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Where we'll meet next year: Lyon, 6 to 8 April, 2022

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www.intergrafconference.com
www.intergraf.eu

Contents

Editor-in-chief: Beatrice Klose
Editor: Manfred Goretzki
Editorial office and publisher:
Intergraf, 130 A, Avenue Louise
B-1050 Bruxelles
T. + 32 2 230 86 46
F. +32 2 231 14 64
intergrafconference@intergraf.eu
Advertising inquiries: Manfred Goretzki

Inching towards normality

This issue of Infosecura tries to give a larger picture of the two sides of our industry by looking at the economic and political backgrounds. Using a paper by two German economists, we take a look at the 'cash paradox', which sees a decline in the daily use of cash but an increase in the number of banknotes in circulation. We also, once again, look at central Bank digital currency and ask; 'has the time of CBDC finally come". And then there is the role of the Euro and the US Dollar in the area of reserve currency, is one rising and the other declining?

The identity side of our industry is looked at in similarly broad terms. 'What's next in ID documents' is based on a conversation with a highly respected EU expert. The planned "European Digital Identity Wallets", which may have a great influence on the way, EU citizens interact with officialdom in any EU member country, are given an airing. And one EU agency which has been given greater responsibility and which in the coming month will undoubtably be in the lime-light, is given a critical look.

The big story, not in the space it has been given, but in the importance to those that have been coming to Intergraf security printer events, is the decision to hold the next INTERGRAF CURRENCY+IDENTITY conference in Lyon in France on April 6 to 8, 2022. It is a decision backed by lots of confidence and by an even greater amount of hope. Hope that the COVID 19 pandemic will have been over-come in sufficiently many countries to enable our usual gathering of currency and identity experts in person. The event is still over seven months away and Intergraf is confident that the many experts that have predicted a sufficient retreat of the pandemic, will be right. However, Intergraf is very conscious of its responsibility towards its delegates and its staff and will always act accordingly.

The Editor

INTERGRAF
CURRENCY+IDENTITY
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LYON I FRANCE

WE'LL BE THERE TO WELCOME YOU

The logo on this page may be familiar to some readers. Intergraf used it in Infosecura 82, published in December 2019 to introduce the planned conference and exhibition, which was to be held in March 2021. But shortly after that date our - and everyone's - world changed. Intergraf is now confident, that in April next year we will be able to do what we were prevented from doing last time. The name of the event has changed manwhile, it is now INTERGRAF Currency+Identity instead of Securityprinters Banknotes+Identity and the programme got a 'post COVID 19' slant, but what the conference sets out to do is more important than at any time before - to chart the future of the industry.

Much of Europe is returning - carefully and hesitantly, with fingers crossed - to normality, although it still feels as if we are taking two steps ahead and one step back every time we move. Still, there is progress and renewed confidence. Intergraf is confident that in early April next year we will meet again in person at INTERGRAF Currency+Identity Conference and Exhibition in Lyon, France on April 6 to 8. The association's optimism is shared by the majority of Intergraf's regular exhibitors, who already have booked 70 per cent of available exhibition spaces. The industry, both on the currency and on the identity side, has not stood still during the pandemic. When exhibitors set up their stands in April next year, they are ready to show new products, new designs and new ideas. And the staff on the stands will be ready to talk, to explain and to inform, just like before the hiatus of the physical event.

The programme, Intergraf's committee of experts is preparing, will also provide a highly topical and informative look at the post-pandemic world. We will start on Wednesday with a plenary session called 'Currency and identity: preparing for the future'. COVID-19 has had a profound impact on the role of our products in every society. Both on the currency and the ID side, increased digitalisation and the advent of new payment technologies, are creating new opportunities and new uncertainties. This session will take stock of the situation and try to see where we are going.

The headings of the following sessions on Wednesday, Thursday and Friday already give an indication of the breadth of subjects, the conference will present. On the currency side there will be:

- Post-COVID-19 commerce: will it really be cashless or just less cash?
- Currency management today and tomorrow;
- The evolution and revolution of Central Bank Digital Currency;
- Access to cash: challenges and new approaches;
- Banknotes - making them a desirable and sustainable product.

On the identity side we will have:

- How did the pandemic change the identity and travel continuum
- Old dog – New tricks: new security features and new forms of identification
- Coexistence of physical and digital identity
- Digital Travel Credentials – the next era of identification?
- The latest in counterfeiting technologies and the need for second-factor authentication

The 'finale' of the conference, will be a panel discussion with experts from both sides of the industry with the subject of 'Reinventing the future of currency and identity'.

The entire world has been deeply affected by COVID-19. And so has our industry, be it by the reduction in the daily use of cash or by the restrictions on the movement of people. This panel will explore the lessons learned from the outbreak, and how these may contribute to reshaping the future of our currency and identity documents.

Although the programme is still at the confirmation stage, the Committee of Experts is getting the final agreement of speakers. Registration to the conference opens on November 2, 2021.

AND NOW TO LYON

In the December 2019 issue of Infosecura we announced that the next Currency+Identity Conference and Exhibition would be held at the Palais des Congrès in Lyon, France, in March 2021. We all know that instead, it took place roughly at the same time but mainly in your office or living room in front of a screen. Now we will finally see, what we have been missing.

A LOOK AT LYON

Declared a UNESCO World Heritage Site in 1998, the city of Lyon dates back over 2000 years. Since its foundation on Fourvière hill by the Romans in 43 BCE, the city has expanded from west to east, building on the advantages offered by its two hills and two rivers, the Rhône and the Saône. Fourvière hill, now one of the 'quartiers' of the town is home to the remains of Lugdunum, capital of the Gauls during the Roman Empire. Two ancient theatres recall Lyon's earliest times: the grand theatre, built in 1 BCE, and extended in 1 CE, was dedicated to drama and could hold up to 10,000 spectators. The small theatre, known as the Odeon, built in 1 CE, was a venue for public readings and recitals.

Between Fourvière Hill and the Saône, Vieux-Lyon (Old Lyon) has preserved its narrow Renaissance streets. At that time Lyon hosted fairs that drew merchants from all over Europe to trade. Its fifteenth and sixteenth-century buildings were home to rich families of Italian, German and Flemish merchants and bankers. Vieux-Lyon can be explored by stepping through doorways into its traboules (hidden passageways through buildings connecting streets) and inner courtyards, which reveal the wealth of their former owners. While the buildings' facades may seem simple, this is to better show off their decorations to visitors who venture through the doorways!

Around the Gothic Saint-Jean Cathedral, Rue Saint-Jean is lined with restaurants and high-end shops.

The second of Lyon's hills presents visitors with an amazing sight, with its buildings standing in rows up the hillside. Since the nineteenth century, Croix-Rousse has been known among locals as 'la colline qui travaille' (the working hill), in contrast to Fourvière, 'la colline qui prie' (the praying hill). Home to the silk-workers of Lyon in the nineteenth century, the hill resounded with the sounds of the 'Bistanclaques', a local nickname given to the looms.

30,000 'canuts' (as Lyon's silk-workers were known) made this an industrious district and helped Lyon become a major centre for textiles in Europe. Les Pentes (the slopes of Croix-Rousse Hill) have a true neighbourhood community and village spirit that make their residents proud to be 'croix-roussiens'.

The liveliest area of Lyon is la Presqu'île, between the Rhône and Saône, where the city's main shopping streets can be found. Urbanised for the first time during the Renaissance, the Presqu'île district has been expanded several times and now includes Rue Mercière, showing traces of its past and hosting Lyon's bustling nightlife!

The Palais des Congrès de Lyons, designed by the celebrated architect Renzo Piano, is located close to the city center on a bend of the river Rhône in a newly built district of the town, the Cité Internationale. It sits directly across from one of Europe's largest urban parks, the Parc de la Tête d'or, and close to Interpol's world headquarters.

Lyon is perhaps most famous for its cuisine, a place of well-being and of dining and wining splendidly. But it also is and always has been, a city of commerce, and today it is a major centre of banking, and it is host to a significant software industry and in recent years has fostered a growing local start-up sector.

