

# pay

A perspective view of a tunnel with tracks, illuminated with blue and purple light. The tracks lead towards a bright light at the end of the tunnel. The walls of the tunnel are made of concrete segments. The lighting is dramatic, with a strong blue/purple hue.

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# The Direct Debit in Digital Transformation

TEXT

DANIEL BERGER, HEAD ECOSYSTEM BILLING & PAYMENTS, AND  
PASCAL SCHOCH, SENIOR PRODUCT MANAGER, SIX BBS LTD



Imagine having to remember to manually transfer your rent, insurance, and subscriptions every month. It would be a hassle. Luckily, direct debit does the work for us. But like everything else in our digital world, direct debits are evolving.

From early paper-based processes to modern, all-digital solutions, the evolution of direct debit shows how technology can make our lives easier.

Direct debit is a payment instrument that has played a vital role in payment transactions for decades. It offers the service provider a convenient way to have regular payments automatically deducted from the customer's account. This makes life easier for both consumers and companies, as they no longer have to worry about paying invoices on time or sending reminders for outstanding payments. To prevent fraud and protect consumer rights, the payer also has the ability to dispute an unauthorized charge within a specified period of time, triggering an immediate chargeback.

## Technological Progress

While Germany, France, Italy, Spain, and the United Kingdom introduced direct debits in the 1960s, Switzerland followed suit in 1977. With the advent of computer

technology and digitalization in the 1980s and 1990s, direct debits underwent their first technological change. Banks and payment service providers developed systems that allowed direct debits to be processed electronically, reducing error rates and processing times. While processing was electronic, certain processes, such as the conclusion of the necessary direct debit agreement between the payee and the payer, remained paper-based. This is not surprising, as the electronic user interfaces required for an end-to-end digital process were not yet available on the customer side. However, paper-based processes are notoriously inefficient, time-consuming, and therefore expensive. They are susceptible to human error, such as incorrect or inaccurate information. Physical documents are easier to steal or tamper with, increasing the risk of fraud and misuse. Or they get left in the mail on the way to the bank, or get lost and have to be recreated. This takes time and causes frustration.

## Future-Proof Through Complete Digitization

In an increasingly digital world, analog direct debit solutions with remaining paper-based processes are coming under increasing pressure for the reasons mentioned above. Especially in times when private individuals prefer digital and

We should see the digitization and embedding of direct debit processes into existing digital ecosystems not only as a necessity, but also as an opportunity to actively shape the future of payments.





mobile payment methods, it is essential that direct debits are fully digitized and ideally embedded in existing systems or customer portals where they can find a broad user base. This is crucial to minimize the risks and drawbacks mentioned above and to improve the efficiency, security, and sustainability of direct debit solutions.

A good example of digitization is the SEPA Direct Debit Scheme, which was launched at the end of 2010. It allows direct debits to be processed electronically without a physical signature. This facilitates integration with online banking, mobile applications, and e-invoicing platforms. With just a few clicks, consumers can set up their own direct debits, check the payments they have made, cancel them if necessary, or have unjustified debits reversed immediately. Another benefit from the issuer's point of view is the ability to flexibly adjust payments, which is particularly advantageous for variable costs such as electricity or telephone bills. In addition, the issuer can check the status of issued direct debit authorizations in real time and renew them if necessary. The status of submitted claims can also be queried. This improves the customer experience and increases acceptance of direct debit as a payment method in the digital age.

### **LSV+ and BDD No Longer Up to Date**

In the meantime, the Swiss financial center has harmonized payment transactions and adapted them to the ISO 20022 payment standard. The two current direct debit procedures used by Swiss banks, LSV+ and BDD, do not yet fully comply with this standard. However, harmonization of payment standards is the basis

for efficient and competitive Swiss payment transactions in the future. LSV+ and BDD will have to make further investments in technology and formats in the coming years in order to meet today's requirements for a modern direct debit solution.

In addition, the physical signature of the debit authorization on the forms still required by LSV+ and BDD no longer meets today's standards and the digitization strategy in payment transactions. At the same time, declining transaction volumes show that users are increasingly switching to alternative payment methods that are easier to set up and manage. As the operator of the standard direct debit procedures, SIX has therefore decided this year, in consultation with the responsible bodies of the Swiss financial center, to discontinue LSV+ and BDD at the end of September 2028. This decision reflects the general trend away from traditional payment methods towards modern, digital solutions.

### **Digital Solutions in Demand**

Specifically, the discontinuation means that LSV+/BDD direct debits will only be possible until 30 September 2028. However, this does not mean the end of direct debits in Switzerland. Even if the number of direct debits processed by SIX has stagnated or declined in recent years, SIX still considers the procedures to be an important payment option with various advantages for the payer and the beneficiary. We therefore assume that direct debits will remain attractive for specific use cases. However, in order to satisfy the demand for direct debit solutions in the long term, efficient and fully automated solutions are required, which ideally can be easily and therefore cost-effectively integrated into existing customer portals.

This is not the case with LSV+/BDD.

With eBill Direct Debit, however, SIX will launch a new digital direct debit procedure in mid-2025 that meets the increased requirements. Pragmatically integrated into the existing eBill ecosystem, which is already familiar to over 3.5 million households, eBill Direct Debit is used for the automated collection of recurring receivables. Both invoice issuers and recipients can easily set up and manage the necessary direct debit authorizations digitally in eBill.

## Potential

Direct debits have the potential to play a key role in tomorrow's digital world, especially when combined with instant payments. However, this requires fully digital and integrated processes that meet both the increased customer demand for an easy-to-use solution and the need for efficient and therefore cost-effective operations. Digitizing and embedding direct debit processes into existing digital ecosystems should not only be seen as a necessity, but also as an opportunity to actively shape the future of payments and anticipate the needs of payment stakeholders. 🌐







Discovered in China 5,000 years ago, tea served as a means of consumption and payment. Dried from tea leaves, crushed, sifted, steamed, and pressed into shape, tea bricks symbolized wealth and social status. The edible currency was embossed with patterns that provided information about weight, quality, and value. Last century, a Tibetan could buy 8 ducks with a typical 300-gram standard brick.

