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Cash & Crisis

A perspective on cash during crises: the short and long-term future of cash and its infrastructure

Authors and contacts for more info and general enquiries:

Flavio De Laurentis, viafintech General Manager Italy

Pedro Borges, viafintech General Manager Spain and Portugal

www.viafintech.com

About

This paper aims to give the reader a perspective about the role of cash and its evolution during and after a crisis. The methodology used encompasses an analysis drawing data from the latest crises, following the Lehman Brothers bankruptcy (2008) and the European sovereign debt crisis (2010-2014) to better understand the potential impact of the current COVID-19 crisis on cash.

Root causes for consumers´ preference towards cash, its safety as a payment method and how COVID-19 can affect the cash infrastructure are also in scope of this paper.

About us and our mission - viafintech

Founded in 2011 with its HQ in Berlin, viafintech is the Fintech company behind viacash, Europe's biggest infrastructure to deposit and withdraw cash at supermarkets. viacash is a white-label feature integrated directly within one's mobile banking application, effectively enabling the concept of a "virtual ATM" and "virtual bank branch" by simply scanning a barcode. (www.viacash.com)

Live in Germany since 2013 with the brand Barzahlen, viafintech also operates in Austria, Switzerland and, since 2019, Italy under the brand viacash, through a network of 17,000 integrated retailer stores such as Rewe, DM, Real, Rossmann, Penny Market, PAM Panorama and SBB. Several banks use the viacash infrastructure with over 10 million active users and double-digit growth month over month.

The Scale-Up counts 70+ employees and, besides viacash, offers a range of payment services for banks, e-commerce, utility companies, insurance companies and several other industry verticals.

From February 2020 the Japanese conglomerate GLORY entered the capital of viafintech as strategic partner to accelerate its international expansion and create a more efficient cash management cycle.

We aim at digitising the cash infrastructure by relieving banks, e-commerces and utility companies from the pain of handling cash payments, refunds, deposits and withdrawals and embedding them within their mobile and digital offering, effectively bridging a cash transaction into the digital world. Our vision is to become the largest single-API infrastructure of our kind in Europe, with multiple value-added services for consumers and retailers in the very same POS.

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Abstract

The COVID-19 emergency has raised concerns within society and the payment industry that coronavirus could be transmitted through cash, casting doubts on the future of cash usage and the impact on its current infrastructure. This study provides an alternative and broader perspective about the role of cash in society, including the effect of the recent pandemic. The paper analyses the future of cash as a payment method, with a focus on the impact of COVID-19 on the digital payment industry. The analysis is based on data from the current and previous crises, namely the Lehman Brothers bankruptcy and the European Sovereign Debt Crisis, in countries like the US, the UK and other European countries.

The results of the analysed data suggest cash plays a critical role both during crises and also long after that. While cash usage surges in the early stages of a crisis, used by many as a budget control and value storage tool, in a long-term scenario this payment method embodies essential features like trust, universal acceptance and low-income consumer inclusion within the financial system. Hence, access to cash is considered by many as a civil right according to a study by the German Bundesbank.

The key takeaway of this paper is how consumers´ needs could push governments and financial institutions to preserve access to cash, its usage and acceptance, in order to prevent financial exclusion of lower-income groups. Should this happen, a drastic change is needed in the cash ecosystem for it to become more immediate, widespread, safe, and digital.

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First and foremost - cash is safe and promoted by central institutions

The COVID-19 pandemic has raised concerns within society that coronavirus could be transmitted through cash. However, independent institutions like the World Health Organization (WHO) promptly reacted with statements on the very low probability of transmission via banknotes (close to zero), in particular when compared with other frequently touched surfaces, such as debit/credit card terminals or PIN pads used in electronic payment methods falsely considered safer from this perspective. As shown in Figure 1 the survival time of COVID-19 on cardboard (compressed paper) surfaces, which is chemically equivalent to paper and therefore banknotes, is three times lower than on plastic surfaces, such as credit and debit cards, or stainless steel surfaces, like ATM PIN pads.