Importantly, Lyon has excellent air and rail connections, with flights to most European countries, Africa and the Middle East. The city is part of the high-speed rail network that connects the important cities in France and the rest of Europe. By high-speed TGV train the journey from Paris takes only two hours (a train every 30 minutes), 3 hours from Lille, 1.40 hour from Marseille (22 round trips daily), 5 hours from London (by Eurostar) and 5.10 hours from Barcelona. The TGV also serves Chambéry, Annecy and Brussels.

Lyon's Saint-Exupéry Airport links the city to over 130 destinations, with direct flights to more than 40 countries. At the airport there is a travel ticket office, where you can obtain information and buy public transport tickets (for shuttles and the Rhônexpress tram that connects the airport and the La Part-Dieu train station in less than 30 minutes). ■

Photos: Bureau de Tourisme, Lyon

On 23 June 2021 the Bank of England issued its new £50 banknote, the last in its new series of polymer notes.

The new note carries the portrait of the Queen and on the revers side, that of Alan Turing, a mathematician and code breaker during World War II. Speaking at Bletchley Park, where Turing carried out his famous codebreaking work, BoE Governor Andrew Bailey said: "Our banknotes celebrate some of our country's most important historical figures. That's why I am delighted that Alan Turing features on the new polymer £50 note. Having undertaken remarkable codebreaking work here at Bletchley Park during the Second World War, he went on to pioneer work on early computers, as well as making some groundbreaking discoveries in the field of developmental biology. He was also gay and was treated appallingly as a result. Placing him on this new banknote is a recognition of his contributions to our society, and a celebration of his remarkable life."

Among the features on the note are a photo of Turing taken in 1951, a table and mathematical formulae from Turing's seminal 1936 paper "On Computable Numbers, with an application to the Entscheidungsproblem" Proceedings of the London Mathematical Society. This paper is widely recognised as being foundational for computer science. Further there is the Automatic Computing Engine (ACE) Pilot Machine which was developed at the National Physical Laboratory as the trial model of Turing's pioneering ACE design. The ACE was one of the first electronic stored-program digital computers, technical drawings for the British Bombe, the machine specified by Turing and one of the primary tools used to break Enigma-enciphered messages during WWII and a quote from Alan Turing, given in an interview to The Times newspaper on 11 June 1949: "This is only a foretaste of what is to come and only the shadow of what is going to be."

The polymer £50 note contains advanced security features, completing the series of polymer notes that includes the the Churchill £5, the Austen £10 and the Turner £20. ■

INSIDE THE UK'S MONEYMAKING FACTORY WHERE CASH IS STILL KING

The Financial Times, one of the world's leading financial dailies, in late May, looked at cash production at the Bank of England's printing work in Debden near London, which is operated by one of the world's largest banknote printers.

It seems counter-intuitive in Covid, but when there are worldwide crises, demand for cash goes up, said Clive Vacher, chief executive of De La Rue, the 200-year-old FTSE 250 listed company that holds the contract to print currency at the site. "Cash is still the dominant system in many countries around the world. Volumes are rising."

Images: Bank of England
right: Bank of England Printing Works, Debden

In 2020, the Debden factory in Essex manufactured more than 1.3bn banknotes for the Bank of England - which owns the factory - and other central banks around the world. This year, its printing presses have started to run all day, every day, for the first time, to meet demand and take on work from closed facilities elsewhere. The FT writes that during a rare visit to the 1950s double-humped building — designed by the firm behind the Sydney Opera House — the presses were busier than ever; the noisy activity belied expectations that the appeal of cash may finally be coming to an end.

Bank of England data suggest people are spending less cash, but the total value of banknotes in circulation has increased as they appear to want to hold more of it. In 2019, 23 per cent of all payments were made using cash, down from close to 60 per cent a decade earlier, as people turned to debit cards and digital payments. But between 2005 and 2017, the value of banknotes in circulation doubled — a paradox the Bank of England explains in part by people ascribing cash a greater role as a store of value.

Covid has not changed this trend even though it has forced millions of people to stay at home and closed businesses. The volume and value of cash withdrawn from the ATM network overseen by Link was about 60 per cent lower in March last year, compared with the same period in 2019, and was still about 40 per cent lower by October. But the number of notes in circulation reached a record high of 4.4bn — worth £76.5bn — in July 2020.

The same trend has been measured by the European Central Bank. At the end of 2020, the value of euro banknotes in circulation amounted to €1.4tn — an increase of 11 per cent compared with 2019. The only time the growth rate was higher was during the months following the Lehman Brothers collapse in September 2008, the ECB said.

The Bank of England has also pointed out that at any one time only about a fifth of UK banknotes are used for recorded domestic transactions — the remainder is held as a store of wealth by individuals and overseas investors, or for what the Bank of England calls the "shadow economy" — cash-in-hand services and crime. British MPs on the public accounts committee said in a report last year that more than £50bn in cash was unaccounted for.

COMFORT IN CASH

De La Rue serves more than the Bank of England at the Debden site, with orders for more than 30 central banks planned for this year, often for countries where ecommerce is less developed than the UK. The company estimates there are 620bn banknotes in circulation globally, with 170bn printed every year. About 19bn are printed commercially, with De La Rue holding the largest share, at 7bn, the Financial Times claims.

Image: Bank of England

"People are withdrawing more cash around the world, which seems to indicate there is some reassurance in having banknotes just in case, even in parts of the world where banknote demand is in decline," said Nikki Strickland, head of product marketing at De La Rue. She pointed to growth in parts of Asia, Africa and the Middle East where "cash plays a fundamental part in billions of people being able to transact".

Once UK banknotes have been printed, they are sold to members of the Note Circulation Scheme at a profit for the BoE. They are then supplied to banks, ATM operators and merchants. Excess notes are recirculated, which means they are used many times without needing an overall increase in number.

In recent months, De La Rue has won contracts to make close to two-thirds of the polymer for £5 and £10 notes for the UK. The £20 is the most popular banknote — the "work horse", as Vacher calls it — though he questions whether inflation will slowly make the new £50 more popular as a means of transaction.

The FT writes that making money is again proving moneymaking for the company. A cost-cutting turnround plan under a new chief executive is starting to pay off: in a trading statement in April, De La Rue said operating profit for the financial year would be around the top end of its forecast range.

But even among the bustle of the Debden warehouse, there are fears that the longer term popularity of cash is starting to wane in more developed nations.

According to a survey by the Bank of England last year, a third of consumers expected to make more non-cash payments. Retailers have said cash payments should recover after the pandemic but few expect a return to pre-Covid levels. "Covid may ultimately have longer lasting effects on cash than on electronic payments," the Bank of England said in a report on the cash paradox.

When cash starts to decline, the fall can be rapid. In Sweden, cash payments fell by four-fifths in the decade after the 2008 financial crisis. According to a separate Bank of England report in 2019, "the UK may only be four to six years behind". ■

IN A CRISIS THERE IS SAFETY IN CASH

At the beginning of the Covid pandemic, signs in shops saying "No Cash Please" were common, but instead of banknotes disappearing, the opposite happened. Two German economist shed some light on the issue.

That cash is in danger of disappearing has been a subject of discussion and worry in the industry for years. Since 1998, some economists have even advocated its abolition, usually saying that cash will disappear anyway, due to the increasing use of electronic means of payment. A working paper by two German economists, issued by the Institute for Monetary and Financial Stability in Frankfurt, (http://hdl.handle.net/10419/229444) argues the opposite, namely that in the last 30 years, demand for cash has been rising, not only globally, but also in the most important currencies in advanced countries (USD, EUR, CHF, GBP and JPY). The paper shows that the increase in the use of cash is especially noticeable in the time of crises of different kinds and natural disasters, such as Covid 19. Additionally, there seems to be a trend in the change of the use of global cash from paying for goods or services - transactional use - to hoarding, which may explain the disproportional growth of large denominations.

