



CURRENCY NEWS™

THE CONFIDENTIAL NEWSLETTER FOR CURRENCY | VOLUME 23 – NO 10 / OCTOBER 2025

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Authentix and KURZ Join Forces to Deliver QUANTUM stripe™ at Scale

Authentix, a pioneer in nano-optic security technologies, has signed a Cooperation and License Agreement with LEONHARD KURZ, one of the world's largest advanced high security feature manufacturing companies, uniting the former's breakthrough innovation with the latter's world-class production capacity.

The agreement covers QUANTUM stripe, Authentix' patented fully animated nano-optic feature. Launched two years ago, it is based on plasmonics and delivers a combination of movement, 3D stereoscopic depth, and multicolour effects in an ultra-thin form factor, offering dynamic effects at all angles and under all lighting conditions (see CN September 2023).



From left to right: Alan Newman (Chief Product Officer, Authentix), Peter Mühlfelder (Executive Senior VP for Business Area Security, KURZ), Kevin McKenna (CEO, Authentix), Gerben van Wijk (Head of Business Area Security, KURZ).

Following successful technical validation for scaled manufacturing of QUANTUM stripe, the partnership is focused on finalising full supply and commercial terms to meet growing global demand.

'With the manufacturing process validated and capacity secured, we are moving from innovation to full market impact,' said Alan Newman, Chief Product Officer of Authentix. 'This collaboration sets a new benchmark for the currency industry

and ensures customers can access our technology at significant scale.'

The parties expect to complete definitive supply and commercial agreements soon, enabling immediate market deployment and long-term growth for the technology.

QUANTUM stripe was acquired by Authentix last year as part of the purchase of the assets of Meta Materials. And whilst the company already has manufacturing facilities in Canada, the undoubted market leader in both foil production and application technology – both of which are critical to successful feature implementation – is KURZ.

For KURZ, this marks an interesting new direction. It has a fully-integrated vertical value chain – from optical origination through to roll production and application equipment – and is hugely successful in the banknote sector with its KINEGRAM® technology.

The company has invested heavily in partnerships across the industry, collaborating on commemorative banknote issues and technology trials with a range of organisations to demonstrate compatibility of its products with a variety of substrates and production methods. It has not, however, taken a third party technology into its portfolio of optically variable features. That is now set to change with its new partnership with Authentix.

Sydney Sweeney Has Great Jeans

American Eagle, a US clothes manufacturer, hired the actress Sydney Sweeney for their autumn 2025 denim campaign. The campaign led to an increase in sales, attracting nearly a million new customers between July and September. The two products in the adverts, named after Sweeney, sold out – the denim jacket in a day and the jeans in a week.



Whether due to the use of a somewhat suggestive advert with a well-known and attractive actress, or a play on words (genes and jeans) that some interpreted as being controversial, by early September the campaign had generated 40 billion impressions. American Eagle's sales rose 60% in six months. The company is delighted.

What does this have to do with the readership of Currency News™? What can we learn from sex and controversy?

The war on cash

To differing degrees but almost universally, the use of cash for transactions is falling. In some countries this fall is putting the business model and the viability of the cash cycle under significant pressure. What is to be done?

Access to cash, acceptance of cash, and resilience are topics that feature at

almost every conference as concerns rise, and action is needed. Central banks, determinedly neutral citing payment choice, are working to ensure merchants and consumers can continue to access cash. Politicians are starting to legislate for both access and to maintain acceptance of cash.

But who is promoting and campaigning for people and merchants to choose to use cash?

Reaching beyond cash stakeholders

Visa and Mastercard spend big on promoting non-cash payments. In 2023 Visa spent over \$1.3 billion in marketing through advertising, promotions, sponsorships (eg. FIFA (soccer), the International Olympic Committee, and the National Football League in the US). Mastercard spent \$1.84 billion in 2022, sponsoring the UEFA Champions League (soccer) and the PGA Tour (golf), the

Tokyo Marathon, and the GRAMMY awards (music).

Sadly, cash stakeholders don't have even a fraction of those sums. While there are a wide range of people and organisations making the case for cash, are they reaching the right people and how can their messages get through the fog of news and the advertising of Visa and Mastercard?

Controversy and glamour sells

We list all of the organisations that promote cash in some way (see next page), but central banks and cash cycle stakeholders tend to be corporate beings – earnest, serious and sensible. The good news is that there are some fabulous benefits from paying with cash although they all come to nothing if we aren't heard.

We can learn from the likes of Visa and Mastercard, who hire the best creative minds available about how to position and create positive emotions about their products. We can also learn from American Eagle, who went back to basics, making their advert fun, different and playful.

Luckily for us, much of modern advertising is through social media. The Spanish pro-cash group Denaria has already explored this with great success, showing us the way ahead. Perhaps the answer is to seek out university business schools or media courses and task them to create cash promotion campaigns to reach every sector of society.

While we may draw the line at the provocative imagery and suggestive text of the American Eagle ads, perhaps presenting cash as cool, fun and convenient could change public sentiment over time. Preparing campaigns to launch after the next power outage, cyber-attack, banking crisis – reminding people about the utility of cash. It is time to stop being earnest, to do something different and to have some fun!

Anybody game?

The case for cash

We are all familiar with the earnest reasons for using cash. But what other benefits are there?

- Cash by the people, for the people. It is class-less – used by kings and paupers alike
- It's free
- Its waterproof
- It's safe from cybercrime
- You can use it without any kit or connection, no third party is involved
- It's great for birthdays, Christmas, Diwali etc.
- Once you've paid, you've paid. Its immediate, simple, fast, private
- It is the ultimate sustainable product. It is the definition of a circular economy, going around and around and then back to the central bank to be reused
- It's retro. Retro is cool
- Nothing connects people like paying in cash. Little distances people more than tap and go or self-check out
- It teaches your children to count and value



■ How card companies position their products

The message

Visa's overarching long term slogan is 'Life takes Visa', but over the decades there have been a number of 'eras' of advertising with key themes.

- **'Visa.'** It's everywhere you want to be' (1985-2006).
- **'Life takes Visa'** (2006-2013). The main target was American Express.
- **'More people go with Visa'** (2009-2013).
- **'Everywhere you want to be'** (2014-2021). The slogan now covered everything, not just cards—phones, watches, online checkouts. Visa wanted to be the infrastructure behind every payment method.
- **'Meet Visa. A network working for everyone'** (2021-present). Visa as a network, not a card company. Visa stopped talking about cards. They wanted to be seen as the invisible system connecting buyers and sellers globally.
- **'Working for everyone'** signals financial inclusion, expansion into developing markets, and bringing the unbanked into digital payments. The campaign emphasizes trust, security, acceptance, and inclusion.

Adverts in 2025 build on this with concepts of liberation (Yes you can, For things people do), convenience (You can have it the way you want it, Life flows better with Visa), widespread acceptance (Visa. All it takes, Makes the world go round, Everywhere You Want to Be) and modernity (The future takes Visa). It also positions itself as akin to money – More than Money and Think of it as money.

Mastercard has had equally memorable slogans including, 'There are some things money can't buy. For everything else, there's Mastercard'. This was introduced in 1997 alongside 'Priceless', which it used to position itself as not just selling a service, but as selling an experience. Mastercard has also used the phrase, 'The future of money'.

■ Who calls for cash?

Cash campaigners. A number of countries have organisations that campaign for cash. For example, the UK has the Campaign for Cash, Spain has Denaria, Geldservice Austria supports cash use in shops. There are also campaigns for cash acceptance to be made law, for example the Payment Choice Coalition in the US.

Journalists, authors and academics. A handful of journalist's campaign for cash. Jason Bryce in Australia frequently posts on LinkedIn and publishes about cash. He also runs 'Cash Welcome'. In the UK Ross Clark is a journalist and wrote a book, 'The War on Cash'. Brett Scott, the author and economic anthropologist, is well-known in the industry and beyond for his spirited defence of cash and deep scepticism of BigTech.

Prof Jay Zagorksy has recently published a book 'The Power of Cash: Why using paper money is good for you and society'.

A number of academics research and publish about cash, for example Franz Seitz of Weiden Technical University of Applied Sciences, Malte Krueger of Aschaffenburg University of Applied Sciences and Bernado Batiz-Lazo of Northumbria University.

Central banks. The Oesterreichische Nationalbank is a rare example of a central bank that is not neutral when it comes to cash. It actively promotes its use, making the point that cash belongs to the citizen, it serves the need of all of society. For example, on 20 October, it ran a cash supply convention with the Austrian Association of Cities¹.

Industry associations. There are two excellent websites, that of Cash Matters (Cash Matters – A Pro-Cash Movement) and Cash Essentials (cashessentials.org), dedicated to putting news, articles and research about cash into the public domain. In addition, many industry associations also maintain websites, promote and campaign for cash².

1 Association of German Cities and Towns accedes to the Agreement on the Supply of Cash – Oesterreichische Nationalbank (OeNB)

2 Eg. ATMIA, European Security Transport Association, International Currency Association, International Mint Directors Association, International Security Ligue, Mint Directors Association, Secure Cash Transport Association etc.

People in The News

■ The Bank of Estonia's supervisory board has chosen the current Deputy Governor **Ülo Kaasik** as its candidate for the next Governor. He has served as Deputy Governor since 2011 and will replace **Madis Müller**, whose term ends in June 2026.

■ **Saeed Aldhaheeri** has been appointed CEO of Abu Dhabi-based banknote printer Oumolat Security Printing. He joins the company from Emirates Steel Arkan (EMSTEEL), where he was Vice President, Corporate and Government Affairs.

■ The Authentication Solution Providers' Association (ASPA), India's leading industry body for authentication solutions, has elected **Ankit Gupta**, Joint Managing Director, Holostik India, as its new President, replacing **Manoj Kochar** of Holoflex.

■ **Dr Daniel Schwarzbach**, former Director of Innovation and Marketing at Orell Füssli Security Printing and former Board member of Ugra (the Swiss centre of excellence for printing and media technology) has joined Helvetikett as Partner in the label company's security printing segment.

■ Currency Research has announced a series of personnel changes. Vice President of Payments **Gonzalo Santamaria**, a nearly 40-year veteran of the currency and payments industries and a member of the CR team since joining in 2011, will retire at the end of the year. Also departing later this year is Asia VP **Matt Lewis**, who is leaving to pursue a new career opportunity.

In their place CR has added three new Regional Relationship Managers to deepen its regional networks in both cash and payments. **Hamish Harrison**, **Paula Canigilia**, and **Sarah Das** have joined CR as EMEA-, Americas-, and Asia-based Relationship Managers, respectively.

'Hamish, Paula, and Sarah bring to CR a renewed energy for developing our network of industry leaders and a curiosity for how we can continue to evolve as the leading curator of cash and payments networking events and publications', said **Shaun Ferrari**, CR's Chief Commercial Officer.

Half Year Results Positive for Most Companies in the Industry

In so much as company results provide a bellwether for the state of the industry as a whole, our industry appears to be in good health judging by the half year results of some of the publicly-listed market leaders, which were – for the most part – gratifyingly positive.

Sales up but profits down as Crane steps up acquisitions

Crane NXT (print, paper, features, payment technologies) reported sales of \$734.7 million and an operating profit of \$85.2 million for its first half of 2025, ended June 30. Sales were up by 7.4% compared with the first half of 2024, but operating profit was down by 30%.

Crane NXT now operates across two major segments – Crane Payment Innovations, and Security and Authentication Technologies (SATS), which comprises Crane Currency and Crane Authentication. The latter is a new business forged from Crane NXT's acquisitions of De La Rue's authentication business, OpSec Security, and the brand protection assets of TruTag Technologies. It is also in the process of acquiring Antares Vision, a developer of inspection and track and trace systems.

Crane Payment Innovations achieved sales of \$414.3 million, 4.4% lower than in the first half of 2024. Operating profit was 13% lower at \$98.7 million.

Revenue in the SATS segment was 28% higher at \$320.4 million in the first half, but operating profit more than halved, from \$44.2 million to \$20.4 million. Of the sales, \$236.9 million came from banknotes and security features (2024 = \$227.5 million) and \$83.5 million from authentication (2024 = \$23.3 million).

