

Digital euro's legal framework

The legal framework concerning legal tender, privacy and inclusion

External author:
Annelieke MOOIJ



Supporting EU economic governance scrutiny



Digital euro's legal framework

The legal framework concerning legal tender, privacy and inclusion

Abstract

This report considers that the digital euro can be introduced under the ECB's primary mandate as legal tender and be remunerated. However, in order to lawfully create the proposed digital euro app, the ECB would require a mandate from the EU legislator under its secondary mandate which has to comply with article 119 TFEU, fundamental rights and data protection regulation. The supervision should be through the European Data Protection Supervisor. Finally, the digital euro should not exclude those lacking digital skills and minimum standards should be introduced regarding the availability of cash.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the ECON Committee.

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

AUTHORS

Annelieke MOOIJ, Assistant Professor Public Law and Governance, Tilburg University.

ADMINISTRATORS RESPONSIBLE

Giacomo LOI

Kai Gereon SPITZER

EDITORIAL ASSISTANT

Donella BOLDI

LINGUISTIC VERSIONS

Original: EN

ABOUT THE EDITOR

The Economic Governance and EMU Scrutiny Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU internal policies.

To contact the Economic Governance and EMU Scrutiny Unit or to subscribe to its newsletter please write to:

Economic Governance and EMU Scrutiny Unit

European Parliament

B-1047 Brussels

E-mail: egov@ep.europa.eu

Manuscript completed in May 2023

© European Union, 2023

This document and other supporting analyses are available on the internet at:

<http://www.europarl.europa.eu/supporting-analyses>

DISCLAIMER AND COPYRIGHT

The opinions expressed in this document are the sole responsibility of the authors and do not necessarily represent the official position of the European Parliament.

Reproduction and translation for non-commercial purposes are authorised, provided the source is acknowledged and the European Parliament is given prior notice and sent a copy.

CONTENTS

LIST OF ABBREVIATIONS	6
LIST OF FIGURES	7
EXECUTIVE SUMMARY	8
1. INTRODUCTION	10
2. PRIMARY MANDATE	11
2.1. ECB mandate background	11
2.2. Legal tender	11
2.3. Digital euro app	15
3. SECONDARY MANDATE & DIGITAL EURO APP	16
3.1. The general legal approach to the secondary mandate	16
4. PRIVACY & INCLUSION	19
4.1. Privacy & Settlement designs	19
4.2. Data Protection	23
4.3. Socio-economic Inclusion	26
CONCLUSION	31
REFERENCES	32

LIST OF ABBREVIATIONS

ECB	European Central Bank
ECOSOC	Economic and Social Committee
EDPS	European Data Protection Supervisor
ESCB	European System of Central Banks
GDP	Gross Domestic Product
NCB	National Central Bank
PAD	Payment Accounts Directive
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union

LIST OF FIGURES

Figure 1: Simplified version of synthesised settlement	21
Figure 2: Simplified version of intermediated settlement structure	22

EXECUTIVE SUMMARY

This paper examines three important aspects of the digital euro. The first part examines the question of whether the digital euro can receive the status of legal tender and receive remuneration. The European Central Bank (ECB) has the exclusive authority to issue banknotes with the status of legal tender. The secondary legislation defines banknotes through physical cash. This definition would exclude the digital euro from receiving the status of legal tender. The definition of banknotes, however, is primarily defined through secondary legislation. This definition can therefore be changed through secondary legislation. Such changes could include the digital euro receiving the status of legal tender. The next question is whether, if the digital euro receives the status of legal tender, it can be remunerated. This question is related to the legal foundation of the introduction of the digital euro and the definition of legal tender.

This paper finds that the digital euro can be considered legal tender and receive remuneration. The ECB's exclusive right to issue legal tender should not be interpreted as excluding its use as a monetary tool. Remuneration could furthermore be used to cushion inflationary pressures for the poorest. To this end, a remuneration structure could be tiered by the amount of digital euro an individual holds. Tiered remuneration entails different remuneration on different amount of holdings. I.e. the first €1000 will receive a 3% level of interest, whereas anything above that receives 2%. On the other hand, fundamental rights also prevent excess of negative remuneration for the first tier. As negative remuneration on the first tier (lowest income levels) would conflict with the right to life and right not to be subjected to inhumane treatment.

The second discussion concerned the secondary mandate and the digital euro app. It is unlikely that the creation of a payment infrastructure for consumers is part of the primary mandate of the ECB. In order to lawfully create the proposed digital euro app, the ECB would require the legal mandate from the EU legislator under its secondary mandate. The digital euro app, however, has to comply with article 119 TFEU and the fundamental rights.

This paper then examines the ECB's secondary mandate in relation to privacy law and social inclusion. In the progress reports, the ECB emphasises that privacy is an important feature of the digital euro. This paper considers that if the ECB opts for an intermediate system of settlement it receives access to personal data, thereby raising the question of whether the ECB is bound by legislation concerning data protection. This paper considers that the ECB has to respect data protection obligations. The regulation on data protection is aimed at all EU institutions, including the ECB, and does not create an undue political influence. The ECB therefore has to abide by Regulation 2018/1725. This regulation, however, excludes the protection of legal persons. The Charter of Fundamental Rights however does bestow the ECB with the obligation to protect the data of legal persons. Legal persons are therefore protected through their fundamental rights. It is this paper's recommendation that these obligations are further clarified through secondary legislation. Furthermore, the ECB is explicitly mentioned in article 13 Treaty on the European Union as an EU institution, the European System of Central Banks (ESCB) however is not. This situation would result in a confusing data protection system. Because the ESCB is generally treated as an EU institution, this paper recommends that the European Data Protection Supervisor (EDPS) should have the authority to control the ESCB as a whole, rather than that the national data protection authorities should be required to inspect national central banks.

The fourth issue this paper examined is that of inclusion. According to the progress reports, the ECB aims to extend the inclusion of currently underbanked through the digital euro. This paper considers that whilst economic inclusion is important, the issue is relatively small. The number of unbanked within the Eurozone is low and declining. The number of people within the Eurozone with limited

digital skills is much larger. The digital euro risks excluding those with lower digital skills. This paper therefore recommends that the ECB ensures the digital euro becomes available at low IT costs and is useable by those with limited digital skills. Furthermore, this paper recommends that the ECB and national central banks (NCBs) incorporate a plan to ensure everyone has the digital skills that are needed to use the digital euro.

1. INTRODUCTION

This report will discuss the progress on the investigation phase of the digital euro. This report examines the digital euro progress with regard to the European Central Bank's (ECB) legal mandate. This report examines both the primary and secondary mandate of the ECB in relation to the digital euro.

This report first discusses the primary mandate of the ECB and the possible status of legal tender for the digital euro (section 2). This section concludes that the digital euro can be awarded the status of legal tender and be remunerated. Negative remuneration should, however, be limited to the higher level holdings in a remuneration structure that is tiered according to the amount of holdings by individuals. This report will then continue by discussing the secondary mandate of the ECB in section 3. This mandate is relevant in relation to privacy and data protection. Section 3.2 will therefore discuss the legal framework of the digital euro concerning privacy and data processing. This section concludes that an intermediate settlement system has to abide by the data protection legislation. The current limitation under that framework is the legal framework with regard to legal persons. The protection of legal persons falls under the broad framework of the Charter of EU Fundamental Rights. The report therefore recommends including the data protection standards of legal persons in the secondary legislation on the digital euro. Section 3.3 discusses the aspect of social inclusion with regard to the digital euro. The digital euro aims to improve access to financial services for those currently unbanked. It is however this report's conclusion that there is a large risk of digital exclusion through the digital euro. In particular due to the lack of digital skills within the Eurozone, there is a risk of excluding large portions of the population. Hence a primary focus of the ECB would have to be the access to the digital euro for those with limited digital skill sets.

2. PRIMARY MANDATE

2.1. ECB mandate background

The primary mandate of the ECB is codified in article 127 Treaty on the Functioning of the European Union (TFEU) as price stability. The ECB has defined price stability as 2% inflation on the medium-term. This inflationary objective is the primary task of the ECB. In order to achieve its mandate, the ECB has been granted a large amount of independence. The European Parliament may ask questions to the ECB but it does not have an overriding instrument at its disposal. This relatively high level of ECB independence is vested upon the technical nature of the decisions it takes. Furthermore, too much influence from the political legislature could lead to high levels of inflation.¹ The high level of independence does not mean that the ECB is free from oversight or secondary legislation. Article 127(4) TFEU states that the ECB shall be consulted with respect to any act in its field of competence. *Ipso facto* secondary legislation can be drafted with regard to the ECB's field of competence. Such legislation, however, may not create a level of undue political influence.² The latter will be discussed in more detail with regard to the secondary mandate.

At present, it suffices to state that the ECB is an independent institution with regard to its primary mandate. The Commission and Parliament cannot draft legislation that forms an undue level of political influence. Nevertheless, the secondary legislation with regard to the digital euro should clarify certain issues. The first of which is the status of the digital euro.

2.2. Legal tender

The balances that consumers have upon their bank accounts are referred to as commercial bank money. Theoretically such payments do not have to be accepted by shopkeepers or governments. Cash, in theory, is the only legal tender that has to be accepted by each government and vendor. Article 128(1) TFEU states that the ECB has the sole authority to authorise the issuance of banknotes. Banknotes can furthermore only be issued by the ECB and the national central banks (NCBs). With approval of the ECB, Member States may issue coins. These banknotes and coins are the only currency with the status of legal tender. This raises the question whether the digital euro will receive the status of legal tender.

The first difficulty is that of the interpretation of the terms "banknotes" and "coins". If the digital euro is introduced, it does not comply with the traditional interpretation of banknotes. This interpretation has been confirmed in several pieces of secondary legislation,³ whereby one euro is defined as divisible by 100 cents.⁴ The Commission further confirmed legal tender as cash in 2010.⁵ A similar observation is made by Advocate General (AG) Pitruzzella in September 2020. In the conclusion, the AG states that

¹ Alex Cukierman, Steven B. Webb, and Bilin Neyapti, "Measuring the Independence of Central Banks and its Effect on Policy Outcomes," *The World Bank Economic Review* 6, no. 3 (1992): 353-398 and William Nordhaus, "The Political Business Cycle," *The Review of Economic Studies* 42, no. 2 (1975): 169-190.

² Judgment of 13 May 2003, *Commission v European Central Bank*, Case C-11/00, ECLI:EU:C:2003:395.

³ Madrid European Council, Presidency Conclusions, 15 and 16 December 1995, [1995].

⁴ Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, OJ L 139, 11.5.1998, preamble 2, p. 1-5 and Council Regulation (EC) No 1103/97 of 17 June 1997 on certain provisions relating to the introduction of the euro, OJ L 162/1997, p. 1-3.

