



European Union Law and Governance in Times of Technological and Political Turmoil

Marycruz Arcos*

Abstract: Over the last 25 years, the EU and its environment have undergone many changes. The digital transition is perhaps the cross-cutting objective that introduces the most changes in the EU's achievements, affecting all (or most) of them. On the occasion of the 25th anniversary of the entry into force of the euro, we propose some reflections on the possibility and necessity of creating a digital euro. For more than 15 years bitcoins have existed in the global market, and not only sovereign states such as China, but also large platforms such as Facebook have created their own tokens. The European Commission is activating the necessary regulatory framework so that the single market can be digital without altering its essence. But with respect to the single currency, the issuance of a Digital Euro, under the supervision of the European Central Bank, must be surrounded by safeguards that allow it to act also in the digital market while complying with the basic principles of the European integration process. If we take too long to have it in place or the result is a regulation that is too much of a guarantor, we run the risk that the players, also in the European market, will opt for the use of other digital currencies that are more agile but also opaquer. Since the end of 2023, the European Central Bank has been dealing with these issues, and hopefully by the end of this year 2025 a proposal will be published that will allow operation in the efficient market but with respect for data protection and the EU's financial architecture. From 2026 onwards we have a long way to discover with the use of Digital Euro.

Keywords: Digital Euro; Digital transition legal framework; competitiveness; future of European autonomy.

JEL classification: F15; O33.

* European Documentation Center, University of Sevilla, Spain; e-mail: arcos@us.es.

Article history: Received 20 October 2025 | Accepted 30 October 2025 | Published online 18 December 2025

To cite this article: Arcos, M. (2025). European Union Law and Governance in Times of Technological and Political Turmoil. *Scientific Annals of Economics and Business*, 72(SI), 33-44. <https://doi.org/10.47743/saeb-2025-0020>.

Copyright



This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

1. INTRODUCTION

Twenty-five years ago, when Economic and Monetary Union came into force in 1999, as agreed in the Treaty on European Union signed in Maastricht in 1992, the scenario and the rules of the game we were working with were substantially different from those we have today.

At that time, the EU consisted of only 12 Member States, the main objective was to achieve the internal market envisaged in 1957 but not achieved until 1 January 1993, the EU's powers were structured between the pillar of integration (the Community) and other forms of cooperation, the European Parliament was making its first advances in legislative power, the balance of power was different and, consequently, the response in EU law also had to be different. At least the objectives remain the same (now set out in Article 3 of the Treaty on European Union) and the main instrument available to the EU to achieve them is its ability to create rules. The EU stands out as a regulatory power, and for this reason, this reflection on the legal framework 25 years after the introduction of the euro is necessary.

It is not the purpose of these pages to examine all the regulatory changes that have taken place in the EU over the last 25 years, but it is at least necessary to look back at the start of the previous institutional cycle (2019-2024) in order to understand the new scenarios that require a regulatory response from the EU so that it can continue to be useful and achieve its objectives.

When, in 2019, the newly elected European Commission, led by Ursula Von der Leyen, presented its work plan for the legislative term, it was designed around six guidelines, all of which are essential in themselves and at the same time interlinked¹.

The EU's success would be insufficient if its work were skewed towards promoting one objective or the other. The digital transition is inseparable from the green transition (the twin transitions), both of which will enable us to have an economy that works for people and promotes the "European way of life", which cannot be achieved without the democratic principle. All of this will lead to a stronger Union in the world, bringing about the much-desired "Brussels effect".

It should also be remembered that, shortly after taking office (March 2020), the EU and the entire world were surprised by an unexpected pandemic, COVID-19, to which the Von der Leyen Commission's excellent work programme provided imaginative solutions. And just as it was overcoming the devastation caused by the pandemic, it found itself facing war on the EU's doorstep, with Russia's invasion of Ukrainian territory calling into question European values themselves.

However, despite all these adversities, the European Commission has been able to maintain its work programme during this period and even strengthen it with imaginative solutions that facilitate the achievement of the planned objectives.