Crane is still in the process of integrating the various authentication businesses, and expects to incur restructuring costs of \$10-15 million as a result. On the currency side, it announced that it expected high single digit revenue growth in its Currency Business in 2026, based on the Federal Reserve Board's recently published 2026 print order.

Orell Füssli's growth continues...

Orell Füssli (print, features) continued its 2024 growth continued in the first half of 2025 with revenue up by 12.1% to CHF 120.1 million. Operating profit (EBIT) more than doubled, from CHF 4.6 million to CHF 10.2 million. Its EBIT margin increased from 4.3% to 8.5%. Growth in both security printing and its book retailing business enabled the company to exceed its growth target of 4%-6%.

Security printing revenues increased by 24.7% to CHF 47.32 million, and – again

– EBIT more than doubled from CHF 5.47 million to CHF 11.86 million.

...As does Spectra Systems

Another company reporting a good first half was Spectra Systems (features, detectors, substrates). It announced a 53.8% increase in first half sales to \$34.96 million compared with the first half of 2024. This increase came from cost-accounting-based revenue recognition on the \$39.6 million manufacturing contract with a central bank customer, sales of covert materials, exceptional performance from the gaming software group, and sales of optical materials.

As a result of the revenue recognition from the sensor contract and high margins, adjusted EBITDA, before stock compensation expenses, increased by 101% to \$15.764 million, and PBTA (profit before tax and amortisation) by 130% to \$14.35 million.

Sales static, profits up for NCR Atleos

NCR Atleos (financial self-service systems and software) revenue in the first half of 2025 of \$2.08 billion was just \$14 million (0.65%) below that achieved in 2024. Income from operations was 18.9% higher at \$214 million (10.3% of sales) than the \$180 million (8.5% of sales) achieved in 2024.

Net income increased from \$23 million in the first half of 2024 to \$60 million (+161%) in the first half of 2025.

The company's full year guidance is for core revenue growth to increase by 3%-6%, total revenue to grow by 1%-3% at constant currency, and total adjusted EBITDA to grow 7%-10% at constant currency.

A net profit turnaround for Diebold Nixdorf

Diebold Nixdorf (financial self-service systems and software) reported a 4.3% decline in revenue from \$1.83 billion in the first half of 2024 to \$1.75 billion in the first half of 2025. Revenue from Services in the first half of 2025 amounted to just over \$1 billion (60% of the total), with Products accounting for the rest. The corresponding figures for the first half of 2024 were \$1.06 billion (58%) and \$769.6 million (42%). The gross margins for 2025 were very similar to those of 2024 – 24.8% and 24.6% respectively.

Operating profit for the first half of 2025 was \$350.6 million, compared with \$357.3 million for the first half of 2024. However, the net profit attributable to Diebold Nixdorf was \$3.9 million, compared with just \$0.3 million for the same period in 2024, a marked improvement.

The company reaffirmed its outlook for the full year as trending toward the higher end of the range, with 54% of total revenue predicted in the second half. Its indication for the year was that revenue growth would be flat to low single digits, and adjusted EBITDA in the range \$470-\$490 million.

Good news all round for Prosegur

Another company reporting a good first half was Prosegur (CIT and cash management). Its revenue for the first six months of 2025 of €2.46 billion was 5.1% higher than the first half of 2024. EBIT was 19.7% higher at €154.9 million and pre-tax profit 71% higher at €118.3 million

The company noted that overall, economic activity has continued to grow due to a more dynamic market, high public spending, lower inflation, and less restrictive monetary conditions. This led to the Prosegur Group's results showing a positive trend during the first half of 2025.

Brinks exceeds guidance

Brinks (CIT and cash management) delivered strong second quarter results in the first half of 2025, exceeding the top end of the company's quarterly guidance for revenue, EBITDA, and earnings per share.

Segment revenue for the first half was a 2.3% improvement over the same period last year at \$2.54 billion. Segment operating profit of \$380.3 million exceeded that for the first half of 2024 by \$22.7 million. Brinks' operating profit for the first half of 2025 was \$253 million, \$16.1 million higher than the \$236.9 million for the first half of 2024, with operating margins of 14.9% for 2025 and 14.65% for 2024 respectively.

Loomis continues the trend

As a footnote, as we went to press, Loomis (CIT and cash management) announced its third quarter results, which continued the trend of its peers of solid performance so far this year.

Revenues for the first nine months of SEK 22.7 billion were a marginal 0.9% higher than the corresponding period in 2024, and would have been higher still if it wasn't for the dampening (-4.6%) effect of currency exchange rates. Organic growth was 4%. EBITDA increased by 7.7% to SEK 2.8 billion, and the margin from 11.6% to 12.5%.

News in Brief

■ Cash to be a Right in Switzerland

Swiss lawmakers have unanimously voted to enshrine the right to use cash in the nation's constitution.

This decision follows a popular initiative led by the Swiss Freedom Movement (MLS), called 'Yes to a free and independent Swiss currency in the form of coins and banknotes,' which garnered over 100,000 signatures. The initiative aims to ensure that cash remains in Switzerland, and that any plans to replace the Swiss franc with another currency are put to a vote.

Rather than accepting the initiative, the Swiss government made a counter-proposal that nevertheless agreed to enshrine in the constitution the guarantee of cash supply and the use of the franc as the national currency. These principles are already guaranteed in legislation, but by enshrining them in the constitution, the government is responding to the initiative. Last October, the Swiss National Bank unveiled plans for a new series of banknotes, saying cash would remain a 'widely used payment method in the future' (see page 18).

More recently, it has unveiled plans, together with the Bern History Museum, for a new museum, Moneyverse which will open its doors in April 2026.

Moneyverse will be devoted to the subject of money, contributing to economic literacy by addressing topics related to the phenomenon of money from four different perspectives (historical, economic, social and personal), and offering a glimpse into the workings of the SNB.

■ Honeywell Spin-Off Takes Effect

Automation, aerospace and advanced materials conglomerate Honeywell is on the verge of completing the spin-off of the latter business into a standalone publicly traded company – Solstice Advanced Materials. The move is part of a broader strategy to reorganise Honeywell into three independent companies, each with distinct focus areas.

Solstice Advanced Materials will become a specialist company in sustainability-oriented chemicals and materials. Its portfolio encompasses refrigerants, semiconductor materials, protective fibres, healthcare packaging solutions, and other high-performance specialty materials, including taggants for level 3 banknote security.

For fiscal year 2024, the business is estimated to have generated revenues of

roughly US \$3.7-3.9 billion, delivering an EBITDA margin above 25%.

A \$1 billion senior notes offering in connection with the planned spin-off has already been completed, and shares in Solstice Advanced Materials will trade on the Nasdaq under the ticker symbol 'SOLS'.

■ Kosovo and ECB Sign Cooperation Agreement

The Central Bank of Kosovo (CBK) and the European Central Bank (ECB) have signed a Cooperation Agreement to combat counterfeiting of euro banknotes and further strengthen the CBK's commitment to preserving the integrity of euro cash in circulation in the country. Kosovo isn't a member of the Eurosystem or, indeed, the European Union, but unilaterally adopted the euro as its de facto domestic currency in 2002. It applied to join the EU in 2022.

The agreement means CBK will have access to the ECB's operational mechanisms designed to prevent and combat counterfeiting of euro banknotes, and will be integrated into the professional cooperation network with the Eurosystem central banks and partner institutions outside the euro area, including the countries of the Western Balkans region.

The agreement strengthens the objectives set out in the legislation prepared to combat counterfeit currency, developed with the support of the National Bank of Croatia and relevant local institutions, within the framework of the EU TAIEX (Technical Assistance and Information Exchange – a key EU body for institutional capacity-building worldwide, providing targeted and rapid support to public administrations in EU candidate countries and beyond).

■ El Salvador Explores Partnership with Q&T

El Salvador has shown keen interest in forging a partnership with Vietnam's Q&T Hi-tech Polymer, the latest player in polymer banknote substrate technology.

During a recent visit, Ruben Omar Orozco Burgos, Ambassador of El Salvador to Vietnam, toured Q&T's production facilities to explore potential cooperation in the field of banknote printing. Although El Salvador currently uses the US dollar and has legalised Bitcoin, 'any future changes to our monetary system would certainly lead me to advise our government to explore cooperation with Q&T', said the Ambassador.

Q&T's chairman, Lương Ngọc Anh, described the visit as a milestone in the company's global outreach. 'At Q&T, we take pride in our cutting-edge technology and commitment to quality', he said. 'Our polymer substrates are durable, secure, and environmentally conscious

— setting new standards for sustainable banknote production'.

■ Record Year for India's Papermaker

Bank Note Paper Mill India (BNPM)), a joint venture between Security Printing and Minting Corporation of India Ltd (SPMCIL) and Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL), celebrated its 16th foundation day in October with news that, during FY 2024-25, it produced the highest ever volume of banknote paper in its history.

16,651 tonnes were produced and 17,887 tonnes despatched to SPMCIL and BRBNMPL. For FY 2025-26, it is targeting production of 17,000 tonnes of banknote paper, which is c. 142% of the rated capacity.

Incorporated in 2010, BNPM commenced operations in November 2015 on two production lines with an installed capacity of 12,000 tonnes per year. It is currently setting up two additional lines of paper machines at Mysore to boost production capacity. The project is already underway, with completion due by 2028.

■ New Head Office for Kyrgyzstan's Central Bank

The National Bank of Kyrgyzstan's new headquarters in Bishkek were formally opened at the end of October by the country's President, Sady Japaron, who undertook a ribbon cutting ceremony before touring the building, comprising conference facilities, offices, a museum, and a vault with the capacity to store up to 1,000 tonnes of gold.

The National Bank of the Kyrgyz Republic was founded in 1991, and the som was introduced as the country's currency in 1993, replacing the Russian rouble. The unfinished central bank building had been standing for nearly 30 years and construction was only resumed after the President visited the facility in 2023.

He noted in his speech to guests that the facility opens a new page in the financial history of Kyrgyzstan. 'May the newly opened building become a solid foundation for the future of our economy and the prestige of our som!', he said.



Melis Turgunbaev, Governor of the National Bank of Kyrgyzstan (left), and President Sady Japaron (right).

Central Banks and Cash Round-Up

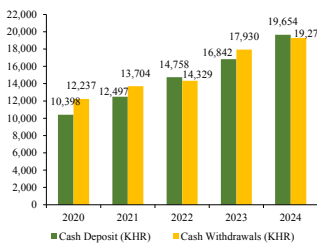
The focus for this month's summary of news from central bank annual reports for 2024 and other sources is Asia, with information from Cambodia, Kazakhstan, the Philippines and Thailand.

■ National Bank of Cambodia (NBC)

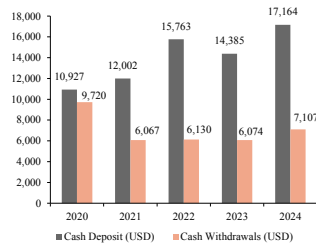
Cash management: the amount of Cambodian riel (KHR) banknotes supplied to the NBC's branches increased by 10.6% in 2024, while the return of old, torn, and excess riels to the NBC's headquarters increased by 34%. Meanwhile, the supply of US dollars to the NBC's branches increased by 24.9%, and the return of dollars to the NBC's headquarters by 31% compared to 2023.

Cash deposits and withdrawals in both riels and dollars reported an increase (see graph below). Cash deposits in riels increased by 16.7%, and dollars by 19.3%. In terms of withdrawal, the two currencies saw an increase of 7.5% and 17% respectively.

Graph 83: Cash Deposits and Withdrawals in KHR
(In billion KHR, 2020 - 2024)



Graph 84: Cash Deposits and Withdrawals in USD
(In million USD, 2020 - 2024)



Public Outreach: to enhance public awareness, the exchange of old and torn banknotes for the public through the Bakong system (the national digital payment infrastructure) was implemented in Phnom Penh and 19 of the NBC's branches, culminating in 9,473 transactions, including a total of KHR 3.9 billion deposited into Bakong accounts and payments made through KHQR. Given the significant public engagement, this initiative is expected to lead to wider usage of the Cambodian currency versus US dollars.

