include improving consumer protection, decreasing energy consumption and tightening controls on illicit activities. In the specific context of stablecoin regulation, achieving financial stability helps to mitigate excessive individual freedoms that could harm collective welfare. Utilizing Ogus' characterization introduced earlier, financial stability is a public good, as its benefits extend universally, enhancing overall societal welfare without additional costs per individual consumer. Public goods, such as national defense and collective security, typically require state intervention to manage and finance effectively, as private markets may fail to provide them adequately due to the free-rider problem. In the case of financial markets, particularly within the rapidly evolving domain of crypto-assets, regulatory measures are crucial to prevent systemic risks that could undermine both market integrity and economic

²⁶ Ogus 1994, 24–25.

stability. Thus, in crafting regulations for crypto-assets, the emphasis on financial stability as a public good underscores the need for careful policy formulation that considers both the protection of individual consumer interests and the safeguarding of the collective economic environment.²⁷

Private interest theories of regulation suggest that regulatory frameworks often serve as a strategic tool for the most influential and organized entities within industries. These entities, typically large corporations or interest groups, use their substantial resources and political influence to shape regulations to their advantage, frequently at the cost of new market entrants or less powerful stakeholders. A classic scenario observed under this theory is when industry incumbents lobby for regulations that restrict entry into their market. These players exploit regulatory measures to erect barriers that protect their market position by ostensibly maintaining high standards that purportedly exclude "untrustworthy" competitors. While such measures are often presented as consumer protection initiatives, they tend to primarily serve the interests of incumbent firms, restricting competition and allowing these firms to maintain higher prices and market dominance. Such a scenario of regulatory capture highlights the contrast between the intentions of public interest goals, which aim to serve the wider community, and private interest motivations, which are designed to benefit a select few at the expense of broader societal interests.²⁸

It is no surprise that companies in the financial sector are major lobbyists in the European Union.²⁹ Thus, it can be asked whether the traditional financial sector has influenced the regulatory framework in a way that disproportionately favors established financial institutions at the expense of innovative fintech startups, particularly those developing and deploying stablecoins and other crypto-assets. This question becomes increasingly relevant as the rise of digital currencies threatens to disrupt the traditional banking model by offering alternative, often more efficient, financial services. As mentioned earlier, this thesis does not aim to deeply explore lobbying practices or regulatory capture but assess the bar that the MiCA regulation sets on crypto companies. It is fair, however, to evaluate the strictness of the requirements set for stablecoin issuers. Too strict regulations imposed on the issuance and management of stablecoins could be perceived as an attempt to mitigate the competitive threat posed by these new technologies.

Later in this study, I will provide an overview of legislative approaches to financial stability, especially after the global financial crisis of 2008. Before that, however, it is instructive to

²⁷ Ogus 1994, 31–34

²⁸ Ogus 1994, 71–73

²⁹ Kastner 2018.

examine what our research subject, the asset class of stablecoins, actually are, what they are used for, and what is the technology behind them.

2 Distributed-ledger technology and its applications

The origin of cryptocurrencies can be traced back to the desire for creating a decentralized form of currency that could operate outside of traditional financial systems. Building on technologies developed in the late 20th century, such as the internet, and the invention of public-private key cryptography and decentralized peer-to-peer networks, the pioneering cryptocurrency, Bitcoin, introduced in 2009 by an individual or group under the pseudonym Satoshi Nakamoto. Bitcoin introduced the world to a new form of currency that relied on a technology called blockchain, an application of distributed-ledger technology with cryptographic techniques to facilitate and secure transactions pseudonymously and without the need for a centralized authority. The blockchain technology underlying Bitcoin enabled this by maintaining a decentralized and tamper-proof ledger of all transactions. The blockchain's transparent, immutable ledger is maintained through a consensus mechanism, called Proof of Work (PoW), where miners solve computationally intensive puzzles to validate transactions and add new blocks to the chain. This not only secures the network but also introduces a method to issue new coins in a decentralized manner.³⁰

Soon after Bitcoin's introduction, numerous other digital currencies and applications of DLT emerged, each offering different features and underlying philosophies. Bitcoin also showed limitations as its popularity grew, with slow validation times and concerns about the scalability of the amount of data it could handle. Another cryptocurrency, Ethereum, emerged in 2014 as a new development in blockchain technology. It built upon Bitcoin's foundation but introduced enhanced functionalities, including the ability to create and run sophisticated smart contracts, which are self-executing contracts with terms directly written into the code. This development expanded the use of blockchain from mere currency to running decentralized applications on a blockchain platform. The proliferation of the crypto ecosystem was also supported by the development of cryptocurrency exchanges and wallet services that facilitated the trading and storage of these digital assets. Prominent platforms like Coinbase and exchanges like Poloniex, Bitfinex, and Kraken played significant roles in this ecosystem, further establishing cryptocurrencies as a viable component of the digital economy.³¹

³⁰ De Filippi & Wright 2018, pp. 20–26.

³¹ Ibid, pp. 27–29.

2.1 Tokenization

The rapid development of cryptocurrencies and other applications of distributed-ledger technology in finance did not go unnoticed by the traditional finance sector. In the past 10 years, many academics and organizations have published reports on how DLT can be applied to current issues in the finance sector. For instance, the Organisation for Economic Co-operation and Development (OECD) has been organizing its Global Blockchain Policy Forum since 2018 as well as publishing papers exploring the benefits and risks of blockchain for economies. In recent years, a public interest in the tokenization of real-world assets or the issuance of such traditional asset classes in tokenized form—has emerged.³²

The Financial Stability Board (FSB) defines tokenization as the representation of traditional, real-world assets—e.g. financial instruments, a basket of collateral or real, physical assets—on distributed ledgers. Ownership of tokenized securities can be documented on a blockchain utilizing smart contracts to define the terms of the tokenized security or asset. Smart contracts deploy computer protocols to execute, validate, and enforce contract conditions. Through this mechanism, they automate decision-making processes, enabling self-executing computer code to perform actions at predetermined times or in response to certain events or actions occurring or not occurring. When tokenization is employed in the process of raising capital, it can shift these activities away from traditional financial intermediaries, thereby decentralizing the process.³³

According to the OECD, employing DLT to tokenize real-world assets can offer several advantages. For instance, tokenization can introduce efficiency improvements through automation and the removal of intermediaries, as well as enhanced transparency and liquidity, which could increase the tradability of assets. In banking and finance, DLT could facilitate wholesale payments and settlements, enabling nearly real-time transactions. This development could diminish counterparty risks and liberate collateral, potentially yielding capital efficiencies for those engaged in trading. According to the organization, broader implementation of tokenization could be anticipated in markets characterized by limited liquidity and several layers of disintermediation, such as private placements of non-listed securities of small and medium-sized enterprises. However, the OECD also does admit that the transition to DLT-based systems might not be justified in the equity markets of developed economies, where there is already a high degree of trust and the processes are fast, safe, and efficient. In these markets, the net incremental efficiency gains from adopting

³² OECD 2020, pp. 13–15.

³³ Financial Stability Board 2019.

tokenization may not sufficiently outweigh the costs associated with upgrading the infrastructure and systems of all market participants.³⁴

Tokenization and programmability of money has also been investigated by many institutions to issue public money in a digitized form, called central bank digital currencies (CBDC), which could potentially replace banknotes, the only current form of public money available to the general public. According to the Bank of International Settlements (BIS), retail CBDCs (rCBDC) could provide a risk-free and digital means of payment for everyday transactions. Wholesale CBDCs would be designed for use among financial intermediaries and operate like central bank reserves but with added functionalities enabled by tokenization. A risk-free and programmable means of payment could, in the view of BIS, promote financial inclusion and innovation where the profit potential is insufficient to attract the private sector as well as eliminate settlement risk and reduce the cost of payments. However, there are potential risks to CBDCs as well, as the introduction of retail CBDCs would mean that commercial banks would be deprived of retail deposits as retail depositors move to rCBDCs from bank deposits, complicating banks' role in credit intermediation and potentially leading to financial stability risks.³⁵ As of May 2024, CBDCs are explored by all major jurisdictions around the world. In the Eurosystem, the digital euro project has been in its preparation phase since November 2023, which will involve finalizing the digital euro rulebook and selecting providers that could develop a digital euro platform and infrastructure. After two years, the European Central Bank will decide whether to move to the next stage of preparations.³⁶

2.2 Smart contracts and its applications in finance

The aforementioned smart contracts are seen as an integral part of the rationale to use blockchain environment in finance; they essentially are distributed applications run on the distributed ledger, automatically executed upon reaching pre-defined trigger events written in the code. Therefore, stablecoins and smart contracts are seen as a potential means to simplify and enable novel forms of exchange in the digital economy, by automating transactions like transferring funds for a house purchase, as certain conditions are fulfilled. This aspect of automatization is sometimes referred to as “programmable money”. More complex transactions, such as the trading, clearing and settlement of derivatives using DLT, has also been a major point of discussion. The use of DLT and creation of smart derivatives can potentially enhance transparency and reduce the likelihood of disputes, as smart derivatives on a blockchain can automate various functions, including payments and

³⁴ OECD 2020, pp. 38–41.

³⁵ Bank for International Settlements 2023b.

³⁶ European Central Bank 2023.

settlements, based on market conditions or other triggers without the need for manual intervention. For exchange-traded derivatives, which are dependent on future events, these contracts can integrate oracles to dynamically adjust their terms in response to real-world data, such as changes in interest rates or stock prices. DLT can also increase transparency in over-the-counter (OTC) derivatives markets, providing insights into derivative pricing and parties' positions.³⁷

Similarly, the use of DLT in bond markets has been proposed to introduce new efficiencies, particularly in the issuance and lifecycle management of bonds. Traditional bond issuance processes often involve multiple intermediaries, leading to inefficiencies and higher costs. By tokenizing bonds on a blockchain, issuers can streamline these processes, allowing for faster issuance and more transparent management of bondholder information. According to the OECD, the potential for DLT to improve liquidity and market access is particularly notable, as it allows smaller investors to participate in the bond markets through fractional ownership of tokenized bonds. Another innovation cited by the OECD involves the issuance of a covered bond of 100 million euros on the Ethereum blockchain by the French bank Société Générale. One of the transformative aspects of this issuance was the use of a “self-custody” solution for the covered bond, eliminating the need for a central securities depository. This approach meant that the custody of the bond involved managing blockchain access keys securely and establishing robust transaction signing governance.³⁸ However, the legal status of smart contracts is an area that still requires definition and clarity, as questions of whether traditional contract law applies to smart contracts persists. If a smart contract does not give rise to binding legal obligations, the rights of transacting parties cannot be enforceable in the event of a technology glitch. Until legal frameworks adapt to include smart contracts, issues related to enforceability and security of transactions performed through these digital contracts will continue to pose significant challenges. This uncertainty may hinder broader adoption and trust in smart contracts.³⁹

2.3 Stablecoins

While there is no universal definition of a stablecoin and the name of the virtual currency category might not have been intended to be as widespread as it is now, stablecoins are generally described as digital assets that are designed to maintain a stable value relative to a national currency or other reference assets.⁴⁰ Like all cryptocurrencies, stablecoins are

³⁷ De Filippi & Wright 2018, pp. 95–98.

³⁸ OECD 2020, pp. 42–45.

³⁹ OECD 2021, pp. 29–32.

⁴⁰ U.S. Department of the Treasury 2021.

digital tokens that exist on a distributed ledger online protected by cryptographic security. They could be described as a tokenized form of fiat currencies, as typically stablecoins are linked to the value of a real-world currency, such as the United States Dollar. The general idea behind stablecoins is that the stability of their value will suit them better as a widespread medium of exchange and act as a gateway to crypto exchanges. Indeed, the rise in the popularity of stablecoins has reflected the weakness of large cryptocurrencies such as Bitcoin to act as money: as means of payment, as store of value or as an unit of account. The additional benefit of stablecoins, aside from their stability, is that they are in the crypto ecosystem and are programmable and thus suitable to be used in smart contracts mentioned earlier. The stablecoin structure was developed as a way to provide a stable, dollar-based currency in the crypto ecosystem, as well as to provide an instrument to support hedging between crypto-assets and fiat currencies.⁴¹

The oldest widely circulating stablecoin, Tether, also known by its currency code USDT, known initially as Realcoin, was founded in 2014, and in a few years it was listed in a number of popular cryptocurrency exchanges such as Kraken, Binance and Huobi. While the price of Bitcoin has fluctuated wildly, Tether was a means of keeping asset values stable in the crypto ecosystem, and in 2018, companies such as TrustToken, Paxos, Gemini and Circle all launched a stablecoin pegged to the U.S. dollar. Of these companies mentioned, Tether's stablecoin USDT and Circle's USD Coin (USDC) are two largest stablecoins by market capitalization.⁴²

Aside from fiat-backed stablecoins, like Tether and USDC, and crypto-backed stablecoins, like Dai, other forms of stablecoins also exist. Aside from having a currency as its peg, a stablecoin can also be linked to the price of a commodity, such as oil or gold. Such stablecoins are called commodity-backed stablecoins. Algorithmic stablecoins also exist, which do not claim to be backed by any reserves, but rather seek to maintain a stable value through smart contracts, algorithms or protocols. Finally, stablecoins can also be categorized based on where their reserve assets exist. Off-chain stablecoins, like the mentioned Tether and USDC, are backed by bank deposits or other cash-like assets traded in the traditional financial system, and their collateral assets require a custodian for their safekeeping until the user redeems the stablecoins. On-chain stablecoins are backed by assets that can be represented by tokens on a blockchain, so the collateral can be held in smart contracts. These stablecoins do not need either an issuer or a custodian to satisfy any claims and are

⁴¹ Arner et al. 2020.