Although each of these priorities is essential and cannot be understood without the others, for the purposes of this paper, we will focus on the digital transition and the European regulations that have generated it.

2. THE DIGITAL TRANSITION AS A FRAMEWORK

There are undoubtedly many reasons why the EU has chosen this priority, but one of the most important is undoubtedly its cross-cutting nature. Digital technology is changing people's lives ([Anderton et al., 2021](#)).

The EU's digital strategy aims to make this transformation work for people and businesses, while helping to achieve its target of a climate-neutral Europe by 2050.

For this reason, one of the Commission's vice-presidencies is in charge of this objective, managed by one of the Commissioners with the greatest experience and weight in the system, the Danish Margareten Vestager, even without quite off her traditional competition portfolio.

To start the work, one of the first initiatives adopted was declare the Decade 20-30 become the delay we have to transform the European Society and presented in 2021 the document "Digital Compass: the European way for the Digital Decade"².

This political impetus calls for an intensification of the work begun in the past decade to accelerate Europe's digital transformation – building on progress towards a fully functioning, but safeguarding the European autonomy ([Codagnone et al., 2021](#)).

This Communication is part of a set of actions to strengthen the EU's open strategic autonomy and resilience. These include *inter alia* the Communication on fostering openness, strength and resilience of the European economic and financial system, the Trade Policy Review, and the upcoming updated industrial strategy for Europe and the 2021 Strategic Foresight Report³.

Digital Single Market, and intensifying actions defined in the strategy for Shaping Europe's digital future.

The strategy set out a programme of policy reform, which started with the Data Governance Act, the Digital Services Act, the Digital Markets Act and the Cybersecurity Strategy.

Moreover, a number of Union budget instruments support the investments necessary for the digital transition, including the Cohesion programmes, the Technical Support Instrument, and the Digital Europe Programme. The agreement by the co-legislators that a minimum of 20% of the Recovery and Resilience Facility should support the digital transition and will help underpin this reform agenda, with funding to build Europe's Digital Decade on solid foundations ([Del Pozo Martín, 2022](#)).

In order to afford the success for the Digital transition in the EU System, we can identify four cardinal points, or absolutely needs in the European scenario⁴.

1 – All the citizen must be able to digitalize the current life. And to be this objective possible, a digitally skilled population and highly skilled digital professionals, are essential.

2 – Secure and performant sustainable digital infrastructures. Europe will only achieve digital leadership by building it on a sustainable digital infrastructure regarding connectivity, microelectronics and the ability to process vast data.

3 – Digital transformation of businesses. By 2030, more than just enablers, digital technologies including 5G, the Internet of Things, edge computing, Artificial Intelligence, robotics and augmented reality will be at the core of new products, new manufacturing processes and new business models based on fair sharing of data in the data economy. Mainly in five subjects (ecosystem) Manufacturing, Health, Construction, Agriculture and Mobility.

4 – Digitalisation of public services democratic life and public services online will be fully accessible for everyone, including persons with disabilities, and benefit from a best-in-class digital environment providing for easy-to-use, efficient and personalised services and pools with high security and privacy standards. From e-vote to more efficient and improve public services.

3. THE LEGAL FRAMEWORK AND THE MAIN LEGISLATIVE INSTRUMENTS

The objective was clearly established but the main instrument for the EU is always the legal framework.

The digital principles are rooted in primary EU law, notably the Treaty on European Union (TEU), the Treaty on the Functioning of the European Union (TFEU), the Charter of Fundamental Rights and the case-law of the Court of Justice of the European Union, as well as in secondary legislation.

But it was necessary a digital policy programme to be adopted by co-decision of European Parliament and Council, setting the focus on delivery and constant commitment towards the common digital goals. And completed by Multi-Country Projects and International Partnerships, because the digital world is global, not only European.

Every year, the Commission publish a report on the State of the Digital Decade, providing a comprehensive overview of the progress made in the quest to achieve the digital objectives and targets set for 2030 by the Digital Decade Policy Programme (DDPP)⁵.

These principles and these legal bases are coming to be developed by European regulations (even if the press call it laws).