⁵ Commission Recommendation of 22 March 2010 on the scope and effects of legal tender of euro banknotes and coins, [2010] OJ L 83/2010, p. 70-71.

money can take several forms.⁶ The status of legal tender is only provided to banknotes and coins,⁷ thus supporting the idea that only physical cash is legal tender. The emphasis is placed on physical currency as legal tender, which would support the idea that a digital euro could not be considered legal tender. Nevertheless, if the digital euro is introduced without the status of legal tender, this would conflict with the Court of Justice of the European Union (CJEU) judgement in the same case.

In the case of *Dietrich and Häring v. Rundfunk*, the CJEU considered that national legislation or policy may prohibit the payment in cash (legal tender) only when five conditions were met. These conditions are that the policy may not change the status of legal tender, *de jure* or *de facto* abolish banknotes, the adoption of such policy is for reasons of public interest, is appropriate for achieving said interest, and is proportional.⁸ Introducing the digital euro may lead to a *de facto* abolishment of banknotes. Therefore the digital euro may only be introduced through the EU legislator in accordance with article 133 TFEU, except if the digital euro is considered a part of monetary policy which is an exclusive competence of the ECB. This raises the question of who has competence to introduce the digital euro. The division between the two is somewhat technical. The competence to define the status of legal tender and the use of cash remains with the EU legislator. Hence the legislator may create obligations with regard to the availability of cash. The availability of cash may reverse the decline in cash or at least allow those who prefer cash to continue to pay with it. The core introduction and technical design of the digital euro as a monetary instrument falls within the exclusive competence of the ECB. Nevertheless, even within the core competence of the monetary policy, there is debate about the digital euro's status as legal tender and the possibility of remuneration. Some scholars argue that when the ECB issues a digital euro, it should automatically be considered legal tender. Their argument is that the digital euro represents a banknote issued by the ECB, which therefore has the status of legal tender according to article 128(1) TFEU.⁹ There are further practical and legal arguments to consider the digital euro as legal tender. In *Dietrich and Häring v. Rundfunk*, the CJEU considered that the national court had to determine whether alternative means of payment were available.¹⁰ Such alternative means of payment could be facilitated through the digital euro. The legal issue with awarding the status of legal tender to the digital euro, however, is that of remuneration.

It is not clear whether the digital euro can be remunerated if it is awarded the status of legal tender. The second progress report states that the digital euro will be designed in a flexible manner, whereby the capability of awarding remuneration is included.¹¹ The question of remuneration therefore is an important design facet. Some scholars argue that if the digital euro is introduced as legal tender, it cannot be remunerated. The first reason is that legal tender is issued through article 128 TFEU, which excludes the use for monetary policy under article 127 TFEU.¹² The second argument is that the digital euro as legal tender should mimic banknotes which are not remunerated. Neither of these arguments are conclusive.

⁶ Opinion of Advocate General Pitruzzella, 29 September 2020, Case C-422/19 & C-423/19, *Dietrich & Haring v. Rundfunk*, ECLI:EU:C:2020:765, para. 83.

⁷ Opinion of Advocate General Pitruzzella, para. 87.

⁸ Judgment of 12 February 2004, *Rechnungshof v Österreichischer Rundfunk and Others*, Case C-465/00, ECLI:EU:C:2004:89, para. 79.

⁹ Seraina Grünwald, Corinne Zellweger-Gutknecht, Benjamin Geva, "Digital euro and ECB powers," *Common Market Law Review* 58, no. 4 (2021): 1029-1056, <https://kluwerlawonline.com/journalarticle/Common+Market+Law+Review/58.3/COLA2021066>.

¹⁰ *Rechnungshof v Österreichischer Rundfunk and Others*, para 77.

¹¹ European Central Bank, 'Progress on the investigation phase of a digital euro,' (2022), 9, https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov220929.en.pdf?8eec0678b57e98372a7ae6b59047604b.

¹² Seraina Grünwald, Corinne Zellweger-Gutknecht, Benjamin Geva, "Digital euro and ECB powers".

The first argument concerns that of the relationship between articles 127 and 128 TFEU. Article 127 TFEU bestows several tasks upon the ECB. These tasks will have to be executed, but there are no rights or monetary tools listed within this article. The tools used by the ECB are primarily listed in the Protocol on the Statute of the ESCB.¹³ The authorisation of the issuance of legal tender is listed as an exclusive right to the ECB in article 128 TFEU. It is thus a right that does not per se exclude a digital euro from being used as a monetary tool. However, article 16 of the Protocol states that when issuing banknotes, the ECB will follow the existing practices with regard to issue and design.¹⁴ The existing practice supports the second argument that the design of a digital banknote should be equivalent to a cash note.¹⁵ Problematically, abiding by the concept of "existing practices" would form a strong argument against introducing the digital euro. Existing practices of cash issue would further include anonymity and absence of a volume limitation.¹⁶ These ideas are not consistent with the intended design of the digital euro, as neither full anonymity nor an unlimited volume is desired.¹⁷ The main problem with both these arguments is the lack of legal definitions. Neither the definition of a banknote nor that of legal tender can be found within primary law. It is therefore easier to reinterpret the digital euro under current practices. As AG Pitruzzella however states the EU legislator remains free to (re)define legal tender.¹⁸ It is therefore up to the EU legislator to introduce some of the contours of the digital euro.

Introducing the digital euro as the functional equivalent of cash banknotes and excluding the possibility of remuneration would undermine many of its potential benefits to monetary policy.¹⁹ Not considering the digital euro as legal tender largely defeats its purpose of preserving the euro as a means of payment. Simply allowing (digital) banknotes to be subject to interest rates is a possibility. However, the definition of legal tender generally includes the aspect "store of value".²⁰ It is argued that the criterion "store of value" prohibits the digital euro from being used as a monetary instrument, and thus remuneration.²¹ The concept of store of value is, however, not mentioned in the Commission's recommendation on the definition of legal tender.²² The store of value as a condition for legal tender is often not included because it conflicts with the concept of inflation.²³ Inflation reduces the value of money. If store of value is included as part of the definition of legal tender, it raises various questions about the inflationary objectives of the ECB. Whilst modern definitions of legal tender would not exclude remuneration of legal tender, there are some objections against such use. These include more

¹³ European Central Bank, Protocol On The Statute Of The European System Of Central Banks And Of The European Central Bank, https://www.ecb.europa.eu/ecb/pdf/orga/escbstatutes_en.pdf.

¹⁴ European Central Bank, Protocol On The Statute Of The European System Of Central Banks And Of The European Central Bank, Article 16, https://www.ecb.europa.eu/ecb/pdf/orga/escbstatutes_en.pdf.

¹⁵ Helmut Siekmann, "Legal Tender in the Euro Area," *IMFS Working Paper Series*, No. 122, Goethe University Frankfurt, Institute for Monetary and Financial Stability (IMFS), (2018): 27, <https://nbn-resolving.de/urn:nbn:de:hebis:30:3-475960>.

¹⁶ Helmut Siekmann, "Legal Tender in the Euro Area," 27-28.

¹⁷ European Central Bank, 'Progress on the investigation phase of a digital euro,' 1.

¹⁸ Opinion of Advocate General Pitruzzella, para 89.

¹⁹ For more economic analysis see: Prasad, Eswar S. *The Future of Money: How the Digital Revolution Is Transforming Currencies and Finance*, New York: HUP, 2019, pp. 193-239 and Walter Engert and Ben Siu-Cheong Fung, "Central bank digital currency: Motivations and implications," *Bank of Canada Staff Discussion Paper*, no. 16 (2017): 5-6, <https://www.bankofcanada.ca/wp-content/uploads/2017/11/sdp2017-16.pdf>.

²⁰ See also: Caspar G. de Vries, "Legal Tender And The Value Of Money In Finite Economies," *IIASA Collaborative Paper*, (1983), <https://pure.iiasa.ac.at/id/eprint/2320/>

²¹ Seraina Grünwald, Corinne Zellweger-Gutknecht, Benjamin Geva, "Digital euro and ECB powers," 1036.

²² European Union, European Commission, "Commission Recommendation of 22 March 2010 on the scope and effects of legal tender of euro banknotes and coins," 2010/C 82/01, Official Journal of the European Union, C 82/1 (2010): 1-4, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010H0191&from=EL>.

²³ Philipp Bagus, David Howden, Amadeus Gabriel, "Causes and Consequences of Inflation," *Business and Society Review* 119(4) (2014): 507, <https://doi.org/10.1111/basr.12043>.

social aspects such as the symbolic value of legal tender as a public good. Would the trust in and value of “public money” under a changing (and potentially negative) interest rate remain stable? Nevertheless through remuneration, and particularly tiered remuneration, the ECB could address some of the social injustice of inflationary policies. Tiered remuneration is the policy whereby the amounts of holdings are broken into different layers (or tiers). The different tiers are remunerated with different levels of interest. For example the first €1,000 is remunerated with 2% interest, whilst the amount between €1,000-1,500 is remunerated with 1% interest rate. This system of remuneration can counter the redistributive effects of inflation. Inflation has redistributive effects upon society that hit the lowest income harder than higher levels of income. These effects are barely discussed by lawyers and economists alike.²⁴ These effects are closely related to fundamental rights and increase as inflation levels rise.²⁵ These redistributive effects which largely flow from poor to rich, can be mitigated through tiered remuneration. The bottom tier could be linked to the levels of inflation to allow starters to save for a first house without suffering losses. Whilst these are possibilities, there is a difficulty with regard to who may decide upon the interest rates.

The independence of the ECB is vested in article 130 TFEU. This independence safeguards the ECB’s decision-making with regard to monetary policy. If remuneration is introduced as part of the ECB’s monetary tools, the EU legislator may not seek to influence the ECB decision-making. This would include the level of remuneration and the level of tiers. However, the ECB also has a secondary mandate which would have to include objectives such as social justice.²⁶ This mandate will be discussed in depth in the next section. It can however be concluded that both the legal tender and the option of remuneration should be part of the legal framework concerning the digital euro. The details of the remuneration levels will remain with the ECB. The EU legislator can, and should, provide guidelines for the ECB to consider when setting the levels of remuneration. Additionally, the ECB will have to abide by the fundamental rights guaranteed by the EU Charter of Fundamental Rights. It is likely that a negative remuneration on digital euros of those persons close to or below the poverty line is undesirable. To decrease the digital euros of such persons would increase their financial worries. Theoretically they can hold their savings in cash but this creates alternative difficulties. The first is the insecurity of cash as cash can be lost, accidentally destroyed or stolen. Secondly, if the cash is needed later in the month, the person would have to both first take it out of the bank and put it back onto a bank account in order to use it. It would thus be contradictory to the right of social assistance to end poverty identified in article 34(3) of the EU Fundamental Rights Charter. Hence a negative remuneration may be limited to digital euros in excess of the first tier.