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# Building Bridges to the SIC-IP Service

## Required knowledge

- Understanding of the use of the SIC-IP service
- Knowledge of the various players in the payment ecosystem

As of 20 August 2024, more than 60 Swiss financial institutions offer instant payments. More are expected to join by mid-2025. On launch day, the institutions successfully processed 3,308 payments, reaching the 10,000 mark three days later. The average processing time (measured from receipt in the SIC system to output of the message after clearing and settlement) fell from 2 seconds initially to 1.6 seconds in September, with SIC taking less than 20 milliseconds. In the same month, the number of cleared transactions remained in the high four-digit range, and in some cases in the low five-digit range. The average amount of an instant payment was around 1,200 Swiss francs, and transactions amounting to more than 230 million Swiss francs took place during the month.

## The Power of Habit

The behavior of market participants outside the financial sector is also interesting. It is clear that payers are sticking to long-established patterns when it comes to initiating instant payments. For example, the number of daily payments submitted on weekends regularly drops to just 2,000–4,000 transactions per day, while the number of transactions on Mondays and Fridays is regularly in the five-digit range. In addition, despite 24-hour availability, the majority of payments are still submitted during business hours (between 8 am and 4 pm). This behavior, which has a lot to do with habit, will certainly change over time – and it is not particularly relevant to the instant system when exactly more or fewer payments are received.

## Beyond E-Banking

The use cases are still limited in this initial phase. They focus almost exclusively on the e-banking functions of financial institutions that have already launched a customer offering. The readiness of the central infrastructure and the connected banks is not yet sufficient for the distribution of the new payment method at the checkout in retail or e-commerce. The Board of Directors of SIX Interbank Clearing therefore discussed at an early stage how the new SIC-IP service could be made available to interested providers of payment solutions (payment schemes) for account-to-account payments in the future.

The Scheme on Scheme project was launched in October 2023. It examined the possibilities of standardized and non-discriminatory access for payment schemes and evaluated the extent to which the SIC-IP service could be adapted to process payments via payment schemes in the future. In addition to the goal of promoting the use and spread of instant payments, the idea was that the development of new use cases would promote innovation and minimize counterparty risks.

In close cooperation with the SNB, a number of financial institutions, and 11 market participants who had accepted an invitation to participate, the project team developed the “Instant Payments Bridge” concept for the SIC-IP service. They defined three basic design principles (delivery always via SIC standard participants, focus on account-to-account payments, and no authorization functions in the SIC system) and discussed various requirements. These focused on individual functions for message transmission (including E2E references or identification of payment schemes in the payment message) and on useful interfaces (such as market standard for communication between financial institutions and payment schemes or availability of confirmation messages via an interface between SIC and payment schemes, referred to in the concept as “Confirmation API”). In mid-August 2024, SIX finally made the rough concept available in the form of a consultation process. Interested parties had until the end of September 2024 to submit their comments and ideas.

## Lively Participation

At least 20 companies and organizations contributed to the consultation on the outline concept. Participants in the consultation came from a wide range of areas of the payments ecosystem. Eight financial institutions, four payment schemes, and three software companies provided input. A further five organizations fell into the “other” category, including a large service provider that could not be clearly assigned to any of the above categories and a major Swiss trade association. The lively participation and the fact that all participants welcomed the rough concept and many even saw it as a necessary development clearly shows that the development of an “instant payments bridge” is reasonable, if not necessary.

## Technical Challenges

What about concrete contributions to the rough concept? First of all, it should be noted that it will certainly take some time to evaluate the feedback and derive the first concrete measures. We face the challenge of evaluating a free text corpus of over 100 A4 pages, which cannot be done overnight, even with the most advanced AI tools. This is partly due to the fact that the rough concept was sent to the consultation with rather vague ideas and without detailed, specified content. Many respondents explicitly criticized this, asked many questions, and in some cases requested a follow-up consultation. On the positive side, however, this – admittedly rather unusual – approach also seems to have elicited very well-founded and constructive criticism and encouraged creative ideas, which is certainly a great advantage at this early stage.

It is also foreseeable that the opinions of the various market participants are often quite different and sometimes contradictory. For example, the spectrum of opinions on a proposed market standard for the interface between payment systems and financial institutions ranges from the demand that SIX should define, specify, and operate it to the statement that this is better left to the free market. The opposite is true for almost all majority opinions. For example, in the assessment of the function of a “confirmation API”, 14 participants considered this to be useful, and in some cases even necessary,

while 3 input providers firmly advise against implementation, primarily due to the feared additional costs. The different opinions are also reflected in the assessment of the published timetable: While some make the criticism that the timetable is far too long to bring the first implementations to the market, there are also a few voices that describe the concept as potentially “too early”, as more experience with instant payments needs to be gained.

### Next Steps

It is clear that the challenge, not only for the financial sector but for the entire economy, is to take all aspects into account and still find a compromise that works for everyone. This is not unusual for a joint venture such as the SIC system. However, the fact that many other market participants want to see their interests taken into account in connection with instant payments

and the associated end-to-end processes takes this process to an unprecedented level. Together with the Swiss National Bank, the responsible team at SIX will first take the time to seriously evaluate the input and make it available to the public in a consultation report. By the end of the year, the Board of Directors will certainly also devote a great deal of attention to the topic, and it is conceivable that the first working groups will begin to examine individual, specific topics in greater depth as early as the first quarter of 2025.