⁴² CoinGecko 2024.

referred to as "on-chain". On-chain stablecoins are collateralized by crypto assets, which can be stablecoins or other cryptocurrencies.⁴³

The emergence of stablecoins has raised eyebrows among policymakers due to the rapidity of their adoption. As of May 2024, the total market capitalization for all stablecoins is just over 160 billion U.S. dollars, according to CoinGecko. The total market cap of USD-denominated stablecoins is 159 billion U.S. dollars, leaving only one billion dollars, or about 0.6 percent, invested in other stablecoins. For example, stablecoins denominated in euros amount to only 283 million dollars, with the largest Euro-denominated stablecoin, Stasis Euro, having a total capitalization of 133 million dollars. Tether, by far the largest USD-denominated stablecoin in terms of market capitalization, is, as of May 2024, at a valuation of 111 billion U.S. dollars. Its rise has been fast—at the end of 2019, the total market cap of Tether was at 4.2 billion U.S. dollars. However, the total amount of stablecoins in circulation is still small compared to other forms of privately created money-like assets in the financial system. For example, the total aggregate net assets of U.S. money market funds reached 6.4 trillion U.S. dollars at the end of 2023, which dwarfs the stablecoin total by a volume of 40.⁴⁴

The largest stablecoins, Tether and USDC, are claimed to be backed by fiat currency, with reserve assets directly related to the U.S. dollar. Both issuers, Tether and Circle, claim that all their tokens are pegged at 1-to-1 with a matching fiat currency and are backed 100 percent by the issuers reserves. At the end of March 2024, Tether reported that its 84 percent of its reserves were composed of cash, cash equivalents and other short-term deposits, with close to 80 percent of those assets—or about 67 percent of total reserves—being U.S. treasury bills. Other instruments backing the outstanding Tether stablecoins consisted of overnight reverse repo agreements, money market funds, bitcoins and secured loans.⁴⁵ At the end of March 2024, Circle reported that the reserves backing its USD-denominated stablecoins included U.S. treasury bills, U.S. treasury repo agreements and cash held at regulated financial institutions.⁴⁶ By contrast, Circle's stablecoins denominated in euros are claimed to be fully backed by cash held at regulated financial institutions.⁴⁷

Until mid-2021, the composition and validity of the reserves backing these stablecoins was shrouded in mystery and controversy. In April 2019, the New York Attorney General sued Tether Ltd and its parent companies, iFinex and Bitfinex, questioning the truthfulness of their

⁴³ Baughman et al. 2022.

⁴⁴ Office of Financial Research 2024

⁴⁵ Tether 2024.

⁴⁶ Circle 2024a.

⁴⁷ Circle 2024b.

claims that USDT tokens were fully backed at all times during 2018 and 2019. By February 2021, Tether settled and agreed to provide regular independent audits of its reserve assets. The first of these audits in July 2021 revealed that the majority of USDT's backing came from commercial paper (CP)⁴⁸ and certificates of deposits (CD), instead of cash. At that time, Tether reported holdings of 31 billion U.S. dollars in those assets, positioning it comparably with major prime money funds in terms of CP holdings. Similarly, Circle reported that as of 2021, USDC tokens were backed by 61 percent cash and securities with short-term maturities, and 22 percent by U.S. and foreign commercial papers. In contrast, BinanceUSD (BUSD), another major stablecoin, maintained 96 percent of its reserves in U.S. treasury bills from its inception, regulated by the New York State Department of Financial Services.⁴⁹ Binance ceased to support its stablecoin in August 2023, due to “escalating regulatory pressures facing” the company. Simultaneously, it advised the holders of BUSD to transfer their holdings to a new stablecoin called First Digital USD.⁵⁰

Over time, amidst ongoing controversies regarding liquidity and credit risks associated with commercial paper, both Circle and Tether made significant changes to their reserve management strategies. The United States Commodity Futures Trading Commission (CFTC) noted that CP holdings misrepresented the nature of the promised 1:1 backing. In response, Circle, supported by Centre and Coinbase, shifted USDC reserves entirely to cash and short-duration U.S. Treasuries by August 2021. Tether also reduced its exposure to commercial paper significantly, with Tether's CTO Paolo Ardoio declaring in June 2022 that all expiring CPs were being converted into U.S. treasury bills, aiming to eliminate CP exposure completely in the near future.⁵¹

While most stablecoins are backed by fiat currencies or commodities and managed by centralized entities, another major stablecoin, Dai, issued by an Ethereum-based protocol named MakerDAO, is backed by cryptocurrencies and managed by a decentralized autonomous organization (DAO). As of May 2024, it is the third largest stablecoin, with 5.4 billion U.S. dollars in market capitalization.⁵² Dai operates on the Ethereum blockchain through autonomous smart contracts, aiming to function in a trustless, permissionless, and decentralized manner. Unlike Tether's USDT and Circle's USDC, which are backed by fiat currencies, Dai is supported by a mix of stablecoins and cryptocurrencies, with Circle's USD Coin (USDC) and Ethereum (ETH) making up the largest portion of its backing.⁵³ The

⁴⁸ Commercial papers are short-term promissory notes issued by non-financial corporations, banks and other financial institutions.

⁴⁹ Barthelemy, Gardin, & Nguyen 2023.

⁵⁰ Binance 2023.

⁵¹ Barthelemy, Gardin, & Nguyen 2023.

⁵² Coingecko 2024.

⁵³ Dai Stats 2024.

currency has previously used a larger share of USDC in its reserved assets⁵⁴, but recently, its share has declined, and as of May 2024, the share of USDC backing it is at around 8 percent. Instead, according to media reports, Dai is increasingly backed by U.S. treasury bills as well.⁵⁵ To keep the value of Dai pegged to the U.S. dollar, MakerDAO uses an algorithm that adjusts the interest rate on the Dai loans (known as the stability fee) based on the supply and demand of Dai. If the supply of Dai is too high relative to demand, the stability fee will increase, which makes it more expensive to create a new Dai and should reduce the supply. If the supply of Dai is too low relative to demand, the stability fee will decrease, making it cheaper to create a new Dai and should increase the supply.⁵⁶

2.3.1 Uses of stablecoins

Aside from their use as a stable store of value in the crypto ecosystem, stablecoins are widely utilized as a medium of exchange on crypto exchanges. Investors in cryptocurrencies and other tokenized instruments often prefer to use public stablecoins instead of fiat balances to trade cryptocurrency, stablecoins allows for near-instantaneous trading every day of the week, every time of the day, without relying on non-DLT payment systems or holdings of fiat currency balances in custody services. Stablecoins are also used to facilitate fast cross-border payments, which can typically take days and demand high fees in the traditional banking system. They also hold the potential for new payment innovations, such as programmable money, as described earlier. Companies also use institutional stablecoins to move cash across their subsidiaries to manage internal liquidity, and to facilitate wholesale transactions in financial markets, such as repo transactions, much like the cash-equivalent instruments described earlier.⁵⁷

On the other hand, stablecoins are also used to avoid the traditional banking system, as transferring funds to a bank also exposes the transaction to the bank's know-your-client (KYC) and anti-money laundering (AML) protocols as well as the tax officials. While this is a fact that partially has hindered the reputation of cryptocurrencies in the eyes of regulators and the general public, it also is a reason why some users of crypto-assets eschew interacting with banks.⁵⁸

A major driver of the popularity of stablecoins has been decentralized finance, or DeFi. In March 2024, it was reported that over 100 billion U.S. dollars in digital assets were locked in

⁵⁴ The Defiant 2023.

⁵⁵ CryptoPotato 2024.

⁵⁶ MakerDAO 2017.

⁵⁷ Caramichael & Liao 2022.

⁵⁸ Campbell-Verduyn 2018.

DeFi protocols, reaching a level not seen since Spring 2022.⁵⁹ DeFi introduces a suite of financial products and services on blockchain platforms, eliminating the need for centralized intermediaries like banks. These services range from payments and lending to trading and investments, capital raising and insurance. The stability of stablecoins is crucial for traders and participants in DeFi who require predictability for their financial planning and executions of trades. The idea of DeFi has been drawn from the principles outlined in Satoshi Nakamoto's Bitcoin whitepaper, referenced earlier, with the aim to create a spectrum of financial services through decentralized platforms. DeFi is most often built atop the Ethereum blockchain, which hosts most of the decentralized apps used in DeFi. Governance tokens within these platforms provide holders with a say in the operational parameters and act as a buffer in financial downturns, though they also bear the risk of dilution during crises. The decentralized nature of blockchain governance varies, with control sometimes lying in a spectrum between centralized founding groups and a broader decentralized stakeholder base. This governance model can influence the blockchain's evolution, affecting everything from operational changes to economic decisions within the blockchain community.⁶⁰

During its short history, DeFi, has also seen many issues. Users often face a steep learning curve and lack consumer protection. The platforms have been found to be susceptible to hacks, operational malfunctions and market manipulations. Despite the perceived immutability of blockchain transactions, the underlying code is susceptible to errors and requires updates, which introduces governance challenges concerning who has the authority to implement or suggest changes. The decentralized governance model of blockchain can also complicate regulatory oversight. With authority spread across a broad user base, pinpointing who to approach for regulatory concerns becomes challenging. Additionally, the nature of DeFi's integration with various financial services means that a shock in one market could propagate through connections to other markets. For instance, the DeFi practice of using leveraged positions, backed by crypto assets, can exacerbate market volatility. If the cryptocurrency used as collateral suffers a price drop, it could trigger widespread collateral calls, leading to liquidations that not only harm the borrower's financial position but also potentially depress the broader cryptocurrency market.⁶¹

⁵⁹ The Block 2024.

⁶⁰ Carapella et al. 2022.

⁶¹ Ibid.

3 Private money creation

In the exploration of what constitutes as money, especially in the context of modern financial systems, it becomes crucial to understand the distinctions between various types of financial assets and their roles in economic transactions. In its most basic form, money exists in two forms: public money is issued by a central bank via banknotes, central bank reserves—and potentially as CBDCs, as discussed earlier—while private money is issued by commercial banks in the form of deposits and non-bank financial institutions in the form of cash equivalent instruments.

Commercial banks create the money they lend in the form of newly issued demand deposit claims to their customers. They also have access to public money in the form of central bank reserves, which allows them to extend credit and thus issue private money to the general public. When banks issue loans, they simultaneously create deposits, which are then circulated within the economy as bank-created money. This process, referred to as endogenous money creation, highlights the role of private banks in expanding the money supply through lending activities, constrained by their reserves held at the central bank. This system supports the trust in bank-issued money, which is trusted due to the backing of healthy assets and central bank reserves.⁶²

Deposit instruments issued by private banks are the predominant medium of exchange in modern economies, and issuing them is a privileged activity to chartered banks, supervised by banking authorities around the world. Due to deposit insurance mechanisms, most deposit instruments are sovereign in status, meaning the government honors them. Uninsured deposits, such as amounts over a certain threshold in various jurisdictions, are private obligations and susceptible to default. Another form of private money are cash equivalent instruments, issued by non-bank financial institutions, which are not permitted to issue deposit instruments or have access to deposit insurance nor the lender of last resort mechanism of a central bank.⁶³ Money-like instruments issued by these non-bank financial institutions include asset, commercial paper, and short-term repurchase agreements (repos), which, although not immediately liquid as cash, are considered "near money" due to their high liquidity and low risk, making them suitable for quick conversion into cash for transaction purposes. The issuance of cash-equivalent instruments generally is not a legal privilege and they typically don't have a legal or regulatory status. There are no legal

⁶² Tobin 1963.

⁶³ Armour et al. 2016, pp. 440–442.

restrictions on issuing cash equivalents, and they reside outside the purview of monetary authorities. This is a system sometimes referred to as shadow banking.⁶⁴

Cash equivalents, though not a direct medium of exchange, fulfill a monetary function by meeting the demand for liquidity and safety. In practical financial operations of large corporations, cash equivalents play a crucial role in managing liquidity. They are often used by corporate treasurers and institutional investors for short-term funding needs or as buffers against potential liquidity shortages. They are held as part of a "transaction reserve", a buffer of liquid assets maintained by large companies to facilitate near-term transactions. This need for transaction reserves arises from the need to have assets that are stable in value relative to cash, which minimizes nominal price risk and supports their role in economic exchanges.

The rationale for utilizing cash equivalent instruments over bank deposits derives from their liquidity, low risk, and their legal and institutional status which differs significantly from deposits. Cash equivalent instruments are typically short-term investments with maturities of three months or less, and they are traded in the money market platform for debt instruments maturing in a year or less. Bank deposits can typically not as easily provide such qualities to the volume of money transacting in cash equivalents. This liquidity and minimal risk make them preferable for meeting short-term cash commitments over other types of investments or bank deposits which may offer less liquidity or higher risk profiles. Unlike deposit accounts, which require a special charter from the issuer—a banking charter—and are surrounded by fairly complex regulatory frameworks, issuing cash equivalents is based on property and contract law. This distinction places cash equivalents in a unique position compared to regulated bank deposits. There is no institutional status that specially governs cash equivalents, making them less bound by the stringent requirements that apply to deposits, especially for entities requiring quick liquidity with minimal risk and less regulatory burden.⁶⁵

The property of "moneyness" in cash equivalents also underscores their intermediate status between cash and long-term bonds in various legal and financial contexts. This categorization of money-market fund shares or repo agreements as highly liquid and safe assets separates them from other financial instruments like stocks or long-term bonds, which, despite their liquidity, do not share the same classification.⁶⁶

A commonly shared definition of money in economics textbooks is that money is a medium of exchange, a unit of account, and a store of value. All three properties are typically

⁶⁴ Ricks 2016, pp. 8–9.