■ National Bank of Kazakhstan (NBK)

Cash in circulation: the average annual growth rate of cash in circulation over five years to 2023 has been 9.8%, with the amount in circulation reaching KZT 4.1 trillion by the end of 2023. In 2024, CIC grew by a further 15.2%, reaching KZT 4.7 trillion. Banknotes made up 97.8% of this value, with coins at 2.2%. To support the economy, KZT 2.4 trillion in mixed denominations — weighing around 1,235 tonnes — was supplied across the regions.

NBK continued the rollout of the new 'Saka Style' series. The 10,000 tenge banknote entered circulation on 28 June 2024, followed by the 2,000 tenge note on 25 December 2024. The currency earned a number of awards in the year.

Counterfeiting: In 2024, the NBK examined 1,251 suspicious notes and coins worth KZT 7.3 million. A total of 108 counterfeit banknotes worth KZT 516,000 tenge were identified by the NBK and commercial banks — down 40.3% year-on-year. The most targeted denominations were 5,000 tenge notes (47.2%) and 2,000-tenge notes (22.2%).

■ Bangko Sentral ng Pilipinas (BSP)

The BSP continued to service the country's currency requirements by strategically scheduling deliveries and adopting efficient currency shipment modes; providing ample buffer stock for unexpected spikes in currency demand; servicing bank withdrawals with new and fit banknotes and coins; and assessing and updating currency operational procedures, processes, and practices to improve operational efficiency and internal controls.

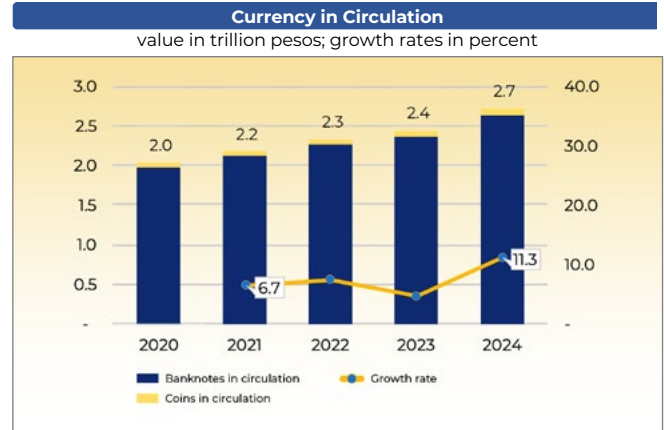
Currency production and management: during the year, the BSP delivered ₱1.1 trillion worth of banknotes (2.5 billion pieces)

and ₱9.2 billion worth of coins (1.7 billion pieces), achieving 102.5% of its 2024 target. This represented a 36.4% increase in value and 14.9% increase in volume from the previous year. These deliveries strengthened the BSP's inventory of physical currency to support the economy's expanding cash requirements.

Banknote and Coin Deliveries
value in million pesos; volume in million pieces
2024

Type	Value	Volume
Banknotes	1,070,795.1	2,520.7
Coins	9,206.9	1,676.1

A major milestone came in December 2024, when the BSP launched the Philippine Polymer Banknote Series, the country's first.



Source: Bangko Sentral ng Pilipinas

BSP also upgraded its cash management systems. It completed the rollout of an integrated currency management system across all regional offices and prepared for the launch of the Enterprise Currency Management System (ECMS). This digital platform will enable real-time monitoring of cash flows, allowing the BSP to make faster, data-driven decisions.

Coin circulation: BSP advanced its coin recirculation initiatives to promote efficiency and financial inclusion. From June 2023 to December 2024, 25 Coin Deposit Machines (CoDMs) installed across Metro Manila and nearby provinces collected ₱1.2 billion worth of coins, marking a 140% increase in 2024 alone.

Complementing this effort, the BSP expanded its Piso Caravan Project, onboarding 1,188 partner institutions nationwide. These partners facilitated the exchange of unfit banknotes and coins, even for individuals without deposit accounts. The project successfully withdrew ₱24.5 million worth of unfit currency from circulation.

Anticounterfeiting: BSP intensified its anticounterfeiting operations amid a modest 18.4% year-on-year increase in documented counterfeit banknotes. Banks and cash handlers demonstrated stronger counterfeit detection skills, with more accurate classifications and fewer misidentified fakes.

Paper banknotes remained the most targeted, led by the ₱1,000 denomination (59.9% of all counterfeits), followed by the ₱500 note (19.3%). In contrast, the ₱1,000 polymer note proved more secure, with only three low-quality counterfeits detected in 2024. These were paper-based imitations with crudely substituted transparent portions, easily spotted by the public.

Counterfeit coins dropped sharply by 87.8%, remaining below one part per million of coins in circulation. Most of these were remnants from prior years, mainly ¥5 coins from the earlier BSP Coin Series.

The enhanced New Generation Currency (NGC) design – with micro-printing, laser engraving, and intricate security features – continued to suppress counterfeiting attempts. Most counterfeits used inkjet printing (79.7%), followed by laser printing (12.6%) and altered security threads (7.6%).

■ Bank of Thailand (BOT)

Banknotes: BOT shared key highlights from its decision to switch to polymer for its banknotes. Currently, half of all the 20 baht banknotes in circulation are polymer, first introduced in March 2022. 80% of these, which have a lifespan of 2.5 years, were found to still be in good condition, compared to only 20% of paper banknotes with the same lifespan.

The step has also helped reduce the environmental impact of the notes. Their longer lifespan has cut annual printing volumes from 690 million (all-paper) notes in 2021 to 350 million in 2024. This reduction translates to a decrease of around 2,700 tonnes of CO₂e emissions each year, equivalent to planting 1,250 rosewood trees.

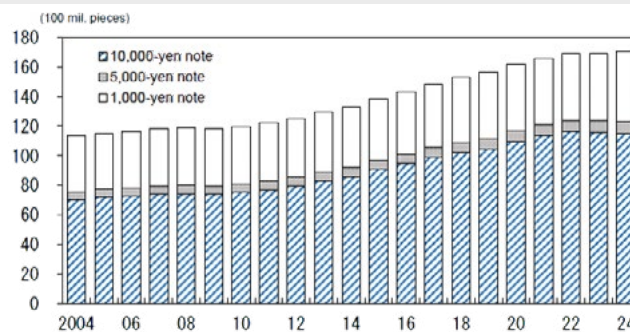
Cash efficiency: BOT has implemented policies aimed at using shared resources to increase banknote management efficiency, via projects such as the Consolidated Cash Centre (CCC) and White Label Smart Machine (WSM).

The CCC project enables the BOT and financial institutions to share resources for wholesale cash management, improving efficiency and reducing costs. Of the planned nine CCCs, which between them support 120 small cash hubs, seven are already operational, with the other two to follow in 2025. They are owned by BOT but run by the private sector, thereby allowing market discipline to ensure they are operated effectively. The initiative is expected to cut banknote management costs by 20–30%.

WSM, meanwhile, aims to reduce the redundancy of ATMs in the same areas, without reducing access to cash for the public, and is expected to begin in 2025.

Japan's New Yen Notes Make Steady Progress

On 3 July 2024, the Bank of Japan (BoJ) began issuing its new series of banknotes, including the ¥10,000, ¥5,000, and ¥1,000 denominations, marking the first currency redesign in two decades. Almost a year later, as of the end of June 2025, c. 5 billion of the new banknotes had been issued, accounting for about 30% of the total volume of notes in circulation.



Source: Bank of Japan. Note: Data at year-end.

Japanese banknotes in circulation - 2004-2024.

Although the penetration rate is still lower than during the previous renewal in 2004, when new notes constituted about 61.1% of the total in the same period, the BoJ states that the rollout is progressing smoothly and as expected.

A slower but steady transition

Three key factors can explain the more gradual shift.

First, the overall volume of cash in circulation has grown significantly. Around 11 billion banknotes were in use two decades ago, which has risen to 18.7 billion (as of December 2024) now.

When calculating the volume of banknotes in circulation by denomination, a notable increase was observed in 10,000 yen notes. Specifically, the volume of banknotes increased from 7 billion at the end of 2004 to 11.5 billion at the end of 2024. This suggests that the total volume of banknotes in circulation was pushed up by high denomination notes, and not by low denomination notes such as the 1,000 yen.

This expansion has been fuelled in part by Japan's prolonged ultralow interest rates, which have encouraged both households and businesses to hold on to cash rather than deposit or invest it (the so-called cash paradox).

Second, there has been a decline in banknote receipts and payments between financial institutions and the BoJ. Banks are increasingly recycling cash received from customers for payouts rather than depositing it with

the BoJ, reducing the overall flow of notes through the central system. This reflects structural changes in Japan's cash-handling practices and efficiencies introduced by automation.

Third, the wider adoption of cashless payments has gradually reduced the volume of banknote transactions. While cash remains a trusted medium, digital payment options – especially code-based systems – are gaining ground for everyday purchases. Japan's cashless payment ratio continues to rise, though this trend does not yet imply a major decline in overall cash usage.

Security and public confidence

Unlike the 2004 renewal, which was driven by concerns over counterfeiting, the 2024 series was introduced under calmer conditions. Demand for new notes is therefore more measured.

The BoJ has nonetheless incorporated world-class anti-counterfeiting technologies, combining advanced holographic (for the first time, a 3D hologram has been used on a banknote), micro-printing, and colour-shifting features to protect the integrity of the yen. Each denomination has a similar design format, with enlarged numbers of the face value, improved tactile marks, a central portrait on the front, and an emblematic Japanese design on the reverse.

'We want people to feel confident using the new banknotes', the central bank stated, encouraging public familiarity and confidence in the new series.

Communication – and Beautiful Design – Key to Overcoming Scepticism in the Caribbean

This March, the Caribbean guilder – the new currency for the people of the Caribbean islands of Curaçao and Sint Maarten – went into circulation, a good 15 years after the issuer of its predecessor – the Netherlands Antillean guilder – ceased to exist. A number of factors meant that, ultimately, the Centrale Bank van Curaçao en Sint Maarten (CBCS) was left with little choice but to introduce a new currency. But its introduction was not without its challenges – not least because the people of the two islands were largely indifferent.

Such indifference was overcome by the creation of a series of beautiful new notes and coins, inspired by ‘the world under the sea’ that evoke the splendours of the islands’ shared marine life. These designs, in combination with an imaginative and carefully orchestrated public communications campaign supported by the CBCS’s production partners (Crane Currency for the banknotes, Royal Canadian Mint for the coins), turned scepticism into curiosity, then fascination, and finally national pride.

They have also garnered a number of awards, among them the Best New Series at the High Security Printing (HSP) Latin America conference in June.

The imagery and features of the new series were covered in the May 2025 of Currency News™. We subsequently spoke to Leila Matroos-Lasten (Executive Director) and Nancy van der Wal (Head of Corporate Communications) about the background to the new series, how the doubts of the public were overcome, and what they personally liked best about the communications campaign.



Leila Matroos-Lasten, Executive Director (left) and Nancy van der Wal, Head of Corporate Communications (right).

Q: First of all, to provide context for the introduction of the Caribbean guilder and why you went about it the way you did, can you give some background to the two islands of Curaçao and Sint Maarten?

A: Curaçao and Sint Maarten are both part of the Dutch Kingdom and were part of the Netherlands Antilles – along with Bonaire, Saba, and St Eustatius – until its dissolution in 2010. Our journey to

introduce the Caribbean guilder followed that dissolution.

We are located in the Caribbean. Curaçao is just off the coast of Venezuela, while Sint Maarten is more in the direction of Puerto Rico. It’s roughly a two-hour flight between the two, so quite a distance.

Moreover, the island of Sint Maarten is shared with Saint Martin, which is a French overseas territory. There is a border between the two, but the island is very small so you can easily drive from one part to the other.

The population of Curaçao is around 155,000 and that of Sint Maarten around 43,000.

Q: Following the dissolution of the Netherlands Antilles, why did Curaçao and Sint Maarten decide to join together in a currency union, as opposed to the other countries, all of which adopted the dollar?

A: At the time, we asked the IMF to conduct a study – and we also did our own – on the benefits and drawbacks of dollarization.

What those studies showed were three key advantages in having our own currency. First is that you maintain your own monetary policy instruments. Second, you can function as a lender of last resort if the banking system comes under stress. And third, you receive the seigniorage on notes and coins issued, which is profit for the countries.