Survival time of COVID-19 on different surfaces

Number of hours

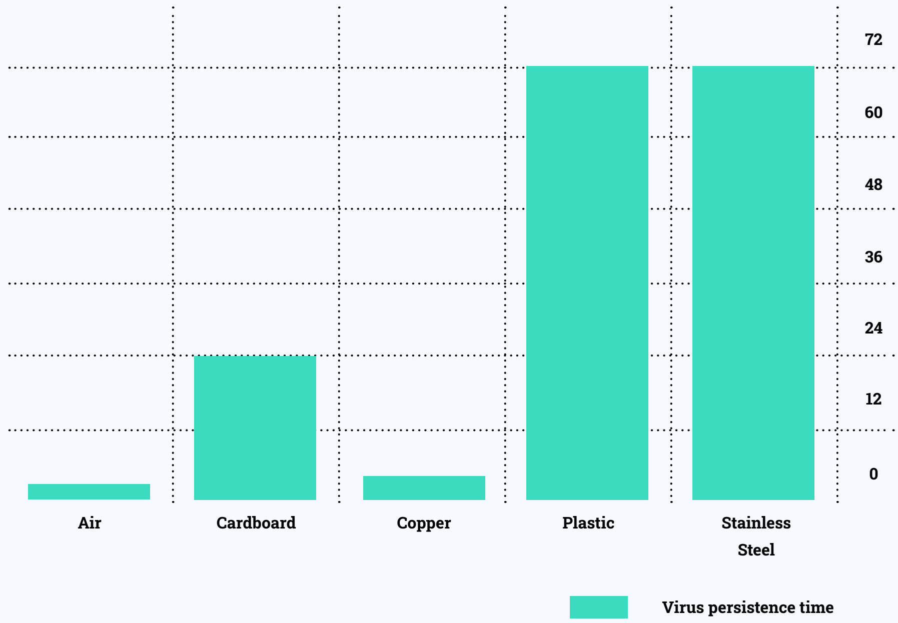

Figure 1, Source: COVID-19, cash, and the future of payments – Bis

Alongside health organisations, central banks and financial institutions keep promoting trust in cash (Figure 2). The Bank of England underlined that "the risk posed by handling a polymer note is no greater than touching any other common surfaces, such as handrails, doorknobs or credit cards". Other central organisations such as the ECB and the German Bundesbank issued similar statements ensuring cash is safe (Figure 2).

The overall key message for the payment industry is that central institutions are neutral, not favouring any payment method and thus supporting cash, especially when scientific evidence shows the safety in usage and distribution of banknotes and coins.

Central banks are promoting trust in cash and universal acceptance

Number of COVID-19 cases (logarithmic scale) and central bank measures timeline regarding payments

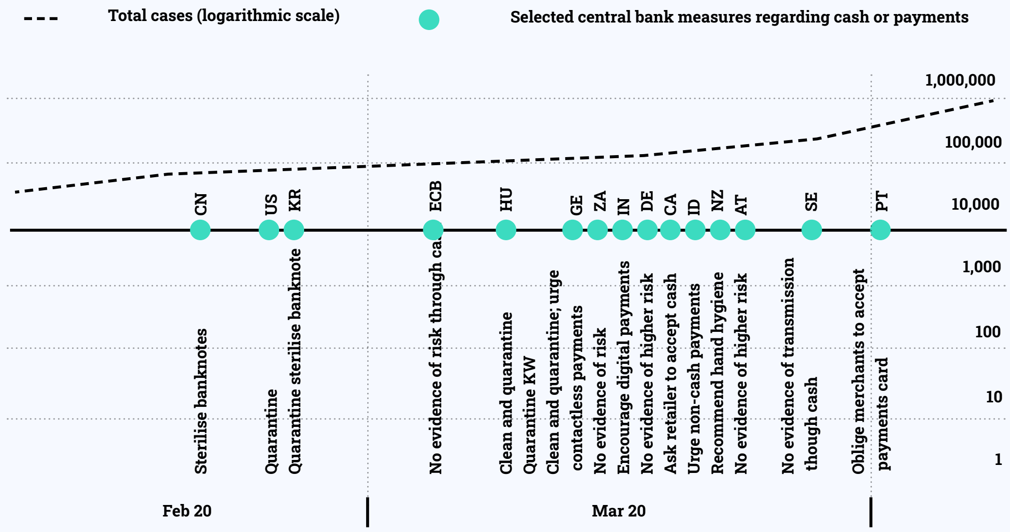

Figure 2, Source: COVID-19, cash, and the future of payments – Bis

Intro - actual cash demand surges as crisis looms

During March and April 2020 following the pandemic outbreak of COVID-19, the value of euro banknotes distributed to individuals and businesses rose by €41.2bn to €1.33tn, the weekly financial statement published by the European Central Bank on Wednesday showed, as reported in an article by the Financial Times on 15 April.

According to the ECB this dynamic may be due to the customer and business habit to hoard cash as a safety measure to ensure liquidity for a "rainy day" in the future.