The debate above primarily concerns the design of the digital euro with regard to the primary mandate of the ECB. There are, however, additional questions to be considered such as privacy and inclusion. These issues relate to the independence of the ECB in relation to fundamental rights and its secondary mandate. These issues will be discussed in the next section of this report. Before discussing the secondary mandate, it is however important to examine the payment infrastructure the ECB is intending to create.

²⁴ Philipp Bagus, David Howden, Amadeus Gabriel, “Causes and Consequences of Inflation,” 499.

²⁵ See: Whiteboard Magazine, ‘Can inflationary policy violate human rights?’ (2011), available at: <https://whiteboardmagazine.com/2527/can-inflationary-policy-violate-human-rights/>.

²⁶ See article 127 TFEU jo. 3(3) TEU.

2.3. Digital euro app

In the third progress report on the digital euro, the ECB considers introducing its own payment infrastructure. The app should allow consumers to connect to intermediaries, allow them to pay and allow intermediaries to build their own infrastructure on top of the ECB's infrastructure.²⁷ There is little information about the expected contours of this app. The ECB's basic tasks includes to "promote the smooth operation of payment systems".²⁸ Arguably therefore the ECB can introduce the payment app as part of its basic task to promote smooth payments. Whilst the core of this argument is valid, the current extent of the app can be questioned.

This part of the mandate has not been the subject of case law and it is therefore difficult to predict the CJEU's judgement. It has given the ECB a large margin of discretion²⁹ and could apply the same level of discretion to the digital euro app. Nevertheless, the text of the Treaty uses the term "promote". The definition of "promote" suggests an active role for the ECB regarding research and technical facilitation. However, the term "promote" is also clearly different from the word "take-over". In the third progress report, the ECB first considers building a platform that can be integrated by the intermediaries. This type of platform is aligned with the task to promote smooth payments. Yet, the ECB then continues by stating that consumers can connect with intermediaries. This could mean that the consumer must already be a customer with an intermediary or that the consumer could find potential intermediaries. The ECB then considers that the app should allow customers to pay through the ECB app itself. These functionalities are no longer a simple "promotion" of smooth payment. Rather, the ECB seems to be largely replacing payment infrastructure providers. It is difficult to consider the latter to be part of "promoting" smooth payments rather than taking over payment infrastructure. The latter should no longer be considered part of the ECB's primary mandate, which raises the question whether these functionalities can be considered part of the secondary mandate. Additionally, the involvement of connecting customers to their account raises questions on data protection. Using the app as a foundation for smaller intermediaries raises the question of what intermediaries should be included or excluded. In particular, should all foreign intermediaries be included?

The next section of this report will therefore discuss the secondary mandate of the ECB and the applicability of secondary legislation.

²⁷ European Central Bank, 'Progress on the investigation phase of a digital euro – third report,' 8.

²⁸ See article 127(2) TFEU.

²⁹ See cases:

Judgment of the Court (First Chamber) of 16 June 2015, *Peter Gauweiler a.o. v. Deutscher Bundestag*, Case C-62/14, para 68, available at: <https://curia.europa.eu/juris/document/document.jsf?text=&docid=165057&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=2011315>;

Judgment of the Court (Grand Chamber) of 11 December 2018, *Heinrich Weiss a.o. v. Deutscher Bundesregierung*, Case C-493/17, available at: <https://curia.europa.eu/juris/document/document.jsf?text=&docid=208741&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=2270613>.

3. SECONDARY MANDATE & DIGITAL EURO APP

The previous sections have discussed the various aspects of the primary mandate of the ECB. The consideration of a digital euro app raises questions with regard to the ECB's secondary mandate. The secondary mandate, however, is vague and its interpretation is less clear. The secondary mandate, sometimes referred to as the economic mandate, is described in article 127 TFEU as:

*"[...]Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union. The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources, and in compliance with the principles set out in Article 119."*³⁰

The objectives laid down in article 3 TEU are broad and vague. Among others, these objectives include peace, social inclusion, solidarity and respect for diversity. These objectives could challenge the institutional structure of the ECB, i.e. its independence. The ECB is considered the most independent central bank in its relation to governments and parliaments, and its governors are not democratically elected. Allowing the ECB to take political decisions would therefore be difficult to reconcile with the democratic principles. This difficulty is what makes the secondary mandate challenging. Nevertheless, this mandate is important with consideration to whether the ECB can introduce a digital euro app, privacy and inclusion.

The following paragraphs will therefore discuss the interpretation of the secondary mandate with regard to introducing the app. The second section will then discuss privacy with regard to the digital euro. The third section will discuss social inclusion with regard to the digital euro.

3.1. The general legal approach to the secondary mandate

The first question that needs to be considered with regard to the secondary mandate is whether it can form the basis of power for the ECB. The second question that needs to be answered is to what extent secondary legislation may limit the ECB in exercising both its primary and secondary mandate. There is no case law on whether the secondary mandate can provide the legal basis for ECB actions. There are, however, two reasons to argue why it cannot.

The first argument can be found within the text of the Treaty.³¹ The Treaty uses the term "support". This term suggests that it would be unlawful for the ECB to use its secondary mandate as legal basis. Furthermore, article 120 TFEU allocates competence for general economic policy with the Member States. Therefore for the ECB to use its secondary mandate as legal foundation would quickly encroach upon the competences of the Member States. The second argument against using the ECB's secondary mandate as a source of competences is the ECB's institutional structure. The independence of the ECB rests upon several economic theories, wherein economists argue that independent central banks better achieve their inflationary goals.³² This would be due to the lack of influence from the political cycle. The political cycle theory argues that politicians promise free goods during elections. To pay for

³⁰ Article 127, Treaty on the Functioning of the European Union.

³¹ Consolidated version of the Treaty on the Functioning of the European Union, Article 127, p. 14, <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op276~3c53a6755d.en.pdf>.

³² Alex Cukierman, Steven B. Webb, and Bilin Neyapti, "Measuring the Independence of Central Banks and its Effect on Policy Outcomes."; James M. Buchanan, "The Calculus of Consent: Logical Foundations of Constitutional Democracy" (1962).

these goods, the politicians would turn on the money printing press and thus cause hyperinflation.³³ Furthermore, price stability policies require technical analysis, rather than political choices. The latter can be questioned in light of the euro-crisis and COVID19.³⁴ The secondary mandate, however, is less clear. Arguably it would be difficult to hold the ECB accountable under this mandate.³⁵ With regard to this difficulty it would be against the democratic principles to consider the secondary mandate a legal foundation for ECB actions. To introduce a digital euro app that provides services beyond facilitating basic infrastructure thus cannot be done solely on the basis of the secondary mandate, thus raising the question of whether the ECB can lawfully introduce a digital euro app. There are two alternative interpretations of the secondary mandate.

The first is whereby the secondary mandate should be seen as guidance in relation to the primary mandate. This vision is best described by ECB executive board member Elderson. He considers that if there is a choice between two equally effective policies, the ECB must decide based upon the secondary mandate.³⁶ This interpretation is wider than that described within the Randzio-Plath report on the ECB.³⁷ This report limits the secondary mandate of the ECB to contributing to economic growth through interest rates.³⁸ Such an interpretation excludes many other goals listed in article 3 TEU. This interpretation therefore seems too narrow under the current circumstances. The broader interpretation that includes all the goals of article 3 TEU seems more consistent with the current interpretation of the Treaties. A choice between policies should thus be decided considering all goals of article 3 TEU. Under this interpretation, a digital euro app could not be introduced as currently proposed as it is not part of the primary mandate and therefore there is no "choice" between primary mandate policies. This reading of the secondary mandate seems straightforward but contains some challenges.

The secondary mandate contains a wide number of objectives. These objectives can be complementary, independent or even substitute each other.³⁹ This means that the ECB is often faced with choices that are political in nature⁴⁰ for example, because it is faced with a substitute and must choose to harm one objective to promote the other or to choose what policy to promote. It is therefore argued that to make such choices, the ECB would need guidance from the legislator.⁴¹ The CJEU, however, does not perform strict judicial review with regard to the ECB. In the *Gauweiler* and *Weiss* cases, the CJEU considered that the ECB has a wide margin of discretion when taking technical monetary policy decisions.⁴² Therefore, when the ECB is faced with a policy choice to achieve its primary

³³ William Nordhaus, "The Political Business Cycle."

³⁴ Annelieke Mooij, "The role of the European Central Bank in response to COVID19. An evaluation of its mandate," *Journal of European Integration* (2022) DOI: 10.1080/07036337.2022.2120479

³⁵ Rosa M. Lastra & Kern Alexander, "The ECB Mandate: Perspectives on Sustainability and Solidarity," *Monetary Dialogue Papers* (2020).

³⁶ European Central Bank, 'Tackling climate change as a central bank: Between motivation, obligation and limitation,' (2021), available at: https://www.ecb.europa.eu/press/tvservices/podcast/html/ecb.pod210512_episode16.en.html.

³⁷ Christa Randzio-Plath, "Report on democratic accountability in the 3rd phase of EMU," Report - A4-0110/1998 European Parliament (1998).

³⁸ Christa Randzio-Plath, "Report on democratic accountability in the 3rd phase of EMU".

³⁹ Christophe Blot, Jérôme Creel, Emmanuelle Faure, Paul Hubert, "Setting New Priorities for the ECB's Mandate," *Monetary Dialogue Papers* (2020), 14. https://www.europarl.europa.eu/cmsdata/207721/OFCE_FINAL2%20online.pdf.

⁴⁰ Jens van 't Klooster and Nik de Boer, "What to Do with the ECB's Secondary Mandate," *Journal of Common Market Studies* (2022): 1-17, <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jcms.13406>.

⁴¹ Jens van 't Klooster and Nik de Boer, "What to Do with the ECB's Secondary Mandate," and Bruegel, 'The ECB needs political guidance on secondary objectives,' (2021), accessed on: <https://www.bruegel.org/comment/ecb-needs-political-guidance-secondary-objectives>

⁴² Judgment of the Court (First Chamber) of 16 June 2015, *Peter Gauweiler a.o. v. Deutscher Bundestag*, Case C-62/14, para 68, available at: <https://curia.europa.eu/juris/document/document.jsf?text=&docid=165057&pageIndex=0&doclang=EN&mode=lst&dir=&occ=firs t&part=1&cid=2011315>;

mandate, the CJEU will refrain from a strict level of judicial review. The European Parliament can hold the ECB accountable for its decisions through the monetary dialogue. The European Parliament, however, does not have an overriding mechanism. The ECB therefore operates in a de facto legal vacuum. Therefore, whilst board member Elderson emphasises the legal term “shall” in the secondary mandate as a legal obligation for the ECB, legally, there is no enforcement mechanism. Even if a digital euro app would be introduced, it would thus come with a limited level of judicial review. There is, however, another possible interpretation to the secondary mandate.

