

# **Burkhard Balz: Foundations of resilience - the role of cash and the digital euro**

Keynote speech by Mr Burkhard Balz, Member of the Executive Board of the Deutsche Bundesbank, at the Global Currency Forum (GCF), Antalya, 29 April 2026.

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*Check against delivery*

## **Introduction**

Ladies and gentlemen,

There is a phrase many of us have heard in recent years: "There is no glory in prevention." We experienced this very clearly during the pandemic. As long as systems function, they remain largely invisible. Only when they fail does their importance become apparent. The same is true for payments. In everyday life, payments are expected to work – seamlessly, reliably, and without interruption. But recent events have reminded us that this reliability cannot be taken for granted.

Disruptions to critical infrastructure – for example large-scale power outages – can quickly affect the ability to make payments. In such situations, the question is no longer about convenience. It is about whether payments can be made at all.

Resilience is not about efficiency in normal times – it is about functionality in exceptional times. In the euro area, resilience is not built on a single instrument. It is built on complementarity. Cash plays a central role as a physical form of central bank money – robust and widely accessible.

At the same time, payments are becoming increasingly digital. This raises an important question: How do we ensure resilience in a world where digital payments are gaining importance?

This is where the digital euro comes into the picture – not as a replacement for cash, but as a complementary form of public money in the digital space. Today, I would like to explore this from three perspectives:

- the role of cash as a proven anchor of resilience,
- how the digital euro can contribute in a digital environment,
- and where we stand in terms of policy and implementation.

## **2 What is resilience in payments?**

Ladies and gentlemen,

Before we discuss specific instruments, it is worth asking: What do we actually mean by resilience in payments? At its core, resilience in payments means one thing: People must be able to make payments – even when conditions are far from ideal. This concept includes three key elements:

- Availability: Payments must be possible when people need them, not only in normal times but also under stress.
- Robustness: Systems must be able to withstand disruptions, whether caused by technical failures, cyber incidents, or interruptions to critical infrastructure.
- Redundancy: There must be alternative ways to make payments if one channel is no longer available.

These elements are closely interconnected. In practice, resilience is not about preventing all disruptions, but about ensuring that the system as a whole continues to function when disruptions occur. Recent years have shown how quickly disruptions can affect interconnected systems: cyber incidents targeting financial institutions, outages of payment service providers, and failures of basic infrastructure such as electricity or telecommunications.

This is why resilience in payments cannot rely on a single solution. It requires a layered and diversified system with different instruments that complement each other and compensate for potential weaknesses. And in the euro area, one of the most important pillars of resilience has proven its value time and again. It is neither new nor digital, but especially in times of crisis it remains essential. I am referring, of course, to cash.

### **3 Cash as a proven anchor of resilience**

Ladies and Gentlemen,

To better understand the role of resilience in payments, it is helpful to briefly reflect on how stability has been ensured in monetary systems over time. At the beginning of the 20th century, the well-known financier J.P. Morgan famously said: "Gold is money. Everything else is credit."<sup>1</sup> At that time, the classical gold standard was still in full effect. Historically, gold played a central role as an anchor of trust and stability. Under the gold standard, currencies were tied to gold, and paper money could be exchanged for physical gold at any time. This system provided a high degree of security – even in times of crisis.

However, gold still serves as a safe haven in uncertain times, as recent price developments show<sup>2</sup>. But all gold standards ultimately failed, due to a simple problem: the supply of gold could not keep pace with the growing demand for money, especially during crises and wars. As a result, the system broke down<sup>3</sup>, most recently in the Bretton Woods system in 1971. The gold standard had to give way to a new concept, which also serves as a resilience anchor in crises today: central bank money, the foundation of our monetary system.

For the general public, cash is the only form of central bank money that is directly accessible and usable in everyday life. This gives cash several key properties that make it a cornerstone of resilience in payments:

- No credit risk: Cash is issued by the central bank and is therefore considered especially safe and trustworthy, particularly in uncertain times.
- Independence from digital infrastructure: Cash can be used without relying on networks or electricity, making it valuable when digital systems are disrupted.
- Privacy: Cash payments do not leave digital traces, which remains important for many citizens.
- Inclusivity: Cash is accessible to everyone, including those without access to digital services.

Taken together, these features make cash a uniquely robust form of payment and explain why it continues to play a central role in ensuring resilience – especially in times of crisis. For us central banks, however, this raises two special questions that I would like to address in more detail today:

- How important is cash as a safe haven in times of heightened uncertainty?
- How can the permanent availability of cash be guaranteed, especially in crisis situations?

To address the first question, it is helpful to consider econometric studies aimed at gaining a deeper understanding of banknote circulation. Indeed, evidence from empirical research reveals that demand for cash in Germany and the Euro area rose significantly during episodes of uncertainty, such as the global financial crisis and the COVID-19 pandemic<sup>4</sup>.

Interestingly, this pattern is not limited to the euro area. International studies by the Bundesbank – covering 16 selected countries and currency areas worldwide – have found that, between 1990 and 2022, cash demand increased in most countries – even as the use of cash for everyday transactions declined.<sup>5</sup> This so-called "banknote paradox"<sup>6</sup> is largely driven by crisis events, which significantly increase precautionary cash hoarding. Consequently, cash continues to serve as a store of trust internationally, even in times of uncertainty.