One thing is clear: neither the SNB nor SIX nor any other market participant can fully understand the needs of the market as a whole in this context and provide the right solution in terms of specifications or technical implementation. This requires an extraordinarily important level of cooperation between a wide

range of players, from financial institutions to the software sector and providers of payment solutions, as well as payment recipients from a wide range of industries – while of course taking into account all antitrust and competition law requirements. All with the aim of expanding the use of instant payments, fostering innovation, minimizing counterparty risks, and making future payment transactions as efficient as possible for all parties involved.

**THOMAS HILDEBRANDT,  
HEAD PAYMENTS SOLUTIONS, SIX**

# Roadmap: The Planning Tool for Swiss Payments Projects

At the end of September, SIX updated the Swiss payment traffic roadmap on its website. In addition to the now fixed date for the discontinuation of the LSV+/BDD direct debit procedures, the latest developments regarding the introduction of the “hybrid address” in national and international payment traffic, the adjusted transition periods in the Swiss payment standards and the migration plan for the SIC RTGS service from the SIC4 to the SIC5 platform with the successful launch of instant payments have been included. The migration to the Swiss Secure Finance Network (SSFN) has been completed and is no longer visible. This means that all those interested in payment traffic will again have an up-to-date overview of developments in the coming years.

However, the publication of this recent version does not mark the end of the planning process, but forms the basis for a new cycle. Swiss payment traffic is linked to international developments, driven by SEPA and Swift. Developments in other market infrastructures and central banking systems are also of foremost importance for SIC. As Switzerland consistently relies on ISO standards – such as ISO 20022 for message formats, ISO 13616 for the IBAN, ISO 4217 for currency codes, and ISO 11649 for the Creditor Reference – the international development in these standards has a direct impact on Swiss specifications and implementations.

## Seeing Through the Thicket

The roadmap also provides valuable information for planning the changeover in Switzerland. For example, it quickly becomes clear that, given the planned migration of all SIC services to the new platform in November 2026, it is not advisable to make far-reaching changes to the services in the same period. This

provides the national and international committee members with a basis for making decisions and arguing the Swiss position.

The roadmap was drawn up in 2020. Although the Swiss payment traffic committees, led by the Board of Directors of SIX Interbank Clearing, were aware of the upcoming changes, it was difficult to get an overview of all the interconnections: the interdependencies between the ISO 20022 migration in Swift and TARGET, the associated conversion of the ISO 20022 message version in SIC and in the SEPA schemes, the adaptations and enhancements of the SEPA schemes, the targeted obligation to use the structured address, the abolition of IS/ISR and its replacement by the QR-bill, the introduction of instant payments in SIC, and the conversion to SSFN.

Experts from various financial institutions and SIX, supported by an external project manager, developed the structure and building blocks of the roadmap and defined the thematic priorities. It was immediately well received, both nationally and internationally, particularly in terms of accessibility and transparency.

The level of awareness is such that major adjustments are submitted to the Board of Directors for approval in advance. All committees use the roadmap for their own planning. This is less a matter of making substantive decisions than of recognizing interdependencies and determining the optimal time to implement innovations.

## Guide for Financial Institutions

The roadmap serves as a planning guide for those responsible for standards at SIX and their partners in the financial institutions. Good standards and guidelines should support market development in the long term, rather than hindering it. It is therefore all the more important to identify such developments at an early stage and to anticipate necessary changes. Sudden and far-reaching adjustments are expensive and resource-intensive. Projects that are prepared and coordinated over a longer period of time require less effort and often offer advantages to all market participants.

The roadmap also provides some answers to questions about content. Once both Swift and the SEPA committees had decided to introduce the hybrid address, it was clear that the Swiss payment traffic would follow suit and adopt the planned introduction and migration dates. This led to further adjustments, such as the migration to the ISO 20022 messages with an adjustment of the parallel phase and the extended acceptance of the unstructured address.

The internal working version used in the committees covers more aspects than the published roadmap. For one thing, it includes areas where no changes are planned, but which could have an impact on the development. It also includes developments where decisions have not yet been made and therefore cannot be published. Over time, the roadmap has proven to be extremely useful. While the launch dates for Swift, TARGET, and the SEPA area had to be repeatedly postponed, the Swiss financial center was able to launch all projects as planned.