Another reading of the secondary mandate would be that the ECB can only act in support of general economic policies, meaning that it can only act when it is explicitly given a mandate to (not) undertake action by the competent authorities. This would mean that the secondary mandate empowers both the competent authorities to ask the ECB for support and to guide the ECB with regard to what secondary objectives should take priority. The ECB, through secondary legislation and its secondary mandate, is to aid in executing these tasks, whereby the secondary mandate limits the ECB to abide by the “*principle of an open market economy with free competition, favouring an efficient allocation of resources*”.⁴³ The Union can ask for the ECB’s assistance or provide political guidance on its secondary mandate but may not infringe on its independence. Within this interpretation the ECB would be able to provide the basic infrastructure necessary for intermediaries to use the digital euro under its primary mandate. The EU legislator, in accordance with article 133 TFEU, can provide the legal framework for the digital euro app. If the legislator chooses to do so, the ECB can develop the additional functionalities within the legal framework provided by the legislator. This framework can furthermore be strictly reviewed by the CJEU. The latter would provide a stronger judicial safety net without endangering the ECB’s independence.

This interpretation would abide by a reading of article 127 TFEU together with article 119 TFEU. Article 119 TFEU states that the Union will adopt an economic policy based on close coordination of the economic policies of the Member States. The economic policy is established, in article 119 TFEU, for the purposes in article 3 TEU.⁴⁴ At the same time the euro and monetary policy were introduced through article 119(2) TFEU to support this policy.⁴⁵ Arguably, therefore the ECB as executor of the monetary policy should support these policies if it does not violate its primary mandate. When the Maastricht Treaty was drafted, it was envisioned that the Member States would closely coordinate their economic policies. This, however, did not take place and economic policy is only loosely coordinated between the Member States, therefore leaving the secondary mandate of the ECB largely unused. The digital euro, nevertheless, needs coordination and guidance from the legislator, which can provide as long as the legislator respects the ECB’s monetary independence and article 119 TFEU. The latter means that the app may not unfairly compete with the principles of competition law. Due to the special nature of the ECB as a central bank, this criterion is difficult to meet.⁴⁶ Article 119 TFEU is, however, not the only limitation that should be considered.

Judgment of the Court (Grand Chamber) of 11 December 2018, *Heinrich Weiss a.o. v. Deutscher Bundesregierung*, Case C-493/17, available at: <https://curia.europa.eu/juris/document/document.jsf?text=&docid=208741&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=2270613>.

⁴³ Article 127, Treaty on the Functioning of the European Union.

⁴⁴ Article 119(1), Treaty on the Functioning of the European Union.

⁴⁵ Article 119(2), Treaty on the Functioning of the European Union.

⁴⁶ Annelieke Mooij, “A digital euro for everyone. Can the European System of Central Banks introduce general purpose CBDC as part of its economic mandate?” *Journal of Banking Regulation* 24 (2023): 89-104.

The ECB as an institution is in its actions bound by the Charter of Fundamental Rights of the European Union. The choice between monetary policies should not primarily be guided by the secondary mandate. Rather, this choice is guided by the Charter of Fundamental Rights of the European Union. The fundamental rights apply to the Union institutions in all their acts.⁴⁷ The fundamental rights effectively encompass the goals listed in article 3 TEU. Furthermore, these rights entail a negative duty for the ECB not to violate the rights held within. Fundamental rights hold positive duties for the EU institutions to promote these rights.⁴⁸ These positive duties are established through the fair balance test, whereby the balance between the general interest and that of the individual are weighed.⁴⁹ When the ECB faces a challenge between two monetary policy options that contain substitutionary goals, the fundamental rights can determine which option the ECB should choose. If the ECB faces a choice whereby the goals can be achieved independently of each other, political guidance should be provided through the secondary mandate.

In theory, this interpretation of the secondary mandate provides a solution to various issues. It enables the EU legislator to provide guidance to the ECB in case of choice between policies to achieve its primary mandates. Furthermore, the EU legislator would be able to provide the ECB with the competences to support economic policy, whereby the general fundamental rights serve as an overarching framework at all times. This is relevant with regard to privacy but also when a disagreement exists on what intermediaries should have access to the payment platform. I.e.: should intermediaries from all countries be included?

There is however an issue with this interpretation; the legislator did not intend such an interpretation. The Maastricht Treaty was signed in 1992, whilst the Charter did not come into force until 2009. The rights from the Charter are likely to play a bigger role when examining the digital euro. The next section will therefore discuss the digital euro with regard to privacy and inclusion.

4. PRIVACY & INCLUSION

4.1. Privacy & Settlement designs

The reports of the ECB show that privacy is considered an important aspect to its potential users.⁵⁰ The second progress report considers that privacy is safeguarded by arguing that customer information will remain with the commercial banks.⁵¹ The ECB will not be able to access customer accounts, only settle the transactions. The ECB will not have access to the private information of the customers. The commercial banks will have to abide by anti-money laundering and countering of financing of terrorism obligations (AML/CFT). The commercial banks furthermore will have to abide by privacy

⁴⁷ Steve Peers, "Towards a New Form of EU Law?: The Use of EU Institutions Outside the EU Legal Framework," *European Constitutional Law Review* 9, no. 1 (2013): 51-52.

⁴⁸ Judgment Strasbourg 13 June 1979, *Case Of Marckx v Belgium*, Application No. 6833/74, available at: [https://hudoc.echr.coe.int/fre#{%22itemid%22:\[%22001-57534%22\]}](https://hudoc.echr.coe.int/fre#{%22itemid%22:[%22001-57534%22]})

⁴⁹ Ibid.

⁵⁰ European Central Bank, 'Report on the digital euro' (2020), https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf, p. 11

Michiel Bijlsma, Carin van der Cruisen, Nicole Jonker & Jelmer Reijerink, "What triggers consumer adoption of CBDC?" *De Nederlandsche Bank Working Paper* No. 707 (2021): 3. https://www.dnb.nl/media/amwfjgqey/working_paper_no-709.pdf

European Central Bank, 'Progress on the investigation phase of a digital euro – second report,' (2022), 7 https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov221221_Progress.en.pdf?91e0b8ff8cbd6654d7e6b071a8f7071

⁵¹ European Central Bank, 'Progress on the investigation phase of a digital euro – second report,' 7.

obligations. It is therefore considered that the digital euro complies with privacy concerns. This consideration is, however, largely underexplained.

The ECB states that it can neither infer how many digital euros are held nor infer payment patterns.⁵² The ECB, however, also states that the central banks of the Eurozone (ESCB) will perform settlement, including verification and recording.⁵³ The ESCB will therefore verify if an account holds enough digital euros to conclude the transaction. Secondly, the ESCB will record the transactions. The ECB explains this choice by stating that the digital euro will be liabilities held against the ECB.⁵⁴ If the ECB verifies and records transactions, it can infer payment patterns. The ECB continues to explain that the design of settlement will be to minimise the role of the ECB. Furthermore the system should be simple, in particular for settling transactions within the same intermediary.⁵⁵ This could mean that the ECB will only settle transactions between the different intermediaries (see Figure 1).

Figure 1 demonstrates a simplified settlement overview, generally referred to as a “synthetic CBDC”. In this settlement system, the ECB would not be able to infer concrete data patterns. The commercial banks (intermediaries) would settle between the accounts themselves. The ECB would only settle between the different intermediaries. Whilst theoretically possible, there are three issues with this option.

The first difficulty is the settlement system. The system is similar to that of the current settlement system between intermediaries. This raises the question of whether settlements will be processed directly or whether the system would allow for debits and credits between intermediaries. The second difficulty with this option is that the ECB loses some level of control. The ECB does not have full control over settlement. The ECB however is responsible for any mistakes made, as the digital euro forms a direct liability upon the ECB balance sheet.⁵⁶ Furthermore, the ECB wishes to explore options to limit the uptake of digital euros. The options explored by the ECB are a tiered-remuneration and the limitation of how many digital euros a person can hold.⁵⁷ Using a settlement system without accounts would entail that the intermediaries would be responsible for the execution of such policies. Whilst theoretically possible, this leaves room for error on the side of the intermediaries. The ECB would be liable for these errors. The third issue with such a settlement system is that it would drastically reduce the effectiveness of the digital euro. The digital euro functions as a direct liability of the ECB, a bank that cannot go bankrupt. It thus allows the consumers to have a safe haven in case of financial unrest. If their intermediary goes bankrupt, it will take time before their commercial accounts are reimbursed.⁵⁸ A well-designed digital euro, however, can be transferred immediately. This would allow consumers to have direct access again to (a part of) their savings, allowing them to continue paying rent/mortgage. The synthesised model furthermore raises the question of legal tender. The ECB aims for the digital euro to be acceptable payment means throughout the Eurozone. According to article 128 TFEU, legal tender can only be issued by the ECB. The digital euro, whereby the intermediaries hold the claim on the digital euro, would be at odds with article 128 TFEU. Therefore, whilst this model is a highly secure

⁵² Ibid, 7.

⁵³ Ibid, 6.

⁵⁴ Ibid.

⁵⁵ Ibid, 7.