⁶⁵ Ricks 2016, pp. 42–46.

⁶⁶ Ricks 2016, pp. 46–49.

required for an asset to be accepted as money, but in private money creation, a clarification for the third criterion should be made: money is a *reliable* store of nominal value unlike speculative assets like, say, bitcoin, or assets whose value depends on the eye of the beholder, like art. Therefore, money is considered to be a reliable store of value, whether the term refers to banknotes issued by central banks denominated in fiat currencies or deposits in a bank, or cash equivalent instruments used in finance.⁶⁷

3.1 Information-sensitive money

The creation of private money, particularly through mechanisms like banking and shadow banking systems, plays an important role in finance. It allows for the extension of credit and liquidity within the economy but also introduces potential vulnerabilities due to its dependence on the confidence of its users. When discussing private money, it's important to consider the aspects of safety and stability, which are crucial for these assets to function effectively as money. In the field of privately issued debt, a crucial concept concerns the transition of debt from being information-insensitive to information-sensitive.

According to Holmström, information-insensitive debt is a type of debt that does not require constant surveillance or detailed knowledge about the issuer's financial condition because it is generally considered safe or is sufficiently collateralized. This insensitivity to information allows for greater liquidity in financial markets because these debts are easily traded without the need for detailed scrutiny of the issuer's underlying financial health.⁶⁸

Holmström discusses the insensitivity in relation to money-market instruments such as repurchase agreements, but the principle can be applied to all private money creation. When markets are going up and the mood is positive, detailed questions about the collateral behind the debt are rarely asked. In good times, the insensitivity to information is a good thing, as it essentially increases liquidity, because debts are easily traded without the need for detailed scrutiny of the issuer's underlying financial health. But when the mood shifts, investors begin to ask questions about the quality of the collateral. The result is a liquidity crunch and potentially sharp price declines, which are particularly disastrous because the over-collateralization and implicit trust in the market does not support such intensive scrutiny. The transformation of debt from being information-insensitive to information-sensitive exposes the market to severe volatility, as evidenced during the financial crisis of 2008. This

⁶⁷ Ricks 2016, p. 46.

⁶⁸ Holmström 2015.

illustrates how panics are essentially information events triggered by a sudden demand for more precise information about the underlying assets.⁶⁹

Further exacerbating market shocks is a situation when debt is used as collateral for more debt, creating an obscured structure that preserves symmetric ignorance among market participants. According to Dang, Gorton and Holmström, such debt-on-debt structures are purposefully designed to be information-insensitive. They preserve symmetric ignorance, meaning parties involved have minimal incentives to produce private information about the financial payoffs. This ignorance, a situation where no questions are asked, makes the debt an optimal instrument for trade in normal market conditions. It can contribute to the creation of asset bubbles, as more credit is available with fewer immediate checks on risk due to the information-insensitivity of the structures. Because debt-on-debt structures are intertwined and heavily reliant on the continuing stability and acceptance of the collateral, they can cause financial contagion to spread and thus impact the entire financial system, not just individual investors or institutions.⁷⁰

Gorton and Zhang have discussed the concept of information-insensitive debt to the context of stablecoins. They point to the principle of “no-questions-asked” (NQA) money, which is close to the idea of information-insensitive debt. The idea of NQA money suggests that for an asset to function effectively as money, it must be universally accepted without the need for the holder to conduct any due diligence procedure about its viability. This quality of money reduces transaction costs and enhances economic efficiency by eliminating the need for constant verification of the asset's value.⁷¹ In the view of Gorton and Zhang, stablecoins, similar to traditional banknotes issued by private banks in the past, struggle to achieve the NQA status because of their underlying risk and the lack of a universal guarantee. They emphasize the need for regulatory frameworks that ensure these new forms of money can achieve true NQA status to be effectively integrated into the financial system. Their suggestions include issuance of stablecoins through banks, require stablecoins to be backed one-for one, and replacing private digital money with sovereign digital money, meaning CBDCs.

Gorton and Zhang compare stablecoins to the "wildcat banks" of the free banking era in the United States, when entry into banking was relatively easy and banks could issue their own banknotes. Wildcat banks struggled to achieve the NQA status because of their underlying risk and the lack of a universal guarantee. The lack of a robust backing for their issued notes meant that in times of crisis, holders of the notes could rush to redeem them, leading to bank

⁶⁹ Ibid.

⁷⁰ Dang, Gorton and Holmström 2019.

⁷¹ Gorton and Zhang 2021.

failures. Similar to how wildcat banks operated without sufficient regulatory oversight, leading to financial instability and failures, stablecoins could potentially face similar issues without proper regulation. They specifically highlight stablecoins' vulnerability to runs. As noted earlier, stablecoins are often backed by other assets, such as commercial paper, currency, or even other cryptocurrencies. Similarly, if the assets backing stablecoins were to be questioned or if there was a crisis of confidence, holders might attempt to redeem their stablecoins en masse, potentially leading to liquidity issues. This is the key vulnerability with stablecoins: the risk of devaluation and the absence of institutional trust that often supports traditional fiat currencies. They emphasize the need for regulatory frameworks that ensure these new forms of money can achieve true NQA status to be effectively integrated into the financial system. Their suggestions include issuance of stablecoins through banks, require stablecoins to be backed one-for one, and replacing private digital money with sovereign digital money, meaning CBDCs.⁷²

3.2 Confidence in stablecoins

As already noted, stablecoins represent a modern attempt to recreate the functions of traditional money within the digital environment, aiming to match the stability of fiat currencies while leveraging the technological benefits of digital currencies. They are often pegged to stable assets like the U.S. dollar or other fiat currencies, attempting to ensure that they are accepted at par in transactions, much like traditional money. However, to fulfill the functions of money effectively, stablecoins must be widely accepted and trusted by the public—gain the status of “NQA money”. This trust depends on the stability of their value and the regulatory frameworks supporting their operation.

As noted, stablecoins are pegged to the value of the asset they reference to. When questions arise about the actual value of stablecoins, the primary concern often revolves around the nature and sufficiency of their backing assets. If the assets backing a stablecoin are questioned, its market value can drop below its supposed stable peg. The scenario is known as “breaking the buck”. Breaking the buck can potentially unleash a widespread panic, as investors rush to sell their coins and exit their position. Such an event famously happened during the financial crisis of 2007–2008, when, following the bankruptcy declaration of the investment bank Lehman Brothers on September 15, 2008, a money market fund named the Reserve Primary Fund broke the buck on September 16, 2008, due to its exposure to debt issued by Lehman Brothers. That same week, prime institutional

⁷² Gorton and Zhang 2021.

money market funds experienced substantial redemptions, with investors withdrawing approximately 300 billion U.S. dollars.⁷³

Such events of information-sensitivity have not been uncommon in the stablecoin markets either—quite the contrary. The earliest notable occurrence of a stablecoin breaking the buck was noted in early 2017, when Tether’s price in secondary markets dropped to 0.91 U.S. dollars, due to questions related to assets backing Tether holdings. Since then, stablecoins depegging from their asset has become a regularly occurring event, which, combined with the increased popularity of the tokens, has worried regulators. A major example of a stablecoin losing its peg and afterwards collapsing completely was the implosion of the algorithmic stablecoin TerraUSD (UST) in May 2022. UST relied on a balance with its sister token, Luna, to maintain a peg to the U.S. dollar using smart contracts on the Terra blockchain. This balance was disrupted by massive sell-offs and withdrawals from the ecosystem, particularly from the decentralized finance (DeFi) platform Anchor, which offered high yields on UST deposits. This led to a loss of confidence and a precipitous drop in the value of both UST and Luna. Initially, UST experienced minor depegging incidents, which worsened as large holders began to exit their positions, leading to a cascade of sell-offs. Efforts by Terra’s management to stabilize the situation through reserve deployments and increased minting capabilities failed to restore confidence. This created a “death spiral”, and as a result, UST’s value plummeted, severely impacting Luna’s price, which dropped nearly to zero as the mechanism required creating an excessive supply of Luna to absorb the selling pressure on UST. This event erased billions in market value and led to significant discussions about the regulation and viability of algorithmic stablecoins. Before its crash, UST was the fourth-largest stablecoin behind Tether, USDC and BinanceUSD, with 18 billion U.S. dollars in market capitalization.⁷⁴

Another major depegging was seen in 2023, when USDC temporarily lost its peg due to the collapse of Silicon Valley Bank, which, at the time, held 8 percent of the USDC reserves of the coin’s issuer, Circle. USDC fell as low as 0.87 U.S. dollars, causing panic and highlighting the potential vulnerability of large stablecoins to external financial disruptions. The algorithmic stablecoin Dai also experienced a drop in value at the time, while the value of the largest stablecoin, Tether, rose above the peg of 1 U.S. dollar.⁷⁵ As recently as January 2024, the USDC temporarily lost its peg due to and fell to as low as 0.74 U.S. dollars.⁷⁶

⁷³ Gorton and Zhang 2021.

⁷⁴ Briola et al. 2023.

⁷⁵ Galati & Capalbo 2024.

⁷⁶ CoinDesk 2024.

Research has found that the stablecoins that have a higher price volatility tend to be younger. The five largest stablecoins as of end of September 2023 were active for at least three years and among the stablecoins with the lowest median price volatility. Indeed, the oldest still active stablecoin, the USDT issued by Tether, is also the largest. Still, its value also fluctuates, with an average daily price volatility of about 2 percentage points between end-September 2022 and end-September 2023. According to BIS researchers, no stablecoin has been able to meet an important prerequisite of becoming a safe store of value and thus guaranteeing full price stability.⁷⁷ It has also been noted that the turnover of fiat-backed stablecoins surpasses that of other stablecoin types, such as commodities backed stablecoins and especially unbacked stablecoins. Correlation has also been found between stability of value and the popularity of the stablecoin, which is understandable. The positive correlation with market liquidity may hint at the presence of network effects as well.⁷⁸ The comparable instability of the algorithmic, traditionally crypto-backed stablecoin Dai vis-à-vis its USD-backed counterparts Tether and USDC has also been found in another study. The study also found that the instabilities in Tether and USDC significantly drive instabilities of other stablecoins, but evidence of a reverse impact has been found less convincing. Increases in Tether market prices significantly lower the market prices of other stablecoins, and vice versa—decreases in Tether prices raise the prices of other stablecoins.⁷⁹

3.3 Positioning stablecoins in the financial market

Several connections between money market funds (MMF) and stablecoins, at least those that are pegged to a fiat-currency such as the U.S. dollar, have been suggested. A key similarity between fiat-backed stablecoins and MMFs is that they both are designed to offer high liquidity to their holders. The primary goal of both stablecoins and MMFs is to maintain stability in value. They both hold or used to hold similar assets backing their liabilities to holders of coins or shares, including treasury shares, certificates of deposits, reverse repurchase agreements and commercial paper.⁸⁰

According to Gorton and Zhang, some stablecoin issuers like Tether could be treated similarly to money market funds, because their contractual relationship with stablecoin holders resembles the relationship between money market funds and their investors. However, they also point out the possibility of counterarguing that Tether's contract with the holder of a stablecoin is a debt contract, even if it has certain characteristics of money

⁷⁷ Bank for International Settlements 2023a.

⁷⁸ Ibid.

⁷⁹ Thanh et al. 2023.

⁸⁰ Anadu et al. 2023.

market funds, and that holders of Tether coins do not profit directly from holding those coins—they'd have to do arbitrage trades during distress in stablecoin markets or stake them within DeFi protocols.⁸¹

Anadu et al. point out several differences and similarities between stablecoins and MMFs. For instance, MMFs are typically sponsored by large banks or fund families, while stablecoins are sponsored by digital asset issuers. Unlike MMFs, which are not traded on secondary markets and are redeemed at their face value, stablecoins are actively traded on cryptocurrency exchanges, and their redemption processes and rights differ among various stablecoins. Additionally, while MMFs are exclusively backed by traditional financial assets, stablecoins can be underpinned by digital assets or maintained through algorithms.