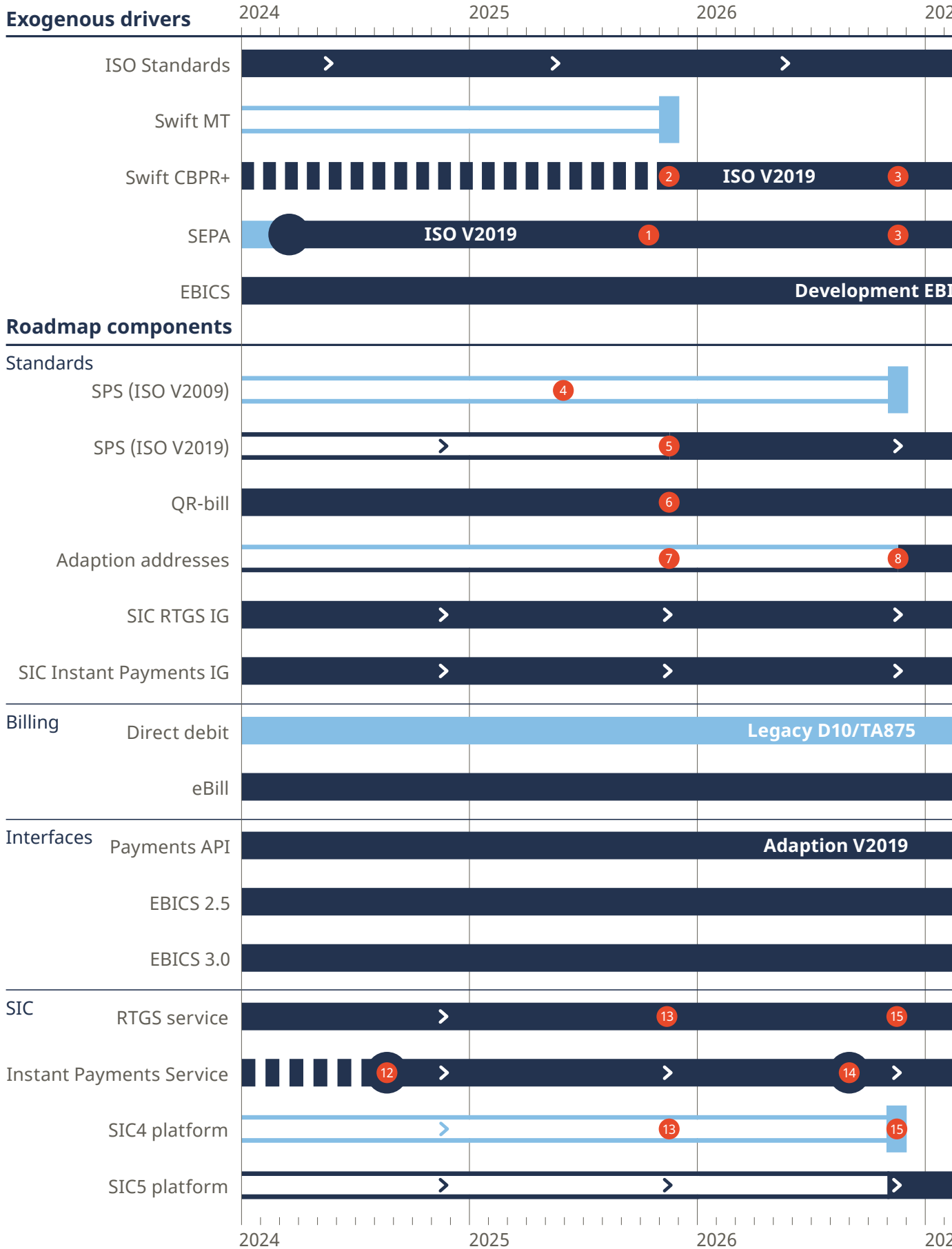
The preparations for the next update have already begun. It is already apparent that new influencing factors such as HVPS+ as a harmonization platform for infrastructures or the development of EBICS 4.0 as the next version of this important communication standard are coming to the fore. While the Swift migration will soon be completed, at least for instruction messages, the planned consolidation of the SIC platform and the end date of 2026 for all Swiss payment traffic banks for instant payments will also determine national developments for the next two years.