1 – Digital Market Act Regulation⁶ - (EU) 2022/1925

This one is the most omni comprehensive and, for this reason, it was the first to be adopted.

It regulates the behaviour of gatekeeper services and 17 platforms are directly supervised by the Commission. If something is banned in the physical world, it must also be banned in the online market ([Cabral et al., 2021](#)).

But also, the Digital Markets Act (DMA) empowers the Commission to adopt implementing acts laying down detailed arrangements on issues identified in Article 46 of the DMA. The Commission intends to adopt an implementing regulation laying down rules concerning procedural aspects in April 23.

2 – Digital Services Act Regulation⁷ - (EU) 2022/2065

Digital services include a large category of online services, from simple websites to internet infrastructure services and online platforms. Digital services impact our lives in many different ways. We use them to communicate with each other, shop, order food, find information, watch films, listen to music and more.

Digital services also make it easier for companies to trade across borders and access new markets.

The rules specified in the DSA primarily concern online intermediaries and platforms. For example, online marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation platforms.

The objective of DSA is: Protecting us from dangerous goods and illegal content, helping us tackle cyber bullying, limiting targeted advertising, helping us to understand and challenge content moderation decisions and Simplifying terms and conditions. In this way, we must be aware for the ethical, legal and social implications ([Turillazzi et al., 2023](#)).

3 – Artificial Intelligence Act Reg. (EU)⁸ 2024/1689, entry in force last August.

While most AI systems pose limited to no risk and can contribute to solving many societal challenges, certain AI systems create risks that we must address to avoid undesirable outcomes. The AI Act ensures that Europeans can trust what AI has to offer.

All AI systems considered a clear threat to the safety, livelihoods and rights of people are banned, from social scoring by governments to toys using voice assistance that encourages dangerous behaviour.

The AI Act introduces transparency obligations for all general-purpose AI models to enable a better understanding of these models and additional risk management obligations for very capable and impactful models. These additional obligations include self-assessment and mitigation of systemic risks, reporting of serious incidents, conducting test and model evaluations, as well as cybersecurity requirements.

The European Centre for Algorithmic Transparency (ECAT)⁹ have been established to supervise all this legal framework and its correct application under the EU law and their principles, as the most authoritative academic opinion claim some years ago (Hacker, 2018).

4. THE CHALLENGE OF COMPETITIVENESS

All this framework let us to build a safe, ethical and transparent online space, but also competitive?

The Draghi Report presented in September 24 draw the challenge of Europe nowadays:

We will not be able to become, at once, a leader in new technologies, a beacon of climate responsibility and an independent player on the world stage. We will not be able to finance our social model and this is our main root. We will have to scale back some, if not all, of our ambitions will lead to disaster.

The only way to meet this challenge is to grow and become more productive, preserving our values of equity and social inclusion. The only way for Europe to become more productive is to undergo radical change.

A new industrial strategy for Europe will not succeed without parallel changes to the institutional setup and functioning of the EU:

- Establishing a new “Competitiveness Coordination Framework” to foster EU-wide coordination in priority areas, replacing other overlapping coordination instruments. – “EU Competitiveness Priorities” – which would be formulated and adopted by the European Council.
- The Competitiveness Coordination Framework would be divided into Competitiveness Action Plans for each strategic priority, with well-defined objectives, governance, and financing.
- The regulatory burden on European companies is high and continues to grow, but the EU lacks a common methodology to assess it. The Commission has been working for years to reduce the “stock” and “flow” of regulation under the Better Regulation agenda. However, this effort has had limited impact so far.

Acting in to increase the competitiveness is urgently to achieve the prosperity and not lose the “Brussels Effect” (Bradford, 2020). Regarding this backstage, one of the measures to consider is about the possibilities of Euro Digital.

5. THE CHALLENGE OF THE DIGITAL EURO

Cryptocurrencies appeared as a consequence of the 2008 financial crisis in which States had to borrow to save bankruptcies and assume the risks of rescuing many financial institutions that had made significant profits in the past.