During the Covid pandemic, all around the world, the demand for cash increased strongly, despite successful efforts from the retail sector, FINTECH, and the card industry to convince consumers to use electronic payments more intensively. This means that other motives for holding cash must have overcompensated this decrease in cash transaction balances.

One important factor is that worldwide inflation rates have decreased considerably since the early 1990s, reducing nominal interest rates and opportunity costs for cash holders, which alone could have contributed to the increase in global cash demand during this period. But it does not totally explain the trend shift over time towards non-transactional demand for cash.

CASH DEMAND IN THE Y2K CRISIS

The working paper looks at three different crises, the technological crisis or Y2K crisis (2000), the financial market crisis (October 2008), and the Covid 17 crisis (2019/20) to provide an answer. The huge increase in the global demand for cash during the technological crisis around the turn of the year 2000 was caused by heightened uncertainty because of fears that the re-setting of computer program dates to adjust for the new millennium would have led to a shutdown of important institutions such as public utilities. But also the smooth functioning of payment systems and cash withdrawals from ATMs were in question. The global surge of cash then was driven by an increased demand for banknotes provided by central banks of large currency areas (US dollar, Deutsche Mark, UK Pound, Japanese Yen and Swiss Francs).

If we assume that small denomination banknotes are used for transactions and large denominations for hoarding, we can see that in the USA, both transaction and hoarding motives have probably been equally important during the Y2K crisis, explaining the annual growth rate of the (only) large denomination (US$ 100) of 20 per cent in comparison to the respective rate of the small denominations (US$ 1-50) of 25 per cent. The high increase in the US$ 100 banknote also points to foreign demand for US dollars, further suggesting the importance of non-transaction motives around Y2K.

In Japan, the Y2K cash demand grew over 15 per cent. However, the denominational breakdown was different. At the end of 1999, the annual growth rate of the only large Japanese banknote denomination (Yen 10,000) stood at 18 per cent, exceeding the growth of small denominations (Yen 5,000 – 500) of 5 per cent.

In Switzerland, the main reason for the large increase in demand for Swiss Francs at the end of 1999 was hoarding, with an annual growth rate of 12 per cent. Especially the larger denominations (CHF 200, 500 and 1,000) were heavily in demand with an annual growth rate of 14 per cent. Similar growth rates of high denominations occurred around the terrorist attacks of September 11, 2001. Once again, foreign demand played a significant role at that time.

Because of precautionary and uncertainty reasons, in the United Kingdom, too, the demand for UK£ surged in the wake of Y2K with a growth rate of well over 12 per cent at the end of 1999, which remained at a fairly high level afterwards. One year before, it stood at just 5 per cent. This steep increase in the demand for GBP banknotes reflected domestic demand and was nearly exclusively driven by the small denominations.

As Euro banknotes only appeared after the Y2K crisis, the most important European currency at that time was the Deutsche Mark (DEM). The demand for DEM banknotes also increased markedly at the end of the millennium, with small DEM transaction denominations (DEM 5 – 100) showing a annual growth of well over 8 per cent, even higher than the growth rate of large DEM denominations (DEM 200 – 1000) of 6.5 per cent.

The drastic increase in global cash at end of the last century was caused by the desire to hold additional transaction balances as well as hoarding. Not only the US dollar banknote issuance rocketed, but also all the other major currencies (DEM, CHF, JPY, GBP) were heavily in demand.

Although it is hard to quantify exactly the different motives of holding additional cash around Y2K it seems obvious that once the confidence in the technological infrastructure deteriorates (technological crisis) the public seeks safety in physical money. Cash is by nature a stabilising factor at times of rising doubts about the robustness of the digital infrastructure.

CASH DEMAND IN THE FINANCIAL CRISIS (2008/09)

The insolvency of Lehman Brothers in October 2008 caused a financial turmoil in the US that quickly scaled up to a global financial crisis, which led to a visible increase in cash demand. However, compared to the Y2K crisis, the global increase in cash demand was much lower because the banknote issuance in China in Q4/2008 was hardly affected nor did overall cash issuance showed an unusual increase in Japan.

There was a structural difference between the financial crisis 2008 and Y2K with respect to cash demand. Around the millennium, it was public doubts about the solidity of the digital infrastructure that fostered the demand for cash. After the collapse of Lehman Brothers, however, the global trust in banks and the financial system deteriorated and led to a flight into cash (crisis of confidence). This time, hoarding was clearly the main motive behind the sudden demand for US 100$ banknotes reaching a peak of almost 14 per cent in April 2009. Against the background of the approaching Great Recession, the demand for small US dollar denominations (USD 1 – 50) increased only moderately.

Similarly, in the Euro area, overall cash issuance increased by around 14 per cent p.a. with that of large denominations increasing by 17 per cent in October 2008. The €500 banknote issuance of the Deutsche Bundesbank, which provides almost alone all the Euro banknotes circulating outside the Euro zone, nearly skyrocketed in October 2008.

The issuance of the Swiss Franc (CHF) also increased sharply in October 2008, by 13.7 per cent against the previous year and it was especially large denominations (CHF 200 – 1,000) with a respective growth rate of more than 17 per cent that were heavily in demand, whereas small denominations (CHF 5 – 100) were at that time growing at a rate of only 4,7 per cent. Again, foreign demand for large CHF banknotes played a significant role.

In the UK the overall cash growth rate of went from 4.9 per cent in August 2008 up to 10.2 per cent in April 2009. The annual growth rates of the GB£ 50 reached a peak of 16 per cent in March 2009. Assumably, hoarding was of major importance.

Overall, the financial crisis in October 2008 led to heavy cash demand. Although global growth rates of cash were not as high as they had been at the start of the millennium (Y2K), the declining trust in banks led to a comparably stronger cash demand in those countries where the financial crisis hit especially hard. The steep increase in high denomination banknotes in circulation suggests that hoarding was the overriding motive in this respect.

CASH DEMAND DURING COVID-19 PANDEMIC

In 2020, the outbreak of Covid-19 not only led to a drastic downturn of the world economy and a stark decrease in turnover at the point of sale but due to fears of virus contagion cash payments decreased strongly. However, at the same time global cash in circulation increased markedly but with interesting international differences in demand for small and large banknote denominations. In the US as well in the Euro area annual growth rates of small denominations exceeded those of large denominations in mid-2020 whereas the opposite was true for CHF and JPY banknote issues. The exceptionally strong increase of small US dollar denominations (22 per cent in August 2020) probably reflected predominantly domestic demand .

The Covid-19 pandemic also boosted Euro banknotes in circulation. By denomination, the €200 banknote showed the highest annual growth rate of up to 98 per cent in April 2020 because the formerly highest denomination (€500) had been withdrawn from circulation in 2019. Consequently, the growth rate of both large denominations (€200 and €500) taken together stayed only at 7 per cent in mid-2020 and well behind the rate of the small denominations (€5 – €100) of 11 per cent. This implies that during the Covid-19 crisis hoarding of small Euro banknote denominations must have intensified.

At least at first sight, demand for Japanese Yen banknotes appeared to be quite different after the outbreak of the Covid-19 pandemic. The demand for the (only) large Yen denomination (JPY 10,000) increased considerably in the first half of 2020 (at 6 per cent against the previous year) whereas small denominations showed average growth rates of only slightly over 1 per cent during this period. Overall growth of Yen banknotes spiked markedly since the outbreak of Covid-19 but by far less than in previous crises.

Banknote issues of the Swiss National Bank also increased steeply during the first half of 2020. The growth of large denominations was considerably stronger than that of the smaller ones, indicating that the demand from abroad for CHF for hoarding purposes was also substantial.

The demand for GB£ was also heavily boosted by Covid-19 probably driven by both smaller and large denominations. However, the Bank of England does not publish up-to-date data on cash by denomination. Even in Scandinavian countries like Denmark, Sweden and Norway, the Covid-19 outbreak seems to have stimulated cash demand. In these countries, cash payments declined in the last decade considerably reflecting former policy measures that – at least partly – aimed at reducing cash use.