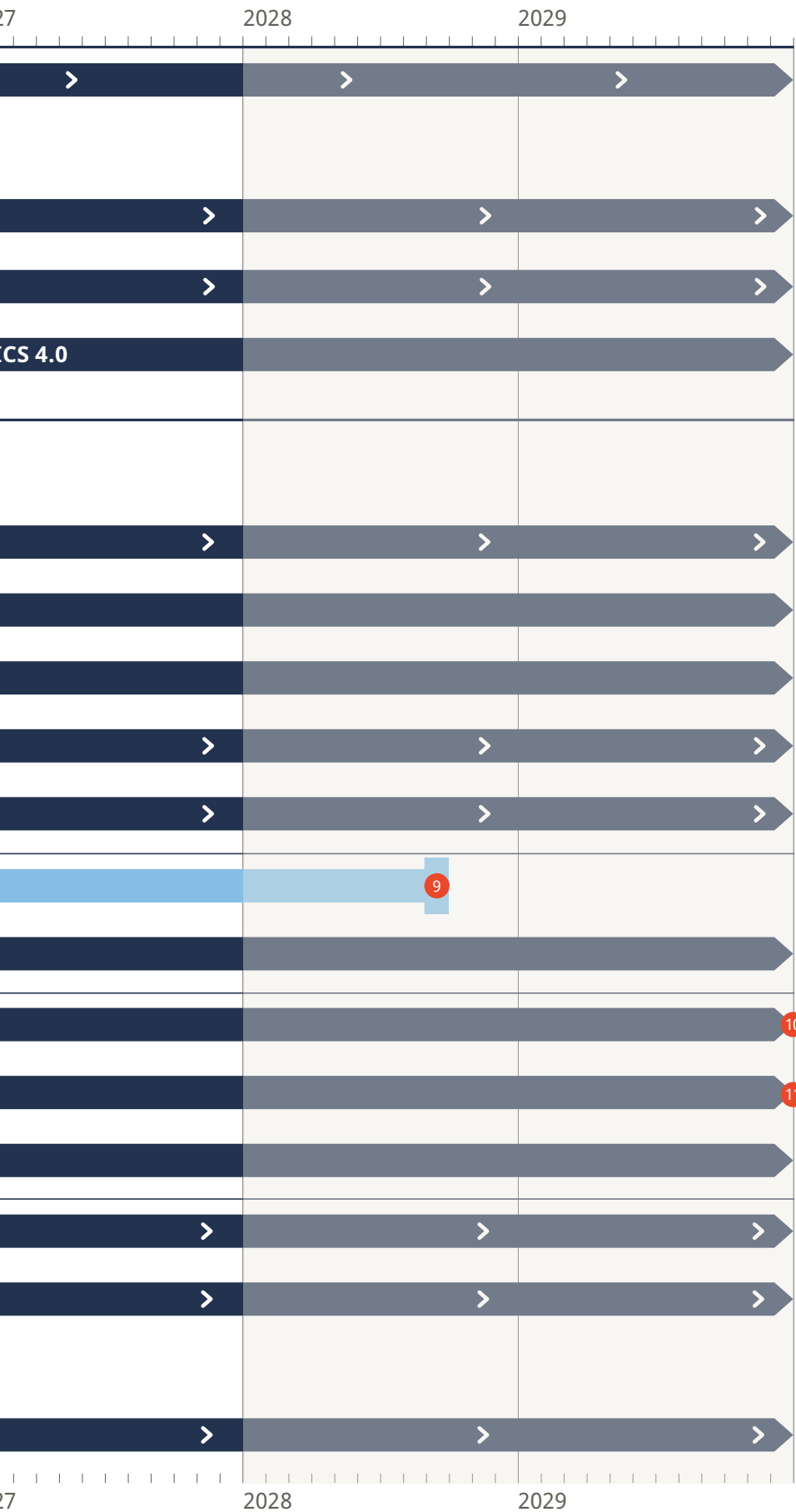
**MARTIN WALDER, HEAD BILLING & PAYMENTS STANDARDS, SIX**



**INTERACTIVE  
ROADMAP**

# Roadmap Swiss Payments





- Planning 2028/2029 still open
- Previous version
- Parallel phase
- Optional introduction
- Use
- Technical readiness
- Introduction
- Update
- Decommissioning

- 1 Oct 2025: Introduction of hybrid addresses
- 2 Nov 2025: Introduction of hybrid addresses and completion of migration "instruction messages"
- 3 Nov 2026: End of unstructured addresses. Obligation to use structured or hybrid addresses
- 4 Nov 2022–Nov 2026: Use of the current and the new message versions in the interface. Last execution date must be before Nov 2026
- 5 Nov 2025: Recommended use for new implementations and services
- 6 Nov 2025: Version 2.3 of the Implementation Guidelines introduced
- 7 Nov 2025: Introduction of hybrid addresses
- 8 Nov 2026: End of unstructured addresses. Obligation to use structured or hybrid addresses
- 9 Sep 2028: Last possible collection date for existing LSV+/BDD direct debit procedures
- 10 Further adjustments analogous to SPS
- 11 New offers only on EBICS 3.0
- 12 Aug 2024: Instant payments mandatory > 500,000 TRX
- 13 Nov 2025: Only minimal change requests in the annual release
- 14 Sep 2026: Instant payments mandatory < 500,000 TRX
- 15 Nov 2026: Migration of the RTGS service without change requests to the SIC5 platform and discontinuation of the SIC4 platform after fallback period

## Does the Digital Euro Add Value?

Although the majority of specialists and managers surveyed at German banks expect the digital euro to be introduced by the end of the 2020s, 44% do not currently see any clear added value. This is the result of a new study conducted by ibi research at the University of Regensburg. Some 70% see instant payments as one of the biggest drivers of change, and 86% expect the use of wallets to increase significantly in the next two to three years.



More information

## The Future Belongs to Instant and P2P Payments and Wallets

According to Capgemini, instant payments will account for approximately 22% of global cashless payments by 2028. Brazil and India will lead the way. In its World Payments Report 2025, the consulting and services company also identifies wallet and P2P payments as important drivers. In the EU in particular, regulatory measures would drive the increasing interconnectedness and efficiency of the ecosystem, promote innovation, and protect consumers.



More information



According to the Boston Consulting Group, the shift from cash to digital payments is also stagnating in Europe. This is limiting one of the most important growth drivers in the financial sector.



More information

For the third time, the SIX Future of Finance study examines the future expectations of managers in the financial sector. Nearly 90% of respondents believe that distributed ledger technology will be relevant to their company in the next three years – 17% also for use in payments and cash services. Embedded finance is also one of the biggest growth drivers, gaining the most ground since the survey was conducted a year ago.



More information



## Older People Are More Tech-Savvy than Expected

There is a common misconception that seniors do not use digital payment methods. In fact, the Silent Generation, Baby Boomers, and Generation X are often less tech-savvy than younger people because they did not grow up with today's digital systems and therefore have less exposure to them. Security concerns and the complexity of recent technologies are common reasons for this reluctance.

In addition, these age groups often find it more difficult to adapt to the rapid pace of technological change and to learn new procedures.

However, more and more older people are interested in and using digital payment methods – even in the so-called cash countries of the DACH region. According to the Swiss National Bank, in 2017 only

around 20% of people over the age of 65 regularly used contactless payment methods. Today, the figure is over 60%. Austria and Germany saw a similar trend over the same period, with the corresponding figures rising from 20% to 55% and from 15% to 50% respectively. This puts the German-speaking countries well below the European average of around 70%, as reported in the World Payments Report 2023 by Capgemini and BNP Paribas. However, this figure should be viewed critically, as not only Germany but also the other most populous European countries are well below it. Only the Nordic countries, with their traditionally high acceptance of cashless payment methods, have above-average figures. Norway is at 75%, Sweden at 80%. Denmark and Finland follow with 70% each.

In North America, usage is around 65% for the age groups described. Asia-Pacific countries such as Japan and South Korea have rates of around 60%. Latin America brings up the rear with even lower but growing usage. About half of older people there use contactless. All regions of the world have one thing in common: The trend away from cash to contactless payment methods seems to be un-

stoppable - even among seniors.

According to the report, the volume of cashless transactions worldwide will grow by 15% annually through 2027. The expansion of instant payments, the adoption of ISO 20022, and the proliferation of payment methods such as wallets, QR codes, and account-to-account payments will further support this trend. Despite this growth, companies face a number of challenges, including inflated costs and revenue pressures. This leaves little room for innovation.

Ongoing digitization and the introduction of modern technologies will definitely drive the use of digital payment methods. This is also true for older generations, who are increasingly recognizing and making the most of the convenience of these payment methods.