In 2008 bitcoin was launched with the support of blockchain technology with the advantage of transparency and direct access, since anyone can access their account with a code, consult it and verify the transactions made, without the need for intervention by banks or governments.

Thus, cryptocurrencies are a means of payment self-managed by the users, but they have the great disadvantage of being simply software without being backed by any asset. Its value depends solely on market fluctuations.

Nevertheless, a significant number of tokens based on this technology have emerged since 2017. While not strictly currencies, these crypto assets provide access to specific goods and services. They are more akin to game tokens than financial assets.

But in 2019 Facebook announces its intention to create a stable cryptocurrency, backed by the assets of a large group of multinationals and whose dissemination facilitated by the social network would make it competitive with currencies minted by States, or in our case by the European Central Bank. This would call into question the monetary sovereignty of the States and also compliance with a good set of essential values, such as competition or data protection, which are protected by current regulations but which would not be applicable to this figure (Bradford, 2023).

In response to this announcement, from the EU, which was outlining an Action Plan on financial technology (European Commission, 2018), presents a package of measures on digital finance COM (2020) 591 (European Commission, 2020a) and COM (2020) 592 (European Commission, 2020b) for the regulation of the crypto assets market both for retail payments and for the financial sector in Europe, with the horizon that by 2024 the set of proposed Regulations and Directives could be in force.

The regulatory reality of this proposal varies greatly between Member States. In some cases, it is regulated using different criteria; in others, it is not regulated at all, which facilitates fraudulent transactions using this payment method.

While financial transactions, even in the digital market, are regulated by state or European regulations, the traceability of these transactions is clear even if it involves significant bureaucratic burdens, thus preventing speculation and the financing of prohibited, even criminal, activities. Since the means of payment are not controlled by public intervention, the ease with which these undesirable activities can find a way to operate is obvious.

Thus, China created the digital yuan to avoid anonymous transactions with private cryptocurrencies not controllable by the State (Ferrari and Mehl, 2021). Or in Europe, although outside the euro zone, the Central Bank of Sweden, faced with the decline in the use of cash in private transactions, also created the “e-krona” which is distributed to individuals through authorized entities (Franco, 2021).

Therefore, the necessary response is the creation of digital currencies by the public authorities, i.e., by the Central Banks that guarantee the stability of these assets, as is done with cash or electronic money. These would be payment tokens, like bitcoin tokens, which could be purchased by individuals at central banks using secure software. These currencies would compete with private cryptocurrencies.

With this system, digital currency transactions would be traceable, as they would be validated by central banks, but instant transactions would be more efficient and individuals would have easier access to the digital economy. However, this system could be detrimental to private banking institutions, which would have an impact on their liquidity by reducing the deposits of individuals who decide to exchange them for digital currency accounts at the

Central Banks, which would have to assume supervisory functions in the fight against money laundering and financing of prohibited activities, which until now have been carried out by commercial banks, since they are the ones working with individuals. Given that this task would place a heavy workload on central banks, models are also being considered in which, once tokens have been issued as digital currencies by central banks, their distribution to individuals is done through financial intermediaries such as private banks, allowing them to compete with each other and thus not deactivate the banking market, which would be more in line with competition policy, an essential value in EU law.

Against this background, the response of the European Central Bank to create a Digital Euro that is in line with the European monetary system seems indispensable ([Hinojosa Martínez, 2021](#)).

One of the advantages of digital currency, such as the possibility of making instant payments, within the framework of the European monetary system, is well established. There is a payment system called TARGET¹⁰.

That allows financial operators in the EU to make instant payments and transfers at any time with a totally secure tool, even the instant payment system is also established among individuals, although always through financial institutions that verify them.

But many of the eurozone's central banks were considering the option of launching digital currencies, to discourage the use of private cryptocurrencies, but which would also be a clear competitor to the euro.

The ECB is competent to issue Digital Euro in accordance with the Treaty, since article 127 TFEU empowers it to define and implement EU monetary policy, as well as the exclusive right to authorise the issuance of "banknotes", considering the Digital Euro to be a type of banknote.