Despite these differences, Anadu et al. recognize that MMFs provide a valuable comparison for understanding stablecoins. They note that the composition of the portfolios of U.S.-based stablecoins, USDP, USDC and the then-active BUSD, looks similar to government MMFs, as they both invest heavily in Treasury securities as well as repurchase agreements. backed by traditional financial assets, US-based stablecoins look remarkably similar to government MMFs. In comparison, the portfolio of Tether consists of a wider mix of assets, including commercial paper and certificates of deposit, similar to prime MMFs.⁸²

The comparison between stablecoins and money market funds is also instructive due to the price volatility and proneness to runs seen in both instruments, referring to the “break-the-buck” scenario of MMFs and depegging events of stablecoins. A feature behind both financial instruments is their liquidity transformation, as they issue liabilities with a stable nominal value, but the collateral backing these claims can potentially become suddenly illiquid. This is reflective of the information-sensitivity of both assets, as described earlier. The flighty behavior of investors in both assets is also a mirroring factor, and lessons are drawn from runs in MMFs in the 2008 financial crisis, the 2011 European sovereign debt crisis, and the March 2020 Covid-19 crisis. Anadu et al. highlight that in these crises, prime MMFs, which hold a more diverse portfolio including riskier assets, were directly impacted and experienced significant outflows due to their exposure to the prevailing financial risks. In contrast, government MMFs, which invest in safer, government-issued securities, consistently saw inflows as they were perceived as more secure havens during tumultuous periods.⁸³ This finding is instructive in helping to provide solutions for stablecoin stability, and may already have played a role in the aforementioned shift in the portfolios of stablecoin issuers, as described in section 2.3.

⁸¹ Gorton and Zhang, 2021.

⁸² Anadu et al. 2023.

⁸³ Ibid.

Stablecoins are not regulated similarly to money-market instruments in MiCAR, nor are their issuers regulated similarly to money-market funds.⁸⁴ MiCAR explicitly rules out from its scope those crypto-assets that qualify as financial instruments as defined in the Directive on Markets in Financial Instruments (MiFID II), regardless of the technology used for their issuance or their transfer. This is due to the principles of “same activities, same risks, same rules” and of technology neutrality.⁸⁵ MiFID II defines money-market instruments as “classes of instruments which are normally dealt in on the money market, such as treasury bills, certificates of deposit and commercial papers and excluding instruments of payment”.⁸⁶ Therefore, stablecoins are regulated under a framework designed specifically for crypto-assets, which focuses on the risks unique to this type of asset class, such as issues related to market integrity and financial stability. MiCAR is intended to address the gaps that might exist when attempting to apply traditional financial regulations to the novel and technologically driven nature of stablecoins and other crypto-assets.

Before I explore how MiCAR treats stablecoins, it is helpful to go a little bit deeper into measures to address financial instability and improve resilience of financial institutions, especially after the global financial crisis of 2008 and the following sovereign debt crisis in the euro area. The aftermath of these crises saw an array of regulatory measures aimed at stabilizing the financial markets and preventing future disruptions.

⁸⁴ However, the mark-to-market valuation mechanism of reserve assets is used as defined in the Money-market Funds Regulation.

⁸⁵ Rec. (3) & (9) MiCAR.

⁸⁶ Annex I, Section C, Item (2) MiFID II.

3.4 Reining financial instability

Financial stability is a broad concept that encompasses more than just the absence of economic shocks and disturbances. According to economist Garry J. Schinasi, the concept extends beyond mere market fluctuations and involves a comprehensive framework of robust institutions, market resilience, and low volatility. Schinasi argues that the goal of avoiding financial instability may inadvertently skew policy decisions and analyses, potentially undermining both private and societal benefits derived from financial operations. He advocates for a broader perspective, viewing financial stability as the financial system's capacity to support the efficient performance of an economy and to manage, or even neutralize, financial imbalances that may emerge internally or from unforeseen, significant external shocks. A truly stable financial system is one that not only withstands shocks in the market but also actively contributes to the overarching economic performance, thus reinforcing economic resilience.⁸⁷

3.4.1 Basel III Accords

The Basel Committee on Banking Supervision (BCBS) has played a crucial role in shaping the regulatory framework for banks globally, beginning with the Basel I Accord in 1988 and continuing through Basel II in 2004 and Basel III in 2010. Despite being, initially, an informal creation of central bankers lacking “powers, constitution or even legal existence”, the Basel Accords have significantly influenced the stability of the financial markets within the European Union and beyond, despite its lack of formal legal authority. The Basel guidelines, particularly on capital and liquidity requirements, are followed worldwide not only by the member states but also by a broader array of countries, demonstrating its widespread impact on global banking practices. Despite the non-binding nature of Basel rules at the national level, there is an effective system of peer pressure to ensure compliance. Although the Basel rules are designed as minimum standards, allowing for stricter measures by individual countries, the consistent implementation across borders is vital for preventing regulatory arbitrage and ensuring a level playing field. The European Union, for instance, has adopted these standards broadly, applying them to all banks within its jurisdiction, not just the internationally active ones, which goes beyond what Basel requires.⁸⁸

The Basel III framework significantly refined the capital and liquidity requirements for financial institutions compared to its predecessors. The framework is highly complex, and

⁸⁷ Schinasi 2004.

⁸⁸ Armour et al. 2016, pp. 295–296.

below is only a general summary of the principles underlying the framework. The Basel III framework is structured around three pillars, with the capital and liquidity rules under the first pillar forming the cornerstone for measures aimed at mitigating financial instability. These regulatory strategies significantly influence the transformation processes within banks, with liquidity requirements being particularly impactful by providing a robust safety net during financial crises.⁸⁹

The capital structure under Basel III is composed of three main components. The primary element, Common Equity Tier 1 (CET1) capital, reflects the equity of the shareholders, meaning funds contributed to the company by investors through share subscriptions and undistributed profits held within the bank. Under the previous Basel II guidelines, CET1 needed to constitute only 2 percent of the total 8 percent capital requirement. Basel III, however, increased this requirement to 4.5 percent, a considerable shift towards a greater emphasis on high-quality capital. The remaining 3.5 percent of the 8 percent minimum total capital requirement is fulfilled by Additional Tier 1 (AT1) and Tier 2 (T2) capital. These may include shareholder equity or certain types of non-cumulative preference shares, and may also be supplemented by subordinated debt, which serves as a means of enhancing the bank's capital base without diluting existing shareholders. AT1 capital often includes instruments like contingent convertible bonds, which automatically convert into equity or face write-downs when a bank's capital falls below a certain level. Tier 2 capital includes subordinated debt and is less loss-absorbing than AT1 but still forms a critical part of a bank's overall capital structure.⁹⁰

Beyond the basic capital requirements, Basel III introduced several additional capital buffers to further strengthen bank resilience. The minimum total capital ratio of 8 percent can be exceeded when additional capital buffers are considered. The capital conservation buffer (CCB), set at 2.5 percent of CET1, is mandatory for all banks at all times, designed to accumulate capital during non-stress periods that can be drawn down during periods of financial strain. Additionally, the global systemically important bank (G-SIB) buffer mandates extra CET1 capital for banks whose failure would pose significant risks to the global financial system. This buffer is tailored to the size, complexity, and systemic interconnectedness of the banks. Finally, the counter-cyclical capital buffer (CCCB) is variable and applied based on prevailing economic conditions to temper the boom-bust cycles in banking activity. The determination of a bank's G-SIB status and the corresponding buffer requirements hinge on a range of criteria, including the size, interconnectedness, complexity, and the global reach of the bank's operations. The additional buffers highlight the attempt to adapt to the risk

⁸⁹ Armour et al. 2016, pp. 296–297

⁹⁰ Armour et al. 2016, pp. 305–306.

profile and systemic importance of individual banks, with the objective of improving their resilience to financial and economic shocks.⁹¹

The liquidity measures introduced by the Basel framework include two constraints, the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR), to improve the financial resilience of banks and enhance their durability in potential bank runs. The liquidity measures introduced by the LCR and NSFR aim to ensure that financial institutions hold adequate high-quality liquid assets to withstand significant stress scenarios. The LCR is engineered to foster short-term resilience against liquidity shocks by mandating that banks maintain a sufficient stock of high-quality liquid assets (HQLA) to cover total net cash outflows during a 30-day stress scenario. This ensures that banks possess the necessary liquid resources to navigate periods of acute liquidity stress without external intervention. Critiques against the LCR include that the measure introduces constraints that may be seen as socially inefficient by mandating banks to hold liquid assets that cover highly improbable scenarios, potentially at the expense of their role in financial intermediation and maturity transformation. While the LCR ensures preparedness for liquidity crises, it may inadvertently restrict banks' ability to engage in lending and investment activities that contribute to economic growth.⁹²

The NSFR, then, is designed to promote more sustainable funding practices by requiring banks to maintain a stable funding profile relative to their asset and off-balance sheet exposures over a one-year horizon. Thus, it aims to prevent banks from excessively relying on volatile short-term funding sources, based on the understanding that such sources are more prone to sudden withdrawals during financial upheavals—a theme that we will come back to later. The ratio mandates that banks maintain stable funding that matches or exceeds their required stable funding needs over a year, calibrated by the liquidity profile of assets and the stability of liabilities.⁹³

3.4.2 Implementing the Basel III framework in the EU

In improving the resiliency of its banks and implementing the Basel III framework, the concept of the Single Rulebook was introduced by the European Council in 2009, in order to create a unified regulatory framework for the financial sector in the EU. Previously, European banking legislation was based on which left room for significant divergences, interpretations and loopholes in national rules. In contrast, the Single Rulebook was intended to create a harmonized set of regulatory standards and guidelines designed to ensure consistent

⁹¹ Armour et al. 2016, pp. 306–310.

⁹² Armour et al. 2016, pp. 322–323.

⁹³ Armour et al. 2016, pp. 323–324.

financial regulation across all EU member states. The primary components of the Single Rulebook were the Capital Requirements Regulation (CRR)⁹⁴ and the Capital Requirements Directive IV (CRD IV)⁹⁵, which implement the Basel III guidelines within the EU context. Subsequent amendments and reforms to these regulations have further refined the capital and liquidity requirements framework in the EU.⁹⁶

The creation of the European Banking Authority (EBA) was another direct response to the financial crisis, in order to improve regulatory and supervisory practices across the European Union. The establishment of the EBA was supported by the recommendations of the de Larosière Report, which advocated for stronger centralized oversight to prevent the regulatory failures that contributed to the financial crisis. Its primary mandate is to contribute to the maintenance of financial stability by developing high-quality regulatory and supervisory standards and practices, which involve drafting regulatory and implementing technical standards. While the EBA does not directly supervise banks, it works closely with national authorities which supervise financial institutions within their jurisdictions. Direct supervision of significant banks within the Eurozone, however, is the responsibility of the European Central Bank under the Single Supervisory Mechanism (SSM). The ECB directly supervises banks classified as significant due to their size or the significance of their cross-border activities.⁹⁷ However, as we shall see later, the supervision of significant asset-referenced tokens and e-money tokens is conferred to the EBA.⁹⁸

The lawmakers' aim is to provide the public good of financial stability by adopting regulations designed to fortify the financial system against various shocks. This approach is also embedded in MiCAR, which creates strict requirements for stablecoin issuers. According to the proposal, stablecoin issuers are required to “constitute and maintain a reserve of assets matching the risks reflected in such liability” and “ensure the prudent management of the reserve of assets”.⁹⁹ In addition, significant stablecoin issuers should be subject to “higher capital requirements, to interoperability requirements and they should establish a liquidity management policy”.¹⁰⁰

⁹⁴ Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

⁹⁵ Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC

⁹⁶ Kern 2020, pp 27–30.

⁹⁷ Ferrarini & Recine 2020, pp. 195–200.

⁹⁸ Rec. (102) & (105) MiCAR.

⁹⁹ Rec. (54) MiCAR.

¹⁰⁰ Rec. (59) MiCAR.

These stipulations align stablecoin issuers closely with traditional bank-like institutions, mirroring the capital and liquidity requirements found in the Basel III framework as implemented in EU legislation. Before digging deeper into the Regulation on Markets in Crypto-assets, it is crucial to understand the broader international development of regulatory approaches to stablecoins, which frame these digital assets within a structured financial oversight system akin to that of conventional financial entities.

4 Global approaches to stablecoin regulation

The regulatory frameworks for stablecoins around the world show a range of approaches that highlight different regulatory philosophies and priorities. A milestone in summarizing regulatory approaches to stablecoins was the 2020 report by the Financial Stability Board, an international body affiliated with the Bank for International Settlements and the G20 that coordinates the work of national financial authorities and international standard-setters.

4.1 Calls from international organizations

The 2020 report by FSB addressed the need to supervise and regulate stablecoins that have potential to be widely adopted and used across multiple jurisdictions, as they could become systemically important around the globe. The FSB report called these tokens global stablecoins (GSCs), a term that has since remained in use. The large and transnational scale of these stablecoins distinguishes them from other types of stablecoins that may have more limited circulation and are not designed to operate across borders with the same level of interoperability or scale. According to the FSB, a broad regulatory oversight is required to mitigate risks associated with liquidity, credit, and market operations that stablecoins may introduce. Such risks include the potential for money laundering and financing of terrorism, as well as financial instability, as the widespread adoption of global stablecoins could undermine traditional currencies and monetary policy, especially if users in multiple countries start to use GSCs as a substitute for domestic currencies.¹⁰¹

Central to the FSB's recommendations is the principle of "same business, same risk, same rules", which emphasizes that GSCs performing similar economic functions as traditional financial instruments should be regulated under the same frameworks to ensure fairness and maintain financial stability. The consistency of regulatory approaches across jurisdictions is also in order to prevent regulatory arbitrage where GSC operators might seek more lenient regulatory environments. The FSB also called for international coordination, given the borderless nature of GSCs and their potential to operate across multiple regulatory jurisdictions.¹⁰²

In July 2023, after comprehensive reviews and consultations, the Financial Stability Board (FSB) issued high-level recommendations for the regulation, supervision, and oversight of global stablecoins. The guidelines underscore the necessity for robust frameworks and

¹⁰¹ Financial Stability Board 2020.