But even so, there was a lot of discussion – political and operational – around whether to have our own currency or adopt the dollar. This is one of the reasons it took so long to introduce the Caribbean guilder.

Q: So what ended up forcing the change?

A: We were still using the Netherlands Antillean guilder more than a decade after the country itself had ceased to exist, although that wasn’t really a problem since the currency has been in use since the 1950s and people were very comfortable with it.

What was the problem, and the real driver for change, was the fact that the

security features were outdated and it was becoming easier to counterfeit the notes.

Added to this, not only did the country whose name was on our currency cease to exist, but so had our printer.

Back in 2010, while we were waiting for the government to give us a green light to start on the Caribbean guilder, we ordered small amounts of coins and notes. In 2016, our banknote supplier told us they were stopping banknote production. Just before that, we placed a large order so that we could keep on going whilst waiting for a decision.

In case the decision was to carry on as we were, we did check to see if other suppliers could produce the Netherlands Antillean guilder for us, but none was prepared to print them the way they were – mainly because they were so outdated and no printer wanted their name to be attached to what they viewed as an inferior product. They were only prepared to become involved if we were prepared to update the notes – and the cost of that would have been the same as a completely new currency.

Against this background, the case for a new currency was compelling.

Q: So that’s the timeline and the background. The title of your presentation at HSP Latin America in Rio was ‘Turning Skeptics into Allies – Preparing a Doubting Community for Change’. Why the scepticism, and the doubt?

A: People were initially sceptical because they thought that the introduction of a new currency was waste of time and money. This was particular the case in Sint Maarten, where a lot of predominantly US cruise ships are coming and going every day. That means it’s more dollar-based than Curaçao.

There is also a natural resistance to change.

And people thought the money could be better spent on education, or fixing the roads, for example.

But people were also becoming aware of the increase in counterfeiting and realized that change was necessary. Now, unlike in the beginning, there is great support for the Caribbean guilder.

Q: So when did the project actually get the go ahead?

A: The clock started ticking six years ago, following the approval of both governments to proceed.

We knew that we had to inform and keep on informing the public why the new currency was necessary. Also, a lot of people assumed it was a central bank project, so we had to correct that misassumption by making it clear that it was a government decision, and a

government project executed by the central bank.

Q: *So how did you go about this?*

A: There were four phases.

We started with the ground preparation for why the new currency was needed, followed by a teaser campaign, then the 'reveal' and, finally, the introduction.

We made extensive use of social media to explain the reasons – including the fact that since 2010 we had been using the money of a country that no longer exists. And that our supplier no longer existed either, at least as a banknote printer.

Bit by bit we started winning people over, and the stakeholders started coming to us for information, rather than the other way round.

Then came the teaser campaign, which was the fun part. The chosen theme for the series was 'The World Under the Sea' and we used billboards, social media, and newspaper ads with images of the underwater world, so people started to guess what would be going onto the notes and coins

Then we had the grand reveal last August, after which we had buses driving around wrapped with the images of the new currency. That was a very exciting time for us. When you are creating something new like this, it becomes your baby. And we loved showing off our new baby to the community.



Of course, all the while we were asking ourselves – are they going to like it? Are they going to think it's horrible? Or fabulous?

Q: *And did they? Think it was fabulous, that is?*

A: Yes, they did. There were similar simultaneous reveals in Curaçao and Sint Maarten, with synchronized presentations and speeches, then a countdown, and then the reveal itself.

In Curaçao, at the CBCS headquarters we used enormous banners in front of the building that dropped after the countdown. In Sint Maarten, because it was hurricane season and we couldn't run the risk of the weather, the event was held indoors and there were huge screens instead.

The whole thing was amazing. And, for us as a team, emotional as well.

Q: *Given the starting point of scepticism, had this gone by then?*

A: All but. Comment was very positive; we have had almost no criticism.

Q: *Did you have different communication strategies for Curaçao and Sint Maarten?*

A: Yes, we did, because they are two completely different communities and cultures. The media landscape is also completely different. In Sint Maarten, for example, there is only one newspaper, no television channel, and almost everything is digital.

So not only is the narrative different, but the whole approach. In Sint Maarten, we focused on the new currency being part of their identity, which is recognized in their notes and coins.

For this we used influencers, on billboards and on social media, choosing well-known personalities. This really helped people to relate to the new currency.

Q: *It's becoming increasingly common for countries to engage the public in choosing design themes for new banknotes. Did you consider this?*

A: We did but then chose not to. This was because designing and introducing a currency for two countries was already very complicated given the need to accommodate two different sets of opinions, views and cultures.

We were also under very tight timelines, and we thought that if we involved the public or held a design competition, we would never have managed to meet the deadline.

Q: *Now a question for both of you. What was your favorite part of the campaign?*

A (Nancy): Well, for me it was the teaser campaign, and in particular the making of this.

We decided to use local people doing everyday things, but to morph these into activities beneath the water. And the people we used had no idea what the end result would be.

For example, someone was photographed sitting on a surfboard in their office. Once photoshopped, their feet appeared to be dangling in the water.

Another was an elderly lady walking her dogs. We photographed her with the leashes taped to the pavement. In the end result, they attached to seahorses.

We also involved our Little League baseball team that had just become world champions. We had a couple of those little guys diving for a ball. But the end result looked like they were diving into water for treasure.



None of them knew how these photographs would end up, and it was really funny when they found out.

A (Leila): To me it was the reveal event that was very personal, very emotional. As I stood there, I realized that we were making history – introducing a completely new currency for two different countries.

On a more everyday level, I went to a juice truck the day the currency went into circulation and used it to pay. The ladies running the truck were so excited, jumping around because they got to receive the first new money in Curaçao.

I also loved going out afterwards to give presentations in schools. The children were coming up wanting to see, touch and even smell the new money.

Q: *Part of the logistics of introducing a new currency is getting it where it needs to be. How did you manage this?*

A: It is the responsibility of the commercial banks, who routinely deposit notes and coins with us, and who are given new notes and coins in return. We also expected retailers – from supermarkets to small vendors – to help with the withdrawal of the old currency and distribution of the new, but that didn't initially go to plan as they originally did not see this as their role and continued to recirculate the old currency. So, we had to change our information campaign to encourage them to take old notes to the bank and exchange them for the new ones to then give out to the public.



... Communication – and Beautiful Design

Another challenge was managing the expectations of the public, who assumed that all the ATMs would be dispensing the new Caribbean guilder from Day One. Logistically, we could not supply all the ATMs in advance because we only have a limited number of security trucks on the island.

There was some initial disappointment. But within two weeks all the banks were managing to dispense the new banknotes.

Q: *It has now been seven months since the new currency was issued. Has it been a success? And if so, how do you define what that success looks like?*

A: Three quarters of the old currency has been exchanged already, so that is a very good sign. We are also seeing a lot of people at the central bank. Normally, we only engage with banks, but now that we are offering an exchange service, we are directly connecting with the people. This is particularly true for the unbanked, who comprise around 12% of the population in Curaçao and 17% in Sint Maarten.

Our goal was for 75% of all currency to be exchanged within a year; however, this target has already been achieved. The old guilder ceased to be legal tender after three months but can be exchanged at commercial banks up till March 2026. After that, banknotes and coins can only be exchanged at the central bank. But people have up until 2055 to do that.

Q: *So, do you see your job as now done? Mission accomplished, in other words?*

A: No – our work is not done yet. While the campaign and introduction are finished, we are now focusing on the currency exchange, which is keeping us very busy and which we want to go smoothly.

Also, in March 2026, during our Money Week, all primary school children will receive a treasury box with Caribbean guilder play money to help teach them to count and so forth. In the past, the children were taught in euros and US dollars. Now they will be taught using their own currency.

Q: *As you say, this wasn't just a new series of banknotes and coins. It was a new currency, for which you ran a magnificent campaign. What advice would you give to other central banks in terms of communicating new designs or series?*

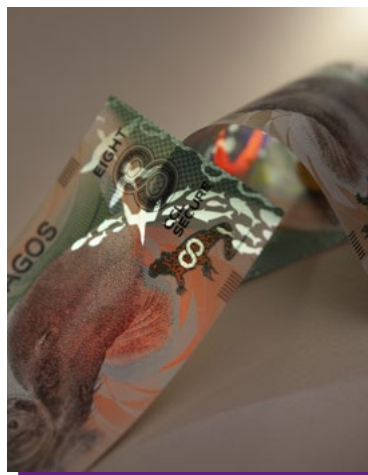
A: Make sure you form a very good team. We had a great one – with the right expertise internally and great external expertise from our suppliers to guide us through.

And the main message is inform, inform, inform, and then keep informing. Never stop. Even when you thought you'd done enough, you haven't. You can never communicate too much.

CBCS will be presenting on the new series at the forthcoming Mint and Print Conference, which takes place in Istanbul from 10-14 November (see page 16).

Galapagos Islands Inspire New House Note from CCL Secure

In a continuation of the coverage in Currency News of some of the most ground-breaking houses note produced in recent months, the latest example is the SPARTAN™ Galapagos House Note from CCL Secure.



The design and theme for the note was inspired by a visit to the Galapagos Islands by the naturalist and biologist Charles Darwin in 1835. They played a crucial role in shaping his ideas about evolution and natural selection and was the foundation of the truly revolutionary work – The Origin of Species – which fundamentally changed how humans understand life's diversity and our place in nature.

According to CCL Secure, the SPARTAN Galapagos House Note isn't merely an attractive example of the latest in banknotes. Beneath the themes of evolution and environment is a showcase of technological innovation, directly targeting what banks regard as a prime pain point – the so-called note/coin boundary.

Due to high transaction velocity, banks have traditionally relied on coins as the most durable choice for low-value denominations. However, these have high up-front production and management costs, and as raw material prices rise to the point that coins are sometimes worth less than the metal they contain, they are susceptible to illegal smelting for their inherent value. As such, says CCL Secure, the cost benefit of this reliance has become increasingly burdensome.

SPARTAN banknotes offer central banks a genuine alternative for

low-denomination currency, solving the note/coin conundrum with durability far in excess of existing cotton-paper, blended, or even other polymer banknotes. Backing this up, independent testing conducted in Europe in late 2022 simulated the lifetime wear of various banknotes, and placed SPARTAN substantially above all alternatives.

New frontiers

Just as Darwin's Galapagos-inspired theory of evolution redefined the boundaries of science, SPARTAN redefines the problem-solving capacities of polymer notes, says the company, which pioneered the invention of polymer banknotes in the first place with the development of GUARDIAN™ substrate more than 30 years ago.

The exceptional durability is due to the polymer base film Propanote™ Opacity W, engineered specifically for SPARTAN by CCL Secure's sister company, Innovia Films. Its opaque base reduces ink wear by eliminating the need for printed opacity. The proprietary gravure printing process employs specially developed inks to further enhance adhesion and durability, while laying down a unique processing signature that helps central banks guard against counterfeits. The final protective layers add a paper-like tactility.

All of this is achieved – including overt and covert security features, serial numbers and pattern work – in a single print pass. The entire process is handled in-house, meaning – says CCL Secure – that central banks need only deal with a single stakeholder, receiving the finished circulation-ready product much quicker than with traditional note production.

In terms of design, the natural beauty and bio-diversity of the Galapagos Islands are powerful reminders of the urgent need for sustainable choices. Fittingly, therefore, both sky and sea are represented on the note, featuring the long-lived Galapagos giant tortoise – itself testament to impressive durability – and, acknowledging the emotional undertones of ecological initiatives, a mother fur seal and her pup.

Update on the Global Demand for Banknotes

■ By Antti Heinonen, external advisor, Bank of Finland, former Director, Banknotes of the ECB

This series of periodic global updates, which started in 2017, have mainly focused on the development of the growth rates of the value and volume of banknotes in circulation. Furthermore, they have addressed some interesting phenomena around banknote demand. This latest update will follow this customary agenda.

The update will start with an analysis of the development of banknote circulation in value terms during recent years, followed by that in volume terms. Indicators since 2013 are also examined. In addition, the study initiated in the August edition of Currency News™ will be continued.