In wholesale transactions it would function as a kind of clearing house for payments between intermediary institutions, but legal support for individuals to open Digital Euro accounts directly at the ECB is less evident.

The ECB published in 2020 a report on the desirability of issuing digital euros, which was subject to public consultation in 2021, leading to the resulting report ([European Central Bank, 2020](#)).

It is clear that when the Treaty defining the tasks of the ECB and the ESCB was drafted in 1991, the concept of a digital currency was not even on the horizon, but fortunately the possibility of a teleological interpretation to meet the EU's objectives, as provided for in Article 352 TFEU, would make it possible. In any case, the rules of EU law that are indispensable to implement it must not neglect essential EU values such as privacy and security.

The preparatory phase of the project started in November 2023 and is laying the groundwork for the possible issuance of a digital euro. It includes the finalization of the operating rules for the digital euro scheme and the selection of vendors that could develop the necessary platform and infrastructure. The preparation phase involves numerous tests and experiments, as well as regular exchanges with the public and other stakeholders to ensure that the digital euro meets the needs of users and the requirements of the Eurosystem.

A digital euro would be a digital means of retail payment issued by the Eurosystem - which consists of the European Central Bank (ECB) and the national central banks of the euro area - available to all in all retail payment scenarios, throughout the euro area. It would complement cash, offering users greater freedom of choice by providing a secure and accessible payment solution.

A digital euro would also strengthen Europe's monetary sovereignty and reduce our dependence on the large non-European private payment providers that currently dominate the European landscape.

Following the completion of the research phase on the digital euro initiated by the Eurosystem in 2021, on 18 October 2023 the ECB's Governing Council approved the launch of a two-year preparation phase.

The aim of the preparation phase, which will last until October 31, 2025, is to build on the results of the previous phase and lay the groundwork for the possible issuance of a digital euro. The aim is to finalize the regulatory code for the digital euro (defining a single set of rules applicable to digital euro payments) and to select vendors that could develop a platform and infrastructure for the digital euro. As part of this phase, the Eurosystem is also conducting further tests and experiments and deepening the technical aspects of the digital euro, such as its offline functionality and a testing and deployment plan.

By the end of 2025, the Governing Council will decide whether to move to the next phase of preparations for a digital euro. The Governing Council will only consider a decision on the issuance of a digital euro once the EU legislative process has been completed. The ECB will then consider any necessary adjustments to the digital euro's design resulting from the legislative deliberations.

Once all the technical aspects are outlined from the ECB it will be necessary to implement the Digital Euro the legal framework in accordance.

The Commission, as a driver of integration, in the environment of an increasingly digitalized economy in accordance with the strategic lines of the Commission 19/24, repeating the coherence with the rest of the monetary policy as reflected in Articles 127 to 133 TFEU, as well as with the rest of the European policies in particular with the Digital Markets Regulation¹¹, presented in 2023 a proposal for a Regulation with legal basis in Article 133 TFEU, on which it had been working since 2021.