**GABRIEL JURI**

**FURTHER INFORMATION:**



**WORLD PAYMENTS REPORT 2023**



# Financial Data Exchange: Switzerland in International Comparison

With bLink, Switzerland has standardized interfaces that enable secure and efficient data exchange between financial institutions and fintechs for their end customers in payment transactions and wealth management. This infrastructure service is market-driven and not legally mandated. Not so in the EU. The EU Commission is expected to adopt the Financial Data Access Framework (FIDA) regulation early next year. This will require all providers of financial and insurance

services in the EU to give each other access to customer data. FIDA expands the scope of PSD2 and PSD3, which are limited to payment accounts. For example, an insurance company with access to comprehensive financial data could analyze a customer's financial liabilities and assets to create an insurance policy tailored to the customer's needs and risks. Or a financial advisor with access to a comprehensive database of his clients could use this information to develop a holistic financial strategy that includes both investments and insurance.

## Challenges

On paper, the regulation sounds promising. However, successful implementation is not a sure thing. Uniform standards and service level agreements, clear certification processes, and an adequate compensation system for the high implementation costs of data providers are some of the practical challenges. At the heart of the Open Finance Regulation, however, is the mandatory consent of individuals to the disclosure of their data. This raises not only the issue of data protection, but also the question of whether households are willing to share their data with third parties in the first place. According to studies, about 40% of respondents worldwide are willing to share their financial data with third parties if they receive added value in return, and about 30% if they receive personalized services. So there is still a lot of convincing to be done, especially in countries like Germany, where, according to the German insurance industry, 56% of households are not yet willing to share their data with third parties.

## Competition

Observers agree on one thing. FIDA will, over time, have a significant impact on international competition in the financial sector – both inside and outside the EU. EU financial service providers could gain a competitive advantage over financial centers such as Switzerland or the UK, as the EU offers a consistent regulatory framework that attracts fintechs and fosters innovation clusters. This allows for more comprehensive and competitive services and easier expansion of innovative financial technology firms. The UK government has already

announced new legislation. The challenge for Switzerland is to find its own way to avoid falling behind in international competition while maintaining its market economy principles.

**GABRIEL JURI**

**FURTHER INFORMATION:**



**FIDA REGULATION OF THE  
EU COMMISSION**





## 1.6 Seconds: Switzerland's Successful Start of Instant Payments

Instant payments were officially launched in Switzerland on 20 August 2024. The results have been positive, even by international standards.

First, at the time of launch, more than 60 financial institutions were able to process incoming payments instantly, representing a cumulative market share of more than 95% of customer payments. By 2026, all other financial institutions will be able to process such payments. This “accessibility” is based on a

requirement set by the Swiss National Bank in consultation with the payment industry. For a payment method to gain market acceptance, the payer must be able to assume that the beneficiary will accept their chosen payment method. In contrast to the SEPA area, this obligation has existed in Switzerland from the very beginning. Unlike the EU, the Swiss financial center has refrained from setting requirements for the price of an instant payment. The Swiss National Bank and SIX, which offer this service, expect that in the medium term, even without regulatory pressure, this payment instrument will establish itself as a new standard in electronic payment transactions at competitive conditions.

Second, SIX conducted a pilot phase and a friends-and-family phase prior to the official launch. The players involved in the ecosystem made intensive use of this time to gain experience and to identify and, where possible, eliminate any teething problems. A distinctive feature of the Swiss financial center was highlighted: the large volume of customer payments (such as those based on the QR-bill) that are already being processed via the RTGS system. The QR-bill enables highly standardized, end-to-end processes in invoicing and processing, some of which need to be adapted in the context of instant payments. It has become apparent that not all market participants have yet adapted their processes to be able to handle incoming payments not only correctly, but also at the speed expected by their customers. It can be assumed that the pressure on invoice issuers in particular will lead to these processes being optimized end to end, and that many others – depending on the actual business model, of course – will also be instant in the future.

As a result, about a month after the launch, the number of transactions is well above expectations and in the four- to five-figure range per day. Here, too, there are differences to the EU: When SEPA instant payments were launched in November 2017, the participating payment service providers in the euro area covered around 1% of all SEPA payment transactions. In Switzerland, this coverage already exceeds 95%. While the average

processing time in the SEPA area is generally less than 5 seconds, but can be up to 10 seconds in individual cases, the processing time measured by the Swiss core infrastructure for the fastest transaction is 1.6 seconds. This value, measured between payment initiation and execution confirmation, is already close to the maximum processing speed requirement for a POS payment. This is typically less than one second for optimal contactless payments.

**CHRISTOPHER KOCH,**  
SENIOR PROJECT MANAGER, SIX

# "Security Is the Be-All and End-All"

A VISIT WITH THOMAS ANKENBRAND,  
PROFESSOR OF FINTECH AT LUCERNE  
UNIVERSITY OF APPLIED SCIENCES  
AND ARTS

TEXT  
SIMON BRUNNER

«

ello, I'm  
Thomas!"  
A cheerful  
Professor  
Anken-  
brand wel-  
comes  
us on a

gloomy October day to talk about payment solutions. Dressed in sneakers, jeans, and a sweater, Thomas Ankenbrand, professor of FinTech, shows us around the campus, which opened in 2019. It's called Lucerne University of Applied Sciences and Arts, but it's actually a joint institution of the six cantons of central Switzerland. The Institute for Financial Services Zug IFZ and the Department of Computer Science are located here in Rotkreuz, Zug canton.

On this Tuesday, the university is well attended. We notice that the gender ratio among the students is relatively even. "Should this really still be an issue today?" asks Ankenbrand. The fact that the professor likes to be ahead of his time will become apparent later when it comes to payment transactions.

In the study *The Future of Invoicing*,

Ankenbrand's team examined the pros and cons of four common invoicing methods in Switzerland from the perspective of both the invoice issuer and the invoice recipient. eBill ranked first or second in all 11 criteria examined in the utility analysis, including security, cost, convenience, efficiency, and sustainability.