In Sweden, especially the large denominations (SEK 10,000, 100, 500) were in strong demand. This intensified a trend which already started in 2017. In contrast, small denominations continued their decline which already began in 2015.

Taken together, global cash demand increased substantially due to the Covid-19 pandemic. The availability of means of payment surely played a role with respect to the increase in the demand for small denominations. However, the main factor behind the increase in cash in circulation seems to be hoarding for different reasons. Concerns of future tax increases might play a role, but also precautionary motives and the crisis-induced flight to physical cash due to psychological reasons.

THE TREND IN BANKNOTE HOARDING

In the course of the three crises analyzed in the paper, cash demand increased substantially. However, such single events do not necessarily change the overall trend in cash in circulation or that of single banknote denominations. The absolute increase in large denominations of selected international currencies (USD, DEM/EUR, JPY, CHF, GBP, SEK, AUD) clearly outpaced that of small denominations.

Against the background of the decreasing use of cash for day-to-day transactions, this suggests that holding cash for non-transactional purposes gained momentum over time. However, the increase in large banknote denominations was not distributed equally over the currencies analyzed. At the beginning of the 1990s, it was the Japanese Yen that accounted for almost 60 per cent of all large banknote denominations followed by USD (28 per cent), DEM (8 per cent), and CHF (3 per cent). In the following 30 years, an enormous shift towards the US dollar took place. Nowadays, well over half of the value of all (recorded) large banknote denominations are in USD, the Japanese Yen has currently a share of 32 per cent, and the Euro of 13 per cent.

At the beginning of the 1990s, the US dollar accounted for half of all small denominations (53 per cent), outweighing the shares of DEM (23 per cent), JPY (16 per cent), and CHF (4 per cent). The dynamics in the demand for US dollar in the following three decades concentrated mostly on large denominations in part also reflecting a strong foreign demand. The latter is also true for the demand for Swiss Francs, whereas the stark increase in large JPY banknote denominations was almost exclusively driven by an increase in domestic demand. Hence, the relative share of small denominations provided by other countries went up considerably. Now, the Euro comprises 67 per cent of all (recorded) small denominations, as their growth rates were relatively high by international comparison (nearly 500 per cent over 18,5 years). Nonetheless, the US dollar share in “global” small denominations is still well over 20 per cent, followed by all other currencies with shares less than 5 per cent. Although the issuance of small Euro banknote denominations was extremely high since 2002, the observed overall shift of global demand towards higher banknote denominations is not in question.

CASH JUST CHANGED ITS DOMINANT USE

Despite the increasing use of electronic payments worldwide, the notion that cash loses importance over time in general can be clearly refuted. The observed increase in global cash in circulation over the past 30 years cannot be attributed to cash issues of developing countries that might overcompensate a supposed reduction in cash demand in more technologically advanced economies. To the contrary, the overall development was strongly driven by the traditional “hard currency” central banks in an environment of declining interest and inflation rates. And especially in times of severe crises, an additional stimulus to cash arose, no matter what kind of crises occurs. However, in the increase in global cash demand there is a shift from transaction balances towards more hoarding.

The paper shows that cash seems to play an important part in successful crisis management. The possibility of having access to cash reduces uncertainty during a crisis and can be interpreted as a special kind of public insurance service. Once payments in cash reach a critical lower level, it becomes unattractive for retailers to accept and for banks to supply and offer the possibility to deposit banknotes and coins. An alarming example in this direction is Sweden, which came in the past years already quite close to this lower threshold. The latest action of the Swedish Central Bank to reverse this trend speaks for itself. ■

CBDC: HAS ITS TIME COME?

It certainly looks as if Central Bank Digital Currency has found the support or at least the acquiescence of a large number of central banks. This does not spell the end of cash as we know it, as both are supposed to exist alongside each other, but CBDC would certainly diminish the role of cash. Support of CBDC among the general public is of course a different matter and the public's love of electronic payments cannot be equated with support for CBDC, as most people probably have never heard of it. But any success of CBDC will ultimately depend on the acceptance and use of it by the great public.

CBDCs are a concept whose time has come," said Hyun Song Shin, economic advisor and head of research at Bank for International Settlements - BIS. "They open a new chapter for the monetary system by providing a technologically advanced representation of central bank money. In doing so, they preserve the core features of money that only the central bank can provide, anchored in the foundation of trust in the central bank." Those were not only the words of a BIS representative. Around 80 per cent of central banks surveyed by BIS earlier this year said they were working on some form of CBDC, with the Bahamas becoming the first country to issue a digital version of its currency for retail purposes last year. But not only minnows, such as the Bahamas, have embraced CBDC, one of the world's heavyweights, China, conducted trial runs of the e-yuan performing its first transactions earlier this year. The BIS said CBDCs were now "moving from concept to practical design" and had the potential to "renew the institution of money".

The BIS said central banks should issue CBDCs as part of a two-tier system in partnership with the private sector, including banks and payment service providers (PSPs). While central banks would operate the system's core and ensure its safety and efficiency, private actors would serve customers. BIS says this would "potentially strike a new balance between central bank and private money".

Using a two-tier system would avoid a vast increase in operational tasks – and costs – implied by a one-tier system, where central banks would fully operate CBDCs. That would also detract from their core role as "lean and focused public institutions" and see them assuming financial intermediation functions.

The two-tier system is an account-based rather than a token-based CBDC. In other words, the digital currency would be held in accounts belonging to particular individuals or businesses, who would use digital IDs to access their funds, rather than be an anonymous token accessed through anonymous cryptographic devices that would be a gift to money launderers and criminals. (An account-based design also has advantages in terms of monetary policy.)

The Financial Times in an article by the Martin Sandbu on June 24, points out that the ECB has formally still not decided whether to launch an e-euro, but as Benoît Cœuré, former ECB executive board member and head of the BIS's "innovation hub", points out, the counterfactual against which a CBDC should be judged is not the world as it was, but what the world is going to become without CBDCs: very possibly one in which Big Tech muscles its way into payment provision and financial services more generally. The BIS's case for CBDC is in this sense very "European" — a desire to avoid market concentration in payments, since this would allow private hoarding of behavioural data that, in turn, created market power in other digital sectors. This is a novel and powerful argument for a CBDC: if designed right, it is a guarantor of open and competitive payments and financial market structures and of citizen control over data.

Martin Sandbu writes that there remains one objection the BIS argument has not done enough to dispel; the fear of commercial banks that CBDCs will make them obsolete. If customers have an ultimate safe store of value with the central bank, with all the convenience of paying even for small purchases, why keep money on deposit with a bank? A CBDC could be a recipe for bank runs — either acutely in a crisis, or permanently over time, he thought.

The BIS has several answers. One is that banks should be very afraid of what is about to hit them from Big Tech — and see that a CBDC is a way to preserve an environment in which they can compete. Another answer is that large shifts of private bank deposit money into official digital currency can be discouraged central banks by caps on holdings in CBDC accounts or unattractive interest rates (or a combination of both). Regarding the latter, what Mr. Sandbu forget to mention is that CBDC is supposed to be just like cash in your pocket or under the matrass: there is no interest. Or have the central banks ideas about cash changed?

CBDC SCEPTICS

The arrival of CBDC is not a done thing yet and as the ECB, the BoE and just about any other central bank insists, when it comes, it will exist alongside conventional cash. This means that the success or failure of CBDC will depend on its acceptance by the public. As Dr Johannes Beermann, Member of the Executive Board of the Deutsche Bundesbank said at the opening of the 5th International Cash

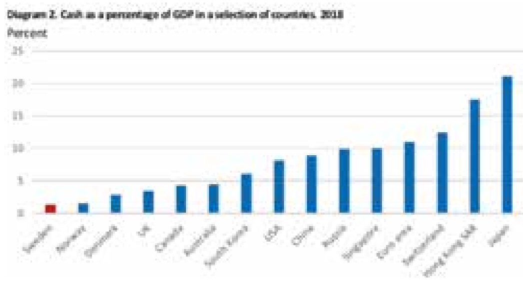
Conference 2021, consumer demand for CBDC as a means of payment will ultimately be driven by the added value, they perceive CBDC to have over existing means of payment.