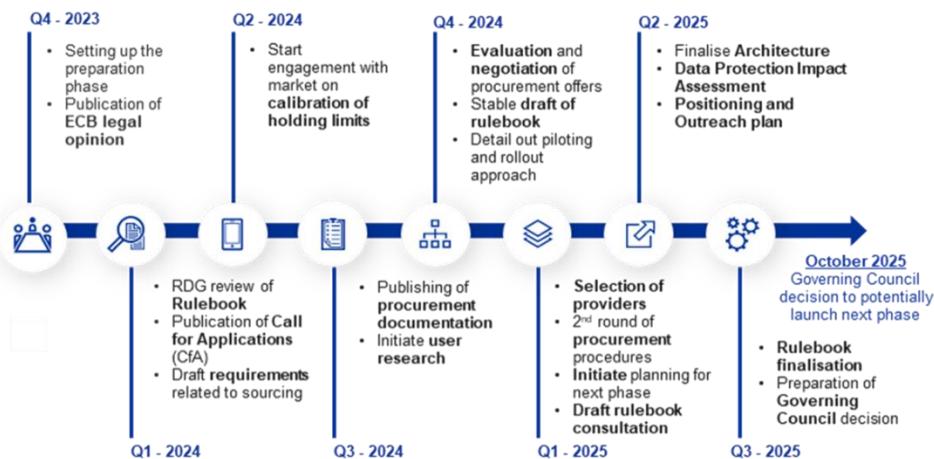


Figure no. 1 – Progress on the preparation phase of a digital euro

Source: https://www.ecb.europa.eu/euro/digital_euro/progress/html/ecb.deprp202412.es.html

This interesting proposal for a regulation comprising 85 recitals and 42 articles initiates the legislative procedure. In the context of the necessary inter-institutional collaboration for its proper development, on 23 September 2024, Executive Board member Piero Cipollone participated in a public discussion on the digital euro at the European Parliament's Economic and Monetary Affairs Committee meeting, where he presented the package of proposals on the single currency¹².

In the presentation of the package of proposals, the aim is for the digital euro to be a means of payment that can be used in any situation of everyday life by any citizen and, like cash payments, must enjoy the same protection in all parts of the euro area.

To this end, it is essential that the legislative framework reflects all the technical requirements on which the Governing Council of the European Central Bank is working.

The four key aspects that have been worked on in the preparatory phase have focused on ensuring the stability of the financial system; and providing a higher level of privacy when making digital payments.

1 – Search for potential suppliers to develop the platform and infrastructure of a digital euro. Since the beginning of 2024, the selection process was initiated to find potential suppliers that could develop the platform and infrastructure of a digital euro. The potential suppliers provide the technical options available and this, in a way, delimits the decisions to be taken.

Calls for applications to sign framework agreements were published, but in order not to question the autonomy and security of the digital euro, only legal entities that have their registered office in the EU and are controlled by entities such as these or EU nationals may be suppliers of the platforms.

2 – It is necessary to develop rules for the operation of the digital euro.

There is currently no universally accepted European digital means of payment throughout the euro zone. This forces Europeans - consumers, merchants and banks - to resort to international card solutions for their daily payment activities, which have doubled their fees in the last five years.

The intention is that all eurozone citizens should be able to make and receive payments in digital euros regardless of their intermediary or country of origin, as is currently the case with cash. This would reduce dependence on non-European operators, while fostering competition among European operators.

The operating rules will define a single set of rules, standards and procedures for the digital euro that will ensure their harmonious application and avoid partitioning of the single market.

3 – These advances that will allow the use of the Digital Euro cannot fail to guarantee the stability of the financial system.

The use of digital payments is a growing reality. Since central bank money is currently only available in physical form (cash), if a digital euro is not offered, the risk is that the European Central Bank will be excluded from payments.

Some safeguards are foreseen for this:

– Since digital euro holdings will not be remunerated by the ECB, as is the case with cash, they will not compete with savings deposits of private institutions, which could always offer higher returns to retain deposits.

– Secondly, there will be limits to the amount of digital euros that individuals can hold. For their part, businesses and public sector organizations would be able to receive and process payments in digital euros, but would not be able to hold them.

– And third, users would be able to pay with digital euros online without needing to load their wallets first, simply by linking their digital euro account to their payment bank account. This would allow them to make and receive online payments even when they exceed their digital euro funds or holding limit.

In this way, the Digital Euro as a means of payment and not as a form of investment will not hinder the role of financial intermediaries and the banking business.

4 – Need to offer a higher level of privacy in digital payments.

So far, the highest level of privacy is found in cash payments, and citizens will continue to be able to use it as a means of payment. To a large extent this same level of privacy is reflected in the Commission's proposal for the use of Digital Euro, compliant with the Data Protection Regulation and supervised by independent data protection authorities will monitor compliance with EU data protection regulations. Although the Digital Euro foresees its off-line use, which would be absolutely respectful of privacy, the proposed Regulation also includes provisions to avoid its use for money laundering (art.37).