¹⁰² Ibid.

international cooperation to ensure the stability, transparency, and efficient functioning of stablecoins, while also promoting financial innovation and integration. Additionally, they call for stablecoin operators to uphold high transparency standards, including routine disclosures about their reserve assets, governance practices, and operational risks, and to establish strong crisis management and resolution strategies to mitigate potential disruptions or failures in stablecoin operations, thereby safeguarding consumers and ensuring financial stability. Although the recommendations do not include a definitive definition of stablecoins, it outlines several criteria that could help determine whether a stablecoin qualifies as a global stablecoin. These criteria include the number and type of stablecoin users, transaction volume and value, reserve asset size, the total value of stablecoins in circulation, and the degree of interconnectedness with financial institutions or the broader crypto-assets ecosystem. MiCAR has definitions on significant asset-referenced tokens and e-money tokens, which have some interlinkage to the recommendations of the Financial Stability Board.¹⁰³

In addition, the Basel Committee on Banking Supervision issued its framework on how banks should protect themselves from their exposures to crypto-assets in December 2022. The framework is set to be implemented by January 2025 and outlines highly technical standards for the classification and treatment of crypto-assets.

The classification system by BCBS divides crypto-assets into two groups based on their risk profiles and underlying characteristics. Group 1 crypto-assets include tokenized traditional assets and crypto-assets with effective stabilization mechanisms, such as stablecoins. Tokenized traditional assets are digital representations of conventional financial instruments, like bonds or equities, that are issued and traded on distributed ledger technology. Group 1 crypto-assets are subject to capital requirements based on the risk weights of underlying exposures as set out in the Basel framework. This means the capital requirements for these assets are aligned with the risks of the traditional assets they represent or the effectiveness of their stabilization mechanisms.¹⁰⁴

Group 2 of crypto-assets pose higher risks compared to those in group 1 and are therefore subject to a more conservative capital treatment. This group includes any tokenized traditional assets and stablecoins that fail to meet the classification conditions for group 1, as well as all unbacked crypto-assets. Unbacked crypto-assets, such as Bitcoin and other cryptocurrencies without intrinsic value support, present greater volatility and risk, necessitating stricter capital requirements for banks.¹⁰⁵

¹⁰³ Financial Stability Board 2023.

¹⁰⁴ Bank for International Settlements 2022.

¹⁰⁵ Ibid.

The framework for crypto-asset exposures also includes minimum capital requirements for various risk types associated with crypto-assets. These include credit risk, market risk, counterparty credit risk, and operational risk. Credit risk involves the potential for a counterparty to default on its obligations. The framework requires banks to hold capital proportional to the credit risk exposure of their crypto-assets, ensuring that they can absorb potential losses from defaults. Market risk refers to the risk of losses due to fluctuations in the market value of crypto-assets, and the framework imposes capital requirements to cover potential losses from adverse market movements. Counterparty credit risk refer to the possibility that the counterparty in a crypto transaction may default before the final settlement of the transaction's cash flows, and to combat this risk, the framework includes capital charges for counterparty exposures. Operational risk includes risks related to fraud, cyberattacks and other operational failures, and the framework also mandates capital requirements to cover these risks.¹⁰⁶

The framework also mandates banks to keep minimum liquidity buffers to address the liquidity risk related to crypto-assets, including the liquidity coverage ratio and the net stable funding ratio introduced in section 3.4.1. In the case of stablecoins, if a bank is the issuer of a stablecoin, the bank must account for the full value of potential outflows. The assets supporting the stablecoin are required to have sufficient stable funding. When banks are holders of stablecoins, the stablecoins are treated as non-high-quality liquid assets and the bank needs to hold a significant amount of stable funding against these assets.¹⁰⁷

4.2 Legislative approaches outside the EU

4.2.1 United States

In the US, the President's Working Group on Financial Markets (PWG), joined by the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency, released a joint report on stablecoins in 2021.¹⁰⁸ The PWG report echoed many notions raised by the FSB, highlighting the systemic risks associated with the rapid growth and potential widespread adoption of stablecoins, and addressing the necessity for robust regulatory frameworks to ensure financial stability and protect consumers. The PWG report stressed the importance of implementing prudential standards similar to those applied to traditional banks and other financial institutions for stablecoin issuers. The report included requirements for liquidity, operational resilience, and capital adequacy to ensure that widely

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ U.S. Department of the Treasury 2021.

adopted stablecoins have a robust enough backing to maintain their value in various market conditions. Similar to the FSB, the PWG report advocated for international cooperation among regulators to address the cross-border nature of stablecoins, as worldwide implementation of international standards is critical for mitigating illicit finance such as money laundering and financing of terrorism.

Following the PWG report, a bipartisan bill titled the Responsible Financial Innovation Act was introduced to the U.S. Congress by Senators Lummis and Gillibrand in 2022.¹⁰⁹ It sought to create a comprehensive regulatory framework for stablecoins and other digital assets, building on the work of the earlier high-level reports. The bill, however, has not advanced significantly in Congress since its introduction. Since then, two other bills have been introduced to regulate stablecoins, the Clarity for Stablecoins Act¹¹⁰ and Lummis-Gillibrand Payment Stablecoin Act¹¹¹. As of May 2024, they remain under consideration of the Congress.

4.2.2 The United Kingdom

Another major jurisdiction, the United Kingdom, has approached regulating stablecoins with a focus on financial stability and innovation. In its discussion papers issued in 2021¹¹² and 2023¹¹³, the Bank of England (BoE) outlined a regulatory framework specifically designed for systemic payment systems using stablecoins. The Bank's proposals are as of May 2024 still under discussion.

The Bank of England's preferred proposal for regulating stablecoins emphasizes a particularly restricting measure to ensure their stability and reliability: the full backing of stablecoins with central bank deposits. This approach would guarantee that stablecoins maintain their value irrespective of market fluctuations. By anchoring stablecoins to central bank reserves, the Bank of England aims to instill a high level of confidence among users. This approach is known in banking regulation as 100 percent reserve banking, meaning every stablecoin would have a corresponding unit of real currency held in reserve, ensuring that all deposits could be fully redeemed at any time. This assurance is vital for facilitating the use of stablecoins in daily transactions, allowing them to be exchanged at par with traditional money. Furthermore, this backing ensures that holders can redeem their stablecoins at full value whenever they choose, thereby preserving the "singleness of

¹⁰⁹ Responsible Financial Innovation Act 2022.

¹¹⁰ Clarity for Stablecoins Act of 2023

¹¹¹ Lummis-Gillibrand Payment Stablecoin Act of 2024.

¹¹² Bank of England 2021.

¹¹³ Bank of England 2023.

money," a concept which underscores the fungibility and uniform value of money within an economic system.¹¹⁴

While full reserve banking is the BoE's preferred option, other measures to ensure the stability of stablecoins have been considered as well. An alternative model proposed for the backing of stablecoins used in systemic payment systems involves the use of deposits held with commercial banks rather than direct central bank deposits. In this model, the stablecoin issuers would not have a direct relationship with the central bank. Instead, the commercial banks where the backing deposits are held would be responsible for safeguarding these assets. These commercial banks would have the ability to access central bank liquidity, providing an additional layer of security and stability. The proposed model offers several advantages, as it utilizes the existing banking infrastructure, which might facilitate the implementation and integration of stablecoins into the current financial system. Secondly, by allowing commercial banks to handle the deposits, it potentially broadens the base of financial institutions that can be involved in the stablecoin market, thus spreading risk and possibly enhancing the competitive environment. However, the Bank of England notes that the model also introduces a layer of complexity in terms of regulation and oversight, as it relies on commercial banks' ability to manage these deposits responsibly and maintain sufficient liquidity.¹¹⁵

Another alternative involves using high-quality and highly liquid assets, such as government bonds. This approach, while leveraging the inherent stability and liquidity of these assets, introduces some level of credit, liquidity, and market risks. The Bank of England notes, however, that even in advanced economies, government bond markets can face liquidity issues under stress conditions, as evidenced by events like the "dash for cash" in March 2020 and the gilt market stress in September 2022. These incidents highlight how rapidly liquidity can deteriorate even in seemingly secure asset markets. The presence of these risks in a stablecoin's backing assets can potentially undermine confidence in the stablecoin as a reliable payment system. If such risks were to materialize, they could trigger widespread redemption requests from stablecoin holders, fearing loss of value. This could, in turn, lead to a contagion effect, affecting not only the involved stablecoin but also other stablecoins and payment systems interconnected with it.¹¹⁶

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ Ibid.

4.2.3 Singapore

A global financial hub, Singapore introduced its proposed regulation for stablecoins in 2023. As of May 2024, the regulation is currently under consideration and not yet in effect. According to the Monetary Authority of Singapore (MAS), “stablecoins—if well regulated—can potentially play a useful role as digital money alongside Central Bank Digital Currencies and tokenized bank liabilities”.¹¹⁷

The Monetary Authority of Singapore (MAS) aims to regulate stablecoins under its Payment Services Act, which encompasses various functions including the issuance and management of digital payment tokens. The vision of the MAS has been to develop “an innovative and responsible digital asset ecosystem”, and the balance between fostering innovation and addressing risks is present in the proposed regulation. According to Rachel Phang, in its proposed regulation for stablecoins, the MAS has shifted some responsibility for risk management to the individuals themselves. The emphasis instead is put on combating money laundering and terrorism financing risks. Singapore's framework seeks to balance risk with fostering innovation, while the FSB's recommendations typically place a stronger emphasis on traditional regulatory safeguards, such as ensuring that stablecoin issuers adhere to the same principles of safety and soundness that are expected of traditional financial institutions. Thus, the MAS has so far proposed legislation that is somewhat more flexible compared to the FSB's approach that leans heavily on international coordination. Essentially, the proposal leans towards a "buyer beware" approach, making it clear that certain markets are unregulated, rather than introducing regulations that could legitimize inherently speculative assets. This reflects a philosophical stance that emphasizes market education and the capacity of consumers to make informed decisions, rather than imposing regulatory barriers. Phang also notes that the potential instability and breaking-the-buck scenario of stablecoins is less emphasized by the MAS, even though the Singaporean authority has considered secure reserve backing requirements.¹¹⁸

4.3 The EU approach

The European Commission presented its Digital Finance Package in September 2020, with the aim to create a competitive EU financial services sector that offers innovative products while ensuring consumer protection and financial stability. The package includes a Digital Finance Strategy, a Retail Payments Strategy, a Pilot Regime for market infrastructures based on distributed ledger technology (the DLT Pilot Regime), as well as legislative

¹¹⁷ Monetary Authority of Singapore 2023.

¹¹⁸ Phang 2023.

proposals on crypto-assets, in the form MiCAR, and digital resilience, in the form of the Digital Operational Resilience Act (DORA). The package aims to address the challenges and opportunities presented by the digital age in finance and payments.¹¹⁹

While the Regulation on Markets in Crypto-assets is in the spotlight of this thesis, I will introduce other pieces of the Digital Finance Package first. They all have interconnections with MiCAR.

The Digital Finance Strategy is structured around four main objectives that guide the EU's approach to digital transformation in finance. First, it aims to tackle fragmentation in the Digital Single Market for financial services and ensure that the same digital finance services can be genuinely offered to customers EU-wide. The objective is to achieve an integrated market where all EU consumers and businesses can access high-quality financial products across the continent. The second objective is to ensure that the EU regulatory framework facilitates digital innovation in the interest of consumers and market efficiency. The focus is on balancing the promotion of innovation, such as the use of the DLT, with the need to maintain financial stability and protect consumers, and for financial innovations to remain relevant in evolving market environments. The third objective is to promote data-driven finance. By leveraging data analytics, artificial intelligence, and other technological advancements, the EU hopes to foster an environment where data can be used safely and transparently to improve decision-making and offer tailored financial products. The fourth main objective of the Digital Finance Strategy aims to address the risks associated with digital transformation into decentralized ecosystems. The aim is to ensure particular attention is paid to the principle “same activity, same risk, same rules”, in order to safeguard the level playing field between existing financial institutions and new market participants. The fourth objective explicitly mentions adapting the EU regulatory framework to facilitate digital innovation and enabling EU markets in crypto-assets and tokenized financial instruments. This is of particular importance with regards to crypto-assets and regulatory arbitrage, and MiCAR, including a framework for stablecoins, is a direct product of the strategy.¹²⁰

The Retail Payments Strategy of the European Union aims to tackle the currently fragmented payments market and create a seamless, efficient, and interoperable digital payments environment across the EU—something that a stablecoin payments network potentially could be a part of. The key motivation of the strategy is to provide an alternative to “large global players, including worldwide payment card networks and large technology providers”—Visa and Mastercard, though they are not named—and provide a digital

¹¹⁹ European Commission 2020a.