Moreover, cash ensures privacy. In an increasingly digital world, not everyone feels the need for all dots to be connected at all times, he said. Privacy, security and reach across Europe rankes highest in European citizens' preferences.

The Bundesbank recently conducted a survey among individuals in Germany that aimed to give further insights into this user perspective. According to the survey, at this early stage, 77 per cent of all respondents had not heard or read about a digital euro before. 56 per cent of all households interviewed were, in their initial assessment, sceptical about introducing a digital euro in the future. Many of them were not convinced that it would deliver sufficient added value compared with the existing range of payment options. Among those in favour of introducing a digital euro, many respondents felt that a digital euro should be part of a digitalised society. The more sceptical attitude towards a digital euro was particularly pronounced among frequent cash users.

THE WILL OF THE PEOPLE DECIDES

From the comments of the Bundesbank we can assume that the success or failure of any CBDC to come will depend on its acceptance by the public and in Germany the public does not seem to be overly keen. In Sweden the situation is different. Not that the Swedes are enthusiastic about CBDC, but they are very keen on using non-cash ways to pay, so much so that the government is updating a law, the Sveriges Riksbank Act, to guarantee access to cash.



In the country, only around 2 per cent of GDP is in circulation in the form of cash and the government and the central bank like to ensure that during a state of any possible heightened alert in society, there should be an obligation to accept cash. But the protection for cash as legal tender is still too weak, the Executive Board of Sveriges Riksbank stated. There are groups in society who live in both financial and digital exclusion. They need both to be able to withdraw cash and to pay with it. Cash is needed in times of heightened alert and war, and it will be difficult to use cash in a crisis if it is not used to a reasonable extent during normal times. It is therefore essential that, for instance, business operators selling vital goods such as food and medicines to individuals are obliged to accept legal tender the Executive Board said.

Another consideration of the government is that as cash is seen as a public good, just like law enforcement, national defense and the rule of law, should it – or any means of payment - move from the public sector into entirely private hands? Such a move, and moreover, one that would not respect any national borders, would significantly alter the capabilities of government. ■

EURO USE OUTSIDE THE EURO AREA

There are many explanations for the rise of the number of Euro notes in circulation and their diminished use in daily transactions. One that is often overlooked is that perhaps 30 to 50 per cent of Euro notes are held in non-Euro area countries.

In many research papers and publications by the European Central Bank, one finds the phrase 'the paradox of cash", meaning the fact that the use of cash is diminishing in many countries, including the Euro area, while the amount of cash in circulation is increasing. One reason inevitably quoted is that it is especially the number of high denomination banknotes in circulation that is increasing, which points to 'hoarding'. This leads to the question of who hoards banknotes and where does hoarding takes place? The ECB, earlier this year, published a paper called 'Foreign demand for euro banknotes'

The paper shows a multitude of factors which explain foreign demand for Euro banknotes but the main cause of international flows of Euros in cash seems to be local factors. Among these is inflation in the domestic country (current inflation or the memory of past inflation), political uncertainty, the degree of trust in financial institutions, opportunity costs versus other assets, and the relative attractiveness of holding other foreign currencies (as measured by the exchange rate. In general, if the domestic currency is not trusted to preserve its value (or has not been trusted in the past), a foreign currency that is strong, safe and backed by reliable and trusted governments, represents a store-of-value opportunity in foreign countries. Apart from specific local determinants, appreciation of the Euro against the dollar also seems to lead to higher Euro cash flows mainly for medium and high denominations.

There are aso regional variations in the use of Euros outside the Euro area. Euro Survey Data collected by the OeNB, the Austrian National Bank, shows that the Euro is preferred in neighbouring countries, that often have a shared history. These countries also provide migrant and short-time workers who generate cash remittances. The chances for Euro adoption in a neighbouring EU member country also play an important role. Tourism is another source of Euros circulating in these countries. Finally, developments in the first weeks of the coronavirus (COVID-19) crisis showed that fears of an interruption in euro supplies caused foreign entities to build up precautionary stocks.

The study points to a usage of Euro banknotes outside the Euro area of between 30 and 50 per cent, or € 400 and € 600 billion of the total value in circulation depending on the methodology used. ■

CHALLENGING THE DOLLAR HEGEMONY

The US dollar is not only the most widely held reserve currency of the world, and has been that for almost 100 years, it also functions as one of the most powerful tools of US foreign policy. Countries at the receiving end of that policy are starting to look for ways out.

At the beginning of June 2021, Russia announced that its National Wellbeing Fund - its oil fund - which in total is worth about US$ 120 billion - will sell all its US dollar holdings, which currently stand at US$ 40 billion. “Today we have about 35 per cent of NWF investments in dollars. We’ve decided to get out of dollar assets completely, replacing investments in dollars with an increase in Euros and gold,” Finance Minister Anton Siluanov said at the St. Petersburg International Economic Forum. Once complete, the share of Euro assets in the fund is expected to stand at 40 per cent, the yuan at 30 per cent and gold at 20 per cent.

The NWF is part of Russia’s reserve currency, which together with its gold reserves stood at $ 6009 billion on May 27, according to Reuters. The country led by Vladimir Putin wants to protect itself from the pressure the United States can exert on its economy but also, even primarily, from the risk of American economic sanctions. In April, the Biden administration imposed a raft of new sanctions against Russia over alleged interference in the 2020 election, a colossal cyberattack against the US government and corporate networks, illegal annexation and occupation of Crimea and human rights abuses. The Russian government denies all allegations.

As the Washington Post reported, this move is a part of attempts by Russia and China to upend the global reliance on the US dollar and the long-standing global financial system that enables the US to strong-arm them, as both countries declared in a joint statement in late March.

The Washington Post doubts that the Sino-Russian strategy will succeed, and “dollar hegemony” will stay stable for many reasons, primarily due to

the United States’ financial centrality and ability to secure investments. The measures announced so far, such as de-dollarization, renminbi digitalization, and alternative financial settlement and messaging systems, are unlikely to dethrone the dollar just yet. But the reaction from America’s rivals underscores the limits of the dollar as a tool of deterrence, the Washington Post declared.

Currency unipolarity has been a defining feature of the entire post-war era — no currency, not even the Euro, has ever come close to rivalling the scale of US dollar use around the world. An end to America’s dollar primacy and status as a financial hub could mean an end to US macroeconomic perks. And a declining role for the dollar could also undermine the practice of dollar deterrence - the US government’s ability to threaten or deny foreigners access to dollar clearing and, therefore, dollar settlement, which is an important feature to make sanctions ‘stick’.

Although the IMF reports that the share of US dollar reserves held by central banks fell to 59 per cent - its lowest level in 25 years - the US dollar tends to move a percentage point up or down while the Euro oscillate around 20 per cent of reserve currency holdings, both movements not large enough to foretell a radical change in the global financial system. Just before the Euro was introduced in 1999, the share of US dollar assets in central bank reserves dropped by 12 percentage points—from 71 to 59 percent. And yet, the system holds, although it is wise not to overlook the ‘barbarians at the gate”. ■

COVID 19: CHECKED

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To avoid 27 different digital or paper certificates showing the bearer to be vaccinated, Covid negative or recovered, the EU devised a common design for a EU COVID Certificate that will ease travel throughout the EU. As there is probably also a demand for fake certificates, considering the number of anti-vaxxers, there is even an app that checks if the one presented is genuine or fake.

It is quite rare that a means of identification causes riots in the streets. But in August over 200,000 people took to the streets of French cities to protest against a new "health pass" designed to prevent the spread of coronavirus. The protesters waved French flags and held signs such as "No to the health pass" and "Liberty!" In Paris alone, some 1,600 police officers had to respond to three separate marches. The protesters included members of the far-right, anti-vaccine activists and supporters of the populist "Yellow Vest" movement, among others. It was the fifth weekend in a row that France experienced mass protests against coronavirus restrictions and vaccines.