"Thomas, what makes this technology so good?"

The answer is surprising, since eBill is all about ease of use. "The interesting thing about this new platform is that both invoicing parties work in the same system," Ankenbrand explains. "This means that nothing has to be transferred, scanned, or typed – there are no media breaks. This is important because media breaks are sources of error and gateways to fraud. This closed system makes it difficult for anyone to interfere with communication between sender and recipient. The whole thing is encrypted throughout." The results are impressive:

To date, there has not been a single known case of fraud on the eBill platform.

Ankenbrand himself has been using the eBill platform since its inception.





Still, he thinks it's good that there are other payment options in Switzerland. "A certain amount of redundancy and freedom of choice strengthens the system. Depending on the situation, there are good reasons to use one technology or another. Maybe you don't want to pay for a gift for your partner from your joint account." The economist has a similar approach to cash: Though he rarely needs it, he always carries a certain amount on his person. "You never know," he says.

We talk about the future of eBill. "The population of Switzerland is nine million," says Ankenbrand. "For a scalable technology that wants to expand its user base, this market is rather small." One option would be to expand into the European market, where there is nothing comparable to date. However, this would require harmonization with EU regulation.

Ankenbrand also believes it is realistic for eBill to open up and spearhead an "open billing" system. What he means by that: "In the future, my self-driving car will autonomously drive to the charging station. It will then send me an automated invoice directly to my eBill inbox." Or: "I'm on vacation and want to pay for the hotel. An app on my phone will show me which is the cheapest method – credit card in euros, credit card in francs, PayPal – or perhaps an invoice that lands in my mailbox." In order for such services to be able to communicate with the eBill platform, standardized open billing interfaces are required.

The area where the university campus is located is called Suurstoffi. The name suggests altitude training and oxygen supply (Suurstoff means oxygen in Swiss German), and stems from the location's past: The company Sauerstoff- &

Wasserstoff-Werk Luzern AG used to have a production plant here. A few years ago, a Zug-based real estate company took over the industrial site and has since made it sustainable: Trees grow on the balconies of the new buildings and photovoltaic systems are installed on the roofs. The community of Risch, to which Rotkreuz belongs, has been growing rapidly for decades. In 1982, 4,200 people lived here; today there are more than 11,000. It's no wonder that Risch sits at the top of the Handelszeitung's town rankings. On this gray morning, we count far more construction cranes than people.

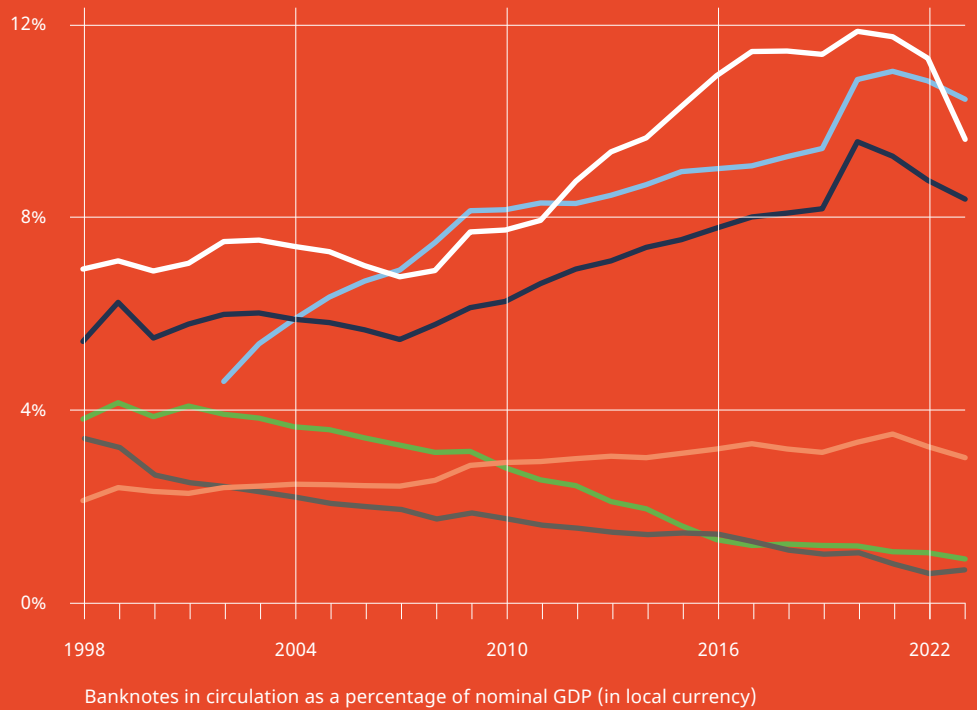
It's less than 50 meters on foot from the meeting room to the railway station. But we miss the train. Bad luck or good fortune? We discover an excellent bakery right next to the station. Only the cash register is out of order. We think of Thomas Ankenbrand – and happily pull a 50-franc note out of our wallets. 📄

# Banknotes in circulation in historical comparison of countries: differences and similarities in relation to GDP and population.