But money, both digital and cash, is based on trust, and for Digital Euro to effectively meet all these expectations, it is essential that it is strongly supported and that it is provided with an appropriate legal framework. The rulebook is essential to ensure that digital euro payments are accepted throughout the euro area, in the same way as cash payments, and will work in a harmonised manner. The draft digital euro rulebook will be sufficiently flexible to accommodate any future adjustments and will be updated in accordance with the outcome of the digital euro legislative process.

At the time of going to press, two reports had been submitted by the European Central Bank's working group. After the first phase, which started in November 2023, on June 24 and after the second phase, on December 2, 2024, the second report was presented, which allows us to confirm that the work is progressing in the right direction and at a good pace to be completed by the end of 2025 with the decision of the Council and the Parliament¹³.

6. CONCLUSION

Thus, on the 25th anniversary of the euro and Monetary Union, considering all the progress achieved, we can conclude that the establishment of the digital euro is a necessity, but we still need to wait for the digital euro to become a reality with all the necessary guarantees in accordance with the European legal framework.

We need a rigorous legal framework but at the same time with sufficient flexibility to adapt to the new realities that cannot leave the Digital Euro stranded in the face of what private cryptocurrencies would facilitate. In this sense, the proposed Regulation itself provides for reports from the Commission one year after the issuance of the first Digital Euro and then every three years. We have already wasted too much time, considering that digital currencies began to be used in practice more than five years ago, and there are still three more years to go before our regulation, which is still incomplete, comes into force. However, it is important not to delay it any further, while always respecting the European regulatory framework (Arnal *et al.*, 2024).

The real challenge is to ensure that the digital euro, created with these characteristics that respect the European model, will be used by market participants. It would therefore be of great interest if the preparatory work being carried out by the European Central Bank took into account the involvement of these agents in the use of the digital euro, as otherwise it would mean leaving the European system out of the real world. It will be necessary to create a sufficiently agile and flexible system, but without losing sight of the European values and principles that give us security and credibility.

Undoubtedly, the creation of the Digital Euro would have many advantages both internally and externally. It would facilitate not only the intra-European payment system, thus avoiding the use of cryptocurrencies pernicious to the European way of life and also, in the global market it would strengthen “European monetary sovereignty”, making it more attractive both as a means of payment, but also as a store of value. The establishment of the Digital Euro will allow the EU to achieve its objectives, to respect its values and also to be more competitive and efficient in the global world, but probably we will arrive on late. For the moment, just wait the October 2025 Governing Council decision for further progress in the roadmap.

References

Anderton, R., Jarvis, V., Labhard, V., Petroulakis, F., Rubene, I., & Vivian, L. (2021). *The Digital Economy and the Euro Area*. Retrieved from https://www.ecb.europa.eu/press/economic-bulletin/articles/2021/html/ecb.ebarf202008_03~da0f5f792a.en.html

Arnal, J., García, E., & Ricart, R. J. (2024). *Están España y la UE Progresando Adecuadamente hacia los Objetivos Europeos de la Década Digital 2030* (Vol. Marzo 2024). Madrid, España: Real Instituto Elcano.

Bradford, A. (2020). *The Brussels Effect: How the European Union Rules the World* (Vol. June 2019). United States of America: Oxford University Press. <http://dx.doi.org/10.1093/oso/9780190088583.001.0001>

Bradford, A. (2023). *Digital Empires: The Global Battle to Regulate Technology*. United States of America: Oxford University Press. <http://dx.doi.org/10.1093/oso/9780197649268.001.0001>

Cabral, L., Haucap, J., Parker, G., Petropoulos, G., Valletti, T. M., & Van Alstyne, M. W. (2021). *The EU Digital Markets Act: A Report from a Panel of Economic Experts* (Vol. February). Luxembourg: European Commission. <http://dx.doi.org/10.2760/139337>

Codagnone, C., Liva, G., Gunderson, L., Misuraca, G., & Rebesco, E. (2021). *Europe's Digital Decade and Autonomy*. Retrieved from https://internationaldataspaces.org/wp-content/uploads/dlm_uploads/IPOL_STU2021695465_EN.pdf