In that issue, the use of coins versus durable note substrates in replacing low-end paper notes was analysed. It was concluded that the note/coin boundary is not changing as often as in the past, because durable note substrates are increasingly used to replace low-end paper notes instead of new high-end coins.

In this article the focus shifts from the low to the high end of the currency structure, with the impact of digital payments on the introduction of new high-end notes analysed.

Banknote circulation in value terms

Using statistics and various publications available on central bank websites, a slightly varying number (between 143 and 145) of currencies have been addressed in the following chart, related to the growth rates by value of banknotes in circulation in years 2021–2024. The figures refer to the end of the calendar year, even in cases where the financial year of the respective central bank is not the calendar year. However, in the case of three currencies the figures refer to an earlier month of the year because the corresponding central banks haven't yet published the figures at the end of 2024.

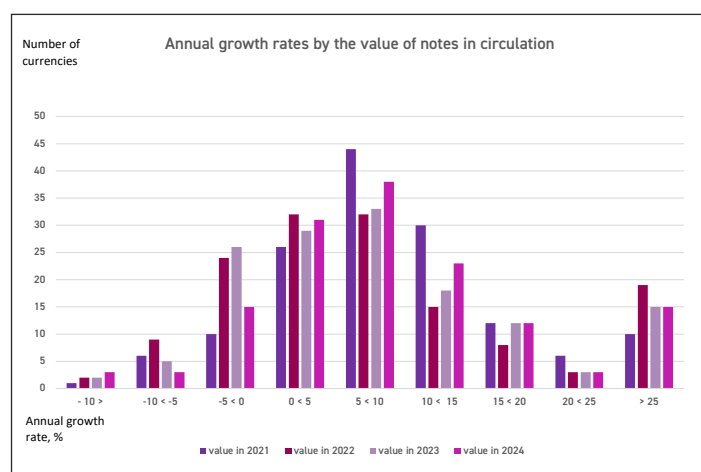


Fig 1: Annual growth rates by value of banknotes in circulation in 2021–2024 (143–145 currencies).

It is not easy to draw any conclusion based on Fig 1. When comparing the development in 2024 to that in the other three years, the best guess is that the bars in 2024 are closest to those in 2021. The distribution in 2021 indicated a return to normality after the COVID-19 pandemic, and the higher-than-normal cash balances accumulated during the pandemic were not yet abandoned. The public's behaviour changed in this respect first in 2022, when the growing opportunity cost motivated the public to reduce their cash balances. This is indicated in Fig 1 by the high number of negative growth rates in 2022 and 2023.

Whether there was a kind of return to normality in 2024 is further studied in Figure 2. It illustrates the annual median growth rate of the value of banknotes in circulation in 2013–2024.

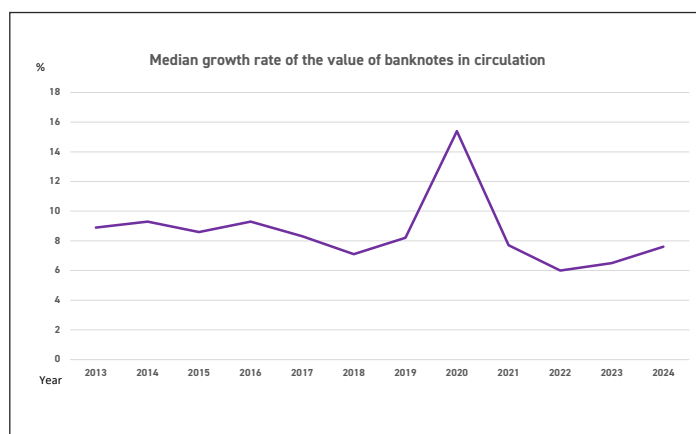


Fig 2: Median growth rate of the value of banknotes in circulation in 2013–2024 (143–145 currencies).

Based on Fig 2, the median growth rate is indeed returning to the earlier slightly decreasing trend, which was thrown into disarray during the pandemic and its aftermath. This is the conclusion regarding the growth of the value of notes in circulation.

Next, developments in volume growth will be addressed.

Banknote circulation in volume terms

Even though most studies related to the banknote circulation analyse its development in value terms, the volume developments are much more important to the industry and stakeholders in the cash cycle.

The pandemic accelerated the change of payment habits towards digital payments; simultaneously, the growing uncertainty increased the precautionary and store of value demand for banknotes. This was mirrored in the demand for high denomination notes. Therefore, the growth of the volume demand for banknotes has been lower than that of the value.

The denominational data on banknote circulation has regrettably less coverage on central bank websites than its total value. Therefore, those central banks which don't publish the denominational data are encouraged to do so. The global updates would be then more representative.

Anyway, thanks to several central bank colleagues, who generously provide data for these global updates, the publicly available data has been complemented with several additional currencies. Accordingly, the annual growth rates of the number of banknotes in circulation were available in 2024 for 104 currencies. Figure 3 addresses the distributions of the growth rates by the number of banknotes in circulation in years 2021–2024.

Some figures refer to end of the financial year, not to the end of the calendar year. The reason is that the respective central banks publish the volume figures only at the end of their financial year.

... Note and Coin News

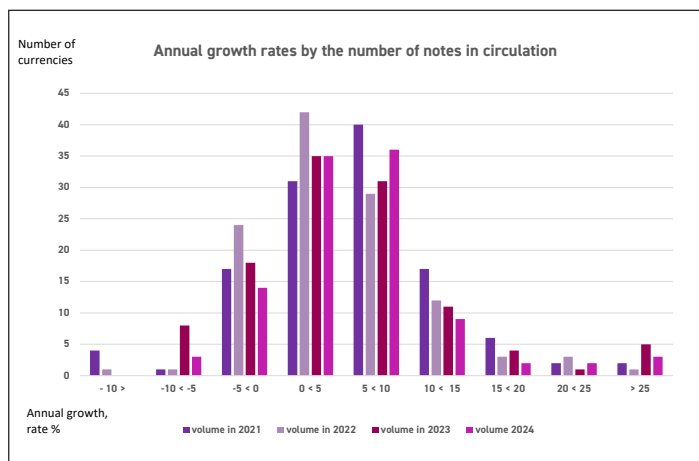


Fig 3: Annual growth rate by the number of banknotes in circulation of 104 currencies in 2021–2024.

It is difficult to draw any firm conclusions on the direction of the volume development. It seems, however, again that the distribution in 2024 is closer to that in 2021 than those in 2022 and 2023. This assumption is further analysed in Figure 4, which illustrates the share of currencies with a positive growth rate in the years 2013–2024.

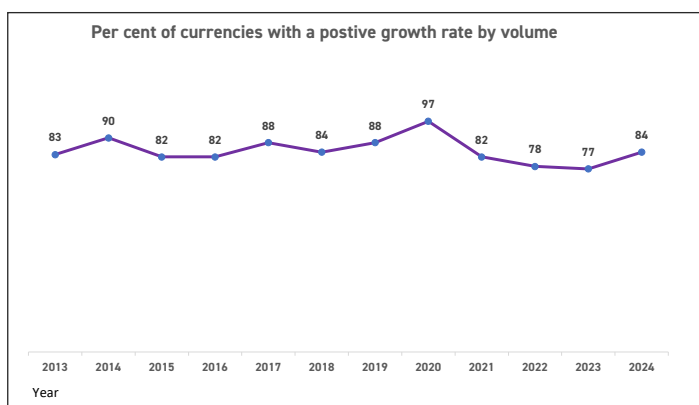


Fig 4: Percent of currencies which had a positive growth rate by the number of banknotes in circulation in 2013–2024 (on average 111 currencies).

Similarly, as with Fig 3, Fig 4 also indicates that the growth rate of the number of banknotes in circulation has bent towards the earlier trend. In years before the pandemic the number of currencies having a positive growth rate in volume terms was more than 80%, and in 2024 clearly so.

Impact of the use of other payments methods on new high-end notes

Historically, most issuing authorities regularly made inflation corrections to the currency structure. New higher denomination notes were introduced, and simultaneously low-end notes were replaced with coins. In the CN August issue, it was concluded that this is only partly true regarding the low end.

During the last couple of decades an increasing number of digital payment methods has been developed. Hence, it is interesting to study what kind of impact these new payment methods have had on the introduction of new high-end notes.

The impacts will be first studied using latest available statistics and classifying the currencies based on the date of introduction of the current high-end note denomination. The results are depicted in Figure 5. Each bar describes the number of new high-end denominations introduced during various 10-year periods.

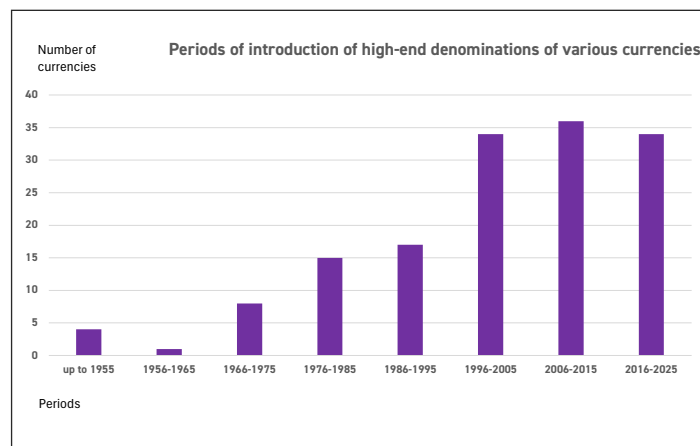


Fig 5: Periods of introduction of high-end notes of various currencies (149 currencies).

According to Fig 5, roughly the same amount of the currently circulating high-end note denominations, around 35, were introduced during each of the last three 10-year periods. Another interesting observation is that the highest denomination of four currencies hasn't changed since 1955. In Norway the 1,000 krone note has been the high-end denomination since 1877 and 1,000 francs respectively in Switzerland since 1907. The high-end Japanese yen denomination (the 10,000) is a bit younger, having been introduced in 1958.

Evidently, the purchasing power of these notes has decreased significantly during the years, but in all three cases the denominations are still in line with that of high-end denominations of other currencies and adequate for the store of value function of banknotes. The NOK 1,000 is worth around US\$100, the CHF 1,000 is in its own category among major currencies and is worth more than €1,000, and the JPY 10,000 is around £50.

Fig 5 gives the impression that the introduction of new high-end denominations has slowed down because their number during the last decade is a bit lower than during the earlier ten-year period. To get a more precise understanding of the development, another vantage point is selected. The year 1999 has been selected as an alternative date, because the acceleration of new payment innovations has really taken place only during the last couple of decades. A similar chart as in Fig. 5 is presented having 1999 as the vantage point.

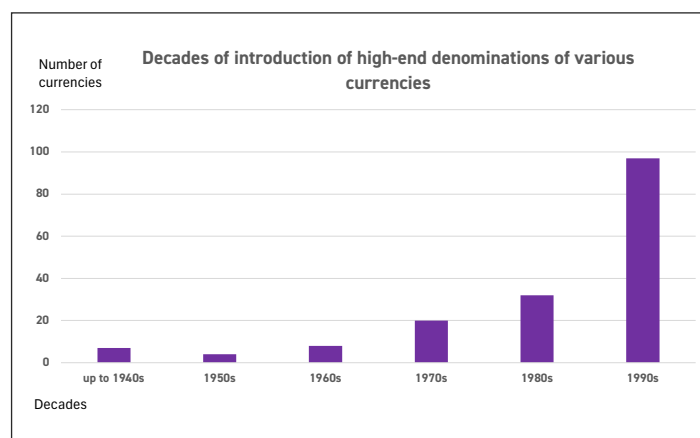


Fig 6: Decades of introduction of existing high-end banknotes in 1999 (168 currencies)¹.

Fig 6 gives a remarkably different impression from Fig 5. This is the case even if one takes into account the collapse of the Soviet

¹ Introduction of euro notes explains the difference in the number of currencies included in Fig. 5 and 6.

Union and Yugoslavia and the post-collapse transitions in many countries in the 1990s.

According to Fig 6, a new high-end denomination was introduced by close to 100 currencies during the 1990s, while there were still very few instant payment alternatives to cash for high-value payments. Hence, even if world inflation was decreasing in 1990s from the double-digit figures of the 1980s, the mindset of issuing authorities hadn't changed. They still saw the need to issue new high-end notes, as reflected in Fig 6.