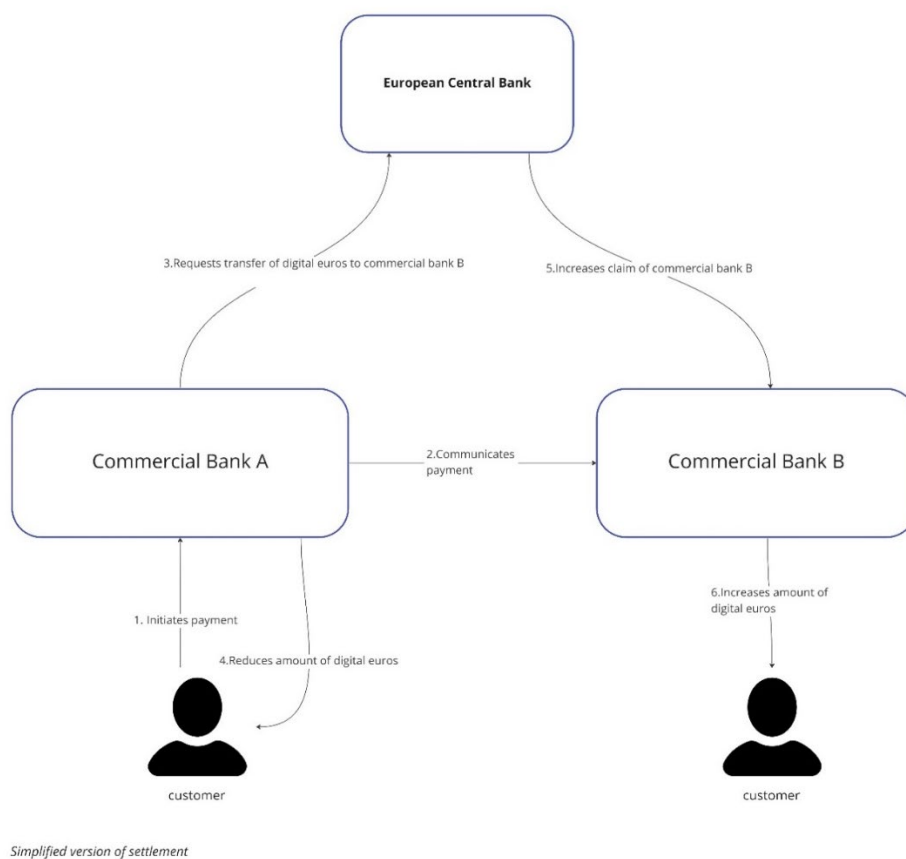
⁵⁶ European Central Bank, 'Progress on the investigation phase of a digital euro – second report,' 6.

⁵⁷ European Central Bank 'Report on a digital euro,' (2020), 17,
https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf

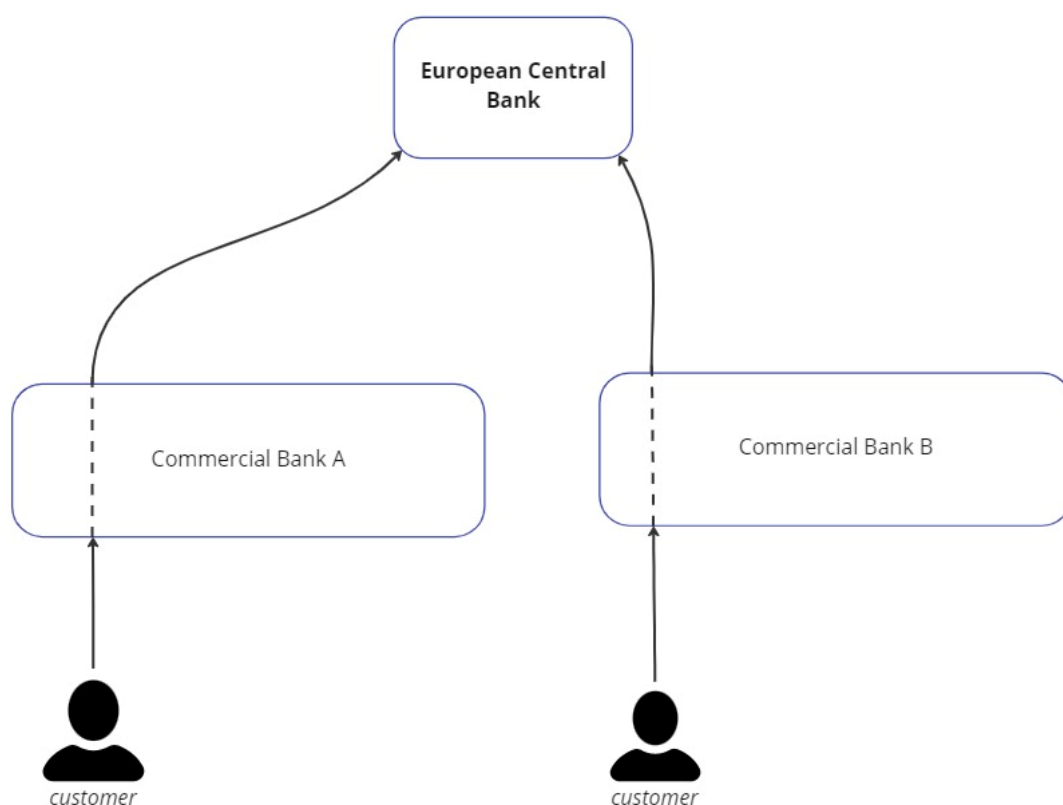
⁵⁸ This reimbursement is done through the European Deposit Insurance.

model from the perspective of privacy, it is unlikely to be effective, as is the ECB's primary choice for a settlement system.⁵⁹

Figure 1: Simplified version of synthesised settlement



⁵⁹ European Central Bank, 'Roles in the processing of digital euro payments,' (September 2022), https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov220916_roles.en.pdf

Figure 2: Simplified version of intermediated settlement structure

The ECB's primary focus is on an intermediary system for the digital euro.⁶⁰ The intermediary system is slightly different from the synthesised settlement system, see Figure 2. Instead of operating primarily between the different intermediaries, it operates through ECB accounts linked to commercial accounts. The ECB therefore does not have direct access to the customer data. The customers' information such as name, date of birth and home address are verified by and remain with the intermediary. These intermediaries are inspected by the ECB as part of the Single Supervisory Mechanism (SSM). The ECB should thus be prevented from having access to identifying customer data when supervising these intermediaries as part of their SSM duties. Additionally, in the third progress report, the ECB has stated its aims to create an app with basic payment facilities.⁶¹ This app has to gather data in order to function⁶², thus providing the ECB with personal data when the customer chooses to use the app. The ECB furthermore considers that the app can be used by smaller intermediaries as basis for their own infrastructure. There are inherent risks with regard to gathering data when a platform is built on top of the ECB infrastructure. It is furthermore not unlikely that the ECB has payment data without the SSM or app.

The concept of privacy and personal data is primarily regulated through the General Data Protection Regulation (GDPR).⁶³ The GDPR states that there must be a lawful reason to process personal data.

⁶⁰ European Central Bank, 'Roles in the processing of digital euro payments,' (September 2022).

⁶¹ European Central Bank, 'Progress on the investigation phase of a digital euro – third report,' 8.

⁶² The app connects the customer to its own account.

⁶³ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC, OJ L 119, 4.5.2016, p. 1–88, <https://eur-lex.europa.eu/eli/reg/2016/679/oj>

Personal data is defined as either being able to identify a person or as information about a narrow group. The data must be able to identify the person or create a statement about a small group. The ECB remains responsible for the settlement of the transactions. That means that it is possible for the ECB to hold information that identifies a person or small group. Let us discuss an example of how settlement behavior can lead to identification, of person X. The account makes the following transfers.

- €2.70 each morning around 7:50.
- €5.30 each morning around 08:15.
- €5.30 each afternoon around 17:35.
- €2.70 each evening around 18:00.

At first glance the four statements above seem random. Nevertheless these four settlement tasks can provide a fair amount of information. The timing suggests that it concerns taking public transport to and from work. The €5.30 then gives a fairly exact indication of how far person X travelled by train. The distance between the two stations limits the options that person X could have taken. This can be further limited by comparing the time of payment with the train schedule, thereby limiting the possible options. The €2.70 gives a good indication of how far person X travelled by bus/metro/tram to the train station. The distance limits the amount of streets person X lives. The bus time in combination with the train departure further reduces the available options. This was achieved by taking 4 settlement assignments (though repeated as a pattern) with a grand total of €16. This payment information could be further complemented with publicly available information from social media or leaks from other companies.⁶⁴ Additionally, the definition of what constitutes personal data has significantly widened over the years.⁶⁵ The settlement data is therefore likely to be considered personal data.

The ECB's opinion that it cannot infer payment patterns is most likely indicating the creation of an artificial wall, meaning that the ECB will not be able to reach the personal data or only a selected group of people can reach the data. It, however, does not mean the data is not there. One can compare it to the country of The Netherlands, a country that is largely under sea level. The reason the country is not flooding is because of strong dykes. Imagine the personal data is the water. It would be wrong to consider the water is not there and there is no risk of leaking. Nor it would be accurate to consider the entire Dutch population to be in constant risk of drowning. The difference between the two scenarios are strong dykes. In the case of the ECB these dykes will be artificial technical walls. Yet, as with the Dutch dykes, these walls need to be of the highest standards and to be inspected. As privacy is not part of the primary mandate, it raises the question of whether the ECB, considering its independence, has to abide by privacy regulation.

4.2. Data Protection

The issue of data protection raises the question of whether the ECB, in light of its independence, has to comply with the secondary regulation on data protection. This protection is primarily codified through

⁶⁴ I.e. the public transport payment system keeps track at what stations the check-in and check-out are made.

⁶⁵ B. van der Sloot, "Do privacy and data protection rules apply to legal persons and should they? A proposal for a two-tiered system," *Computer Law & Security Review*, 31 No. 1 (2015): 36, <https://doi.org/10.1016/j.clsr.2014.11.002>.

the GDPR⁶⁶ and its brother Regulation 2018/1725.⁶⁷ These, however, are pieces of secondary legislation, meaning that these are only applicable if they do not violate the ECB's independence.

The independence of the ECB largely insulates the ECB from secondary EU legislation. This insulation is, however, not infinite. The CJEU has ruled in the *OLAF* case whether the ECB is bound by secondary legislation.⁶⁸ The CJEU created two important criteria to distinguish whether the ECB was bound by secondary legislation.

The *OLAF* judgement first considered that the ECB was given legal personality and the assignment to establish and execute monetary policy.⁶⁹ This, however, did not exclude the ECB from the European Union's legal framework. The CJEU stated that "*It follows that the ECB, pursuant to the EC Treaty, falls squarely within the Community framework.*"⁷⁰ The CJEU further considered that the independence of the ECB safeguards the institution from political influence.⁷¹ However, the ECB is not completely separated from EU legislation.⁷² The CJEU refers to the secondary objectives in article 105(1) EC, now article 127 TFEU stating that "*it is evident from Article 105(1) EC that the ECB is to contribute to the achievement of the objectives of the European Community.*"⁷³ The ECB is therefore not immune to the general objectives of the Union if these are aimed at the ECB and do not form an undue political influence.

The GDPR is the most famous data protection legislation. It is however not directly aimed at the EU institutions. Its sister, Regulation 2018/1725⁷⁴ is aimed at all EU institutions, including the ECB, thereby fulfilling the first criterion of the *OLAF* case. The second criterion is whether the measure forms an undue political influence upon ECB policy.⁷⁵ This criterion is more difficult to examine as there is no clear guideline on what constitutes political influence. The ECB, however, does not require personalised data to determine and conduct its monetary policy. Monetary policy is based upon economic trends rather than individual behavior. It would therefore be reasonable to consider the obligation to abide by Regulation 2018 not to constitute an undue political interference. Whilst the ECB is bound by privacy legislation, this does not clarify enforcement.