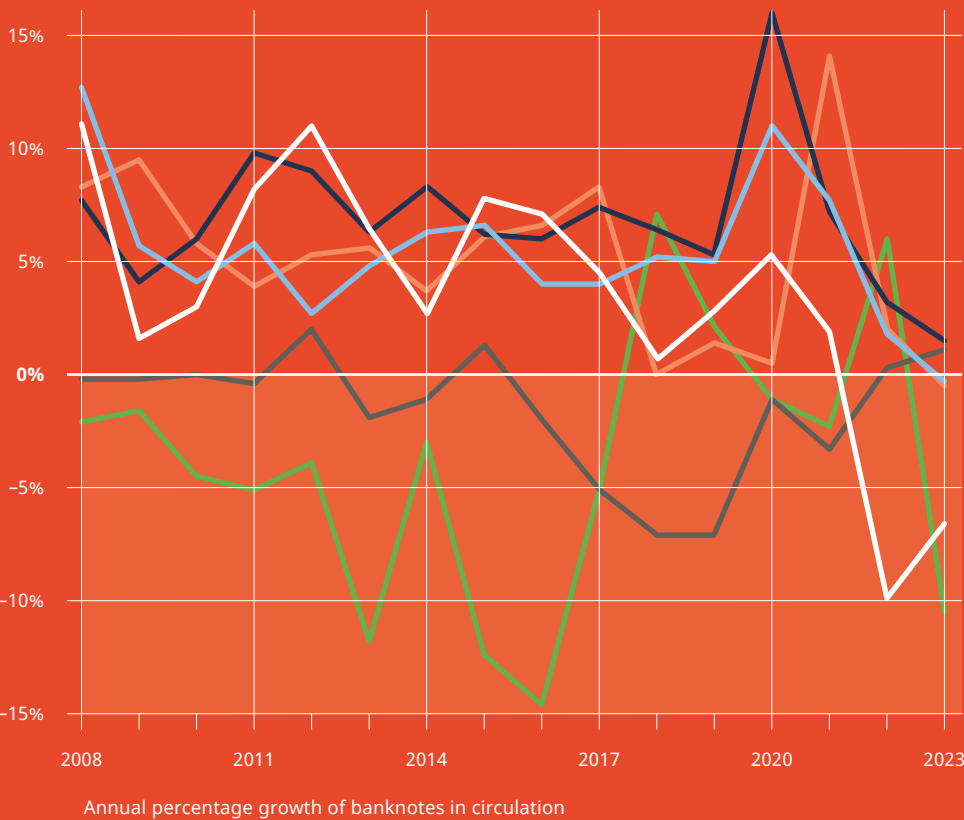
## Financial Crisis and Coronavirus as Turning Points?

Not for the Scandinavian countries. Historically, they have known only one direction: south. For the other countries, the financial crisis (2008) and the COVID pandemic (2020) are turning points, less so for the UK. Historically low interest rates, foreign demand and the store of value effect are likely to play a role in the rise. The decline is due to lower economic activity and shrinking retail trade, as well as the digitalization of payments.

- Switzerland
- United States
- Euro area
- Sweden
- United Kingdom
- Norway



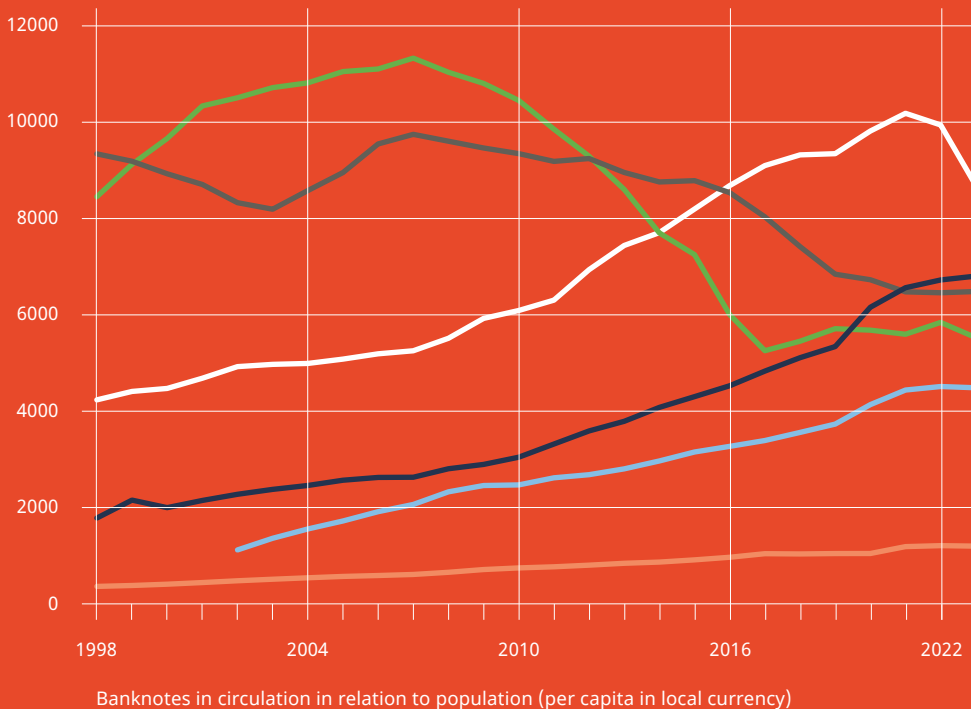
Sources: ECB, OECD and the central banks of Switzerland, the US, Sweden, Norway and the UK.



## Nordic Gap

Sweden has the widest range and most negative values (13 out of 16), while Norway has the narrowest range. Switzerland started its negative trend in 2022, while the United Kingdom and the euro area started it last year. The United States is the only country with consistently positive growth.

- Switzerland
- United States
- Euro area
- Sweden
- United Kingdom
- Norway



## Inflation? Monetary Policy? Economic Growth? Reserve Currency? Digitization?

In the Nordic countries, banknote circulation per capita has been declining since the mid-2000s, although a sideways movement has been observed in recent years, indicating a bottoming out.

In Switzerland, on the other hand, there has been a strong downward trend since the peak in 2002, which has not yet bottomed out.

In the United States, the euro area and the United Kingdom, the upward trend continues. The factors most influencing these developments vary from country to country.

- CHF per capita
- USD per capita
- EUR per capita
- SEK per capita
- GBP per capita
- NOK per capita



When it is a question of money,  
everybody is of the same religion.

Voltaire (1694 - 1778)