Italy also saw protesters turn out against the implementation of the country's Green Pass, which is now required for teachers and for people to attend indoor events. The press reported that "thousands" marched in Milan at an unauthorized protest. Another 1,500 people gathered in Rome, while in Naples, around 100 anti-vax protesters demonstrated against vaccinations for children. Italy has overseen a successful vaccination campaign, with over 63 per cent of the population older than 12 fully vaccinated. The health pass in France and the Green Pass in Italy are both digital certificates that provide proof of a person's coronavirus status.

The EU now has 'harmonized' the national Covid certificates and designed a common 'EU Digital COVID Certificate' which despite of its name, also comes in a paper version. The idea and the coordination may come from the EU, but national authorities are in charge of issuing the certificate. It could, for example, be issued by test centres or health authorities, or directly via an eHealth portal. Information on how to get the certificate should be provided by the national health authorities.

The digital version can be stored on a mobile device. Citizens can also request a paper version. Both will have a QR code that contains essential information, as well as a digital signature to make sure the certificate is authentic.

Member States have agreed on a common design that can be used for the electronic and paper versions to facilitate the recognition.

FREE TO TRAVEL

The EU Digital COVID Certificate will be accepted in all EU Member States. It will help to ensure that restrictions currently in place can be lifted in a coordinated manner. When travelling, the EU Digital COVID Certificate holder should in principle be exempted from free movement restrictions: Member States should refrain from imposing additional travel restrictions on the holders of an EU Digital COVID Certificate, unless they are necessary and proportionate to safeguard public health.

In such a case – for instance as a reaction to new variants of concern – that Member State would have to notify the Commission and all other Member States and justify this decision.

SAFE DATA

The EU Digital COVID Certificate contains a QR code with a digital signature to protect it against falsification. When the certificate is checked, the QR code is scanned and the signature verified. Each issuing body (e.g. a hospital, a test centre, a health authority) has its own digital signature key. All of these are stored in a secure database in each country.

The European Commission has built a gateway through which all certificate signatures can be verified across the EU. The personal data of the certificate holder does not pass through the gateway, as this is not necessary to verify the digital signature. The European Commission also helped Member States to develop national software and apps to issue, store and verify certificates and supported them in the necessary tests to on-board the gateway.

The EU Digital COVID Certificate contains necessary key information such as name, date of birth, date of issuance, relevant information about vaccine/ test/recovery and a unique identifier. This data remains on the certificate and is not stored or retained when a certificate is verified in another Member State. For verification purposes, only the validity and authenticity of the certificate is checked by verifying who issued and signed it. All health data remains with the Member State that issued an EU Digital COVID Certificate. ■

WHAT IS NEXT IN IDENTITY DOCUMENTS?

Every one of us has many ways of proving identity for different purposes, be it with social security numbers, tax numbers, passwords, etc., many of them on cards or simply a combination of figures and letters, the knowledge of which gives access to the function they refer to. However, they lack a reliable link to the person they represent. Until now, this link was provided by identity documents with a photograph, fingerprint, or other biometric feature, representing the owner of the document, such as passports and ID cards. The introduction of the microprocessor chip into passports has changed the picture.

Passports, roughly in the form we are used to today, have been around since about 1915, when the passport photograph was introduced into a passport book. Later, the size of passports was standardized, various printed security elements were added, and some countries introduced a polycarbonate data page. The personal information on the data page was repeated in a machine-readable zone in 1980, increasing security and aiding efficiency at the border. A real breakthrough in the European Union came in 2004 with the introduction of EU law on mandatory common security standards and an electronic chip, which contained the machine-readable information as well as biometric information such as the photograph and, two fingerprints. In a conversation with Sylvia Kolligs-Tuffery, Team Leader for Document Security in the Migration and Home Affairs Directorate of the European Commission, Infosecura asked what 'will be the future of identity?'

When talking about identity, Mrs Kolligs-Tuffery pointed out, that we have to recognize that there are many different ways of looking at identity, and ways of identifying ourselves vis-a-vis another person or institution. She suggested that for the purpose of an article in Infosecura, we should limit the scope of identity to documents which can prove the identity of a person in the travel continuum, namely passports and ID cards. So, the question to ask for this article was "what will come next in the development of identity/travel documents?"

ID DOCUMENTS: FUNCTIONALITY AND SECURITY

There are two primary issues that concern ID documents: functionality and security. The biggest source of false or fraudulent information that makes its way into ID documents are breeder or source documents, which are among the least secure documents in the document chain, although in recent years, many countries improved their security. Nevertheless, the security of breeder documents is still a weak point worldwide. There are still, the world over, too many children that have not been registered at birth and most therefore have no identity papers at all, with very serious consequences if and when these persons want to enter a commercial and 'administered' environment. The number of 'undocumented' people is especially high in sub-Saharan Africa and Mrs Kolligs-Tuffery said, that the security of breeder documents needs to be high since they are used as a basis for issuing authentic travel documents.*

As for current ID document fraud, 'morphing' has been much talked about in recent years. Here, two passport photos are electronically merged to enable two people to use the same passport. Although encoding the passport photo as well as two fingerprints in the passport chip and reading both at a border check point should detect such a fraud, Mrs. Kolligs-Tuffery alleged that even fingerprints can be 'morphed, but such a practice is quite rare. Much more common is the use of 'look-alikes' and about 40 per cent of border-crossing fraud is committed using passports with photos that look like the people presenting the document.

Using the functionalities in the ePassport not only speeds up border traffic, it also makes for vastly improved security without compromising the privacy of the passport holder. The chip contains all information necessary for crossing a border and is read by the border guard, police officer or an ABC gate offline, i.e., without accessing a large database. Most EU member countries don't even have a national database of citizens to consult. This means that the owner of the passport retains the control of his/her personal information. Although it has been possible to copy the information contained in the chip to another passport, fraudsters have not succeeded in changing it – at least until now, there has not been a successful attempt to alter the information in a passport chip. And copying a chip onto another passport would immediately reveal the differences between the chip content and the printed information.

BIOMETRIC PASSPORTS

Internationally, biometric passports have been a great success and by mid-2019, over 150 countries had been issuing these documents. This was due to the success of international efforts to solve the issue of interoperability. Biometric passports

** According to UNICEF, the majority of countries in sub-Saharan Africa lag behind the rest of the world, with Ethiopia (3 per cent), Zambia (11 per cent*) and Chad (12 per cent) recording the lowest levels of registered births globally https://www.unicef.org/eap/press-releases/despite-significant-increase-birth-registration-quarter-worlds-children-remain .*

use standardized biometrics, namely facial image, fingerprint image and iris image following the ICAO Doc 9303 standard. The biometric data is stored in the contactless chip which runs on an interface in accordance with an ISO 14443 standard.

THE ROAD TO DIGITAL - WITH BACKUP

The spread of ePassports enabled a host of other developments which greatly improves the speed of border clearance, especially in airports. By using pre-registration protocols, similar to the US Electronic System for Travel Authorization (ESTA), and pre-arrival identification as early as when the travel ticket is purchased, future scenarios envision, that passengers can enter an airport, pass checkpoints and board their plane without having to show any document. It is, however, unlikely that this scenario will be applied universally any time soon. As passports have to be usable in any country and the level of technical developments at border crossings differ greatly from region to region, a physical passport with all the presently available security will be with us for quite some time to come, Mrs Kolligs-Tuffery said, even if only as a back-up. Although it will still be normal to carry a physical passport when crossing borders, she thought that in future, electronic passports and other documents linked to an ID could also be issued in a digital format and carried in an electronic wallet, which could even contain visas. This could enable facilitated travel and alleviate the pressure of high passenger volumes at EU ports of entry and departure. The European Commission will look into this possibility and has planned a legislative proposal in this respect in its work programme for 2023.