The current reports on the digital euro are not definitive on the design of the digital euro. The role of the national central banks is uncertain as are some of the practical implications. There are two options with regard to the NCBs. The first is that the NCBs in their role of the settlement of the digital euro would be considered as part of the ESCB. Their role would therefore be part of the functioning of an EU institution. This would mean that Regulation 2018/1725 is applicable to the processing of data by the

⁶⁶ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.

⁶⁷ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC, OJ L 295, 21.11.2018, p. 39–98, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32018R1725>.

⁶⁸ Judgment of 13 May 2003, *Commission v European Central Bank*, Case C-11/00, ECLI:EU:C:2003:395.

⁶⁹ *Ibid*, paraf. 92.

⁷⁰ *Ibid*, paraf. 100.

⁷¹ *Ibid*, paraf. 134.

⁷² *Ibid*, paraf. 135.

⁷³ Judgment of 13 May 2003, *Commission v European Central Bank*, Case C-11/00, paraf. 135.

⁷⁴ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC.

⁷⁵ Judgment of 13 May 2003, Case C-11/00, paras. 134–136. <https://curia.europa.eu/juris/showPdf.jsf?text=&docid=48494&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=3051082>.

NCBs. Under this regime, the European Data Protection Supervisor (EDPS) would be the primary enforcement office.⁷⁶ The problem with this approach is that the ESCB as such is not considered an institution; only the ECB is listed as an EU institution.⁷⁷ This would entail that the ECB together with the NCBs would form joint controllers. The NCBs would, as non-EU institutions, abide by the GDPR.⁷⁸ This type of construction could result in an odd situation. The enforcement and supervision of the ECB and their relationship with the NCBs would be via the EDPS. The actual supervision and enforcement of the NCBs would be through the national authorities. The fractional approach to supervision and enforcement is undesirable. Monetary policy is, however, assigned to the ESCB rather than the ECB.⁷⁹ In the *Latvian Central Bank* case, which concerned the independence of the NCB governors, the CJEU refers to the ESCB rather than the ECB specifically.⁸⁰ The ESCB is treated as an institution in both the TFEU and the case law. Considering the special nature of the central banks when executing monetary policy in combination with the extreme sensitivity of the data, a more unified approach is preferable. Similarly, the service platform that the ECB is investigating⁸¹ should be considered part of the ECB under the supervision of the EDPS, whereby the ESCB and all digital euro actions would be considered a single institution under the regime of Regulation 2018/1725. Whilst the regime of the Regulation would then be considered applicable, there is still a gap with regard to the data of legal persons.

The Regulation 2018/1725 defines personal data as “[...] *any information relating to an identified or identifiable natural person*”.⁸² Theoretically, this excludes any data relating to legal persons. This would mean that transactions from business to business (b2b) would not be included in the right to privacy. It is, nevertheless, unlikely that the b2b payment data can be shared. As stated before, the Regulation 2018/1725 and its sister, the GDPR, are based upon articles 7 and 8 of the EU Fundamental Rights Charter. The fundamental rights are not restricted to natural persons. Arguably, therefore some sort of system for the protection of the legal persons should be created. To avoid uncertainty for its users, secondary legislation should entail the protection of legal persons, whereby legal persons would be given the protection from interference from the government (negative rights). The positive rights of the legal persons would be limited to the right to access and correction of wrongful data.⁸³ Considering the nature of the data, it does not seem to create additional value to grant such positive rights. The customer data that might need to be corrected will not be stored by the ESCB but by the commercial banks.

⁷⁶ See Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC, Article 1(3).

⁷⁷ See article 13(1) TEU.

⁷⁸ Veronique Cimina, "The data protection concepts of 'controller', 'processor' and 'joint controllership' under Regulation (EU) 2018/1725," *ERA Forum* 21 (2021): 645.

⁷⁹ See article 127 TFEU.

⁸⁰ Court of Justice of the European Union, 'The Court annuls the decision suspending the Governor of the Central Bank of Latvia from office,' Press release No 18/19, <https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-02/cp190018en.pdf>.

⁸¹ European Central Bank, 'Progress on the investigation phase of a digital euro – third report,' 8.

⁸² See Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC, Article 3(1).

⁸³ B. van der Sloot, "Do privacy and data protection rules apply to legal persons and should they? A proposal for a two-tiered system." *Computer Law & Security Review* (2015) 31, pp. 26-45.

4.3. Socio-economic Inclusion

The access to payment services is an important topic. In the current society, banking services are more important than ever. The access to banking services is linked to various human rights. For instance, in some jurisdictions, a bank account is mandatory to obtain wages⁸⁴ and thus strongly connected to the right to work and run a business.⁸⁵ Furthermore, most consumers need a bank account to obtain a mortgage and thus a house. The income division between banked and unbanked is significant.⁸⁶ The right to a bank account and its conditions has been codified through the Payment Accounts Directive (PAD).⁸⁷ Consequently, access to the digital euro should be thoroughly considered. With regard to the digital euro, the ECB states that *"A digital euro should also be available to people who currently have no, or limited, access to digital means of payments, in order to improve financial inclusion."*⁸⁸ The improved access has several facets that need to be considered.

The first facet to be discussed is the contours of the digital euro with regard to PAD. This directive is primarily aimed at Member States. The directive therefore does not meet the first criterion generated by the *OLAF* case and thus does not impact the ECB. Nevertheless, the directive has some interesting implications for payment accounts that should be applied to the digital euro. The first is a clear statement of fees,⁸⁹ though such a statement could be generated through commercial banks. More important is the right to switch between banks.⁹⁰ The right to switch from one bank to another allows consumers to "vote with their feet". It is often linked with increased competition in socially responsible behavior from the banks.⁹¹ Under the current circumstances, switching bank accounts is difficult. The ECB should at least allow customers to transfer their digital euro account between commercial intermediaries. Such a duty should be incorporated within the secondary legislation of the digital euro. Furthermore, the ECB could investigate using the digital euro to decrease the hurdles in switching between commercial providers, whereby the option can be investigated that the digital euro is used as a base-account with a single number. The digital euro account can be connected to the commercial intermediary used by the consumers. This can then be linked to the consumer's commercial account,⁹² thus facilitating the possibility to switch bank accounts. To instruct the ECB to generate such a system might interfere with the ECB's independence. A recommendation, rather than legal obligation, may therefore be more prudent. The second aspect of inclusion is more difficult. It concerns those citizens who do not have access to banking services.

The lack of banking services can have different reasons. The most important causes are a lack of papers, lack of physical banks within the vicinity and lack of internet access. Within the Eurozone the issue of unbanked persons is declining. In 2022 the European Savings and Retail Banking Group indicated that

⁸⁴ i.e. Article 7a of the Dutch Law on Minimum Wages.

⁸⁵ Which is protected respectively in articles 15 and 16 of the Charter of Fundamental Rights of the European Union.

⁸⁶ Miguel Ampudia, Michael Ehrmann, "Financial inclusion: what's it worth?" European Central Bank Working paper series, No. 1990 (2017), <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1990.en.pdf>.

⁸⁷ Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features Text with EEA relevance, OJ L 257, 28.8.2014, p. 214–246, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0092>.

⁸⁸ European Central Bank, 'Progress on the investigation phase of a digital euro – second report,' 9.

⁸⁹ Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features Text with EEA relevance, Article 4.

⁹⁰ Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features Text with EEA relevance, Articles 9 and 10.

⁹¹ A.W.A. Boot, "Geld en schuld. De publieke rol van banken". *Rapport Wetenschappelijke Raad voor het Regeringsbeleid* 100(2019), p. 15.

⁹² Rob Nicholls, 'Simpler account switching would help keep our banks honest,' *The conversation* (October 7, 2016).

13 million EU citizens were unbanked, which constitutes roughly 4% of the adult population.⁹³ Despite the relative decline and the low percentage of unbanked persons, financial inclusion is a serious problem. The core countries and Slovenia have relatively low numbers of unbanked, below 1% of the adult population. In Denmark, there are almost no unbanked people.⁹⁴ The periphery, however, has higher levels of unbanked persons, representing 11% and 16% of the adult population in Hungary and Bulgaria respectively. The real outlier is Romania with roughly 30% of the adult population unbanked.⁹⁵ This number is primarily constituted by the people in the rural areas of Romania. The lack of banking services puts them at risk of poverty.⁹⁶ Research indicates that in rural areas mobile banking services can provide a viable alternative to brick and mortar banking services.⁹⁷ Therefore a digital euro accessible through mobile services could provide better accessibility to banking services. Unfortunately, there is a catch.

The three countries with the highest level of unbanked people (Hungary, Bulgaria and Romania) are not in the Eurozone. Hence introducing the digital euro through mobile networks would not improve access to financial services in these countries. The digital euro's only contribution can be through interoperability. Remittances from family in the Eurozone constitute around 3% of these countries' GDP.⁹⁸ It would therefore be recommendable the ECB creates a digital euro that can easily and cheaply be exchanged for the local EU currencies. This would also aid in the preservation of the euro as an anchor. Migrant workers sending remittances have discovered the benefits of using cryptocurrencies.⁹⁹ The costs of using money transfer services are relatively high compared to the use of cryptocurrencies. Therefore, if the digital euro wishes to remain an anchor and compete with cryptocurrencies, it would have to be interoperable with other banking services at competitive rates. Such interoperability could be included in the secondary legislation of the digital euro. It would be in line with the goals listed in article 3 of the TFEU as it would promote the open market and a social economy. Nevertheless, there would be a limit to the role the ECB can play. The ECB can offer the infrastructure to allow the intermediaries to offer such services but it must refrain from offering the services directly to the customer. If the ECB were to offer such services in competition with commercial banks, it would constitute a violation of the principles of the open market¹⁰⁰ as the ECB has a competitive advantage due to its unique position as central bank. It would therefore constitute a violation of the efficient allocation of resources criterion of the secondary mandate.

The level of unbanked within the Eurozone is lower than that of the previously mentioned countries. However, it is still significant. Countries such as Portugal and Cyprus have around 7% of their adult population unbanked. However, the overall percentage of people who are unbanked is declining from

⁹³ WSBI. The World Savings And Retail Banking Institute, 'Number Of Unbanked Adult Eu Citizens More Than Halved In The Last Four Years,' (July 14, 2022), <https://www.wsbi-esbg.org/number-of-unbanked-adult-eu-citizens-more-than-halved-in-the-last-four-years/>

⁹⁴ WSBI. The World Savings And Retail Banking Institute, 'Number Of Unbanked Adult Eu Citizens More Than Halved In The Last Four Years.'