Del Pozo Martín, P. C. M. (2022). Comentarios Sobre la Comunicación de la Comisión Europea Acerca de la «Brújula Digital para 2030: La vía Europea de la Década Digital». *Derecho y Economía de la Integración*, March(9), 81-90. <http://dx.doi.org/10.69592/2530-5093-N14-JUNIO-2025>

European Central Bank. (2020). *Economic and Monetary Developments* (0343-754X). Retrieved from <https://www.ecb.europa.eu/press/economic-bulletin/html/eb202008.en.html>

European Commission. (2007). Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union - Consolidated version of the Treaty on the Functioning of the European Union - Protocols - Annexes - Declarations annexed to the Final Act of the Intergovernmental Conference which adopted the Treaty of Lisbon, signed on 13 December 2007 - Tables of equivalences. *EUR-Lex*, 26/10/2012 P. 0001 - 0390. Retrieved from https://eur-lex.europa.eu/eli/treaty/tfeu_2012/oj

European Commission. (2018). FinTech Action plan: For a more competitive and innovative European financial sector. *EUR-Lex, COM(2018) 109 final*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0109>

European Commission. (2020a). Digital Finance Strategy for the EU. *EUR-Lex, COM(2020) 591 final*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0591>

European Commission. (2020b). Retail Payments Strategy for the EU. *EUR-Lex, COM(2020) 592 final*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0592>

Ferrari, M., & Mehl, A. (2021). *Central Bank Digital Currency and Global Currencies*. Retrieved from Fráncfortş Banco Central Europeo: <https://bit.ly/3gN7Iw8>

Franco, X. (2021). La E-Krona y el Banco Central de Suecia. Lecciones Sobre el Desarrollo de una Moneda Digital. *Rankia*. Retrieved from <https://www.rankia.mx/blog/cosmovision-economica/5036210-krona-banco-central-suecia-lecciones-desarrollo-moneda-digital>

Hacker, P. (2018). Teaching Fairness to Artificial Intelligence: Existing and Novel Strategies against Algorithmic Discrimination under EU Law. *Common Market Law Review*, 55(4), 1143-1185. <http://dx.doi.org/10.54648/COLA2018095>

Hinojosa Martínez, L. M. (2021). Euro Digital o Criptoeuro: Está en Juego la Soberanía Monetaria Europea? *Revisa de Derecho Comunitario Europeo*, 25(69), 471-508. <http://dx.doi.org/10.18042/cepc/rdce.69.01>

Turillazzi, A., Taddeo, M., Floridi, L., & Casolari, F. (2023). The Digital Services Act: An Analysis of its Ethical, Legal, and Social Implications. *Law, Innovation and Technology*, 15(1), 83-106. <http://dx.doi.org/10.1080/17579961.2023.2184136>

Notes

¹ See: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en.

² See: <https://eufordigital.eu/library/2030-digital-compass-the-european-way-for-the-digital-decade/>.

³ See: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021DC0032&utm_source=chatgpt.com

⁴ See: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europees-digital-decade-digital-targets-2030_en

⁵ The first report was September 2023, <https://digital-strategy.ec.europa.eu/en/news/first-report-state-digital-decade-calls-collective-action-shape-digital-transition>. And the last one, by the moment on July 2024, <https://digital-strategy.ec.europa.eu/en>.

⁶ See: https://digital-markets-act.ec.europa.eu/index_en.

⁷ See: <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package>.

⁸ See: <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>.

⁹ See: https://algorithmic-transparency.ec.europa.eu/index_en.

¹⁰ See: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02022O0912-20231120>.

¹¹ See: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0369>.

¹² See: <https://www.ecb.europa.eu/press/key/date/2024/html/ecb.sp240923~cccba29006.en.html>.

¹³ See: https://www.ecb.europa.eu/euro/digital_euro/progress/html/ecb.deprp202406.en.html and https://www.ecb.europa.eu/euro/digital_euro/progress/html/ecb.deprp202412.en.html.