EUROPEAN DIGITAL IDENTITY WALLETS

Mrs Kolligs-Tuffery also referred to the very recent proposal of the European Commission on 'a framework for a European Digital Identity, which will be available to all EU citizens, residents, and businesses in the EU. Citizens will be able to link their national digital identities with proof of other personal attributes (e.g., driving licence, diplomas, bank account) from their European Digital Identity wallets with the click of a button on their phone. The use of the European Digital Identity wallet will not be compulsory but always at the choice of the user. These wallets may be provided by public authorities or by private entities, provided they are recognised by a Member State, a press release by the European Commission stated.

The new European Digital Identity Wallets will enable all Europeans to access services online without having to use private identification methods or unnecessarily sharing personal data. With this solution they will have full control of the data they share. To make the European Digital Identity Wallets a reality as soon as possible, the proposal is accompanied by a Recommendation, which invites member states to establish a common toolbox by September 2022 and to start the necessary preparatory work immediately. This toolbox should include the technical architecture, standards and guidelines for best practices.

ID CARDS

ID cards have followed a similar path to ePassports, by incorporating a contactless chip that replicates the visible and machine-readable information and that can be read by an appropriate reader off-line. This makes ID cards verifiable by police in any situation. ID cards are issued by all EU member states except Denmark and Ireland, and they are also valid for travel within the EU. Ireland, however, issues a passport card which also serves as a national ID card. Until recently, ID cards followed a number of different designs, but now, the format and security of the cards are to be harmonized. In June 2019, the European Parliament and Council issued a regulation, coming into force on 2 August 2021, that ID cards must have a common form factor (ID1) and have a machine-readable zone, with security standards based on ICAO Document 9303. 'It shall include a highly secure storage medium which shall contain a facial image of the holder of the card and two fingerprints in interoperable digital formats. The storage medium shall have sufficient capacity and capability to guarantee the integrity, the authenticity and the confidentiality of the data.'

THE FUTURE

The conversation with Mrs Kolligs-Tuffery and especially the EU regulation on the European Digital Identity Wallets showed that the future of identity in the EU is clearly digital. However, the future of the physical passport and ID card will remain secure, even if only as a back-up and as a choice for citizens who do not trust digital technology. Passports have changed greatly this century and as many national passports have become visually much more pleasing, many people may hold onto them not only for their security but also to show something of the look and the spirit of their country.■

EU: CONVENIENT DIGITAL IDENTITY FOR ALL: 1

The EU has decided that we are in the digital age and consequently we should be able to identify ourselves electronically. A review of the eIDAS Regulation that will give all of us an European Didital Identity Wallet is designed to make any interaction with officialdom easy. But we are not there yet.

A piece published in "Forbes Technology Council" last year, entitled 'the future of identity', acknowledged that for many people, the idea of using biometrics creates a degree of unease. There are questions around privacy and what could happen if such information was to be stored. Although there are already stringent privacy laws around the collection and storage of personal information in the EU and in many advanced economies, the article argues that there might be another way to protect privacy.

Practically every single person in industrialized countries is required to verify their identity in person from time to time. While this might not seem particularly onerous, things can get complicated once transnational components are involved. Registering your business in another country, signing up at a foreign university or finishing contracts with international companies may get tricky and time-consuming if a personal signature is necessary.

The picture might change if privacy could be protected through a decentralized model, which gives full control back to the owner of the ID. Centralized databases such as the credit bureaus limit user control and pose security issues. Data breaches are becoming more frequent, bigger in scale and more sophisticated. Attacks involving usernames and passwords increased a staggering 450 per cent from 2019 to 2020, translating into more than 1 billion compromised records in the US alone, the 'ForgeRock 2021 Breach Report' reveals. The 'Forbes Technology Council' suggests that a decentralized solution will return control of their identities to users while providing one-touch access. Essentially, everyone in the world will own and control the use of their own legal identity. Individual accounts with different providers won't be necessary, nor will you need to share your data every time you sign up for a new service. And if there's no centralized database holding your data, no third party can access this information without your consent.

STILL PIE IN THE SKY

The article admits that such a scenario is still in the future and there is no perfect solution yet, but we seem to be moving in that direction, with regulators also getting on board. The EU has already gone part of the way by introducing the eIDAS regulation, which aimed to provide a common legal framework for the cross-border recognition of electronic ID. It is not a new idea, having been introduced in 2014.

The regulation on 'electronic identification and trust services for electronic transactions in the internal market (eIDAS)' to give it its full name, aimed to provide a predictable regulatory environment to enable secure and seamless electronic interactions between businesses, citizens, and public authorities. Although the COVID-19 pandemic has accelerated the need and demand for trusted services, only 15 out of 27 EU member states currently provide cross-border electronic identification under the eIDAS regulation, that means only a fraction of the population of the EU uses the already existing possibilities of digital identities. Most people haven't even heard of it.

Recognising this failing, the European Commission held a public consultation which concluded in June, followed by a proposal for a European Digital Identity Regulation in the context of the review of the eIDAS Regulation. The proposal is not meant to replace the eIDAS Regulation, only to amend it. The most striking change is the introduction of a European Identity Wallet.

According to the explanatory memorandum, the eIDAS Regulation fell short in certain ways. For electronic identity, it was limited to the public sector, did not cover all identity solutions and not all member states provided notified eID solutions. This, together with the fact that not all technical nodes of the eIDAS interoperability framework are fully operational, meant that cross-border access was limited. The framework for the provision of trust services is considered to be rather successful, but certain trust services were identified which were currently not covered by the eIDAS Regulation.

The old eIDAS Regulation took a limited and rather voluntary approach to electronic identification as some member states had already developed their own electronic identification schemes and were afraid to lose their investment. The EU also did not have regulatory competence where the identification was based upon official (electronic) documents. The new proposal goes a step further than the old Regulation by introducing European Digital Identity Wallets, while still allowing member states to keep their old system.

'European Digital Identity Wallets' are defined as "a product and service that allows the user to store identity data, credentials and attributes linked to his/her identity, to provide them to relying parties on request and to use them for authentication, online and offline, ... and to create qualified electronic signatures and seals"

The proposal will introduce three new trust services in the eIDAS Regulation: electronic archiving of electronic documents; management of remote electronic signature and seal creation devices; and the recording of electronic data into an electronic ledger.

The previous voluntary notification of electronic identification schemes is made obligatory for member states which have to notify at least one electronic identification scheme which shows in the personal identification data, a unique and persistent identifier.

WHAT'S NEXT?

The proposal will now enter into discussions and negotiations between the Council and the Parliament. It is accompanied by a Commission Recommendation on a common EU 'Toolbox for a coordinated approach towards a European Digital Identity Framework', which sets up a structured process of cooperation between Member States, the Commission and private sector operators to develop a Toolbox. This should lead to a technical architecture and reference framework, a set of common standards and technical references and a set of guidelines and descriptions of best practices. These should cover all aspects of the functionalities and interoperability of the European Digital Identity Wallets including eSignatures and of the qualified trust service for attestation of attributes. The cooperation should start immediately in parallel of the legislative process and it is planned that by 30 October 2022 the Toolbox can be published. The implementation of the European Digital Identity framework is planned to be supported by the Commission through the Digital Europe Programme and by the Member States through the implementation Recovery and Resilience Facility as part of projects for e-government solutions. ■

Much of this article is based on a blogpost by Jessica Schroers at law.kuleuven.be

EU: A TRUSTED AND SECURE DIGITAL IDENTITY FOR ALL: 2

By deciding that our future will be digital, the European Commission is betting that Europeans are as keen as the Commission, to conduct much of our lives via electronic devices. This means that we should be able to perform all interactions with officialdom in our own country and in any other EU country via the electronic devices we use every day. As the EU stresses that the use of such digital services is strictly voluntary, we should be and remain the masters of our own identity. The 'digital wallet' is not there yet but the EU has recommended that the member states start to work on the project now.