¹²⁰ European Commission 2020b.

payment solution that can be used across Europe to make payments in shops and in e-commerce. Instant payments, potentially using DLT, could reduce waiting times that can hinder business operations and personal transactions. This immediacy not only enhances the user experience but also supports economic activities by improving cash flow and reducing transactional uncertainties. In addition, the strategy outlines measures to enhance the security of digital payments through robust regulatory frameworks that protect against fraud and breaches. The strategy also acknowledges the emergence of crypto-assets, including stablecoins, that disrupt payment solutions based on encryption and distributed ledger technology. The Retail Payments Strategy however leaves open the possibility of a retail central bank digital currency, which could enhance the international role of the euro.¹²¹

As part of the Digital Finance Package, the Digital Operational Resilience Act (DORA)¹²² is a component of the European Union's strategy to bolster the overall resilience of its financial sector against the increasing risks of digital vulnerabilities. Recognizing the growing dependence of financial institutions on digital technologies and the consequential risks posed by cyber threats, DORA seeks to establish a rigorous framework that ensures all participants in the financial system are equipped to prevent, mitigate, and respond to cyber incidents. The mandate of the regulation extends across a wide range of financial entities including banks, insurance companies, and all providers of financial services that rely on digital platforms for their operations—including crypto-asset service providers, as defined in MiCAR. Central to DORA's approach is the requirement for financial entities to identify, classify, and adequately document risks related to information and communication technology. This involves regular testing and audits to evaluate the effectiveness of digital defenses and operational capabilities in realistic disruption scenarios. Such practices are intended to ensure that financial institutions not only understand their risk profiles but also maintain adequate defenses against potential cyberattacks. In the event of a cyber incident, DORA mandates that affected entities must promptly notify relevant authorities, ensuring that systemic risks are managed efficiently and effectively.¹²³

The Pilot Regime¹²⁴ for market infrastructures based on distributed ledger technology (DLT) aims to help the development of crypto-assets that qualify as financial instruments as well as foster the integration of blockchain and similar technologies within the financial sector. The

¹²¹ European Commission 2020c.

¹²² Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011.

¹²³ See e.g. Rec. (62–64), DORA.

¹²⁴ Regulation (EU) 2022/858 of the European Parliament and of the Council of 30 May 2022 on a pilot regime for market infrastructures based on distributed ledger technology, and amending Regulations (EU) No 600/2014 and (EU) No 909/2014 and Directive 2014/65/EU.

goal of the pilot regime is to utilize the potential of DLT to streamline operations, enhance transparency, and reduce costs in trading venues and central securities depositories. To this end, the regulation allows setting up multilateral trading facilities as well as settlement systems based on distributed ledger technology. These market participants would be allowed to temporarily deviate from certain traditional financial regulations that may not align with the new operational modes enabled by DLT and test new solutions together with other market participants. The regulation allows these participants to innovate and understand how DLT can be effectively and safely implemented in the context of financial transactions and record-keeping.¹²⁵

4.3.1 Path to MiCAR

The work behind the Regulation on Markets in Crypto-assets first commenced in March 2018, when the European Commission presented its FinTech action plan and asked the European Supervisory Authorities to work on crypto-assets and explore the promises held by the blockchain technology as well as the risks and volatilities in the markets in crypto-assets.¹²⁶ In January 2019, following the Commission's directive, the European Banking Authority and the European Securities and Markets Authority (ESMA) each published their reports. Both authorities noted the existing gaps in the regulatory framework that did not adequately address the challenges and risks associated with crypto-assets. For instance, ESMA noted that while some crypto-assets with features like profit rights might qualify as MiFID financial instruments, the classification ultimately rests with national competent authorities and depends on local implementations of EU law. As for EBA, it noted that because many crypto-assets do not fall under EU financial services regulation and the activities related to them, such as custodian wallet provision and crypto-asset trading platforms, are not considered regulated activities, there are significant operational resilience, and market integrity risks in the sector. Both authorities also highlighted the consumer protection risks in the crypto sector and called for a harmonized regulatory framework at the EU level that can effectively manage the risks associated with crypto-assets, as bespoke rules at the national level would not provide for a level playing field across the EU. The need to introduce a legal definition of "crypto-assets" in the EU financial securities laws was also recognized.¹²⁷

Major developments in the space of technology and cryptocurrencies also spurred regulatory interest. The aforementioned announcement of the Libra project (later known as Diem) in

¹²⁵ See e.g. Rec. (6), DLT Pilot Regime.

¹²⁶ European Commission 2018.

¹²⁷ European Securities Markets Authority 2019; European Banking Authority 2019.

2019 by a consortium led by the social network company Facebook (now Meta) marked a pivotal moment in the cryptocurrency landscape and significantly influenced regulatory perspectives globally. The discussion around Libra also stimulated global dialogue on the need for an international approach to cryptocurrency regulation—hence the Financial Stability Board paper referenced earlier. As mentioned in the introduction, the Libra project was ultimately abandoned in January 2022.

The markets in crypto-assets regulation was first proposed as part of the Digital Finance Package in September 2020. The proposal aimed to address the identified regulatory gaps for crypto-assets that are not covered under the existing financial regulations and to harness their potential while mitigating risks such as fraud, market manipulation, and financial instability. The proposal included four main objectives. First, it sought to provide legal certainty and establish a clear legal framework to define the regulatory treatment for all crypto-assets outside existing financial regulations. Second, it aimed to support innovation and create a safe and balanced regulatory environment that promotes the advancement of crypto-assets and distributed-ledger technology, fostering innovation while ensuring fair competition. Third, it pursued to safeguard consumers and investors from the inherent risks of the crypto market as well as to maintain market integrity. Finally, the proposal addressed the need for financial stability and ensuring orderly monetary policy, particularly concerning the potential systemic importance of crypto-assets like stablecoins—such as the then-developed Libra.

The final text of the regulation was approved and published in June 2023. As noted earlier, the period between the proposal and the final approval of the regulation included lots of turmoil in the crypto markets. The period saw not only the boom in non-fungible tokens NFTs and wider adoption of the concept of decentralized finance DeFi but also the implosion of the algorithmic stablecoin TerraUSD and the collapse of the crypto trading platform FTX. The rising interest rates and the deposit runs in three banks with close connections to the crypto sector, Signature, Silicon Valley Bank and Silvergate Bank, also played their part in the destabilizing of the crypto markets in 2023. Against this backdrop, the regulatory framework was designed to address these recent upheavals and restore confidence in the crypto market, particularly targeting the stability of stablecoins and the broader implications on financial systems.

5 Regulation of stablecoins under MiCAR

MiCAR establishes a comprehensive framework for the regulation of crypto-assets, distinguishing between various types based on their characteristics and potential risks. The regulation aims to integrate crypto-assets into the European Union's financial system by ensuring that they are subjected to appropriate oversight and regulatory standards. The aim of the framework has been to “support innovation and fair competition, while ensuring a high level of protection of retail holders and the integrity of markets in crypto-assets”. The regulation aims to establish legal certainty around the area of crypto-assets and intends to assist service providers in expanding their operations across borders and securing access to banking services, which are essential for the smooth operation of their businesses.¹²⁸

As mentioned earlier, the MiCAR came into force on 29 June 2023, and the provisions relating to ARTs and EMTs will be applicable from 30 June 2024. In addition, numerous draft regulatory technical standards (RTS) have been issued by the EBA. As of May 2024, these RTS are still in draft form, and they will be examined as such, even if they might change during final consultations. The EBA is required to submit the RTS to the European Commission by 30 June 2024.

One fundamental principle underpinning MiCAR is the adherence to the concept of "same activities, same risks, same rules", echoing the Financial Stability Board recommendations referenced earlier. This principle mandates that crypto-assets already covered by existing financial regulations should continue to be regulated under those frameworks. For instance, assets that are classified under existing legislation for financial instruments, securitized products or insurance schemes are explicitly excluded from MiCAR to prevent overlap and confusion.¹²⁹

5.1 Categories of crypto-assets

The regulation identifies three main categories of crypto-assets: e-money tokens (EMTs), asset-referenced tokens (ARTs), and other crypto-assets, each defined by distinct characteristics and regulatory requirements. The third category of crypto-assets includes a broad range of crypto-assets, including those used for specific applications or services, often referred to as utility tokens.¹³⁰ This third category of crypto-assets will not be examined further. Another important aspect of the regulation is the treatment of crypto-assets without a

¹²⁸ Rec. (6), MiCAR.

¹²⁹ Rec. (9), MiCAR.

¹³⁰ Rec. (18) & Art. 3, MiCAR.

centralized issuer, such as Bitcoin. As they do not have a centralized issuer, they are not covered by the main provisions of MiCAR concerning issuance and governance. However, they are still subject to rules pertaining to crypto-asset service providers (CASPs) that facilitate their use.¹³¹ The regulation also acknowledges the unique characteristics of non-fungible tokens (NFTs), stating that due to their unique and non-interchangeable nature, they do not fall under the standard regulatory provisions applicable to other types of crypto-assets.¹³²

E-money tokens, which are pegged to a single currency and function similarly to electronic money, are designed to be electronic surrogates for coins and banknotes and are used to make payments.¹³³ E-money tokens are essentially the category where fiat-backed stablecoins such as Tether and USDC fall into. The regulation distinguishes EMTs from electronic money defined in the E-Money Directive (EMD)¹³⁴ by emphasizing the nature of the holder's rights. While holders of electronic money are provided with a claim against the issuer of e-money and are contractually entitled to redeem their electronic money at any time, at par value, some EMTs lack such guarantees. This absence of a firm redemption right and par value can undermine investor confidence and poses risks unique to EMTs. To address these risks and prevent regulatory arbitrage, the regulation broadly defines EMTs to include all crypto-assets tied to a single currency, requires them to be issued only by authorized institutions, and requires issuers to allow redemption at any time at par value, ensuring robust protections for holders within the crypto market.¹³⁵

Asset-referenced tokens, in contrast, may reference a variety of assets or rights. The most famous example of an asset-referenced token would be the virtual currency Libra, proposed by the conglomerate headed by Facebook/Meta. The regulation emphasizes that the class of asset-referenced tokens covers all other crypto-assets, other than e-money tokens, whose value is backed by assets, in order to avoid circumvention and to future-proof the regulation. Because asset-referenced tokens possess more complex risk profiles and pose distinct risks in terms of financial stability and consumer protection, the regulation emphasizes their need for stricter regulatory scrutiny. For instance, asset-referenced tokens are required to have detailed governance and operational standards to ensure their stability and integrity.¹³⁶

¹³¹ Rec. (22), MiCAR.

¹³² Rec. (10), MiCAR.

¹³³ Rec. (18), MiCAR.

¹³⁴ Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC.

¹³⁵ Rec. (18) & (19); Art. 49, MiCAR.

¹³⁶ Rec. (40) & (41), MiCAR.

The regulation aims to ensure the protection and transparency for holders of crypto-assets by mandating that issuers provide complete, fair, clear, and non-misleading information in the crypto-asset white papers. They are required to contain key information about the asset including general information on the issuer and the underlying technology, rights and obligations of the holder, as well as on the risks related to the asset.¹³⁷ Public offerings and admissions to trading of ARTs is allowed only where the competent authority has authorised the issuer of such crypto-assets to do so and has approved the relevant crypto-asset white paper. This authorization requirement is however waived if tokens are offered exclusively to qualified investors or the public offering does not exceed five million euros.¹³⁸

Issuers of ARTs are required to provide details about the stabilization mechanisms, investment policies for reserve assets, custody arrangements and the rights of token holders. They are also required to continuously disclose the amount of tokens in circulation, the value and composition of reserve assets as well as any significant events that could impact token value.¹³⁹ The regulation also imposes requirements on the proper management of the issuers, mandating issuers to conduct their business honestly, fairly, and professionally, prioritizing the interests of token holders and establishing straightforward procedures for handling complaints. Issuers must also develop policies to identify, manage and transparently disclose any conflicts of interest that could arise from relationships with shareholders, management, employees or third-party service providers, ensuring these measures are robust against potential conflicts from significant stakeholders. The governance of the issuers of ARTs needs to be robust, with clear structures and processes to manage and report risks, ensuring that management bodies are composed of individuals that are fit and proper and that have not been convicted of money laundering or terrorist financing.¹⁴⁰

Issuers of EMTs are mandated to be authorized either as a credit institution under the Capital Requirements Regulation or as an electronic money institution under the E-Money Directive. Non-significant EMTs should be deemed to be “electronic money” as defined by the E-Money Directive. Their issuers are required to provide a white paper to inform buyers about the characteristics and risks of the e-money tokens and notify it to their competent authority.¹⁴¹ Holders of EMTs have a claim against their issuers, who are required to issue those tokens at par value and redeem them at par value in funds anytime.¹⁴²

¹³⁷ Rec. (24) & (25), MiCAR.

¹³⁸ Rec. (43), MiCAR.

¹³⁹ Rec. (47) & (48), MiCAR.

¹⁴⁰ Rec. (49–51), MiCAR.

¹⁴¹ Rec. (66), Art. 48, MiCAR.

¹⁴² Art. 49, MiCAR.