Although the current crisis is very different from the financial crisis of 2008, the response to it from the perspective of cash is strikingly similar: shortly after Lehman Brothers' bankruptcy, cash in circulation in the eurozone rose by €41.4bn in the four weeks to 24 October 2008.

Given this similar pattern, we explore the possibility and analyse why and how these crises could impact cash demand and its distribution in the future.

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Cash in a crisis – a look into crises of the past

In order to assess the impact of COVID-19 on cash demand, we developed an analysis based on past systemic and global breakdowns like the one triggered by the Lehman Brothers bankruptcy (2008) and the European sovereign debt crisis (2010-2014).

The study does not aim at predicting the future, but rather at giving the reader another perspective on the role of cash in the short and long-term – and a glimpse at how the cash infrastructure will need to evolve to avoid financial exclusion by reducing costs to a fraction of its current operating cost. The analysis is divided into two different sections:

- **Root causes for cash preference and consumer behaviour**
- **Evolution of cash demand and payment behaviour during and after a crisis**

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Root causes for cash preference and consumer behaviour

At first we focused on consumers' behaviour and payment habits to understand why people demand cash as a payment method. Overall the result supports the view that cash is still the most trusted payment method, mainly because of its ease of use, universal acceptance, and flexibility (Figure 3).

A survey by the ECB, the German Bundesbank and the Dutch De Nederlandsche Bank highlights that the primary advantages of cash are expense control, universal acceptance and speed of transactions. While the first two reasons are straightforward, supporting the argument of financial inclusion, the third is quite unusual and, despite the rise in electronic payment methods, relevant to highlight how cash is still perceived as a fast and immediate payment method by consumers.

Consumer Payments Survey in EU by opinions; % of responses

Question: For you personally, what are the two most important advantages of cash for payments? Cash payments are...

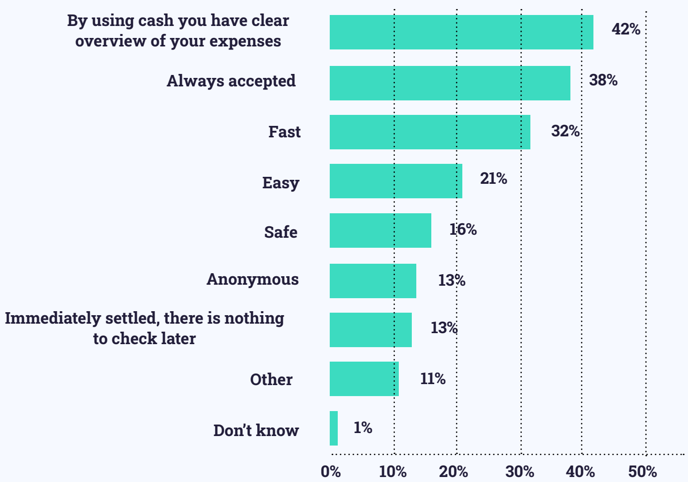

Figure 3, Source: ECB, Bundesbank, De Nederlandsche Bank

Broadening our scope to inquire how these perceived advantages drive consumers' actions, it becomes clear that in an economically polarised society some segments of the population appreciate cash more than others (Figure 4 shows a 2017 study in Germany):

- **Households with an income below €1,500 a month use cash for 56% of their overall monthly transactions/expenditure volume.**
- **For households with an income above €3,000 a month, cash still represents 41% of their overall monthly transactions.**

From these data points the following key takeaways can be inferred:

- **Cash is a budget tool and thus more appreciated by low-income households.**
- **Speed of penetration of electronic payment methods seems to have a limit even in higher income households.**