In early June, the European Commission proposed a framework for a European Digital Identity which will be available to all EU citizens, residents, and businesses in the EU and will allow citizens to prove their identity and share electronic documents from their European Digital Identity. They will be able to access online services with their national digital identification, which will be recognised throughout the EU. The use of European Digital Identity Wallets will not be mandatory but will always be at the discretion of the owner.

Margrethe Vestager, Executive Vice-President for a 'Europe Fit for the Digital Age' said: "The European digital identity will enable us to do in any member state as we do at home without any extra cost and fewer hurdles. And do this in a way that is secure and transparent, so that we will decide ourselves how much information we wish to share about ourselves, with whom and for what purpose."

THE EUROPEAN DIGITAL IDENTITY FRAMEWORK

Under the new Regulation, member states will offer citizens and businesses digital wallets that will be able to link their national digital identities with proof of other personal attributes (e.g., driving licence, diplomas, bank account). These wallets may be provided by public authorities or by private entities, provided they are recognised by a member state.

They will enable all Europeans to access services online without having to use private identification methods or unnecessarily sharing personal data. With this solution they will have full control of the data they share.

The European Digital Identity will be available to anyone who wants to use it: Any EU citizen, resident, and business in the Union who would like to make use of the European Digital Identity will be able to do so.

The European Digital Identity Wallets will be useable widely as a way either to identify users or to prove certain personal attributes, to access public and private digital services across the Union.

USERS IN CONTROL OF THEIR DATA

The European Digital Identity Wallets will enable people to choose which aspects of their identity, data and certificates they share with third parties, and to keep track of such sharing. User control ensures that only information that needs to be shared will be shared.

To make it a reality as soon as possible, the proposal is accompanied by a Recommendation. The Commission invites member states to establish a common toolbox by September 2022 and to start the necessary preparatory work immediately. This toolbox should include the technical architecture, standards and guidelines for best practices.

In parallel to the legislative process, the Commission will work with member states and the private sector on technical aspects of the European Digital Identity. Through the Digital Europe Programme, the Commission will support the implementation of the European Digital Identity framework, and many member states have foreseen projects for the implementation of the e-government solutions, including the European Digital Identity in their national plans under the Recovery and Resilience Facility, the €672.5 billion in loans and grants available to member states in the wake of the Covid pandemic.

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BACKGROUND

The Commission's 2030 'Digital Compass' sets out a number of targets and milestones which the European Digital Identity will help achieve. For example, by 2030, all key public services should be available online, all citizens will have access to electronic medical records; and 80 per cent of citizens should use an eID solution.

For this initiative, the Commission builds on the existing cross-border legal framework for trusted digital identities, the European electronic identification and trust services initiative (eIDAS Regulation). Adopted in 2014, it provides the basis for cross-border electronic identification, authentication and website certification within the EU. Already about 60 per cent of Europeans can benefit from the current system, but not necessarily do so. ■

FRONTEX

The European Border and Coast Guard Agency, Frontex, is a work in progress. It recently has been criticized by the European Court of Auditors, but in despite some shortcommings, it is expected to take on extra responsibilities.

In the last few years, Frontex, the European Border and Coast Guard Agency, has grown from a relatively modest entity, headquartered in Warsaw and having an annual budget of € 19 million in 2006 to a formidable force with a budged of € 900 million in 2021. The agency's mandate was further expanded in 2019, with the creation of a new standing corps of 10,000 border guards, a number that will be reached in a few years. And recently its responsibilities, which are to protect the external borders of the EU, mostly in cooperation with the national borders forces of the member countries concerned, have also grown.

Frontex will be in charge of the European Travel Information and Authorisation System (Etias), an IT system tracking visa-exempt visitors traveling to Europe, which is expected to be launched on January 1st, 2022, but which will be effective and obligatory only by the end of 2022.

But there has been criticism about the performance of the agency, even before it adds new responsibilities. As an article in 'euobserver' of June 8 shows, the Luxembourg based European Court of Auditors said that Frontex is unable to carry out its core duties and is ill-prepared to take on additional future tasks. The report's lead author, Leo Brincat, told reporters, that "Frontex is not presently discharging their duty effectively." Brincat said the agency had gone through too many changes too fast without taking any time to analyse their impact and effectiveness. "Frontex's expansion plan was not the result of any technical study, it was the result of a political decision taken by the council in 2017," he said.

A press release by the European Court of Auditors stated "We concluded that Frontex's support for Member States/Schengen associated countries in fighting against illegal immigration and cross-border crime is not sufficiently effective. We found that Frontex has not fully implemented its 2016 mandate and we highlighted several risks related to Frontex's 2019 mandate."

The auditors found serious faults in terms of information exchange, vulnerability assessments and operational response. "On the aspect of cross-border crime, the situation was even more worrying because we found that the information exchange framework had not even yet been established," said Brincat.

Another problem stems from the European Border Surveillance System (Eurosur), set up in 2013 to act as a framework for information exchange and cooperation between EU states and Frontex. It is supposed to offer near real-time information - but spotty and sloppy data entry by some member states means border incidents might not be reported until a week later.

In response, Frontex said that it is aware of what needs to be done and has accepted all the recommendations made by the auditors. "Unfortunately, many of the raised issues are related to external factors outside of the agency's control," the agency's spokesperson said in an email.

The report did not look into alleged pushbacks and other violations, which Brincat said was beyond its scope. He noted however, that another report on returns and readmission of irregular migrants, set for September, may cover rights violations as well.

It may be unfair to lay all responsibility for its performance at the feet of Frontex. Its original function was to act in a support and coordination role to the border forces of EU Schengen member countries. In 2019, its role was elevated to an operational one. This involved an exponential increase in resources, introducing a standing corps of 10 000 operational staff by 2027 and an average budget of €900 million per year.

The report of the European Court of Auditors states that Frontex found it difficult to use national border control authorities' reporting under the European border surveillance system and there are legal constraints on using the data located on the pan-EU systems for risk analysis purposes. Moreover, it is unable to apply the common integrated risk analysis model applied by most Member States.

The report warns that is a significant risk that Frontex will struggle to carry out the mandate assigned to it in 2019. The exponential increase in resources made available was agreed without a needs and impact assessment on Member States, and without an evaluation of Frontex's activities since 2015.

INCREASED PRESENCE

Reports in the press often fail to indicate which of the changes are still in the preparation stage and which are already functional. The new enlarged standing border corps is a case in point. Frontex clarified that the present - and future - standing corps is composed of four categories of officers. They include Frontex personnel and officers who are sent from the Member States to the agency on long- or short-term missions, as well as a reserve that can be activated in times of crisis.

In total, by 2027 the European Border and Coast Guard Standing Corps will comprise 10 000 people, among them 3000 category 1 officers – Frontex staff. The other 7000 thousand officers will be seconded from EU Member States. At present, Frontex has 1400 employees, 600 of them belong to the Standing Corps.

Frontex border guards work under the command of the national authorities of the country they are deployed in. They can work at the borders of EU Member States and currently support operations in countries such as Italy, Greece, Spain and Bulgaria. They are present at border crossing points and airports, as well as the agency's Warsaw headquarters. They also work in countries outside the EU that have signed a Status Agreement with the European Commission - Albania, Montenegro and Serbia.

The Schengen area now extends along some 44 000 km of external sea borders and almost 9 000 km of land borders. It comprises 26 countries (including some non-EU states, so-called Schengen Associated Countries), meaning free movement for nearly half a billion people inside the Schengen area in exchange for strict controls at external borders. Simply put, the Schengen area's external border is only as strong as its weakest link.

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DOCUMENT AND IDENTITY FRAUD

Frontex established the Centre of Excellence for Combatting Document Fraud in 2018 to assist Member States in spotting and counteracting various illegal uses of fraudulent document – which is often an essential part of other crimes, such as smuggling of contraband, trafficking in human beings and terrorism.

For years, Frontex has deployed document fraud experts in joint operations at the EU external borders, and supported the process of identifying and registering migrants in hotspots. Its expertise in this area is crucial to Europe's security and continues to gain in importance because of criminal groups' growing sophistication in the use of fake documents. ■

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