Issuers of both ARTs and EMTs are prohibited from granting interest in relation to the tokens, as are the crypto-asset service providers who make such tokens accessible.¹⁴³ Issuers of either type of tokens are also required to develop comprehensive recovery and redemption plans, ensuring preparedness for potential financial distress or operational disruptions.¹⁴⁴

5.1.1 Significant tokens

MiCAR puts considerable weight on regulating ARTs and EMTs that are deemed significant based on their footprint in the financial system. They are subject to stricter controls to address their unique risks on financial stability and monetary policy effectively. The significance of a token is based on factors such as the size of its user base, market capitalization and transaction volume. Issuers of significant tokens are subject to higher capital requirements, to interoperability requirements and they should establish a liquidity management policy.¹⁴⁵

ARTs are considered significant under criteria as defined in Article 43. The criteria involve several factors that reflect their market impact and systemic importance and include having more than 10 million holders, a market capitalization or reserve asset value exceeding five billion euros or handling daily transactions above 500 million euros. In addition, criteria can include the issuer's role as a gatekeeper platform as defined in the Digital Markets Act¹⁴⁶, the global significance of its activities, its interconnectedness with the financial system, and whether it issues other types of crypto-assets. The European Banking Authority can classify an ART as significant if it meets at least three of these criteria during specific reporting periods. The regulation mandates that EBA reevaluates the significance of these tokens annually, allowing for dynamic regulatory responses to changes in the crypto market landscape.¹⁴⁷

EMTs are considered significant if they fit in the criteria as defined in Article 56. Similarly to ARTs, EBA shall classify e-money tokens as significant if at least three of the criteria set out in Article 43(1) are met. The EBA is responsible for ongoing assessments, which include annual reevaluations to confirm whether the tokens still meet the criteria for significance. Article 56 also includes provisions for non-euro denominated significant e-money tokens, specifying conditions under which supervisory responsibilities remain with national

¹⁴³ Art. 40 & 50, MiCAR.

¹⁴⁴ Art. 46, 47 & 55, MiCAR.

¹⁴⁵ Rec. (59) & (71), MiCAR.

¹⁴⁶ Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act).

¹⁴⁷ Art. 43, MiCAR.

authorities rather than transferring to EBA.¹⁴⁸ Issuers can also voluntarily apply for their ARTs and EMTs to be classified as significant.¹⁴⁹

For ARTs and EMTs that are classified as significant, the regulatory scrutiny is substantially heightened compared to their non-significant counterparts. They face stricter oversight, including more rigorous compliance checks, enhanced disclosure requirements, and closer scrutiny of their operational resilience. This includes regular stress testing for liquidity and higher capital reserves to ensure stability and maintain investor confidence.¹⁵⁰ In addition, MiCAR introduces the concept of dual supervision for significant e-money tokens, involving both national competent authorities and the EBA.¹⁵¹ The preamble highlights that the dual supervision set up only to address the very specific nature of the risks posed by e-money tokens, and should not set a precedent for other legislative acts on financial services.¹⁵²

MiCAR also mandates the EBA to establish a college of supervisors for each issuer of a token that has been classified as significant.¹⁵³ This body enhances cooperation and information exchange among regulators and oversees significant crypto-asset issuers, ensuring comprehensive oversight. The EBA also has the authority to conduct inspections, impose supervisory measures, and levy fines. Fees are charged to these issuers to cover the costs of regulation, scaled to the size of their operations or the funds they handle. Additionally, delegated acts may further refine the criteria for classifying tokens as significant, enhancing investor protection and market integrity.¹⁵⁴

5.2 Own funds requirements

MiCAR requires the issuers asset-referenced to support their resiliency to sudden shocks by specific own funds requirements, which may be adjusted by competent authorities based on the risk profile of the issuer, the volatility of the reserve assets, and the scale of operations. The function of the own funds requirements is similar to the capital requirements provisions of the Basel framework, ensuring that issuers maintain a buffer to absorb financial shocks and protect investors against market volatilities and operational risks.¹⁵⁵

The article 35 of MiCAR requires issuers of ARTs to always have own funds at least equal to the highest of the following three measures: 350,000 euros; two percent of the average

¹⁴⁸ Art. 56, MiCAR.

¹⁴⁹ Art. 44 & 57, MiCAR.

¹⁵⁰ Rec. (59) & (71), Art. (45) & (56), MiCAR.

¹⁵¹ Art. 43(7), MiCAR.

¹⁵² Rec. (103), MiCAR.

¹⁵³ Art. 119 & 120, MiCAR.

¹⁵⁴ Rec. (105–107), MiCAR.

¹⁵⁵ Rec. (53), MiCAR.

amount of the reserve of assets, calculated daily over the previous six months; or a quarter of the fixed overheads from the preceding year.¹⁵⁶ The own funds consist of the Common Equity Tier 1 items and instruments as defined in Capital Requirements Regulation, which itself is implementation of the Basel III Accords, as described in sections 3.4.1 and 3.4.2.¹⁵⁷ However, competent authorities have the possibility to increase the own funds requirement by 20 percent or, based on stress tests, even up to 40 percent, if risk assessments indicate heightened risks associated with the issuer's operations, reserve asset volatility, or other relevant factors.¹⁵⁸

According to the draft regulatory technical standards concerning Article 35 issued by the EBA, the competent authorities must consider the likelihood of the issuer breaching regulatory requirements within the next 12 months, the assurance of redemption at par value and market value under all conditions, and the potential for significant deterioration in the value of reserve assets or the financial situation of the issuer when deciding whether to adjust the own funds requirements.¹⁵⁹

Article 35 of MiCAR does not apply to issuers of non-significant e-money tokens. However, the e-money directive stipulates own funds requirements for electronic money institutions to ensure their financial stability and ability to withstand financial stress. The requirements are detailed in Article 5 of the directive. Electronic money institutions must maintain own funds that do not fall below 350,000 euros or 2 percent of the average outstanding electronic money calculated from daily values over the preceding six months. Similar to the treatment of issuers of ARTs, competent authorities can adjust the required amount of own funds by up to 20 percent higher based on an evaluation of the institution's risk management processes, loss databases and internal control mechanisms. However, the e-money directive also allows the authorities to permit the amount of own funds to be 20 percent lower than the requirement, depending on its processes, databases and mechanisms.¹⁶⁰

The own funds requirements are the same for issuers of significant ARTs and significant EMTs, as the issuers of significant EMTs are required to follow the requirements of MiCAR Regulation instead of the e-money directive.¹⁶¹ The own funds requirement for these issuers is set at 3 percent of the average amount of the reserve assets instead of 2 percent, as set out in Article 45(5).¹⁶² The aforementioned upward adjustments of up to 20 or up to 40

¹⁵⁶ Art. 35(1), MiCAR.

¹⁵⁷ Art. 35(2), MiCAR.

¹⁵⁸ Art. 35(3) & 35(5), MiCAR.

¹⁵⁹ EBA/CP/2023/28.

¹⁶⁰ Art. 5, EMD.

¹⁶¹ Art. 58(1), MiCAR.

¹⁶² Art. 45(5), MiCAR.

percent still apply. When a token is classified as significant, it must adjust its own funds to comply with the higher requirements. Based on the draft regulatory technical standards issued by the EBA, the competent authority informs the issuer within 25 working days about the timeframe within which it must adjust its own funds to meet the specified requirements. This timeframe cannot be longer than three months. Within 20 working days, the issuer must submit a detailed plan on how to adjust its own funds.¹⁶³

5.3 Reserve of assets

The reserves of current major stablecoins Tether and USDC were touched upon in section 2.3. MiCAR emphasizes the importance of these reserves, essentially in order to make the stablecoins information-insensitive money. These requirements, especially related to significant ARTs and EMTs, are similar in idea to the liquidity requirements of Basel III.

To stabilize the value of tokens and manage the associated investment risks, issuers are required to establish contractual arrangements with third parties. This includes managing investments of reserve assets and ensuring the proper custody of these assets.¹⁶⁴ The reserve of assets should be sufficient to cover the liabilities towards token holders, especially in adverse scenarios such as insolvency. According to the preamble, these reserves must be prudently managed to mitigate market and currency risks, and issuers must disclose detailed policies on how these reserves are managed and adjusted. The custody of reserve assets must be with approved entities such as crypto-asset service providers, credit institutions, or investment firms, although delegating the custody of physical assets is also allowed.¹⁶⁵

Article 36 of the regulation outlines the specific requirements for the composition and management of reserves to cover associated risks effectively. It inserts requirements to the issuers of ARTs, whether significant or not, as well as significant issuers of significant EMTs. In addition, Article 58(2) allows the competent authority of the home member state of an EMT issuer to require the EMT issuer to abide by the reserve of assets requirements.¹⁶⁶

It's best to begin by examining the requirements of issuers of non-significant EMTs, then move on to the "base case" of ART reserve requirements, and finally assess the regulation concerning issuers of significant tokens.

The reserve of assets of issuers of non-significant EMTs is regulated by Article 7(1) of the electronic money directive as well as Article 54 of MiCAR. Article 7(1) of the e-money

¹⁶³ EBA/CP/2023/29.

¹⁶⁴ Rec. (52), MiCAR.

¹⁶⁵ Rec. (54) & (55), MiCAR.

¹⁶⁶ Art. 58, MiCAR.

directive stipulates that funds received for issued electronic money must be safeguarded promptly, specifically no later than five business days after electronic money issuance, ensuring the funds' availability and security. The issuer of the EMT is then required to always keep at least 30 percent of the funds received in separate accounts in credit institutions, and invest the remaining funds in highly liquid financial instruments with minimal market, credit, and concentration risks that can be liquidated rapidly with minimal adverse price effect, in the same official currency as the one referenced by the EMT.¹⁶⁷

Issuers of ARTs are subject to more stringent requirements under Article 36. They are required to constantly maintain a reserve of assets, specifically structured to cover the risks associated with the assets referenced by the tokens and address the liquidity risks linked to token holders' redemption rights. The reserves must be legally and operationally segregated from the issuers' other assets and reserves, safeguarding it against claims from creditors, especially in insolvency scenarios.

Issuers offering multiple asset-referenced tokens must also keep asset pools for each token segregated, ensuring independent and distinct asset management for each. In addition, issuers must clearly define the stabilization mechanism for the tokens, detailing the composition and risk assessment of the reserve assets. The reserve's value must be regularly assessed at market prices, using the same methodology as with money-market funds, with a mandated independent audit every six months to verify compliance with regulatory standards.¹⁶⁸

Issuers also need to keep a monthly updated, clear, transparent and accurate disclosure of the amount of asset-referenced tokens in circulation and the value and composition of the reserve of assets on their website. They also need to publish a brief, clear and accurate summary of the audit report as well as the full audit report on their website as soon as possible.¹⁶⁹

The core of the liquidity requirements are the provisions in Article 36(4) and especially in the draft regulatory technical standards published by the European Banking Authority. The standards provide detailed guidelines on managing the liquidity of reserve assets that support asset-referenced tokens, ensuring they are sufficiently liquid to meet any redemption requests. Article 36(4)(d) requires that the minimum amount of reserve assets held as

¹⁶⁷ Art. 7(1), EMD; Art. 38(1) & Art. 54, MiCAR.

¹⁶⁸ Art. 36, MiCAR.

¹⁶⁹ Art. 30, MiCAR.

deposits in credit institutions needs to be at least 30 percent of the tokens outstanding. The 30 percent requirement applies to each official currency referenced by the token.¹⁷⁰

The draft RTS concerning Article 36(4) specifies the amounts of assets in one-day and five-day maturity debt the reserve can hold. The RTS requires that at least 20 percent of the reserve assets must have a maturity of no longer than one working day. The number increases to 40 percent in the case of significant tokens. For assets with a maturity of up to five working days, the minimum liquidity level is set at 30 percent, which includes the assets maturing in one day. For significant tokens, this requirement rises to 60 percent.¹⁷¹

The draft RTS concerning Article 36(4) requires the issuers of stablecoins to overcollateralize their issued tokens.¹⁷² It essentially means that the issuers hold reserve assets whose total value exceeds the value of the tokens issued. The provision created by the EBA in the RTS is based on Article 36(7) of MiCAR, which mandates the issuer of an ART to determine the aggregate value of the reserve of assets by using market prices. The aggregate value of the reserve of assets shall be *at least* equal to the aggregate value of the claims from the holders of the ARTs.¹⁷³

Considering the volatile history of stablecoins, this practice is crucial, particularly for tokens that may face significant volatility and liquidity risks. This excess coverage helps build and maintain trust among token holders and potential investors, reassuring them that their tokens can be redeemed at any time without risk of default. This approach aims to mitigate the potential risk of the stablecoins depegging from their referenced assets. Essentially, the objective of the measures is to increase the information-insensitivity of the tokens and make them so-called “NQA money”. By ensuring that the reserve assets exceed the value of the tokens issued, overcollateralization also protects against massive redemption requests that could occur if token holders lose confidence in the token’s value. It ensures that the issuer can fulfill redemption requests promptly without destabilizing the financial system or the issuer's operations.¹⁷⁴

Article 37 of MiCAR emphasizes strict compliance with custody standards to protect the interests of token holders and ensure the integrity and stability of the reserve assets backing asset-referenced tokens. Traces of the turbulence in crypto-leaning banks such as Silicon Valley Bank and Silvergate can be sensed in the article. For instance, issuers must establish policies and procedures ensuring that reserve assets are not encumbered or pledged as

¹⁷⁰ Art. 36(4), MiCAR.

¹⁷¹ Art. 1 & Art. 2, EBA/CP/2023/25.

¹⁷² Art. 6, EBA/CP/2023/25.

¹⁷³ Art. 36(7), MiCAR.