An additional explanation for the large number of new high-end notes was probably the frequent upgrading of the whole banknote series. It was another feature typical in the 1990s because of the continuous developments in digital reproduction technology. In the context of a new series, the question whether to change the currency structure was usually topical. Recently, the average life of a banknote series has increased (see CN June 2024), and the consideration of currency structure has become less frequent.

Based on Figures 5 and 6, the introduction of new high-end notes has significantly slowed down. That raises the question – which high-end denominations have been withdrawn from circulation because of the introduction of new payment methods. There are some historical examples, eg. the Bank of England issued denominations up to £1,000 pounds during World War II and the United States hasn't issued \$500–\$10,000 notes since 1969. It is also well-known that the €500 hasn't been issued since April 2019 and was not included in the current Europa series of euro notes. Also, Danish 1,000 krone note will not be part of the new note series scheduled for 2028–29, and the last day of the current 1,000 krone banknote as a valid means of payment was 31 May 2025.

Other recent examples relevant to the question are the following: the Riksbank withdrew the 10,000 krona note in 1991, Bank Negara Malaysia demonetised RM 500 and RM 1,000 notes in July 1999, the Bank of Canada withdraw the C\$1,000 note in 2000, and the Reserve Bank of India demonetised the ₹1,000 in November 2016, issuing ₹2,000 banknotes in exchange (which, in turn, lost legal tender status in September 2023). Moreover, the National Bank of Macedonia withdraw the 5,000 denar note in

December 2016, and the Autoriti Monetari Brunei Darussalam the BND 10,000 note in November 2020. Also, in Israel various sources have raised the cancellation of the highest denomination, 200 shekel note, but the Bank of Israel has strongly denied any justification for that.

Based on these less than 10 examples during the past 30-plus years, the availability of new payment methods for high-value transactions hasn't been reflected to a great extent in the withdrawal of existing high-end denominations.

One may ask what these developments mean for the cash industry? If the arguments are valid and related to the increasing use of other payment instruments for high-value transactions and the high-end note is sufficient for the store of value function of cash, they are justified. However, if the arguments are related to money laundering or other misuses, they should be set in proportion to the digital payment fraud.

Concluding remarks

This year's update of the global demand for banknotes gives a more positive impression of developments than the two preceding annual updates. Both the value and volume growth has bent towards the trends existing before the COVID-19 pandemic.

Impacts on the currency structure are another interesting trend. Both the note/coin boundary and the high-end note are not changing as often as they used to do in the 1990s.

However, these end-of-year assessments provide only a partial picture of the situation. They don't tell anything about the flow variables, like production, processing, transport or destruction of notes (see CN March 2025). The impacts of decreasing volumes on the cash cycle are already seen in a few countries and put pressure on the maintenance of the cash infrastructure.

The key challenge regarding the future role of cash is the opposite development trends of the two motives to use cash: its demand for transactions on the one hand and as a store of value or for precautionary reasons on the other. Therefore, central banks need a serious plan for the maintenance and development of the cash infrastructure, which is vital for a well-functioning society.

Federal Reserve Reports Suspended Cent Orders

Earlier this year, as part of a package of sweeping cuts under the DOGE (Department of Government Efficiency) initiative to eliminate waste, President Trump directed the US Treasury Secretary to cease production of the country's lowest denomination coin (each of which costs 3.7 times its face value to produce), reigniting a decade-long debate about the future of the coin (see CN February 2025).

The President's directive only referred to stopping the production of new pennies; he does not have the authority to order the withdrawal of the coin, which will require legislation.

Even so, the effects are already being felt, with the Federal Reserve reporting that 28 armoured carrier locations across the United States – contracted to distribute coins and paper money across the 12 Federal Reserve Bank districts – have suspended orders and deposits involving the Lincoln one cent coins.

More recently, banks and retailers have noted a shortage in these coins, despite initial confidence that stocks were sufficiently high to mitigate any short-term impact of the end of penny production. Industry groups suggest that penny production ceased earlier than expected – albeit 1.3 billion cent coins have been produced so far this year, compared to 33.2 billion in 2024 – and access to existing pennies has become more difficult.

Although the Federal Reserve remains 'committed to accepting deposits of pennies from banks and credit unions', the decision to end penny production means that 'coin distribution locations accepting penny deposits will vary over time as localized inventory is depleted at certain coin distribution locations'.

'When inventory at a specific location is depleted, FedCash Services will cease fulfilling orders of pennies at that specific location', details the Services on its FAQ page. These two factors together, argues the American Bankers Association, has resulted in some banks having difficulty accessing penny supplies for customers, whilst others are unable to deposit their excess stocks at nearby coin locations.

The Fed has advised banks to deposit pennies at another location instead, although this depends on an organisation's proximity to an alternate coin location.

There are approximately 114 billion penny coins currently in circulation, so there is certainly no shortage of the coins, although it seems that accessing them may have become a little more complicated.

Using Banknotes to Replant the Amazon – a Call to Arms

Jörg Eigendorf, Chief Sustainability Officer at Deutsche Bank recently posted on LinkedIn about monetising the protection of the rainforests¹. Coincidentally, almost to the day, Biobanknote wrote to us about a project to reforest the Amazon.



Pedro Miguel da Costa e Silva, the Brazilian ambassador to the European Union, had given a talk to Deutsche Bank about the need for positive incentives to protect the rainforests that play a key role in the world's climate absorbing CO₂, but also for the biodiversity of our planet.

Rainforest nations are struggling with the reality that a dead tree is valued more than a living one. According to BloombergNEF, protecting one hectare of rainforest results in an opportunity cost of \$500; the Tropical Forest Forever Facility, initiated by the Brazilian government for the climate summit COP30, offers support of just \$4 per hectare.

The Amazon rainforest is not only in Brazil of course, and it has already experienced significant deforestation. Reinstating what has been lost will cost significantly more than safeguarding what is there now.

Which brings us to Biobanknote

What Biobanknote is proposing is to use banknote waste to prepare around 200,000 capsules impregnated with around 5 million native tree seeds, about 25 seeds per capsule, and to scatter these over 100 hectares of deforested rainforest land from a helicopter or a drone in a selected area of the Amazon rainforest. Accessibility is a major challenge in these areas, hence the use of this approach.

The biodegradable capsules would be prepared with cotton banknote waste which protects and improves germination, acting as a small slow-release nutrient mulch that also maintains moisture. Biobanknote already successfully uses this technique to support traditional tree planting schemes. The cost of each making and planting each capsule would be under \$1.4. This figure includes the organization, promotion, logistics and execution of the project, giving a total estimated project cost in the region of \$280,000, a cost of \$2,800 per hectare.

The project would take one year from start to the aerial planting since it would require identifying appropriate native species for the selected areas, obtaining permits from National Parks and environmental authorities, forming a management committee with the peasant community, the financial sector, non-governmental organisations and environmental authorities, and working with an alliance of high mountain nurseries and local communities for seed collection and treatment.

A paper by Trillion Trees, 'Defining the Real Cost of Restoring Forests', makes clear that the goal is tree growing rather than just tree planting and the calculation needs to take into account the real costs of working collaboratively and effectively with local communities, of choosing the right trees

for the right places, and of maintaining restoration sites to ensure long-term success where trees survive for decades to provide the benefits claimed.

Biobanknote's plans take these into account, with follow up visits planned after six months and then a year later to check the effectiveness of the planting.

Value for money

As noted, the project cost is estimated to be US\$280,000. Using an estimate by a Trillion Trees^{2 3} that the global average carbon sequestration rate for recovering natural forests is 10.37kg CO₂ per tree per year, this is a cost of US\$5.50 per tonne CO₂e.

This project proposes to plant the native species *Juglans Neotropica*⁴, which Biobanknote estimates will capture approximately 51,000 tonnes of CO₂ each year, effectively off-setting a significant proportion of impact of banknote production and circulation.

In addition, a paper looking at the carbon stock of *Julans Neotropica* found that each fully grown tree captures 13.17 Mg ha⁻¹. An Mg is 1,000kg, so one hectare captures 13,170kg of carbon (13.17te) and 100 hectares 1,317te of CO₂.

A 2017 report by the High-Level Commission on Carbon Prices concluded that the carbon price level consistent with achieving the Paris temperature target, which the world is now on track to surpass, is at least \$50-100 per tCO₂ by 2030 with a supportive policy environment in place^{6 7}. Biobanknote estimates that if realistic survival rates and a 20/30-year time horizon are considered, the effective cost per tonne of CO₂ would be consistent with this carbon price estimate of the High-Level Commission.

Reforesting the Rainforest

This is a practical and tangible project directly relevant to central banks, banknote producers and cash cycle stakeholders addressing the major challenge of reforesting the Amazon rain forests. Rather than pay carbon offsetting to a distant third party, perhaps engaging with Biobanknote on this banknote related project makes sense.

More information is available from Rafael Eduardo Cruz Diaz at recruzd@bic and at www.biobanknote.com.



1 [linkedin.com/feed/update/urn:li:activity:7381553955228770304](https://www.linkedin.com/feed/update/urn:li:activity:7381553955228770304)

2 Trillion-Trees_Defining-the-real-cost-of-restoring-forests.pdf

3 A Trillion Trees is a partnership between Birdlife International, Wildlife Conservation Society and WWF founded in 2016 to test and innovate models for forest conservation.

4 *Juglans neotropica* – Wikipedia

5 Carbon Stock in Plantations Of *Juglans Neotropica* Diels, with And without Associate of *Coffea Arabica* L.

6 United Nations Environment Programme. (2021). Emissions Gap Report 2021: The Heat Is On – A World of Climate Promises Not Yet Delivered – Executive Summary. Nairobi.

7 High-Level Commission on Carbon Prices. 2017. Report of the High-Level Commission on Carbon Prices. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO.

HSP Asia Returns to Malaysia After 15 Years

Reconnaissance, co-publishers of Currency News and organisers of the High Security Printing™ (HSP) conferences, have announced the full programme for the upcoming HSP Asia 2025, taking place from 1–3 December 2025 in Kuala Lumpur, Malaysia.

Returning to Malaysia after 15 years, the event will once again gather issuers, suppliers, and integrators involved in producing, protecting, and personalising fiduciary and secure documents across Asia and beyond – offering a global platform for innovation and collaboration.

The event typically attracts around 300 participants and, with registration well ahead of the norm, Reconnaissance is advising that the event is already nearing capacity.

Programme highlights

The HSP Asia 2025 programme will lead off with a welcome address from Bank Negara Malaysia, plus presentations on the currency landscape in Asia and the Bank's proof of concept exercise to recycle banknotes.

The bulk of the programme is split into twin tracks for currency and identity. The former will explore key themes, including currency developments and features, cash sustainability, security on modern banknotes, and production advances.

The final afternoon of the programme brings the currency and ID tracks back together for a joint session on counterfeiting. Led by Michael van Gestel of Entrust and currency counterfeit expert Kerre Corbin, it will bring all delegates together to discuss shared challenges and solutions in counterfeit prevention and detection.

This conference is preceded by a series of specialist workshops, including 'The Banknote Balancing Act: Making Informed Currency Choices' (for central banks only), and 'Reducing the Environmental Impact

of Cash and the Cash Cycle', the latter in conjunction with the International Currency Association (ICA).

Alongside the technical sessions, there will be a varied social programme, including two opening receptions and the conference dinner. Sponsored by G+D, this will be held at the Glasshouse at Seputeh and is where the annual Regional Banknote of the Year awards will be presented.

Attendees will also have the opportunity to join a post-conference tour featuring visits to Bank Negara Malaysia's Automated Cash Centre (ACC) and G+D's production facility. There will be a further opportunity to explore Bank Negara Malaysia's Museum and Art Gallery, including the Economics Gallery and the Numismatics Gallery (see below).

HSP Asia is part of a trio of regional events organised by Reconnaissance, alongside its sister conferences: High Security Printing™ EMEA (9-11 February 2026, Rabat, Morocco) and High Security Printing™ Latin America (1-3 June 2026, Guatemala City, Guatemala). These events serve their respective regions and are essential for those involved in the security printing industry.

hsp-asia.com.