⁹⁵ Ibid.

⁹⁶ Georgiana Niță, "Remittances from Migrant Workers and their Importance in Economic Growth," *International Journal of Academic Research in Accounting, Finance and Management Sciences* 8(1) (2018): 162.

⁹⁷ Peter Tobbin, "Towards a model of adoption in mobile banking by the unbanked: a qualitative study," 14(5) (2012), DOI 10.1108/14636691211256313.

⁹⁸ Georgiana Niță, "Remittances from Migrant Workers and their Importance in Economic Growth," 163.

⁹⁹ Massimo Flore "How Blockchain-Based Technology is disrupting Migrants' Remittances: A preliminary assessment." *JRC Science for policy report* (2018), pp. 17-25.

¹⁰⁰ Anne Marieke Mooij, "A digital euro for everyone. Can the European System of Central Banks introduce general purpose CBDC as part of its economic mandate?" *Journal of Banking Regulation* 24 (2023), <https://doi.org/10.1057/s41261-021-00186-w>.

an average of 6% in 2017 to an average of 2.56% in 2021.¹⁰¹ There is however a sharp difference between core and periphery countries in their levels of unbanked. The relatively high levels of unbanked persons create negative externalities for both the individuals and the economy as a whole.¹⁰² Improving financial inclusion is therefore worthwhile, but there is a risk of excluding others.

Digitalisation has been successful in decreasing the levels of those who are underbanked. The increased use of technology, however, has a downside, namely the vulnerability of those who cannot access or use the technology. According to the European statistics, the percentage of population that possesses the basic digital skills varies, e.g. from 79% of the Finnish and Dutch populations to 45% in Italy.¹⁰³ The introduction of the digital euro increases the potential risk for creating a new form of a digital divide.¹⁰⁴ This has serious implications for the design and implementation of the digital euro. The lack of digital skills has a pairing with the amount of cash that is being used.¹⁰⁵ Additionally, the acceptance of cash is declining in almost all Eurozone countries,¹⁰⁶ although it remains above 80%. Hence, there are few at risk of being fully economically excluded.¹⁰⁷ Nevertheless, the decline in the acceptance of cash combined with the low digital skill rate is troubling. It raises the question of the right to access to services of general economic interest. This right is codified in article 36 of the Charter. Therefore, the ECB must ensure that there is sufficient access to the digital euro. The design of the digital euro should consider the level of digital skills of those who are less educated. This need is strengthened if the digital euro is designed to have legal tender status.

The status of legal tender is likely to increase the usage of the digital euro, in particular its usage by governments for tax collection and/or welfare payments. In 2021 the CJEU considered that governments could refuse cash payments, despite their status of legal tender.¹⁰⁸ Such refusal can be implemented for public policy reasons. The case concerned collecting television and radio license fees by the government. The argument for the refusal of cash payment was that of the large number of people paying these fees.¹⁰⁹ The CJEU accepted this argument as an acceptable public policy reason as long as other means of payments were available. It was left up to the national court to determine whether the refusal of cash is proportionate and whether there is an alternative method of payment.¹¹⁰ The alternative payment in many cases could be the digital euro. Member States could use the digital euro as a legal tender alternative to cash. This raises the question whether the introduction of the

¹⁰¹ WSBI. The World Savings And Retail Banking Institute, 'Number Of Unbanked Adult Eu Citizens More Than Halved In The Last Four Years.'; additionally the standard deviation between the countries has also decreased from 5.4 to 2.53.

¹⁰² Miguel Ampudia, Michael Ehrmann, "Financial inclusion: what's it worth?"

¹⁰³ Eurostat, 'How many citizens had basic digital skills in 2021?' (March 20, 2022), <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220330-1#:~:text=In%202021%2C%2054%25%20of%20people,least%20basic%20overall%20digital%20skills>.

¹⁰⁴ Sofia Ranchordas, "Connected but Still Excluded? Digital Exclusion beyond Internet Access," in *The Cambridge Handbook of Life Sciences, Informative Technology and Human Rights*, ed. Ienca, M., Pollicino, O., Liguori, L., Stefanini, E. & Andorno, R. (Eds). Cambridge University Press, 2021, Forthcoming. University of Groningen Faculty of Law Research Paper No. 40/2020, p. 3, available at SSRN: <https://ssrn.com/abstract=3675360>.

¹⁰⁵ Henk Esselink, Lola Hernández, "The use of cash by households in the euro area," European Central Bank Occasional Paper Series No. 201 (2017), <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op201.en.pdf>.

¹⁰⁶ European Central Bank, "Study on the payment attitudes of consumers in the euro area (SPACE) – 2022" (December 2022), 58, https://www.ecb.europa.eu/stats/ecb_surveys/space/shared/pdf/ecb.spacereport202212~783ffdf46e.en.pdf. The exceptions are The Netherlands (no change) and Germany (no previous data).

¹⁰⁷ European Central Bank, "Study on the payment attitudes of consumers in the euro area (SPACE) – 2022"

¹⁰⁸ Judgment Of The Court (Grand Chamber) 26 January 2021, ECLI:EU:C:2021:63, <https://curia.europa.eu/juris/document/document.jsf?jsessionid=C0D779967B13F5AB393796F0BA737CC7?text=&docid=236962&pageId=x=0&docang=EN&mode=req&dir=&occ=first&part=1&cid=6108064>

¹⁰⁹ Judgment Of The Court (Grand Chamber) 26 January 2021, paraf. 18.

¹¹⁰ Ibid, paraf. 77.

digital euro will lead in law or *de facto* to the abolishment of cash. The latter would in theory be in violation of Regulation 974/98.¹¹¹ The Commission and ECB have stated the digital euro would be introduced complementary to cash.¹¹² *De jure*, the digital euro would thus not lead to an abolishment of cash. The use of cash, however, has been declining for several years.¹¹³ The digital euro, together with a decline in the acceptance of cash and the reduction in the number of ATMs may lead to a *de facto* abolishment of cash. If cash is difficult or expensive to obtain, consumers may be forced to use digital payments. The case of *Dietrich and Häring v. Rundfunk* has created an opening for the refusal of cash acceptance by governments. While the decline of cash through less demand creates few issues, in my opinion, it should not be addressed through decreased availability, thereby raising the question whether there is a safety net in place for those who are unable to adopt the digital euro.

To facilitate the implementation and accessibility of the digital euro, several options should be considered. The first is by examining the access to technical devices and internet.¹¹⁴ The right to access the internet is not a fundamental right. Nevertheless, the right to internet access and net neutrality has been codified within the EU.¹¹⁵ The rate of access to internet within the EU is high, with the lowest level currently standing at 85% in Greece.¹¹⁶ If the digital euro requires internet access, it is unlikely that it becomes a major obstacle. It is therefore more likely that the lack of digital skills is the main obstacle to the digital euro. The lack of digital skills has a pairing with the amount of cash that is being used. It would be recommendable therefore to increase the level of digital skills. Furthermore, standards with regard to the availability of cash would be recommendable.

The EU Commission in its "Digital Decade" aims to increase the level of digital skills to 80% of the adult population.¹¹⁷ Secondary legislation could assist in giving the ECB directions on the level of skill required to use the digital euro. Furthermore, the Eurosystem, together with commercial banks, could facilitate a programme to promote the accessibility of the digital euro. It is questionable whether the programme should be laid down in hard law. Considering the multitude of programme options and the ECB's independence, a recommendation would be more prudent. In addition to digital skills, there is the risk of a lack of access to technical devices.

Studies from the European Commission show the differences in the integration of technology throughout the EU. There are large differences between the accessibility of technology throughout the Eurozone.¹¹⁸ Generally, accessibility to technical devices is orchestrated through governments.¹¹⁹ The introduction of the digital euro would thereby place a burden upon Member States to investigate

¹¹¹ Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, OJ L 139, 11.5.1998, p. 1–5, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31998R0974>.

¹¹² Speech by Commissioner McGuinness at the European Parliamentary Financial Services Forum on a digital euro, Brussels 08 March 2023;

¹¹³ European Central Bank, "Study on the payment attitudes of consumers in the euro area (SPACE) – 2022" (December 2022), 58, https://www.ecb.europa.eu/stats/ecb_surveys/space/shared/pdf/ecb.spacereport202212~783ffdf46e.en.pdf. The exceptions are The Netherlands (no change) and Germany (no previous data).

¹¹⁴ Elisabeth Beaunoyer, Sophie Dupéré, Matthieu J. Guitton, "COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies," *Computers in Human Behavior* 111 (October 2020): 5, <https://doi.org/10.1016/j.chb.2020.106424>.

¹¹⁵ Regulation (EU) 2015/2120 Of The European Parliament And Of The Council Of 25 November 2015, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2120>.

¹¹⁶ Eurostat, 'Digital economy and society statistics - households and individuals' (December 2022), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Digital_economy_and_society_statistics_-_households_and_individuals.

¹¹⁷ European Commission, 'Europe's Digital Decade,' (February 15, 2023), https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade#tab_1.

¹¹⁸ 'Digital Economy and Society Index,' https://digital-agenda-data.eu/charts/desi-components#chart={%22indicator%22:%22desi%22,%22breakdown-group%22:%22desi%22,%22unit-measure%22:%22pc_desi%22,%22time-period%22:%222022%22}

¹¹⁹ Ibid.

accessibility to devices through which the digital euro can be used. Alternatively, the ECB could investigate the creation of an accessible physical wallet for the use of digital euro payments.

In addition to increasing digital skills and ensuring a low technical barrier, the legislator can guarantee the existence of cash. Cash is the alternative for those lacking the necessary digital skills. If cash becomes difficult or expensive to obtain, it would effectively disappear. Guaranteeing the continued existence of sufficient ATMs and availability of cash could prevent a *de facto* abolishment of cash, which can serve as a safety net for those without the digital skills to use the digital euro.

CONCLUSION

This paper discussed four different legal concerns in relation to the digital euro. These are the status of the digital euro as legal tender, the app, privacy and social inclusion. The status of the digital euro as legal tender is currently under discussion. It is this report's conclusion that the digital euro can get the status of legal tender and be remunerated. The impact of remuneration, and particularly negative remuneration, has both socio-economic consequences and monetary effects. The independence of the ECB does not allow strict obligations. The secondary mandate does allow guidelines from the EU legislator that the ECB takes into consideration when faced with a policy choice. Similarly, negative interest rates can be limited to digital euros held in excess of a given amount to provide for the fundamental rights.