Let us now address the second question – namely, how to guarantee a secure supply of cash in times of crisis. To begin with, it should be emphasised that cash can only fulfil this role if it is reliably available.

Resilience therefore depends not only on the properties of cash itself, but also on a strong and well-functioning cash infrastructure. In this context, the role of central banks becomes paramount. Consequently, one of the main goals of the ECB and the Eurosystem central banks is to ensure that cash remains accessible and accepted at all times. This is central to their cash strategy.

In Germany, by 2023, the Bundesbank had already begun aligning its strategic priorities with the economic and sustainable supply of cash as a physical core product. Within the

framework of this strategy, the Bundesbank is also committed to implementing forward-looking measures to ensure an adequate supply of cash in times of crisis and emergency.

By the way, this commitment has evolved over time: You might be surprised to learn that, back in the Cold War, the Bundesbank was prepared for emergencies in true James Bond style – complete with a secret bunker in the Moselle valley<sup>7</sup> stocked with emergency currency<sup>8</sup>. Times have changed, however: today, crisis preparedness resembles strategic planning far more than a spy movie.

Accordingly, the Bundesbank conducts systematic scenario analyses to assess the impact of potential crises – such as major power outages – on its branches and the cash cycle. This demonstrates the advantage of the Bundesbank's nationwide network of 31 branches: its broad geographical distribution allows other locations to temporarily compensate for the failure of individual branches, thereby enhancing overall resilience.

Simultaneously, the deliberate modernisation of the Bundesbank branch network improves the cash system's efficiency. By establishing four strategically situated modern branches and closing underutilised sites, access for cash handlers can be optimised, particularly in times of crisis.

Since the public no longer has direct access to the central bank, a secure cash supply relies on a widespread network of cash access points throughout Germany. And this infrastructure is dense and well developed: In 2023, there were around 51,000 ATMs and 21,000 bank branches available to the public. According to Bundesbank analysis, the average distance from a citizen's home to the nearest cash access point was about 1.4 kilometers – or even just 1.2 kilometers when retail cash services are included.<sup>9</sup> This illustrates that access to cash is not an abstract concept, but a practical and everyday reality for the vast majority of the population.

The cash supply system in Germany relies on the cooperation of many actors: alongside the Bundesbank, which introduces new cash into circulation, commercial banks, cash-in-transit companies, retailers and independent ATM operators all play key roles. Together, they form a dense network that ensures the continuous circulation and availability of cash.

This decentralised structure increases resilience, as temporary disruptions at individual sites can be compensated by others. At the same time, it requires effective coordination and reliable communication, particularly in times of crisis. For this reason, the Bundesbank actively engages with all stakeholders in the cash cycle to strengthen preparedness and improve crisis coordination. One example is the BASIC initiative,<sup>10</sup> a collaborative effort involving the central bank, academia, and key market participants, which has developed a comprehensive framework to enhance the resilience of cash systems both nationally and internationally.

In summary: Ensuring that cash remains a reliable means of payment – especially in times of crisis – requires strong infrastructure and close cooperation between the central bank, policymakers, and private sector actors. But the conclusion is clear: Cash has proven itself time and again as a resilient anchor in the payment system.

## 4 Resilience in a digital world

Ladies and Gentlemen,

Even though cash is still widely and frequently used, payment habits are changing. Digital payments are becoming more important and bring clear benefits. However, they rely on infrastructure such as electricity, internet connectivity, and complex systems. If these are disrupted, digital payments can be impacted.

This does not lessen the value of digital payments, but it highlights that resilience in a digital world requires thoughtful design. It also means that true resilience depends on the interplay between different forms of money. Cash will continue to play a vital role. Yet as payments become more digital, it is important that public money is also available in the digital realm. This is where the digital euro comes in.

## 5 The digital euro: resilience by design

Ladies and gentlemen,

If resilience in payments means that public money must remain available under all circumstances, then a key question arises: How can central bank money continue to fulfil this role in an increasingly digital world?

This is precisely the idea behind the digital euro. The digital euro is being developed as a form of central bank money for everyday digital payments. It is not intended to replace cash, but rather to complement it and extend the role of public money into the digital age. From the very beginning, resilience has been a central design principle for the digital euro. This is reflected in several core features:

- **Offline functionality:** The digital euro is being designed to enable payments even when there is no network connectivity. This is especially important in situations where digital infrastructure is temporarily unavailable, though it comes with technical limitations that must be carefully managed.
- **High availability:** The infrastructure for the digital euro is intended to operate around the clock – 24 hours a day, 365 days a year – reflecting the reality that payments are needed at any time.
- **European infrastructure:** The digital euro will be based on infrastructure provided by the Eurosystem, complemented by components developed and operated by private entities established within the EU. This approach reduces dependencies and ensures that key payment functions remain under European control.
- **Integration with existing systems:** The digital euro will be distributed through supervised intermediaries such as banks and other payment service providers. This ensures continuity with existing relationships and infrastructures, rather than replacing them.