Malaysia Museum's Marvels of Money

Bank Negara Malaysia Museum and Art Gallery (BNMMAG) has six distinctive galleries – the Children's Gallery, Bank Negara Malaysia Gallery, Economics Gallery, Islamic Finance Gallery, Numismatics Gallery, and Art Gallery – and is designed to bring Malaysia's economic journey to life while celebrating the central bank's role in nation-building and its commitment to numismatics and support for the arts.

Numismatic Gallery

At the heart of the experience is the Numismatics Gallery, an exploration of money's evolution, from barter systems, animal-shaped currency, and tin ingots to the Malay Sultanates, colonial powers, the Japanese occupation, and Malaysia's post-independence designs.

The story concludes with The World of Currencies, a colourful showcase of banknotes from around the globe.



Children's Gallery

Complementing this journey is the Children's Gallery, accessed through the RM1 Million Tunnel, a passage embedded with RM1 million worth of Malaysian banknotes. These notes, ranging from 1 to 1,000 ringgits, represent all four series of Malaysian currency and are carefully layered between sheets of acrylic, highlighting the nation's monetary heritage.



Designed to engage young minds, the gallery introduces the concept of 'Save, Spend, and Share' through interactive

exhibits such as 'Where Does Your Money Go?' games and the 'Si Kijang Cottage and Library' interactive projection wall.

Numismatic Marvels

The journey continues with 'Numismatic Marvel: Minted History, Printed Heritage', which expands the story across Southeast Asia, taking visitors back to the ancient kingdoms of Funan, Srivijaya, Majapahit, and the Malay Sultanates, and tracing the evolution of currency through the founding of ASEAN in 1967.

Visitors are invited to step into the famous marketplaces in each ASEAN country to see how trade and money once fuelled regional exchange, and now leads us to look ahead to the future of money through digital innovation and cross-border QR payments.



Global Currency Leaders Convene for MAP 2025

The world's leaders in currency design, minting, and secure printing will gather in Istanbul from 10-14 November for Mint and Print 2025 (MAP 2025). The four-day event will bring together central banks, mints, security printers, and technology providers to explore the innovations reshaping the future of physical currency.

This year's theme, 'Where Currency Innovation Meets Collaboration', sets the stage for discussions on banknote and coin design, substrate development, security technologies, automation, and sustainability, as well as the growing influence of artificial intelligence in currency management and production.

The conference will open with a keynote address from the Governor of the Central Bank of the Republic of Türkiye, followed by remarks from MAP Chairman Alejandro Alegre and Managing Director Mazen Hamdan.

Over the following sessions, participants will hear from global institutions and industry leaders on:

- **Currency Design and Innovation** – highlights include the National Bank of Kazakhstan's new Saka series and PWPW's Meadow House note case study, showcasing how design and technology are converging in modern banknote creation.

- **Substrates and Durability** – presentations from Banque de France, Giesecke+Devrient & Louisenthal, and CCL will explore advances in substrate science, focusing on durability and environmental performance.

- **Banknote Printing and Production** – Crane Currency, China Banknote Printing and Minting Corporation, Jura, and PWPW will share the latest in automation, precision, and quality assurance.

- **Security Features and Anti-Counterfeiting** – SICPA, Banque Centrale de Mauritanie, and the Central Bank of Curaçao and Sint Maarten will reveal new developments in optical, chemical, and digital safeguards.

- **Currency Processing and Automation** – Banco de España, IMBISA, and G+D will present advancements in automation and high-tech production systems.

- **Coin Minting and Precious Metals** – featuring Aga Bullion, Monnaie de Paris, and the Mint of Poland, this session examines innovation in coinage and bullion for modern economies.

- **Emerging Trends and AI in Currency** – experts from the International Currency Association and AI researchers will discuss how artificial intelligence is transforming production, security, and policy frameworks.

The event will close with a panel discussion featuring representatives from Monnaie de Paris, Crane Currency, G+D, and leading central banks, reflecting on the collaborative future of cash in a rapidly evolving financial landscape.

mintandprint.com

Month Long Celebrations for Bank of Ghana

A once-in-a-lifetime event commemorating the 60th anniversary of Ghana's national currency is just weeks away. To be held from 17–20 November and hosted by the Bank of Ghana (BOG) in partnership with Currency Research, the Cedi@60 Anniversary Currency Conference is a cornerstone of a national months-long celebration – 'Cedi@60: A Symbol of Sovereignty, Stability, and Economic Resilience' – which formally launched on 28 October.

In recognition of the currency's role as a source of national pride and sovereignty and its continued evolution since its 1965 adoption, several interwoven themes will underpin the Cedi@60 Anniversary Currency Conference. Among them are the cedi's legacy as physical currency and its emerging digital counterpart, trust and macroeconomic stability, cash's cultural imprint, and the future of money in Ghana.

The conference's speaker lineup reflects the significance of both the event itself and the cedi's status as a foundational source of national identity. All three members of the Bank of Ghana's executive leadership team are scheduled to speak:

- Governor Dr Johnson P Asiamah will formally open the conference with a welcome address on Tuesday 18 November.
- First Deputy Governor Dr Zakari Mumuni will deliver the keynote presentation, 'e-Cedi – A Strategic Vision for Ghana's Digital Currency'; and
- Second Deputy Governor Matilda Asante-Asiedu will offer closing remarks to conclude the event on Wednesday 19 November.

More than 30 presenters and panellists in total, from throughout the currency and payments ecosystems, are scheduled to join the program.

An international event

Though first and foremost a cause for national celebration among Ghanaians, the themes animating the Cedi@60 conference have resonated well past Ghana's borders, resulting in widespread interest from all corners of the African continent and beyond. The Bank of Ghana anticipates an audience of more than 600 attendees, with as many as 200 international guests expected to take part.

In response to a direct invitation from BOG, several African central banks have already registered or signalled their intention to join the festivities, including those of Angola, Botswana, Egypt, Eswatini, Gambia, Kenya, Madagascar, Namibia, Rwanda, Seychelles, South Africa, South Sudan, Tanzania, and Zambia.

The Cedi@60 Anniversary Currency Conference also counts many of the leading organisations in banknote production and digital payments among its supporters. Crane Currency, De La Rue, Giesecke+Devrient, CPS, Crunchfish, ECM, Jura, Kurz, and SICPA will all appear on the conference program to discuss topics such as banknote design, cash processing and distribution, offline payments, cross-border interoperability, CBDCs, counterfeiting, and financial inclusion, among many others.

A unique social program affording delegates a distinctly Ghanaian experience will bookend the main conference agenda. On Monday 17 November, attendees will be treated to a behind-the-scenes tour of the infrastructure powering Ghana's economy – the Bank of Ghana Cash Centre – followed by an evening welcome reception along Accra's Labadi Beach. To conclude the Cedi@60 experience, delegates are invited on a guided cultural tour of Accra, exploring the city's rich history and attractions.

The Cedi@60 Anniversary Currency Conference, which is being held at the Accra International Conference Centre, is free for all Ghanaian organisations and most international financial institutions, including central banks, commercial banks, regulators, NGOs, et al.

For more information, visit www.currencyresearch.com.

The Future of Cash Management: Navigating Change, and the Fight for Payment Choice

■ **By Marci Chavez, International Association of Currency Affairs (IACA)**

As digital payments grow and cash usage at the point of sale declines, the individual cash cycle stakeholders are all facing certain challenges brought about by these changes that could risk their ability to continue to function – UNLESS we can understand their challenges, identify the risks, mitigate the risks and make changes not only to adapt to this new environment – but make changes to avoid future events and failures.

IACA has been delving into the key cash stakeholders to dissect the risks, threats and opportunities facing each. The recent IACA webinar, 'A Look at the Future of Cash Management Services (CIT/Cash Processors)', brought together leading voices from across the globe to understand the CMC (Cash Management Company) perspective.

The panel featured Scott Forster (CPT Group, Australia), Tanja Kulisch-Ziemens (International Security Ligue), and Charles Nwodo Jr (Integrated Cash Management Services Limited, Nigeria), moderated by David Fagleman (Enryo Consulting).

Each brought a unique perspective, shaped by their region's regulatory, technological, and societal context.

Nigeria: digital growth, cash resilience, and regulatory tensions

Charles Nwodo Jr painted a paradoxical picture of Nigeria's cash landscape. Despite a highly efficient digital payments system and 'cashless' policies from the Central Bank of Nigeria, demand for cash remains robust – especially in rural and underserved communities. Between 2014 and 2024, cash transactions at POS terminals dropped by 59%, yet cash in circulation hit a record 5 trillion naira in August 2025, with 90% of it circulating outside the formal banking system.

Charles highlighted several challenges:

■ **Regulatory challenges:** difficulties enforcing banknote fitness standards and circulation guidelines can undermine trust, operational efficiency and counterfeiting.

■ **Financial unsustainability:** a combination of imposed price controls and market-driven operational costs have left CMCs and CITs undercapitalised and unable to reinvest to scale up.

■ **Infrastructure gaps:** poor roads, unreliable electricity, and security challenges hamper operations, while technological upgrades remain out of reach for many operators.

■ **Policy contradictions:** efforts to 'criminalise' cash use as part of the measures to drive the public towards a 'cashless society' threaten both operators business and citizens' rights to payment choice.

His warning was clear: without investment and regulatory reform, the risk is not just to business viability, but to citizens' constitutional rights and economic inclusion.

Europe: modernisation, public-private partnership, and the battle for perception

Tanja Kulisch-Ziemens offered a European and global perspective, noting that while cash's share of transactions has declined (from 70% in 2019 to just over 50% today in the euro area), the value of cash in circulation continues to rise. People increasingly view cash as a store of value and a safeguard in uncertain times.

Kulisch-Ziemens identified three forces shaping the industry:

■ **Technology:** both an enabler and disruptor, driving efficiency but also accelerating digital alternatives.

■ **Policy and regulation:** too often lacking clarity, consistency, or effectiveness in protecting public money and ensuring access.

■ **Narrative and perception:** digital payment providers have outspent the cash sector in marketing, reshaping consumer behaviour and policy debates.

She argued that the real issue is not the decline of cash per se, but the need for clear roles, effective regulation, and a robust distribution network. Mandatory cash acceptance regimes are emerging, but often lack teeth. The risk, she warned, is societal: exclusion of vulnerable groups, loss of resilience when digital systems fail, and erosion of monetary sovereignty.

Australia: a cautionary tale of decline and consolidation

Scott Forster's account of Australia's cash cycle served as a warning to other markets. Once a model of efficiency and harmony, the system has suffered a dramatic reversal. Declining cash use (from 60% to the mid-teens over a decade) triggered unsustainable business models and fierce competition between two dominant CMCs. As margins collapsed, the industry became loss-making, prompting a government-sanctioned merger to stave off systemic failure.

Even after consolidation, sustainability remains elusive. Major banks and retailers have stepped in with funding, but the market continues to shrink. Regulatory interventions – such as regulated pricing and cash acceptance mandates – are now on the table. Forster's message: all markets are vulnerable to similar 'shrinking pains', and proactive, collaborative action is essential.

Key recommendations and the path forward

The panel converged on several recommendations for a healthy, sustainable cash cycle:

■ **Regulatory support and clarity:** regulators must enforce guidelines that protect and promote cash, clarify roles, and foster collaboration across the value chain.

■ **Public-private partnership:** the cash system is, and must remain, a partnership between central banks, commercial banks, and CMCs. Each has a role in ensuring access, resilience, and trust.

■ **Economic viability:** CMCs must be able to operate sustainably, with pricing models that reflect true costs and allow for reinvestment and innovation.

■ **Legislative protection:** some countries have enacted laws guaranteeing the right to use cash; others should follow suit to safeguard payment choice and inclusion.

■ **Proactive monitoring:** stakeholders must closely monitor the health of the cash cycle, share data, and act early to address emerging risks.

■ **Narrative shift:** the industry and central banks must do more to communicate the societal value of cash—resilience, inclusion, and sovereignty—especially as digital alternatives proliferate.