Cash and other payment method distribution by household income

% on total sample

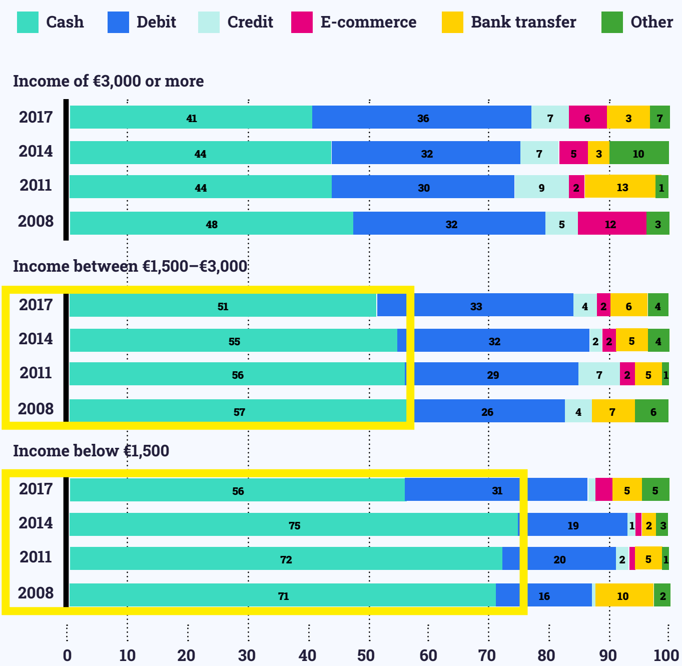

Figure 4, Source: Bundesbank, page 50

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Evolution of cash demand and payment behaviour during and after a crisis

After rooting out the cause of consumer preferences for cash, we researched how this same preference may change during times of crises.

The hypothesis is that in a crisis when unemployment levels raise, the average household income should decrease, with a higher portion of society belonging to the lower income segment. Therefore we should see in the short to mid-term an increase in preference for cash as a payment method. More specifically we tested this hypothesis against data from past crises, such as the US crisis in 2008 (Figure 5).

In a consumer survey by the Federal Reserve of Boston about the preferred choice of payment method (Figure 5), we observe several interesting data points:

- **A spike in cash preference jumping from 22% in Q4 2008 to 30% in Q4 2009, overcoming the preference over debit card at 28% in Q4 2009.**
- **A sharp decline of both debit and credit card as payment choice by consumers in Q4 2009.**
- **A slow decline of cash preference during the years of financial recovery in the US.**
- **The relevance of cash 10 years later where it hovers stably around 28% preference, still outsizing the credit card preference at 23%.**
- **Cash preference 10 years after the crisis in 2017 (28%) is still higher than in 2008 (22%).**

Survey of consumer payment choice

US, %, 2007-2017)

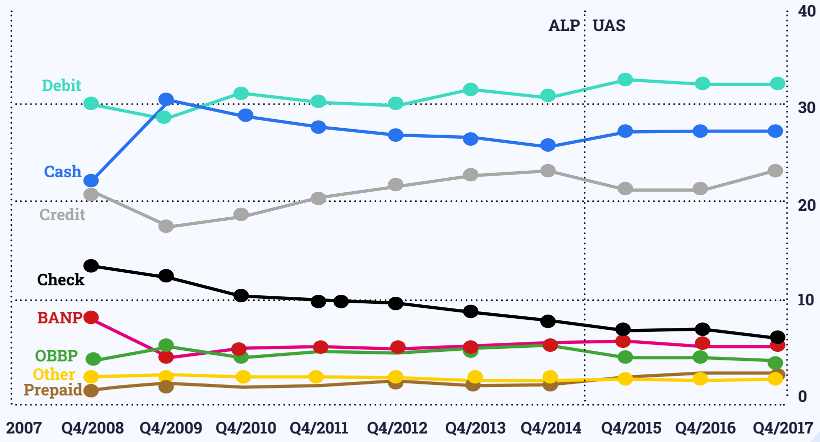


Figure 5, Source: Federal Reserve Bank of Boston

The data points could be explained by the following dynamics, which would need deeper and more exhaustive analysis. When a crisis hits and the unemployment rate rises, the average household income level drops; therefore preference towards cash increases. This preference is fuelled by the need to control costs and has a long-term impact on customer choices.

Going further into the analysis, we observe that other payment methods, such as credit cards, also registered similar trends in Europe during and right after the peak of the crisis in each country and the bailout by the IMF and the European Union (Figure 6):

- **Sharp decline in credit cards (10-15%) in the US, UK and France, but also in Germany following the Lehman Brothers crisis of 2008 which rippled throughout Europe in the following years.**
- **The decline is even sharper in southern European countries with high debt levels, such as Greece, Portugal and Italy where, after 2010, credit cards experienced a drastic fall of up to -20%.**

Regardless of the cause that produced this drop in credit card usage in those years, we can infer that during and after a crisis the relative relevance of cash as a payment method rose in a seemingly counter cyclical fashion. When a crisis hits, cash sharply rises; during recovery cash slowly declines.