In addition, the digital euro would strengthen the resilience of the euro and the euro area against competing currencies and stablecoins by reinforcing the anchoring function of central bank money and supporting trust in the euro as a means of payment. In this way, we are making an important contribution to the foundations of our independent monetary policy.

It is important to emphasise that the digital euro is not meant to be the sole solution for resilience in payments. It will be part of a broader ecosystem: cash will continue to play a central role, private payment solutions will keep innovating, and the digital euro will add a public solution for digital payments.

At the same time, we must remain realistic. The digital euro will not eliminate all risks, nor will it replace the need for other payment instruments or solve every challenge related to access and inclusion. But it can make an important contribution: ensuring that, even in a more digital environment, people continue to have access to a reliable form of public money for their everyday payments.

In this sense, cash and the digital euro should not be seen as alternatives, but as complementary pillars of a resilient payment system. Cash provides robustness through its physical nature, while the digital euro aims to ensure resilience in the digital sphere. Together, they can help ensure that the payment system remains functional across a wide range of scenarios.

## **6 Policy and implementation**

Ladies and gentlemen,

Ensuring resilience in payments is not just a matter of technical design – it also requires a clear and robust institutional framework. In the euro area, this framework is currently being developed through the Single Currency Package, a comprehensive legislative initiative that takes a holistic view of money. Importantly, it does not focus solely on the digital euro, but also includes a dedicated proposal to strengthen the role of cash.

The objectives are twofold: to establish a legal framework for a digital euro, and at the same time to safeguard the role of euro banknotes and coins. The proposal on cash clarifies the concept of legal tender, reinforces the obligation to accept cash, and requires Member States to ensure that cash remains widely accessible. This is crucial, as cash still accounts for a significant share of transactions and most citizens wish to retain the option to pay in cash. The legislative approach sends a clear signal: resilience in payments is not achieved by replacing one form of money with another, but by strengthening both physical and digital forms together.

Significant progress has been made in the legislative process. The European Commission presented its proposals in 2023, and the Council of the European Union has recently agreed on its negotiation position. A decision by the European Parliament is expected in May. Afterwards, trilogue negotiations between Parliament, Council, and Commission will take place.

In parallel, the Eurosystem has advanced its technical work. Since 2021, the project has moved from investigation to preparation and now to a phase of technical readiness. The digital euro will follow a two-tier model, with the Eurosystem providing the core infrastructure and private intermediaries delivering services to users. The next step is a pilot phase, which will test the digital euro in real-life conditions with selected payment

service providers, merchants, and Eurosystem staff, covering key use cases such as person-to-person payments, point-of-sale transactions, and e-commerce – including offline functionality.

It is important to note that, even with this progress, the digital euro will not be introduced before 2029. This timeline allows for thorough preparation, testing, and the completion of the legislative process.

Taken together, the legal framework is taking shape, both cash and digital money are being addressed jointly, and technical preparations are advancing. This provides a solid foundation for the next phase of the project.

## 7 Conclusion

Ladies and Gentlemen,

Allow me to wrap up. Resilience in payments is not achieved through a single action. It is the result of a thoughtfully constructed system, designed to operate reliably across a variety of circumstances. In the euro area, this system is based on complementarity. Cash has consistently served as a dependable anchor during times of crisis, while the digital euro is intended to ensure that public money remains accessible as payments become increasingly digital. Together, cash and the digital euro represent two essential pillars of a resilient payment system.

However, resilience does not happen automatically – it requires collaboration. Policymakers establish the legal framework, central banks provide stability and infrastructure, and the private sector contributes innovation and delivers services to users. Resilience can only be achieved when all these elements work in concert.

The efforts we are making today – strengthening cash, preparing for the digital euro, and developing the regulatory framework – are investments in the future. They are investments in a payment system that people can depend on, not just in everyday situations, but especially when it matters most. And perhaps this brings us full circle to my opening point: There may be no glory in prevention. But there is great value in being prepared.

Thank you very much.

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<sup>1</sup> [Quote of the day by JP Morgan: 'Gold is money, everything else is credit'. Here's timeless quotes by legendary American financier – The Economic Times](#)

<sup>2</sup> [Goldpreis aktuell in Euro und Dollar](#)

<sup>3</sup> [1973: Das Ende von Bretton Woods – Als die Kurse schwanken lernten](#)

<sup>4</sup> u. a. [Abschlussrede](#)

<sup>5</sup> [Nachfrage nach Banknoten in Krisen aus internationaler Perspektive | Publikationen der Bundesbank](#)

<sup>6</sup> Cf.: [The paradox of banknotes: Understanding the demand for cash beyond transactional use](#)

<sup>7</sup> [Startseite – Bundesbank-Bunker](#)

<sup>8</sup> Die sogenannte Ersatzserie "BBk II".

<sup>9</sup> Deutsche Bundesbank (2025), Zugang zu Bargeld in Deutschland, Monatsbericht, März 2025

<sup>10</sup> [Ein Sicherheitskonzept zur Stärkung der Resilienz der Bargeldversorgung in Not- und Krisenfällen – BIGS Potsda](#)