The second discussion concerned the secondary mandate and the digital euro app. It is unlikely that the creation of a payment infrastructure for consumers is part of the primary mandate of the ECB. In order to lawfully create the proposed digital euro app, the ECB would require a legal mandate from the EU legislator under its secondary mandate. The digital euro app, however, has to comply with article 119 TFEU and the fundamental rights.

The third discussion concerned the concept of privacy and data protection in the digital euro. This report concludes that under an intermediate system of settlement, personal data will be gathered. The right to privacy is a fundamental right that is further elaborated through Regulation 2018/1725. This Regulation is aimed at all institutions, including the ECB and ESCB, and does not form an undue political influence. Hence, the ECB should maintain adequate privacy protection. Furthermore, the ESCB should qualify as a single institution under supervision of the European Data Protection Supervisor. The Regulation, however, does not include protection of legal persons. The main point of reference for these persons is that of fundamental rights. To avoid uncertainty, secondary legislation should include the extent of data protection for legal persons.

The fourth discussion was that of the inclusivity of the digital euro. The progress reports consider the use of the digital euro to increase access to banking services. This report concludes that the access to banking services in the Eurozone is relatively high. Whilst improvement is possible, the digital euro should not lead to the financial exclusion of others, particularly of those lacking the digital skills needed to use the digital euro.

Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features Text with EEA relevance. OJ L 257. 28.8.2014. p. 214–246. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0092>.

Engert, W., Fung, B. "Central bank digital currency: Motivations and implications." Bank of Canada Staff Discussion Paper 16 (2017). <https://www.bankofcanada.ca/2017/11/staff-discussion-paper-2017-16/>

Esselink, H., Hernández, L. "The use of cash by households in the euro area." European Central Bank Occasional Paper Series No. 201 (2017). <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op201.en.pdf>

European Central Bank 'Report on a digital euro.' 2020. https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf.

European Central Bank, Protocol On The Statute Of The European System Of Central Banks And Of The European Central Bank. https://www.ecb.europa.eu/ecb/pdf/orga/escbstatutes_en.pdf.

European Central Bank. "Study on the payment attitudes of consumers in the euro area (SPACE) – 2022." December 2022. https://www.ecb.europa.eu/stats/ecb_surveys/space/shared/pdf/ecb.spacereport202212~783ffdf46e.en.pdf.

European Central Bank. 'Roles in the processing of digital euro payments.' September 2022. https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov220916_roles.en.pdf

European Central Bank. 'Tackling climate change as a central bank: Between motivation, obligation and limitation.' 2021. Available at: https://www.ecb.europa.eu/press/tvservices/podcast/html/ecb.pod210512_episode16.en.html.

European Central Bank. 'Progress on the investigation phase of a digital euro.' 2022. https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov220929.en.pdf?8eec0678b57e98372a7ae6b59047604b.

European Central Bank. 'Progress on the investigation phase of a digital euro – second report.' 2022. https://www.ecb.europa.eu/paym/digital_euro/investigation/governance/shared/files/ecb.degov221221_Progress.en.pdf?f91e0b8ff8cbd6654d7e6b071a8f7071

European Commission. 'Europe's Digital Decade.' February 15, 2023. https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade#tab_1.

European Union. European Commission. "Commission Recommendation of 22 March 2010 on the scope and effects of legal tender of euro banknotes and coins." 2010/C 82/01. Official Journal of the European Union, C 82/1 (2010): 1-4. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010H0191&from=EL>.

Eurostat. 'Digital economy and society statistics - households and individuals' (December 2022). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Digital_economy_and_society_statistics_-_households_and_individuals.

Eurostat. 'How many citizens had basic digital skills in 2021?' March 20, 2022. <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220330-1#:~:text=In%202021%2C%2054%25%20of%20people,least%20basic%20overall%20digital%20skills>.

Flore, M. "How Blockchain-Based Technology is disrupting Migrants' Remittances: A preliminary assessment." JRC Science for policy report (2018), pp. 17-25.

- Grünewald, S., Zellweger-Gutknecht, C., and Geva, B. "Digital euro and ECB powers." *Common Market Law Review* 58(4) (2021): 1029-1056. <https://kluwerlawonline.com/journalarticle/Common+Market+Law+Review/58.3/COLA2021066>.
- Judgment of 13 May 2003. Case C-11/00. <https://curia.europa.eu/juris/showPdf.jsf?text=&docid=48494&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=3051082>.
- Judgment of 13 May 2003. *Commission v European Central Bank*. Case C-11/00. ECLI:EU:C:2003:395.
- Judgment of the Court (First Chamber) of 16 July 2015. *Huawei Technologies Co. Ltd v ZTE Corp. and ZTE Deutschland GmbH*. Case C-170/13, para 68. Available at: <https://curia.europa.eu/juris/document/document.jsf?jsessionid=F255B2BC591ED8005020DDD093EFD3BA?text=&docid=165057&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=3049576>.
- Judgment Of The Court (Grand Chamber) 26 January 2021. ECLI:EU:C:2021:63. <https://curia.europa.eu/juris/document/document.jsf?jsessionid=C0D779967B13F5AB393796F0BA737CC7?text=&docid=236962&pageIndex=0&doclang=EN&mode=req&dir=&occ=first&part=1&cid=6108064>.
- Judgment Strasbourg 13 June 1979,. *Case Of Marckx v Belgium*. Application No. 6833/74. Available at: <https://hudoc.echr.coe.int/fre#%7B%22itemid%22%3A%5B%5C%22001-57534%22%5D%7D>
- Klooster J. and Boer, N. "What to Do with the ECB's Secondary Mandate." *Journal of Common Market Studies* (2022): 1-17. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jcms.13406>.
- Madrid European Council. *Presidency Conclusions*. 15 and 16 December 1995. [1995].
- Mooij, A. "The role of the European Central Bank in response to COVID19. An evaluation of its mandate." *Journal of European Integration* (2022). DOI:10.1080/07036337.2022.2120479.
- Mooij, A. "The Digital Euro and Energy Considerations: Can the ECB Introduce the Digital Euro Considering the Potential Energy Requirements?" *German Law Journal*, 23(9), (2022), 1246-1265. DOI:10.1017/glj.2022.78
- Mooij, A.M. "A digital euro for everyone: Can the European System of Central Banks introduce general purpose CBDC as part of its economic mandate?" *Journal of Banking Regulation* 24, 89–104 (2023). <https://doi.org/10.1057/s41261-021-00186-w>.
- Nicholls, R. 'Simpler account switching would help keep our banks honest.' *The conversation*. October 7, 2016. https://www.researchgate.net/publication/308905234_Simpler_account_switching_would_help_kee_p_our_banks_honest.
- Niță, G. "Remittances from Migrant Workers and their Importance in Economic Growth." *International Journal of Academic Research in Accounting, Finance and Management Sciences* 8(1) (2018):161–166. <https://pdfs.semanticscholar.org/5cc8/d2ae7542568badfbc76f7554bbdf1e076859.pdf>,
- Nordhaus, W. "The Political Business Cycle." *The Review of Economic Studies*, 42(2) (1975): 169-190.
- Opinion of Advocate General Pitruzzella in Case C-422/19 and C-423/19 (*Dietrich and Haring v. Rundfunk*), [2020] ECLI:EU:C:2020:766.
- Peers, Steve. "Towards a New Form of EU Law?: The Use of EU Institutions Outside the EU Legal Framework." *European Constitutional Law Review* 9, no. 1 (2013): 37–72. doi:10.1017/S1574019612001034.

Prasad, Eswar S. *The Future of Money: How the Digital Revolution Is Transforming Currencies and Finance*. New York: HUP, 2019.

Ranchordas, S. "Connected but Still Excluded? Digital Exclusion beyond Internet Access." In *The Cambridge Handbook of Life Sciences, Informative Technology and Human Rights*, edited by Ienca, M., Pollicino, O., Liguori, L., Stefanini, E. & Andorno, R. (Eds). Cambridge University Press, 2021, Forthcoming. University of Groningen Faculty of Law Research Paper No. 40/2020. Available at SSRN: <https://ssrn.com/abstract=3675360>.

Randzio-Plath, C. "Report on democratic accountability in the 3rd phase of EMU." Report - A4-0110/1998 European Parliament (1998).

Rechnungshof v Österreichischer Rundfunk and Others. Judgment of 12 February 2004. Case C-465/00. ECLI:EU:C:2004:89, paragraph 79.

Regulation (EU) 2015/2120 Of The European Parliament And Of The Council Of 25 November 2015, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R2120>.

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC. OJ L 119. 4.5.2016. p. 1–88. <https://eur-lex.europa.eu/eli/reg/2016/679/oj>.

Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC. OJ L 295. 21.11.2018. p. 39–98. <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32018R1725>.

Rosa M. Lastra & Kern Alexander, "The ECB Mandate: Perspectives on Sustainability and Solidarity," *Monetary Dialogue Papers* (2020).

Siekmann, Helmut. "Legal Tender in the Euro Area." IMFS Working Paper Series 122. Goethe University Frankfurt, Institute for Monetary and Financial Stability (IMFS). 2018. <https://nbn-resolving.de/urn:nbn:de:hebis:30:3-475960>.

Tobbin, P. "Towards a model of adoption in mobile banking by the unbanked: a qualitative study." 14(5) (2012). DOI 10.1108/14636691211256313

Van der Sloot, B. "Do privacy and data protection rules apply to legal persons and should they? A proposal for a two-tiered system." *Computer Law & Security Review* 31(1) (2015): 26-45. <https://doi.org/10.1016/j.clsr.2014.11.002>

Vries, C. "Legal Tender And The Value Of Money In Finite Economies." IIASA Collaborative Paper. (1983). <https://pure.iiasa.ac.at/id/eprint/2320/>

Whiteboard Magazine. „Can inflationary policy violate human rights?’ 2011. Available at: <https://whiteboardmagazine.com/2527/can-inflationary-policy-violate-human-rights/>.

WSBI. The World Savings And Retail Banking Institute. 'Number Of Unbanked Adult Eu Citizens More Than Halved In The Last Four Years.' July 14, 2022. <https://www.wsbi-esbg.org/number-of-unbanked-adult-eu-citizens-more-than-halved-in-the-last-four-years/>.

This report considers that the digital euro can be introduced under the ECB's primary mandate as legal tender and be remunerated. However, in order to lawfully create the proposed digital euro app, the ECB would require a mandate from the EU legislator under its secondary mandate which has to comply with article 119 TFEU, fundamental rights and data protection regulation. The supervision should be through the European Data Protection Supervisor. Finally, the digital euro should not exclude those lacking digital skills and minimum standards should be introduced regarding the availability of cash.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the ECON Committee.