Yearly development of credit card number by country (%, 2008-2014) Year on year % change, 2008-2014

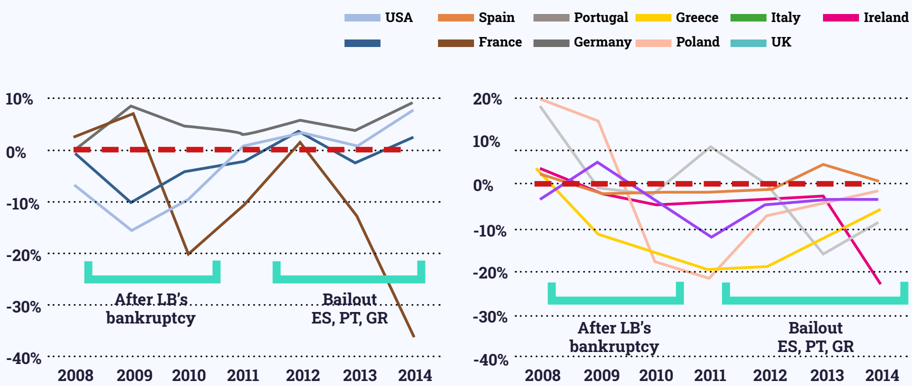


Figure 6, Source: ECB, Statista

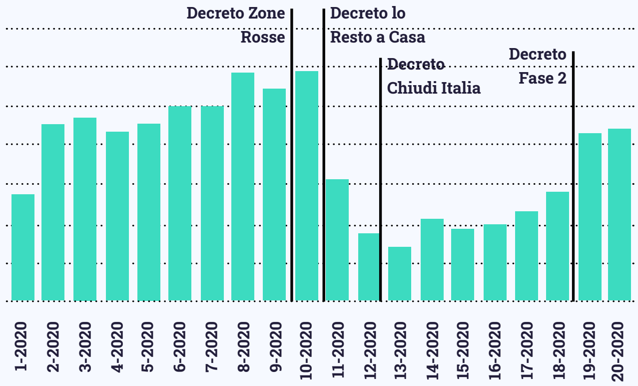
Final considerations on cash and cash infrastructure future

Since the start of COVID-19 in Europe, (March-April 2020) the narrative in the payment industry has been clearly skewed towards electronic payments, especially given the several lockdowns which significantly benefited online channels where electronic payments are the norm, while physical retail shops, on average more cash-driven, were forced to close.

Our first consideration is therefore that the shift in payment method we are currently observing is probably not caused by consumer preference, but rather a necessity driven by a change in available channels: an online only world is by construction a world with a higher share of electronic payments.

This is corroborated by the data we see in our transactions volumes as displayed in Figure 7, where we see a decrease in volume following the two legislative decrees placing Italy in lockdown and then a sharp recovery immediately after the release of the travel restrictions.

viacash weekly processing volume – Italy, first 20 weeks of 2020



This initial channel-shift may or may not eventually lead to a shift in consumer preference. Nevertheless, to us it is more interesting to understand:

- **Will cash bounce back during and after the current crisis, similar to what we observed in the US and Europe in past crises?**
- **In a case where cash instead declines in the future, what to do about financial inclusion of the lower income segment of the population?**
- **Furthermore, should the volumes of cash decrease, given the fixed cost of the current infrastructure, would banks be ready to sustain the requirements to keep access to cash for the lower income population? And at what cost?**

This last point is of paramount importance and is the arena in which viafintech plays a decisive role for banks, e-commerce, and utility companies alike.

Assuming that eventually a shift in the preference of customers towards electronic payments is unavoidable, the more the cash volume decreases, the faster the current infrastructure based on ATMs and bank branches will become too costly to sustain widespread cash access levels for all consumers.

viacash offers an alternative to the traditional banking infrastructure, building on resource-sharing to create a different, digital, purely software-based, widely distributed solution. By enabling retailers to accept third party cash transactions, every cash register of each integrated store becomes a "virtual ATM" or a "virtual branch".

The real-estate based model of current bank branches is therefore disrupted to the benefit of the same traditional banks who can guide their customers into their mobile channel, while offering their customers a more widespread network at a small fraction of the cost of the present physical infrastructure.

To conclude, by enabling a more modern infrastructure we aim at digitising cash and taking away the pain of handling it physically from banks, e-commerces and utility companies, together with our retail partners.

From this perspective it is more important than ever before to scale the model, to offer consumers a widespread, digital, and immediate access to cash across Europe.

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CONTACT US

Pedro Borges
General Manager Spain & Portugal, viafintech
pedro.borges@viacash.com

Flavio De Laurentis
General Manager Italy, viafintech
flavio.delaurentis@viacash.com

viafintech
sales@viafintech.com

www.viafintech.com