¹⁷⁴ EBA/CP/2023/25, pp. 11–12.

collateral. Custody arrangements must avoid concentration risks both in terms of custodians and the assets themselves. Custody can be managed by different entities depending on the type of asset: crypto-assets by crypto-asset service providers, all asset types by credit institutions, and financial instruments by investment firms. Issuers must also continuously monitor and review the financial conditions of custodians and reassess their custody policies to ensure compliance with the regulatory requirements and to manage associated risks effectively.¹⁷⁵

Issuers may, but are not required to, invest the share of the assets received from issuing the tokens that is not deemed to be kept as deposits in credit institutions. The share to hold as deposits is 60 percent for issuers of significant EMTs. For issuers of non-significant EMTs, the share can be either 30 or 60 percent, depending on the decision by the competent authority based on perceived risk and regulatory considerations. The investment of reserve assets must be conservative, focusing on highly liquid, secure and low-risk assets to protect the value of the asset-referenced tokens from market fluctuations. Article 38 defines the investment policies of the reserve of assets. Investment policies must ensure that issuers can quickly liquidate these investments when needed to meet their obligations. This helps mitigate risks related to market fluctuations and other financial instabilities. All profits or losses from these investments are borne by the issuer.¹⁷⁶

EBA has further specified the highly liquid instruments in draft regulatory technical standards. The draft RTS refers to the LCR Delegated Regulation¹⁷⁷, which implements the liquidity coverage ratio requirements outlined in the Capital Requirements Regulation and aims to ensure that credit institutions maintain a sufficient reserve of high-quality liquid assets (HQLA). The draft RTS requires that stablecoin issuers comply with this regulation by only investing in HQLAs with minimal market, credit, and concentration risk. Eligible instruments include level 1 assets as defined in the Article 416(1) of CRR, examples including cash and exposures to central banks as well as transferable assets representing claims on or guaranteed by central governments of EU countries.¹⁷⁸ These assets are not subject to any haircut, meaning their full value can be considered when calculating liquidity. In addition, extremely high-quality covered bonds can be used, but only capped at 35 percent of the value of the reserve assets. For ARTs not tied to official currencies, such as those linked to gold or corporate bonds, financial instruments linking to them may be used.¹⁷⁹

¹⁷⁵ Art. 37, MiCAR.

¹⁷⁶ Art. 38, MiCAR.

¹⁷⁷ Commission Delegated Regulation (EU) 2015/61 of 10 October 2014 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for Credit Institutions.

¹⁷⁸ Art. 416(1), CRR.

¹⁷⁹ Art. 1, EBA/CP/2023/24.

For these tokens, derivatives could be used to manage risks or to speculate on changes in the underlying asset's price, but the RTS requires issuers to take into account net liquidity outflows and inflows from early closeout of hedging derivatives.¹⁸⁰

The draft RTS concerning Article 38(5) also sets rules concerning excessive exposure to any single stablecoin issuer among the reserve assets of financial institutions, particularly those dealing with highly liquid financial instruments. This aims at managing risk and ensuring diversification in the assets held by issuers. The article 3 of the RTS in question sets caps on the proportion of a financial institution's reserve assets that can be held in securities or instruments issued by a single entity or closely linked entities; for instance, only up to 35 percent of the market value of the issuer's reserve assets in zero-haircut or level 1 instruments are allowed to be held in a single institution. The cap is lower for other instruments, for instance, 10 percent for the high-quality covered bonds mentioned above.¹⁸¹

These regulations aim to ensure that financial institutions maintain a diversified portfolio that can withstand potential losses in one or more sectors or from a single counterparty. They also essentially implement the Basel standards on the prudential treatment of crypto-assets exposures introduced in section 4.1.

5.4 Other obligations of issuers of significant stablecoins

In addition to the higher own funds and deposit share requirements for issuers of ARTs and EMTs deemed as significant, MiCAR includes a number of other provisions. They are outlined in Article 45. Most crucially, they are required to regularly conduct stress tests on their liquidity and adhere to potential regulatory adjustments by the European Banking Authority.¹⁸²

In addition, issuers of significant stablecoins are required to have robust liquidity management policies and procedures to maintain operational stability even under liquidity stress scenarios.¹⁸³ These requirements have been specified by EBA in the draft RTS. For instance, issuers are required to have monitoring and internal reporting of liquidity risk, to ensure that they maintain adequate levels of their reserve of assets. These policies aim to ensure that issuers can meet redemption requests by holders of asset-referenced tokens and e-money tokens. Issuers must also develop and calibrate early warning systems to monitor deviations between the market values of the reserve assets and the tokens. In

¹⁸⁰ Art. 2, EBA/CP/2023/24.

¹⁸¹ Art. 3, EBA/CP/2023/24.

¹⁸² Article 45(4), MiCAR.

¹⁸³ Art. 45(3), MiCAR.

addition, issuers must have diverse liquidity risk mitigation tools and adequate access to diversified funding sources to address potential liquidity shortfalls as indicated by the early warning systems.¹⁸⁴

¹⁸⁴ EBA/CP/2023/26.

6 Analysis

This study has aimed to provide an extensive analysis of the approaches to regulating private money creation, specifically in the realm of cryptocurrencies. In the Regulation on Markets in Crypto-assets, the European Union has created the first major legislative attempt to create limits to issuance of money-like instruments in the crypto sphere. Balancing the objectives enhancing financial stability, promoting innovation and protecting customers poses inherent challenges.

My main research questions set out in the beginning of this study were:

- How does the Regulation on Markets in Crypto-assets mitigate the risks in financial stability associated with stablecoins?
- Is the regulation fostering innovation while ensuring financial safety and compliance?

To begin with the first question, MiCAR sets provisions to stablecoin issuers that make the issuers bank-like, even if not fully banks. The separation of significant and non-significant token issuers also has echoes of global banking regulation, which separates globally or domestically systemically important banks from those that are not. The requirements for backing issued stablecoins with deposits and high-quality liquid assets also have traits of money market fund regulation.

By requiring major stablecoin issuers to hold a significant proportion of their reserves in highly liquid financial instruments, such as cash or cash equivalents, the European Union is trying to ensure that the issuers can meet redemption requests quickly without significant price impacts. Issuers of major tokens are also required to overcollateralize their stablecoins, meaning they must hold more in reserve assets than the total value of stablecoins issued. Similar to capital requirements in traditional banking, stablecoin issuers must also maintain sufficient own funds. These funds act as an additional safeguard against insolvency, especially in scenarios where reserve assets might underperform or face sudden market downturns. MiCAR's provisions for risk management, operational resilience and safeguards on custody and concentration are also designed to mitigate the systemic risks associated with crypto-assets

All of these requirements are attempts to ensure that the stablecoin will maintain its peg to the asset that it is linked into, which, as we have seen, has been a major issue in the short history of stablecoins. Referring to the ideas presented by Holmström, Gorton and Zhang, discussed earlier, the measures of MiCAR attempt to increase the information-insensitivity of stablecoins—that their value would be generally accepted without the need for detailed

information about its underlying quality. By ensuring that stablecoins are backed by highly liquid assets and supported by robust financial practices, the regulatory requirements attempt to help in building and maintaining trust among users. If fiat-backed tokens in DLT-enabled systems are a future form of money, requiring the issuers to ensure their redeemability promptly and without significant costs contributes to their usability. This trust is crucial for stablecoins to be perceived as stable and reliable, akin to bank deposits or maybe even fiat currencies.

If only financial stability is the question, the provisions in MiCAR and the draft technical standards surrounding it do seem suitable to establish confidence into stablecoins. However, questions about whether the regulation is truly fostering innovation remain.

Prudential requirements set on issuers of significant stablecoins, especially the ones concerning liquidity and the reserve of assets, are high. They also seem to be experienced as such by the crypto industry, as responses to the draft RTS by EBA have included comments on how the fixed liquidity requirements might not be adaptive enough to keep pace with the rapidly evolving cryptocurrency and banking sectors. Many respondents also argued that the stringent concentration limits could create operational difficulties, especially given the scarcity of banks willing to engage with crypto businesses. In addition, concerns were raised that the requirements could impose undue stress on the repo market, potentially leading to liquidity issues.¹⁸⁵

Channeling the perspective Ogus' public and private interest theories on regulation, while providing the public good of financial stability—and protecting customers from the “lemons” of the stablecoin market, to use Akerlof's example—MiCAR may have also raised barriers to entry for stablecoin issuers. The new regulation most likely will come with high compliance costs, and for new or smaller crypto entities, these costs could be prohibitive, potentially blocking innovative products and limiting competition. In addition, it may have given traditional financial institutions a comparative advantage in adapting to these regulations, given their experience with regulatory compliance and their established capital and liquidity frameworks.

It is most obviously a balancing act. The regulation aims to balance innovation with strict compliance standards, protecting both investors and the broader financial system. Too lenient a regulatory framework could lead to abuses and instability, as seen in many high-profile crypto failures. By addressing the risks posed by stablecoins, such as their potential to bypass traditional banking systems and disrupt monetary policies, MiCAR at

¹⁸⁵ See e.g. responses to the consultation on RTS further specifying the liquidity requirements of the reserve of assets under MiCAR. See also Hansen & Bauer 2024.

least helps to integrate these digital assets into the financial ecosystem safely. The detailed requirements for capital adequacy, liquidity, and operational resilience under MiCAR are designed to ensure that stablecoins, particularly significant ones, can withstand market pressures and maintain stability even during periods of financial stress.

MiCA has the tools to tame the crypto space from the wild frontier anymore as it once was. It might be perceived by current operators as stifling innovation. However, regulation can increase the credibility of the crypto market among investors, consumers, and businesses by establishing basic guarantees on the transparency, reliability and accountability of service providers. It might even lead to fostering innovation *by* creating stability in the space. It remains to be seen how well this balancing act works.

7 Conclusion

The Regulation on Markets in Crypto-assets sets a high bar for stablecoin issuers, aiming to increase the information-insensibility of stablecoins and thus stabilize them to become more similar to traditional financial instruments. However, these strict requirements could potentially restrict the entry of new, innovative players in the crypto market. This might lead to a market dominated by large, established financial entities, potentially stifling innovation in the field of stablecoins.

While the intent behind MiCAR—to protect users and ensure financial stability—is justified, it's important for these regulations to be dynamic. They need to adapt to the rapid technological advances in the crypto sector to avoid hindering its growth. If the regulation becomes too rigid, it could limit the development of new financial technologies that might offer more efficient, secure, and cost-effective solutions than those currently available.

On the other hand, the constant flow of innovations in the sphere of digital assets will most likely not cease. This also keeps regulators active, and updates to the MiCA Regulation are already on the horizon. Article 142 of MiCAR mandates that the European Commission will, after consulting EBA and ESMA, provide a comprehensive report to the European Parliament on the emerging and existing gaps in the regulation of crypto-assets by the end of December 2024. Specifically, the report is required to contain assessment of four different sectors in crypto: decentralized finance; lending and borrowing of crypto assets; transfer of e-money tokens; and the market for unique and non-fungible crypto-assets. The commission is also mandated to accompany the report by legislative proposals, where necessary.¹⁸⁶

In addition, Article 140 stipulates that the Commission later provide interim and final reports on the effectiveness of the crypto-assets regulation to the European Parliament. The interim report is due by the end of June 2025 and the final report by the end of June 2027. These reports will assess the impact of MiCA on the crypto-asset market, evaluating everything from market capitalization and types of assets issued to the specifics of fraud incidents and the operational challenges faced by issuers.¹⁸⁷ By November 2025, the ECB also is due to decide whether to move to the next stage in the preparations with an European CBDC.¹⁸⁸ It is thus evident that the regulatory and monetary landscape for digital assets is poised for significant developments. These ongoing adjustments will necessitate further research and attentive monitoring to balance innovation with consumer protection and financial stability.

¹⁸⁶ Art. 142, MiCAR.

¹⁸⁷ Art. 140, MiCAR.

¹⁸⁸ European Central Bank 2023.

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Abbreviations

AML	Anti-money laundering
ART	Asset-referenced token
Art.	Article
AT1	Additional Tier 1 capital
BCBS	Basel Committee on Banking Supervision
BIS	Bank of International Settlements
BoE	Bank of England
BUSD	BinanceUSD, a stablecoin
CASP	Crypto-asset service provider
CBDC	Central bank digital currency
CCB	Capital conservation buffer
CCCB	Counter-cyclical capital buffer
CD	Certificates of deposits
CET1	Common Equity Tier 1 capital
CFTC	Commodity Futures Trading Commission
CP	Commercial paper
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
DAO	Decentralized autonomous organization
DeFi	Decentralized finance
DLT	Distributed-ledger technology
DORA	Digital Operational Resilience Act
EBA	European Banking Authority
ECB	European Central Bank
EMD	E-Money Directive
EMT	Electronic money token
ESMA	European Securities and Markets Authority

EU	European Union
FSB	Financial Stability Board
G-SIB	Global systemically important bank
G20	Group of 20
GSC	Global stablecoins
HQLA	High-quality liquid assets
KYC	Know-your-client
LCR	Liquidity coverage ratio
MAS	Monetary Authority of Singapore
MiCAR	Regulation on Markets in Crypto-assets
MiFID	Directive on Markets in Financial Instruments
MMF	Money-market fund
NFT	Non-fungible tokens
NQA	No-questions-asked
NSFR	Net stable funding ratio
OECD	Organisation for Economic Co-operation and Development
OTC	Over-the-counter
PUSD	Pax Dollar, a stablecoin
PWG	President's Working Group on Financial Markets
rCBDC	Retail central bank digital currency
Rec.	Recital
RTS	Regulatory technical standards
SSM	Single Supervisory Mechanism
T2	Tier 2 capital
U.S.	United States
USD	United States dollar
USDC	USD Coin, a stablecoin
USDT	Tether, a stablecoin
UST	TerraUSD, a stablecoin