Conclusion: cash as a pillar of choice and trust

The IACA webinar made one thing clear: cash is not just a payment method, but a pillar of trust, inclusion, and national security. As digital innovation accelerates, the challenge is not to resist change, but to ensure that cash remains a viable, accessible, and valued option for all. The future of cash management will depend on the framework provided by legislators and the accountability of central banks themselves for their public money, besides the industry's ability to adapt, collaborate, and advocate—not just for itself, but for the societies it serves.

(The webinar overran due to the sheer number of questions from the audience. As a result a follow-up session has been organised for 19 November to allow more questions and more discussion. To find out more, visit www.currencyaffairs.org).

Note and Coin News

Brunei Reveals Features for New Banknote Series

Brunei Darussalam Central Bank (BDCB) has provided more details of its new banknote series in denominations of BND1, BND5, BND10, BND100 and BND500, which are scheduled to enter circulation in the first half of 2026.



This is the first significant redesign of Brunei's banknotes since 2006. The new notes have a visual design and colour palette similar to the notes currently in circulation. The familiar images include portraits of His Majesty Sultan Haji Hassanal Bolkiah, the current Sultan of Brunei (on the 100 denominations) and Al-Marhum Sultan Haji Omar 'Ali Saifuddien,

the previous Sultan and father of the current Sultan (on the new 500), as well as national symbols and icons. Thus, says the BDCB, the new banknotes will remain recognisable and familiar to the public, preserving their strong national identity and heritage.

Printed on GUARDIAN™ substrate, the security features integrated into the

substrate of the five new banknotes include complex clear windows, which appear in full and half formats on each of the notes. These windows contain culturally significant motifs, including prominent mosques and local patterns.

Each of the five new GUARDIAN notes also includes the following security features:

- **AURORA™** – a dynamic combination of two colour-shifting G-SWITCH™ inks. Tilting the note displays a simultaneous set of colour transitions, at the window edge, and within a pattern.
- **METALIX™** – a breakthrough effect with brilliant sheen and lustrous colour. A metallic sheen appears as a vertical pattern in one of the three colours selected when the note is tilted.
- **VIVID WHITE™** – a fluorescent ink that is revealed under exposure to ultraviolet light.

The new banknotes also feature shadow images, ultraviolet elements, and third-party security features, including SICPA's SPARK® Live Sandune effect – a colour-shifting pattern in the shape of a bunga jambangan (or a calak kuya) that changes between different colours per denomination.

A new DOMINO™ tactile embossed feature assists the visually impaired, with the corner of each denomination displaying a unique arrangement of raised dots.

In Other News...

■ The Central Bank of Luxembourg (CBL) has unveiled the designs of the country's updated euro coins which feature HRH Hereditary Grand Duke Guillaume – who succeeded his father, Grand Duke Henri, in early October – on their national side. The new coins will enter circulation at the beginning of 2026. In accordance with tradition, the orientation of the monarch's portrait changes with a new reign, so Grand Duke Guillaume is looking towards the left in the portrait depicted on the coins.



The 1, 2, and 5 cent coins feature a stylised version of the Luxembourg flag to the right of a partial portrait of the Grand Duke. The 10, 20, and 50 cent coins feature a stylised

version of the Luxembourg flag to the left of a full portrait of the Grand Duke. The €1 and 2 coins depict the Grand Duke in full profile.

CBL launched a tender for the production of the new coins at the beginning of August, with the designated mint yet to be announced, and the total quantity of coins to be minted in 2026 similarly currently undetermined. As a guide, around 9 million Luxembourgish coins were minted with year-date 2025. The coins with the new Sovereign's effigy will be released over the course of next year, with all eight denominations to be minted bearing the year-date of 2026.

■ The six finalists for the design of the new Swiss banknote series have been named, based on the results of a public survey and an evaluation conducted by an advisory board of external experts

The design competition for the tenth series – themed 'Switzerland and its Altitudes' – was opened late last year. From an original 300 submissions, a shortlist of 12 teams and individuals were selected to take part in the next phase. Their designs were put

to a public vote, in which over 100,000 people took part.

In this final stage of the competition, the designers will now clarify possible collaboration and commercial aspects with the SNB. The winner will be announced in the first quarter of 2026.

The shortlist of six designs can be viewed at www.snb.ch/en/the-snb/mandates-goals/cash/series-10/project-series-10.

■ The Central Bank of South Sudan is reported to be issuing new high denomination banknotes to cope with unprecedented levels of inflation. The South Sudanese pound (SSP) was introduced in 2011, when the country gained independence from Sudan, and the current two highest denominations – the SSP 500 and SSP 1,000 – were issued in 2018 and 2020 respectively. It is now reported that SSP 5,000 and SSP 10,000 South Sudanese pound notes will also be issued as part of a redesign of the whole series.

... Note and Coin News

■ The Royal Mint has announced that the UK's first 5p coins featuring King Charles III's effigy are set to enter circulation, with 23.2 million of them to be distributed via bank branches and Post Offices across the UK. The coins, dated and minted in October 2023, are being released due to increased demand for the 5p denomination, marking the first time that a new design has appeared on a 5p coin in 17 years.



All new King Charles III coins now represent approximately 0.2% of the 24.6 billion coins currently in circulation across the UK. The 5p is the third design of the new series to be issued, following the release of the 50p Atlantic salmon and £1 honeybee coins in November 2023 and August 2024, respectively.

All designs within the King Charles III definitive collection have been inspired by the flora and fauna of the British Isles, in addition to highlighting the King's passion for conservation.

■ The Central Bank of Taiwan (CBT) has formally launched a project to redesign all five denominations of the New Taiwan dollar (NT\$100, NT\$200, NT\$500, NT\$1,000 and NT\$2,000) – the first major redesign since 2001.

According to CBT, the objectives are to improve security, enhance accessibility for the visually impaired, and align with sustainability goals by using more eco-friendly materials and greener production processes.

CBT will set up a Banknote Theme Advisory Committee to solicit public and expert input on imagery, themes and motifs. They are likely to keep the same size, dominant colours, and substrate (cotton paper) in order to minimise costs and disruption. And it is reported that, unlike the current series, they will not feature political figures.

The use of enhanced features and greener materials is expected to add around NT\$1.5 to the cost of each note (c. 5 US cents). The increase will be the same across all denominations.

In terms of timing, no dates have been set, but the first redesigned note is expected to

be issued about 2½ years after the theme selection stage.

■ Following months of speculation, the Central Bank of Syria (CBS) has revealed plans for a new banknotes series, comprising six denominations. They will be free of traditional images, national symbol, portraits and landmarks, and will have an abstract/minimalist design. The intention is to convey transparency, functional clarity, and a break from previous series that heavily featured historical or political imagery

They will also incorporate as yet undefined enhanced security features, provided by 'two or three reliable international sources', along with tactile markings for the visually impaired.

The launch of the new currency is part of a broader strategy to resolve Syria's chronic cash shortages, particularly by replacing worn-out banknotes and injecting higher-quality, longer-lasting notes into circulation. The project is described by CBS as a modernisation exercise, not a money-supply expansion, with the objective being to replace worn-out or old currency, improve cash circulation, and build confidence.

Full details on each note, including size, value, and security features, will be released in due course, following the completion of printing and technical preparations.

■ The Central Bank of Iran (CBI) has issued new 'Iranian Checks' with face values of 500,000 and 5 million rials. Although not an official currency, the checks have all the hallmarks of conventional banknotes – with security features and a design that reflects Iran's cultural heritage, including an image of the Imam Reza Holy Shrine on the 500,000 rial and the 18th-century Agha Bozorg Mosque in the city of Kashan on the 5 million rial.

Both checks are denominated in toman as well as rials (a toman is worth 10 rials). This is against a backdrop of a planned redenomination of the currency, that will see four zeros removed, but the name rial retained in favour of the toman (see CN August 2025) – a change that was approved by Iran's Parliament in early October.

Under the legislation, both old and new rials will circulate for up to three years during a transition period. CBI must establish operational procedures within two years of enactment and publicly announce the start of the change through official media. After the transition period, all financial obligations denominated in the current rial will be settled using the new unit.

The CBI will also be responsible for managing the withdrawal of old banknotes and coins and for setting foreign exchange rates under the country's current exchange regime.

■ As part of this year's celebrations marking the 1,000th anniversary of the Kingdom of Poland, the National Bank of Poland (NBP) will issue a commemorative 20 zloty banknote on 5 November.

The note commemorates Bolesław the Brave, who was Duke of Poland from 992 to 1025 and the first King of Poland in 1025. His portrait also appears on the standard 20 zloty note used in everyday transactions.

While the note is legal tender, only 70,000 will be issued and are likely to be snapped up by collectors for pricing several times in excess of their face value.

Earlier this year, in April, the Polish Mint also released a collection of gold and silver coins honouring the reign and coronation of Bolesław the Brave.



■ The Central Bank of Russia is reported to have cancelled a public vote to select cities and locations to appear on the new 500 ruble banknote, following evidence that it was being rigged in favour of Grozny, in Chechen. Voting will be held at a later date, under stricter conditions.

Separately, the Bank has approved the updated design of the 1,000 ruble banknote, which features a Meteor motor ship, an example of Soviet-era hydrofoil technology. It was chosen in place of the original image of a museum, which had formerly been a church. The absence of a cross on the building drew condemnation from the Russian Orthodox Church, leading to the image being shelved.

Reinventing Banknotes to Empower Young Learners Around the World

Traditionally, banknotes have served as children's first tangible interaction with money, helping them develop essential numeracy and financial skills. Recent research underscores that physical cash provides a more concrete understanding of money for young people compared to digital payments, making it a powerful medium for teaching core concepts like earning, spending, saving, borrowing, and budgeting.

Recognising the global deficit in financial literacy – especially among populations most reliant on cash – Koenig & Bauer Banknote Solutions partnered with AFLATOUN International in 2023 to address this challenge (see CN August 2023). AFLATOUN, a leader in youth financial and life skill development, operates in over 110 countries through a network of 350 NGOs.

Their collaboration led to the creation of BeeSmart, a digital learning tool (see CN May 2025) and now MoneyBox, an immersive, banknote-based educational system designed to maximise learner

engagement and retention while focusing on the five pillars of financial literacy (Earn, Spend, Save, Borrow, Budget).

MoneyBox is more than just educational banknotes; it's a comprehensive system comprising 12 interconnected components, including a learning curriculum, teacher-facing app, exercises, games, persona cards, budgeting materials, multimedia content, data analytics, a reward system, and certification. The system mirrors real-life financial activities, guiding learners through a year-long, budget-focused journey that is simple, engaging, and data-driven.

The banknotes themselves are designed with input from child education specialists and cognitive neuroscience, featuring subject-specific reference points and reflective exercises that address broader themes like gender equality, employment, climate, and sustainability. Learners begin by envisioning their future earning potential, assume personas, and navigate real-life financial scenarios, earning micro-credits that can be redeemed for rewards and formal certification, which may grant access to banking services.

Moneybox is currently being piloted in 18 countries, and has already reached 25,000 children, supported by 1,700 trained teachers and extensive collaboration with central banks, ministries, and NGOs.

The initiative aims to scale rapidly, with a goal of reaching 1 million learners by 2026 and 50 million by 2050, leveraging international support and funding.

A more detailed article on MoneyBox will appear in the November issue of Currency News™.

Events

3–5 NOVEMBER 2025

THE FUTURE OF CASH

Warsaw, Poland

thefutureofcash.com

3–6 NOVEMBER 2025

**THE AMERICAS CASH
CYCLE SEMINAR**

Miami, Florida

currencyresearch.com

10–13 NOVEMBER 2025

MINT AND PRINT

Istanbul, Turkey

mintandprint.com

1–3 DECEMBER 2025

HIGH SECURITY PRINTING ASIA

Kuala Lumpur, Malaysia

hsp-asia.com

2–4 MARCH 2026

HIGH SECURITY PRINTING EMEA

Rabat, Morocco

hsp-emea.com

Publisher: Currency Publications Ltd (a Reconnaissance/Currency Research company).

Editor: Astrid Mitchell (right).

Editorial Advisors: Richard Haycock, Martyn White.

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Annual subscription rate: from **£1,595** plus postage (also includes the Currency Index database and Currency Publications bi-weekly updates). Ask about subscriptions for multiple access, including to the Currency News e-publishing platform.

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ISSN 2516-6336